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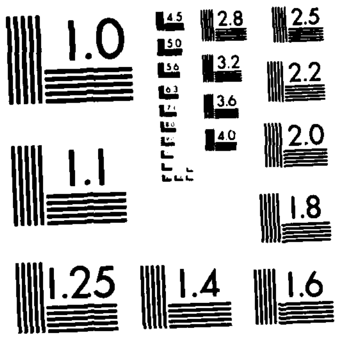

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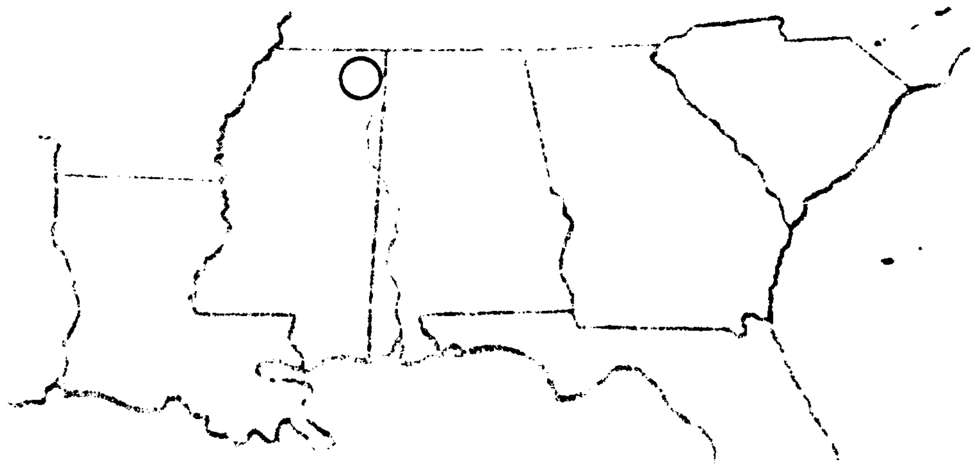
Final Interim Report

Archaeological Investigations in the Upper Tombigbee Valley, Mississippi: Phase II

Nancy M. White, Editor

With the Assistance of

Chung Ho Lee and Judith A. Bense



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The University of West Florida
Office of Cultural and Archaeological Research
Report of Investigations Number 3
1983

(1)

FINAL INTERIM REPORT

ARCHAEOLOGICAL INVESTIGATIONS IN THE UPPER TOMBIGBEE VALLEY, MISSISSIPPI, PHASE II

Edited by

Nancy Marie White

with the assistance of

Chung Ho Lee

and

Judith A. Bense

Submitted to the U.S. Army Corps of Engineers,
Mobile District, Contract Number DACW01-80-C-0063

THE UNIVERSITY OF WEST FLORIDA

OFFICE OF CULTURAL AND ARCHAEOLOGICAL RESEARCH

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Data recovery to mitigate construction impacts was accomplished by the University of West Florida's Office of Cultural and Archaeological Research at four sites in the canal section of the U.S. Army Corps of Engineers' Tennessee-Tombigbee Waterway. Large scale excavations conducted at the Beech and Oak sites, 22It622 and 22It624, produced a wealth of information on the preceramic Late Archaic occupations of these two sites, as well as their other prehistoric components. With some engineering to permit similar large scale excavations below the water table, investigations at the Hickory site, 22It621,

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SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)* yielded evidence of Early Archaic habitation in the buried paleosol, as well as later components above it. At a site with predominantly late prehistoric cultural deposits, 22It606, the many features excavated provided unusual evidence of Late Woodland/Mississippian ceramic and subsistence systems, as well as similar activities of earlier and later peoples. All four sites investigated were areas of short-term, repeated, intermittent use for specialized resource extraction throughout most of prehistory. They document wild plant collecting and other, mostly subsistence activities, by many different groups. This is an interim report and is very descriptive in nature; the large body of data provides a solid base for future research.

ABSTRACT

Data recovery to mitigate construction impacts was accomplished by the University of West Florida's Office of Cultural and Archaeological Research at four sites in the canal section of the U.S. Army Corps of Engineers' Tennessee-Tombigbee Waterway. Large scale excavations conducted at the Beech and Oak sites, 22It622 and 22It624, produced a wealth of information on the preceramic Late Archaic occupations of these two sites, as well as their other prehistoric components. With some engineering to permit similar large scale excavations below the water table, investigations at the Hickory site, 22It621, yielded evidence of Early Archaic habitation in the buried paleosol, as well as later components above it. At a site with predominantly late prehistoric cultural deposits, 22It606, the many features excavated provided unusual evidence of Late Woodland/Mississippian ceramic and subsistence systems, as well as similar activities of earlier and later peoples. All four sites investigated were areas of short-term, repeated, intermittent use for specialized resource extraction throughout most of prehistory. They document wild plant collecting and other, mostly subsistence activities, by many different groups. This is an interim report and is very descriptive in nature; the large body of data provides a solid base for future research.

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PREFACE AND ACKNOWLEDGEMENTS

Thanks and appreciation are due many individuals who provided skills, services, and aid toward the accomplishment of the University of West Florida's Phase II archaeological investigations on the Tennessee-Tombigbee waterway.

The legacy of the Phase I staff, including methods, procedures, interpretations, and all the recovered data, for better or for worse, was our initial base of operations. The Phase II crew, especially assistant field director Eloise Gadus and team leaders Michael Burt, Sherry Brown, and Joe Brent, assistant lab director Patricia McCree, and photographer Ron Savage, conducted high quality archaeology under often adverse and extreme conditions of weather, timing, and workload. Robert Ryan was the data manager, and Sandra Linton patiently verified all data output in addition to helping with the photography. Field secretary Nancy Bean and "home secretary" Claire Hoewt kept smooth the flow of paperwork and red tape. Eugene Johnson was the project's handyman in charge of balky equipment and other tasks. Joe and Dawn Brown, backhoe operator and assistant, efficiently carried out many atypical jobs and helped engineer the drainage trench and shoring at the Hickory site. Mary and David Mattox and Hazel Mize, from whom we rented the dormitory and laboratory buildings, cheerfully tolerated even the more irregular requirements of field archaeology. The people and the city of Fulton, Mississippi, including the Fire Department, which provided us a space suitable for a flotation station, were hospitable and friendly toward the unusual group of people and events constituting a field season.

Corps of Engineers archaeologists Jerry Nielsen and Ernie Seckinger supplied advice and guidance throughout the entire project. Office director Dallas Blanchard, deserving of the greatest thanks, kept the whole show together and running smoothly no matter what the problem.

The fieldwork for the Phase II project was conducted from late September 1981 through early January 1982 with a crew of 12. Lab work was performed simultaneously in the field lab with a crew of 10 and extended through February of 1982. Report preparation was carried out from January through early August. Authorship of the various sections of this report is as follows: Bense: Chapter 1, Chapter 2 section 1; Lee: Chapter 2 section 3, Chapter 3 section 5, Chapter 4 sections 4-6, Chapter 5 section 5 (partial); White: Chapter 2 section 2, Chapter 3 sections 1-4 and 6, Chapter 4 section 3, Chapter 5 sections 2,4, 5 (partial) and 6, and Chapter 6; Gadus: Chapter 4 sections 1 and 2, Chapter 5 sections 1 and 3; Ryan : Chapter 2 section 4. Editing of the manuscript was done by White with assistance from Deborah Joy, who also keyed the text. All drawings were done originally or redrawn from Phase I originals by Gadus, except Figures 1.1, 3.1, 3.2, 4.1, and 5.1, which were done by Aileen Blythe.

We appreciate the opportunity to have worked on these fascinating sites and hope that this interim report will be a base for further worthwhile research.

Judith A. Bense — Chung Ho Lee — Nancy Marie White

Judith A. Bense	Chung Ho Lee	Nancy Marie White
Principal Investigator	Laboratory Director	Field Director

CHAPTER I

INTRODUCTION

The archaeological investigations reported here were conducted to mitigate the construction impact upon four sites on the Canal Section of the U. S. Army Corps of Engineers Tennessee-Tombigbee Waterway. Sites 22It606, 22It621, 22It623, and 22It1624 are located in Itawamba County, Mississippi in pool impoundments above Locks C and D (Figure 1.1).

These sites were tested during 1980 and 1981 by the University of West Florida as part of the original contract project entitled "Archaeological Investgiations at Eleven Sites in Itawamba and Monroe Counties, Mississippi; Tombigbee Multi-Resource District, Alabama and Mississippi" (Contract Number DACW01-80-C-0063). This large and complex project has three phases: Phase I (January 1980 - July 1981) - the excavation of four sites and testing of seven sites (Bense 1982); Phase II (September 1981 - May 1982) - the excavation of four of the seven tested sites; and Phase III (not yet procured for by the Corps) - intensive research using selected data sets recovered from Phases I and II.

The research objectives of Phase II investigations were an outgrowth of the previous work of the project. The goals were primarily concerned with culture chronology/history refinement and settlement/subsistence patterns in the Upper Tombigbee Valley (UTV). Phase II work was quite specific in scope and was designed to complement the information recovered during Phase I. It was hoped that the second data recovery episode would buttress the weak areas of Phase I as well as provide supplementary information, therefore raising the level of lifeway and processual studies for Phase III and other future research.

The specific goals of Phase II were as follows:

1. <u>Sites 22It623 and 22It624</u>: To obtain a sample of the "terminal" Late Archaic (post-Benton pre-Wheeler) occupation in the UTV and investigate the differences, if any, in the activities on a levee remnant at the edge of the present floodplain as opposed to point bars deep within the floodplain.

2. <u>Site 22It621</u>: To compare the material remains and inferred activities of the Early Archaic component with Phase I information and to investigate cultural/ecological relationships through geomorphology and ethnobotany.

3. Site 22It606: To obtain a sample of the Late Woodland component in the UTV, to investigate the subsistence activities of this phase, and to investigate the way of life at an upland site.

The Phase II investigation resulted in a wealth of information which satisfied most of the objectives and provided new insights into the occupation and environment of the Upper Tombigbee Valley. This information will be presented in detail in the body of this report. The formerly weak links in the chronological chain have been strengthened. The additional study of the unusually well-preserved early Holocene paleosol containing the Early Archaic occupation at the three sites has provided information crucial to our more thorough understanding of this phenomenon.

The 20 month data recovery effort is now complete for the entire project; eight sites have been excavated and three have been tested. It is now possible to address culture chronology/history with relative confidence. With this as a base, aspects of the lifeways of the prehistoric cultures during some time periods in the UTV can be addressed, especially subsistence and settlement patterns during several periods of the Archaic Stage. Processual level questions can be addressed in one primary respect: the mechanisms of cultural adaptation to post-Pleistocene environmental changes. The key factors in this level of research are well defined geomorphic units and cultural assemblages which span the Holocene.

This report was written in reference to the Phase I Interim Report. The latter report (Bense 1982) contains the research design, manuals for the fieldwork, laboratory and data management, background research in the Tombigbee Valley and nearby areas, and the definitions of the classification system. This Phase II report is meant to be a part of the overall data recovery project description and not to stand alone as a complete document. Therefore, the reader should have the Phase I Interim Report with Appendices and Supplements for the proper perspective of this Phase II Interim Report.

This report is organized in the following manner: Chapter 2 presents the methods and strategies applied during Phase II. Chapters 3, 4, and 5 report and integrate the information obtained from the excavated sites. Chapter 6 very briefly summarizes and evaluates the results of the project as a whole.

Raw data in tabular form appear in the appendices presented on microfiche affixed to the inside back cover. The appendices summarize the data into meaningful units (e.g., block & level, feature) for easier use of the information. These summaries are used extensively in the textual reporting of the work conducted. The large, overall data catalogues contain a list of all Identification numbers used during Phase II with the corresponding proveniences; lists of cultural materials by provenience; and stone tool measurement data. Appendices are organzed sequentially by site. They include Phase I testing data, to provide a complete record of the investigations at each site.

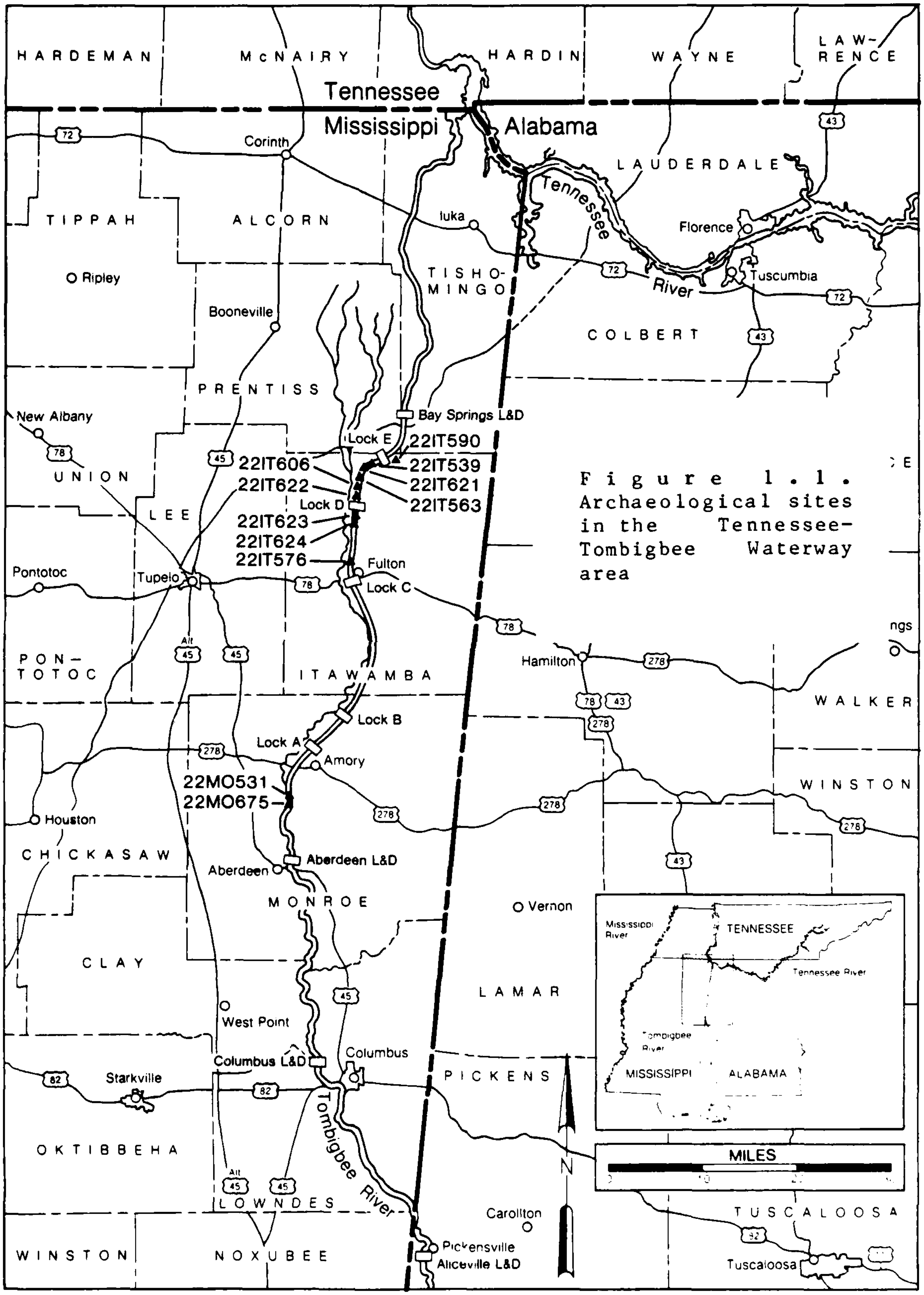


Figure 1.1. Archaeological sites in the Tennessee-Tombigbee Waterway area

CHAPTER II

DATA RECOVERY STRATEGY

PRIMARY RESEARCH STRATEGY

The research strategy of this phase of the project was designed to augment the information recovered in the first data recovery episode. As stated above, the investigations were directed at specific components and depositional units at each of the four sites investigated.

PROJECT RESEARCH DESIGN

From the outset of this project, it was realized that the main contribution would be in the chronology and culture history of the Upper Tombigbee Valley. The approach to this major archaeological effort was based on adaptive or ecological models of culture. An ethnographic model of hunter-gather systems was developed based on data and interpretations of several sites in the UTV. See Research Design of the Phase I Report (Volume 9: Supplement I) for further information.

PHASE I STRATEGY

Data recovery was conducted for fifteen months (January 1980 - March 1981) during the first recovery phase. Most effort was spent in the excavation of three sites which were occupied throughout the prehistoric period (Early Archaic through Mississippian stages).

The overall strategy of Phase I was to perform fieldwork and laboratory work simultaneously, code the information, input it daily, and query the data through output in the field headquarters. The availability of data manipulation and daily current information was thought necessary to guide the excavation of these large and complex multicomponent sites.

As with most research projects, the actual application of theory and methods described in the original research design has produced both positive and negative results. Thus, some modification of the original research design was inevitable during the course of this long and complex project. One of the positive results of the project was, as expected, that the quality of the data recovered in Phase I was highest for the Early, Middle, and initial Late Archaic and Late Gulf Formational periods (ca. 9,000 - 2,000 B.P.). Unfortunately, the deposits of other periods were adversely effected by extreme bioturbation, aboriginal mixing, historic logging, and amateur digging.

The field strategy of Phase I was to concentrate recovery at large multicomponent sites with large block excavations (up to 12 x 8 m) in the highest and central area. Smaller block units (usually 4 x 4 m) were placed in other areas of the site. Stratigraphic trenches, cores, and test units were used to complete the data recovery methods.

The Phase I laboratory was designed to operate simultaneously with the fieldwork and keep up with the incoming material. The classification scheme was descriptive, combining morphological, technological, and functional attributes. Mass sorting of artifacts by size grading was used. All stone tools were measured and all materials were catalogued.

All field and laboratory data were coded and input. The data were handled by a project data manager in the field headquarters. This branch of the project was the most difficult to handle from a remote location with varying quality transmission. A re-evaluation of the original data management procedures and staffing took place during the first half of Phase I. Reorganization was completed by August 1980 and since that time has been successful.

The necessity of excavating two sites simultaneously with this strategy entailed the employment of a senior staff of 11 persons, 64 crew members and team leaders, three secretaries, and a bookkeeper. The size and complexity of the staff and sites demanded close coordination of activities.

PHASE II RESEARCH DESIGN

One research design for the entire project is the base from which all hypotheses and deductions are generated. This document is contained in Volume 9 of the Phase I Report. In preparing the research design for Phase II, we had the advantage of having applied it once. Phase II allowed us to use what we had learned and begin with a much higher level of information and experience. In addition, we had tested the four sites scheduled for further work and could better evaluate their information potential.

Phase I work indicated we realized that subsistence data would be few. Faunal remains would not likely be preserved, and floral remains would be dominated by charred hickory nutshell fragments and precious little else. Additionally, a series of Holocene paleosols had been identified in the Tombigbee Valley (Muto and Gunn 1981), and at least the Early Holocene paleosol was present in two of the sites excavated in Phase I. This time-stratigraphic unit contained Early Archaic

(Kirk) cultural material. As previously stated, there also were gaps in the chronological record of Phase I sites. Finally, the three multi-component sites excavated in Phase I were all located in the floodplain on point bars of tributaries to the Tombigbee River.

The factors of point bar floodplain position, time/horizon paleosol, scarce subsistence remains, and an incomplete culture chronology were of primary importance in designing the research of Phase II. Three of these sites in Phase II had different physiographic positions (22It606, 22It623, and 22It624), and one had a similar position (22It621) to that of sites excavated in Phase I. We selected sites for Phase II at which testing had indicated the possibility that diverse floral remains could be preserved (22It606). Components which were not well documented in Phase I were targeted in the Phase II effort (22It623, 22It624, and 22It606). One Early Archaic component (22It621) was selected for hypotheses testing. The combination of these factors and the overall research design developed a goal-oriented program of data recovery.

PHASE II STRATEGY

For Phase II, refinements were made in the overall project strategy as well as specifically in the field, laboratory, data forms, paper flow, and data processing.

Simultaneous fieldwork and laboratory processing of all specimens necessitated modification of the data management. All data were coded in the laboratory and were input only after three rigorous checks. They were entered in a batch by a professional key puncher. We found that sound field decisions could be made by careful observation by the staff, and a daily systematic review of all recovered specimens by the senior staff. Therefore, the strategy of Phase II lessened the immediate need for computerized data and increased the need for staff familiarity with the cultural material and accuracy of classification.

Fieldwork at all sites was specific, not exploratory. Targeted components were exposed by mechanical means; at three sites units were excavated and at one site only features were excavated from a stripped, exposed surface. The laboratory was divided into two primary sections for processing artifacts and for organic materials. Data checking before and after inputing assured "clean" data prior to manipulation and analysis. Due to scheduling of waterway construction, one site could be excavated at a time. This reduced the staff size to a senior staff of five, 27 crew members and team leaders, one photographer, one data assistant, two secretaries, and a half-time bookkeeper. This was approximately half the size of the Phase I staff. Three members of the senior staff were new to the project: the field director, laboratory director, and assistant field director. Approximately 60-70% of the remaining staff had worked on Phase I.

After 24 months in the field headquarters, the project demobilized and transferred to the University campus in January 1982. Therefore, this report was prepared at the University, rather than at the field headquarters and other remote locales of the Phase I Interim Report. Details of the Phase II fieldwork, laboratory work, and data management follow.

FIELD PROCEDURES

The day-to-day field operations for accomplishing the required work at each of the four archaeological sites investigated during Phase II generally followed procedures set forth in the project field manual developed during Phase I and discussed in the Phase I report (Bense 1982:4.8-4.15 and Appendix V). The following summarizes these standard procedures, with the addition of any aspects that were altered during Phase II operations.

At all four sites investigated during Phase II power equipment was utilized to remove the overburden and expose the cultural soils to be hand-excavated. Points along the Cartesian grid system already established for each site during Phase I were relocated, often by shooting back with the transit from the corner of an old excavation unit until a staked, flagged point was encountered. One or two additional reference points were newly staked, then areas to be excavated were laid out with reference to the same grid. All new excavation units and any other significant features were added to the site contour maps prepared during Phase I. The Cartesian system labelled points by coordinates measured south and west of an arbitrary 100S/100W datum.

Excavation at all sites except 22It606 was done in the same arbitrary 10 cm levels established during Phase I. (The term "level" was understood to mean an arbitrary vertical division, while "stratum" was used to refer to natural or cultural levels in the soil.) Vertical control was achieved by locating a benchmark set the previous year. Usually this was a spike driven into the base of a tree at the highest part of the site, arbitrarily called 100 m in elevation, for which a true elevation was later determined. Using a transit and stadia rod, excavators calculated the elevations of their unit floors by subtracting rod readings from the day's instrument height (Figures 3.3 and 4.4).

Block placement was based on testing information and site morphology. Units were set in areas which had the highest potential for information return, i.e., the thickest and most undisturbed deposits.

At all sites except 22It606 excavation units were 4 x 4 m blocks, with the northeast corner as the datum corner. Blocks were lettered sequentially beginning from Phase I. They were subdivided horizontally so that each worker was usually responsible for a single 2 x 2 m section, within which four 1 x 1 m sections were excavated individually in two 5 cm sub-levels of the numbered 10 cm level. The sub-levels were numbered with the 10 cm level's number followed by a

0.1 or 0.2 (to facilitate computer coding); and the horizontal provenience of each square was its northeast corner coordinates. Thus, at 22It623 for example, machine removal of the upper 50 cm, representing Levels 1 through 5, resulted in an (arbitrary) elevation of 99.30 m. Hand excavation began in Block B with the removal of Level 6.1, from square 121S/110W, after which the floor had an elevation of 99.25 (see for example Figure 3.3).

The 1 m x 1 m x 0.05 m excavation segments usually yielded one or two wheelbarrows of soil. Soils were removed by skimming with flat shovels, with fine cleaning done by trowel. Any unusual stains, artifact clusters, or other anomalies in the soil were labelled either as lettered segments, if they were relatively indistinct, or as numbered features if they were clear. These were treated as separate entities, with a measured center point and separately handled soils. Segments often became clearer with more excavation and were then considered features. For example, at 22It623 Segment A in Block C Level 6.1 became Feature 11 in Level 7.1 and was drawn on the floor plan for 6.2, where its center point coordinates of 99.50S/101.80W were indicated.

Though floors were levelled and troweled every 5 to 10 cm to aid in recognizing features, floor plans were drawn only at the base of each 10 cm level, except in unusual circumstances. A level form including the floor plan drawing was filled out for each 10 cm level of each 2 x 2 m square. Features also were drawn in plan view on separate feature forms; they were then cross-sectioned and their profiles also drawn. All forms listed detailed provenience data, soils descriptions, and much additional information. After excavation of an entire 4 x 4 m block, profiles of one or more walls were drawn on large sheets of graph paper, with other stratigraphic data added. All field forms were the same as those last used during Phase I (Bense 1982: Appendix V). Field provenience coding forms (Figure 2.2) were done in the laboratory.

Cultural materials were recovered from all excavated soils at a waterscreening station set up as close as possible to the units (Figure 3.4 and 4.5). Fill from 5 cm levels was washed through 0.63 cm (0.25 inch) wire mesh by water pumped from a nearby source (often a drainage ditch). Fill from some special samples was also passed through a fine screen of 0.15 cm (0.06 inch) mesh. Most feature fill and other special samples were processed by flotation; one or two machines sepa ated materials by water agitation into three fractions: 0.63 cm (0.25 inches) "A" fraction, 0.15 cm (0.06 inches) "B" fraction, and 5 mm (0.02 in or No. 35 sieve) "C" fraction. The primary goals of flotation were the recovery of macrobotanical materials to help interpret or reconstruct the prehistoric ecology and subsistence systems and to obtain charcoal samples for radiocarbon dating. However, many artifacts were also recovered by flotation.

In every 4 x 4 m excavation block an area was designated for the recovery of special samples. This area was usually the northeasternmost 1 x 1 m square, but could be moved so as not to include any features or other unusual soils. Meant to yield portions of the general matrix soils for each level, these areas were called the "control blocks." From them were taken individual samples of consistent volumes for flotation, fine screening, curation in perpetuity, and occasionally soil or other analyses. One liter soil samples for curation in perpetuity and occasionally samples for further analyses were also taken from all features and other unusual areas.

All materials recovered from excavated soils, including soil samples or individual artifacts (plotted specimens) retrieved by hand during shoveling or troweling, were collected at the waterscreen station. They were put in plastic or cloth bags secured with wired tags bearing clear individual provenience labels. Sometimes rough counts of artifacts or artifact types were kept by the waterscreen team to aid in understanding the cultural strata as they were being investigated. The immense volume of materials precluded exact record keeping outside the laboratory, however. A daily log was kept listing all proveniences processed, including those from which no materials were recovered. Upon returning from the field each day the bags and log were checked for errors, and each provenience recorded in the log was then assigned an identification (ID) number to facilitate laboratory processing and computer coding. A separate log book was kept for flotation records, even though its information was also included in the general provenience log.

A group of three to five excavators, including one team leader, was assigned to each 4 x 4 m block (or to groupings of features in areas outside blocks). Team leaders completed field forms and other paperwork, which were then checked by the director and assistant and submitted to the laboratory. Detailed daily notes were kept by the director and assistant. Photographic documentation of all fieldwork, including all excavation units and features, operations setup and breakdown, daily general activity and special interest pictures, was done by the photographer. A daily photo log was kept, and a complete indexed and cross-referenced photo file later organized.

Individual procedural differences and details of fieldwork at each site are described in the site reports. In general, a high level of control was maintained during excavation and very little information lost in that crucial archaeological transfer from soil to laboratory.

The overall excavation strategy for all four sites investigated during Phase II was that of maximum, if focused, data recovery within the project limits. In all cases the primary objective was the excavation of a large portion of one cultural component at the site. Of course, data from other time periods were also obtained. However, the priorities of archaeological research recognized and developed during Phase I called for a certain focus at each site and specified the volume and time limits of excavation.

LABORATORY PROCEDURES AND CLASSIFICATION SYSTEM

INTRODUCTION

During Phase II, unless it was absolutely necessary, no attempt was made to change either the laboratory procedures or the artifact classification system used for Phase I. The reason for maintaining the Phase I laboratory procedures and the classification system almost intact during Phase II was to retain both consistent application of the system and compatible artifact classification throughout the project. A few modifications were, however, made at the initial stage of Phase II.

The basic concepts and definitions applied during Phase I also remained the same. No attempt was made to reiterate those concerning the classification system discussed in the Phase I report. The reader is referred to the Phase I report for further discussions regarding detailed laboratory procedure and the classification system (Bense 1982).

During Phase II a large quantity of cultural materials was recovered from the four targeted sites. Accordingly, a great deal of time was spent in data processing in the laboratory. A focal point of the data processing procedure was artifact classification. Classification can refer to the general process of ordering either materials or concepts by placing them in groupings or classes. Classification is, therefore, considered fundamental to the analysis of any archaeological material class. Chang estimates that "80 or 90 percent of an archaeologist's time and energy is spent in classifying his material" (1967:71). This may be an exaggeration, but it cannot be denied that archaeologists spend great amounts of time for the task of classifying large numbers of highly complex artifacts and for the management of the subsequent data generated from the analysis. For the present project, computerization was needed to handle such massive data sets generated and to maximize data retrieval. The utilization of the computer facilities was, therefore, designed for transforming the unmanageable mass of information from individual artifacts into a coherent body of information which can provide for fuller understanding of past lifeways and the cultural sequences of the Upper Tombigbee Valley region.

In terms of organization, the laboratory crew was divided into two groups: artifact and organic. The artifact group included eight persons, and the organic group, three persons. Each group had a team leader. The artifact team handled artifact classification and the organic team processed macrobotanical samples. The entire artifact classification team were all returnees from Phase I, which made the artifact classification of Phase II compatible to that of Phase I. Two people from the artifact team were selected and trained for stone tool measurement.

The remainder of this section briefly reviews the laboratory procedures, summaries the artifact classification system, and briefly discusses modifications in both made during Phase II.

LABORATORY PROCEDURES

Laboratory work involved the following step-by-step procedures:

1. Each day the bagged artifacts recovered in the field were brought to the laboratory, along with the field provenience log and waterscreen log.

2. The artifact team leader in the laboratory matched and verified information on the field provenience log and on tags. If a discrepancy or question about provenience data arose, the artifact team leader consulted with either the field director or the assistant field director.

3. If all information matched, then Identification Numbers (IDs) were assigned to each individual provenience, whether a general level of a unit (5 cm level), a feature, or a segment. The provenience data were then coded in the laboratory.

4. The artifacts were washed and special samples were curated.

5. Upon drying, artifacts were bagged by individual proveniences.

6. Artifacts from each provenience were then classified by the artifact team. Further discussion regarding sorting and classification is presented later in this section.

7. The review session was held at the end of each day by the senior staff in order to check all laboratory classifications of ceramics and stone tools.

8. Following the review, the artifacts were returned to the artifact team for coding, cataloguing (labelling), and bagging.

9. Upon completion of coding and cataloguing, all stone tools were relayed to the measurement crew. Two persons conducted the measurement throughout Phase II.

10. At this point, the artifact specimens designated for photography during the review session were removed and kept separate from all other artifacts.

11. The rest of the specimens were put in either labelled coin envelopes or paper bags. These were then organized by artifact type and category.

12. Finally, the grouped artifact specimens were organized by ID number within the types and categories as they were put into plastic bags and then boxes for curation.

REVISED LABORATORY PROCEDURES FOR PHASE II

The laboratory procedures refined and made more efficient during Phase II are the following:

1. Identification Number Assignment: ID numbers, assigned in the field during Phase I, were assigned in the calm and order of the laboratory during Phase II. The system of examination of the information on each tag and comparison with the provenience information in the field solved many problems which otherwise would have been undetected.

2. Artifact and Field Provenience Data Coding: Both artifact and field provenience data coding forms were simplified during Phase II (Figures 2.1 and 2.2). The use of master ID numbers was deleted from the field provenience data coding forms. Completing the field provenience code form in the laboratory instead of in the field greatly reduced coding errors.

3. Artifact Review: Artifacts classified were reviewed by the senior staff at the end of each working day. The review session was held to maintain consistency of artifact classification and to detect any errors. This review procedure proved to be effective not only for the reasons above but also for providing the senior staff familiarity with most of the artifacts recovered.

4. Stone Tool Measurement: Only two lab workers were selected and trained for stone tool measurements for all of Phase II. They cross-checked their results; whenever discrepancies occurred, the lab director provided the third opinion. Thus, the stone tool measurements maintained accuracy and consistency.

5. During the course of the lab work, preliminary artifact frequency tables were produced whenever such cursory artifact inventory was needed. This artifact frequency information and other observations made during the laboratory work were relayed to the senior staff meeting for timely field strategy and overall project strategy decision making.

6. Verification of Data Coding: Coding forms for both artifact and field provenience data were checked line by line. Computer print-outs were also verified and edited prior to producing the final tables.

In summary, only a few aspects of the laboratory procedures and classification systems were modified during Phase II in order to facilitate the laboratory analysis. Other lab procedures and classification systems were left intact. This includes procedures for washing, sorting, labelling, bagging, boxing, and curation of macrobotanical, perpetuity, fine-screen and other special samples.

CLASSIFICATION SYSTEM

All cultural materials were initially sorted into seven material classes: lithic materials, ceramic materials (including fired clay and daub), faunal remains, shell, historic artifacts, floral remains and debris. Each of these material classes, except the lithic materials, were considered as a single artifact group. The organization of the types and categories did differ somewhat from Phase I, and this is presented later in this chapter. Lithic materials were further divided into six groups. They were projectile point/knives (PP/K), other chipped stone implements, cores and preforms, ground stone tools, debitage, and introduced rock. Within each group, cultural materials were classified into types largely based upon the morphological aspects of the artifacts.

Once the cultural materials were classified resultant information was recorded on the artifact coding sheet by ID number (Figure 2.1). All cultural materials except stone tools were entered on the LOT/COUNTS section of the form, with such information as type, raw material, frequency, and/or weight. Finished stone tools were recorded on the right-hand section of the form. Stone tool variables included type, raw material, weight, length, width, and thickness. In addition, the basal widths, shoulder widths, juncture widths, and length of haft elements were recorded for complete PP/Ks. Provenience information was recorded on a separate coding sheet (Figure 2.2). Both artifact and provenience data coding forms were slightly revised from the Phase I format.

MATERIAL CLASSES

The following information summarizes the classification system applied during Phase II. The definitions for each category of cultural material are the same as those of Phase I (Bense 1982: Chapter 4) except as presented below.

Ceramic Materials

As in Phase I, ceramic materials were size-graded using 0.5 inch wire mesh hardware cloth. Sherdlets, which were smaller than 0.5 inches, were weighed only. Ceramics greater than 0.5 inches were classified into categories by temper and decoration. Ceramic classification was based mainly upon the ceramic typology established for the Tombigbee River Valley by Jenkins (1981). The temper groups utilized in the ceramic analysis were shell, grog, bone, limestone, sand, and fiber. Within these temper groups, the 86 ceramic types used during Phase I were also used for Phase II.

One minor modification was made during Phase II. The "Grog Tempered Other" category was defined in Phase I as "grog tempered sherds which do not conform to any of the other grog tempered categories" (Bense 1982: 4.26). During Phase II, however, this same category included sherds whose paste contained both grog and bone. In this category, the sherds were predomimately grog tempered with sparse inclusions of bone.

Lithic Materials

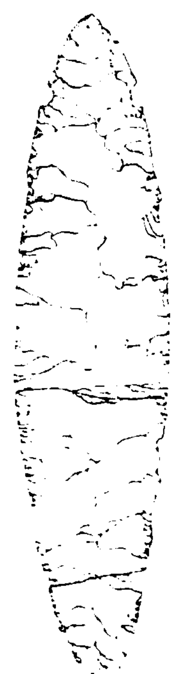
The grouping of lithic materials was slightly re-organized during Phase II for analytical efficiency. The ten groups used in Phase I were combined into six groups (PP/Ks, other chipped stone implements, cores and preforms, ground stone tools, debitage, and introduced rock). The artifacts within each group were classified into categories based on morphology, technology, and function.

The theoretical framework of the lithic classification system and the laboratory procedures remained basically the same as those of Phase I. However, a few new categories, as well as merged categories, were created during Phase II. The list below presents an overall comparison of the number of lithic categories used during Phase I and II.

	Phase I	Phase II
Projectile Points/Knives	67	70
Other Chipped Stone Implements	83	75
Cores and Preforms	23	23
Ground Stone Tools	39	39
Debitage	12	5
Introduced Rock	25	25

The new or merged Phase II lithic categories of the stone tools are defined (and illustrated when necessary) as follows.

Projectile Point/Knives - New Categories



Turkey Tail: This is a large biface with excurvate blade edges and slightly tapered shoulders with a flattened cross-section. Several flakes were removed from the sides of each face to form shallow side notches. Flaking is by percussion, with retouch present along the blade edges (Cambron and Hulse 1975). (Figure is approximately half of the actual size).

Lateral Fragment: This is a fragment of a projectile point/knife derived from the edge or lateral section with the absence of proximal or distal sections. No metric data were recorded for this category. (Not illustrated).

Unidentifiable Projectile Point/Knife: This is a complete or almost complete projectile point/knife which does not conform to any of the other PP/K categories (Figure is 1:1).

Projectile Point/Knives - Deleted Category

Plevna: This category was deleted for Phase II.

Other Chipped Stone Implements - New Categories

Crude Biface: This is a thick biface, flaked predomimately by either hard or soft hammer percussion, with very crude and irregular faces. There seems to be little evidence of retouch flaking. (Figure is 1:1).

Biface Fragment: This is a biface fragment of which the specific portion cannot be identified. Not illustrated.

Lateral Fragment: This is a fragment of a biface blade edge which contains only the edge or lateral portion. Not illustrated.

Uniface Scraper-Graver: This is a uniface tool possessing a steeply retouched edge and a short, thin projection. The projection is also unifacially flaked and has a sharp tip. (Figure is 1:1).

Reorganized Categories

Utilized Flakes and Utilized Chert Chunk - The following six categories were listed under the debitage group during Phase I and under other chipped stone tools in Phase II. The definitions remain the same.

Utilized Flake 1"
Utilized Flake 1/2"
Utilized Flake 1/4"
Utilized Prismatic Blade
Utilized Blade-Like Flake
Utilized Chert Chunk

Merged Categories

Uniface End Scraper: This is a collapsed category of the four end scrapers used during Phase I: Uniface End Scraper, Uniface End Scraper on Expanding Flake, Uniface End Scraper on Other Flake, and Uniface End Scraper on Thermal Spall. Not illustrated.

Uniface Side Scraper: This is a merged category of the four uniface side scrapers used during Phase I. Uniface Side Scraper on Blade/Blade-Like Flake, Uniface Side Scraper on Expanding Flake, Uniface Side Scraper on Other Flake, and Uniface Side Scraper on Thermal Spall. Not illustrated.

Uniface Side-End Scraper: This category includes Uniface Side-End Scraper on Blade/Blade-Like Flake, Uniface Side-End Scraper on Expanding Flake, Uniface Side-End Scraper on Other Flake, and Uniface Side-End Scraper on Thermal Spall. Not illustrated.

Scraper Recycled: This is a merged category of the four recycled scrapers: Scraper on a Biface (Recycled), Scraper on Core (Recycled), Notched Flake/Spokeshave (Recycled), and Hafted End Scraper (Recycled). Not illustrated.

Ground Stone Tools - New Categories

Grooved Abrader/Hammerstone: This is a multi-functional ground stone tool which has the combined attributes of grooved abrader and hammerstone. (Figure is approximately half of the actual size).

Unidentifiable Ground Stone Tool: This is a relatively complete ground stone tool which exhibits use wear but does not conform to any of the other ground stone tool categories. Not illustrated.

Debitage - Merged Category

Nonutilized Flake-Other: This is a merged category of the two nonutilized flakes: Other Nonutilized Flake and Nonutilized Blade-Like Flake. Not illustrated.

Introduced Rock and Other Material Classes

The classification system for each of the following material classes remained the same as in Phase I: introduced rock, bone, shell, historic artifacts, botanical remains, and debris. No further discussion is provided for these material classes.

DISCUSSION OF CLASSIFICATION SYSTEM

The classification system used in Phase II of this project was based directly on that of Phase I to insure comparability of this massive data set. The differences between the Phases are related to merging and organization with minimal additions or changes. Therefore, the Phase II classification system suffers from the same problems as those described for Phase I. These include primarily the combination of morphological, technological, and functional attributes in the definition of stone tool types. This situation is not unique to our classification system, as it plagues all but the most refined systems in modern archaeological classification. The reasons for using this system were 1.) the lack of a previously established stone tool classification system which was acceptable to both government and academic professionals and 2.) the limits of time and funds available to classify nearly a half million specimens recovered in this project. Ideally, all stone tools and debitage should be classified three separate times under three separate systems: morphology, technology, and function. This will be proposed for specific assemblages with high integrity and significance in Phase III. It is felt that the classification system used in this and the preceeding report for the project at least basically describes the material recovered so that it is useful to the government and profession.

DATA MANAGEMENT

INTRODUCTION

The data management program for both Phases I and II has undergone considerable change since the study first began. What was once an undefined role in the project's organization has evolved to become an integral part of it. Data management during Phase I reflected a "catch-up" strategy: decisions made early in the project (purchase of data processing equipment, data organization, etc.) necessitated much revision in the data management program.

However, during the interim period between phases, most of these problems were resolved. Our present data management program emphasizes both innovative and traditional data processing techniques for analyzing archaeological data. Simplicity is the key to this approach; the simpler the design the less chance of the system failing.

The organization of the data management program reflects not only simplicity but also flexibility. Hence, the system may be used by an accomplished programmer or a beginning user with ease. The success of this scheme is realized in an integrative system of TSO (Time Sharing Option) programs, called CLISTS, which masks the complexity of the IBM OS 370 operating system, and permits the user to perform data analysis, graphics displays, file management, and updates under a single system.

OPERATIONAL CHANGES

Between phases, a number of problem areas were addressed and alternatives were suggested. Almost all the problems identified with Phase I centered around the reliability of the data. Reliability, or rather absence of, could be traced to virtually every facet of project operations. Coding forms were difficult to understand and even more difficult to keypunch accurately; the volume of paper work produced an avalanche of paper records and contributed to confusion; ongoing analysis combined with concurrent data entry resulted in far too many updates to correct. The end result was that analysis and report writing was postponed several months awaiting reliable data.

During Phase II, a number of seemingly small but significant operational changes were implemented. These changes are summarized as follows:

Eliminate sources of coding error. Never-used or ambiguous variables and values were abandoned, and the coding system was restructured to reflect simplicity and logical ordering (e.g., group like artifacts together).

Reduce duplicative paper records. During Phase I, an elaborate system of cross-checking was implemented to promote security. Instead, the system resulted in too much time devoted to completing redundant information, confusion to the original source document, and a mountain of paper.

Eliminate dual systems of analysis. In Phase I, artifacts were essentially inventoried by "lot-counts"; later, some of these artifacts (finished tools) were weighed and measured in a two step process. Besides creating two separate sets of similiar information, the data had to be keypunched a second time.

Promote consistency in naming conventions. In an effort to reduce subjectivity in defining artifact categories and achieve a consensus, the senior staff met on a regular basis to agree upon classifications of recovered artifacts. Data corrections were significantly reduced.

Redesign and reduce number of coding forms. Four coding forms were collapsed into two forms to facilitate ease in coding, verification, and keypunching.

Keypunch data only after an entire site has been completed and all data are accounted for. The opposite situation existed during Phase I contributing to a data management program which catered to data entry/corrections on a full-time basis.

Finally, enter data professionally, offsite. All data were keypunched and verified (entered twice for accuracy) on offline equipment which left terminals free for data analysis and other operations.

DATA MANAGEMENT CONSIDERATIONS

During Phase I the data management program centered largely around inputting data and facilitating updates. Data for each site were stored in separate data sets for provenience, inventory, and measurements. Since data were continuously being updated, it was necessary for the data sets to reside on disk in raw or source form. Therefore, each time a job was run data had to be read into the program, resulting in considerable processing overhead.

File management was an expensive, time consuming operation in this scheme. Field provenience was stored separately from the artifact files in order to eliminate duplicate data entry/storage. However, this information had to be merged with the artifact files prior to use. Compounding matters, the inventory and measurement files were mutually exclusive file structures, even though, technically, the latter file was a subset of the former. The reason for this problem stems from the different organization of data: data for the inventory file were lot-counted, while data for the measurement file were structured one-per-record.

Dual use of SAS (Statistical Analysis System) and SPSS (Statistical Package for the Social Sciences) presented some minor file manipulation problems. Because SPSS has limited file handling capabilities, data were entered into SAS and later rewritten out to an entirely new file for inclusion into SPSS. A companion program, SASSPSS, solved some of these problems by forming a link between the two systems. However, it could be said of SASSPSS that in combining the capabilities of both systems, a number of weaknesses - rather than strengths - were apparent.

In Phase II there was no longer any need to store source file since the magnitude of error was reduced substantially. Furthermore, the dual use of SPSS and SAS was discontinued since SAS is considerably more versatile and more powerful than SPSS. Data were read into SAS, merged, and written to a SAS data set. A SAS data set is an executable data base-like file which contains a matrix of variables associated with values.

The advantage of storing SAS data sets is in processing efficiency - data no longer must be reread for each job. Moreover, increased processing efficiency promoted the use of interactive, or online, processing, which had previously been too expensive and time-consuming in the old scheme. Unfortunately, SAS data sets are substantially larger than source data files. An effective solution to this problem was to utilize magnetic tape as the primary storage medium. SAS data sets stored on tape can then be copied to temporary disk storage when needed, incurring virtually no storage overhead.

The inherent data handling capabilites of SAS lead to a much simpler, unified approach to data processing when compared to the use of a variety of utility and statistical programs to complete the same tasks. As such, novice users could be taught SAS to perform their own statistical analysis (editing, taping, or producing simple reports). SAS's editor, for example, is considerably easier to learn than the TSO text editor and quite powerful (It is more expensive, however, but the decreased need for updating data sets more than compensates for this tradeoff).

THE TSO-SAS ONLINE SYSTEM

One of the problems in a traditional data management environment where requests - file updates, queries, statistical report generations, etc. - are processed through data management personnel is the indirectness of the process. Turn around is frequently slow and communication between the two parties is often poor.

During Phase II a system was designed to allow the archaeologists to process directly their own data via SAS. The TSO-SAS ONLINE SYSTEM is an integrative system of TSO programs (CLISTS) which allows a novice to use the flexibility and power of SAS with only a minimum knowledge about the IBM OS 370 operating system. Many complex operating system commands are invisible to the user, allowing concentration on one thing, running SAS.

The emphasis of this system was upon flexibility of operation. Specifically, the design goals were the following:

1. Create a powerful data management system which is largely invisible to the user but does not limit computing power.

2. Integrate the data management and statistical capabilities of several systems under a single, unified system.

3. Create a system which is self-correcting; that is, a system which will not perpetuate the continued ignorance of a user. Provide for the inevitable obsolesence of the entire system as the user's proficiency improves.

4. Design the system general enough to be used by a variety of users and projects instead of tailored to only one application.

5. Provide for a variety of input and output media - cards, terminal entry, disk, tape, microfiche, etc. Data should be easily sorted, merged, and subsetted.

6. Include both data management and statistical/graphics routines in the system. Report writing should be relatively simple for a novice user. Updates should be easily and quickly facilitated.

The TSO-SAS ONLINE SYSTEM seems to satisfy each of these requirements. Unfortunately, due to time constraints in the reporting schedule and completion of the system, the TSO-SAS ONLINE SYSTEM was never used by the personnel it was intended for, the archaeologists. However, the principle components of the system - interactive SAS, the editor, and the tape-copy routines - were in constant use by the data manager. Furthermore, the same system with virtually no modifications can be used for any data analysis-data management application, such as a subsequent phase of investigation.

SYSTEM ACCESS

The system is activated upon logging on to TSO. A menu listing the system's options is displayed as well as instructions to find more information about the TSO-SAS ONLINE SYSTEM. The user either enters the number of the option or types "HELP" (or "HELP" with the option) to invoke the system. The system then executes one of the system modules, such as the online version of SAS, or prints out HELP instructions.

SAS TUTORIAL

The user who may be unfamiliar with SAS may chose to utilize the SAS tutorial program created to familiarize workers with the procedure. This program is on file in the Office of Cultural and Archaeological Research. Each lesson is arranged hierarchically, building on material presented in earlier lessons. The first lesson, for example, is a general introduction to SAS, while the last lesson is a current listing of SAS documentation. Many of the lessons quiz the user and offer a detailed explanation of incorrect answers. Finally, the score of each quiz is displayed at the end of the lesson.

TAPE/COPY ROUTINES

While the TSO-SAS ONLINE SYSTEM is an interactive design, two of its modules - TAPEDISK and DISKTAPE - are really SAS jobs which run in a batch environment. The system prompts the user for data set and tape volume information and then passes this information on to the central processing unit in a batch stream. The entire batch transaction is completely transparent to the user.

PROCESSING OUTSIDE THE SYSTEM

The TSO-SAS ONLINE SYSTEM is an especially useful teaching tool for beginning users since it is self-correcting. If a mistake is entered, the system will notify the user of the problem, and the error can be corrected. However, as the user becomes more proficient in SAS, he/she will probably discover that the system's strengths are in some ways its weaknesses: SAS statements must be entered again and again which is somewhat inconvenient, and the system is expensive to operate on large numbers of data. Finally, the more sophisticated the user becomes with regard to input/output operations, the more suited to batch computing these tasks become.

Hence, an accomplished user will probably wish to exit the TSO-SAS ONLINE SYSTEM and perform many of these jobs in batch job streams, usually by creating a file of JCL and SAS statements. The system restricts TSO clearance in an effort to keep beginning users from making potentially serious mistakes in TSO (such as deleting important data sets or improperly editing programs). The system was designed so that the data manager, or anyone in charge of a TSO account, could restrict access and monitor system activity.

SYSTEM SECURITY

One area that is particularly sensitive to unchecked access is file updating. The TSO-SAS ONLINE SYSTEM was designed assuming the user would store data in SAS data sets on magnetic tape. As needed, the data set(s) would be copied to a temporary disk data set which the system would delete at the end of each day (to minimize disk storage space and charges). If any updates are made to the temporary disk data set, the entire data set <u>must</u> be recopied to tape (otherwise, the additions, deletions, or corrections will be lost when the system erases the data set).

The DISKTAPE module of the TSO-SAS ONLINE SYSTEM keeps a record of this transaction: each time a SAS data set is updated, SAS keeps track of the source statements and saves this information in the data set's history. Whenever a data set is copied from disk to tape via the DISKTAPE module, the data set history is copied (via PROC CONTENTS) to a special tape log data set for periodic review by the data manager. In the event that a SAS data set was tampered with or edited incorrectly, the data manager may delete the damaged data set from tape and replace it with the original (which is stored on a separate security backup tape).

COMMUNICATING WITH USERS

Because the system permits relatively unchecked access, a method was devised to communicate current events, notices, etc. to all users. A

NEWS module was included to provide messages from the data manager and current NERDC information. The NEWS broadcast is updated as needed.

DATA ORGANIZATION

Phase II data organization is quite simple and straightforward. It consists of two source data files which are merged together and saved as a working SAS data set. The provenience source file contains one observation for each identification number (ID). Each ID is a record of the X and Y coordinates (SOUTH and WEST), vertical recovery (ELEVATION and LEVEL), specific information concerning the excavation method (UNIT, SEGMENT) or type of ID (FEATURE, FEATNO, SSTYPE). Variables such as SITE, BLOCK, and ID flag each observation.

In some instances new provenience variables were assigned based upon the values of other variables. For example, STRATUM was created based upon the horizontal coordinates and elevation for three sites using a large amount of IF-THEN-ELSE logic.

Artifact data were recorded for each ID which yielded cultural material. Each ID recording form was divided into two types of recording techniques, lot-counts and individual items (finished tools), sharing the same input record (maximizes keystrokes during data entry). Hence, each input record might actually contain two logical records with separate ID/CATALOG numbers.

After reading data into SAS, the data were transformed to reflect a true logic record. Temporary variable names for the lot-counted artifacts (BEGCAT, ENDCAT, LOTTYP, LOTCAT, LOTRM, LOTCT, LOTWT) and finished tools (CATLG, TOOLTYP, TOOLCAT, TOOLRM, TOOLWT) were assigned common, generic variable names: CATALOG (from BEGCAT,CATLG), ARTIFACT (from LOTTYPELOTCAT, TOOLTYPTOOLCAT), MATERIAL (from LOTRM, TOOLRM), QUANTITY (from LOTCT), and WEIGHT (LOTWT, TOOLWT). QUANTITY was initialized to value of 1 to emulate the lot-counted structure.

The artifact and provenience data sets were then sorted on the keys SITE and ID and written out to tape. A new variable, PHASE, was initialized to 2. Later, converted Phase I data were merged with these data to form a master data base. Each site constitutes a separate SAS data base residing on separate tapes (See tables in appendices for example).

CONVERTING PHASE I DATA TO PHASE II

Restructuring Phase II data necessitated that Phase I data for all eleven sites use compatible formats. As discussed earlier, data were structured in three files - provenience, inventory, and measurement. The major obstacle in converting these data was in the lot-count versus individual tools per record formats. To compound matters, catalog numbers for each ID were recorded for only the measurement file.

The solution was to read in the inventory data via SAS and isolate each artifact class. First, ceramics were separated and reassigned common variable names for TYPE, ARTIFACT, QUANTITY, and WEIGHT. Next, lot-counted artifacts were pulled out and given common variable names. Since these two types of data constitute the same processing technique, they were recombined.

Finished tools in this file were lot-counted and were output one at a time from the input data (a DO loop based its iterations on the variable QUANTITY). Once this was completed, the measurement data were read into SAS and sorted/merged with the transformed tool data. The old variable QUANTITY was set to the value of 1. Finished tools were then combined with lot-counted artifacts and sorted by the ID variable. Artifact values were then recoded to reflect the Phase II scheme.

Finally, field provenience was read in. Several variables eliminated in the Phase II format were dropped. Some variables in Phase I were ambiguously recorded or not recorded at all (LEVEL and BLOCK, respectively). The correct information was programmed in, and the variable, PHASE, was set to 1. This information was then merged with the artifact information.

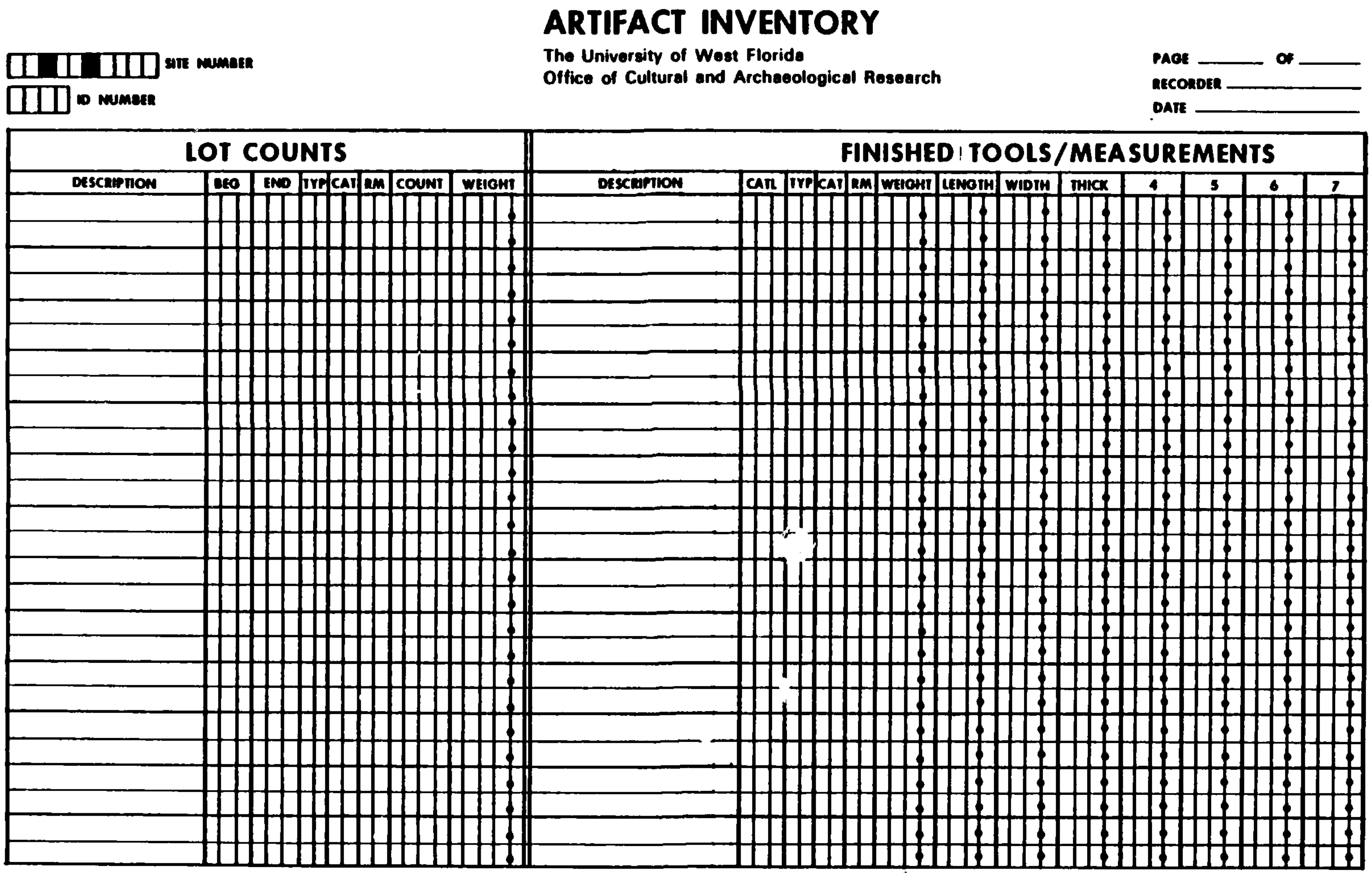


Figure 2.1. Artifact coding form.

FIELD PROVENIENCE

SITE NUMBER

BLOCK/TEST PIT

The University of West Florida

Office of Cultural and Archaeological Research

ID	UNIT CAT	COORDINATES			DEPTH		FEATURE		SS TYPE	COMMENTS
		y= SOUTH	x= WEST	SEG	LEVL	TOP ELEVATION	NUM	TYP		

CODES

UNIT CATEGORY

1. 1/2 x 1/2
2. 1 x 1
3. 2 x 2
4. 4 x 4
5. Feature
6. Special Sample
7. Void
8. Control block
9. Modern Disturb.
10. Natural Disturb.
11. 1 x 2
12. 2 x 4

SEGMENT

1. North
2. East
3. South
4. West
5. NE
6. SE
7. SW
8. NW
9. Void
10. A
11. B
12. C
13. D
99. Other

FEATURE TYPE

1. Clay Surface
2. Hearth
3. Pit
4. Post Hole Pattern
5. Burial Pit
6. Human Burial
7. Animal Burial
8. Cache
9. Bone Cluster
10. Ceramic Cluster
11. Chipped Lithic Cluster
12. Ground Stone Cluster
13. Rock Cluster
14. Burned Clay Cluster
15. Soil Stain
99. Other

SPECIAL SAMPLE TYPES

1. Archaeo-mag
2. Floatation
3. C-14
4. Pollen
5. Soil
6. Plotted Specimen
7. Biosilicate
8. Lipid
9. Perpetuity
10. Fine-screen
11. Chemical Core
99. Other

Figure 2.2. Field provenience coding form.

CHAPTER III

THE BEECH AND OAK SITES (22It623 and 22It624)

INTRODUCTION: HISTORY AND DESCRIPTION

The Beech and Oak sites (22It623 and 22It624) are situated on adjacent low knolls which are levee remnants of the Tombigbee River (Figure 3.1). The two sites are discussed together here since the geomorphological and archaeological evidence indicates they were probably a single entity until recent artificial division by a small slough or gully. Located some 8 km north of Fulton, Mississippi, the sites are on the Tombigbee floodplain approximately 1.8 km east of the river and 250 m west of the eastern valley escarpment. They are at the western edge of the canal and now lie buried beneath the recently constructed Pool C levee.

As reported by Rodeffer and Duggan for the testing phase here (Bense 1982: Chapter 12), the Beech and Oak sites occupy linear ovoid knolls each approximately 80 m north-northeast/south-southwest by 3 m east-southeast/west-northwest. The maximum elevation is 275 feet (83.5 m) above mean sea level. Both knolls rise about 80 cm above the surrounding floodplain, and they are separated by a shallow, 15 m wide gully running east-west (Figure 3.2). The rise of the levee remnants is abrupt on the east side and gradual on the west, indicating the knolls were formed by overbank deposition from the north and east. The eastern edge of the sites is marked by a seasonally wet relic stream channel. One hundred meters to the east is another slough running north-south, and to the west some 100 m is a small spring-fed stream which flows into a swamp 500 m to the south-southeast. The surrounding hardwood bottomland forest environment, with the river, streams, sloughs, oxbow lakes, and swamps, enjoys a moderate climate and supports diverse floral communities and a rich variety of terrestrial and aquatic fauna.

The Beech and Oak sites are "midden mounds," with occupational debris from nearly all prehistoric time periods known in this region. Historically their use seems to have been restricted to timbering, as there is no evidence of cultivation. Local artifact collectors have excavated several "potholes" at both sites in recent years.

The sites were first recorded during survey in 1979 (Bense 1981). To determine the nature, integrity, and significance of the cultural components present, they were tested during Phase I of this project (Bense 1982: Chapter 12). Testing at each site involved hand excavation of a 4 x 4 meter unit near the center of the site and machine excavation of "stratigraphic" trenches.

Testing results indicated the multicomponent nature of the site, but demonstrated the existence of an intact and relatively unmixed occupation from the "terminal" Late Archaic, a time period not well represented in the known prehistoric record of the Upper Tombigbee Valley. Therefore it was recommended that data recovery be undertaken to mitigate the adverse impact of waterway construction upon these important sites. The research was to focus upon establishing and refining the archaeological sequence during the Late Archaic, including the problem of temporal overlap of diagnostic forms. Further, the sites offered the chance to study a physiographic locale, a levee remnant, not previously investigated in archaeological work in the area. Questions arising from Phase I work, such as the natural and cultural relationships between the two sites, and the possibility of different contemporaneous uses of each, could be addressed. Information pertaining to issues of prehistoric cultural chronology, process, and ecology could be obtained.

EXCAVATIONS

Data recovery at the Beech and Oak sites was the first priority work during Phase II operations. The sites needed to be cleared for construction as soon as possible. The canal was built and the levee had been constructed up to the sites and beyond, leaving them as forested "islands" in a vast cleared space (see Bense 1982: Figure 12.3). The appearance of the sites in September 1981 was unchanged from that of a year earlier during Phase I. The drainage ditch on the west side contained enough water to use for waterscreening (Figure 3.4), and a station was set up next to this ditch in the gully area between the two sites. Forest undergrowth was moderate, but only two reference stakes from the Phase I mapping operations could be located at each site. These points and the corners of the previous year's excavation units (Blocks A at each site) were used to orient Phase II operations on the same Cartesian grid. All new excavations and other items were plotted using a transit and rod and were added to the Phase I site map.

Phase II investigations at the Beech and Oak sites were carried out between 25 September and 6 November 1981. Approximately three weeks of work was accomplished at each site by a crew of 15 which included nine fieldworkers, three team leaders, a photographer, an assistant director, and a director.

The first excavation was done by machine. A backhoe was employed to remove most of the soil overlying the highest deposits in which cultural features were evident. An average of 50 cm was taken off in this manner, representing Strata I, IIA, a portion of IIB, and corresponding to the first four arbitrary levels of the Phase I excavation (see discussion of stratigraphy which follows). The ground surface was then shovel-skimmed to expose any features and also to bring the (arbitrary) elevation to exactly 99.30 m so that controlled excavation could begin at Level 5. Within the backhoe-stripped areas at both sites three 4 x 4 m blocks were then laid out for excavation in 1 x 1 x 0.05 m sections.

At the Beech site Block B was situated adjoining Block A to the east (Figure 3.3), in order to expose the remaining portion of Feature 8, which, during Phase I, had appeared to be a stratified pit extending into Block A's east wall. For this block the upper soil was machine-stripped from only the area where the block was to be put, with overlap of only a few cm on all sides. The backhoe then cleared large areas in the north, central, and south parts of the site where the ground surface was the highest, disturbance from potholes and depressions the least, and sizable trees or other obstructions minimal (Figure 3.5). These areas were skimmed and the two remaining blocks then aligned within them so as to include the greatest number of exposed features. Block C was located in the North Backhoe Area, and Block D in the Central Backhoe Area.

Outside the blocks in the North, Central, and South Backhoe Areas cultural materials were recovered from the disturbed upper soils during shovel-skimming and from the machine backdirt piles. Several features outside the blocks were investigated.

The distribution of features at the Beech site is presented in Figure 3.5. Although artifacts and upper midden soils were present in all areas investigated, cultural features were confined to the central and northern parts of the site - the area of the highest elevation.

At the Oak site a similar large area covering the highest part of the site was opened by the backhoe, and blocks were placed so as to include the maximum number of potential features exposed by skimming. As seen in Figure 3.6, Block B was excavated in the North Backhoe Area, Block C in the South Backhoe Area, and Block D, as well as several features outside it, in the West Backhoe Area. Again, features were found to be concentrated in the center, highest part of the site.

At both sites several different kinds of information were recovered. Block excavations provided carefully controlled data on both features and general midden deposits of the Late Archaic. Backhoe stripping generated a large volume of artifacts from upper components and disturbed contexts. It also provided rapid location of additional features, which could be investigated quickly since they were outside blocks and could be excavated independently.

All excavations at the two sites from both phases of work are summarized on Tables 3.1 and 3.2. Approximate volumes for the different excavation units are given. At the Beech site, the slightly larger of the two, about 195 cubic meters were excavated in total; at the Oak site, about 204 cubic meters. The total volume of all controlled excavation (hand excavated blocks, features, test pits, as opposed to machine-stripped portions) at the Beech site was approximately 44 cubic meters and at the Oak site, 62 cubic meters.

Cultural remains were generally less numerous (relatively and absolutely) at the Beech site than at the Oak site, as discussed later in this chapter.

Block excavations at both sites followed general procedures developed during Phase I (Bense 1982: Chapter 4 and Appendix V) and outlined in Chapter 2 of this report. At both the Beech and Oak sites the Phase I arbitrary elevation datum points, each marked by a lag bolt driven into the base of a tree, were easily relocated and used to calculate unit floor elevations. Elevations of both these points, arbitrarily labelled as 100 m for easy calculation of descending excavation levels, was later determined by Corps surveyors to be 83.5 m (274.7 feet) above mean sea level. Little ground clearing took place during Phase II work beyond the actual excavation areas. A few large trees were felled to permit entry of the backhoe, and brush and small trees were removed along the paths to the waterscreen. Otherwise the small patch of secondary beech-oak forest remained intact. It provided autumn shelter for wildlife driven from habitats in the surrounding cleared canal section, especially for copperheads and water moccasins. These snakes, appearing in extraordinary numbers, nonetheless necessitated only momentary work delays for their dispatch. Weather was quite favorable for the entire duration of excavation. To permit continuation of work on the few rainy days which did occur, blocks and waterscreen were covered by temporary shelters constructed of clear plastic sheeting stretched over three or four parallel ribs of plastic pipe which were arched over a taut rope for stability (Figures 3.4 and 3.8). Unit floors and individual features were covered each night with another sheet of (usually black) plastic to prevent disturbance or water damage. Most block walls remained intact until fieldwork was completed.

Control samples were taken from blocks in the following manner: A single 1 x 1 m horizontal segment of the block was designated as the "control block." This was usually in the northeasternmost corner, but could be moved at any time if features, natural disturbances, or other irregularities in the deposits were encountered. The control block was divided into quarters and sampled for each level. From one quarter a four liter sample was taken for flotation; from another quarter a four liter sample was taken for curation in perpetuity. The third quarter was taken _in toto_ for processing through the finescreen. All of the remaining quarter was simply screened in the same way as all other soils from that level.

Specifics of feature excavation evolved during the course of fieldwork to permit maximum information recovery. At first, following procedures established during Phase I fieldwork, after exposure and initial recording and photographing, features were halved along their longest axis (preferentially along a cardinal direction) and only the feature fill of one half was removed. The profile of the remaining half was drawn and photographed (see Figure 3.7, top), then it was removed, and a post-excavation photo taken. Excavation of the square then continued, with drawings of succeeding floors including the outline of the hole where the feature had been removed. This technique was worthwhile for complex, multiple episode features whose bottom contours were important to record. However, it could result in incomplete removal of feature fill for even moderately deep features if their lower sediments became paler or less easily distinguishable from the surrounding subsoil matrix. In such cases the unexcavated remains of features reappeared when lower level floors were reached. Therefore, excavation techniques were altered. Besides removal of half the feature fill, cross-sectioning included excavation of the subsoil matrix surrounding the half, cut in a clean, squared-off shape extending slightly beyond all edges of the feature (Figure 3.7, bottom). Surrounding matrix was still removed in the proper 5 cm levels and included with the correct 1 x 1 m square. With this technique a clearer outline of the feature's shape was obtained, and for the other half just the feature fill could be cleanly removed. Post-excavation photos were discontinued.

Another addition to feature excavation procedures, begun early during fieldwork, was the recovery of a one liter soil sample for curation in perpetuity from the most central area of the feature. Future analyses could utilize portions of these samples for other special studies. Features dug in strata or other segments were sampled in each segment, if possible. After samples were removed all feature fill was sent for flotation, except that from a few features determined to be natural disturbances. In such cases the fill was at least fine-screened to recover artifacts displaced by rodent behavior. Materials recovered from flotation were stored without further processing in the lab, except for those from features yielding diagnostic artifacts. Flotation recovery from these features was sorted to obtain macrobotanical materials for further analysis and charcoal for radiocarbon dating.

STRATIGRAPHY

DESCRIPTION

The Beech and Oak sites were formed by alluvial deposition of varying strata which were subsequently altered by natural and cultural processes. The overbank deposition from the east has resulted in massive sand deposits being thicker and coarser on the east sides of both sites, as well as overall at the Beech site, the northern end of this levee remnant; sediments become finer and thinner moving west and south. As cultural materials are fairly deeply stratified at both sites, it is assumed that fluvial deposition continued after the initial human occupation. Cultural activities no doubt contributed various types and amounts of residue toward the buildup of the these midden mounds. The totality of such contributions remains unknown due to the lack of preservation of most organic materials. Artifacts, charred macrobotanical specimens, and other relevant data are abundant, however, and provide sufficient evidence for archaeological inference.

The Beech and Oak sites are composed of three major stratigraphic zones. An upper, thick, dark midden zone just under the forest humus contains mostly mixed remains of many components. It overlies pale sands which are not visibly culturally altered, but which do contain artifact materials as well as features originating from above. Beneath these pale sands is the Early Holocene multicolored paleosol, the ancient polygonal soil underlying much of the valley, which does contain a limited amount of early cultural remains. Under the paleosol presumably lies the reduced blue-gray clay or gley soil common to much of the valley, though our excavations did not reach it (see discussion of stratigraphy at the Hickory site in Chapter 4).

Six distinct strata were defined during Phase I operations at the Beech and Oak sites by Rodeffer and Duggan (Bense 1982: 12.5-12.6). They can now be more extensively described after Phase II investigations. Representations of the stratigraphy of all excavation blocks at both sites are given in Figures 3.10 through 3.13. A list of the excavation levels included within each stratum investigated during Phase II is presented in Tables 3.3 and 3.4. (As Phase I excavations were in 10 cm levels instead of 5 cm levels, the .1 or .2 subdivisions do not occur in both Blocks A). Volumes of each stratum excavated in each block are also given on these tables. Excluded from the calculation of these volumes were all features and also the few extensions or "windows" excavated along walls to recover additional stratigraphic information. Cultural materials recovered from each stratum are listed on Tables 3 and 4 of Appendix I.

Stratum I: the shallow, dark reddish brown (5YR5/2) forest humus or topsoil. At both sites it averaged about 10 cm thick and contained a dense root mat, effectively precluding surface collection, though several old and new potholes had penetrated it and may have resulted in surface artifact occurrence at some time. This stratum was machine-stripped and was not investigated during Phase II; thus it appears only in the profiles of Blocks A at both sites (Figures 3.10, top, and 3.12, top). As shown on the block and level summaries (Tables 1 and 2, Appendix I), few cultural materials were recovered from excavation Level 1, which comprised Stratum I at both sites. These artifacts were of mixed time periods and contexts and probably reflect not only recent disturbance but also that of later prehistoric inhabitants.

Stratum II: the thick dark midden zone, containing dense mixed deposits of ceramic components from the Late Archaic through Mississippian periods. It is divided into two sub-strata based primarily on color and root content at both sites. Stratum IIA, a dark reddish brown (5YR3/2) to dark brown (7.5YR3/4) sandy loam, averaged 35 cm to 40 cm thick. It was characterized by Rodeffer and Duggan (Bense 1982: 12.5) as very weak, sub-angular, blocky, friable soil with many rootlets and approximately 2% to 3% charcoal flecks. These authors noted the predominance in this sub-stratum of ceramic materials from fiber-tempered through Mississippian. Their interpretation was that most occupations were thin and mixed, and no specific component assemblages could be isolated, though a rough ceramic seriation was possible. Stratum IIA was mostly encompassed within excavation Levels 2 through 4 during Phase I operations. It produced a great number of cultural materials (Tables 1 and 2,

Appendix I). It was machine-stripped and not investigated during Phase II (except for occasional collections of artifacts exposed in the backdirt piles). Thus it only appears on the profiles of Blocks A at both sites (Figures 3.10, top and 3.12, top).

Stratum IIB was the first locus of investigation during Phase II. It was hoped that its slightly lighter color would permit visibility of features and that its lower position could result in its having been less disturbed by subsequent occupations. This layer was a dark reddish brown (5YR3/4) to very dark brown (10YR3/2) sandy loam averaging about 35 cm thick. As described by Rodeffer and Duggan (Bense 1982: 12.5), it was a very weak, sub-angular, blocky, friable soil with few rootlets and less than 2% charcoal flecks. Based on Phase I research it was expected to contain undisturbed Archaic deposits.

Phase II results indicate that, especially at the Oak site, where occupation throughout most of the time sequence is believed to have been heavier, fiber-tempered and sand-tempered ceramics are relatively numerous in IIB; there are also a few grog- or shell-tempered sherds. This suggests that portions of the Wheeler and Alexander components remained intact in this stratum, and an occasional artifact from later periods intruded by natural or cultural means. At the Beech site Stratum IIB essentially represents the earliest ceramic-bearing midden deposits. But at the Oak site such deposits are instead located more within Stratum III. The frequency of Late Archaic projectile points per cubic meter of fill increases steadily through time, from where they first occur, in Stratum III, to the mixed occupation deposits in Stratum IIA. The most that can be said after the limited analysis permitted within the scope of Phase II operations is that Stratum IIB represents mixed Late Archaic-early ceramic period deposits.

Stratum III: the transition zone between the dark midden and the pale sand, ranging from about 10 cm to 25 cm thick. It is a reddish brown (5YR4/3) to brown (7.5YR4/4) loamy sand with a small amount of light yellow (10YR6/4) and light gray (10YR7/1) mottling due most likely to natural disturbances. Rodeffer and Duggan (Bense 1982: 12.5-12.7) described this sand as massive, with few roots, and considered Stratum III to represent Late and Middle Archaic deposits, though without clear component distinctions. Phase II investigation essentially confirmed this situation. At the Oak site there were a very few early ceramic sherds in this stratum as well. The transition from Stratum IV into Stratum III was originally thought to represent the initial occupation of the site (Bense 1982: 12.6-12.7). It now appears more likely that Stratum III deposits are the earliest containing relatively heavy and/or mixed cultural components.

Stratum IV: the relatively unaltered fluvial sands. This stratum is quite variable in thickness and appearance. Generally, it is composed of yellowish brown (10YR5/8) to very pale brown (10YR7/4) loamy sand with some lighter yellowish or grayish (10YR7/1, 8/4) mottling due to bioturbation. At the Beech site it ranges in thickness from about 15 to 30 cm; at the Oak site it is much thicker, averaging at least 50 cm. Over most of both sites it is not a vertically continuous pale stratum but is banded in the middle with a partially developed illuvial zone 5 cm to 20 cm thick of dark yellowish brown (10YR4/4) to strong brown (7.5YR4/6) sandy loam (Figures 3.11, 3.12, and 3.13). This band is by necessity named substratum IVB, and the paler sands above and below it IVA and IVC, respectively.

IVB is thought to have developed because of the concentration of finer, more iron-rich sediments at the level of a perched water table which must have been in existence for some time. It is a weaker, paler version of Stratum V. This zone was not noticed during Phase I operations but appears well enough in the photos and was therefore easily added to the Block A profile at the Oak site (Figure 3.12, top; compare with Bense 1982: Figure 12.7, top). Its transformation into a different substratum most probably took place after cultural occupation and fluvial deposition had covered it. Stratum IVB's artifact content was comparable to that in the rest of Stratum IV. Artifact densities for it were calculated from block and level tables and also seen directly in the field, where some portions of this stratum were screened separately specifically to check this.

Culturally, Stratum IV as a whole contained progressively fewer artifacts with increasing depth. In all 15.64 cubic meters of it excavated over both sites, it yielded one diagnostic item, a Cypress Creek projectile point from Block A, Level 10 at the Beech site, in all 15.64 cubic meters of it excavated over both sites. This suggests that the proportionately light but probably unmixed occupation in Stratum IV dates to the Early Archaic time period. Further evidence, perhaps, from comparative, in-depth study of the lithic debitage or other tools not now considered diagnostic would be required to support this opinion.

Stratum V: a well developed illuvial band. It was formed by the heavy concentration of fine iron-rich sediments in an exceptionally clearly defined layer directly atop the impermeable paleosol, marking the level of the water table. This stratum is composed of hard-packed dark yellowish brown (10YR4/4) to strong brown (7.5YR4/6) sandy loam with a "higher colloid content because of the perched water table" (Bense 1982: 12.6). It contained a high amount of manganese and ferruginous sandstone nodules (see the "Introduced Rock" category of Tables 3 and 4 of Appendix I) concentrating above the impervious paleosol.

Stratum V was not devoid of cultural content, though it was only sampled to a small degree, since the focus of excavations was the Late Archaic component and it lay well below that. No cultural materials from Stratum V appear on the stratum tables (3 and 4 in Appendix I) because only 0.9 cubic meters of thin (5 cm to 25 cm thick) stratum were screened and the recovery was only in the fine screen, not the 0.25-inch screen. Chert debitage which falls through the 0.25-inch screen is bagged with the rest of the fine screen recovery and not examined further upon reaching the lab and or entered into the data tabulations. Its presence in Stratum V is known because the time was taken in the field to observe the yield from this unusual stratum.

About eight to ten tiny pressure flakes were obtained from the sample screened (about 0.2 cubic meters) Their cultural affinity remains unknown, as does their significance. Fine screen recovery from the central block samples in other levels is not a portion of the processed data for the Phase II project, therefore the figures on density of tiny pressure flakes in other levels are not available for comparison.

Stratum VI: the Early Holocene paleosol, with characteristic polygonal cracking. This ancient, buried soil horizon was not clearly recognized as such during Phase I operations, but was identified during Phase II, especially as it was also under extensive investigation at the Hickory site, as described in Chapter IV herein. It is made up of a yellowish brown (10YR5/8) sandy loam matrix heavily mottled and streaked with yellow (10YR7/6, 2.5YR7/4), brown (7.5YR5/8) and light gray (5Y7/1) sandy loam and clayey sand. This paleosol has sub-angular blocky structure with clay skins on the ped faces. It is highly weathered and has been eroded with the A and part of the B horizons removed. This stratum has a higher clay content than any other investigated at the Beech and Oak sites.

As with Stratum V, very little of Stratum VI underwent controlled excavation, the emphasis being upon the Late Archaic component. As shown in Table 3 of Appendix I, several pieces of lithic debitage and some non-diagnostic tools were recovered from the total 3.6 cubic meters of Stratum VI and mixed strata V-VI levels excavated at the Beech site. Only 0.7 cubic meters from the Oak site underwent controlled investigation, but some chert flakes were recovered (Table 4, Appendix I). A field check revealed several tiny pressure flakes in the fine screen sample as well (these are not entered into the data recording system and thus do not appear on the tables in Appendix I). Present analytical methods cannot identify the component affiliation of these materials. This paleosol represented the initial post-Pleistocene deposit containing Early Archaic cultural material, in several other sites investigated in this region (22It576, 22It539, and 22It621; (Bense 1982), and the following chapter of this report).

Stratigraphic evidence at the Hickory site and elsewhere in the area suggests that the paleosol at the Beech and Oak sites is probably underlain by the blue-gray or gley deposit mentioned earlier. Canal excavations in progress observed near the sites had exposed this gley sediment in many places. Its color is due to the reducing atmosphere at this depth, below the permanent water table. This deposit is culturally sterile.

SUMMARY AND OBSERVATIONS

The correlation of cultural components with the stratigraphy manifested at the Beech and Oak sites is a complex task at any other than a gross superficial level. Both cultural and natural factors account for the appearance of the stratigraphic profile, but the contribution of each is only recognized at the broadest level of generalization. No pure Late Archaic midden stratum or even portion of a stratum can be isolated. The impression is gained, from the brief analysis possible within the scope of the Phase II project, that ceramics and even diagnostic stone tools could easily be seriated by excavation level. However, features provide the only potentially pure, single component deposits.

All materials recovered from good context at both sites are listed by stratum for each block and for the entire site at both the Beech and Oak sites in Tables 3 and 4 of Appendix I. The excavation levels included in each stratum are given on Tables 3.3 and 3.4. Due to the nature of the excavation procedures structured by Phase I operations, some arbitrary excavation levels overlapped the boundaries of two strata; thus some transitional stratum categories also appear on Tables 3 and 4 in Appendix I. (Material contents of individual excavation levels are given for each block in Table 1 of Appendix I). The listing of materials by stratum begins with Stratum IIB, as data are present for all blocks from that stratum down. Machine-stripping during Phase II was carried through Stratum IIA and aimed at its complete removal, so that controlled, hand excavation could begin as closely as possible to the top of IIB.

The carefully calculated volumes of the amounts of each stratum excavated (Tables 3.3 and 3.4) can be used to compute artifact densities. It is expected that future research using these data will become involved with the complex stratigraphic patterning of artifact distributions through space and time. At present a few summary observations may provide clues to the general nature of these distributions.

In both absolute and relative terms, the Oak site, 22It624, produced more material remains for the archaeological record. Site-wide totals in all categories are greater (Tables 3.7 and 3.8), as are totals from controlled excavations in all categories, than the totals from the Beech site, 22It623.

More revealing than raw frequencies, artifact densities are also generally greater in most categories in most strata at the Oak site, but there are some exceptions. Table 3.5 lists densities of selected artifact categories per cubic meter excavated in each stratum. Perhaps the most sensitive indicator is the lithic debitage, the category with the greatest ubiquity and numbers. Chert flakes generally decrease regularly in frequency (by something between 30% and 70% per stratum) with depth at both sites. They are between 40% and 70% denser at the Oak site than at the Beech site until Stratum IV, where the ratio is approximately reversed. As deep as Stratum VI, the paleosol, there are still three or four flakes per cubic meter (flakes large enough to be recorded). Debitage distribution patterns are echoed by those of chipped stone tools, another large category, and in the upper strata by those of ceramics (Table 3.5).

Such distributional data for common artifacts can indicate several things. First, the greater debitage, tool, and ceramic densities in later strata at the Oak site suggest either a heavier occupation there or at least a greater volume of lithic and ceramic artifact production (and use?) than at the Beech site from Stratum III time, Late Archaic-early ceramic, onward. Earlier strata, representing Early and Middle Archaic occupations, show the opposite: heavier occupation or lithic tool production at the Beech site, by comparison. Second, at both sites the Early and Middle Archaic components are light, probably unmixed or only slightly mixed, compared with those of later periods. Discrimination of individual occupations may be possible with further analysis of the carefully controlled excavation data.

Occupation extends into the paleosol to an unknown extent. The problem of reaching culturally sterile deposits is complicated by the extensive bioturbation of soils that takes place here. This region is rich in species diversity and numbers, and subject to seasonal climatic extremes. The extremely high frequency of animal burrowing (krotovina) and root disturbance throughout the archaeological deposits requires that a cautionary note accompany any stratigraphic interpretation. Often such natural disturbance is readily visible (Figure 3.7, 3.9, and 3.18); occasionally it is not, however. In Block C at the Beech site what appeared only vaguely to resemble a mottled area in the lower portion of Stratum IIB (Level 8) was demonstrated to be a recent burrow when it yielded a plastic pipe whose bowl still smelled of tobacco. Not all mottled soils are naturally disturbed, however, as explained below in the discussion of artifact cluster features.

Concerning the earliest occupations of the site, it might be said that tiny retouch flakes (recoverable in the 0.06 inch fine screen) could be moved downward and therefore do not alone and in themselves constitute evidence for cultural soils. Comparisons of their frequencies in all strata should certainly be made during any future work with these sites. However, the three or four flakes and one tool per cubic meter within the paleosol are larger, having been recovered in the 0.25 inch screen; they are probably too large to have migrated down into the average size worm track, crayfish hole, or polygonal crack. Thus the initial, if sparse, deposition of cultural materials at both the Beech and Oak sites is placed within Stratum VI with confidence.

Concerning the main focus of the work, the Late Archaic component, several stratigraphic observations are possible. The deepest projectile points diagnostic of Late Archaic occur in the lowest portion of Stratum III at both sites (Tables 3 and 4 in Appendix I). Ceramics, though more numerous at the Oak site, are deepest (and at extremely low frequencies) at both sites in the lowest part of Stratum III as well (Table 3.5). It is most likely that repeated, short-term occupations from the Late Archaic and early ceramic periods are to some degree mixed in Stratum III. We suspect that fine-tuned research on diagnostic chert tool types might demonstrate stability among them for some time after the introduction of ceramics. The Little Bear Creek/Flint Creek/residual stemmed projectile points are probably an integral part of both terminal Late Archaic, and Wheeler and probably also Alexander. Preceramic or non-ceramic deposits, whether culturally Late Archaic or later and functionally different, were able to be isolated only in features, however, at the level of analysis permitted within the scope of the Phase II project.

FEATURES

INTRODUCTION

The main emphasis of the Phase II project at the Beech and Oak sites was the investigation of Late Archaic features. Phase I and II operations involved the excavation of a combined total of 61 features at both sites, 36 at the Beech site and 25 at the Oak site. Many were outstanding material records of prehistoric cultural activity in the Late Archaic, and possibly other time periods. Others were natural disturbances, and still others, of indeterminate origin. Excavation methods are detailed in Chapter 2.

The following is a list of features by type from the two sites, with time period specified where known:

	22It623	22It624
Late Archaic pit	2	2
Late Archaic compound pit	1	1
Mixed Late Woodland/Archaic pit	-	1
Wheeler pit	-	2
Mixed Woodland pit	-	1
Pit	5	3
Compound pit	-	1
Probable/possible pit	9	5
Possible pit or post mold	8	4
Possible post mold	-	2
Fired soil area	-	1
Late Archaic artifact cluster	1	-
Artifact cluster	3	-
Bone cluster	1	-
Probable natural disturbance	3	4
Definite krotovina or root mold	3	1

In addition to specific features, several anomalies in the soil not distinct enough to be features were recognized; these were termed "segments" of the excavation blocks. Many segments turned out to be simply the upper portions of features disturbed by later prehistoric cultural activity, while others were probably natural disturbances.

Segments investigated are the following:

22It623

Block B, Segments A to Q: possible post molds or natural disturbances.

Block C, Segment A: upper part of Feature 11.
Segment B: upper part of Feature 14.

Block D, Segment A:	upper part of Feature 24 (burrow).
Segment B:	natural disturbance.
Segment C:	upper part of Feature 26.
Segments G & H:	adjoining Feature 26.
S. Backhoe Area, Segment A:	sheet midden adjoining Feature 25.

22It624

Block A, Segment A:	possible disturbed portion of Feature 2.
Segment B:	upper portion of Feature 3.
Segment C:	upper portion of Feature 4.
Block B, Segment NE:	atlatl weight, possibly in disturbed feature.
Segment A:	possibly a disturbed feature.
Segment B,C&D:	upper parts of Feature 7.
Segment E:	possibly a disturbed feature.
Block C, Segment H:	upper part of Feature 23.
Segment K:	part of Feature 6.
Block D, Segment A:	upper part of Feature 11.
Segment B and C:	parts of Feature 13.
Segment D:	upper part of Feature 12.

Tables 9 and 10 in Appendix I list all materials recovered from segments. These materials are also incorporated within the list of all recovered specimens by block and level (Tables 1 and 2 in Appendix I). Tables 7 and 8 in the appendix list in detail all artifact materials recovered from features and Table 3.16 lists all charred macrobotanical materials recovered. Table 3.6 in this chapter briefly summarizes data on each feature, noting soil colors, sizes, shapes, and important and diagnostic materials recovered. In the discussion that follows the features are described more particularly; included are some observations on relationships with each other and with segments. The conclusion of this section presents a few interpretations of the data contributed by feature excavations toward a better understanding of the two sites and of the Late Archaic and "midden mounds" in general.

The discussion below presents features in numerical order by site. At the Beech site, 22It623, Features 1 through 10 were excavated during Phase I operations (with the remainder of Feature 8 left for Phase II). At the Oak site, 22It624, Features 1 through 5 were investigated during Phase I.

FEATURE DESCRIPTIONS AT THE BEECH SITE (22It623)

Feature 1: an unidentifiable cluster of mammal bones without any discernible pit outline. It may have been cultural or natural, and based on stratigraphic position, from any time period since the Late Archaic.

Feature 2: a large probable pit containing non-diagnostic chert tools, tool fragments, a fair amount of lithic debitage, and a muller/pitted stone. It was described by Rodeffer and Duggan as probably Late Archaic in age, due to the lack of ceramics (Bense 1982: 12.8). It actually did yield one tiny sherdlet, but this may have been intruded later. Evidence for possible stratification was mentioned (Ibid.), but individual strata were not investigated.

Macrobotanical remains recovered from Feature 2 during testing were later submitted for analysis to consultant E. Sheldon. Of the 26 g total recovered during flotation of feature fill, Sheldon studied a 2.6 g sample. Hickory nutshells represented 98% of this sample, with hardwood and pine bark representing about 2%; there were also two tiny fragments of acorn shell, and a single grape seed (Table 3.16).

Feature 3: a hammerstone and a muller in close association, possibly sitting on the same living or working floor. Rodeffer and Duggan (Ibid.) suggest a Middle Archaic cultural affiliation based on a "nearby but not directly associated Cypress Creek corner-notched point."

Feature 4: a possible pit with sparse lithic remains. It was irregularly shaped and may also have been a natural disturbance.

Feature 5: probably a natural disturbance as it contained no cultural materials and was a tapered but irregular shape.

Feature 6: a possible pit with sparse lithic remains; it may also have been a natural disturbance.

Feature 7: probably a natural disturbance since it contained no cultural materials and was only roughly basin-shaped.

Feature 8: a deep pit. Approximately one-third to one-half of this feature was excavated during Phase I. Rodeffer and Duggan (Bense 1982: 12.9-12.10) noted that it contained non-diagnostic chipped stone tools, debitage, and various other rocks including a large amount of ferruginous sandstone. They suggested that it may not have been cultural in origin but also that it did appear to be stratified.

During Phase II most of the remainder of Feature 8 was excavated within Block B, which was placed adjacent to Block A on the east specifically to permit further investigation of this feature (a very small portion of Feature 8 remained in the south wall of both blocks). The east portion of Feature 8 exhibited no evidence of stratification but did yield more chipped stone tools, including an end-scraper, debitage, and a large number of sandstone pieces, among other things. It was clearly a pit, probably for refuse. Though no strata were visible in it, the fill was removed in levels corresponding to unit excavation levels as a measure of control. Distribution of lithic materials was denser in the lower levels of the pit. No precise trend can be confidently described, however, since a large rodent burrow had disturbed the bottom of this feature The interpretation is further complicated because what appeared to be the bottom of the feature was actually indistinguishable since it merged with the darker soil of Stratum V. Below Stratum V a smaller dark stain appeared in the paler matrix of Stratum VI. As its origin somewhere in Stratum V was unclear, it could not necessarily be considered the deepest extent of Feature 8, so it was given a new feature number, 19 (q.v.). It most likely actually represented the deepest portions of the rodent disturbance, and the two chert flakes in it were probably carried down from the feature fill.

Feature 9: a well-defined Late Archaic pit, probably for refuse. It contained three diagnostic artifacts, one Gary, and two Little Bear Creek projectile points, as well as a drill, an abrader, and lithic debitage. There were no ceramics. The feature fill, according to the description by Rodeffer and Duggan (Bense 1982: 12.10), was more yellow and less red than that of other features found during Phase I at the site, its color being of the 10 YR hue instead of the 5 YR or 7.5 YR on the Munsell chart. This color difference may have archaeological importance as it occurs with several other features definitely cultural in origin, including Feature 14, another dating to the Late Archaic.

Macrobotanical materials recovered during Phase I from Feature 9 were later submitted to consultant E. Sheldon for analysis (Table 3.16). These remains consisted mostly of hickory nutshells (99%), with less than 1% tree bark and two tiny acorn shell fragments. Their total weight was too small to permit radiocarbon dating.

Feature 10: a rock cluster with charcoal and ash; probably a hearth. This circular pile of sandstones and hematite was encountered in Stratum IIB, quite high in the stratigraphic sequence relative to other features. It was easily recognized since it was a group of objects. Few dark stains would be discernible in the dark soil of Stratum IIB, so it is unknown to what extent the feature included any surrounding altered soils. Its stratigraphic position indicates it could date to any time period from the Late Archaic onward.

Feature 11: a shallow Late Archaic pit, possibly for refuse, as many of the artifacts in the fill were broken. It contained a Flint Creek projectile point, a petrified wood awl (Figure 3.31c), a drill fragment, and other chert tool fragments. There were no ceramics.

Charred macrobotanical materials recovered by flotation were sent for identification to consultant E. Sheldon. She reported that, of the 12% sample taken from the nearly 120 g of materials recovered, 99% was hickory nutshell. Less than 1% was charred wood, and there were also two tiny fragments of acorn shell (Table 3.16).

Charcoal samples consisting of the analyzed hickory nutshell fragments and some small wood charcoal fragments sorted out of the materials recovered by flotation were sent for radiocarbon dating to Dicarb, Inc. The date returned was 4160+65 years. Uncorrected this is 2210 B.C.; corrected it is 2630-2680 B.C. (Table 3.19). Either is an excellent date for the preceramic Late Archaic.

The level at which Feature 11 was first recognized as a distinct entity was 6.2. Ten cm above it, in Level 6.1, an amorphously shaped, mottled, slightly darker area was recognized in Block C that was named Segment A and excavated and screened separately. It represented the uppermost portions of the feature probably disturbed by later cultural activity. Its material contents (Table 9 of Appendix I) included a stemmed recycled drill, chipped stone tool fragments, lithic debitage, many rocks including nearly 0.8 kg of sandstone, and 0.9 g of charred nutshells.

Feature 12: a cluster or pile of six ground stone tools. This grouping was not surrounded by any different colored soils but still may have been sitting on some unrecognized living floor or other activity surface. The stone tools were a uniface and a biface chopper (Figure 3.27a and c), a heavy uniface cobble scraper (or planing tool), an unidentifiable ground stone tool fragment with several worked surfaces (Figure 3.31k), and a relatively large piece of ferruginous sandstone. They may have composed a specific tool kit stored here for an activity such as plant food processing.

Feature 13: a shallow pit, probably for refuse. It yielded a chert biface fragment, 13 pieces of lithic debitage, and various small rocks, especially ferruginous sandstone pieces. Its edges were not easily discernible. When first encountered in Level 8.2 not all of it was able to be cross-sectioned and excavated; the bottom portion was taken out when Level 9.2 was reached in the excavation unit. Though no diagnostic artifacts were in the fill, the absence of ceramics suggests it to be an Archaic feature. The grouping of Features 8, 12, and 13, two pits and a ground stone tool cluster all originating at the same level in Block B, may indicate an area of general or specific prehistoric activity. There is, however, no indication that they are necessarily contemporaneous, though all three most probably date to some time in the Archaic.

Feature 14: a Late Archaic compound pit probably resulting from multiple prehistoric excavations of various contiguous areas. Possibly a refuse pit, this feature is essentially a shallow basin resulting from an unknown number of discrete excavations, with apparently three deeper, narrow additional excavations extending down from it. The sloping and scalloped bottom contours (Figure 3.7, upper) and complex profile (Figure 3.7, lower) suggested continual reuse of the feature for dumping, perhaps with small excavations to deepen it and to obtain fill to cover the refuse. Above the feature about 5 cm, Segment B was noticed at Level 8.1 in Block C. This was a larger, amorphous, mottled dark area representing the disturbed, uppermost postion of the feature. It yielded a tool fragment and debitage.

Cultural materials in the soft dark fill of the main feature were numerous. A Late Archaic Benton Short-Stemmed point was the diagnostic indicator of the feature's cultural affinity. Other chipped stone tools included a medial point fragment, a drill fragment, and a large quantity of utilized and non-utilized debitage. Ground stone tools included an abrader, a pitted stone, and a recycled celt bit which had also been used as an abrader as well as a cutting tool (Figure 3.31g). There was also a large quantity of other rocks and stones, predominantly ferruginous sandstone.

Macrobotanical materials recovered by flotation were sent for identification to specialist E. Sheldon. A 10% sample of these was found to contain 27 g (94%) of hickory nutshell, three acorn shell fragments, 1.6 g of wood, and three indeterminate seeds. A sample consisting of charcoal and nutshells was also sent for radiocarbon dating, and yielded an age of 5310±70 radiocarbon years. Uncorrected, this date is 3360 B.C., and corrected, 3980 B.C. (Table 3.19) Both are excellent for Benton, the latest portion of the Middle Archaic or earliest of the Late Archaic.

Feature 15: a small shallow pit with only a chert tool fragment and three flakes in the fill, as well as several small dark manganese or sandstone concretions. The southeast corner of Block B was located in what is estimated to be the center of this feature; thus only about 1/4 of the feature was exposed and excavated. The profile was recorded when the unit walls were drawn, at which time a pale "bleed zone" below the shallow pit of the feature was noticed. This zone had not been perceptible during the feature's excavation because it was only barely darker than the surrounding light sand matrix of Stratum IV (Figure 3.10, upper). It probably represents the area where organic compounds leached down from the feature, possibly indicating its use as a refuse pit. The age of this feature is uncertain; by its stratigraphic position, it could date to any time from the Late or Middle Archaic onward.

Feature 16: a probable pit, though it has a long ovoid shape. The estimated center of this feature was the center of the north wall of Block B. Only about half the feature could thus be investigated. The shallow dark basin-shaped fill was underlain by a slightly lighter, deeper basin-shaped lens which may have been either a deeper stratum or else just the zone of leaching out of organic materials from above. This feature may have been a refuse pit but it yielded only two artifacts, unidentified chert tool fragments. One of these is certainly a biface or projectile point with a corner notch, suggesting a Middle or possibly even Early Archaic cultural affiliation, though it is too fragmentary for even a tentative identification.

Feature 17: a possible small pit or post mold. It abutted the south wall of Block C and therefore an estimated 10% of it remained uninvestigated. A small, irregular ovoid shape in plan view, this feature possibly had stratified fill zones. In profile the dark stain was very shallow (12 cm deep) and basin shaped. From it a funnel-shaped segment of slightly lighter brown sand extended 28 cm deeper to the bottom of the pale sands of Stratum IV and merged into dark brown Stratum V. Whether it was an old krotovina, post mold, or something else is unknown. This feature yielded only two chert flakes; the possibility that it is a natural disturbance cannot be dismissed.

Feature 18: a possible pit. It was recognized as a more distinct stain within a larger, indistinct area of dark midden in the lighter, mottled matrix of Block B that changed shape with every cm of depth. The larger stain may have represented a habitation or activity floor frequently flooded or otherwise spread around. Feature 18 may have been a refuse pit originating in that floor. It yielded eight chert flakes and various stones, including a large amount of ferruginous sandstone. It may date from anytime in the Archaic or later. Its basin shape belies a natural origin.

Feature 19: probably a rodent burrow or post mold, extending from the bottom of or from directly below Feature 8's (q.v.) termination in Stratum V. It did produce two chert flakes, which probably came from the fill of Feature 8.

Feature 20: a Late Archaic artifact cache consisting of eleven finely made, broken Fort Payne points or blades, including a Turkey Tail and a double side-notched point. They were arranged in a tight pile which also included a flat, circular chunk of red ochre. This feature was first encountered when the uppermost chert pieces began to protrude as the floor of Level 9.1 was being troweled. The soils surrounding Feature 20 and, in fact, on nearly the entire eastern half of Block B at this level were unusually heavily mottled or patchy, in extremely contrasting colors (Figure 3.14). After the entire feature was exposed the mottling remained. It could not be taken as an indication of natural disturbance because on such a large scale burrowing animals or a penetrating root network would certainly have dislodged the artifacts and redistributed them to some degree. But the pile was compact, with only thin concretional layers of dark manganese and other concentrated minerals between the blades.

What may have been the outline of a container such as a bag of soft material encasing the artifacts was somewhat discernible in the floor though it is equally likely to have been a product of the archaeologist's vivid imagination. Figure 3.14 shows the exposed cache within what might be interpreted as a sort of pear-shaped outline, wide, round end to the left and narrow end, possibly representing the top of a soft container drawn closed, to the right. Other evidence for the presence of a container is the breakage pattern of chert artifacts. Figure 3.16 shows the arrangement of the upper artifacts as first plotted, and of those below after the upper ones were removed. Many breaks occur with little or no dislodging of the pieces. Others, as seen best in the Turkey Tail and double side-notched specimens, result in the reorientation of large pieces at almost right angles to each other, perhaps conforming to the rounded outline of a container. It is almost as if, rather than being broken after deposition, the blades were snapped during deposition. Wild speculation can conjure up a picture of a skin sack filled with ceremonial items being swung in the air and slapped hard to the ground as part of some unknown Late Archaic ritual. Ceremonial breakage of artifacts is of course a part of the archaeological record in the eastern U.S. from Archaic through the latest prehistoric times.

The chert implements themselves were very long, thin, and carefully pressure-flaked, and did not appear to be utilitarian in nature. They were made of Fort Payne chert. Though all were broken, all pieces fit together and there seemed to be no extraneous debitage in the cache (though some flakes were too tiny and numerous to permit 100% reconstruction of every artifact).

One of the most unusual forms in this cache is a classic Turkey Tail, a long bi-pointed lanceolate blade with shallow side notches at zone end not far from the tip (Figure 3.25f). This Late Archaic artifact type is known from other burial or ceremonial blade cache contexts in the Southeast (Cambron and Hulse 1975: 121). Another unusual form is an even longer blade with a double side-notched haft element (Figure 3.25g). Of the remaining nine blades, five have simple straight bases (Figures 3.28g; 3.29a, b, and c; 3.30a), of which four are only or mostly unifacially thinned at the base, and two (Figures 3.29a and b) are straight-based but on a slight diagonal, making one corner longer. The remaining four all seem once to have had straight bases, but a single corner has been unifacially removed (Figures 3.28h, i; 3.29d, e). Perhaps the two straight but diagonal bases also had a corner actually removed but were then reworked. If the blades fulfilled some ceremonial purpose, removal of a corner may have been part of it. The compact, circular pile of red ochre weighed 94 g. Similar circular red ochre piles are also seen elsewhere in the context of a ceremonial cache or "medicine bag" (e.g., in Ohio <Brose and White 1979>).

It should be noted here that for the laboratory classification of these artifacts the director assigned a separate ID number and classification to each fragment, as if its articulating pieces had not been found. The aim was consistency in laboratory procedures. The result, as seen in Table 7 of Appendix I, was that each of the eleven cache artifacts is composed of several pieces labelled as unidentified biface or projectile point/knife fragments, as well as a basal fragment. Of the basal fragments, seven were labelled biface proximal fragments, two were labelled narrow triangular bifaces, one was unidentified (the double-notched projectile point) and one was an identifiable form (the Turkey Tail).

The scope of the Phase II project does not permit more than this brief description of Feature 20. Future work should include detailed microscopic examination and analysis of the chert blades to detect signs of use wear or of attritional wear of the kind that would be produced on materials carried around together in a container.

An extensive literature search would certainly turn up similar cache features and point forms elsewhere in the East with which Feature 20 could be compared. Somewhat similar caches of Fort Payne blades were encountered at the Walnut site (22It539) and the Poplar site (22It576) during Phase I operations. As described by Ensor and Studer (Bense 1982: Chapter 5), the Walnut site cache was in a definite, basin-shaped pit, possibly accompanying a burial. The blades were also associated with a Benton point, and were mostly unbroken. They did show microscopic surficial wear patterns suggesting bag transport. The Poplar site cache was in mixed context with no discernible pit outline (Bense 1982: Chapter 7). A detailed morphological and stylistic comparison of the artifacts from these two caches with those of Feature 20 may provide data concerning the possible contemporaneity of the two features.

At present however, based on existing point typologies it is judged that the Walnut site cache is a Benton or "initial Late Archaic" feature and Feature 20 at the Beech site, with the Turkey Tail point, is a later Late Archaic. However, for Benton in general Futato (1982:13) has recently recognized a distinctive ceremonial complex with burials, often cremations, usually associated with burned caches of blades including bi-pointed specimens resembling Turkey Tails without the notches. Though not accompanied by any discernable burial remains, Feature 20 may actually be an expression of this complex, and Turkey Tail points may ultimately prove to have originated earlier in time.

Of the function or general nature of Feature 20, at the present level of analysis the most that can be said is within the realm of archaeological cliche, yet is nonetheless the best offerable: The feature reflects some ritual purpose. The heavily mottled soil around it may be the result of some human activity. The decay of perishable artifacts left there may have caused the differential staining.

This pattern of broken artifacts in similarly mottled soil is seen again to the south at the Oak site, where a fragmented greenstone atlatl weight was encountered in a similar context (Figure 3.15). The fracture pattern seen in the reconstructed artifact (Figure 3.30f) suggests it was intentionally shattered, but detailed microscopic and physical analyses are required to substantiate this guess. Perhaps increasing study of the Late Archaic in this region will establish a model of ceremonial behavior, involving the intentional destruction and deposition of aesthetically superior artifacts, as it was integrated into the everyday realities of making a living by seasonal gathering and hunting.

Feature 21: a possible pit. It was composed of a central, very dark brown, irregularly circular stain, shallow and basin-shaped in profile, surrounded by a slightly lighter dark brown. The latter may be a "bleed zone" or area where organic materials leached out from the central pit. It could also be another stratum in the feature. From its east side a protrusion 15 cm wide extended an additional 20 cm down into Stratum V. This may have been an ancient post mold or, more likely, a natural disturbance reshaping a portion of the feature fill.

Materials recovered from Feature 21 were a point fragment, debitage, and a large quantity of bits of rock, mostly ferruginous sandstone. If the feature was cultural in origin it may have been a refuse pit, perhaps rapidly used or only used once, as its shape is irregular. Its stratigraphic position suggests an age of Late Archaic or younger.

Feature 22: a probable pit. It produced a single artifact, a little unifacial, rather "snub-nosed" end-scraper, along with a few small bits of rock. This feature originated in Block B at approximately the same level as the bottom of Feature 20 and lay only about 15 cm away from that feature. An age is impossible to determine, but the scraper is similar to others uncovered by shovel and backhoe in the Late Archaic midden (e.g., Figure 3.26a and b).

Feature 23: a possible pit, bisected by the east wall of Block B, so that only half of it was investigated. This shallow basin-shaped feature yielded only one flake and was riddled with root stains. It may or may not have been cultural in origin.

Feature 24: rodent burrow in northeast corner of Block D. Filled with soft, mottled sand, it contained an end scraper and lithic debitage, including a piece of petrified wood, all of unknown origins. Ten cm above it, Segment A of Block D was recognized. This disturbed, indistinct area, the uppermost part of the burrow, yielded some lithic debitage.

Feature 25: a large basin-shaped pit with dark fill. It originated in the bottom of dark midden Stratum IIB and thus was not easily discernible, especially on its east side, from the surrounding midden. This pit yielded a large number of artifacts including a scraper, point tip, biface fragments, lithic debitage, and a large amount of ferruginous sandstone. From the adjacent midden to the east, a zone labelled Segment A of the South Backhoe Area, a Late Archaic McIntire point was recovered. The context of this artifact may have been feature "overflow," but was more likely the surrounding, presumably earlier midden. Whether or not Feature 25 itself is also Late Archaic is at present problematic.

Feature 26: a possible pit. When exposed in plan view this irregularly ovoid dark stain was seen to be riddled with rodent burrows. Though every attempt was made to separate burrow fill from feature fill, the task was not 100% achievable. In profile the feature seemed to be a dark basin-shaped stain surrounded by only slightly lighter brown soils, extending down in a roughly tapered shape to merge with the brown sand of Stratum V. Many additional rodent burrows were apparent in the cross-section.

As the feature fill was considered to be disturbed it was therefore not processed by flotation but screened in the fine mesh waterscreen. Recovered materials include a midsection of a point, a recycled scraper, chert debitage sandstone pieces, and charred nuts. Poor context prevents any assignation of a time period to these materials, or to Segments C, G, and H, stained areas above and surrounding this feature, which yielded similar materials.

Feature 27: a rodent burrow in the South Backhoe Area. It was filled with and surrounded by artifacts in the midden, including a Late Archaic Little Bear Creek point, a scraper, lithic debitage, a Saltillo Fabric-Marked sherd, and sherdlets.

Feature 28: a pit consisting of an inner, darker portion and an outer slightly lighter brown probable "bleed" or leaching zone. The bottom of the pit merged with the dark brown soil of Stratum V and became indistinguishable. Only one chert flake, a biface fragment, and a few assorted rocks were recovered from the pit's fill. Thus a good estimate of age or cultural affiliation for this feature is impossible, though its stratigraphic position suggests it to be Middle Archaic or younger.

Feature 29: one of several possible small pits or post molds filled with light brown sand that appeared in the very pale brown sand of Stratum IVA. A generally tapered profile supports the suggestion that it was a post mold. The only artifact recovered was a biface fragment. Though several such pale features appeared at this depth in both Blocks B and D, there was no apparent pattern, and the possibility that they were natural disturbances is probably just as likely (see discussion at the end of this section).

Feature 30: another of several small pits or post molds in Block D appearing in the pale sands of Stratum IV (see above). It yielded only two flakes and a small bit of sandstone. It may also have been a natural occurrence.

Feature 31: another of several small pits or post molds in Block D appearing in the pale sand of Stratum IV. It may just as likely be a natural disturbance. Materials recovered were one tiny piece of petrified wood and another of sandstone.

Features 32-36: all small brown soil stains in the pale sand of Stratum IV. Except for #35, which was more obviously irregular and suggestive of a rodent burrow than the others, these features could be either cultural phenomena such as small pits or post molds, or else natural disturbances. None yielded any cultural materials though all soils from them were subjected to flotation. They form no distinct pattern (Figure 3.5).

FEATURE DESCRIPTIONS AT THE OAK SITE (22It624)

Feature 1: a Late Archaic pit, possibly for storage or refuse. As described by Rodeffer and Duggan (Bense 1982: 12.11), this large pit was evidently dark enough to be distinguishable in the dark sand of Stratum IIB. Its dark "greasy-textured" upper fill graded into lighter, sandier, more mottled fill toward the bottom. Data in the Phase I field notes suggest it was probably a stratified pit, though it was not excavated in separate strata. The pit was probably for refuse. It intruded into Feature 4, which originated in Stratum III below it. Its material contents included three Late Archaic projectile points: a Benton Short-Stemmed, a Little Bear Creek, and a McIntire. There were also point and other chipped stone tool fragments, bifaces, and preforms, over 150 flakes, some utilized, and various other rocks including almost 1.5 kg of ferruginous sandstone, and 68 g of fired clay. A sample of macrobotanical remains identified by consultant

Sheldon contained 26.7 g (97%) of hickory nutshells, 0.25 g (1%) of acorn shells, 0.55 g (2%) of hardwood, a probable geranium seed and five unidentifiable seeds.

After analysis the nutshells and wood were submitted for radiocarbon dating (Table 3.19). The date returned was 3850±65 radiocarbon years, or 1900 B.C., corrected to 2180 B.C. Interpretation of this date is somewhat difficult. However, if the Little Bear Creek point is considered characteristic of and contemporaneous with the construction of this feature and the earlier Benton and McIntire either included from earlier strata or reutilized by later people, the date is quite good for the very Late Archaic.

Feature 1 was the most productive found during Phase I testing, and provided the best evidence that other significant data were recoverable at the Oak site. Further analyses of its contents will provide additional information on the Late Archaic here.

Feature 2: a probable pit, possibly for refuse, considered most likely to be Late Archaic by Rodeffer and Duggan (Bense 1982: 12.12). It did, however, yield two fiber-tempered sherds and a sherdlet, and is therefore attributable to the Wheeler period. Also recovered were lithic debitage and other introduced rock, predominantly ferruginous sandstone. Only the south portion of the feature (approximately one-half) was excavated, as it adjoined the north wall of Block A, but the profile suggested it to have been a pit. The fill was softer and even darker than the surrounding dark sand matrix of Stratum IIB, but not as dark and greasy as that of Feature I, suggesting to the original excavators (Ibid.) that it had had less organic content and therefore was probably not used for food or other organic refuse.

Feature 3: a probable pit. It yielded only a chert tool fragment, a single flake, and a small amount of sandstone, and could be from any time period in the Middle or Late Archaic or later.

Feature 4: a probable pit, originating in Stratum III. Feature 1 above it intruded into in the northeast corner of Feature 4, which was therefore contemporaneous with it (Late Archaic) or earlier in age. Cultural remains recovered were sparse: one chert flake and a muller/pitted stone. Charred botanical materials recovered were later identified by consultant Sheldon as 259 g (90%) of hickory nutshell and about 29 g (10%) of both hardwood and pine (Table 3.16). This feature was probably a storage or refuse pit though its excavators, Rodeffer and Duggan (Bense 1982: 12.12), suggested it could have been of natural origin.

Feature 5: a probable pit, located in the original test pit excavated at the site, encountered quite deep (Level 15), in Stratum IV. It yielded no cultural materials. As described by Rodeffer and Duggan (Bense 1982: 12.12), the pit was "characterized by three concentric horizontal segments that were differentiated on the basis of color and texture," the innermost being mottled dark brown; the middle, brown; and the outer, light brown. This apparently indicates it was a stratified pit. At such a great depth it could even have been of Early Archaic age, but its function, age, and even verification as a true feature remain unknown.

<u>Feature 6:</u> a compound feature in Block C composed of a probable Late Archaic pit, an adjacent pale sand lens, and an intrusive Wheeler period pit. This complex feature originally appeared as a dark stain partially surrounded by a pale area, which was in turn partially surrounded by another dark stain. It was very similar to (though smaller than) Feature 7 (q.v.) in Block B, which was being exposed at the same time. Interpretation of both was exceedingly difficult; until their cross-sections were exposed, they were both even considered to be possible tree falls, among other things. Feature 13 in Block D (q.v.) was a similar case.

So that the true nature of Feature 6 could be understood, it was examined in carefully excavated segments. As shown in Table 8 of Appendix I, Segments C, F, G, I, and J comprised Pit 1; B and D, Pit 2; and A, the lens between (E proved to be general level matrix).

Feature 6 was cross-sectioned along its main axis, a northeast-southwest line (Figure 3.17). Pit 1, the larger of the two, at the northeast end, was the deeper and earlier. It was lined with a dark concretionary layer, up to 15-20 cm thick, of manganese nodules. This very hard-packed lining was possibly formed around the base and sides of the pit because of the high organic content of the pit fill and consequent retention of ground water and leaching and concentration of this mineral, according to project soil scientist David Pettry. The pit very likely held domestic refuse. Its material contents included unidentifiable chert tool fragments and debitage, various rocks, especially ferruginous sandstone, and some bits of fired clay. There was also one sherdlet but it came from the segment closest to the top and could have been from the midden above.

There were no diagnostic artifacts in Pit 1, but the lack of ceramics and the stratigraphic position of this pit relative to that of Pit 2 suggest, though by no means confirm, that it is of a preceramic Late Archaic age. A small portion of Pit 1 remains in the east wall of Block C (Figure 3.13).

Adjacent to Pit 1 to the southwest was a very roughly pyramid-shaped lens of pale sand (Figure 3.17, top center). It was similar in color and texture to Strata IVA or IVC, but originated in IIB and thus was situated much higher than either of these two strata. It is hypothesized that this pale, extremely soft sand was backdirt from the excavation of Pit 1. However, there is no explanation for why it extends as deep as Stratum IVB, nearly as deep as Pit 1, if it was piled to one side on the existing ground surface during prehistoric excavation of Pit 1. The lens, termed Segment A of the feature, yielded chert debitage and a single eroded sand tempered sherd. It is probably prehistorically disturbed, and very little can be conclusively said of it.

Pit 2 was dug into this pale sand and possibly intruded upon or at least came quite close to the southwestern perimeter of Pit 1 (Figure

3.17, top right). Pit 2 was much shallower and smaller than Pit 1, and its bottom and northeastern side were moderately disturbed by rodent burrows. (Possibly the same rodent, attempting to tunnel into Pit 1 at its bottom on the southwest side, met with the hard manganese lining and managed only to put a dent in it, as seen in the photo in Figure 3.17.) Pit 2 had no manganese concretions but did have slightly darker, softer fill than Pit 1. Its contents demonstrated its later date; besides chert biface fragments and debitage there were fiber-tempered Wheeler Plain and Punctate and also some sand-tempered sherds. A large amount of rocks and pebbles, including petrified wood and over 500 g of ferruginous sandstone, were also recovered.

A small portion of Pit 2 remains unexcavated in the east wall of Block C (Figure 3.13). Its true nature may have been more a trench than a pit, dug most likely for refuse disposal.

The descriptive and summary nature of this report precludes any detailed analysis of the different components of Feature 6. However, future research might examine and compare the nature of different feature constructions, uses, and filling behaviors as manifested in these two pits which are most probably several centuries apart in age. To the southwest of the entire feature, approximately the southwestern third of Block C's floor at the same level in which the feature was exposed was heavily mottled in a fashion similar to that around Feature 20 at the Beech site or around the smashed atlatl weight in Block D. Whether this is indicative of some human behavior, as noted earlier, remains to be ascertained.

Feature 7: a compound pit with multiple episodes of prehistoric excavation and filling. This feature was the largest and most complicated of all investigated during the entire Phase II project. Occupying most of the northwest half of Block B, it first appeared as a dark oval (Figure 3.19, top). Cross-sectioning made more apparent the finer distinctions between different segments, and also elucidated the general nature of this feature: It was a large deep pit with many fill zones of different shapes and colors (Figure 3.19, bottom).

The feature was carefully excavated in small segments for fine control. Our coding system is capable of recording information by segments of levels or of features, but not by segments of those segments. Thus it was necessary to assign different segment names to the northeast and the southwest halves of each different lens or fill zone of the feature during cross-sectioning and excavation. This was standard practice for the excavation of any stratified or segmented feature, but the complexity of Feature 7 resulted in its characterization by a long list of letters and numbers (Table 3.16 and Appendix I, Table 8). The picture is further complicated because the upper, disturbed portions of the feature were not distinct enough to be considered a feature but were named as different segments of the general level matrix (Appendix I, Table 10).

A meaningful discussion of this feature must deal with the chronology of its construction and use. A Late Archaic cultural assignation is certain, based on the radiocarbon dates and the two diagnostic Late

Archaic points, though a Middle Archaic point was also recovered.

Originating at about the transition between Strata IIB and III, apparently a single large pit was dug, at least 85 cm deep, which intruded down into Stratum V. As clean as the profile was for Feature 7, it was still not possible to understand its stratigraphy completely. Somehow the hard-packed, iron-rich, brown silty sand of Stratum V came to tilt up to line the bottom and sides of the pit at least partially, on the southeast side (or right side as seen in the photo in Figure 3.19, bottom). On the northwest side of the feature (to the left in photo) Stratum V lay below the pit bottom but was unusual here also, in two respects: First, strongly demarcated as a dark brown band, it suddenly disappeared moving toward the northwest. Second, where it did exist not only was there paleosol, (or Stratum VI) below it, as usual, but also above it, all the way up to Stratum IVB (See Figure 3.12, bottom for adjacent stratigraphy).

On the southeast side beyond the feature Stratum IVB lay in its proper stratigraphic position between the pale sands of IVA and C, but approaching the feature it merged somewhat with the raised portion of Stratum V lining the pit. Above this lining a fill zone of mottled pale sand on the southeast gradually merged into the upper paleosol toward the northwest. Overlaying this fill zone Stratum IVB on the northwest dipped down to become another clear pit "lining" in the feature. Though it, too (as with the lower, Stratum V lining), could be seen to continue out as IVB to the southeast, it also appeared to continue up the side of the pit to the top, merging with the dark fill zone that was a ring encircling the whole feature in plan view.

The formation and role of Strata V and VIB in Feature 7 must remain problematic at present. Both are post-depositionally formed by iron and other minerals concentrating at different water tables (see discussion in the previous section). IVB is most commonly a weaker expression of V, but near Feature 7 it becomes sharper and more well defined. Perhaps this is somehow influenced by the presence of the feature itself. Figure 3.9 shows a similar clear definition of Stratum IVB adjacent to Feature 24. Near Feature 6, Stratum IVB is manifested in its typically more diffuse, paler form (Figure 3.17), but it does not actually intersect this feature as it does Features 7 and 24.

It is currently impossible even to determine when Strata IVB and V were formed, whether before or after the feature was in place. It must suffice to say that both are somehow altered and included within the stratigraphy of Feature 7. The alterations differ from side to side within the feature such that the profile of the southeast half displays radically different stratigraphy than that of the northwest half (right and left sides of photo in Figure 3.19, bottom).

The picture does not clear upon inspection of the list of materials recovered from these lower portions of Feature 7. During initial cross-sectioning of the feature an access trench was dug through the floor as shown in the photo, to allow clear viewing of the profile. From the floor of this trench a sample of the undisturbed paleosol

(Stratum VI) was sent to the waterscreen. As already noted in the preceding section of this chaper, chert flakes were recovered from it, both in the finescreen and in the 1/4 inch mesh. In other words the lowest stratum intruded upon by Feature 7 was not culturally sterile. The lower Stratum V "lining" of this large pit had not been recognized during removal of the southwest half of Feature 7, and was not removed during excavation of the northeast half. But the fill zone just above it, excavated as Segments T (bottom of pit) and V (southeast side, slightly lighter-colored than T), yielded a chert flake and small bits of sandstone and fired clay. T also produced 0.75 g of hickory nutshell, two fern spores, and two tiny fragments of acorn shell.

Above T and V, the upper, Stratum IVB (?) "lining," excavated as Segments R (thin, dark, under pit) and U (zone grading into undisturbed Stratum IVB to the southeast) yielded two chert flakes, 0.83 g of hickory nutshell, and some very tiny charred wood fragments (< 0.1 g).

Whatever the exact nature of the pit's excavation and shaping may have been, its major episodes of filling are represented by five very differently colored soil zones above this upper lining.

The outer ring, possibly representing a shallow, additional pit lining, was composed of a dark reddish brown (5YR2.5/2) sandy loam mottled with other grays and browns and small very dark brown manganese chunks. It was termed Segments H, K, and S, and yielded a biface (chopper/hammer), various rocks, especially ferruginous sandsone, and charred macrobotanical remains including 31.5 g of hickory nutshels, a tiny amount (< 0.05 g) of acorn shell, 0.2 g of wood and resin, and one grape seed. A dark southeastern protrusion from this ring (at right center of photo in Figure 3.19) labelled segments M and L was found to contain only lithic debitage and plant remains including 3.6 g of hickory nutshell, eight tiny wood fragments and eight indeterminate fragments. A charcoal sample from Segment K (the northeastern, upper half of the ring) was submitted for radiocarbon analysis and returned a date of 4830$\pm$120 radiocarbon years or 2880 B.C., corrected to 3410-3520 B.C. (Table 3.19).

Adjacent to the dark ring was a wedge-shaped, relatively gold-colored fill zone (actually yellowish brown, 10YR5/6, mottled with pale brown and white) of sandy loam, Segment P, which also yielded no definite cultural materials, except for an unmodified piece of conglomerate, 0.75 g of hickory nutshell, and a tiny bit of wood.

Adjoining Segment P toward the center of the pit was another, larger, lighter colored wedge of fill. This soft, very pale brown (10YR8/4) sand, only very lightly mottled with brown (7.5YR4/4), may have originally been part of Stratum IV here. Its northeast half (seen as yet unexcavated in Figure 3.19, bottom, center of photo) was labelled Segment J and contained essentially no cultural materials except for charred plant remains: 1.55 g of hickory nutshells, an acorn shell fragment, and three wood fragments. Its southwest half was excavated together with the southwestern portion of the adjacent gold-colored zone as Segment G, since the two were not easily separable. G contained a chert side scraper, biface fragment, debitage, some sandstone, and other small rocks, 5.8 g of hickory nutshell, 0.05 g of acorn shell, and 0.1 g of charred wood. It was impossible to tell for certain if this pale sand continued around the entire interior of the pit to intersect with the other pale sand fill zone in the northwest corner of the block, but this seemed to be the case. The other pale zone, Segments N and O (far left in Figure 3.19 photo), was devoid of cultural content except for a few small sandstone bits, about 2.6 g of hickory nutshells, two fern spores, and a few tiny charred wood fragments.

The darkest and most central portion of Feature 7 was a 70 cm deep pit, almost a trench, with tapering sides, which was possibly excavated prehistorically into an already existing feature. The entire southwestern half of this dark brown pit fill was excavated and processed as Segment F. It yielded a large quantity of cultural materials, including Late Archaic McIntire and residual stemmed points, a Middle Archaic Morrow Mountain point, an unidentified point, a drill, other chert tool fragments, chert debitage, a petrified wood awl (Figure 3.31b), a hammerstone, fired soil bits, and over 1.5 kg of ferruginous sandstone. Charred macrobotanical remains included 141 g of hickory nutshell, 0.05 g of acorn shell, 2.4 g of wood, and two possible partial, unidentifiable seeds.

Working from the exposed profile of Feature 7 (Figure 3.19, bottom), the excavators could remove the northeastern half of this dark pit fill in a more discriminating fashion. They detected a subtle stratification in its sediments. The lower fill was a very dark grayish brown (10YR3/2) hard-packed silty sand mottled with some tiny hard chunks of blackish (10YR2/1) manganese and sandstone and with small pockets (burrows? root molds?) of soft gray (10YR4/1, 5/1) sand.

This lower fill was designated Segment Q; its artifact yield included a Late Archaic Benton point (Figure 3.22c), chert tool fragments and debitage, a pitted stone, a muller, and some other small rocks. The 10% sample of macrobotanical remains sorted contained 6.25 g of hickory nutshell and 0.3 g of wood. A charred nu shell and wood sample was sent for radiocarbon analysis and yielded an age of 5290±75 radiocarbon years or 3340 B.C. (uncorrected) or 3940-3960 B.C. (corrected). This date is quite compatible with others for Benton points from Phase I work and Phase II (see Feature 14 at the Oak Site, in this section).

Above Q was Segment I, a much browner but similar dark grayish brown, still very hard packed, with slightly less manganese and less mottling in smaller pockets of gray (10YR5/2) sand. Segment I contained a spokeshave, biface fragment, flakes, sandstones, and charred botanical remains, a 10% sample of which was identified by consultant Sheldon as about 8 g of hickory nutshell and < 0.05 g of wood. A sample of charred nutshell from I submitted for radiocarbon analysis was dated at 4580±45 radiocarbon years or 2630 B.C. (uncorrected) or 3190-3310 B.C. (corrected).

All these different fill zones of Feature 7 have been discussed in the apparent order of their deposition. The complicated stratigraphy makes tenuous any statements of how or how often this large pit was excavated and filled. However the three radiocarbon dates suggest a slightly different sequence. The outer ring of the feature as seen in plan view (Figure 3.19) produced a date intermediate between those of the upper and lower sections of the central dark pit. All three dates occur in the fourth or possibly late third millenium B.C., and are compatible with the early Late Archaic Benton point, the McIntire, and possibly others, though the Morrow Mountain is supposedly earlier. The best explanation is that this large depression in the ground saw several stages of refuse dumping during this time range, the outer ring simply representing a separate, more shallow excavation appearing as an addition to the original deep pit and taking place before that pit was completely filled.

Feature 7's possible prehistoric function as a refuse or garbage pit was suggested by its broken artifacts and macrobotanical remains, as well as by the heavy concentration of manganese nodules, which are thought to form in connection with dense organic deposits. That fill zones other than the dark ring and central pit were lighter colored and considerably lower in artifacts, charred plant remains, and manganese suggests they were possibly other kinds of refuse, maybe from a different time period, or perhaps were soil meant to cover refuse.

The uppermost 10 cm to 20 cm of Feature 7 were recognized only as segments of Block B, areas of vaguely different colored and textured soils. Segments C and D, with a high degree of mottling, high manganese content, and obvious bits of orange, fired soil, represented the upper disturbed portion of the central dark pit of the feature. These segments yielded indeterminate point and other chert tool fragments, debitage, other rocks, and charred nutshells (Appendix I, Table 10) but nothing either diagnostic or incompatible with the contents of the main, undisturbed feature.

In sum, Feature 7 represented a diverse set of prehistoric activities, the nature and exact age of which can only be preliminarily determined on the basis of the work reported herein. This feature can really be seen as illustrative of the nature of midden mounds in general: In a relatively small area of land preferred for settlement throughout a long period of prehistory, subsurface disturbances and refuse depostion recurred and overlapped continually, such that the evidence for one specific activity (or occupation) is not able to be separated very well from the complex, mixed tangle of evidence. However, general information on Late Archaic subsistence, tool manufacture, intra-site settlement, subsistence, possibly seasonality, and other sociocultural systems can be obtained.

<u>Feature 8:</u> a possible small pit or post mold. Appearing in Block C quite deep, in Stratum IV, this feature was only moderately darker than the surrounding pale sand matrix. It contained no cultural materials and could just as likely be a natural disturbance. Along with Features 17, 18, 19 and 22, it comprised a "pattern" similar in

appearance to that of Segments A through Q in Level 9, Block B at the Beech site to the north. As discussed at greater length near the end of this section, it is possible that what was represented in both cases is structural evidence or the remains of some other cultural activity. There are few other data to support this idea, however.

Feature 9: a refuse pit with mixed remains from several prehistoric time periods. It originally appeared as a dark oval stain whose center was darker, hard-packed, and flecked with unidentifiable bone bits. Pit fill graded into lighter sands with increasing depth. The material contents of this pit included a Late Archaic McIntire point (Figure 3.24c), a scraper, bifaces, chert debitage, sandstones, and fired soil bits. It also included a sherd of shell and grog-tempered pottery, a Baytown Plain sherd, and a sherdlet. Charred macrobotanical remains included 19.7 g (93%) of hickory nutshells, four acorn shell fragments, over 600 fern spores, 0.8 g of wood and two unidentifiable seeds, all identified in about a 60% sample of the total remains recovered by flotation of feature fill.

The best explanation for this feature is that the pit was Late Woodland/Mississippian in age, but included earlier materials as a result of its having been excavated so deeply into earlier cultural deposits. Alternatively, older artifacts may have been utilized by much later peoples, who may have picked them up while reoccupying the same camping places preferred in considerably earlier times.

The hard-packed, very dark soil around the bone may have been a product of organic decay; it is impossible to tell from the tiny, fragile pieces whether the bone is animal or human. Along with the bone that was encountered in Feature 1 at the Beech site, these are the only skeletal remains found at the two sites. Given the apparent rapid decomposition of bone in this acidic soil, it is most likely that the bone bits establish both features as dating to relatively recent prehistoric times. A Mississippian age for Feature 9 is probable.

Feature 10: a concentration of chunks of burned soil. Distributed within a roughly oval area in the dark brown midden, these amorphously shaped chunks measured from 1 cm to 8 cm in the widest dimension and totaled 32 g when weighed in the laboratory. They were reddish by contrast with the surrounding dark matrix, but were not surrounded by any distinctive pit fill or loose burned soil. The only artifacts in association were an unidentifiable scraper fragment, one chert flake, and a few small pieces of sandstone.

Feature 10 could represent a small hearth or area of packed soil that was burned one or more times, which then dried and cracked into pieces. It could also represent soil of this nature redeposited after being burned elsewhere. An age for the feature is impossible to estimate, though its stratigraphic position suggests it could date to any time from the Late Archaic onward. The feature may be a small version of the "fired aggregate" type feature known from Middle and Late Archaic components of midden mounds investigated during Phase I, such as the Walnut site (Bense 1982: Chapter 5).

Feature 11: a Middle to Late Woodland pit. The upper portion of this feature in Level 6.2 of Block D was disturbed, mottled, and not yet distinct enough to merit designation as a feature. It was labelled Segment A, and yielded chert tool fragments, debitage, sherdlets, sandstones, and charred nutshells (Appendix I, Table 10). The main intact body of the feature contained an end scraper, chert tool fragments and debitage, various introduced rocks, especially hematite and sandstone, a grog-tempered sherd, and three sand-tempered sherds. It was possibly for refuse disposal, especially considering its very dark color, usually caused by organic staining.

Feature 12: a pit of indeterminate age. Only a portion (probably 1/4 to 1/3) of this feature was excavated, as the southwest corner of Block D lay approximately over its center. The pit appeared in both the west and south profiles of Block D (Figure 3.13) as a tapered basin with rich dark fill that was undoubtedly once high in organic content. Cultural materials recovered from it were a stemmed, recycled drill, a point tip, other chert tool fragments and flakes, and many small rocks including over 150 g of sandstone. The upper, disturbed portion of this pit, recognized in Level 6.2, was labelled Segment D of Block D and contained lithic debitage. The pit may have been for refuse deposit. Its stratigraphic position suggests it may date to any time from Late Archaic onward.

Feature 13: a compound pit with several episodes of fill and apparently two small intrusive pits or postmolds. Perhaps just as complicated as Feature 7, this feature presented even more difficulties in interpretation, for several reasons. It was only approximately 1/2 to 2/3 exposed on the west side of Block D. In plan view it appeared as several overlapping amorphous dark stains, surrounded by very pale soft sand. As first encountered after backhoe stripping, the different soils were not distinctly enough outlined to characterize as a feature or features. Therefore, at Level 6.2 the entire phenomenon was labelled as Segments B (the dark areas) and C (the surrounding pale sand). Segment B yielded a scraper (Figure 3.26e), point fragment, chert debitage, sandstones, and charred nutshells; Segment C produced only two flakes.

By Level 7.1 the compound feature was recognized, assigned a number, and assigned segment labels for each different fill zone. After cross-sectioning the feature a sequence of activities was recognized somewhat more clearly in the profiles of the different segments (Figure 3.13).

The earliest fill zone of this large pit was Segment L, the extensive pale sand surrounding all the other, darker segments. Segment L soil was the pale subsoil of Stratum IV somewhat darkened to a brownish yellow (10YR6/6), presumably by cultural activities. It filled or lined the entire bottom of the pit in a layer at least 30 cm thick, extending to a depth of at least 125 cm below the original ground surface, and horizontally at least 250 cm to the south from the northwest corner of Block D (an undetermined portion of the feature remained unexcavated north and west of the block). Segment L had originally been considered backdirt from the pit excavation seen to one side of the central dark pit, but its continuation underneath the dark pit seen after exposure of the profile indicated it had to represent the first episode of feature formation. Materials recovered from it included scrapers, a lateral fragment of a point, chert flakes, sandstones, and one tiny sand-tempered sherdlet.

Subsequent to the deposition of Segment L and probably intrusive into it, several other segments of Feature 13 were formed. The largest, Segment M, was a basin-shaped pit over 50 cm deep filled with hard-packed, very dark brown (10YR2/2) sandy loam overlying the central, deepest part of Segment L. It contained cultural materials such as a scraper, chert tool fragment, debitage, sandstones, and a few pieces of fired clay.

Adjacent to Segment M on the southeast (and not extending as far as Block D's west wall) was another dark stain, a small oval pit, about 50 cm northeast-southwest by 60 cm northwest-southeast, flat-bottomed and basin-shaped in cross-section, of similar very dark brown (10YR2/2) sandy loam. Excavated as Segments H and I (its east and west halves, respectively), this small pit within the greater pit yielded two large tools, a chipped stone biface chopper and a mortar/pitted stone, as well as lithic debitage and a few small sandstone fragments. Adjacent to it on the south was an amorphous, lighter brown mottled area labelled Segments J and K (its east and west halves, respectively) which was possibly a mixture of overlap from the dark pit and pale sand of Segment L but contained no cultural materials.

South of all these segments was another small dark, circular stain with a tapered, rounded bottom as seen in profile. It was named Segment O, and only its east half could be excavated, as the rest remained in the west wall profile of Block D (Figure 3.13). Its small diameter (20 cm) and depth (27 cm) suggested it to have been a postmold; it yielded no cultural remains.

The precise sequence of events at Feature 13 is impossible to determine, but some general statements can be made. The large pit filled with pale Segment L yielded the only possibly diagnostic artifact, the sand-tempered sherdlet. This artifact may have come from the uppermost portion of the fill at the contact with the dark midden of Stratum IIB, and not actually date the earliest activity of this feature; but it may just as likely have come from the deepest point of the feature. The other segments not only had no diagnostic materials in them, but also appear to be intrusive and not necessarily contemporaneous with each other or with Segment L. As for the function, the main central pit area may have been for refuse, but the smaller pit containing the two large tools may have been for storage. Segment O is a classic postmold or small pit shape.

The entirety of Feature 13, like other compound features at the Beech and Oak sites, probably represents repeated reuse of the same small area for different functions throughout prehistoric time from about the Late Archaic onward, with much of the evidence overlapping in the ground.

Feature 14: a shallow basin-shaped pit, probably for refuse. This feature was excavated in four segments: A and D were the south and north halves, respectively, of the main pit; B and C, the south and north halves of the probably disturbed lighter brown area on the west side of the main pit. From both of these fill zones were recovered a few Wheeler ceramic sherds. The darker fill also yielded two Saltillo Fabric-Marked sherds and a single Mulberry Creek Cord-Marked, while the lighter sand area contained a single plain sand-tempered sherd. It is possible that the lighter zone was an earlier pit intruded upon by the pit containing the darker soil. Just as likely an explanation is that the western side of the feature was mixed and disturbed by some natural agent.

Besides the ceramics, a point fragment, reamer, chert debitage, and sandstones were recovered from Feature 14. The feature formation somehow involved the mixing of cultural remains from many time periods, but the recorded outline of the pit logically must be that of the latest period. In this case that period is more probably Early Woodland than Late Woodland. The single Mulberry Creek Cord-Marked sherd, diagnostic of Late Woodland, was most likely recovered from the contact zone with the upper midden.

Feature 15: a deep Late Archaic pit, possibly for refuse. This well defined deep pit may have been culturally stratified, or else the rodent disturbance in its lower portions was responsible for the somewhat lighter brown soil there. The feature was exposed by backhoe stripping outside Block D to the southwest. From its northwest half was recovered an Eva and a Beachum point (Figure 3.22b), both diagnostic of the Middle Archaic, as well as a chert spokeshave and debitage, a hammerstone and another ground stone tool fragment, and various rocks including petrified wood and many sandstones. There were also many charred plant remains, a 10% sample of which was identified by consultant Sheldon as 10.15 g (98%) of hickory nutshells, one fern spore, and 0.25 g of wood.

The southwestern half of Feature 15 was excavated by (possible) strata (Figure 3.18). The lowest, Segment C, yielded only a single chert flake, two acorn shell fragments, and three charred wood fragments. This stratum seemed somewhat disturbed as it was a lighter brown (mottled 10YR4/4, 5/6) and connected with a definite animal burrow extending straight down from the feature. Above C, Segment B was a heavily disturbed 15-20 cm thick band across the feature. It yielded a "residual stemmed" point attributable to the Late Archaic, as well as chert debitage, other rocks, including greenstone, petrified wood, many sandstones, and charred macrobotanical materials identified as 11.45 g of hickory nutshells, an acorn shell fragment, and 0.05 g of charred pine wood and resin. The uppermost stratum of the southeastern half of Feature 15 was excavated as Segment A. It contained only one small krotovina, the fill of which was discarded. The rich dark soil of this stratum yielded a recycled stemmed drill, chert tool fragments, sandstones, and many charred plant remains. A 10% sample of these last contained 11.75 g of hickory nutshell, a tiny amount of wood, and an indeterminate fruit seed. Nutshells and charcoal submitted for radiocarbon assay (Table 3.19) were dated at 3600±55 radiocarbon years or 1650 B.C. (uncorrected) or 2000-2020 B.C. (corrected), securely in the latest portion of the Late Archaic.

The lower strata of Feature 15 may be as early as Middle Archaic in age, or the entire feature may be Late Archaic, the Eva and Beachum points having been included either due to the feature's intrusion into earlier sediments or to continued use or reuse of the feature of the point during the Late Archaic. Further investigations of these materials might benefit from research on the reliability of existing point typologies, individual classification of artifacts within the typologies, and the true degree of diagnosticity of any given type as an indicator of age.

Feature 16: a small pit of unknown age, possibly for refuse disposal. This pit was only 35 cm deep, but beneath it was a grayish "bleed" zone or area where dark organic materials had leached out. The inference is that the pit had a high organic content. Materials recovered from it were an unidentifiable point fragment, chert debitage, a sandstone abrader (Figure 3.30c), and various rocks including over 1.8 kg of sandstones. An accurate determination of age or cultural affiliation is not possible for this feature, but its stratigraphic position suggests it could date to any time from Late Archaic onward.

Feature 17: a soil stain, probably a natural disturbance. It was partially excavated; the eastern third (approximately) remained in the east wall of Block C. It was only slightly darker than the surrounding pale sands of Stratum IV. Oval in plan view, it had straight sides but an amorphous bottom in profile.

Along with Features 8, 18, 19, 21, and 22, Feature 17 formed an arrangement of similar small dark stains in the upper portion of Stratum IV, similar to that in Block B at the Beech site, which could have represented a cultural phenomenon such as a structure floor with features and/or a postmold pattern. It could just as easily have been a series of natural disturbances, however. In fact, no cultural remains (only a single piece of sandstone) were recovered from Feature 17 and thus its age, nature, and even potential cultural origin are problematic.

Feature 18: a probable root mold. This feature, though fairly clearly non-cultural in origin as indicated by the amorphous shape, did contain a single chert flake. It appeared somewhat similar to Features 8, 17, 19, 21, and 22, as mentioned above, and only slightly darker than the surrounding pale sand of Stratum IV.

Feature 19: a soil stain, probably a natural disturbance. It was similar to Features 8, 17, 18, 21, and 22, all dark stains appearing in the light-colored sand of Stratum IV in Block D. It yielded no cultural material, only a piece of sandstone, and its fill contained no small manganese nodules as did the surrounding Stratum IV matrix of Block C.

Feature 20: a possible postmold. Circular in plan view, with a diameter of 20 cm, in cross-section this feature was 45 cm deep, with straight sides and a rounded bottom. Its edges were not exceptionally well defined, but this may be a function of age.

Cultural materials recovered from Feature 20 are a biface fragment and two chert flakes. The feature appeared relatively in isolation in Block D; if it is truly a postmold it is apparently not part of any structure pattern. Its lack of diagnostic cultural materials precludes an age estimation, but its stratigraphic position suggests that it dates to any time from the late Archaic onward.

Feature 21: a soil stain, possibly a postmold but just as likely a natural disturbance. This small dark feature appeared in the pale subsoil of Stratum III on the east side of Block D. It contained only a single chert flake. Whether it is part of a pattern of features, or even a cultural phenomenon at all, is unknown, as is its age.

Feature 22 and 23: amorphous soil stains, most probably of natural origin in Blocks D and C. Neither yielded cultural materials.

Feature 24: a probable pit heavily disturbed by what appear to be root molds. Appearing in the southwest corner of Block D, this feature was only partially exposed and excavated. Approximately two-thirds of it remained in the walls of the block (Figure 3.9).

The stratigraphy of Feature 24 was difficult to interpret because of the extensive natural disturbance. It almost appeared as an upper pit derived from Stratum III superimposed over a lower one originating in dark Stratum IVB (Figure 3.9), but this appearance might have been a result of the leaching of the organic materials down from the feature. Perhaps the heavy disturbance is correlated with the feature's existence and type of fill; natural agents moving in the ground may seek softer or organically richer soils.

During excavation every attempt was made to separate disturbed soils from feature fill, but of course this is never 100% possible. The fill of Feature 24 yielded only three chert flakes. Determination of the feature's age and cultural affiliation are not possible at present, but its stratigraphic position suggests assignation to any time period from Middle to Late Archaic onward.

Feature 25: Number voided.

Feature 26: possibly a small pit or postmold. It is estimated to have been near circular in plan view, though only half of it was exposed since it abutted the north wall of Block D. It had a clear basin shape in profile, with a tapered, rounded bottom. An obvious root stain extended from its bottom, about the same color as what was considered feature fill, thereby casting some doubt upon the cultural origins of the feature.

No cultural materials were recovered from Feature 26, and its age and cultural identity are unknown. It was only 20 cm to the northeast of

Feature 13 and resembled two dark stains, Segment O, and Segments H and I (halves of one stain), of that feature. No pattern was discernible among all these stains, however.

SUMMARY

Features at the Beech and Oak sites were numerous, highly variable in nature, and attributable to many different prehistoric time periods. Furthermore, they were frequently the result of repeated reuse of the same small area of land, no doubt by both the same and different groups, throughout prehistory. However, several features were considered to represent excellent and unmixed records of specific human activities during the Late Archaic.

Seven features (#s 9, 11, 14, and 20 at the Beech site and #s 1, 7, and 15 at the Oak site) contained diagnostic Late Archaic projectile points in what is considered original context. Two of these seven definite Late Archaic features were classed as compound pits, though they were very different from each other. Feature 14 at the Beech site was constructed by multiple episodes of deepening, expanding, and creating extensions of the original broad, shallow pit. Feature 7 at the Oak site was a large deep pit when first constructed, with different, smaller fill zones added and intruded upon through time. Both of these features contained Benton points. Four of the other five Late Archaic features were simpler pits with chert tools and debitage, and the fifth was the blade cache (Feature 20). All six pit features contained charred macrobotanical remains identified as between 93% and 99% hickory nutshell, with a small portion of acorn shell, wood, and occasional seeds. The density of these plant materials in the feature fill varied from a concentration of 0.08 % to 0.008 %.

The known Late Archaic features form no specifically recognizable class. The full range of the Late Archaic is represented from the earliest (Benton) portion to the latest, as demonstrated by projectile points and radiocarbon dates. Though all but one of the features are pits, original functions can only be surmised. After serving their original purposes, whether for storage, cooking, other food processing, or whatever, many were undoubtedly used for refuse dumping; several may have been latrines or other kinds of features archaeologists may not consider as often as they should. None has been burned or fired, as with a hearth, but many may be dumping areas for incompletely burned food and/or fuel remains such as nutshells. In cross-section they are more or less basin-shaped, but depths, horizontal dimensions, and shapes may vary. There is some tendency for the fill colors to be more yellow than those of other features - of the 10 YR Munsell hue instead of the 5 YR or 7/5 YR, but the meaning of this, if any, is unknown.

Nearly all the features contain various types and amounts of "introduced rock" thought to be culturally deposited (Appendix I, Tables 9 and 10). The overwhelming majority of this rock is sandstone and ferruginous sandstone, usually in small pieces. This material may have had a common utilitarian use. It is very friable, however, and ubiquitous throughout the site; it is uncertain to what extent it is actually part of the natural content of the soil.

Future detailed analyses of data recovered from these Late Archaic features may allow isolation of more diagnostic aspects of the archaeological record, possibly as could be applicable to the interpretation of similar features of unknown ages. The Beech and Oak sites contained eight additional pits, one compound pit, fourteen probable /possible pits, and twelve possible small pits or postmolds of indeterminate age. None of these yielded ceramics, but this fact does not preclude their being post-Archaic features whose function merely did not involve ceramics. This situation is met with again at another, very different site, 22It606, where several pit features with no ceramics were present among the many Late Woodland/Mississippian features, and necessitated interpretation (Chapter 5). At 22It606 all features originated just below the plow zone and were thus stratigraphically equivalent. At the Beech and Oak sites, however, these 34 indeterminate pit features were exposed for the most part stratigraphically below the ceramic-bearing components. There is therefore a significantly better than average chance that they do belong with the Late Archaic. Samples of macrobotanical material recovered from two such features (#2 at the Beech site and #4 at the Oak site) were very similar in composition to those from the Late Archaic features (Table 3.16). Artifact contents were also similar, minus the diagnostic tools.

Several other indeterminate features investigated at the Beech and Oak sites may be similarly likely to date to the Late Archaic. There were four possible postmolds in addition to the ten which could have been either possible postmolds or small pits. (As already noted, no structure patterns were apparent, however.) The single fired soil area (Feature 10 at the Oak site) is reminiscent of those found during Phase I most often with components of the Benton period, early in the Late Archaic. Two of the three artifact clusters (#s 3 and 12 at the Beech site) may represent storage of tool kits assembled for specific tasks. The third (#10 at the Beech site) is a rock cluster apparently from a hearth, possibly redeposited, and may be younger in age since it is stratigraphically slightly shallower than most of the features. The bone cluster (#1 at the Beech site) is probably also from a later time period since preservation of any bone is so rare here as to be even more unlikely the earlier the context.

Despite the focus of Phase II operations upon Late Archaic features, several others definitely assignable to later time periods were encountered and duly investigated. Most younger features, even if they had been recognizable in the dark upper midden of Strata I and IIA, were at any rate summarily removed during machine stripping operations. Those documented here were the ones extending the deepest and therefore potentially the most likely to have temporally mixed contents. They are ascribed to a time period based on their ceramic contents. Though it is always possible that earlier but undiagnostic lithic materials are intermixed, these would not be distinguishable with present methods, and thus do not affect our temporal classification of these later features.

In one pit at the Oak site the intrusion of later activities upon Late Archaic cultural deposits was clear due to the presence of diagnostic artifacts. Feature 9 had to have been excavated during Late Woodland/Mississippian times to have contained the few sherds from this time period. It also contained a Late Archaic McIntire point, as well as additional lithic materials of indeterminate cultural affiliation. Interestingly enough, a sample of charred floral remains sent for analysis from this feature demonstrated a composition very similar to that of macrobotanical samples from the Late Archaic pits (mostly hickory nutshells, small bits of wood, acorn shell, and a few seeds) with one exception: There were over 600 fern spores (Table 3.16). The significance of this fact remains to be investigated; it may merely reflect better preservation of younger materials. However, it could indicate heavier forest canopy during this later time period, which might lead to the speculation that Late Woodland/Mississippian groups were not farming at the site but using it for specialized resource procurement, probably on a short-term basis.

Another mixed period pit, Feature 14 at the Oak site, yielded diverse Woodland sherds and also Wheeler period fiber-tempered ceramics. There were two apparently unmixed Wheeler pits as well (Feature 2, and Pit 2 of Feature 6 at the Oak site). Future detailed analysis of their lithic artifact or macrobotanical contents may help illuminate the nature of the real changes, if any, involved in the transition from pre-ceramic to ceramic-bearing cultural adaptations.

No features securely dating to any time period earlier than the Late Archaic were encountered at the Beech and Oak sites. That earlier components were present is indicated by the recovery of diagnostic Early and Middle Archaic tools. Either the small scale or short duration of those occupations obviated the necessity for such features, or the potential for their preservation was low, or their presence was masked by the greater frequency of later features, or the artifacts were brought there by later people.

In the overall view, there are several distinctive aspects of the features at the Beech and Oak sites when considered as a cohesive group. The overwhelming majority are pits, easily and quickly constructible facilities which can serve many purposes. Few contained diagnostic artifacts or even unbroken artifacts; the usual lithic remains were broken pieces of tools and debitage. It might be inferred that there was little long-term storage but mostly expedient waste disposal, with most artifacts carried away at the end of what were probably brief occupations. The two tool clusters may have been exceptions because they contained larger, less portable artifacts.

Despite the several possible postmolds, including those not even designated as features because of their indeterminate nature (Segments A through Q in Block B at the Beech site), there is no good evidence of structural remains, whether of a domestic dwelling or even a simple construction such as a drying rack. Whether this is due to differential preservation or to cultural practices associated with short-term habitation has yet to be learned. Similarly, the lack of prepared hearths or fire pits in primary, indisputable form and context may be due to preservation or to cultural practices. There are certainly charred or fired, evidently secondarily deposited remains, but it is uncertain where the burning actually took place.

With the noteworthy exceptions of the blade cache (Feature 20 at the Beech site) and possibly the broken atlatl weight deposit (at the Oak site), all the features appear to be utilitarian in nature. There were no burials. Though this may be blamed on the known lack of bone preservation, that is probably not the major factor. There were not even any dark oval stains of the distinctive sizes and shapes common with prehistoric human burials in the eastern U.S. Furthermore, burials have been noted, decomposed bone, dark oval stain and all, from other, different "midden mound" sites in this valley such as the Walnut and Poplar sites (22It539 and 22It576; Bense 1982; Chapters 5 and 7) and the Vaughn mound site (22Lo538; Atkinson 1974).

All these factors may, again, reflect the short-term nature of settlement and deliberate utilitarian function at the Beech and Oak sites. They also serve to place additional emphasis on what evidence of ceremony does exist.

In this descriptive report concerned with primary data presentation very little of an analytical or synthetic nature beyond these few general observations can be offered. There is great potential for further study involving the features at the Beech and Oak sites, however. Temporal and cultural placement of many features presently labelled indeterminate might be possible through several means, such as radiocarbon dating; or isolation of artifact types or clusters of types that would prove to be diagnostic. Additional descriptive information could be derived from the data already obtained, to apply to questions concerning the nature of occupation and relationships of the components. Such information would include artifact densities per unit volume, macrobotanical contents of those not examined (the majority) or those only sampled, frequencies and distributions of different point shapes and sizes, and finer discrimination between the Benton and the later portions of the Late Archaic cultural sediments.

CULTURAL REMAINS

Cultural materials recovered from the Beech and Oak sites were ceramics, projectile points/knives, other chipped stone tools, unmodified flaking debris, introduced rock, sherdlets and fired clay. Some floral remains were recovered from both sites but few fragments of faunal remains. Only one historic artifact was recovered from 22It623. Tables 3.7 and 3.8 present the total frequencies of cultural materials recovered from 22It623 and 22It624, respectively, by collapsed artifact classes, excluding floral and faunal remains. (The collapsed artifact classes refer to combined artifact types; for example, other chipped stone tools include other chipped stone implements, cores, and preforms.) The artifact frequencies are listed under the three major proveniences - general level, feature, and general surface/backhoe area. The majority of cultural materials recovered from the general surface/backhoe area are artifacts collected from the area disturbed by power equipment (backhoe) in removing 50 cm of overburden of the site.

Following the initial sorting, an extensive analysis was conducted on each artifact class. A sample of botanical remains from features with clear cultural affiliation was sent to the project archaeobotanist for analysis, and the results are presented later in this section. Since faunal remains were of such a small size, total amount, and condition as to be unidentifiable, this material class was only weighed.

An intensive analysis was not attempted during Phase II. As stated in the introduction and proposal, intensive analysis of selected data sets will be conducted during Phase III of this project. In addition, such an analysis was not feasible during Phase II due to time limitations. Therefore, an emphasis was placed primarily on the description of artifact categories, with secondary emphasis being distributional pattern of cultural remains. The following section provides descriptions of ceramic materials by categories, followed by lithic materials and biotic remains. Materials recovered in the Phase I testing of these sites are included in Appendix I; however, the description of cultural materials in this section will only concern those recovered in Phase II excavations.

CERAMICS

Ceramic materials include rim and body sherds, sherdlets, and fired clay. A total of 1,809 sherds were recovered from the Beech and Oak sites: 841 sherds from 22It623 and 968 sherds from 22It624 (Table 3.9). In addition, a moderate amount of sherdlets and fired clay was also recovered from both sites. An examination of Table 3.7 reveals that over 96% of the ceramics from 22It623 were recovered from the backhoe area, while only a small number of the ceramics were recorded from general level units (3.5%) and features (0.2%). This ratio suggests that the overburden layer removed by the scraping operation contained a majority of the ceramics. On the other hand, an examination of the 22It624 ceramic collection (Table 3.8) exhibits that 63.7% of the sherds were collected from the backhoe area, while over one-third of the sherds were recovered from general level units (33.6%) and features (2.7%). Further discussion of distributional pattern - both vertical and horizontal - is provided later in this section.

The discussion of the ceramic categories from 22It623 and 22It624 is organized by major temper groupings based upon the ceramic typology described in the laboratory manual and lab procedures section. Six major temper groupings were identified during the analysis: shell, grog, bone, limestone, sand, and fiber. Qualitative and quantitative data concerning the specific ceramic categories are presented under the individual temper headings.

Shell-Tempered

A total of 16 shell-tempered sherds were represented in the sample, eight sherds from each site. The ceramic categories represented include Mississippian Plain (n=11). Five sherds contained combinations of shell and grog.

Grog-Tempered

A total of 195 grog-tempered sherds were recovered with 65 sherds from 22It623 and 130 from 22It624. The ceramic categories include: Baytown Plain (n=81) (Figure 3.20a), Cormorant Cord-Impressed (n=32) (Figure 3.20b), Mulberry Creek Cord-Marked (n=32) (Figure 3.20c), Withers Fabric-Marked (n=2), Grog-Other (n=3) (Figure 3.20d), and Eroded Grog (n=75). These sherd categories probably represent a Miller III phase.

Bone-Tempered

Of nine bone-tempered sherds recovered, two sherds were from 22It623 and seven were from 22It624. The ceramic categories include: Turkey Paw Cord Marked (n=2), Bone-Other (n=1) (Figure 3.20e), and Eroded Bone (n=5).

Limestone-Tempered

A total of 78 limestone-tempered sherds were recovered: 37 sherds came from 22It623 and 41 from 22It624. These consist of Mulberry Creek Plain (n=34), Wright Checked-Stamped (n=2), and Eroded Limestone (n=42).

Sand-Tempered

Altogether, 1,235 sand-tempered sherds were recovered from 22It623 (n=675) and 22It624 (n=560). This temper grouping represents over 68% of the total number of sherds (n=1,809) recovered from both sites. These sand-tempered sherds may be assignable to two major ceramic series. They are the Miller series of the Middle Woodland period and the Alexander series of the Late Gulf Formational period (Jenkins 1981). In addition, a large number of the sand-tempered sherds could not be assigned to either of the above series due to plain or eroded surfaces.

Miller Series

Of 324 sherds assignable to the Miller series (200 sherds from 22It623 and 124 from 22It624), 26 sherds were classified as Furrs Cord-Marked (Figure 3.20f-h) and 298 sherds as Saltillo Fabric-Marked (Figure 3.20i-j).

Alexander Series

Of 48 Alexander series sherds (24 sherds from 22It623 and 24 from 22It624), five ceramic categories were identified: Smithsonia Zone Stamped (n=2) (Figure 3.21a), Alexander Incised (n=10), Alexander Pinched (n=28) (Figure 3.21b-c), Alexander Incised/Punctated (n=2), and Columbus Punctated (n=6).

Miscellaneous Sand-Tempered

A total of 863 sand-tempered sherds were classified into Residual Sand Plain (n=254), Sand-other (n=10) (Figure 3.21d), and Eroded Sand (n=599). Although all of these sherds were obviously sand-tempered, it was impractical to classify them into specific categories because most of the sherds in this group have either severely eroded surfaces (n=599) or Plain surfaces (n=254).

Fiber-Tempered

Of 276 fiber-tempered sherds, 54 sherds were recovered from 22It623 while 222 sherds were found at 22It624. The ceramic categories include: Wheeler Plain (n=118) (Figure 3.21e), Wheeler Dentate Stamped (n=5), Wheeler Simple Stamped (n=1) (Figure 3.21f), Wheeler Punctated (n=21) (Figure 3.21g), Fiber-Other(n=1), and Eroded Fiber (n=130) (Figure 3.21h).

Sherdlets

The ceramic materials were size-graded at the initial stage of analysis using 0.5 inch wire hardware cloth. Those ceramic fragments that passed through 0.5 inch screen were considered too small to be further classified and were weighed only. A total of 1,377 grams of sherdlets were recorded from 22It623 (993 grams) and 22It624 (384 grams). They represent all major temper groupings; however, most of the sherdlets were eroded.

Fired Clay

A total of 4,766 grams of fired clay were recovered during the excavations, 1,575 grams from 22It623 and 3,191 grams from 22It624.

STONE TOOLS

The lithic materials from the Beech and Oak sites were sorted into groups of stone tools, flaking debris, introduced rock, and unmodified stone. Stone tools were defined by the presence of one or more of the following criteria; 1) intentional modification (e.g., flake scars, pecking, grinding, etc.); 2) use-wear (e.g., abrasion, striations, polish, battering, etc.); and 3) apparent potential for tool use and/or manufacture (e.g., blanks, useable raw material chunks, cores, etc.). Unmodified flaking debris was defined by evidence of intentional derivation by controlled flaking from a core or stone tool and a lack of evidence of use alteration or flaking modification subsequent to its creation by intentional fracture. Introduced rocks were defined as cobbles or pebbles which were transported by humans to the site area and lacked any detectable evidence of human modification.

Stone tools were then grouped into chipped and ground stone tools; the chipped stone tools were further divided into functional and/or technological types: projectile point/knives, scrapers, drills and perforators, other uniface and biface tools, bifaces, cores, preforms, and utilized flakes. Altogether, 2,635 chipped stone tools, 266 ground stone tools, and 20,961 pieces of unmodified flaking debris were recorded. In the following sections, these lithic materials, i.e., chipped stone tools and flaking debris, are discussed separately.

Chipped Stone Tools

A total of 2,635 specimens of chipped stone tools were recovered from the two targeted sites, 1,190 speciemns from 22It623 and 1,445 from 22It624. Table 3.10 presents the frequency of chipped stone tools by type and category.

Discussion of chipped stone tools is provided below in the following order: projectile point/knives, scrapers, drills and perforators, other uniface and biface tools, bifaces, cores, preforms, and utilized flakes. Frequency and raw material type data are presented for all chipped stone tools in the individual discussion.

Metric data are provided for all stone tools in Tables 3.11 and 3.12. Measurements are in millimeters except weight, which is given in grams. The total number of specimens and the number measured for each attribute is given. In many cases, broken specimens prohibited measurement of one or more attributes; therefore, the number measured does not always agree with the number of specimens included in a category. Only measurable attributes are listed for all categories. Summary statistics for all categories are given: mean, minimum and maximum ranges, variance, and standard deviation. These measurement data are presented in more extensive form in Tables 15 and 16 of Appendix I.

Projectile Point/Knives

Beachum n = 3 (Figure 3.22a and b):

Material:

Heated Camden	1	Fort Payne	1
Tallahatta Quartzite	1		

Discussion: Of the three specimens in this category, two are complete and capable of providing all measurements. All three specimens have slightly incurvate haft elements with straight bases. Two specimens have slightly rounded shoulders; the remaining specimen exhibits an inversely tapered shoulder on one side and a tapered shoulder on the other side. The inversely tapered shoulder might have been broken during a manufacturing stage. Flaking appears to be predominately by percussion, with minor pressure flaking. The cross-section is bioconvex. The forms and sizes of these specimens suggest possible use as dart points. All three specimens were recovered from 22It624. This type is associated with the Middle Archaic.

<u>Benton Barbed</u> <u>n</u> = 3 (Not illustrated):

Material:

Heated Camden	1	Fort Payne	2

Discussion: Only two specimens provide meaningful metric data. The shoulders are narrow and incurvately barbed, with slightly expanding haft elements. The cross-section is flattened. Two specimens were recovered from 22It624, and the other one was found at 22It623. This style is associated with the initial Late Archaic.

<u>Benton Extended Stem</u> <u>n</u> = 4 (Figure 3.22c):

Material:

Fort Payne	2	Fossiliferous Fort Payne	2

Discussion: All four specimens were recovered from 22It624. This variety of Benton exhibits a longer haft element than the Benton Short-stemmed variety. The cross-sections are flattened. This type is associated with the initial Late Archaic.

<u>Benton Short Stem</u> <u>n</u> = 7 (Figure 3.22d-f):

Material:

Fort Payne	4	Heated Camden	2
Fossiliferous Fort Payne	1		

Discussion: Of the seven specimens recovered, five specimens were from 22It624. This is the most abundunt category of the Benton varieties. The shoulders are narrow and usually tapered. The haft elements are relatively broad and short with incurvate or straight base edges. The cross-sections are flattened. This type is associated with the initial Late Archaic.

<u>Big Sandy Side-Notched</u> <u>n</u> = 1 (Figure 3.22g):

Material:

Heated Camden	1

Discussion: The single specimen in this category was recovered from 22It623. This specimen has a broken distal end and is a distinctly side-notched with a ground base. This type is associated with the Early Archaic.

Bradley Spike n = 1 (Figure 3.22h):

Material:
Fossiliferous Bangor 1

Discussion: The single specimen in this category was recovered from 22It623. The cross-section is thick and median -ridged. The shoulders are tapered with a slight haft-element modification. This type is associated with the Middle Woodland.

Cotaco Creek n = 12 (Figure 3.22i-k):

Material:

Fossiliferous Bangor	2	Heated Camden	8
Fossiliferous Fort Payne	1	Unheated Camden	1

Discussion: All twelve specimens were recovered from 22It624. Most have broad blades with straight to excurvate blade edges. The shoulders are either straight or inversely tapered. The distal ends are usually acute. This type is associated with the terminal Late Archaic.

Cypress Creek n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: The single specimen was recovered from 22It623. It is only a proximal end, with corner-notched shoulders; no measurements could be made on it. The eleven specimens recovered from 22It539 during Phase I also have broken distal ends. This type is associated with the Early Archaic.

Eva n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: This single specimen was recovered from 22It624. The shoulders are inversely tapered. The blade is excurvate and the distal end is acute. This type is associated with the Middle Archaic.

Flint Creek n = 1 (Figure 3.23a-d):

Material:

Heated Camden	10	Unheated Camden	1
Fort Payne	1		

Discussion: Of the twelve specimens, four specimens were recovered from 22It623 and eight from 22It624. These specimens were predominately made of Camden chert (83.3%). The shoulders are ususally tapered, occassionally inversely. The haft elements of this category range from slightly expanding to straight. The length of the samples range from 45.5 mm to 74.2 mm, with the mean length being 57.6 mm. (See Figure 3.23 a-d for size ranges). It should be noted that the morphology of this category resembled that of Little Bear Creek projectile point/knives. It is apparent that there is considerable overlap in the stylistic aspects of these two categories. This type is associated with the terminal Late Archaic and Gulf Formational.

<u>Gary</u> <u>n</u> = 1 (Figure 3.23e):

Material:
  Heated Camden 1

Discussion: The single specimen has a contracting haft element, with a rounded base. The shoulders are tapered; the distal end is acute. This specimen was recovered from 22It624; it is associated with the initial Late Archaic.

<u>Kirk Corner-Notched</u> <u>n</u> = 3 (Figure 3.23 f-g):

Material:

Heated Camden	2	Fort Payne	1

Discussion: Of the three specimens recovered, only one specimen is complete. One has a broken distal end which appears to be resharpened for functional usages other than PP/K (e.g., scraper). One is broken proximally but has complete, slightly barbed shoulders. All three specimens have slightly barbed shoulders. Two are from 22It623 and one from 22It624. This type is associated with the Early Archaic.

<u>Ledbetter/Pickwick</u> <u>n</u> = 4 (Figure 3.23h):

Material:

Heated Camden	3	Fort Payne	1

Discussion: Of the four specimens recovered during the excavations, one was from 22It623 and three from 22It624. All but one of the four have broken distal ends. These specimens have large haft elements and tapered shoulders. They are similar to Little Bear Creek points, although those have wider blades and haft elements. This type is associated with the intial Late Archaic.

<u>Little Bear Creek</u> <u>n</u> = 23 (Figure 3.23i-k; 3.24a-b):

Material:

Heated Camden	18	Unheated Camden	1
Fort Payne	2	Pickwick	1
Fossiliferous Bangor	1		

Discussion: Altogether, 23 specimens were recovered, seven from 22It623 and 16 from 22It624. The majority of the samples (82.6%) were made of Camden chert. The lengths of the samples vary from 47.5 mm to 71.6 mm. These terminal Late Archaic/Gulf Formational points are similar to Flint Creek points in both morphological and technological attributes. The present sample specimens exhibit long, narrow haft elements, and tapered shoulders. The blade edges are relatively straight. Flint Creek points show somewhat excurvate blade edges.

McIntire n = 13 (Figure 3.24c and d):

Material:

Heated Camden	8	Fort Payne	3
Tallahatta Quartzite	1	Fossiliferous Bangor	1

Discussion: A total of 13 specimens were recovered, three from 22It623 and 10 from 22It624. Only five are complete specimens. The shoulders are usually horizontal with straight or slightly expanding haft elements. This type is associated with the Late Archaic.

Mississippian-Woodland Triangular n = 8 (Figure 3.24e-f):

Material:

Heated Camden	7	Pickwick	1

Discussion: Eight small Mississippian-Woodland Triangular points were recovered; two came from 22It623 and six from 22It624. Four have broken distal ends; all are very small. The lengths of these specimens range from 13.9 mm to 25.9 mm with an average of 19.5 mm. The majority (87.5%) were made of Camden chert. It is assumed that these artifacts were utilized as arrow points. They are associated with the Late Woodland/Mississippian.

Morrow Mountain n = 2 (Figure 3.24h):

Material:

Heated Camden	1	Fossiliferous Fort Payne	1

Discussion: Of the two specimens recovered from 22It624, one is complete, and the other is a proximal end. These specimens have rounded bases which exhibit only slight stemming, probably due to corner-removing. This type is associated with the Middle Archaic.

Morrow Mountain Straight Base n = 2 (Figure 3.24i):

Material:

Heated Camden 2

Discussion: This category is one of the three varieties of Morrow Mountain PP/Ks recovered from the Upper Tombigbee Valley. The major distinction between Morrow Mountain Straight Base and Morrow Mountain is the presence of a straight haft element and basal edge on the former and the lack of such a pronounced haft element on the latter. Of the two specimens, one was recovered from each site. Both were made of heated Camden chert and have broken distal ends. This type is associated with the Middle Archaic.

Mud Creek n = 2 (Figure 3.24j):

Material:

Fort Payne 2

Discussion: Two specimens were recovered from 22It624. One is intact while the other has a broken distal end. The shoulders are tapered with slightly expanding haft elements. Both specimens were made of Fort Payne chert. They are associated with the Middle Woodland.

Residual Stemmed *n* = 32 (Figure 3.24k-n):

Material:

Heated Camden	23	Unheated Camden	4
Fort Payne	4	Fossiliferous Fort Payne	1

Discussion: A total of 32 specimens were recovered, 14 from 22It623 and 18 from 22It624. All have haft elements but do not conform to any of the previously established categories. Only a small number of specimens are complete (25%). The lengths of the specimens range from 25.8 mm to 55 mm. The stems vary from expanded, straight to contracted. The majority of the specimens are of Camden chert (84.4%). These points are probably associated with the Late Archaic; however, more study is necessary for confirmation.

Residual Triangular *n* = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single fragmentary specimen was recovered from 22It623. This is a medium-sized triangular PP/K without a stem, which does not relate to any of the established categories.

Swan Lake *n* = 1 (Figure 3.25a):

Material:
Heated Camden 1

Discussion: A single specimen was recovered from 22It623. It has narrow tapered shoulders and an expanded haft element, and is probably associated with the Middle Woodland.

Sykes-White Springs *n* = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: Only one specimen in this category was recovered from 22It623. This broken specimen has a proximal end which exhibits a shallow side-notched haft element. This type is associated with the late Middle/initial Late Archaic.

Tombigbee Stemmed *n* = 2 (Figure 3.25b):

Material:

Heated Camden	1	Fossiliferous Fort Payne	1

Discussion: Two specimens in this category were recovered from 22It624. Both specimens have slight tapered shoulders, with contracting haft elements. This type is associated with the Middle Woodland.

Turkey Tail n = 1 (Figure 3.25f):

Material:
Fort Payne 1

Discussion: The single specimen in this category was recovered from 22It623 Feature 20. Originally, over 48 biface fragments were found at Feature 20. These fragments were matching pieces for 11 PP/Ks or bifaces. The present Turkey Tail was in three fragments, proximal end, medial and distal end. This large-sized PP/K has slightly tapered shoulders with a flattened cross-section. Several flakes were removed from the sides of each face to form shallow side notches. This type is associated with the terminal Late Archaic/Woodland.

Vaughn n = 2 (Figure 3.25c):

Material:
Heated Camden 1

Discussion: Two specimens were recovered during the excavations, one from each site. The one from 22It623 has a broken distal end which exhibits impact fracture and the other from 22It624 is intact. These specimens have broad haft elements with tapered shoulders. Both specimens are made of heated Camden chert. This type is associated with the Middle Archaic.

Wade n = 4 (Figure 3.25d):

Material:
Heated Camden 3   Fort Payne 1

Discussion: Four specimens in this category were recovered, one from 22It623 and three from 22It624. Two are intact and the other two have broken distal ends. The shoulders are barbed, with contracting stems. This type is associated with the initial Late Archaic.

Unidentified Projectile Point/Knives n = 3 (Figure 3.25e):

Material:
Heated Camden 3

Discussion: Included in this category are projectile point/knives which do not conform to any of the other established categories.

Unidentified Projectile Point/Knife Distal Fragments
n = 61 (Not illustrated):

Material:

Fossiliferous Bangor	1	Heated Camden	40
Unheated Camden	3	Fort Payne	12
Tallahatta Quartzite	4	Unidentified Material	1

Discussion: Included in this category are 61 unclassifiable point tips or distal fragments, 21 from 22It623 and 40 from 22It624. No metric data were collected from these.

Unidentifiable Projectile Point/Knife Medial Fragments
n = 51 (Not illustrated):

Material:

Heated Camden	21	Unheated Camden	5
Fort Payne	23	Fossiliferous Fort Payne	1
Tallahatta Quartzite	1		

Discussion: Included in this category are 51 unclassifiable PP/K fragments; 17 from 22It623 and 34 from 22It624. None were measured.

Unidentifiable Projectile Point/Knife Proximal Fragments
n = 74 (Figure 3.25g):

Material:

Heated Camden	40	Unheated Camden	4
Fort Payne	22	Fossiliferous Fort Payne	4
Novaculite	1	Tallahatta Quartzite	1
Unidentifiable material	2		

Discussion: Included in this category are 74 unclassifiable PP/K proximal fragments, twenty-nine from 22It623 and 45 from 22It624. None were measured, with one exception:

The proximal fragment from 22It623 fits with three other biface fragments to form a complete double side-notched point (Figure 3.25g). These matching fragments were recovered from Feature 20 at 22It623, an artifact cache, Manufacturing technique of the point appears to be percussion flaking, with retouch present along the blade edges. This particular specimen seems to be a ceremonial rather than an utilitarian artifact. Measurements for this PP/K are weight:103.3 g, length:207.0 mm, width:44.5 mm, thickness:9.4 mm, basal width:21.5 mm, shoulder width:39.1 mm, juncture width:28.1 mm, and haft element length:20.3 mm.

Unidentifiable Projectile Point/Knife Lateral Fragments
n = 56 (Not illustrated):

Material:

Heated Camden	35	Unheated Camden	1
Fort Payne	18	Fossiliferous Fort Payne	2

Discussion: Included in this category are 56 unclassifiable PP/K lateral fragments, 25 from 22It623 and 31 from 22It624. None were measured.

Scrapers

Uniface End Scraper $\underline{n}$ - 26 (Figure 3.26a and b):

Material:

Heated Camden	18	Unheated Camden	4
Blue-green Bangor	1	Fort Payne	1
Ferruginous Sandstone	1	Unidentified Material	1

Discussion: Most of the specimens in this category were manufactured on thin flakes (average thickness = 5.0 mm). Hafting appears likely for most of them. The steep unifacial retouch is usually confined to the distal ends of the flakes. Over 69% of the specimens exhibit heat treatment. Of the 26 specimens, 15 were recovered from 22It623 and 11 were from 22It624.

Uniface Side Scraper $\underline{n}$ = 22 (Not illustrated):

Material:

Heated Camden	18	Unheated Camden	2
Fort Payne	2		

Discussion: Of the 22 scrapers, eleven were recovered from each . Scrapers in this category were manufactured on thin flakes. The steep unifacial retouch is confined to the lateral edges of the flakes. The majority of the specimens were made of Camden chert (90.9%), and over 81% of the specimens were heat treated.

Uniface End-Side Scraper $\underline{n}$ = 41 (Figure 3.26c-d):

Material:

Heated Camden	29	Unheated Camden	6
Fort Payne	3	Fossiliferous Fort Payne	1
Pickwick	1	Tallahatta Quartzite	1

Discussion: A total of 41 specimens were recovered, 23 from 22It623 and 18 from 22It624. It appears that most of the specimens were manufactured on flakes. Widths of the specimens vary from 10.8 mm to 45.3 mm. The steep unifacial retouch is present on both lateral edges as well as distal ends. Over 85% of the specimens were made of Camden chert.

Uniface Cobble Scraper $\underline{n}$ = 5 (Not illustrated):

Material:

Heated Camden	2	Unheated Camden	2
Conglomerate	1		

Discussion: Five specimens were recovered, three from 22It623 and two from 22It624. They are unifacially flaked cobbles which have been modified, usually on one margin, to produce working edges of various lengths.

Uniface Notched Flake - Spokeshave n = 10 (Not illustrated):

Material:

Heated Camden	7	Fort Payne	2
Fossiliferous Fort Payne	1		

Discussion: Of the ten specimens recovered, two came from 22It623 and eight from 22It624. All appear to have been manufactured on flakes which exhibit a steeply retouched narrow concavity on one edge.

Biface Flake Scraper n = 2 (Not illustrated):

Material:

Heated Camden	2

Discussion: Two specimens in this category were recovered, one from each. They are bifacially retouched flakes with lateral and/or distal edge modification.

Biface Cobble Scrapers n = 6 (Figure 3.26f):

Material:

Heated Camden	2	Unheated Camden	3
Pickwick	1		

Discussion: Six specimens in this category were recovered, four from 22It623 and two from 22It624. They are bifacially flaked cobbles which have been modified on one margin to produce working edges of various lengths.

Scraper - Recycled n = 19 (Not illustrated):

Material:

Heated Camden	14	Fort Payne	4
Fossiliferous Fort Payne	1		

Discussion: The scrapers in this category are usually made from a core, a preform, a biface blade, or a projectile point/knife fragment. Of 19 specimens recovered, 16 came from 22It623 and three from 22It624.

Scraper - Other n = 3 (Not illustrated):

Material:

Heated Camden	3

Discussion: Three specimens were recovered, one from 22It623 and two from 22It624. They have steeply retouched (unifacially or bifacially) margins which exhibit a scraper morphology but do not fit any established scraper category.

Unidentifiable Scraper Fragment n = 8 (Not illustrated):

Material:
Heated Camden 7 Unheated Camden 1

Discussion: Eight unidentifiable scraper fragments were recovered, five from 22It623 and three from 22It624. The specimens in this category exhibit at least one segment of a steeply retouched edge which is indicative of scraper use, but they were broken to the extent that an assessment of their overall form was not possible.

Drills, Perforators, etc.

Expanding Base Drill n = 7 (Figure 3.26g-h):

Material:
Fossiliferous Bangor 1 Heated Camden 6

Discussion: Of the seven specimens, five were recovered from 22It623 and two from 22It624. These have cylindrical cross sections and are elongated, with expanding bases. The range of lengths varies from 47.3 mm to 60.7 mm. Mo are made from heated Camden chert.

Shaft Drill n = 6 (Figure 3.26i-j):

Material:
Heated Camden 4 Unheated Camden 1
Fort Payne 1

Discussion: Six specimens were recovered, four from 22It623 and two from 22It624. They have long, narrow cylindrical cross sections and no haft modification.

Stemmed Drill - Recycled n = 13 (Figure 3.26k-l):

Material:
Heated Camden 7 Fort Payne 6

Discussion: A total of 13 specimens were recovered, three from 22It623 and ten from 22It624. They appear to have been recycled former projectile point/knives. Thus, most exhibit a PP/K form at the proximal portion, below the long narrow working edge of the drill.

Drill Fragment - Medial $\underline{n}$ = 14 (Not illustrated):

Material:

Heated Camden	6	Fort Payne	7
Tallahatta Quartzite	1		

Discussion: This category includes drill mid-sections which exhibit fractured distal and proximal ends. The fracture may have resulted either from utilization or manufacturing. A total of 14 medial drill fragments were recovered, five from 22It623 and nine from 22It624.

Drill Fragment - Distal $\underline{n}$ = 40 (Not illustrated):

Material:

Heated Camden	21	Unheated Camden	3
Fort Payne	15	Novaculite	1

Discussion: A total of 40 distal drill fragments were recovered, twenty from each site. These specimens were fractured on one end; the other end represents the working edge of the drill.

Graver $\underline{n}$ = 2 (Not illustrated):

Material:

Heated Camden	1	Unheated Camden	1

Discussion: Two specimens in this category were recovered, one from each site. Both were made on flakes exhibiting a short, sharp projection. The tools in this category differ from perforators primarily in length of the projection.

Microlith $\underline{n}$ = 8 (Figure 3.26m-o):

Material:

Heated Camden 8

Discussion: Eight specimens were recovered, four from each site. These appear to have been made on small blades and exhibit fine pressure retouching along one or both edges.

Microperforator $\underline{n}$ = 4 (Not illustrated):

Material:

Heated Camden	2	Fort Payne	2

Discussion: All four specimens were recovered from 22It624. The tools in this category are similar to the perforator but generally much smaller.

Perforator $\underline{n}$ = 5 (Figure 3.26p):

Material:

Heated Camden 5

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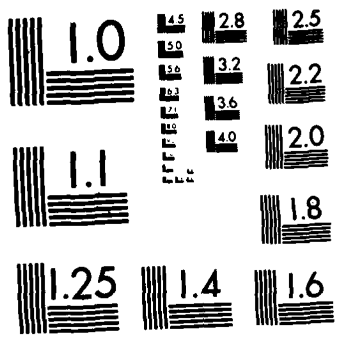
UNCLASSIFIED N M WHITE ET AL. 1983 DACW01-80-C-0063 F/G 5/6 NL


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
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4.0
4.5
5.0
5.6
6.3

Discussion: The five specimens in this category were recovered from 22It624. They are smaller than drills and have thin, short projections.

Perforator - Recycled *n* = 2 (Figure 3.26q-r):

Material:

Heated Camden	1	Fort Payne	1

Discussion: Two specimens were recovered from 22It624. These tools appear to be recycled from projectile point/knives but differ from the stemmed drill (recycled) category primarily in length of the projection. Perforators (recycled) usually have a flat short, sharp projection with a PP/K stem, while stemmed drills (recycled) have a long, narrow, ovoid to cylindrical distal section.

Reamer *n* = 3 (Figure 3.26s-t):

Material:

Unheated Camden	1	Fort Payne	2

Discussion: Of the three specimens, two were recovered from 22It623 and one from 22It624. The tools in this category have a thick and trianguloid cross-section, and exhibit bifacial flaking.

Other Uniface and Biface Tools

Uniface Chopper *n* = 3 (Figure 3.27a):

Material:

Unheated Camden 3

Discussion: Three uniface choppers were recovered, one from 22It623 and two from 22It624. These tools were manufactured on cobbles of unheated Camden chert by hard hammer percussion. They are relatively large, unifacially flaked tools exhibiting heavily battered edges.

Uniface Flake Knife *n* = 13 (Figure 3.27b):

Material:

Heated Camden	10	Unheated Camden	2
Fort Payne	1		

Discussion: There were 13 uniface flake knives, eight from 22It623 and five from 22It624. They appear to have been made on flakes with unifacial flaking by either pressure or light percussion technique. The pressure flaking is usually confined to the lateral margins of the flake.

Biface Adze *n* = 1 (Not illustrated):

Material:

Heated Camden 1

Discussion: The single specimen in this category was recovered from 22It624. It exhibits a convex bifacial edge when viewed laterally. It was made on a cobble of heated Camden chert.

Biface Chopper n = 14 (Figure 3.27c-d):

Material:

Heated Camden	1	Unheated Camden	11
Conglomerate	1	Ferruginous Sandstone	1

Discussion: A total of 14 were recovered, eight from 22It623 and five from 22It624. The specimens in this category are large bifacial tools; most (85.7%) were made from cobbles of Camden chert.

Biface Hammer/Chopper n = 1 (Not illustrated):

Material:

Heated Camden	1

Discussion: The single specimen in this category was recovered from 22It624. It is a multi-functional tool, possessing the combined characteristics of a hammer (pecked and battered edge on one end) and a chopper (bifacially flaked edge on the other end).

Biface Flake Knife n = 9 (Figure 3.27e-f):

Material:

Heated Camden	7	Unheated Camden	1
Fort Payne	1		

Discussion: Nine biface flake knives were unearthed one from 22It623 and eight from 22It624. These tools were made on flakes, and show flake scars on both faces. Flaking appears to have been accomplished by both light percussion and pressure technique.

Uniface/Biface - Other n = 3 (Not illustrated):

Material:

Heated Camden	3

Discussion: Included in this tool category are three specimens which do not conform to the described uniface and biface tool categories. Two specimens were recovered from 22It623 and one from 22It624.

Unidentifiable Chipped Stone Fragment n = 429 (Not illustrated):

Material:

Heated Camden	309	Unheated Camden	13
Conglomerate	2	Fort Payne	76
Fossiliferous Fort Payne	5	Novaculite	1
Pickwick	2	Quartz	2
Tallahatta Quartzite	6	Unidentified Material	3

Discussion: Included in this category ae 429 unifacially or bifacially flaked fragments which are too small and broken for precise classification; 245 specimens were recovered from 22It623 and 184 of them were recovered from 22It624. None were measured.

Utilized Flakes n = 1218 (Figure 3.28a and b):

Material:
See Table 3.13

Discussion: Included under the heading of "Utilized Flakes" are one inch utilized flakes (n=12), one-half inch utilized flakes (n=494), and one-quarter inch utilized flakes (the measurements referring to the mesh size of the sorting screen), and also utilized prismatic blades (n=1) (Figure 3.28a), utilized blade-like flakes (n=89 (Figure 3.28b), and utilized chert chunks (n=64).

As shown in Table 3.13, 1,218 specimens were recovered from boths. Of these, one-quarter inch utilized flakes comprise 52.5% of the total and one-half inch utilized flakes 40.6%. The combined frequency of these two categories comprises over 93% of the utilized flake type. In terms of raw material, heated Camden chert is the predominant category, with 77.5%. Unheated Camden chert comprises 9.9% while Fort Payne comprises 9.3%. Altogether, these categories comprise 96.7% of the raw materials for the total collection of the utilized flakes. (It should be noted that retouched flakes were also included in the utilized flake categories, although they were not utilized flakes). There were 525 specimens from 22It623 and 693 from 22It624.

Bifaces

Ovoid Biface - Flake n = 3 (Figure 3.28c-d):

Material:
Heated Camden 2   Fort Payne 1

Discussion: Three specimens in this category were recovered, two from 22It623 and one from 22It624. The bifaces are made on flakes and are well thinned.

Ovoid Biface - Other n = 3 (Figure 3.28e):

Material:
Heated Camden 1   Fort Payne 1
Tallahatta Quartzite 1

Discussion: Of the three specimens, one was recovered from 22It623 and two from 22It624. The bifaces are technologically and morphologically similar to the ovoid biface-flake, except the nature of the original blank is indeterminable.

Triangular Biface - Flake n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: The single specimen was recovered from 22It624. The triangular biface blade was made on a flake and was well thinned.

Triangular Biface - Other n = 3 (Not illustrated):

Material:
Heated Camden 3

Discussion: Three specimens in this category were recovered, two from 22It623 and one from 22It624. The percussion flaking scars are broad and shallow, with a minimum of secondary pressure flaking. Morphological and technological attributes are similar to those of the triangular biface-flake specimens, except the nature of the original blank is indeterminable. These bifaces were made from heated Camden chert.

Narrow Triangular Biface - Flake n = 3 (Not illustrated):

Material:
Fort Payne 3

Discussion: All three specimens in this category were recovered from 22It623. Only one specimen is a complete biface. It was well thinned, with a length much greater than the width of the basal edge. The remaining two specimens are biface proximal fragments which fit with other biface medial and distal fragments to form two complete bifaces. These two specimens were recovered from 22It623 Feature 20 (see biface fragment category for more discussion on these two bifaces).

Broad Based Triangular Biface - Flake n = 3 (Figure 3.28f):

Material:

Heated Camden	2	Pickwick	1

Discussion: Three specimens in this category were unearthed during the excavations, one from 22It623 and two from 22It624. These tools have relatively straight bases which are proportionally wide compared to their length. These were made on flakes and are well thinned.

Crude Biface n = 15 (Not illustrated):

Material:

Heated Camden	7	Unheated Camden	5
Conglomerate	2	Tallahatta Quartzite	1

Discussion: A total of 15 crude bifaces were recovered, sixfrom 22It623 and nine from 22It624. Most of the specimens are thick with very crude and irregular faces. The range of thickness varies from 6 mm to 31 mm with a mean of 17.6 mm. Flaking appears to have been accomplished predominantly by hard or soft hammer percussion, with little evidence of retouch flaking.

Biface Fragments *n* = 242 (Figures 3.28g-i, 3.29a-e, 3.30a):

Material:
See Table 3.12

Discussion: Included here are five categories of biface fragments: Biface Proximal Fragments (*n*=23), Biface Medial Fragments (*n*=65), Biface Distal Fragments (*n*=56), Biface Lateral Fragments (*n*=60), and Biface Fragments (*n*=38) which could not be identified as any of the above four portions of a biface. None of these artifacts were measured.

Two raw material categories appear to be the most preferred resources for biface manufacture: Camden chert (both heated and unheated comprise over 48.7%) and Fort Payne chert (47.1%).

Of the 114 fragments made from Fort Payne chert (Table 3.14), 33 pieces were recovered from Feature 20 of 22It623. These 33 broken biface fragments include Biface Proximal Fragments (*n*=7), Biface Medial Fragments (*n*=11), Biface Distal Fragments (*n*=10), and Biface Lateral Fragments (*n*=5). Four proximal fragments from Feature 20 were classified as other than biface fragments: one PP/K Turkey Tail, one Unidentifiable PP/K Proximal Fragment, and two Narrow Triangular Biface-Flakes. These four proximal fragments match with other 33 broken biface fragments to make two PP/Ks (one Turkey Tail and one unidentified; see Figure 3.25f-g) and nine bifaces (Figures 3.28g-i, 3.29a-e, 3.30a) Ten flakes also fit with these PP/Ks and bifaces. These artifacts appear to have been broken intentionally and were probably used for ceremonial activities rather than for utilitarian purposes, through seven fragments show possible use wear along the edges. See Feature 20 description for more information.

Cores

Biface Core 360 *n* = 3 (Not illustrated):

Material:

Heated Camden	1	Unheated Camden	2

Discussion: All three specimens in this category were recovered from 22It624. They were flaked on both surfaces, with little evidence of utilization as a tool.

Bipolar Core *n* = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: The single specimen in this category was recovered from 22It624. It exhibits battered platforms on both ends, and shows negative flake scars running along the entire length of the core.

Core Fragment $\underline{n}$ = 3 (Not illustrated):

Material:
Heated Camden 2 Unheated Camden 1

Discussion: Of the three core fragments, two were recovered from 22It623 and one from 22It624. Since the samples in this category are broken no further analysis or measurement was attempted.

Preforms

Preform I - Cobble $\underline{n}$ = 1 (Not illustrated):

Material:
Unheated Camden 1

Discussion: The single specimen in this category was recovered from 22It624. It is a thick, roughly-flaked preform made on a cobble, with little evidence of secondary flaking or utilization.

Preform I - Flake $\underline{n}$ = 7 (Not illustrated):

Material:
Heated Camden 7

Discussion: Seven specimens in this category were recovered, three from 22It623 and four from 22It624. They were made on flakes with rough surfaces. There is no evidence of secondary retouch or utilization.

Preform I - Indeterminate $\underline{n}$ = 7 (Not illustrated):

Material:
Heated Camden 5 Unheated Camden 2

Discussion: Seven specimens were recovered, three from 22It623 and four from 22It624. These tools exhibit little evidence of secondary flaking and utilization. It cannot be determined, however, whether they were made on cobbles or flakes.

Preform II - Flake $\underline{n}$ = 3 (Not illustrated):

Material:
Heated Camden 3

Discussion: Three specimens in this category were recovered, two from 22It623 and one from 22It624. All three were made from heated Camden chert. This tool is thinner than a Preform I and exhibits some evidence of secondary retouching.

Preform II - Indeterminate n = 7 (Figure 3.30b):

Material:
  Heated Camden 6   Pickwick 1

Discussion: Of the seven specimens, two were recovered at 22It623 and five from 22It624. These preforms have some secondary flaking, but the nature of the original blank could not be determined.

Preform - Other n = 1 (Not illustrated):

Material:
  Heated Camden 1

Discussion: The only specimen in this category was recovered from 22It623. It is a bifacially thinned preform made on a primary flake blank of heated Camden chert.

Ground Stone Tools

A total of 266 specimens of ground stone tools were recovered, 83 from 22It623 and 183 from 22It624 (Table 3.15). The ground stone tools in this analysis are defined as 1) non-flaked stone items obviously used as implements, but lacking evidence for intentional shaping of the original raw material piece (for example, a cobble showing evidence of use as a hammerstone); 2) artifacts exhibiting intentional shaping, either exclusively by means of pecking or by a sequential combination of controlled pecking and grinding (e.g., bead and celt); and 3) stone objects exhibiting intentional or use-derived modifications in the form of patterned abrasions or grinding (e.g., abrader and pitted anvilstone). Of the 266 specimens, 155 items, or 58.3%, are Unidentifiable Ground Stone Fragments. The remaining 111 ground stone tools were classified into 21 categories. The following is a description of each tool category.

Abrader n = 7 (Figure 3.30c):

Material:
  Ferruginous Sandstone 7

Discussion: Seven specimens in this category were recovered, five from 22It623 and two from 22It624. These tools exhibit localized areas of grinding or smoothing. The wear patterns are usually either deep, elongated grooves or broad, shallow expanses of abrasions (see Figure 3.30c). All seven abraders were made from ferruginous sandstone.

Pitted Anvilstone n = 12 (Figure 3.30d):

Material:
  Quartzite 1   Ferruginous Sandstone 11

Discussion: A total of 12 pitted anvilstones were recovered during the excavations, eight from 22It623 and four from 22It624. The tools in this category have depressions derived from battering and pecking activities. The majority (91.7%) were made from ferruginous sandstone.

Atlatl Weight *n* = 2 (Figure 3.30e-f):

Material:
Greenstone 2

Discussion: Two atlatl weights (or banner stones) were recovered from 22It624. Both are broken, but one (see Figure 3.30f) was almost restorable to its whole form. This particular specimen appears to have been intentionally broken into numerous small fragments. Both specimens are of greenstone.

Awl *n* = 4 (Figure 3.31a-c):

Material:
Petrified Wood 4

Discussion: Four awls were recovered, two from each site. All were made of petrified wood. Two specimens (Figure 3.31b, c) are small, thin and long with one edge exhibiting utilization. The remaining two are larger than the other two and have pointed ends (Figure 3.31a).

Beads *n* = 3 (Figure 3.31d):

Material:
Hematite 2 Siltstone 1

Discussion: Of three beads recovered from 22It623, two are intact and one is broken. All three are well ground and polished. They are tubular forms with drilled perforations for purposes of attachment (Figure 3.31d). The lengths of the two unbroken beads are 28.5 mm and 41.7 mm.

Bead Preform *n* = 2 (Figure 3.31e-f):

Material:
Hematite 1 Limonite 1

Discussion: Two bead preforms were recovered, one from each site. These specimens represent an intermediate stage of bead manufacture. They are well ground and polished tubular forms without drilled perforations.

Celt *n* = 1 (Figure 3.31g):

Material:
Steatite 1

Discussion: The single specimen in this category was recovered from 22It623. It has a portion of a well ground and polished transverse bit remaining.

Drill Core $\underline{n}$ = 1 (Figure 3.31n):

Material:
Quartzite 1

Discussion: One drill core was recovered from 22It624. This artifact is a stone cylinder, a by-product of drilling for bead manufacture.

Hammerstone $\underline{n}$ = 8 (Not illustrated):

Material:
Unheated Camden 4 Quartzite 3
Ferruginous Sandstone 1

Discussion: Eight specimens in this category were recovered, four from each site. Most of the specimens are non-flaked stones probably used as pounding implements. There is little evidence of intentional shaping of the original raw material, but the specimens exhibit localized areas of battering and crushing. Four hammerstones are cobbles of unheated Camden chert.

Mortar $\underline{n}$ = 2 (Not illustrated):

Material:
Ferruginous Sandstone 2

Discussion: Two specimens in this tool category were recovered from 22It623, both of ferruginous sandstone. These grinding tools exhibit relatively large, shallow concavities which are the result of grinding and pitting activities.

Mortar/Pitted Anvilstone $\underline{n}$ = 1 (Not illustrated):

Material:
Ferruginous Sandstone 1

Discussion: The single specimen in this category was recovered from 22It624. It is a multi-functional tool possessing characteristics of both a mortar and a pitted anvilstone. The specimen is made of ferruginous sandstone and is relatively large.

Muller $\underline{n}$ = 4 (Not illustrated):

Material:
Ferruginous Sandstone 4

Discussion: Four mullers were recovered, two from each site. All were made of ferruginous sandstone and have flat to convex tabular surfaces that have been smoothed and ground. Lengths range from 69.9 mm to 120.3 mm.

Muller/Pitted Anvilstone n = 5 (Not illustrated):

Material:
Sandstone 1 Ferruginous Sandstone 4

Discussion: Of the five specimens, three were recovered from 22It623 and two from 22It624. These artifacts are multi-functional tools possessing attributes of both muller and pitted anvilstone. All were made of sandstone. Lengths range from 60 mm to 102.4 mm.

Muller/Hammerstone n = 1 (Not illustrated):

Material:
Unheated Camden 1

Discussion: The single specimen in this category was recovered from 22It623. It is a multi-functional tool, possessing characteristics of both muller and hammerstone. It has a flat grinding surface and a localized area of battering and pecking. The specimen was made from unheated Camden chert.

Sandstone Sherd n = 1 (Not illustrated):

Material:
Sandstone 1

Discussion: Only one example of a sandstone vessel sherd was recovered from 22It624. It is fairly thick and has smoothed surfaces, both interior and exterior.

Sandstone Concretion n = 1 (Figure 3.31i):

Material:
Ferruginous Sandstone 1

Discussion: One natural sandstone concretion was found at 22It624. It has a naturally formed deep depression or hollow, and was probably used as an artifact.

Ground Hematite n = 31 (Not illustrated):

Material:
Hematite 31

Discussion: A total of 31 pieces of ground hematite were recovered, 11 from 22It623 and 20 from 22It624. These specimens exhibit areas of grinding and smoothing on the surfaces. Weights range from 0.1 g to 50.9 g; no other measurements were taken.

Ground Limonite n = 19 (Figure 3.31j):

Material:
Limonite 19

Discussion: A total of 19 fragments of ground limonite were recovered, three from 22It623 and 16 from 22It624. These specimens are ground and slightly smoothed; a few exhibit striations (see Figure 3.31j) which may have resulted from grinding weights range from 0.3 g to 86 g; no other metric data were obtained.

Ground Stone - Other n = 5 (Not illustrated):

Material:

Hematite	2	Sandstone	1
Ferruginous Sandstone	2		

Discussion: Five fragments of ground flakes were recovered, three from 22It623 and two from 22It624. They have smooth dorsal surfaces and appear to have been detached from ground stone tools during utilization or resharpening.

Grooved Abrader/Hammerstone n = 1 (Not illustrated):

Material:

Ferruginous Sandstone	1

Discussion: The single specimen in this category was recovered from 22It623. It is a multi-functional tool possessing attributes of both grooved abrader and hammerstone. The specimen exhibits deep, elongate grooves on one surface and a localized area of battering and crushing.

Unidentifiable Ground Stone Fragment n = 155 (Not illustrated):

Material:

Conglomerate	3	Greenstone	21
Hematite	4	Sandstone	5
Ferruginous Sandstone	106	Siltstone	16

Discussion: A total of 155 ground stone fragments were recovered, 33 from 22It623 and 122 from 22It624. These specimens appear to have been, at one time or another, parts of larger ground stone implements, but they have been broken into pieces too small to allow classification. None were measured.

Unmodified Flaking Debris

Altogether, 20,961 pieces of unmodified flaking debris, 10,266 from 22It623 and 10,695 from 22It624, were recovered during the excavations (Table 3.16). These flakes were sorted into three categories based upon size, as well as two other categories, nonutilized prismatic flakes and nonutilized other flakes.
Table 3.17 presents frequencies of unmodified flaking debris by raw material category. Twenty-three raw material categories are present in the debitage collections from 22It623 and 22It624. Camden chert, heated and unheated, is the most dominant, comprising 16,660 pieces, or 79.5% of the total collection. Camden chert is locally available.

The next most preferred raw material is Fort Payne chert (14.1%), imported from the Tennessee River Valley. Thus, Camden (local) and Fort Payne (non-local) chert together comprise 93.6% of the total debitage collections. Conglomerate and ferruginous sandstone comprise 1.9% and 1.8%, respectively.

HISTORIC ARTIFACT

A modern tobacco pipe was recovered from Level 8.1, Block C, 22It623. The pipe is an imitation corncob made of plastic, with tobacco still in it. It was probably accidentally dropped perhaps by a pothunter or a hunter, and is, of course, not associated with the prehistoric occupants of the site.

BIOTIC REMAINS

Floral Remains

Macrobotanical remains were recovered by flotation of all feature fill and of four liters from each arbitrary level within control blocks. In the lab the floation recovery was initially sorted into botanical and non-botanical materials. The reader is referred to Chapter IV of the Phase I Report (Bense 1982) and Chapter II of this volume for detailed descriptions of field and lab procedures concerning floral remains.

Following the initial sorting, due to the time constraints, the following selected samples were sent to the project archaeobotanist for taxonomic identification:

22It623:
1. Four feature samples (Feature 2, Feature 9, Feature 11, Feature 14).
2. Each sample from alternating general levels within the control block (120.75S/112.25W) in Block A.

22It624:
1. Five feature samples (Feature 1, Feature 4, Feature 7, Feature 9 and Feature 15).
2. Each sample from alternating general levels within the the control block (106.75S/104.25W) in Block A.

Table 3.18 lists data on remains, giving provenience, volume of floated sediments, amounts of floral remains following the initial sorting in the lab, and sample compositions as identified by the archaeobotanist.

Table 3.17 presents relative densities of floral remains. Concentrations from both sites vary from 0.08% to 0.004% except in Feature 2 at 22It623 (0.3%) and Level 2 at 22It624 (0.5%). By comparison, the concentration of the Phase I samples varied from 0.001% to greater than 4% for feature fills and was less than 1.0% for general levels (Sheldon 1981). Overall, the concentration of plant remains from 22It623 and 22It624 is lower than that recovered from site during Phase I. This may be attributable to a number of factors such as site function, duration of occupation, season of occupation, and soil types (for decomposition rate of plant remains).

Plant remains recovered from the Beech and Oak sites are dominated by carbonized hickory nutshell (Carya spp.). Other minority plant remains include carbonized acorn nutshell (Quercus spp.), ring-porous hardwood, pine, grape (Vitis sp.), fern spore, poke (Phytolacca americana), and unidentified seeds and hardwoods. In addition one geranium seed and one piece of cane were also recovered from the Oak site.

Specifically, from the features of the Beech site hickory nutshell comprises an average of 97.25%, while acorn shell and wood comprise 0.5% and 2.25%, respectively. From general levels, hickory nutshell is still dominant (74.0%), but lower than in features; 30% is acorn and 23%, wood. Plant seeds from the Beech site include one grape, one poke, one fern spore, and three unidentifiable seeds. Generally, plant remains recovered from the Oak site follow the same pattern with minor differences. Identified plant remains from features include an average of 95.6% of hickory, 0.5% of acorn, and 3.9% of wood. In addition, one geranium, one grape, 622 fern spores, and seven unidentifiable seeds were also recovered.

Since the sample of plant remains recovered from both sites represents only a relatively small portion of the total plant resources utilized by the prehistoric inhabitants, it is difficult to reconstruct the subsistence pattern and seasonality. In addition, the nearly complete absence of faunal remains at these sites makes the interpretation more difficult. A careful observation of the data (see Tables 3.18 and 3.19), however, reveals several trends, which are discussed briefly here in conjunction with ethnographic records.

Hickory nuts and acorns were very important in the Indian diet (Bartram 1928, Hudson 1976, Swanton 1946). An abundance of hickory nutshells at the Beech and Oak sites suggests its importance in their subsistence base. Hickory nuts mature in the fall. They were sometimes eaten raw by the Indians, but more commonly they extracted oil which was also known as "hickory milk" (Bartram 1928: 57, Hudson 1976: 301). The nuts were first pounded and the cracked pieces were put into a pot of boiling water. Afterward, the shells sank to the bottom and the liquid was passed through a fine strainer which preserved the most oily part. The oil was then used for seasoning and cooking (for example, hominy and corn cakes). Bartram reported seeing more than 100 bushels of the hickory nuts for one family (Bartram 1928:57).

Only small quantities of acorn shell were recovered. This is probably due to the secondary use and/or preservation conditions of acorn shells. Thus, it has been suggested that "the weight of acorn must be multiplied by ten (10) in order to compare it directly to the denser hickory shell" (Sheldon 1981:6). If this factor is applied to the present data, acorns represent over 5% of the total plant remains recovered from the sites in general and nearly 30% of general level remains of the Beech site. Acorns mature in the fall; Indians ate certain species (e.g., Quercus virginiana Mill), but they usually extracted oil from all species (Hudson 1976; Swanton 1946).

Very few seeds were recovered; however, there were over 620 fern spores. Other minority seeds include two of grape from each site, one poke from the Beech Site, one geranium from the Oak site, and 10 unidentifiable seeds.

Ferns grow during the summer in a shady, moist habitat, usually a wooded area. Grapes, depending on the species, (Vitis sp.) ripen from late summer to early fall. The Indians prepared grapes for storage by sweating them on hurdles over fire and then drying them (Bartram 1928: 321). Geranium blooms in the spring and its seed ripens in the early summer.

One cane fragment was recovered from the Oak Site. Cane (Arundinaria sp.) grows along riverbanks and swamps, often forming canebrakes. It is available in the late spring and summer. It appears that cane was the only plant brought to the site from elsewhere, probably from a nearby riverbank. Cane seeds of a certain species were used as food, but more commonly cane was utilized as raw material for baskets, mats, arrows, fish traps, and backing for wattle walls, among many other things (Hudson 1976:287; Swanton 1946:244, 296).

Ring-porous hardwood and pine are the most common wood fragments represented in the sample. Most of these wood fragments, however, could not be identified further due to their fragmentary conditions.

The analysis of plant remains from the Beech and Oak Sites indicates that the subsistence base of the occupants at the sites was, to a certain degree, dependent upon gathered wild plants. Other wild plants were also likely utilized in their diet, although they were not represented in the sample. In addition to gathering, hunting and fishing activities probably constituted a part of their subsistence base.

Seasonality of the occupations at the sites also can be inferred, with some caution, based upon the plant remains. Seeds (grape, geranium, and fern spore) and cane were generally available during the summer, and hickory nuts and acorns were usually collected during the fall. Assuming that the harvest efforts were conducted during the occupations of the sites, it is hypothesized that the sites were occupied during the summer and fall. However, lack of other evidences such as faunal remains to support the season of occupation makes the inference tenuous.

An inference can be made on the vegetation of the Beech and Oak sites during the Late Archaic period based upon the identified wood fragments and an abundance of fern spore seeds. It is suggested that the sites were probably covered with a mixed hardwood/coniferous forest with heavy canopy, low undergrowth and probably little clearing.

Faunal Remains

A total of six grams of faunal remains were recovered, one gram from 22It623 and five grams from 22It624. Most bones are calcined and too fragmentary to allow any taxonomic and element identifications. Therefore, no further analysis was attempted.

DISCUSSION AND INTERPRETATION

SITE FORMATION

Cultural and Natural Processes

The scope of the Phase II investigations and the nature of this site report dictate a brief, concise summary of the recovered information, pertinent observations, and areas for further analytical study of the data. It has been described how the Beëch and Oak sites, similar to other "midden mounds" in this region, documented the continual reutilization of a preferred, flood-plain locale by many cultural groups throughout prehistory. Furthermore, unlike other sites investigated during Phase I, they retained Late Archaic period cultural deposits, in the form of midden soils and, especially, of intact features, relatively undisturbed by later cultural activity.

Two important characteristics of the archaeological record here must be kept in mind, however. First, finer resolution of the archaeological data into separate occupation episodes or even clusters of episodes is not possible at present. There may be little likelihood of segregating such episodes at these relatively intensively occupied sites. As noted often in archaeological analysis, most recently by Binford (1982:16-17), intensive short-term habitation of sites seldom results in discretely buried occupational units. More often what are archaeologically recovered are palimpsest "assemblages" resulting from groupings of yearly or periodic accumulations. Repeated mixing of cultural residues deposited at different times by the prehistoric inhabitants even results in a diminishing of the value of absolute three-dimensional locational plots. Furthermore, hunter-gatherer settlement scheduling may entail periodic, often seasonally patterned changes in site function over time. The material record at a site used as a collecting or fishing station may differ considerably from that at the same site if it was a residential camp earlier or later, for example.

It is perhaps shocking to realize that a recurrent pattern of association among artifacts may derive merely from regularities in the history of site use. The demonstrably associated things may never have occurred together as an organized body of material during any given occupation (Binford 1972:17-18).

A second source of post-depositional change in archaeological content is natural disturbance. Floralturbation and, to a much greater extent in this region, faunalturbation have resulted in mixed cultural sediments. The site areas, higher "islands" of soft loam amid the low, wet, compact soils of the floodplain environment, were also preferred locales for burrowing mammals, crayfish, insects, and worms. This loam soil has probably been considerably mixed through such bioturbation.

It is generally thought that archaeologists often underestimate amounts of natural soil mixing, being relatively unfamiliar with soil dynamics and processes poorly understood even by soils scientists (Wood and Johnson 1978). Even what should be obvious evidence of bioturbation is not always immediately visible in the form of color and texture changes at these sites however, as noted in the discussion of stratigraphy. The plastic pipe in Block C at the Beech site appeared deep in an area that was only slightly mottled but that nonetheless had to be a recent burrow. The blade cache of Feature 20 at the same site lay amid heavily mottled, almost patterned soil, but was plainly unmoved since its original deposition by ancient human action.

Despite these two inevitable sources of error, all evidence argues that our recovered data are sound. Lacking indications to the contrary, for this preliminary stage of analysis it is assumed that disturbance in the archaeological record, whether natural or cultural, has an equal chance of affecting all portions of the sites. Furthermore, the degree to which it has operated is not great enough to have negated archaeological associations and relationships.

These statements can be supported by the excavated evidence, especially as pertinent to the Late Archaic component. An example is presented in Table 3.20, which seriates at a very simple level three diagnostic Late Archaic projectile points. Cultural admixture notwithstanding, this seriation is what would be expected. Benton points, dating elsewhere to the initial Late Archaic, are the deepest. Little Bear Creek points, occurring later in the Late Archaic, appear next in the sequence, and then Flint Creek points, also Late Archaic but considered to continue through the "Gulf Formational" stage. (Though compiled with small sample sizes this seriation also demonstrates a neat enough sequence to allay some of our fears concerning the amount of variation in artifact classifications by different individuals in the laboratory, as well.)

In general, then, the stratigraphic deposits contain an accurate record of adaptation and change through time. Though the different components are not stratigraphically separable as discrete, non-overlapping entities, they can be defined well in relationship to each other.

As noted in detail earlier, the ceramic-bearing cultural deposits began some time during the formation of the dark midden of Stratum IIB, which probably represents a mixture of preceramic Late Archaic and ceramic components. Most of Stratum III's cultural materials are probably attributable to the Late Archaic. Machine removal of upper deposits during Phase II seems to have isolated the Late Archaic component as closely as possible to its uppermost portions. Less than 4% of the recovered ceramics (29 sherds) at the Beech site were from hand-excavated levels, the rest having come from upper, machine-removed soils. At the Oak site this percentage is higher; about one-third (or 325 sherds) of the ceramic specimens recovered were from hand-excavated levels. The Oak site, the smaller of the two, produced far more ceramics, and seems to have had ceramic-bearing occupation slightly earlier in the stratigraphic record. Only in Stratum IIB at both sites do ceramics become significantly numerous, however. Stratum III represents the earliest ceramic-bearing cultural sediments in combination with the latest Late Archaic deposits. Without diagnostic artifacts from an earlier prehistoric time period it is presently not possible to determine the inception of the Late Archaic in this stratigraphy. Based on evidence from the Hickory Site (see next chapter), it can be suggested that the Middle Archaic may be located at the base of Stratum IV and possibly the Early Archaic in Stratum VI (the paleosol). Cultural deposits certainly extend deeper than the 120 cm estimated by the original proposal for the Phase II project.

Future Research

This large body of data from the Beech and Oak sites is expected to become the basis for extensive, continued archaeological research and analysis. It is hoped that such work will include pedological, stratigraphic, and other studies that will help expand our regional knowledge of soil formation and its effects upon contemporaneous cultural groups and upon the archaeological record which they leave. Extensive photographic and other documentary records as well as soil samples recovered will certainly yield valuable information for such studies.

More in-depth evaluations of the archaeological data, with the proper analytical tools and methods, can provide a more refined picture of cultural deposition and taphonomic processes active upon the material remains. Such techniques as artifact refitting or conjoining of pieces (e.g., Villa 1982) as well as additional radiocarbon dating can aid in the understanding of site formation processes, and possibly permit better isolation of discrete occupational deposits or temporal units.

THE LATE ARCHAIC

Cultural Materials and Activities

Material remains recovered from the Beech and Oak sites (see Tables 1 and 2 of Appendix I) constitute a large mass of data that have only minimally been classified, let alone analyzed. However, some summary observations can be made reflective of Late Archaic cultural content and behavior.

The overwhelming majority of artifacts are, of course, chipped stone tools and debitage. Many diagnostic projectile points were recovered, both from features and midden deposits. There were several other distinctive artifacts. A wide variety of drills, perforators, reamers, and microliths are probably indicative of several different industries. At both sites there were many scrapers of very small, round, standardized shape (Figure 3.26a-c) unlike any found at other sites investigated during Phase II. (Some as yet undetermined amount of later study may even demonstrate these to be diagnostic of the Late Archaic.) There were several large plano-convex unifacial tools with steep retouch which were classified under the categories "chopper" or "cobble scraper." These resembled in morphology the "horse's hoof-shaped" cores or planes known on the Gulf Coast and farther north in Georgia and Alabama (Warren 1963, White 1981) thought to be used for heavy wood-working activities.

The lithic debitage included an unusually high proportion of utilized chert flakes. Whether this is a function of the behavior of convenience or of conservation is presently not ascertainable. Though our lithic debitage classification did not include divisions into morphological types, the general impression was gained that decortication flakes were relatively few. Perhaps comparatively finished tools or blanks, instead of freshly quarried stones, were brought to the sites for further modification. Further research on lithic reduction sequences at these sites may support this preliminary conclusion.

Concerning chert raw materials, certain broad trends in usage patterns are apparent, confirming conclusions reached based on Phase I excavations (Bense 1982). During the initial Late Archaic Benton phase more projectile points and other chipped stone tools are made of imported Fort Payne chert, with lesser numbers of the local Camden chert. Later in the Late Archaic, Flint Creek, Little Bear Creek, and other projectile points and tools are more often made of Camden chert, with lesser numbers of Fort Payne and fossiliferous Bangor chert.

The trends are more complex than just these simple statements may indicate, however. Figures 3.32 through 3.35 were prepared to illustrate them, using relative frequencies of different raw material types of the nonutilized debitage. The three chert types most predominant at both sites are heated and unheated Camden and Fort Payne. The last two generally diminish in proportion through time, Fort Payne more drastically so, while heated Camden generally increases (Figures 3.32 and 3.34). Together these three types comprise about 90% to 95% of all chert flakes at both sites.

The remaining percentages are made up by several exotic minority types. As shown in Figures 3.33 and 3.35, through time the numbers of these different types increase while the relative frequencies of each decrease. In other words, at the earliest portion of the sequence, probably some time before the Late Archaic, only one to three exotic raw material types are procured, the amount of each constituting one or two percent of the entire non-utilized debitage. Through time more and more types are added to the total assemblage, but by Stratum IIB each constitutes only a small fraction of one percent of the total. These results, even if they are borne out by similar trends among other categories in the lithic tools and debitage, may be spurious to some degree because they are based on relative frequencies, the raw counts for which are often extremely small. However if validated by additional data, they may indicate increasing, if limited use of more and more exotic raw material sources. This may mean (though not necessarily) increasing interaction with other cultural groups through time to facilitate procurement of such resources. On the other hand by the "terminal" Late Archaic a large proportion of the entire assemblage is of local Camden chert, possibly indicating a smaller volume of long distance interaction even though there is a larger variety.

Little can be said at this point of other types of materials recovered from the Beech and Oak sites. Awls seem to be the only recognizable implements made of petrified wood. There are several ground stone tools, some, such as abraders, implying the presence of artifact types not recovered, such as the bone and wood tools that would have been sharpened on them. The large amount of sandstone, hematite, and other introduced rocks and pebbles in the soil has already been noted. The cultural origins of such materials are uncertain, but it is at least quite possible that much of the hematite and ochre were used for pigment.

Many bits of what is labeled "fired clay" were recovered in various strata and features. Ranging from white to yellow, red, or gray in color, these pieces were especially numerous in the upper part of Feature 7 and other "high activity" areas. They are not always necessarily clay in texture, but may also be silt or sand, and may even be foreign in origin, as with the prepared floor areas at the Walnut site (22It539;Bense 1982:Chapter 5) investigated during Phase I.

Concerning categories of activities at these two sites, the site functions have been shown to be overwhelmingly utilitarian. As interpreted by macrobotanical specialist Elisabeth Sheldon, the subsistence remains recovered are heavily biased: There is no bone or other faunal evidence; acorn is probably severely underrepresented (due to the fragility of its shell and resulting low incidence of preservation); hickory is probably severely over-represented (due to its dense cellular structure that preserves well); and all nuts may be present in deceptively high numbers due to cultural practices of using their shells for fuel. The few seeds may be from pioneer annuals growing along narrow cleared paths; they do not necessarily suggest large-scale forest clearing. The many fern spores, grape seeds, and nuts all suggest a heavily canopied forest in a late stage of succession.

Despite the biases in the data it is still probable that nut gathering was a primary focus of occupation at the Beech and Oak sites. Hickory is one of the "best single sources of vegetable protein and calories" that would have been available to Late Archaic populations (Ford 1977:174). The fact that masts from a single species are not locally available for two consecutive years (Ibid.) may help explain the repeated reoccupation of these sites, which may have been one of many alternative nut tree groves in a wider resource area exploited during the yearly schedule.

Ceremonial activity seems to be represented by a very small part of the material record at the sites. The blade cache, Feature 20 at the Beech site (Figures 3.14 and 3.16) was potential evidence. It does not necessarily indicate ceremonial activity taking place at the site, though, as it could have been merely storage of non-utilitarian items for use elsewhere. There were also the broken green siltstone atlatl deposit (Figures 3.15 and 3.30f) in Block D, Stratum IV, at the Oak site and another group of similar atlatl fragments (Figure 3.30e) in Block B, Stratum III, at the Oak site. These may have been broken accidently during use, but if so, it is unlikely that so many of the pieces would have been recoverable, let alone recovered. Furthermore, breakage of artifacts in ceremonial contexts is common in the Late Archaic of the eastern U.S. (though most often seen with burials).

As for dating of these two sites, the few radiocarbon dates obtained, as summarized in Table 3.19, are excellent for both the earlier and later phases of the Late Archaic. They could probably easily gain further confirmation from results obtained on additional charcoal samples from many other proveniences.

Future Research

Phase II work has documented the additional knowledge of Late Archaic lifeways and cultural systems obtained from the Beech and Oak sites, which represent seasonally or periodically occupied, possibly specialized resource extraction stations. Further research on the large body of data recovered from these sites should be channeled in two directions: 1) continued analysis of the cultural and natural materials, soils, features, and associations from the sites to derive site-specific information and inferences, and 2) construction and testing of hypotheses about culture process in the Late Archaic with comparative data from these and other, similar sites in the region. An additional area of study would be comparison of the Benton with the later deposits within the Late Archaic.

Specific to the Beech and Oak sites, there are several categories of materials not yet fully documented or classified, such as the bulk of the macrobotanical remains, the finescreen recovery from control blocks, and the small bits of matter grouped under the heading "debris."

Radiocarbon dates for the site (Table 3.21) indicate its Late Archaic occupation spans most of the third and fourth millenia B.C. There are other charcoal samples which could be dated as a part of future work to permit more accurate assessment of assemblage ages.

For data management reasons several multipurpose tools required placement into categories that included little or no reference to some of their functions or variations. (For example, a ground stone battering tool with a grooved hafting area, a dull edge, a cutting edge, and a circular pit might be classified only as a "hammerstone.") Problems with typology and classification of the chipped stone tools have already been described; resolution of some of them will certainly refine our perspectives on lithic industries and related cultural systems. More in-depth analyses of raw material types and origins, lithic reduction sequences, and metric data already collected for stone tools could be performed. Microwear analyses could go a long way toward determination of tool functions and also aid in everything from typology establishment to site function determination (Ahler 1982, Keeley 1980).

Many specific physical and typological studies of ceramics and other artifact categories are also possible. Indeed, a wide range of specialized research topics can be addressed using the accumulated materials, not only on the Late Archaic period but concerning other time periods as well.

The Beech and Oak sites' data can also be well utilized from the standpoint of archaeological synthesis and theoretical contributions. The accumulated knowledge pertaining to cultural chronology in the Tennessee-Tombigbee Waterway is supplemented considerably by the information on the Late Archaic. Site to site comparison will be possible for analyses of settlement pattern, subsistence/economic organization, and other cultural systems. Furthermore, assessments of change through time are possible with the artifact, subsistence, and settlement data, so that culture process can be examined with the extensive diachronic perspective that only archaeology provides.

Table 3.1. Summary of Excavations at the Beech site, 22It623.

PHASE	UNIT	GENERAL LOCATION	APPROXIMATE SIZE (in m)	MAXIMUM (arbitrary) LEVEL EXCAVATED	VOLUME (cubic m)
I	Test Pit	East-Central	1 x 0.90 x 1	10.2	0.9
I	Strat Trench 1	Northeast	20.4 x 1 x 2*	19.2	40.8
I	Strat Trench 2	Northwest	14.7 x 1 x 2*	19.2	29.4
I	Block A	Central	4 x 4 x 1.4	14.2	22.4
			2 x 2 x 0.1	15.2	0.4
II	Block B	Central	4 x 4 x 0.4	9.2	6.4
			2 x 2 x 0.1	10.2	0.4
II	Block C	North	4 x 4 x 0.4	9.2	6.4
			1 x 1 x 0.1	11.2	0.1
			4 x 0.75 x 0.3*	13.2	0.9
II	Block D	South	4 x 4 x 0.5	9.2	8.0
			2 x 2 x 0.05	10.1	0.2
			2 x 1 x 0.3*	14.2	0.8
II	N Backhoe	North	10 x 6 x 0.3*	5.2	18.0
II	C Backhoe	Central	12 x 7 x 0.4*	5.2	33.6
II	S Backhoe	South	8 x 8 x 0.40*	7.2	25.6
II	Feature Outside Blocks (#25)	South-Central	0.65 x 1.18 x 0.25	8.2	0.19
			TOTAL CONTROLLED EXCAVATION:		44.30
			TOTAL EXCAVATION:		194.50

* Uncontrolled excavation

Table 3.2. Summary of Excavations at the Oak site, 22It624.

PHASE	UNIT	GENERAL LOCATION	APPROXIMATE SIZE (in m)	MAXIMUM (arbitrary) LEVEL EXCAVATED	VOLUME (cubic m)
I	Test Pit	Central	1 x 1 x 0.70	10.2	0.70
I	Strat Trench	Northeast	10.5 x 1.5 x 0.80*	12.2	12.60
I	Test Pit	Northeast	2 x 2 x 0.80	12.2	3.20
I	Block A	East-	4 x 4 x 1.20	12.2	19.20
		Central	2 x 2 x 0.60	18.2	2.40
II	Block B	East	4 x 4 x 0.80	11.2	12.80
			1 x 1 x 0.15	22.1	0.15
			2 x 4 x 1*	20.2	8.00
II	Block C	South	4 x 4 x 0.60	10.2	9.60
			2 x 2 x 0.20	12.2	0.80
			2 x 0.75 x 0.40*	16.2	0.60
			1 x 0.75 x 0.40*	20.2	0.30
II	Block D	West-	4 x 4 x 0.65	11.1	10.40
		Central	0.70 x 0.75 x 0.30*	14.1	0.16
II	N Backhoe	North	10 x 8 x 0.20*	4.2	16.00
II	W Backhoe	West	23 x 10 x 0.30*	6.2	69.00
II	S Backhoe	South	12 x 15 x 0.20*	4.2	36.00
II	Features	West-	0.58 x 0.45 x 0.40	10.2	0.10
	Outside	Central	1 x 1.5 x 0.50	9.2	0.75
	Blocks		1.2 x 1.25 x 0.75	16.2	1.12
	(10,14,15&16)		0.9 x 1.05 x 0.35	9.2	0.33
			TOTAL CONTROLLED EXCAVATION:		61.55
			TOTAL EXCAVATION:		204.21

* Uncontrolled excavation

Table 3.3. Arbitrary Levels Included in Strata at the Beech site, 22It623.

	LEVELS						
	Block A	Block B			Block C	Block D	Total Volume
Stratum		West 1/4	Cen 1/2	East 1/4			
IIB	6-7	6.1-7.2	6.1-8.1	6.1-8.2	6.1-7.2	6.1-7.2	$12.1m^3$
IIB-III*	8	8.1	8.2	9.1	8.1	8.1	$3.3m^3$
III		8.2-9.1	9.1-9.2	9.2-10.1	8.2-9.1	8.2-9.1	$3.9m^3$
III-IV*	9	9.2	10.1	10.2	9.2	9.2	$2.8m^3$
IV	10-11	10.1-11.2	10.2-12.1	11.1-12.2	10.1-13.1	10.1-11.2	$4.8m^3$
IV-V*	12						$1.5m^3$
V				13.1			$0.5m^3$
V-VI	13						$1.5m^3$
VI	14-15						$2.0m^3$
Total	13.14	0.9	3.4	2.52	5.21	7.25	$32.4m^3$

Volumes excavated (not including features)

* Transitional zones, where they exist

Table 3.4. Arbitrary Levels Included in Strata at the Oak site, 22It624.

	LEVELS					
Stratum	Block A	Block B West 1/2	Block B East 1/2	Block C	Block D	Total Volume
IIB	5-6	4.2-8.1	4.2-8.1	4.2-6.1	6.1-6.2	$10.3m^3$
IIB-III*	7	8.2-9.1	8.2-9.1	6.2	7.2	$3.6m^3$
III	8	9.2-11.1	9.2-11.1	7.1-8.2	8.1-9.1	$8.7m^3$
III-IV*	9	11.2-12.1	11.2-12.1	9.1	9.2	$3.4m^3$
IV	10-15	12.2-13.2	12.2-16.2	9.2-15.2	10.1-14.1	$10.8m^3$
IV-V*	16	14.1		16.1		$0.4m^3$
V	17	14.2-15.1	17.1-18.1	16.2-18.2		$0.4m^3$
V-VI		15.2+		19.1+		$0m^3$
VI	18	16.1-22.2+		19.2-20.1+		$0.7m^3$
Total	$14.2m^3$		$6.4m^3$	$9.8m^3$	$7.9m^3$	$38.3m^3$

Volumes excavated (not including features or stratigraphic extensions with less control)

* Transitional zones, where they exist
\+ Includes stratigraphic extensions

Table 3.5. Densities (per cubic meter) of Selected Artifact Categories per Stratum at the Beech and Oak sites, 22It623 and 22It624.

	Densities					
	Debitage		Chipped Stone Tools		Ceramics	
Stratum	22It623	22It624	22It623	22It624	22It623	22It624
IIB	246.2	593.6	55.4	33.7	2.6	31.7
IIB/III	153.4	234.1	32.9	22.5	0.6	4.7
III	79.7	110.5	19.5	16.6	0.3	1.5
III/IV	91.4	54.0	11.1	18.9	-	0.6
IV	32.4	15.4	25.7	5.9	-	-
IV/V	13.3	-	-	0.7	-	-
V/VI	9.0	-	-	0.6	-	-
VI	4.0	2.9	-	1.0	-	-

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624.

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
				Beech site (22It623)			
1	IIA-5	122.85/114.66	Mammal bone concentration (no pit evident)	18 cm N-S 19 cm E-W 3 cm deep	Dark gray (10YR 3/1) sandy loam with yellowish brown (10YR4/6) mottling (surrounding matrix)	?	None
2	IIA 5	121.6/114.4	Irregular dark oval stain, irregular basin-shaped profile	238 cm N-S 212 cm E-W 60 cm deep	Dark reddish brown (5YR3/2) sandy loam	Probable stratified pit; Late Archaic(?)	Drill and other tool fragments, bifacial tools, mullers, pitted stone, debitage, charred plant remains
3	III 9	120.45/113.38	Ground stone tools cluster	22 cm N-S 20 cm E-W	Yellowish brown (10YR4/2) sandy loam (matrix)	Tools on living floor	Hammerstone, muller
4	III 9	121.81/113.25	Irregular dark oval, basin-shaped profile	47 cm N-S 38 cm E-W 17 cm deep	Dusky red (2.5 YR3/2) sandy loam with lighter mottling	Possible pit	Tool fragment, flake

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
5	III-IV 9	121/ 112.65	Dark irregular stain, tapered irregular profile	46 cm N-S 42 cm E-W 18 cm deep	Dark reddish gray (5YR4/2) sandy loam	Probable natural disturbance	2 flakes
6	III-IV 9	120.07/ 112.72	Dark ovoid stain, basin-shaped profile	18 cm N-S 35 cm E-W 10 cm deep	Dark reddish gray (5YR4/2) sandy loam	Possible pit	2 flakes
7	III-IV 9	120.1/ 113.4	Dark irregular stain, basin-shaped profile	18 cm N-S 23 cm E-W 10 cm deep	Dark reddish gray (5YR4/2) sandy loam	Probable natural disturbance	None
8	III 8.2	120.4/ 111.4	Dark circular stain, deep basin-shaped	120+ cm N-S 160 cm E-W 52 cm deep	Dark brown (7.5YR3/2) sandy loam; hematite and orange fired soil bits through-out; krotovina in lower portion	Pit	Scraper, other chert tools, debitage
9	III-IV 9	122.56/ 113.87	Dark oval stain, basin-shaped profile	72 cm N-S 69 cm E-W 25 cm deep	Dark brown (10YR 3/3) sandy loam	Late Archaic pit	Points, drill, abrader, debitage, charred plant remains
10	IIB 5.1	117.10/ 180.80	Rock cluster	50 cm diam.	Dark reddish brown (5YR3/2) sandy loam	Possible hearth	Sandstones, hematite, char-coal, ash

Table 3.6 Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
11	IIB 6.2	99.5/ 101.8	Dark oval stain, shallow basin-shaped profile	117 cm N-S 135 cm E-W 20 cm deep	Dark brown (10 YR2/2) silty sand with char-coal flecks, krotovina	Late Archaic pit	Point, drill, awl, debitage, sandstones, charred plant remains
12	III 8.2	121.46/ 111.07	Ground stone tool cluster	55 cm N-S 50 cm E-W	Dark brown (7.5 YR3/4) sandy loam (surround-ing matrix)	Tools on living floor? cache?	3 choppers, 1 cobble scraper, 2 other rocks
13	IIB-III 8.2	120.8/ 110.08	Dark circular stain, basin-shaped profile	140 cm N-S 130 cm E-W 26 cm deep	Dark brown (7.5 YR3/4) sandy loam	Pit	Chert tool frag-ment, debitage, sandstones
14	III 8.2	98.6/ 103.3	Irregular oval dark stain, com-pound U-shaped profile	155 cm N-S 195 cm E-W 84 cm max.	Very dark brown (10YR2/2) sandy loam mottled with dark yel-lowish brown (10 YR4/6) and grad-ing into yellow-ish brown (10YR-5/6, 5/4) at edges	Late Archaic Compound Pit	Point, drill and tool fragments celt, abrader, pitted stone, debitage, sand-stones, charred plant remains

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
15	IIB 8.2	124/ 108	Probably circular dark stain (only portion excavated), basin-shaped in profile	Approx 1 m radius, 30 cm deep	Dark brown (10 YR7/4) sandy loam, with very dark sandstone/ manganese modules	Shallow pit with deep "bleed zone"	Chert tool fragment, 3 flakes
16	III 9.2	120/ 110	Probably irregular ovoid dark stain, basin-shaped in profile	Approx 1 m NW-SE, 36 cm NE-SW, 10 cm deep	Upper, dark brown (7.5YR 5/4); Lower, brown (7.5YR 5/4) sandy loam	Shallow probable pit, possibly stratified	2 chert tool fragments
17	III-IV 9.2	180.78 104.34	Small irregular ovoid dark stain, basin and funnel-shaped profile	50 cm N-S 55 cm E-W 12 cm deep	Dark brown (7.5 YR4/4) overlying strong brown (7.5YR4/6)	Possible pit or post mold	2 flakes
18	IIB-III 9.2	100.78 104.34	Dark oval stain surrounded by wider stained areas; basin-shaped in profile	30 cm N-S 20 cm E-W 24 cm deep	Dark brown (7.5 YR3/4) sandy loam	Possible pit	Chert flakes, sandstones

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
19	VI 13.1	123.43/ 112.15	Small irregular dark stain, amorphously shaped in profile	30 cm diameter 22 cm deep	Yellowish brown (10YR5/4) sandy loam with light gray (10YR7/2) and dark manganese staining	Burrow	2 chert flakes
20	III-IV 9.2	123.31/ 109.2	Artifact cluster	21 cm N-S 28 cm E-W	Heavily mottled matrix of dark yellowish brown, reddish yellow, light yellow and strong brown (10 YR4/4, 7/4, 7/6, 5/6, and 6/4)	Blade/point cache with ochre	11 points or blades, 1 pile of red ochre
21	III 8.2	97.65/ 101.5	Dark irregularly circular stain, shallow basin in profile	105 cm N-S 108 cm E-W 30 cm deep	Very dark brown (10YR2/2) central area surrounded by brown (7.5YR4/4) sandy loam	Possible pit	Point fragment, debitage, sandstones
22	IV 10.1	123.06/ 110.22	Dark oval stain, basin shaped profile	30 cm N-S 47 cm E-W 14 cm deep	Dark brown (7.5 YR4/4) sandy loam	Probable pit	Scraper

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
23	III 9.2	122.73/ 108	Dark, probably oval stain, basin-shaped profile	48 cm N-S about 60 cm E-W 8 cm deep	Dark brown (7.5 YR4/4) sandy loam mottled with brown (7.5YR5/4)	Possible pit	1 flake
24	IIB 6.2	130/ 112	Mottled, irreg-ular dark stain	25 cm N-S 30 cm E-W	Mottled brown-ish yellow (10 YR6/8, and 6/6) sandy loam	Rodent burrow	Scraper, debitage, petrified wood
25	IIB 5.2	128.46/ 117.81	Dark oval stain, basin-shaped pro-file plus over-lapping sheet midden on E side	65 cm N-S 118 cm E-W 25 cm deep	Very dark gray-ish brown (10YR 3/2) sandy loam	Pit	Scraper, chert tool fragments and debitage, sandstones
26	III 8.2	131.54/ 113.78	Dark irregular ovoid stain, roughly basin-shaped profile	120 cm N-S 101 cm E-W ?32 cm deep	Dark brown (10 YR3/3) sandy loam with gray (10YR2/1) krot-ovina	Possible pit	Scraper, point fragment, debitage, sandstones

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog- nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
27	IIB 6.2	147.8/ 122.1	Dark irregular stain	60 cm N-S 35 cm E-W	Dark brown (7.5 YR4/4) end gray sandy loam	Rodent burrow	Point, scrap- er, debitage sherds
28	III- IV	130/ 113.2	Dark oval (?) stain, tapered profile	At least 25 cm N-S 100 cm E-W 40 cm (?) deep	Dark reddish brown (5YR3/3) sandy loam sur- rounded by red- dish gray (5YR 4/3, and 5/29)	Pit	Biface frag- ment, one flake
29	IV 10.1	130.44/ 112.83	Small dark cir- cular stain, tapered profile	17 cm N-S 20 cm E-W 20 cm deep	Light brown (7.5YR6/4) sandy loam	Possible pit or post mold	Biface fragment
30	III- IV 9.2	131.9/ 114.85	Small dark oval stain, tapered profile	20 cm N-S 25 cm E-W 24 cm deep	Dark brown (7.5YR5/6) sandy loam	Possible pit or post mold	2 flakes, sandstone
31	III- IV	131.4/ 114.65	Dark circular stain, tapered profile	32 cm N-S 34 cm E-W 20 cm deep	Brown (7.5YR4/4) sandy loam	Possible pit or post mold	Petrified wood, sand- stone
32	III- IV 9.2	130/ 115.75	Dark probable oval stain, tapered profile	20 cm N-S 30 cm E-W 24 cm deep	Mottled strong brown and light brown (7.5YR5/6, 6/4) sandy loam	Possible pit or post mold	None

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
33	III 9.1	130.25/ 114.9	Dark oval stain, tapered profile	30 cm N-S 37 cm E-W 20 cm deep	Mottled brown and strong brown (7.5YR5/4, 5/6) sandy loam	Possible pit or post mold	None
34	III 9.1	130.75/ 114.9	Dark oval stain, tapered profile	40 cm N-S 30 cm E-W 22 cm deep	Mottled brown and strong brown (7.5YR5/4, 5/6) sandy loam	Possible pit or post mold	None
35	III 9.1	130/ 114	Irregular oblong stain, irregular tapered profile	>25 cm N-S 25 cm E-W 20 cm deep	Mottled brown and light brown (7.5YR5/6, 6/4) sandy loam	Probable natural disturbance	None
36	IV 10.2	130.52/ 112.17	Dark circular stain, tapered profile	25 cm diam. 15 cm deep	Light brown (7.5YR5/4) sandy loam	Possible pit or post mold	None
				Oak Site (22It624)			
1	IIB 7.1	107.85/ 105.36	Dark ovoid stain, basin-shaped profile	185 cm N-S 150 cm E-W 58 cm deep	Graded from dark brown (5YR2.5/2) sandy loam with charcoal flecks to very dark gray (5YR3/1) loamy sand mottled with yellowish and pale brown (10YR5/6, 8/3)	Late Archaic pit, possibly stratified	Points, scraper, other tools and fragments, debitage, rocks, especially sandstones, charred plant remains

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
2	IIB 7.1	106.3/ 106.35	Dark ovoid stain generally basin-shaped profile	At least 60 cm N-S 112 cm E-W 25 cm deep	Dark reddish brown (5YR3/2) sandy loam	Wheeler pit	Lithic debit-age, sandstones, 1 sherdlet, 2 fiber-tempered sherds
3	III 8.2	107.6/ 107	Dark circular stain, basin-shaped profile	59 cm N-S 49 cm E-W 15 cm deep	Dark brown (10 YR4/3) loamy sand	Probable pit	1 chert tool fragment, 1 flake
4	III 9.1	107.85/ 106.3	Dark circular stain, basin-shaped profile	56 cm N-S 60 cm E-W 23 cm deep	Dark brown (10 YR4/39 loamy sand	Probable pit	1 flake, pitted stone/muller, charred plant remains
5	IV 15	98.4/ 105.2	Dark circular stain, basin-shaped profile	72 cm N-S 94 cm E-W 14 cm deep	Probably strat-ified;dark brown mottled with brown (7.5YR3/2, 4/2,5/2); brown (7.5YR4/4); yel-lowish brown mot-tled with gray (10 YR5/6,6/2) loamy sand	Probable pit	None

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
6	IIB 6.2	118/ 111	2 dark irregular oval stains separated by very pale irregular oval; in profile 2 dark basin-shaped stains separated by pale lens	Pit 1: 1 cm diam., 65 cm deep; Pit 2: 90 cm diam., 25 cm deep; entire feature about 2 m diam.	Pit 1: Very dark brown (10YR2/2) sandy loam with manganese concretions; Pit 2: Very dark brown (10YR2/2) sandy loam; mottled white and dark yellowish brown (10YR8/2, 4/6) sand lens in between	Two pits separated by pale subsoil lens; the later one is Wheeler	Pit 1: stone tool fragments, debitage, 1 sherdlet, sandstones Pit 2: tools, debitage, Wheeler and other sherds, sandstones Lens: debitage, sherd
7	IIB 9.2	105.25/ 100.8	Dark brown oval with adjacent pale zones, all within dark ring; compound basin in profile	300 cm NE-SW 385 cm NW-SE at least 75 cm deep	Many fill zones; central pit:dark brown and grayish brown (10YR3/2) sand with black manganese nodules, gray mottling;adjacent fill zones of very pale brown, yellowish brown, and dark reddish brown (10YR8/4, 5/6,5YR2.5/2)	Compound Late Archaic pit	Points, tools, debitage,sandstones,petrified wood awl, charred plant remains

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
8	IV 10.1	117.9/ 112.72	Small dark subcircular stain, irregular tapered profile	24 cm N-S 31 cm E-W 20 cm deep	Dark yellowish brown sandy loam (10YR4/4)	Possible pit or post mold	None
9	IIB 6.2	107.95/ 112.2	Dark oval stain, basin-shaped profile	135 cm NE-SW 85 cm NW-SE 45 cm deep	Black and brownish gray (10YR2/1,6/2) soil with bone flecks and manganese concretions, grading to lighter brown (10 YR4/4,6/2) near bottom	Mixed period refuse pit	Late Archaic point, tools, sandstones, Mississippian ceramics, charred plant remains
10	IIB 6.2	116/ 117.8	Concentration of chunks of burned soil	58 cm N-S 45 cm E-W	Cluster of strong brown (7.5YR5/6) burned soil chunks in dark brown (10 YR2/2) general midden matrix	Hearth? Redeposited?	None
11	IIB 7.1	109.5/ 111.7	Dark amorphous ovoid stain, flat-bottomed basin in profile	100 cm NW-SE 50 cm NE-SW 25 cm deep	Very dark brown (10YR2/2) sandy loam	Woodland pit	Scraper, chert, debitage, sand-and-grog tempered ceramics

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog- nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
12	IIB 7.1	110.62/ 114.7	Dark probably cir- cular stain, basin- shaped profile	About 100 cm radius, 60 cm deep	Very dark brown (10YR2/2) sandy loam	Pit	Recycled drill, tool fragments, debitage, sandstones
13	IIB 7.1	108.68/ 114.56	Irregular dark ovoid with encir- cling zone of pale sand; in profile an irregular basin with fill zones and other small features	320 cm N-S 185 cm (max) deep	Fill zones: 2 of hard-packed dark brown (10 YR2/2) sandy loam surrounded by brownish yel- low (10YR6/6)	Compound pit with 2 possible post molds or small pits	Scrapers, other tools, tool fragments, debitage, mor- tar/pitted stone, 1 sherdlet
14	III 7.1	114.1/ 116.78	Dark oval stain, flat-bottomed basin in profile	100 cm N-S 150 cm E-W 50 cm deep	Dark reddish brown (5YR3/2) loamy sand, lighter colored (7.5YR6/4) on west side	Mixed Wheeler/ Woodland pit	Chert tool, fragments, debitage, sand- stones, fiber- sand-, and grog- tempered ceramics

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
15	IIB 6.1	107.42/ 116.48	Dark oval stain, deep basin in profile	120 cm NE-SW 123 cm E-W 75 cm deep	Dark reddish brown (5YR3/2) sandy loam, lighter and mottled by disturbance near bottom	Late Archaic pit	Points, drill, tools and fragments, hammerstone, sandstones, other rocks, charred plant remains
16	IIB 6.1	108.34/ 117.63	Dark oval stain, irregular basin shape in profile	90 cm N-S 105 cm E-W 35 cm deep	Very dark grayish brown mottled with dark brown (10YR3/2, 3/3) sandy loam	Pit	Point fragment, debitage, abrader, rocks, especially sandstones
17	III 8.2	119.35/ 110.1	Dark probably oval stain, amorphous shape in profile	85 cm N-S at least 50 cm E-W 35 cm deep	Dark yellowish brown (10YR4/6) sandy loam	Probable natural disturbance	None
18	III-IV 9.1	119.8/ 111.75	Amorphous dark stain	at least 50 cm diam. 112 cm deep	Dark yellowish brown (10YR4/6) grading to grayish brown (10YR 5/2) at bottom	Root mold	1 chert flake

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
19	III-IV 9.1	118.9/ 111.8	Small dark oval stain, tapered to irregular point in profile	33 cm NE-SW 26 cm NW-SE 31 cm deep	Dark yellowish brown (10YR4/4) sandy loam	Probable natural disturbance	None
20	III 8.2	110.7/ 112.53	Dark circular stain, long nar-row tapered profile	20 cm diam. 45 cm deep	Very dark brown (10YR2/2) sandy loam	Possible post mold	Chert bi-face frag-ment, debit-age
21	III 7.1	107.26/ 112.75	Dark sub-circular stain, tapered profile	32 cm diam. 18 cm deep	Very dark brown (10YR2/2) sandy loam	Possible post mold	1 chert flake
22	IV 10.2	119.51/ 112.45	Dark stain with amorphous shape in plan and profile	27 cm N-S 32 cm E-W 46 cm deep	Yellowish brown (10YR5/6) sandy loam	Probable natural disturbance	None
23	IV 10.2	119/ 113.35	Dark stain with amorphous shape in plan and profile	40 cm N-S 32 cm E-W 56 cm deep	Yellowish brown (10YR5/6) sandy loam	Probable natural disturbance	None

Table 3.6. Features at the Beech and Oak sites, 22It623 and 22It624 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
24	III-IV 10.2	119.5/ 113.5	Irregular circular dark stain, basin shaped profile	Approximately 200 cm diam.	Brown (10YR3/3) sandy loam with pale brown and light yellowish brown (10YR6/3, 6/4) disturbed areas	Probable pit with heavy natural disturbance	3 chert flakes
25	Number voided						
26	III 9.1	107.06/ 113.95	Dark, probably circular stain, basin-shaped	Estimated 30 cm diam. 10 cm deep	Brown (10YR4/3) sandy loam	Probable small pit or post mold	None

Table 3.7. Total Frequencies of Cultural Materials by Collapsed Artifact Class at the Beech site, 22It623.

Artifact Class		General Level	Feature	General Surface and Backhoe	Total
Projectile Point/Knives					
	n	39	10	92	141
	%	27.6	7.1	65.3	100.0
Other Chipped Stone Tools					
	n	455	97	498	1,050
	%	43.8	9.3	46.9	100.0
Ground Stone Tools					
	n	28	8	47	83
	%	33.7	9.7	56.6	100.0
Unmodified Flaking Debris					
	n	2,618	304	2,344	10,266
	%	25.5	3.0	71.5	100.0
Ceramics					
	n	29	2	810	841
	%	3.5	0.2	96.3	100.0
Historic Artifacts					
	n	1	-	-	1
	%	100.0	-	-	100.0
Total	n	3,170	421	8,790	12,381
Introduced Rock					
	Wt*	27,824	3,532	19,477	50,833
	%	54.7	7.0	38.3	100.0
Sherdlets					
	Wt*	38	6	949	993
	%	3.8	0.6	95.6	100.0
Fired Clay					
	Wt*	420	56	1,099	1,575
	%	26.7	3.6	69.7	100.0
Total	Wt*	28,282	3,594	21,525	53,401

* in grams

Table 3.8. Total Frequencies of Cultural Materials by Collapsed Artifact Class at the Oak site, 22It624.

Artifact Class		General Level	Feature	General Surface and Backhoe	Total
Projectile Point/Knives					
	n	140	14	97	251
	%	55.8	5.6	38.6	100.0
Other Chipped Stone Tools					
	n	755	138	301	1,194
	%	63.2	11.6	25.2	100.0
Ground Stone Tools					
	n	133	13	57	183
	%	61.8	7.1	31.1	100.0
Unmodified Flaking Debris					
	n	5,662	688	4,365	10,695
	%	52.9	6.3	40.8	100.0
Ceramics					
	n	325	26	617	968
	%	33.6	2.7	63.7	100.0
Total	n	6,995	859	5,437	13,291
Introduced Rock					
	Wt*	63,427	8,839	8,869	81,135
	%	78.2	10.9	10.9	100.0
Sherdlets					
	Wt*	362	22	-	384
	%	94.3	5.7	-	100.0
Fired Clay					
	Wt*	2,619	572	-	3,191
	%	82.1	17.9	-	100.0
Total	Wt*	66,408	9,433	8,869	84,710

* in grams

Table 3.9. Ceramic Frequencies by Category at the Beech and Oak sites, *22It623 and 22It624.*

Temper	Category	22It623	22It624	Total
Shell	Mississippian Plain	7	3	10
	Eroded Shell	1	-	1
	Shell/Grog	-	5	5
Subtotal, Shell		8	8	16
Grog	Baytown Plain	13	68	81
	Cormorant Cord Impressed	2	-	2
	Mulberry Creek Cord Marked	7	25	32
	Whithers Fabric Marked	1	1	2
	Grog-Other	1	2	3
	Eroded Grog	41	34	75
Subtotal, Grog		65	130	195
Bone	Turkey Paw Plain	1	-	1
	Turkey Paw Cord Marked	-	2	2
	Bone-Other	-	1	1
	Eroded Bone	1	4	5
Subtotal, Bone		2	7	9
Limestone	Mulberry Creek Plain	23	11	34
	Wright Checked Stamped	2	-	2
	Eroded Limestone	12	30	42
Subtotal, Limestone		37	41	78
Sand	Furrs Cord Marked	18	8	26
	Saltillo Fabric Marked	182	116	298
	Smithsonia Zone Stamped	-	2	2
	Alexander Incised	8	2	10
	Alexander Pinched	13	15	28
	Alexander Incised/Punctated	1	1	2
	Columbus Punctated	2	4	6
	Residual Sand Plain	146	108	254
	Sand-Other	8	2	10
	Eroded Sand	297	302	599
Subtotal, Sand		675	560	1,235
Fiber	Wheeler Plain	7	111	118
	Wheeler Dentate Stamped	4	1	5
	Wheeler Simple Stamped	-	1	1
	Wheeler Punctated	-	21	21
	Fiber-Other	-	1	1
	Eroded Fiber	43	87	130
Subtotal, Fiber		54	222	276
Total		841	968	1,809

Table 3.10. **Total Frequencies of Chipped Stone Tools by Type and Category at the Beech and Oak sites, 22It623 and 22It624.**

Type Category	22It623	22It624	Total
Projectile Point/Knives			
Beachum	-	3	3
Benton Barbed	1	2	3
Benton Extended Stem	-	4	4
Benton Short Stem	5	2	7
Big Sandy Side-Notched	1	-	1
Bradley Spike	1	-	1
Cotaco Creek	-	12	12
Cypress Creek	1	-	1
Eva	-	1	1
Flint Creek	4	8	12
Gary	-	1	1
Kirk Corner Notched	2	1	3
Ledbetter/Pickwick	1	3	4
Little Bear Creek	7	16	23
McIntire	3	10	13
Mississippi-Woodland Triangular	2	6	8
Morrow Mountain	-	2	2
Morrow Mountain Straight Base	1	1	2
Mud Creek	-	2	2
Residual Stemmed	14	18	32
Residual Triangular	1	-	1
Swan Lake	1	-	1
Sykes-White Springs	1	-	1
Tombigbee Stemmed	-	2	2
Vaughn	1	1	2
Wade	1	3	4
Projectile Point/Knife Distal Frag	21	40	61
Projectile Point/Knife Medial Frag	17	34	51
Projectile Point/Knife Proximal Frag	29	45	74
Projectile Point/Knife Lateral Frag	25	31	56
Turkey Tail	1	-	1
Unidentified Projectile Point/Knife	-	3	3
Subtotal, Projectile Point/Knives	141	251	392

Table 3.10. **Total Frequencies of Chipped Stone Tools by Type and Category at the Beech and Oak sites, 22It623 and 22It624 (continued).**

Type Category	22It623	22It624	Total
Scrapers			
Uniface End Scraper	15	11	26
Uniface Side Scraper	11	11	22
Uniface Side-End Scraper	23	18	41
Uniface Cobble Scraper	3	2	5
Uniface Notched Flake Spokeshave	2	8	10
Biface Flake Scraper	1	1	2
Biface Cobble Scraper	4	2	6
Scraper-Recycled	16	3	19
Scraper-Other	1	2	3
Subtotal, Scrapers	81	61	142
Drills, Perforators, Etc.			
Expanding Base Drill	5	2	7
Shaft Drill	4	2	6
Stemmed Drill-Recycled	3	10	13
Drill Fragment-Medial	5	9	14
Drill Fragment-Distal	20	20	40
Graver	1	1	2
Microlith	4	4	8
Microperforator	-	4	4
Perforator	-	5	5
Perforator-Recycled	-	2	2
Reamer	2	1	3
Subtotal, Drills, Perforators, Etc.	44	60	104
Other Uniface and Biface Tools			
Uniface Chopper	1	2	3
Uniface Flake Knife	8	5	13
Biface Adze	-	1	1
Biface Chopper	9	5	14
Biface Hammer-Chopper	-	1	1
Biface Flake Knife	1	8	9
Uniface-Biface Other	2	1	3
Unidentified Chipped Stone Fragment	245	184	429
Subtotal, Other Uniface and Biface Tools	266	207	473

Table 3.10. Total Frequencies of Chipped Stone Tools by Type and Category at the Beech and Oak sites, 22It623 and 22It624 (continued).

Type	Category	22It623	22It624	Total
Bifaces				
	Ovoid Biface-Flake	2	1	3
	Ovoid Biface-Other	1	2	3
	Triangular Biface-Flake	-	1	1
	Triangular Biface-Other	2	1	3
	Narrow Triangular Biface-Flake	3	-	3
	Broad Based Triangular Biface-Flake	1	2	3
	Biface Proximal Fragment	17	6	23
	Biface Medial Fragment	31	34	65
	Biface Distal Fragment	30	26	56
	Crude Biface	6	9	15
	Biface Fragment	13	25	38
	Biface Lateral Fragment	14	46	60
Subtotal, Bifaces		120	153	273
Cores				
	Biface Core 360	-	3	3
	Bipolar Core	-	1	1
	Core Fragment	2	1	3
Subtotal, Cores		2	5	7
Preforms				
	Preform 1-Cobble	-	1	1
	Preform 1-Flake	3	4	7
	Preform 1-Indeterminate	3	4	7
	Preform 2-Flake	2	1	3
	Preform 2-Indeterminate	2	5	7
	Preform-Other	1	-	1
Subtotal, Preforms		11	15	26
Utilized Flakes				
	Utilized Flake 1"	4	8	12
	Utilized Flake 1/2"	232	262	494
	Utilized Flake 1/4"	264	375	639
	Utilized Prismatic Blade	1	-	1
	Utilized Blade-like Flake	4	4	8
	Utilized Chert Chunk	20	44	64
Subtotal, Utilized Flakes		525	693	1,218
Total		1,190	1,445	2,635

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623.

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
PROJECTILE POINTS								
Benton Short-Stemmed								
WEIGHT	4	1	9.00	5.30	2.70	14.90	12.20	28.09
LENGTH	1	4	61.70	-	61.70	61.70	-	-
WIDTH	2	3	33.90	1.27	33.00	34.80	1.80	1.62
THK	2	3	7.65	0.21	7.50	7.80	0.30	0.05
BASLW	5	0	23.66	1.81	20.50	24.90	4.40	3.28
SHOULDRW	2	3	33.90	1.27	33.00	34.80	1.80	1.62
JUNCW	3	2	23.77	2.16	21.50	25.80	4.30	4.66
HAFTL	3	2	8.53	2.15	6.10	10.20	4.10	4.64
Big Sandy Side-Notched								
WEIGHT	1	0	4.70	-	4.70	4.70	0.00	-
WIDTH	1	0	22.20	-	22.20	22.20	0.00	-
THK	1	0	6.10	-	6.10	6.10	0.00	-
BASLW	1	0	18.40	-	18.40	18.40	0.00	-
SHOULDRW	1	0	22.20	-	22.20	22.20	0.00	-
JUNCW	1	0	17.40	-	17.40	17.40	0.00	-
HAFTL	1	0	9.20	-	9.20	9.20	0.00	-
Bradley Spike								
WEIGHT	1	0	13.00	-	13.00	13.00	0.00	-
LENGTH	1	0	71.00	-	71.00	71.00	0.00	-
WIDTH	1	0	21.40	-	21.40	21.40	0.00	-
THK	1	0	13.00	-	13.00	13.00	0.00	-
BASLW	1	0	8.80	-	8.80	8.80	0.00	-
SHOULDRW	1	0	21.40	-	21.40	21.40	0.00	-
JUNCW	1	0	12.50	-	12.50	12.50	0.00	-
HAFTL	1	0	10.50	-	10.50	10.50	0.00	-
Flint Creek								
WEIGHT	3	1	6.20	4.10	1.80	9.90	8.10	16.77
WIDTH	2	2	24.80	4.10	21.90	27.70	5.80	16.82
BASLW	4	0	16.00	2.78	13.00	18.70	5.70	7.73
SHOULDRW	2	2	24.80	4.10	21.90	27.70	5.80	16.82
JUNCW	2	2	18.85	2.90	16.80	20.90	4.10	8.40
HAFTL	2	2	13.70	0.99	13.00	14.40	1.40	0.98

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Kirk Corner-Notched				
WEIGHT	1	1	12.40	-	12.40	12.40	0.00	-
LENGTH	1	1	54.00	-	54.00	54.00	0.00	-
WIDTH	1	1	32.50	-	32.50	32.50	0.00	-
THK	1	1	8.00	-	8.00	8.00	0.00	-
BASLW	1	1	27.90	-	27.90	27.90	0.00	-
JUNCW	2	0	22.80	0.28	22.60	23.00	0.40	0.08
HAFTL	2	0	9.80	1.56	8.70	10.90	2.20	2.42
				Ledbetter-Pickwick				
WEIGHT	1	0	16.10	-	16.10	16.10	0.00	-
LENGTH	1	0	56.00	-	56.00	56.00	0.00	-
WIDTH	1	0	33.00	-	33.00	33.00	0.00	-
THK	1	0	9.00	-	9.00	9.00	0.00	-
BASLW	1	0	18.00	-	18.00	18.00	0.00	-
SHOULDRW	1	0	33.00	-	33.00	33.00	0.00	-
JUNCW	1	0	20.00	-	20.00	20.00	0.00	-
HAFTL	1	0	6.90	-	6.90	6.90	0.00	-
				Little Bear Creek				
WEIGHT	6	1	7.57	6.26	2.70	19.80	17.10	39.25
LENGTH	2	5	59.55	2.76	57.60	61.50	3.90	7.60
WIDTH	4	3	26.80	6.88	19.80	34.60	14.80	47.39
THK	2	5	10.55	1.48	9.50	11.60	2.10	2.21
BASLW	7	0	14.50	2.24	12.30	17.70	5.40	5.01
SHOULDRW	6	1	26.22	5.00	19.80	33.20	13.40	25.02
JUNCW	6	1	16.77	2.48	13.50	19.70	6.20	6.17
HAFTL	6	1	10.77	1.63	7.60	11.80	4.20	2.67
				McIntire				
WEIGHT	3	0	8.70	5.58	4.40	15.00	10.60	31.09
LENGTH	1	2	57.70	-	57.70	57.70	0.00	-
WIDTH	1	2	30.40	-	30.40	30.40	0.00	-
THK	1	2	10.70	-	10.70	10.70	0.00	-
BASLW	3	0	19.90	3.61	17.20	24.00	6.80	13.03
SHOULDRW	2	1	31.70	3.11	29.50	33.90	4.40	9.68
JUNCW	3	0	19.07	3.29	16.30	22.70	6.40	10.80
HAFTL	3	0	11.70	1.21	10.60	13.00	2.40	1.47

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Woodland-Mississippian Triangular					
WEIGHT	2	0	0.65	0.07	0.60	0.70	0.10	0.01
LENGTH	1	1	17.70	-	17.70	17.70	0.00	-
WIDTH	2	0	15.50	0.99	14.80	16.20	1.40	0.98
THK	2	0	3.20	0.14	3.10	3.30	0.20	0.02
			Morrow Mountain Straight-Stemmed					
WEIGHT	1	0	6.20	-	6.20	6.20	0.00	-
WIDTH	1	0	26.70	-	26.70	26.70	0.00	-
BASLW	1	0	15.30	-	15.30	15.30	0.00	-
SHOULDRW	1	0	26.70	-	26.70	26.70	0.00	-
JUNCW	1	0	17.00	-	17.00	17.00	0.00	-
HAFTL	1	0	4.30	-	4.30	4.30	0.00	-
			Residual Stemmed					
WEIGHT	13	1	8.86	4.45	2.40	15.60	13.20	19.84
LENGTH	2	12	50.30	5.52	46.40	54.20	7.80	30.42
WIDTH	4	10	25.50	3.92	20.60	30.20	9.60	15.40
THK	3	11	11.63	3.53	9.30	15.70	6.40	12.49
BASLW	13	1	14.91	3.29	8.00	20.00	12.00	10.81
SHOULDRW	9	5	25.60	5.24	20.60	33.60	13.00	27.43
JUNCW	11	3	18.79	2.75	15.50	24.50	9.00	7.58
HAFTL	11	3	10.85	1.63	7.40	13.50	6.10	2.65
			Residual Triangular					
WEIGHT	1	0	7.10	-	7.10	7.10	0.00	-
			Swan Lake					
WEIGHT	1	0	3.30	-	3.30	3.30	0.00	-
LENGTH	1	0	30.00	-	30.00	30.00	0.00	-
WIDTH	1	0	14.50	-	14.50	14.50	0.00	-
THK	1	0	7.80	-	7.80	7.80	0.00	-
BASLW	1	0	11.00	-	11.00	11.00	0.00	-
SHOULDRW	1	0	14.50	-	14.50	14.50	0.00	-
JUNCW	1	0	12.00	-	12.00	12.00	0.00	-
HAFTL	1	0	7.50	-	7.50	7.50	0.00	-

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Sykes-White Springs				
WEIGHT	1	0	4.50	-	4.50	4.50	0.00	-
BASLW	1	0	21.30	-	21.30	21.50	0.00	-
				Turkey Tail				
WEIGHT	1	0	45.50	-	45.50	45.50	0.00	-
				Vaughn				
WEIGHT	1	0	28.60	-	28.60	28.60	0.00	-
SHOULDRW	1	0	28.60	-	28.60	28.60	0.00	-
JUNCW	1	0	21.40	-	21.40	21.40	0.00	-
				Wade				
WEIGHT	1	0	15.70	-	15.70	15.70	0.00	-
LENGTH	1	0	60.70	-	60.70	60.70	0.00	-
WIDTH	1	0	33.40	-	33.40	33.40	0.00	-
THK	1	0	9.70	-	9.70	9.70	0.00	-
BASLW	1	0	10.00	-	10.00	10.00	0.00	-
SHOULDRW	1	0	33.40	-	33.40	33.40	0.00	-
JUNCW	1	0	15.40	-	15.40	15.40	0.00	-
HAFTL	1	0	10.60	-	10.60	10.60	0.00	-
				PPK/Distal Fragment				
WEIGHT	19	2	2.55	2.11	0.50	7.30	6.80	4.47
				PPK/Medial Fragment				
WEIGHT	17	0	7.46	9.16	1.70	41.00	39.30	83.86
				PPK/Proximal Fragment				
WEIGHT	29	0	3.92	7.46	0.80	36.20	35.40	55.59
LENGTH	14	15	17.01	5.78	9.80	29.00	19.20	33.46
JUNCW	1	28	18.00	-	18.00	18.00	0.00	-
HAFTL	1	28	9.00	-	9.00	9.00	0.00	-
				PPK/Lateral Fragment				
WEIGHT	25	0	2.84	1.53	0.30	5.80	5.50	2.33

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
SCRAPERS								
Unifacial End Scraper								
WEIGHT	15	0	8.11	23.25	0.70	92.00	91.30	540.54
LENGTH	13	2	20.07	6.58	13.90	34.10	20.20	43.26
WIDTH	13	2	20.97	4.55	13.30	28.90	15.60	20.68
THK	13	2	5.68	3.26	3.10	14.70	11.60	10.65
Unifacial Side Scraper								
WEIGHT	11	0	4.88	5.12	0.70	17.70	17.00	26.19
LENGTH	7	4	29.87	6.55	22.40	40.50	18.10	42.86
WIDTH	8	3	27.32	9.54	18.00	46.90	28.90	90.94
THK	8	3	6.04	3.64	2.40	12.00	9.60	13.23
Unifacial End-Side Scraper								
WEIGHT	23	0	7.08	9.38	0.80	32.80	32.00	88.05
LENGTH	21	2	28.45	14.44	2.40	57.50	55.10	208.47
WIDTH	21	2	24.27	9.70	10.80	45.10	34.30	94.06
THK	21	2	7.95	4.86	2.30	22.40	20.10	23.61
Unifacial Cobble Scraper								
WEIGHT	3	0	58.37	55.85	17.00	121.90	104.90	3119.52
LENGTH	3	0	50.67	17.21	38.20	70.30	32.10	296.12
WIDTH	3	0	42.73	13.22	32.00	57.50	25.50	174.76
THK	3	0	23.47	11.46	16.60	36.70	20.10	131.40
Unifacial Notched Flake-Spokeshave								
WEIGHT	2	0	1.20	0.14	1.10	1.30	0.20	0.02
LENGTH	2	0	29.40	2.83	27.40	31.40	4.00	8.00
WIDTH	2	0	17.20	1.56	16.10	18.30	2.20	2.42
THK	2	0	3.70	0.14	3.60	3.80	0.20	0.02
Bifacial Flake Scraper								
WEIGHT	1	0	1.50	-	1.50	1.50	0.00	-
LENGTH	1	0	22.00	-	22.00	22.00	0.00	-
WIDTH	1	0	21.70	-	21.70	21.70	0.00	-
THK	1	0	3.60	-	3.60	3.60	0.00	-

Table 3.11. **Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Scraper Recycled				
WEIGHT	16	0	4.54	4.46	0.40	19.40	19.00	19.87
LENGTH	14	2	20.90	7.19	7.30	31.50	24.20	51.72
WIDTH	13	3	21.16	5.75	13.60	35.50	21.90	33.05
THK	15	1	9.83	8.17	4.00	36.20	32.20	66.75
				Scraper-Other				
WEIGHT	1	0	10.00	-	10.00	10.00	0.00	-
LENGTH	1	0	31.70	-	31.70	31.70	0.00	-
WIDTH	1	0	38.80	-	38.80	38.80	0.00	-
THK	1	0	9.00	-	9.00	9.00	0.00	-
				Scraper, Unidentifiable Fragment				
WEIGHT	5	0	4.38	5.07	0.70	11.90	11.20	25.72
				DRILLS AND PERFORATORS				
				Expanded Base Drill				
WEIGHT	4	1	6.50	1.93	5.10	9.20	4.10	3.74
LENGTH	2	3	54.20	9.19	47.70	60.70	13.00	84.50
WIDTH	4	1	19.40	5.03	14.20	24.60	10.40	25.29
THK	4	1	10.17	2.55	8.30	13.80	5.50	6.49
				Shaft Drill				
WEIGHT	3	1	2.57	1.01	1.40	3.20	1.80	1.02
LENGTH	2	2	31.90	13.01	22.70	41.10	18.40	169.28
WIDTH	3	1	11.33	4.36	7.80	16.20	8.40	18.97
THK	3	1	7.63	2.12	5.90	10.00	4.10	4.50
				Stemmed Drill, Recycled				
WEIGHT	3	0	6.83	1.94	4.60	8.10	3.50	3.76
LENGTH	1	2	59.50	-	59.50	59.50	0.00	-
WIDTH	3	0	22.37	5.44	17.60	28.30	10.70	29.64
THK	3	0	9.27	1.96	7.20	11.10	3.90	3.84
				Drill, Medial Fragment				
WEIGHT	4	1	1.80	0.71	0.80	2.40	1.60	0.51

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Drill, Distal Fragment				
WEIGHT	19	1	2.03	1.47	0.20	7.00	6.80	2.17
				Graver				
WEIGHT	1	0	5.00	-	5.00	5.00	0.00	-
LENGTH	1	0	30.10	-	30.10	30.10	0.00	-
WIDTH	1	0	23.70	-	23.70	23.70	0.00	-
THK	1	0	12.00	-	12.00	12.00	0.00	-
				Microlith				
WEIGHT	3	1	0.70	0.36	0.40	1.10	0.70	0.13
LENGTH	3	1	18.70	6.68	13.40	26.20	12.80	44.59
WIDTH	4	0	8.05	1.91	6.30	10.50	4.20	3.64
THK	3	1	4.07	0.06	4.00	4.10	0.10	0.00
				Reamer				
WEIGHT	2	0	3.35	2.62	1.50	5.20	3.70	6.85
LENGTH	1	1	30.50	-	30.50	30.50	0.00	-
WIDTH	1	1	19.10	-	19.10	19.10	0.00	-
THK	1	1	7.20	-	7.20	7.20	0.00	-
				OTHER UNIFACE AND BIFACE TOOLS				
				Unifacial Chopper				
WEIGHT	1	0	122.30	-	122.30	122.30	0.00	-
LENGTH	1	0	75.50	-	75.50	75.50	0.00	-
WIDTH	1	0	55.20	-	55.20	55.20	0.00	-
THK	1	0	33.40	-	33.40	33.40	0.00	-
				Unifacial Flake Knife				
WEIGHT	8	0	6.35	3.57	1.50	13.40	11.90	12.73
LENGTH	6	2	36.28	13.08	23.10	56.20	33.10	171.19
WIDTH	6	2	32.55	19.24	21.10	70.80	49.70	370.13
THK	7	1	7.79	2.81	4.90	12.00	7.10	7.88
				Biface Chopper				
WEIGHT	9	0	251.44	202.28	105.00	662.40	557.40	40917.05
LENGTH	9	0	86.84	16.35	66.60	117.10	50.50	267.32
WIDTH	9	0	66.47	14.20	45.20	95.70	50.50	201.61
THK	9	0	40.20	13.41	28.10	69.30	41.20	179.95

Table 3.11. **Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Bifacial Flake Knife					
THK	1	0	12.50	-	12.50	12.50	0.00	-
			Unifacial/Bifacial Tool, Other					
WEIGHT	2	0	12.55	15.20	1.80	23.30	21.50	231.12
			Unidentified Chipped Stone Tool Fragment					
WEIGHT	233	0	2.01	2.37	0.10	15.30	15.20	5.61
			UTILIZED FLAKES					
			Utilized Flake, 1"					
WEIGHT	3	0	29.27	13.08	14.50	39.40	24.90	171.10
			Utilized Flake, 1/2"					
WEIGHT	122	0	6.43	19.94	0.40	214.70	214.30	397.62
			Utilized Flake, 1/4"					
WEIGHT	132	2	1.50	5.05	0.10	55.30	55.20	25.48
			Utilized Prismatic Blade					
WEIGHT	1	0	7.00	-	7.00	7.00	0.00	-
LENGTH	1	0	50.00	-	50.00	50.00	0.00	-
WIDTH	1	0	23.40	-	23.40	23.40	0.00	-
THK	1	0	6.90	-	6.90	6.90	0.00	-
			Utilized Blade-like Flake					
WEIGHT	4	0	2.22	1.22	1.20	3.60	2.40	1.48
LENGTH	2	2	39.20	3.82	36.60	42.00	5.40	14.58
WIDTH	2	2	28.95	10.11	21.80	36.10	14.30	102.24
THK	2	2	5.50	0.71	5.00	6.00	1.00	0.50
			Utilized Chert Chunk					
WEIGHT	12	0	20.29	30.89	0.30	111.30	111.00	954.46

Table 3.11. **Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
BIFACES								
Ovoid Biface on a Flake								
WEIGHT	2	0	11.95	4.74	8.60	15.30	6.70	22.44
LENGTH	2	0	48.85	12.37	40.10	57.60	17.50	153.13
WIDTH	2	0	31.85	1.91	30.30	33.00	2.70	3.65
THK	2	0	10.85	0.49	10.50	11.20	0.70	0.25
Ovoid Biface, Other								
WEIGHT	1	0	22.40	-	22.40	22.40	0.00	-
WIDTH	1	0	40.30	-	40.30	40.30	0.00	-
THK	1	0	11.80	-	11.80	11.80	0.00	-
Triangular Biface, Other								
WEIGHT	2	0	16..60	5.66	12.60	20.60	8.00	32.00
LENGTH	1	1	56.90	-	56.90	56.90	0.00	-
WIDTH	2	0	24.45	1.63	23.30	25.60	2.30	2.64
THK	2	0	15.30	4.81	11.90	18.70	6.80	23.12
Narrow Triangular Biface Flake								
WEIGHT	3	0	20.80	14.70	4.10	31.80	27.70	216.19
LENGTH	1	2	36.80	-	36.80	36.80	0.00	-
WIDTH	1	0	18.30	-	18.30	18.30	0.00	-
THK	1	0	6.20	-	6.20	6.20	0.00	-
Broad Triangular Biface Flake								
WEIGHT	1	0	11.10	-	11.10	11.10	0.00	-
WIDTH	1	0	31.70	-	31.70	31.70	0.00	-
THK	1	0	8.60	-	8.60	8.60	0.00	-
Biface Proximal Fragment								
WEIGHT	16	1	7.90	5.90	1.20	20.90	19.70	34.81
Biface Medial Fragment								
WEIGHT	26	5	9.50	6.02	1.30	25.30	24.00	36.26
Biface Distal Fragment								
WEIGHT	29	1	8.00	6.95	0.20	29.90	29.70	48.29

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Crude Biface				
WEIGHT	6	0	41.33	24.50	14.80	84.10	69.30	600.49
LENGTH	1	5	54.00	-	54.00	54.00	0.00	-
WIDTH	1	5	43.70	-	43.70	43.70	0.00	-
THK	1	5	20.80	-	20.80	20.80	0.00	-
				Biface Fragment				
WEIGHT	13	0	5.75	6.98	0.80	23.00	22.20	48.72
				Biface Lateral Fragment				
WEIGHT	14	0	1.86	1.56	0.50	5.30	4.80	2.44
				Scraper-Graver				
WEIGHT	1	0	43.80	-	43.80	43.80	0.00	-
LENGTH	1	0	54.00	-	54.00	54.00	0.00	-
WIDTH	1	0	43.70	-	43.70	43.70	0.00	-
THK	1	0	20.80	-	20.80	20.80	0.00	-
				CORES AND PREFORMS				
				Core Fragment				
WEIGHT	2	0	22.35	3.32	20.00	24.70	4.70	11.04
				Preform 1 on a Flake				
WEIGHT	2	1	15.20	18.38	2.20	28.20	26.00	338.00
				Preform 1 - Indeterminate				
WEIGHT	2	1	22.15	7.28	17.00	27.30	10.30	53.04
LENGTH	1	2	52.20	-	52.20	52.20	0.00	-
WIDTH	1	2	26.50	-	26.50	26.50	0.00	-
THK	1	2	19.00	-	19.00	19.00	0.00	-
				Preform 2 on a Flake				
WEIGHT	1	1	8.10	-	8.10	8.10	0.00	-
WIDTH	1	1	39.80	-	39.80	39.80	0.00	-
THK	1	1	10.10	-	10.10	10.10	0.00	-

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Preform 2 - Indeterminate				
WIDTH	1	1	34.30	-	34.30	34.30	0.00	-
THK	1	1	9.30	-	9.30	9.30	0.00	-
				Preform, Other				
WEIGHT	1	0	9.80	-	9.80	9.80	0.00	-
				GROUND STONE TOOLS				
				Abrader				
WEIGHT	5	0	104.46	76.51	49.50	237.30	187.80	5853.83
LENGTH	5	0	68.56	17.41	51.60	95.70	44.10	302.98
WIDTH	5	0	52.64	8.82	38.60	60.70	22.10	77.75
THK	5	0	27.38	8.55	18.70	40.50	21.80	73.07
				Pitted Anvilstone				
WEIGHT	8	0	421.22	318.93	148.80	919.10	770.30	101713.23
LENGTH	8	0	93.22	25.97	68.80	146.70	77.90	674.48
WIDTH	8	0	69.92	16.12	52.00	96.50	44.50	259.84
THK	8	0	36.71	7.98	22.50	46.90	24.40	63.63
				Awl				
WEIGHT	2	0	4.70	6.51	0.10	9.30	9.20	42.32
LENGTH	1	1	77.30	-	77.30	77.30	0.00	-
WIDTH	1	1	10.70	-	10.70	10.70	0.00	-
THK	1	1	8.10	-	8.10	8.10	0.00	-
				Bead				
WEIGHT	3	0	6.70	6.68	1.40	14.20	12.80	44.59
LENGTH	2	1	35.10	9.33	28.50	41.70	13.20	87.12
WIDTH	2	1	11.40	2.40	9.70	13.10	3.40	5.78
THK	2	1	10.95	2.47	9.20	12.70	3.50	6.13
				Bead Preform				
WEIGHT	1	0	2.00	-	2.00	2.00	0.00	-
				Celt				
WEIGHT	1	0	60.80	-	60.80	60.80	0.00	-
WIDTH	1	0	56.50	-	56.50	56.50	0.00	-

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Hammerstone				
WEIGHT	4	0	346.32	244.00	138.50	669.20	530.70	59537.01
LENGTH	4	0	85.57	25.85	60.40	109.00	48.60	668.06
WIDTH	4	0	63.90	21.75	44.90	91.50	46.60	473.22
THK	4	0	40.52	11.91	31.00	57.20	26.20	141.85
				Mortar				
WEIGHT	2	0	1021.40	1224.14	155.80	1887.00	1731.20	1498526.72
LENGTH	1	1	157.00	-	157.00	157.00	0.00	-
WIDTH	1	1	132.00	-	132.00	132.00	0.00	-
THK	2	0	36.85	32.74	13.70	60.00	46.30	1071.85
				Muller				
WEIGHT	2	0	200.80	74.67	148.00	253.60	105.60	5575.68
LENGTH	1	1	69.90	-	69.90	69.90	0.00	-
WIDTH	1	1	62.00	-	62.00	62.00	0.00	-
THK	1	1	29.10	-	29.10	29.10	0.00	-
				Muller-Pitted Anvilstone				
WEIGHT	3	0	215.63	121.89	132.10	355.50	223.40	14856.97
LENGTH	2	1	81.20	29.98	60.00	102.40	42.40	898.88
WIDTH	2	1	52.30	9.19	45.80	58.80	13.00	84.50
THK	2	1	39.30	10.18	32.10	46.50	14.40	103.68
				Muller-Hammerstone				
WEIGHT	1	0	61.20	-	61.20	61.20	0.00	-
LENGTH	1	0	51.40	-	51.40	51.40	0.00	-
WIDTH	1	0	40.20	-	40.20	40.20	0.00	-
THK	1	0	29.20	-	29.20	29.20	0.00	-
				Ground Hematite				
WEIGHT	10	0	10.18	14.29	0.10	46.70	46.60	204.10
				Ground Limonite				
WEIGHT	3	0	35.93	44.15	2.60	86.00	83.40	1948.89
				Ground Stone Flake, Other				
WEIGHT	3	0	7.80	12.30	0.60	22.00	21.40	151.24

Table 3.11. Measurement Statistical Summary for Lithic Artifacts from the Beech site, 22It623 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Unidentified Ground Stone					
WEIGHT	32	1	46.25	65.08	0.20	242.60	242.40	4324.79
			Graver-Abrader-Hammerstone					
WEIGHT	1	0	575.60	-	575.60	575.60	0.00	-
LENGTH	1	0	102.00	-	102.00	102.00	0.00	-
WIDTH	1	0	55.50	-	55.50	55.50	0.00	-
THK	1	0	44.60	-	44.60	44.60	0.00	-

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624.**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				PROJECTILE POINTS				
				Flint Creek				
WEIGHT	9	3	11.03	3.54	6.30	16.20	9.90	12.50
LENGTH	6	6	55.43	11.88	44.90	75.20	30.30	141.07
WIDTH	11	1	25.84	2.46	22.00	28.80	6.80	6.06
THK	10	2	8.89	1.55	6.50	11.10	4.60	2.40
BASLW	12	0	13.85	1.61	11.50	16.90	5.40	2.59
SHOULDRW	11	1	24.82	2.68	21.60	28.00	6.40	7.16
JUNCW	12	0	16.22	1.82	13.30	20.50	7.20	3.32
HAFTL	12	0	11.12	1.89	9.50	16.80	7.30	3.56
				Gary				
WEIGHT	1	1	5.50	-	5.50	5.50	0.00	-
LENGTH	1	1	43.20	-	43.20	43.20	0.00	-
WIDTH	1	1	22.50	-	22.50	22.50	0.00	-
THK	1	1	7.30	-	7.30	7.30	0.00	-
BASLW	1	1	12.40	-	12.40	12.40	0.00	-
SHOULDRW	1	1	21.30	-	21.30	21.30	0.00	-
JUNCW	1	1	15.50	-	15.50	15.50	0.00	-
HAFTL	1	1	10.50	-	10.50	10.50	0.00	-
				Kirk Corner-Notched				
WEIGHT	1	0	21.60	-	21.60	21.60	0.00	-
LENGTH	1	0	70.10	-	70.10	70.10	0.00	-
WIDTH	1	0	34.20	-	34.20	34.20	0.00	-
THK	1	0	11.00	-	11.00	11.00	0.00	-
BASLW	1	0	24.50	-	24.50	24.50	0.00	-
SHOULDRW	1	0	33.80	-	33.80	33.80	0.00	-
JUNCW	1	0	19.10	-	19.10	19.10	0.00	-
HAFTL	1	0	12.90	-	12.90	12.90	0.00	-
				Ledbetter-Pickwick				
WEIGHT	4	1	18.72	7.40	12.80	29.00	16.20	54.73
LENGTH	1	4	64.60	-	64.60	64.60	0.00	-
WIDTH	2	3	32.45	0.92	31.80	33.10	1.30	0.84
THK	1	4	10.60	-	10.60	10.60	0.00	-
BASLW	4	1	15.52	4.86	9.60	21.50	11.90	23.60
SHOULDRW	4	1	33.85	2.95	31.30	38.00	6.70	8.71
JUNCW	5	0	20.28	3.81	16.30	25.70	9.40	14.49
HAFTL	5	0	13.18	1.95	11.60	16.40	4.80	3.80

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Little Bear Creek				
WEIGHT	20	12	11.03	5.18	1.80	18.40	16.60	26.82
LENGTH	12	20	56.41	10.48	39.00	73.20	34.20	109.80
WIDTH	17	15	26.55	3.44	19.30	33.40	14.10	11.86
THK	18	14	10.40	2.13	7.30	14.30	7.00	4.52
BASLW	27	5	13.06	2.52	5.40	17.40	12.00	6.33
SHOULDRW	24	8	25.92	3.69	19.30	32.70	13.40	13.61
JUNCW	26	6	16.03	2.16	11.40	19.80	8.40	4.67
HAFTL	24	8	11.76	1.78	9.00	15.60	6.60	3.18
				McIntire				
WEIGHT	11	2	8.47	4.84	3.20	17.40	14.20	23.41
LENGTH	5	8	50.86	5.64	42.00	57.50	15.50	31.80
WIDTH	7	6	31.17	3.18	26.30	35.80	9.50	10.13
THK	6	7	9.23	1.45	7.30	11.40	4.10	2.09
BASLW	11	2	18.33	4.21	12.20	24.20	12.00	17.72
SHOULDRW	8	5	30.11	2.40	26.30	33.70	7.40	5.78
JUNCW	9	4	18.71	3.86	13.30	24.50	11.20	14.98
HAFTL	9	4	9.68	2.40	5.00	12.20	7.20	5.77
				Woodland/Mississippian Triangular				
WEIGHT	11	3	1.15	0.79	0.40	3.10	2.70	0.62
LENGTH	8	6	21.96	4.79	13.90	30.10	16.20	22.98
WIDTH	9	5	15.84	3.30	12.10	21.20	9.10	10.89
THK	9	5	4.14	1.62	3.00	8.20	5.20	2.62
BASLW	6	8	17.13	3.50	10.90	21.20	10.30	12.24
SHOULDRW	4	10	13.35	1.87	11.80	15.90	4.10	3.51
				Morrow Mountain				
WEIGHT	3	1	9.77	0.87	8.80	10.50	1.70	0.76
LENGTH	2	2	45.45	5.59	41.50	49.40	7.90	31.20
WIDTH	2	2	30.25	2.47	28.50	32.00	3.50	6.13
THK	3	1	15.37	14.16	6.50	31.70	25.20	200.57
BASLW	2	2	5.85	3.61	3.30	8.40	5.10	13.00
SHOULDRW	2	2	25.00	2.55	23.20	26.80	3.60	6.48
JUNCW	2	2	13.55	5.59	9.60	17.50	7.90	31.21
HAFTL	2	2	4.00	2.12	2.50	5.50	3.00	4.50

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Morrow Mountain Straight-Stemmed					
WEIGHT	1	1	12.10	-	12.10	12.10	0.00	-
WIDTH	2	0	33.65	1.91	32.30	35.00	2.70	3.65
THK	1	1	9.20	-	9.20	9.20	0.00	-
BASLW	2	0	12.25	4.45	9.10	15.40	6.30	19.85
SHOULDRW	2	0	33.05	2.33	31.40	34.70	3.30	5.45
JUNCW	2	0	17.60	4.10	14.70	20.50	5.80	16.82
HAFTL	2	0	6.70	2.12	5.20	8.20	3.00	4.50
			Mud Creek					
WEIGHT	2	0	6.00	4.53	2.80	9.20	6.40	20.48
LENGTH	1	1	50.30	-	50.30	50.30	0.00	-
WIDTH	1	1	25.70	-	25.70	25.70	0.00	-
THK	1	1	8.50	-	8.50	8.50	0.00	-
BASLW	2	0	15.40	1.56	14.30	16.50	2.20	2.42
SHOULDRW	2	0	22.65	4.03	19.80	25.50	5.70	16.25
JUNCW	2	0	16.00	0.99	15.30	16.70	1.40	0.98
HAFTL	2	0	11.15	1.20	10.30	12.00	1.70	1.45
			Residual Stemmed					
WEIGHT	18	7	10.13	4.07	3.20	18.30	15.10	16.60
LENGTH	7	18	45.61	10.44	25.80	55.00	29.20	109.05
WIDTH	14	11	26.59	4.87	17.30	35.50	18.20	23.74
THK	12	13	9.33	1.50	7.70	12.80	5.10	2.24
BASLW	16	9	15.69	3.84	10.50	23.70	13.20	14.75
SHOULDRW	14	11	26.50	4.44	17.10	34.00	16.90	19.73
JUNCW	18	7	18.72	3.09	13.20	23.20	10.00	9.56
HAFTL	15	10	11.33	1.66	8.30	14.90	6.60	2.75
			Unfinished Small Triangular					
WEIGHT	1	1	2.90	-	2.90	2.90	0.00	-
LENGTH	1	1	26.60	-	26.60	26.60	0.00	-
WIDTH	1	1	19.50	-	19.50	19.50	0.00	-
THK	1	1	8.60	-	8.60	8.60	0.00	-
BASLW	1	1	18.70	-	18.70	18.70	0.00	-

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Sykes-White Springs				
WEIGHT	1	1	8.00	-	8.00	8.00	0.00	-
LENGTH	1	1	36.90	-	36.90	36.90	0.00	-
WIDTH	1	1	29.20	-	29.20	29.20	0.00	-
THK	1	1	8.90	-	8.90	8.90	0.00	-
BASLW	2	0	18.75	1.06	18.00	19.50	1.50	1.13
SHOULDRW	2	0	26.45	3.32	24.10	28.80	4.70	11.05
JUNCW	2	0	20.10	2.26	18.50	21.70	3.20	5.12
HAFTL	2	0	8.25	0.64	7.80	8.70	0.90	0.41
				Tombigbee Stemmed				
WEIGHT	2	0	14.25	3.32	11.90	16.60	4.70	11.04
LENGTH	2	0	65.80	3.11	63.60	68.00	4.40	9.68
WIDTH	2	0	25.70	2.12	24.20	27.20	3.00	4.50
THK	2	0	9.45	0.35	9.20	9.70	0.50	0.13
BASLW	2	0	11.65	1.63	10.50	12.80	2.30	2.65
SHOULDRW	2	0	25.30	2.12	23.80	26.80	3.00	4.50
JUNCW	2	0	18.60	0.85	18.00	19.20	1.20	0.72
HAFTL	2	0	15.85	0.21	15.70	16.00	0.30	0.05
				Vaughn				
WEIGHT	1	0	11.30	-	11.30	11.30	0.00	-
LENGTH	1	0	46.50	-	46.50	46.50	0.00	-
WIDTH	1	0	30.10	-	30.10	30.10	0.00	-
THK	1	0	9.10	-	9.10	9.10	0.00	-
BASLW	1	0	13.70	-	13.70	13.70	0.00	-
SHOULDRW	1	0	30.10	-	30.10	30.10	0.00	-
JUNCW	1	0	23.40	-	23.40	23.40	0.00	-
HAFTL	1	0	10.60	-	10.60	10.60	0.00	-
				Wade				
WEIGHT	3	1	14.43	10.88	8.00	27.00	19.00	118.46
LENGTH	1	3	65.00	-	65.00	65.00	0.00	-
WIDTH	3	1	34.80	3.54	31.00	38.00	7.00	12.52
THK	2	2	9.90	4.95	6.40	13.40	7.00	24.50
BASLW	4	0	16.12	4.42	13.20	22.70	9.50	19.54
SHOULDRW	3	1	34.53	3.05	31.50	37.60	6.10	9.30
JUNCW	4	0	17.65	3.31	15.50	22.50	7.00	10.92
HAFTL	4	0	11.22	1.69	9.60	13.60	4.00	2.87

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				PPK Distal Fragment				
WEIGHT	39	34	3.64	2.91	0.10	12.30	12.20	8.46
				PPK Medial Fragment				
WEIGHT	34	20	5.78	4.85	0.50	27.00	26.50	23.57
SHOULDRW	1	53	23.00	-	23.00	23.00	0.00	-
JUNCW	1	53	14.10	-	14.10	14.10	0.00	-
				PPK Proximal Fragment				
WEIGHT	45	21	2.12	1.60	0.20	7.00	6.80	2.54
BASLW	4	62	19.02	6.53	14.70	28.50	13.80	42.62
JUNCW	1	65	26.30	-	26.30	26.30	0.00	-
HAFTL	1	65	11.00	-	11.00	11.00	0.00	-
				PPK Lateral Fragment				
WEIGHT	31	0	2.42	2.22	0.20	10.90	10.70	4.94
				PPK - Unidentified				
WEIGHT	3	0	16.17	6.87	9.00	22.70	13.70	47.22
LENGTH	1	2	65.20	-	65.20	65.20	0.00	-
WIDTH	2	1	31.30	1.41	30.30	32.30	2.00	2.00
THK	1	2	15.10	-	15.10	15.10	0.00	-
BASLW	1	2	15.60	-	15.60	15.60	0.00	-
SHOULDRW	1	2	31.50	-	31.50	31.50	0.00	-
JUNCW	1	2	21.30	-	21.30	21.30	0.00	-
HAFTL	1	2	5.70	-	5.70	5.70	0.00	-
				SCRAPERS				
				Uniface End Scraper				
WEIGHT	11	1	1.79	1.32	0.30	4.90	4.60	1.75
LENGTH	9	3	18.46	5.61	11.00	26.50	15.50	31.51
WIDTH	9	3	17.76	3.41	10.40	21.00	10.60	11.64
THK	9	3	4.06	0.73	2.80	5.20	2.40	0.53
				Uniface Side Scraper				
WEIGHT	12	0	7.14	6.09	0.10	16.80	16.70	37.12
LENGTH	10	2	33.84	9.91	20.00	47.50	27.50	98.20
WIDTH	10	2	21.45	8.10	12.00	33.50	21.50	65.54
THK	10	2	9.10	3.49	2.90	13.20	10.30	12.15

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
Uniface End Side Scraper								
WEIGHT	18	1	5.82	6.78	0.50	25.20	24.70	46.01
LENGTH	17	2	29.05	13.43	9.90	55.60	45.70	180.39
WIDTH	16	3	24.10	8.45	13.50	45.30	31.80	71.49
THK	17	2	8.51	5.12	3.10	20.50	17.40	26.24
Uniface Cobble Scraper								
WEIGHT	2	0	73.20	8.20	67.40	79.00	11.60	67.28
LENGTH	1	1	53.10	-	53.10	53.10	0.00	-
WIDTH	1	1	45.20	-	45.20	45.20	0.00	-
THK	1	1	38.50	-	38.50	38.50	0.00	-
Uniface Notched Flake/Spokeshave								
WEIGHT	8	0	2.80	1.41	1.00	4.70	3..70	1.98
LENGTH	4	4	24.32	4.26	18.50	27.70	9.20	18.15
WIDTH	4	4	26.60	11.49	16.60	37.90	21.30	131.99
THK	4	4	6.90	1.99	4.00	8.50	4.50	3.95
Biface Cobble Scraper								
WEIGHT	2	0	76.75	53.81	38.70	114.80	76.10	2895.60
LENGTH	2	0	60.85	8.70	54.70	67.00	12.30	75.64
WIDTH	2	0	38.70	9.62	31.90	45.50	13.60	92.48
THK	2	0	31.00	11.31	23.00	39.00	16.00	128.00
Scraper Recycled								
WEIGHT	3	0	3.43	1.00	2.30	4.20	1.90	1.00
LENGTH	3	0	27.40	10.23	21.00	39.20	18.20	104.68
WIDTH	3	0	24.40	8.09	17.10	33.10	16.00	65.47
THK	3	0	7.67	2.32	5.90	10.30	4.40	5.40
Scraper, Other								
WEIGHT	3	0	36.27	58.32	1.40	103.60	102.20	3401.77
LENGTH	3	0	39.97	32.74	17.30	77.50	60.20	1071.77
WIDTH	3	0	27.83	19.80	13.90	50.50	36.60	392.09
THK	3	0	15.33	10.70	6.70	27.30	20.60	114.42
Scraper - Unidentified Fragment								
WEIGHT	3	1	0.77	0.45	0.50	1.30	0.80	0.21

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				DRILLS AND PERFORATORS				
				Expanded Base Drill				
WEIGHT	2	0	4.50	5.52	0.60	8.40	7.80	30.42
LENGTH	1	1	47.30	-	47.30	47.30	0.00	-
WIDTH	1	1	27.40	-	27.40	27.40	0.00	-
THK	1	1	11.10	-	11.10	11.10	0.00	-
				Shaft Drill				
WEIGHT	3	3	1.73	0.51	1.30	2.30	1.00	0.26
LENGTH	3	3	32.63	3.93	29.00	36.80	7.80	15.42
WIDTH	5	1	10.66	2.24	8.10	13.40	5.30	5.02
THK	5	1	6.28	0.18	6.00	6.40	0.40	0.03
				Stemmed Drill Recycled				
WEIGHT	15	1	5.49	1.62	2.80	8.60	5.80	2.63
LENGTH	5	11	42.90	6.57	32.00	48.40	16.40	43.11
WIDTH	15	1	22.19	7.51	7.00	39.80	32.80	56.39
THK	14	2	9.03	1.80	7.00	14.00	7.00	3.24
				Drill Medial Fragment				
WEIGHT	9	4	1.70	1.06	0.50	3.50	3.00	1.12
				Drill Distal Fragment				
WEIGHT	20	11	1.41	0.65	0.50	2.90	2.40	0.43
				Graver				
WEIGHT	1	0	11.00	-	11.00	11.00	0.00	-
LENGTH	1	0	36.20	-	36.20	36.20	0.00	-
WIDTH	1	0	22.70	-	22.70	22.70	0.00	-
THK	1	0	16.00	-	16.00	16.00	0.00	-
				Microlith				
WEIGHT	5	0	0.54	0.29	0.30	0.90	0.60	0.08
LENGTH	4	1	20.97	3.56	16.20	24.80	8.60	12.71
WIDTH	4	1	7.20	1.10	5.90	8.60	2.70	1.22
THK	4	1	4.20	0.88	2.90	4.80	1.90	0.78

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Microperforator				
WEIGHT	4	0	0.35	0.24	0.10	0.60	0.50	0.06
LENGTH	3	1	13.03	3.92	9.80	17.40	7.60	15.40
WIDTH	3	1	9.80	1.48	8.10	10.80	2.70	2.19
THK	3	1	2.53	1.45	1.10	4.00	2.90	2.10
				Perforator				
WEIGHT	6	0	2.63	1.79	0.80	5.30	4.50	3.22
LENGTH	6	0	23.43	8.36	12.70	37.30	24.60	69.88
WIDTH	6	0	16.05	2.67	13.50	19.70	6.20	7.11
THK	6	0	7.18	4.11	3.80	15.00	11.20	16.89
				Perforator Recycled				
WEIGHT	2	0	8.40	1.13	7.60	9.20	1.60	1.28
LENGTH	2	0	36.55	3.75	33.90	39.20	5.30	14.04
WIDTH	2	0	31.10	3.39	28.70	33.50	4.80	11.52
THK	2	0	8.90	0.14	8.80	9.00	0.20	0.02
				Reamer				
WEIGHT	1	0	2.80	-	2.80	2.80	0.00	-
LENGTH	1	0	30.40	-	30.40	30.40	0.00	-
WIDTH	1	0	17.50	-	17.50	17.50	0.00	-
THK	1	0	6.70	-	6.70	6.70	0.00	-
				OTHER UNIFACE AND BIFACE TOOLS				
				Uniface Chopper				
WEIGHT	2	0	84.10	39.88	55.90	112.30	56.40	1590.48
LENGTH	2	0	79.85	26.09	61.40	98.30	36.90	680.80
WIDTH	2	0	53.40	13.15	44.10	62.70	18.60	172.98
THK	2	0	22.00	3.25	19.70	24.30	4.60	10.58
				Uniface Flake Knife				
WEIGHT	7	3	15.41	19.09	2.50	52.80	50.30	364.34
LENGTH	5	5	50.38	17.24	36.90	78.30	41.40	297.32
WIDTH	5	5	31.10	11.07	20.00	46.40	26.40	122.51
THK	5	5	10.12	5.24	4.50	16.40	11.90	27.41

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Uniface Cobble Knife				
WEIGHT	1	0	30.00	-	30.00	30.00	0.00	-
LENGTH	1	0	44.90	-	44.90	44.90	0.00	-
WIDTH	1	0	39.20	-	39.20	39.20	0.00	-
THK	1	0	18.20	-	18.20	18.20	0.00	-
				Biface Adze				
WEIGHT	2	0	40.35	5.16	36.70	44.00	7.30	26.65
LENGTH	2	0	54.25	0.35	54.00	54.50	0.50	0.13
WIDTH	2	0	35.35	3.46	32.90	37.80	4.90	12.01
THK	2	0	23.90	2.69	22.00	25.80	3.80	7.22
				Biface Chopper				
WEIGHT	5	1	238.58	109.96	100.00	398.60	298.60	12090.72
LENGTH	5	1	84.40	21.07	57.80	105.70	47.90	443.86
WIDTH	5	1	67.16	14.42	49.00	88.70	39.70	208.00
THK	5		40.76	15.17	19.20	59.00	39.80	230.15
				Biface Hammer Chopper				
WEIGHT	1	0	63.60	-	63.60	63.60	0.00	-
				Biface Flake Knife				
WEIGHT	9	1	33.04	52.24	2.90	170.60	167.70	2729.24
LENGTH	8	2	64.96	21.94	32.60	105.80	73.20	481.43
WIDTH	7	3	34.80	17.93	16.60	72.20	55.60	321.37
THK	8	2	13.36	5.46	7.00	25.70	18.70	29.82
				Splintered Wedge				
WEIGHT	1	0	4.60	-	4.60	4.60	0.00	-
LENGTH	1	0	24.80	-	24.80	24.80	0.00	-
WIDTH	1	0	26.40	-	26.40	26.40	0.00	-
THK	1	0	7.20	-	7.20	7.20	0.00	-
				Uniface/Biface Tool, Other				
WEIGHT	1	0	6.40	-	6.40	6.40	0.00	-
				Unidentified Chipped Stone Fragment				
WEIGHT	181	146	2.06	2.43	0.10	18.70	18.60	5.91

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				UTILIZED FLAKES				
				Utilized Flake 1"				
WEIGHT	17	0	23.64	28.45	2.40	126.70	124.30	809.30
				Utilized Flake 1/2"				
WEIGHT	198	0	5.55	8.99	0.40	94.20	93.80	80.78
				Utilized Flake 1/4"				
WEIGHT	244	0	1.35	2.91	0.10	38.10	38.00	8.44
				Utilized Blade-like Flake				
WEIGHT	4	0	1.55	1.33	0.30	3.10	2.80	1.76
				Utilized Chert Chunk				
WEIGHT	37	2	9.25	12.96	0.10	50.20	50.10	168.09
				BIFACES				
				Ovoid Biface Flake				
WEIGHT	2	0	12.25	1.91	10.90	13.60	2.70	3.65
LENGTH	2	0	43.60	8.63	37.50	49.70	12.20	74.42
WIDTH	2	0	34.75	3.46	32.30	37.20	4.90	12.01
THK	2	0	9.05	1.48	8.00	10.10	2.10	2.21
				Ovoid Biface, Other				
WEIGHT	2	0	14.15	3.32	11.80	16.50	4.70	11.05
LENGTH	2	0	53.40	0.14	53.30	53.50	0.20	0.02
WIDTH	2	0	28.50	7.21	23.40	33.60	10.20	52.02
THK	2	0	10.50	4.67	7.20	13.80	6.60	21.78
				Triangular Biface Flake				
WEIGHT	1	0	12.30	-	12.30	12.30	0.00	-
LENGTH	1	0	57.60	-	57.60	57.60	0.00	-
WIDTH	1	0	33.40	-	33.40	33.40	0.00	-
THK	1	0	9.10	-	9.10	9.10	0.00	-

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Triangular Biface, Other				
WEIGHT	3	0	11.33	6.39	4.00	15.70	11.70	40.82
LENGTH	2	1	38.30	17.11	26.20	50.40	24.20	292.82
WIDTH	3	0	25.93	3.82	21.90	29.50	7.60	14.60
THK	3	0	9.60	2.23	7.20	11.60	4.40	4.96
				Broad Triangular Biface Flake				
WEIGHT	2	0	21.15	14.35	11.00	31.30	20.30	206.04
LENGTH	2	0	52.25	0.64	51.80	52.70	0.90	0.40
WIDTH	2	0	39.20	6.08	34.90	43.50	8.60	36.98
THK	2	0	11.35	5.16	7.70	15.00	7.30	26.64
				Biface Proximal Fragment				
WEIGHT	6	4	7.53	5.22	1.40	16.10	14.70	27.26
				Biface Medial Fragment				
WEIGHT	34	1	6.04	3.83	0.70	14.50	13.80	14.65
				Biface Distal Fragment				
WEIGHT	26	4	5.19	4.18	0.30	17.80	17.50	17.50
				Crude Biface				
WEIGHT	9	0	32.41	39.38	3.60	126.80	123.20	1550.53
LENGTH	4	5	53.80	20.27	34.00	82.00	48.00	410.75
WIDTH	4	5	35.47	13.31	20.60	50.50	29.90	177.18
THK	5	4	16.96	13.27	0.60	31.20	30.60	176.10
				Biface Fragment				
WEIGHT	25	0	4.89	4.72	0.20	16.60	16.40	22.30
				Biface Lateral Fragment				
WEIGHT	44	2	3.36	4.65	0.00	25.40	25.40	21.59

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
CORES AND PREFORMS								
Unifacial Core 90 Degrees								
WEIGHT	2	0	160.85	159.31	48.20	273.50	225.30	25380.04
LENGTH	2	0	66.30	24.04	49.30	83.30	34.00	578.00
WIDTH	2	0	51.85	12.94	42.70	61.00	18.30	167.44
THK	2	0	42.15	4.88	38.70	45.60	6.90	23.81
Unifacial Core Opposing 180 Degrees								
WEIGHT	1	0	80.20	-	80.20	80.20	0.00	-
LENGTH	1	0	55.70	-	55.70	55.70	0.00	-
WIDTH	1	0	47.60	-	47.60	47.60	0.00	-
THK	1	0	31.90	-	31.90	31.90	0.00	-
Unifacial Core 270 Degrees								
WEIGHT	1	0	23.60	-	23.60	23.60	0.00	-
LENGTH	1	0	37.80	-	37.80	37.80	0.00	-
WIDTH	1	0	29.60	-	29.60	29.60	0.00	-
THK	1	0	20.20	-	20.20	20.20	0.00	-
Unifacial Core 360 Degrees								
WEIGHT	2	0	75.15	61.02	32.00	118.30	86.30	3723.84
LENGTH	2	0	50.10	2.69	48.20	52.00	3.80	7.22
WIDTH	2	0	47.80	7.35	42.60	53.00	10.40	54.08
THK	2	0	31.70	15.98	20.40	43.00	22.60	255.38
Bifacial Core 360 Degrees								
WEIGHT	4	0	140.40	73.17	47.00	214.90	167.90	5353.29
LENGTH	4	0	67.70	19.92	44.00	92.40	48.40	396.76
WIDTH	4	0	50.65	9.23	40.40	62.70	22.30	85.18
THK	4	0	37.02	10.54	25.70	49.60	23.90	111.08
Bipolar Core								
WEIGHT	1	0	1.60	-	1.60	1.60	0.00	-
LENGTH	1	0	21.20	-	21.20	21.20	0.00	-
WIDTH	1	0	10.70	-	10.70	10.70	0.00	-
THK	1	0	7.50	-	7.50	7.50	0.00	-

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Core, Other				
WEIGHT	2	0	17.35	1.91	16.00	18.70	2.70	3.64
LENGTH	2	0	34.35	0.21	34.20	34.50	0.30	0.05
WIDTH	2	0	25.15	0.92	24.50	25.80	1.30	0.84
THK	2	0	18.75	2.76	16.80	20.70	3.90	7.61
				Core Fragment				
WEIGHT	1	4	9.30	-	9.30	9.30	0.00	-
				Preform 1 on a Cobble				
WEIGHT	1	0	20.80	-	20.80	20.80	0.00	-
LENGTH	1	0	46.00	-	46.00	46.00	0.00	-
WIDTH	1	0	28.50	-	28.50	28.50	0.00	-
THK	1	0	14.50	-	14.50	14.50	0.00	-
				Preform 1 on a Flake				
WEIGHT	6	0	17.33	10.03	5.10	34.50	29.40	100.69
LENGTH	4	2	49.92	4.47	44.40	54.50	10.10	19.97
WIDTH	4	2	35.47	9.54	27.20	49.00	21.80	90.93
THK	4	2	13.32	3.08	10.30	17.20	6.90	9.48
				Preform 1 - Indeterminate				
WEIGHT	4	0	23.70	28.02	5.70	65.50	59.80	784.93
				Preform 2 on a Flake				
WEIGHT	3	1	24.30	26.85	8.70	55.30	46.60	720.76
LENGTH	3	1	53.63	19.21	36.50	74.40	37.90	369.00
WIDTH	3	1	30.27	16.16	17.40	48.40	31.00	261.05
THK	3	1	13.17	6.34	8.60	20.40	11.80	40.14
				Preform 2 - Indeterminate				
WEIGHT	7	2	35.17	21.09	13.30	60.80	47.50	444.93
LENGTH	6	3	58.67	13.72	36.20	74.50	38.30	188.28
WIDTH	6	3	36.53	7.58	25.50	45.20	19.70	57.42
THK	6	3	19.58	5.12	14.10	27.90	13.80	26.23

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				GROUND STONE TOOLS				
				Abrader				
WEIGHT	2	2	185.30	35.78	160.00	210.60	50.60	1280.18
LENGTH	2	2	81.40	4.38	78.30	84.50	6.20	19.22
WIDTH	2	2	64.85	5.16	61.20	68.50	7.30	26.65
THK	2	2	30.25	7.42	25.00	35.50	10.50	55.13
				Pitted Anvilstone				
WEIGHT	5	3	209.14	134.03	61.10	348.40	287.30	17964.35
LENGTH	4	4	83.02	10.42	71.20	95.30	24.10	108.63
WIDTH	5	3	66.18	10.10	56.20	80.90	24.70	102.08
THK	5	3	31.48	9.73	15.40	39.00	23.60	94.73
				Atlatl Weight				
WEIGHT	2	1	64.55	30.48	43.00	86.10	43.10	928.81
				Awl				
WEIGHT	3	0	0.50	0.46	0.10	1.00	0.90	0.21
LENGTH	1	2	19.10	-	19.10	19.10	0.00	-
WIDTH	2	1	2.90	0.57	2.50	3.30	0.80	0.32
THK	2		2.15	0.92	1.50	2.80	1.30	0.84
				Bead Preform				
WEIGHT	2	1	4.60	3.11	2.40	6.80	4.40	9.68
LENGTH	2	1	23.95	6.01	19.70	28.20	8.50	36.12
WIDTH	2	1	13.70	8.49	7.70	19.70	12.00	72.00
THK	2	1	8.15	0.92	7.50	8.80	1.30	0.85
				Drill Core				
WEIGHT	2	0	0.90	0.71	0.40	1.40	1.00	0.50
LENGTH	1	1	18.60	-	18.60	18.60	0.00	-
WIDTH	1	1	7.00	-	7.00	7.00	0.00	-
THK	1	1	5.80	-	5.80	5.80	0.00	-

Table 3.12. **Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Hammerstone				
WEIGHT	6	4	122.60	64.50	13.50	192.80	179.30	4160.52
LENGTH	5	5	59.42	7.13	53.00	70.80	17.80	50.80
WIDTH	5	5	52.36	3.43	49.60	58.20	8.60	11.79
THK	5	5	41.04	6.04	34.50	48.00	13.50	36.53
				Mortar/Pitted Anvilstone				
WEIGHT	1	0	448.70	-	448.70	448.70	0.00	-
LENGTH	1	0	101.10	-	101.10	101.10	0.00	-
WIDTH	1	0	87.00	-	87.00	87.00	0.00	-
THK	1	0	38.80	-	38.80	38.80	0.00	-
				Muller				
WEIGHT	3	1	603.87	343.06	398.40	999.90	601.50	117687.30
LENGTH	3	1	103.10	16.37	87.70	120.30	32.60	268.12
WIDTH	3	1	85.13	15.17	71.20	101.30	30.10	230.24
THK	3	1	45.20	11.77	35.50	58.30	22.80	138.63
				Muller/Pitted Anvilstone				
WEIGHT	3	0	307.97	187.12	184.90	523.30	338.40	35013.49
LENGTH	1	2	106.70	-	106.70	106.70	0.00	-
WIDTH	1	2	78.40	-	78.40	78.40	0.00	-
THK	1	2	41.70	-	41.70	41.70	0.00	-
				Sandstone Sherd				
WEIGHT	1	0	59.10	-	59.10	59.10	0.00	-
				Sandstone Concretion				
WEIGHT	1	0	43.80	-	43.80	43.80	0.00	-
LENGTH	1	0	47.00	-	47.00	47.00	0.00	-
WIDTH	1	0	44.00	-	44.00	44.00	0.00	-
THK	1	0	20.70	-	20.70	20.70	0.00	-
				Ground Hematite				
WEIGHT	20	6	7.29	12.57	0.20	50.90	50.70	157.99
				Ground Limonite				
WEIGHT	16	2	8.91	12.43	0.30	38.20	37.90	154.54

Table 3.12. Measurement Statistical Summary for Lithic Artifacts from the Oak site, 22It624 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Ground Flake, Other				
WEIGHT	2	14	9.60	12.16	1.00	18.20	17.20	147.92
				Unidentified Ground Stone				
WEIGHT	122	52	22.66	41.04	0.10	291.70	291.60	1684.08

Table 3.13. **Frequencies of Utilized Flakes by Category and Raw Material at the Beech and Oak sites, 22It623 and 22It624.**

Raw Material	1"	1/2"	1/4"	Pris. Blade	Blade-like Flake	Chert Chunk	Total
Blue-Green Bangor	-	2	-	-	1	-	3
Fossiliferous Bangor	-	1	3	-	-	-	4
Heated Camden	8	388	492	1	4	51	944
Unheated Camden	3	56	57	-	-	5	121
Conglomerate	1	5	1	-	-	1	8
Ft. Payne	-	30	76	-	1	6	113
Fossiliferous Ft. Payne	-	1	4	-	-	-	5
Hematite	-	-	1	-	-	-	1
Novaculite	-	-	1	-	-	-	1
Pickwick	-	7	3	-	1	1	12
Quartzite	-	-	1	-	-	-	1
Ferruginous Sandstone	-	1	-	-	1	-	2
Heated Tuscaloosa	-	1	-	-	-	-	1
Unidentified Chert	-	2	-	-	-	-	2
Total	12	494	639	1	8	64	1218

Table 3.14. **Frequencies of Biface Fragments by Raw Material Category at the Beech and Oak sites, 22It623 and 22It624.**

Raw Material	Proximal	Medial	Distal	Lateral	Frag	Total
Fossiliferous Bangor	-	1	-	1	-	2
Little Mountain Bangor	-	-	1	-	-	1
Heated Camden	7	26	28	23	26	110
Unheated Camden	-	4	4	-	-	8
Ft. Payne	16	33	19	36	10	114
Fossiliferous Ft. Payne	-	-	2	-	1	3
Oolitic	-	-	1	-	-	1
Pickwick	-	-	1	-	-	1
Tallahatta Quartzite	-	1	-	-	1	2
Total	23	65	56	60	38	242

Table 3.15. Total Frequencies of Ground Stone Tools by Category at the Beech and Oak sites, 22It623 and 22It624.

Category	22It623	22It624	Total
Abrader	5	2	7
Pitted Anvilstone	8	4	12
Atlatl Weight	-	2	2
Awl	2	2	4
Bead	3	-	3
Bead Preform	1	1	2
Celt	1	-	1
Drill Core	-	1	1
Hammerstone	4	4	8
Mortar	2	-	2
Mortar-Pitted Anvilstone	-	1	1
Muller	2	2	4
Muller-Pitted Anvilstone	3	2	5
Muller-Hammerstone	1	-	1
Sandstone Sherd	-	1	1
Sandstone Concretion	-	1	1
Ground Hematite	11	20	31
Ground Limonite	3	16	19
Other-Ground Flakes	3	2	5
Unidentifiable Ground Stone Frag	33	122	155
Grooved Abrader-Hammerstone	1	-	1
Total	83	183	266

Table 3.16. Total Frequencies of Unmodified Flaking Debris by Category at the Beech and Oak sites, 22It623 and 22It624.

Category	22It623	22It624	Total
Nonutilized Flake - 1"	37	28	65
Nonutilized Flake - 1/2"	1,242	1,377	2,619
Nonutilized Flake - 1/4"	8,984	9,289	18,273
Nonutilized Flake - Prismatic	-	1	1
Nonutilized Flake - Other	3	-	3
Total	10,266	10,695	20,961

Table 3.17. Frequency of Nonutilized Flaking Debris by Category and Raw Material at the Beech and Oak sites, 22It623 and 22It624.

Raw Material	1"	1/2"	1/4"	Pris.	Other	Total
Blue-Green Bangor	-	1	24	-	-	25
Fossiliferous Bangor	-	3	27	-	-	30
Little Mountain Bangor	-	4	-	-	-	4
Heated Camden	17	1,666	12,032	1	2	13,718
Unheated Camden	31	501	2,409	-	1	2,942
Conglomerate	10	107	290	-	-	407
Ft. Payne	-	192	2,770	-	-	2,962
Fossiliferous Ft. Payne	-	12	170	-	-	182
Hematite	-	1	5	-	-	6
Limonite	-	-	3	-	-	3
Novaculite	-	2	34	-	-	36
Oolitic	-	-	2	-	-	2
Pickwick	-	27	95	-	-	122
Quartz	-	-	3	-	-	3
Quartzite	-	6	25	-	-	31
Sandstone	1	3	1	-	-	5
Ferruginous Sandstone	6	87	286	-	-	379
Siltstone	-	3	10	-	-	13
Tallahatta Quartzite	-	1	44	-	-	45
Heated Tuscaloosa	-	-	26	-	-	26
Unheated Tuscaloosa	-	1	10	-	-	11
Chert-Other	-	2	4	-	-	6
Unidentified Material	-	-	3	-	-	3
Total	65	2,619	18,273	1	3	20,961

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624.

	SAMPLE			IDENTIFICATION				
PROVENIENCE	FILL VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
22It623								
Feature 2, Segment D (99.04)	170	26.1	10	2.6			0.1 bark	1 insect gall?
Feature 2, Segment C, N1/2 (99.20)	584	199.3	12	22.8	<0.05	one grape (*Vitis* sp.)	0.4 ring porous hardwood & pine	two indet.
Total, Feature 2				25.4	<0.05	one grape	0.5	
Feature 9, (98.90)	57	6.5	100	4.4	<0.05		0.05	
Feature 11, N1/2	123	57.5	12	6.3	<0.05		0.05	
Feature 11, S1/2	46	59.4	12	6.9	<0.05		0.05	
Total, Feature 11				13.2	<0.1		0.1	

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

	SAMPLE			IDENTIFICATION				
PROVENIENCE	FILL VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
Feature 14, N1/2	284	167.2	10	16.1	<0.05	3 indet. seeds	1.2	1 wood (modern)
Feature 14, S1/2	420	109.8	12	10.9	<0.05		0.4	
Total, Feature 14				27.0	<0.1		1.6	
BLOCK A (CB)								
Level 2, (99.70-99.60) Stratum IIA	4	1.9	100	1.0	<0.05	1 poke	0.7 ring-porous hardwood	
Level 4, (99.50-99.40) Stratum IIA	4	1.0	100	0.7	<0.05		0.25	
Level 6, (99.30-99.20) Stratum IIB	4	1.1	100	1.1	<0.05		<0.05	
Level 8, (99.10-99.00) Stratum IIB-III	4	0.7	100	0.5			0.15 ring-porous hardwood	
Level 14, (98.50-98.40) Stratum VI	4	0.4	100			1 fern spore	<0.05	

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

PROVENIENCE	SAMPLE: FILL VOLUME (liters)	SAMPLE: TOTAL FLORAL Wt.(g)	SAMPLE: SORTED %	IDENTIFICATION: HICKORY NUTSHELL Wt. (g)	IDENTIFICATION: ACORN SHELL Wt. (g)	IDENTIFICATION: SEED	IDENTIFICATION: WOOD Wt.(g)	IDENTIFICATION: OTHER
22It624								
Feature 1, N1/2, Segment C,	100	27.3	100	26.7		1 geranium? 5 indet.	0.55 hardwood	
Feature 4, N1/2	9	1.4	100	1.4			0.15 hardwood	1 exine or pericarp?
Feature 7, Segment F, (98.80)	275	154.2	100	141.0	0.05	2 indet. partial	2.55	
Feature 7, Segment G, (98.80)	81	6.3	100	5.8	0.05		0.1	
Feature 7, Segment H, (98.80)	37.5	8.6	100	7.85	<0.05	1 grape	<0.05	
Feature 7, Segment I, (98.80)	55	66.4	12	7.95			<0.05	
Feature 7, Segment J, (98.80)	53	1.6	100	1.55	<0.05		<0.05	

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

	SAMPLE			IDENTIFICATION				
PROVENIENCE	VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN NUTSHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
Feature 7, Segment K, (99.80)	80	24.0	100	22.55			0.15	
Feature 7, Segment L, (98.80)	12.5	1.5	100	1.4			<0.05	3 barks or exines?
Feature 7, Segment M, (98.80)	12.5	2.2	100	2.2			<0.05	5 barks or exines?
Feature 7, Segment N, (98.62)	25	0.1	100	0.1		2 fern spores	<0.05	
Feature 7, Segment O, (98.80)	70	2.0	100	1.6			<0.05	
Feature 7, Segment P, (98.80)	39	1.0	100	0.75			<0.05	
Feature 7, Segment Q, (98.71)	75	55.5	12	6.25			0.3	

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

	SAMPLE			IDENTIFICATION				
PROVENIENCE	FILL VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
Feature 7, Segment R, (98.46)	45	0.9	100	0.8			<0.05	
Feature 7 Segment S, (98.80)	7	0.9	100	0.75	<0.05			
Feature 7, Segment T, (98.29)	30	1.1	100	0.75		2 fern spores	<0.05	
Feature 7, Segment U, (98.56)	11	1.0	100	0.75			0.05	
Total, Feature 7				202.05			3.4	
Feature 9, Segment SE1/2, (98.25)	166	26.1	12	2.45	<0.05	500 fern spores	0.3	2 exines
Feature 9, Segment NW1/2, (99.25)	88	17.9	100	16.80	<0.05	109 fern spores	0.4 ring-porous hardwood	

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

	SAMPLE			IDENTIFICATION				
PROVENIENCE	FILL VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
Feature 9, Segment N, (99.23)	45	0.6	100	0.45	<0.05	9 fern spores	0.1	
Total, Feature 9				19.70	<0.15	614	0.8	
Feature 15, Segment A, (99.26)	144	63.0	20	11.75			0.3	1 fruit
Feature 15, Segment B, (99.26)	120	13.4	100	11.45	<0.05	0.05 pine and resin		
Feature 15, Segment C, (99.26)	48	1.6	100		<0.05		<0.05	1 ridged exine
Feature 15, Segment NW1/2, (99.26)	226	87.3	12	10.15		1 fern spore	0.25	
Total, Feature 15				33.35	<0.1		0.6	
BLOCK A (CB)								
Level 2, (99.70-99.60) Stratum IIA	6	28.9	100				28.55	2 indet.

Table 3.18. Macrobotanical Remains by Provenience from the Beech and Oak sites, 22It623 and 22It624 (continued).

	SAMPLE			IDENTIFICATION				
PROVENIENCE	FILL VOLUME (liters)	TOTAL FLORAL Wt.(g)	SORTED %	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEED	WOOD Wt.(g)	OTHER
Level 4, (99.50-99.40) Stratum IIA	4	1.8	100	1.5			0.2 ring-porous hardwood	2 exines
Level 6, (99.30-99.20) Stratum IIB	4	2.9	100	2.55			0.1 ring-porous hardwood	1 cane
Level 8, (99.10-99.00) Stratum III	4	2.3	100	2.2			0.1	
Level 10, (98.90-98.80) Stratum IV	4	0.3	100	0.2			0.05	
Level 13, (98.60-98.50) Stratum IV	4	0.1	100	0.05			<0.1	
Level 16, (98.30-98.20) Stratum IV-V	4	0.1	100					

Table 3.19. Relative Densities of Macrobotanical Remains at the Beech and Oak sites, 22It623 and 22It624.

FEATURE OR GENERAL LEVEL	CONCENTRATION PERCENTAGE* (%)	HICKORY NUTSHELL (%)	ACORN NUTSHELL (%)	WOOD (%)	SEED (COUNT)
22It623					
Feature 2	0.3	98	0.2	1.8 ring-porous hardwood & pine	1 grape
Feature 9	0.008	98	1.0	1.0	
Feature 11	0.08	99	0.5	0.5	
Feature 14	0.04	94	0.3	5.7	3 indet. seeds
Gen. Level 2	0.04	57	3.0	40.0 ring-porous hardwood	1 poke
Gen. Level 4	0.02	70	5.0	25.0	
Gen. Level 6	0.02	92	4.0	4.0	
Gen. Level 8	0.02	77		23.0 ring-porous hardwood	
Gen. Level 14	-	-	-	-	1 fern spore
22It624					
Feature 1	0.03	97	1	2.0 hardwood	1 geranium 5 indet. seeds
Feature 4	0.02	90		10.0 hard-wood & pine	
Feature 7	0.02	98	0.2	1.8	1 grape 4 fern spores

Table 3.19. **Relative Densities of Macrobotanical Remains at the Beech and Oak sites, 22It623 and 22It624.**

FEATURE OR GENERAL LEVEL	CONCENTRATION PERCENTAGE* (%)	HICKORY NUTSHELL (%)	ACORN NUTSHELL (%)	WOOD (%)	SEED (COUNT)
Feature 9	0.01	95	<1	4.0 ring-porous hardwood & pine	618 fern spores 2 indet. seeds
Feature 15	0.04	98	0.3	1.7	1 fern spore
Gen. Level 2	0.5			100.0	
Gen. Level 4	0.04	88		12.0	
Gen. Level 6	0.06	96		4.0	1 piece cane
Gen. Level 8	0.06	96		4.0	
Gen. Level 10	0.006	80		20.0	
Gen. Level 13	0.004	33		67.0	
Gen. Level 16	-	-		-	

* Concentration percentage is calculated based upon quantity (weight) of carbonized botanical remains per unit fill.

Table 3.20. **Stratigraphic Distributions for Three Diagnostic Late Archaic Projectile Point Types at the Beech and Oak sites, 22It623 and 22It624.**

Site	Block	Level(s)	Stratum	Benton	Little Bear Creek	Flint Creek
22It623 22It624	C,D B	5.2 4.0	lower IIA	1	1	2
22It623 22It624	D B,C	6.1 5.1	upper IIB	2	4	1
22It623	D	7.2	lower IIB	-	1	-
22It624	D C	7.2 6.2	IIB-III	1	2	-
22It624	B	9.1	lower IIB-III	1	-	-
22It623	C,D	8.2	upper III	2	-	-

Table 3.21. Radiocarbon Dates from the Beech and Oak sites, 22It623 and 22It624.

SITE	PROVENIENCE & COMPONENT	SAMPLE	DICARB NUMBER	RADIOCARBON YEARS	UNCORRECTED DATE	CORRECTED DATE*
22It623	Feature 11 (Late Archaic)	Charcoal and nutshells combined (20g)	2482	4160±65	2210 B.C.	2630-2680 B.C.
22It623	Feature 14 (Benton)	Charcoal and nutshells combined (23g)	2483	5310±70	3360 B.C.	3980 B.C.
22It624	Feature 1, Segment C (Late Archaic)	Mixed nut-shells, hickory, oak, and hardwood (27.4g)	2570	3850±65	1900 B.C.	2180 B.C.
22It624	Feature 7, Segment I (Benton?)	Hickory nut-shells (7.9g) charcoal (20g)	2484	4580±45	2630 B.C.	3190-3310 B.C.
22It624	Feature 7, Segment K (Benton?)	Hickory nut-shells (20g)	2485	4830±120	2880 B.C.	3410-3520 B.C.
22It624	Feature 7, Segment Q (Benton?)	Charcoal and nutshells mixed (20g)	2487	5290±75	3340 B.C.	3940-3960 B.C.
22It624	Feature 15, Segment A	Hickory nut-shells (11.9g) charcoal (20g)	2486	3600±55	1650 B.C.	2000-2020 B.C.

* Corrections based on formula in Ralph *et al.* 1973.

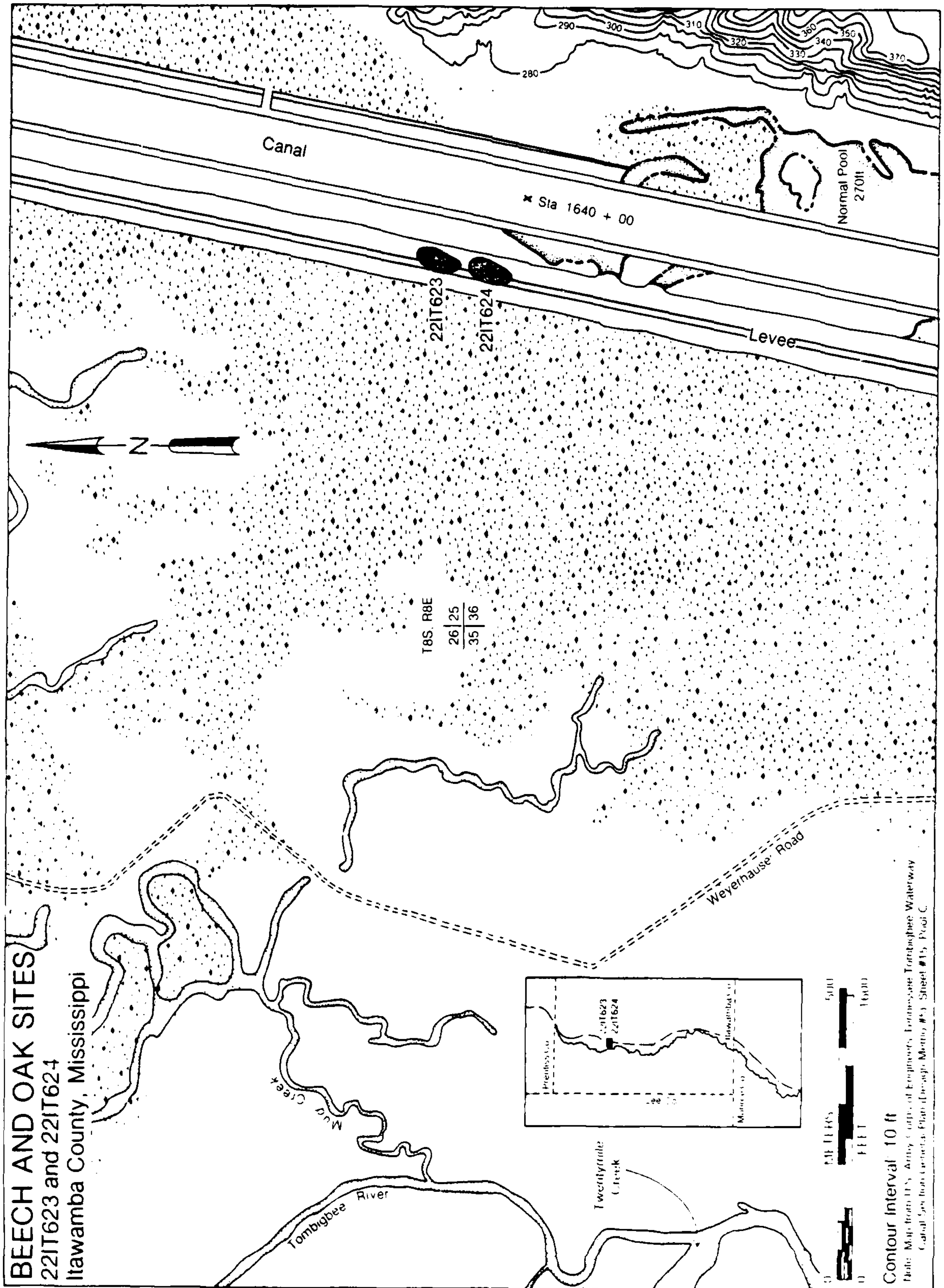

Figure 3.1. Location of Beech and Oak sites, 22It623 and 22It624.

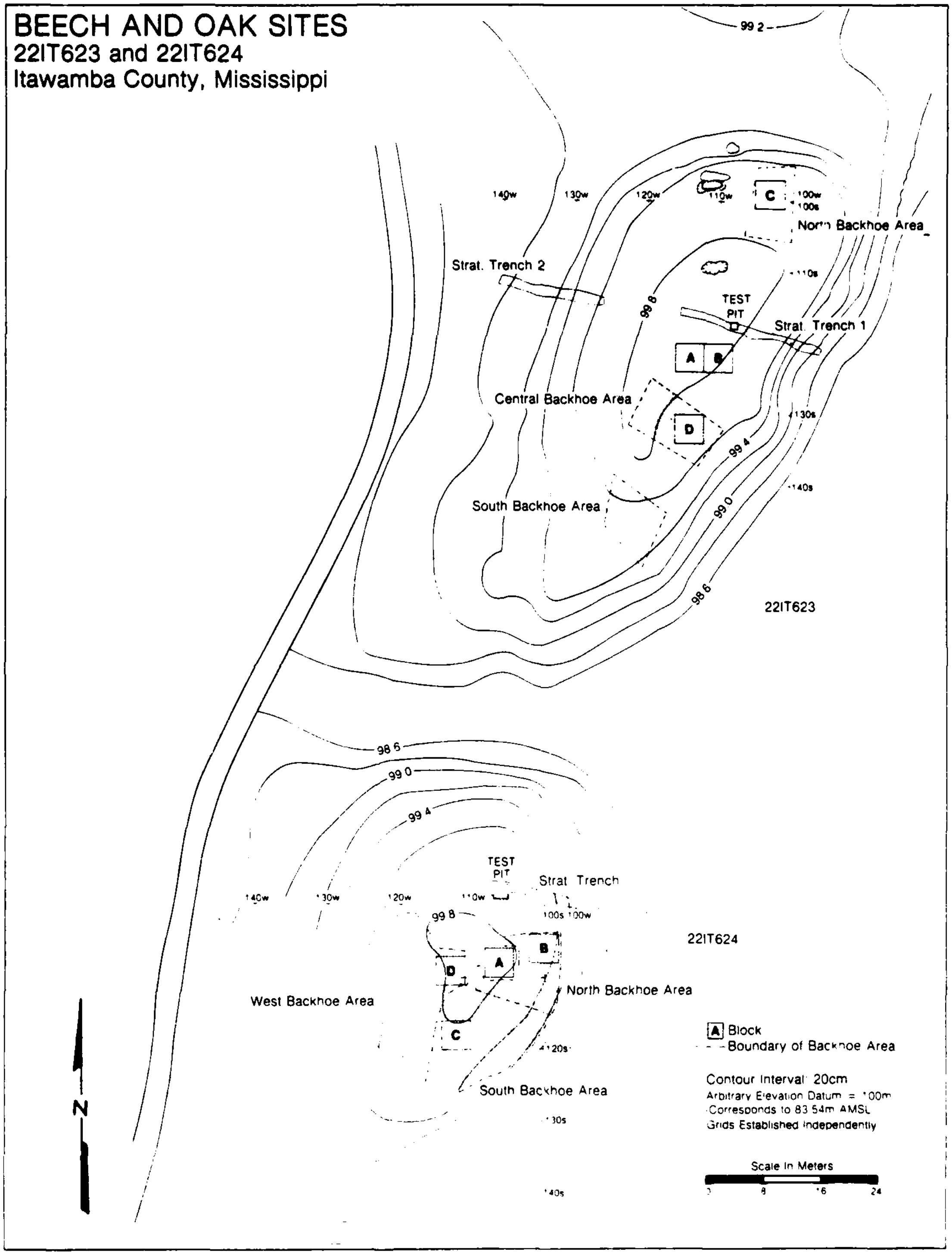

Figure 3.2. Contour map showing excavations of the Beech and Oak sites, 22It623 and 22It624.

Figure 3.3. Excavation at 22It623 of Block B, adjoining Block A (which was dug during Phase I). Backhoe has removed overburden. Each fieldworker excavates a 2 x 2 m square in 1 x 1 x .05 m sections. View facing east.

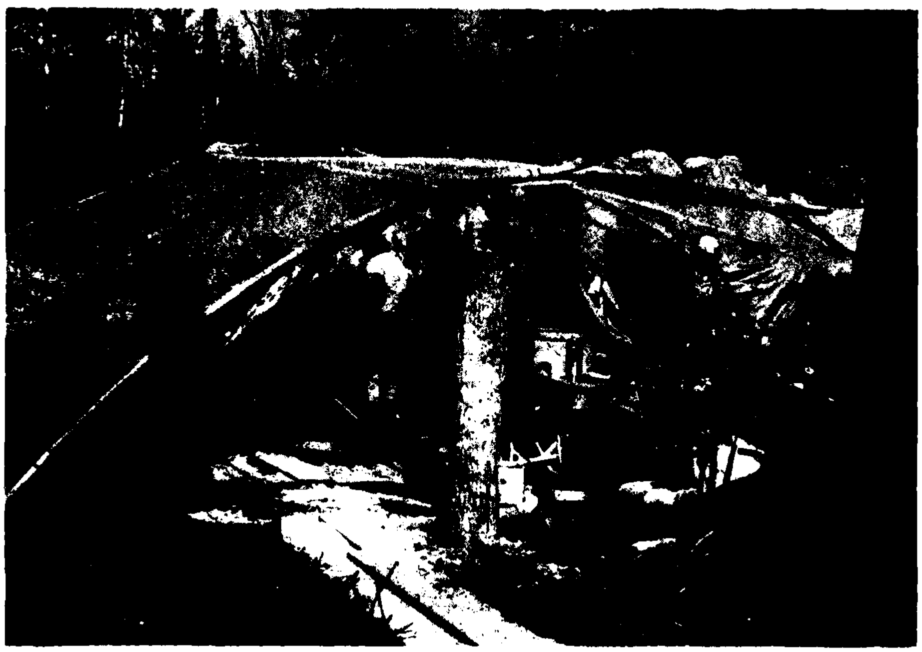

Figure 3.4. Waterscreen station for 22It623 and 22It624. Flotation machine is in center of photo; worker at right bags materials recovered from flotation. View facing west.

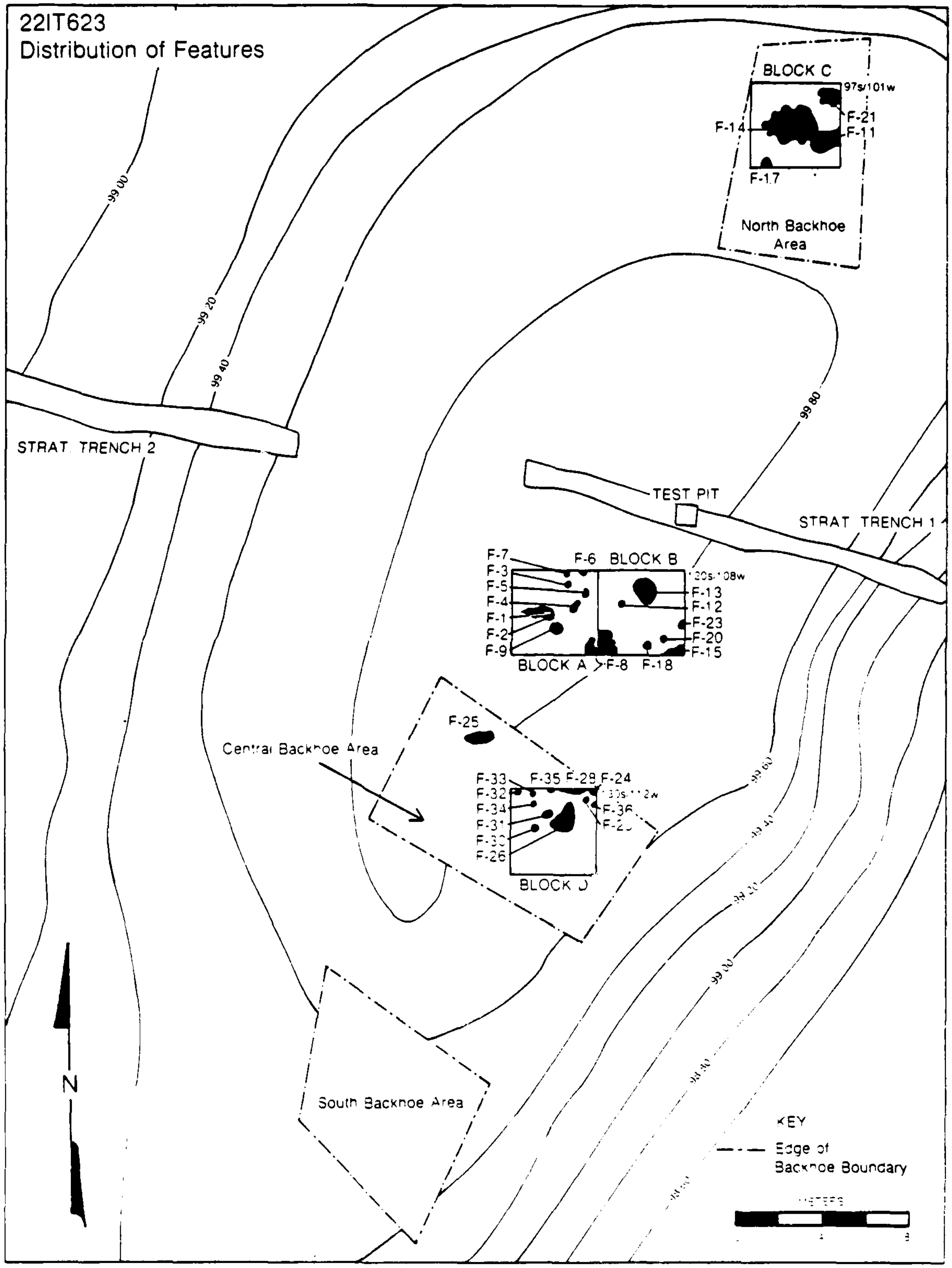

Figure 3.5. Distribution of features at the Beech site, 22It623.

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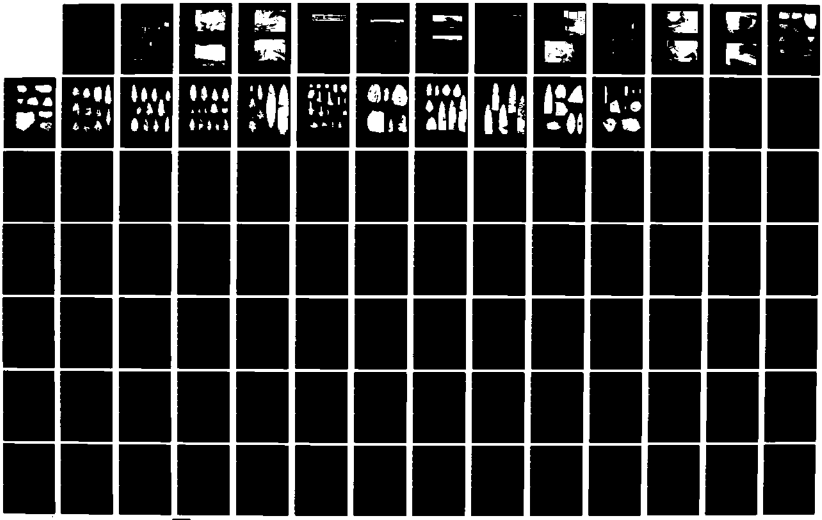

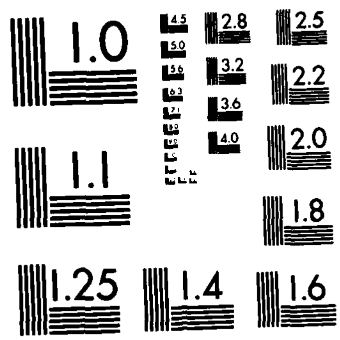

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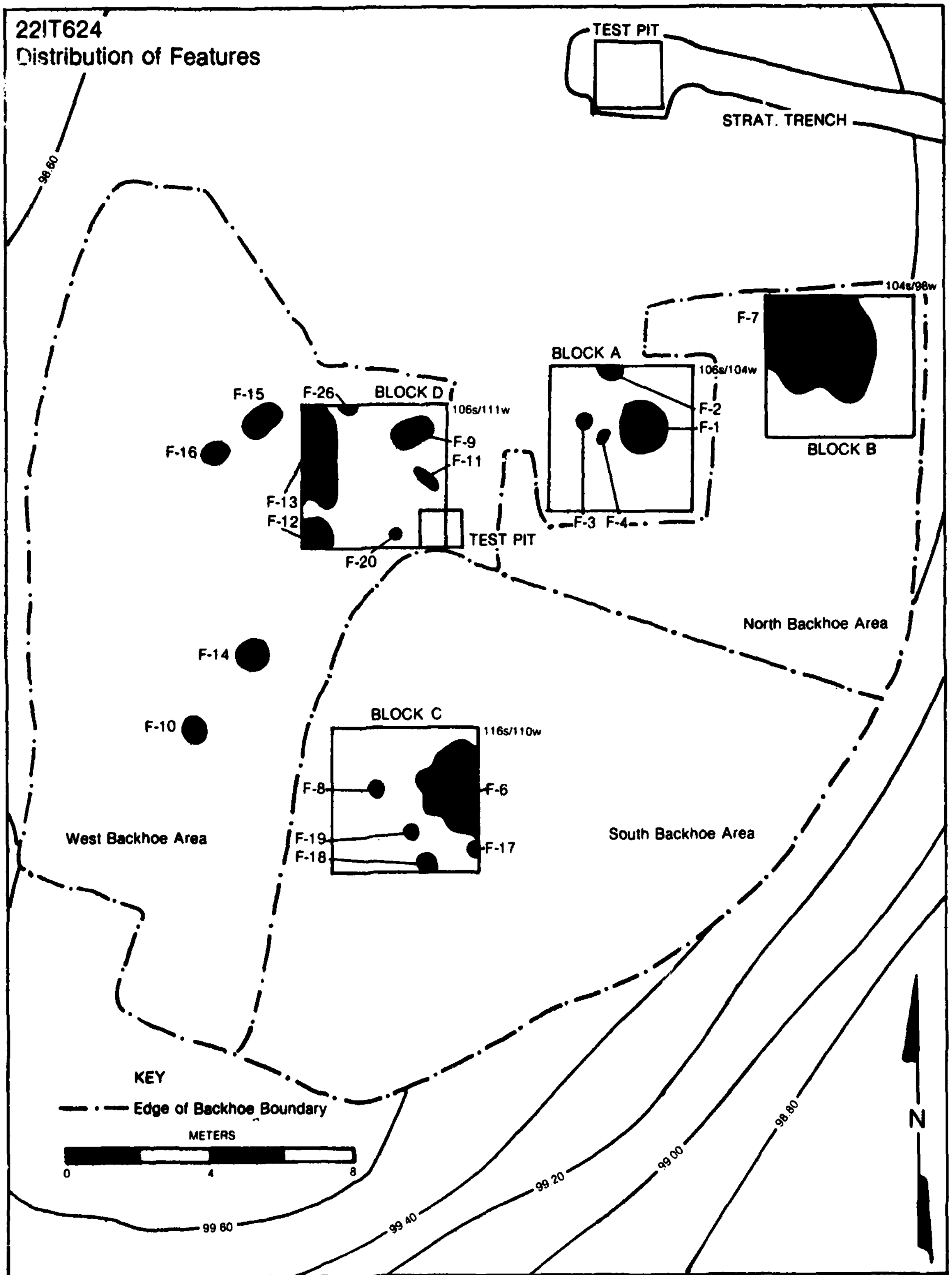


Figure 3.6. Distribution of features at the Oak site, 22It624.

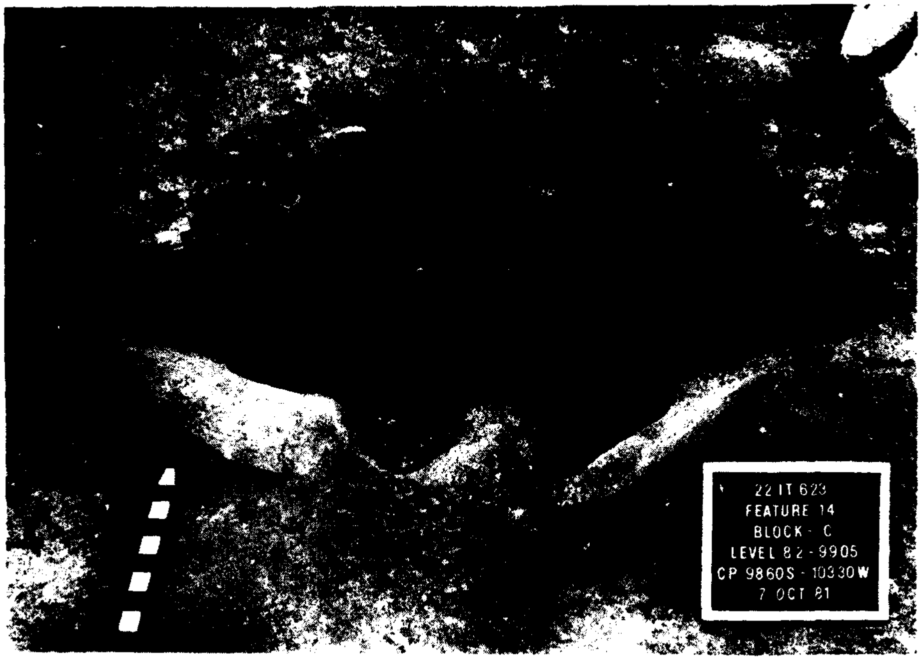
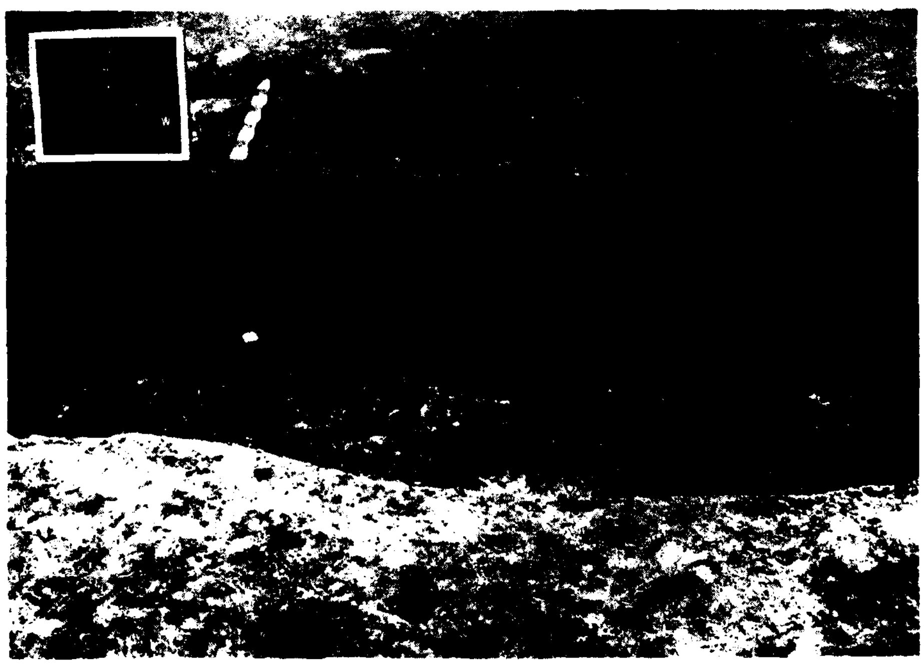


Figure 3.7. Cross-sections of Feature 14 at 22It623, showing bottom contours of south half (above) and profile of north half (below). This feature is a compound pit with multiple episodes of prehistoric excavation. Two of its deeper segments extend into Statum V (dark stratum visible in lower photo). Rodent burrow fill has been removed from northwest side of feature surface (upper left).



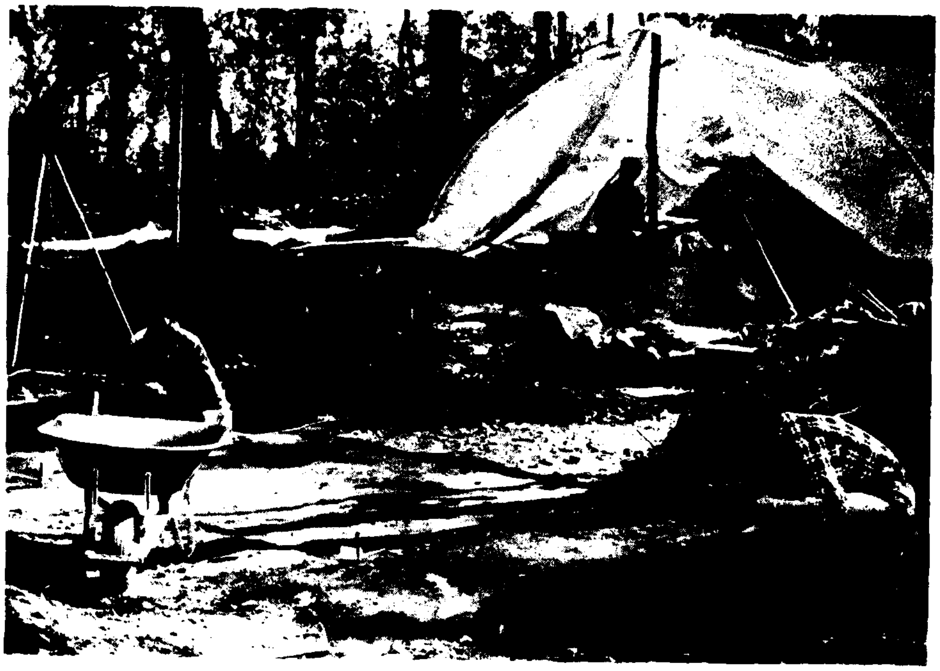
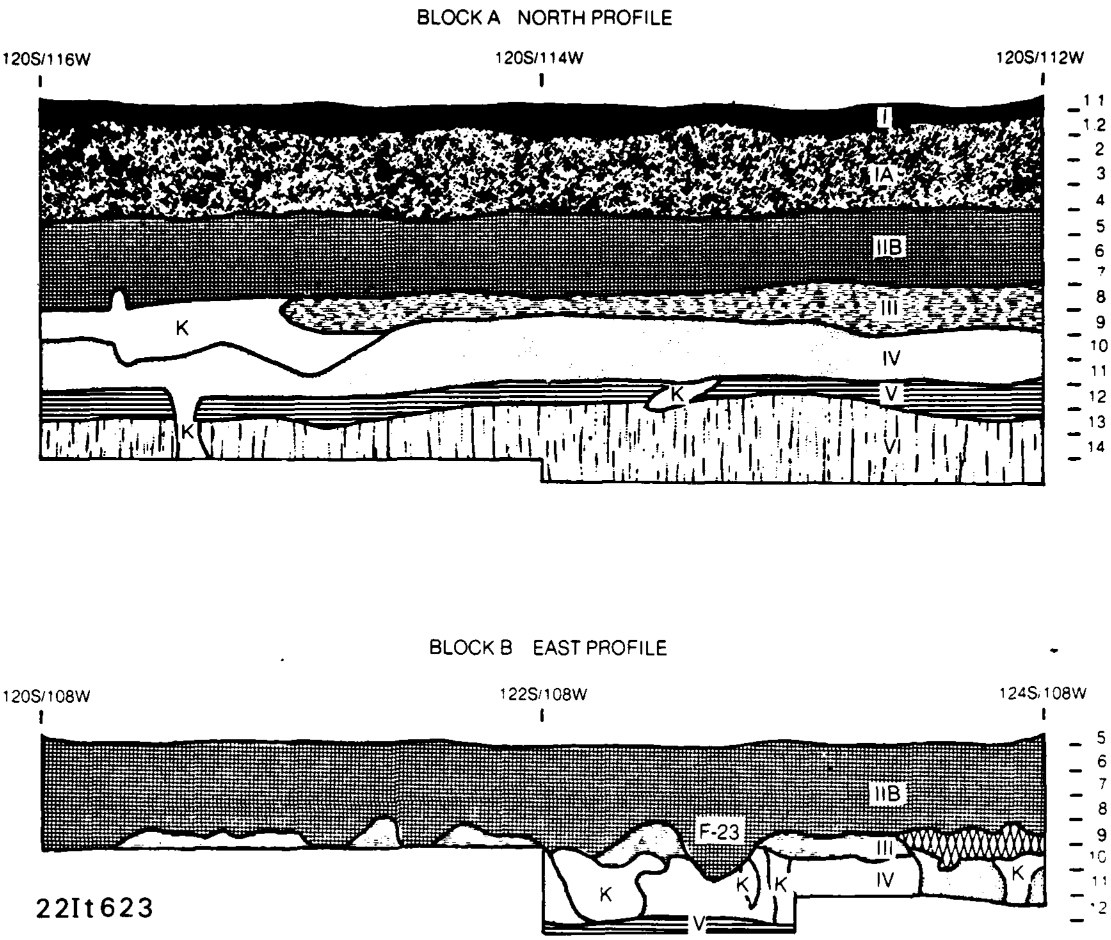


Figure 3.8. Excavation at 22It624. Block C is in right background under shelter. In left center fieldworker J. Fontaine trowels floor in newly opened Block D. At right assistant director E. Gadus trowels a feature exposed in West Backhoe Area outside block. View facing southeast.

Figure 3.9. Profile of Feature 24 in southest corner of Block C at 22It624, showing extensive root/burrow disturbance. Strata IVB (middle dark band) and V (dark floor) are clearly visible.



I Humus (topsoil) zone, dark reddish brown (5 YR 2.5/2) sandy loam

IIA Midden zone, dark reddish brown (5 YR 3/2) to dark brown (7.5YR3/4) sandy loam

IIB Midden zone, dark reddish brown (5 YR 3/4) to very dark brown (10 YR 3/2) sandy loam

III Transition zone, reddish brown (5 YR 4/3) to brown (7.5 YR 4/4) loamy sand, with some light yellow (10 YR 6/4) and light gray (10 YR 7/1) mottling

IV Fluvial zone, dark yellowish brown (10 YR 5/8) to very pale brown (10 YR 7/4) loamy sand with some lighter (10 YR 7/1, 8/4) mottling

V Illuvial zone, dark yellowish brown (10 YR 4/4) to strong brown (7.5 YR 4/6) sandy loam

VI Paleosol, yellowish brown (10 YR 5/8) sandy loam matrix mottled and streaked with yellow (10 YR 7/6, 2.5 Y 7/4), brown (7.5 YR 5/6) and light gray (5 Y 7/1) sandy loam and some clay

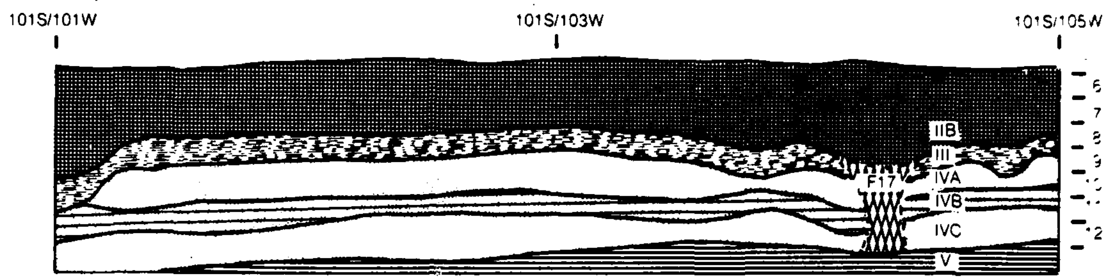
K Krotovina, non-cultural disturbance

2 Arbitrary excavation level

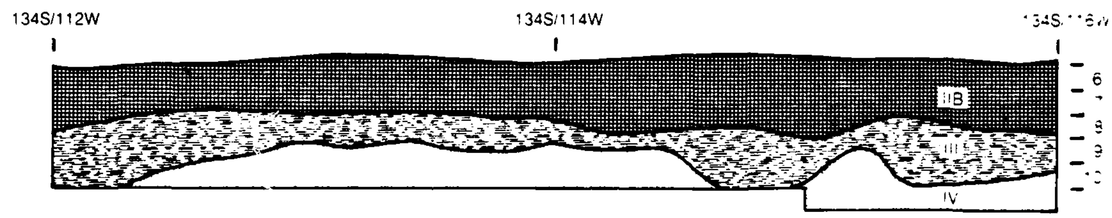
F Feature

Figure 3.10. Stratigraphy of Blocks A and B at 22It624.

BLOCK C SOUTH PROFILE



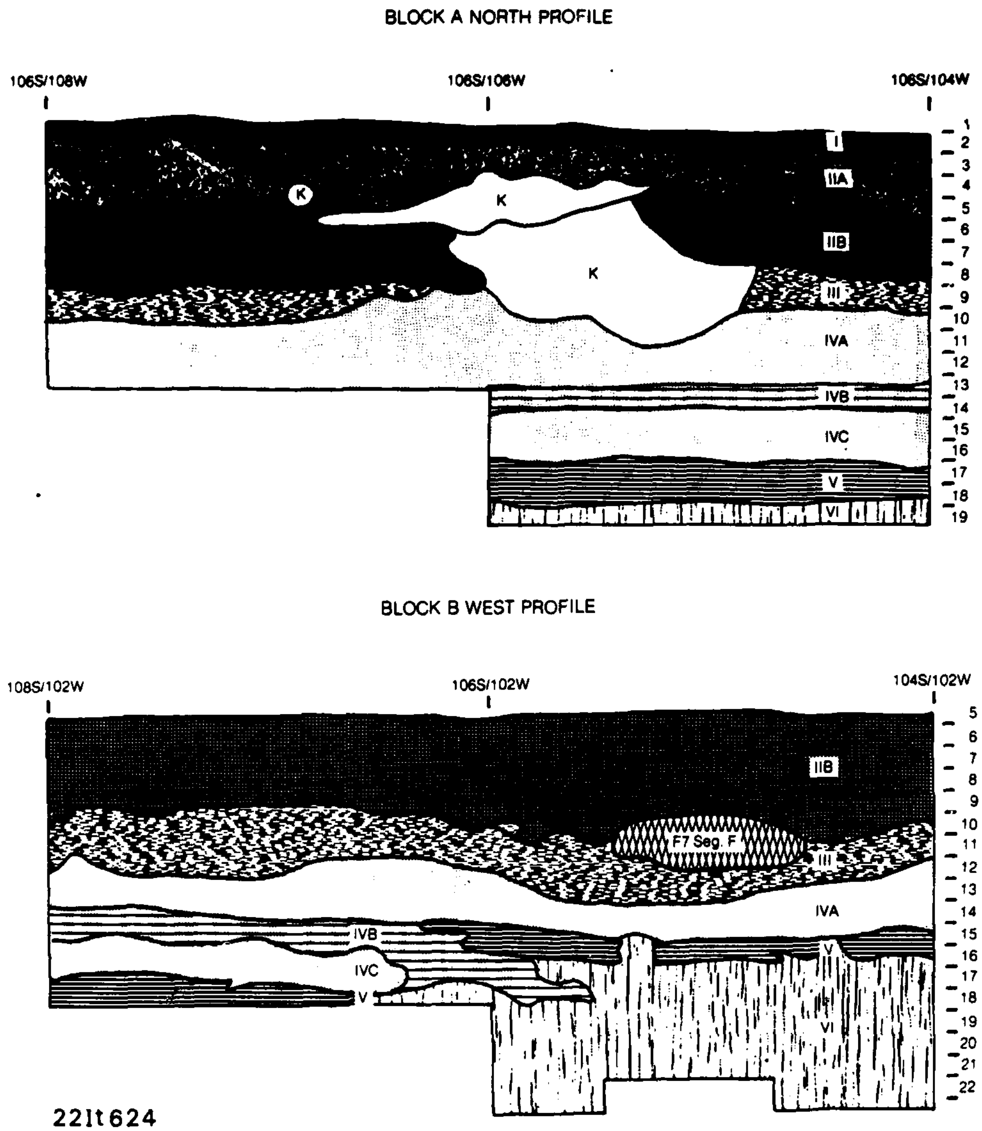
BLOCK D SOUTH PROFILE



22It623

IIB	Midden zone: dark reddish brown (5 YR 3/4) to very dark brown (10 YR 3/2) sandy loam.
III	Transition zone: reddish brown (5 YR 4/3) to brown (7.5 YR 4/4) loamy sand, with some light yellow (10 YR 6/4) and light gray (10 YR 7/1) mottling.
IV A, IV C	Fluvial deposits: yellowish brown (10 YR 5/8) to very pale brown (10 YR 7/4) loamy sand, with some lighter (10 YR 7/1, 8/4) mottling
IVB	Weak illuvial zone, yellowish brown (10 YR 5/4) to dark brown (7.5 YR 4/4) sandy loam
V	Illuvial zone: dark yellowish brown (10 YR 4/4) to strong brown (7.5 YR 4/6) sandy loam.
VI	Paleosol: yellowish brown (10 YR 5/8) sandy loam matrix mottled and streaked with yellow (10 YR 7/6, 2.5 Y 7/4), brown (7.5 YR 5/6) and light gray (5 Y 7/1) sandy loam with some clay
K	Krotovina, non-cultural disturbance
2	Arbitrary 10cm excavation level
F	Feature

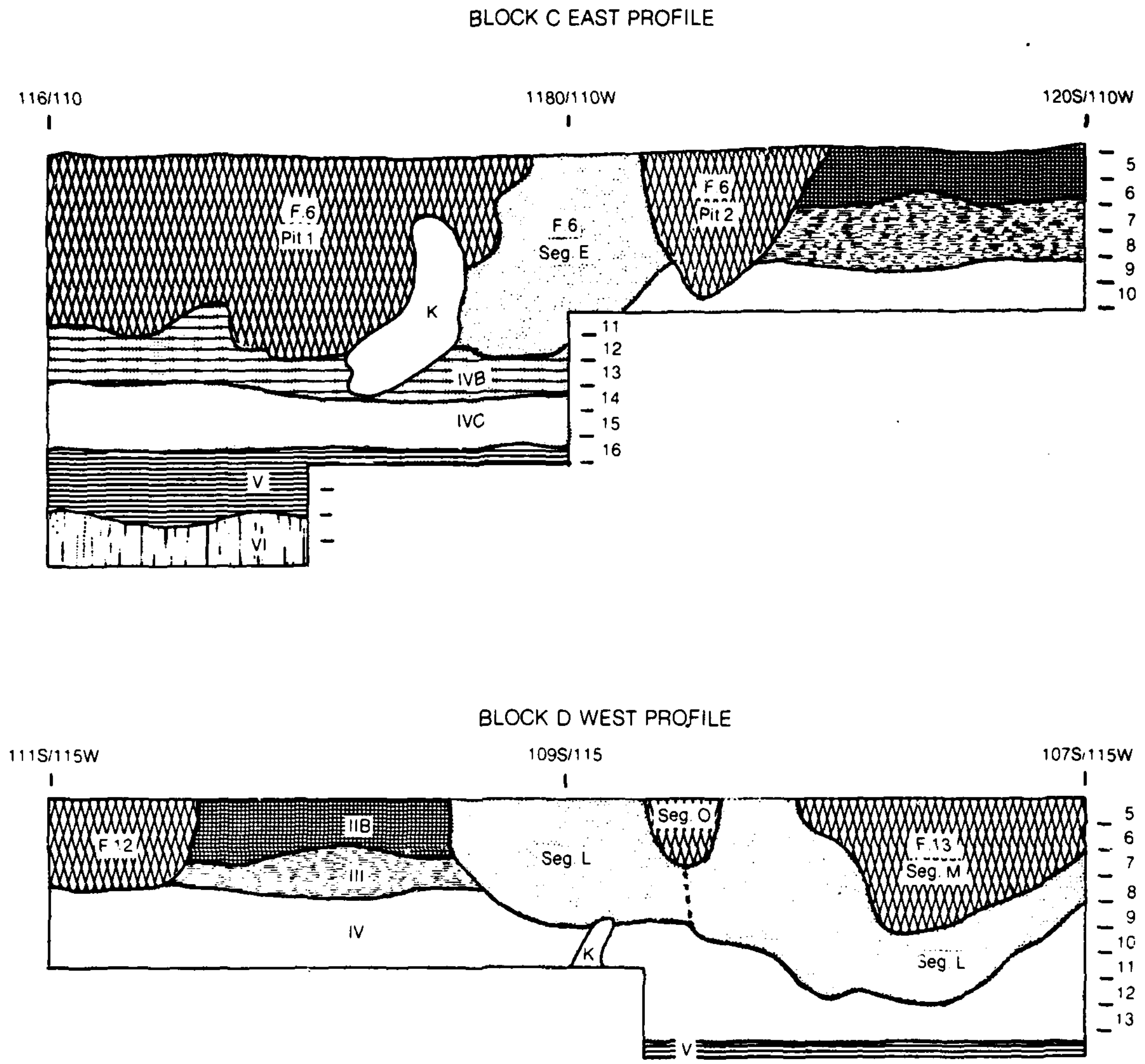
Figure 3.11. Stratigraphy of Blocks C and D at 22It623.



22It624

I	Humus (topsoil) zone; dark reddish brown (5 YR 2.5/2) sandy loam.
IIA	Midden zone, dark reddish brown (5 YR 3/2) to dark brown (7.5 YR 3/4) sandy loam.
IIB	Midden zone; dark reddish brown (5 YR 3/4) to very dark brown (10 YR 3/2) sandy loam.
III	Transition zone, reddish brown (5 YR 4/3) to brown (7.5 YR 4/4) loamy sand, with some light yellow (10 YR 6/4) and light gray (10 YR 7/1) mottling.
IV A, IV C	Fluvial deposits, yellowish brown (10 YR 5/8) very pale brown (10 YR 7/4) loamy sand, with some lighter (10 YR 7/1, 8/4) mottling.
IVB	Weak illuvial zone; yellowish brown (10 YR 5/4) to dark brown (7.5 YR 4/4) sandy loam
V	Illuvial zone; dark yellowish brown (10 YR 4/4) to strong brown (7.5 YR 4/6) sandy loam
VI	Paleosol, yellowish brown (10 YR 5/8) sandy loam matrix mottled and streaked with yellow (10 YR 7/6, 2.5 Y 7/4), brown (7.5 YR 5/6) and light gray (5 Y 7/1) sandy loam with some clay
K	Krotovina, noncultural disturbance
2	Arbitrary 10cm excavation level
F	Feature

Figure 3.12. Stratigraphy of Blocks A and B at 22It624.



22It624

IIB	Midden zone; dark reddish brown (5 YR 3/4) to very dark brown (10 YR 3/2) sandy loam.
III	Transition zone; reddish brown (5 YR 4/3) to brown (7.5 YR 4/4) loamy sand, with some light yellow (10 YR 6/4) and light gray (10 YR 7/1) mottling.
IV A, IV C	Fluvial deposits; yellowish brown (10 YR 5/8) to very pale brown (10 YR 7/4) loamy sand, with some lighter (10 YR 7/1, 8/4) mottling.
IVB	Weak illuvial zone; yellowish brown (10 YR 5/4) to dark brown (7.5 YR 4/4) sandy loam.
V	Illuvial zone; dark yellowish brown (10 YR 4/4) to strong brown (7.5 YR 4/6) sandy loam.
VI	Paleosol; yellowish brown (10 YR 5/8) sandy loam matrix mottled and streaked with yellow (10 YR 7/6, 2.5 Y 7/4), brown (7.5 YR 5/6) and light gray (5 Y 7/1) sandy loam with some clay
$\boxed{K}$	Krotovina, non-cultural disturbance
$\boxed{2}$	Arbitrary 10cm excavation level
$\boxed{F}$	Feature

Figure 3.13. Stratigraphy of Blocks C and D at 22It624.

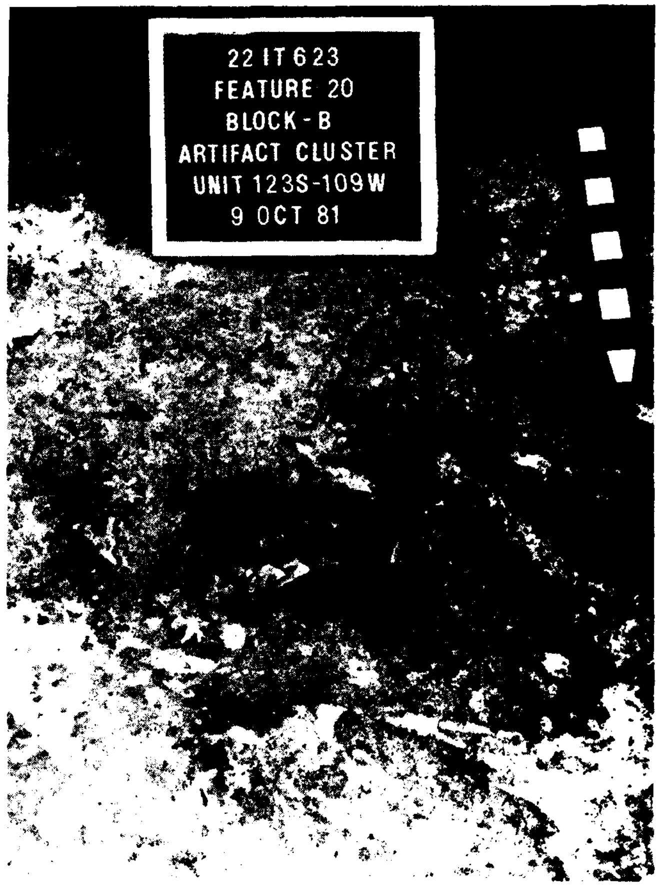


Figure 3.14. Feature 20 at 22It623; lithic artifact cluster shown in situ in Block B at 98.92 (arbitrary elevation), Stratum III. Floor is very mottled and may show outline of container. Scale is in decimeters; arrow points north.

Figure 3.15. Green siltstone atlatl weight fragments in situ in Block D at 98.85 (arbitrary elevation), Stratum IV, at 22It624. Floor is heavily mottled.

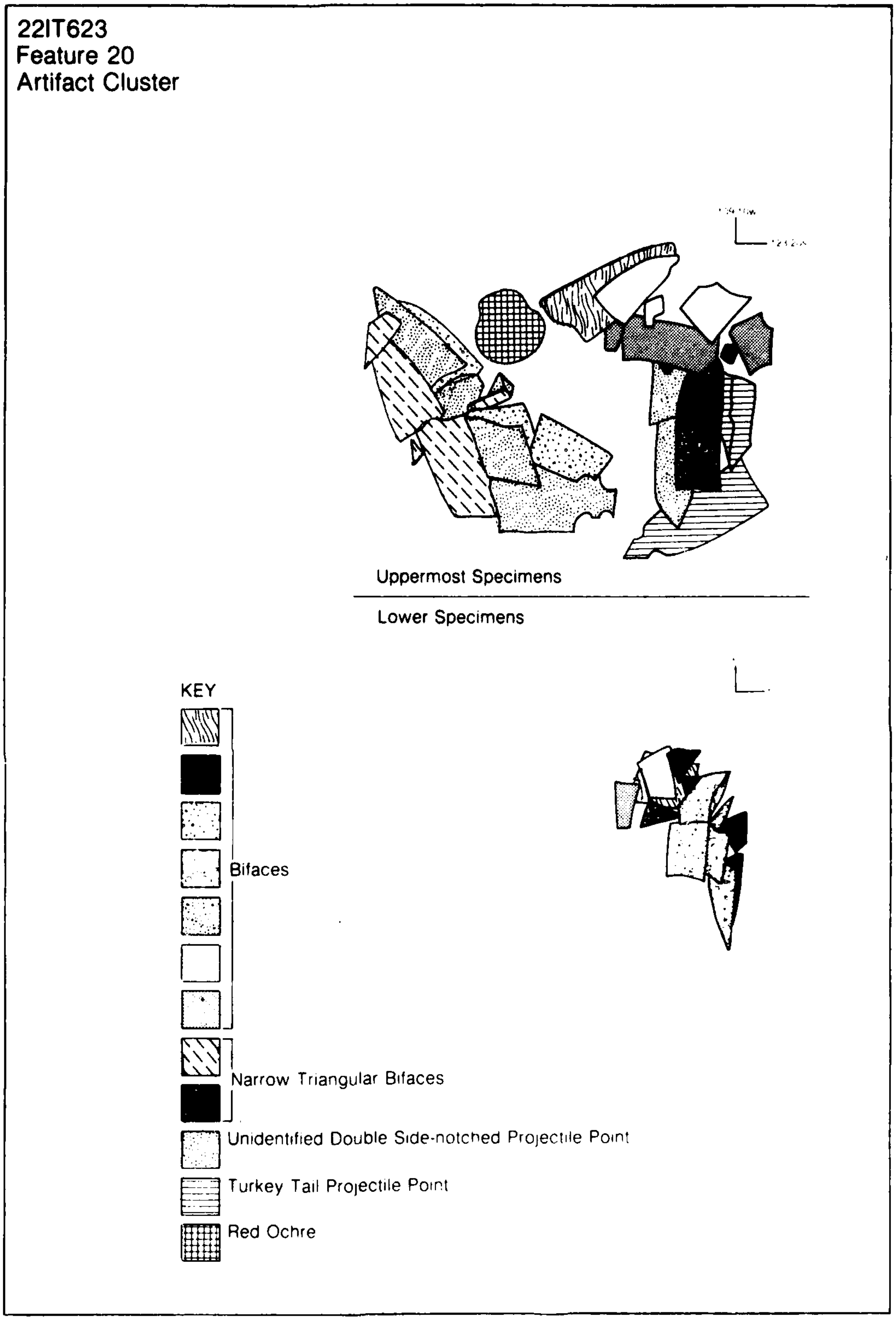


Figure 3.16. Feature 20 at 22It623; lithic artifact cluster *in situ*.

Figure 3.17. Feature 6 in Block C at 22It624. Cross-section through center of all segments of feature shows it to be two pits separated by pale subsoil which may be backdirt from the earlier pit (on the left). View facing southeast. Dark Stratum V is clearly visible at bottom of excavation; Stratum IVB is apparent just below feature.

Figure 3.18. Cross-section of Feature 15 in West Backhoe Area at 22It624, showing deep pit with evidence of bioturbation in lower portion of fill. Pale object in left foreground is root. View facing southeast.

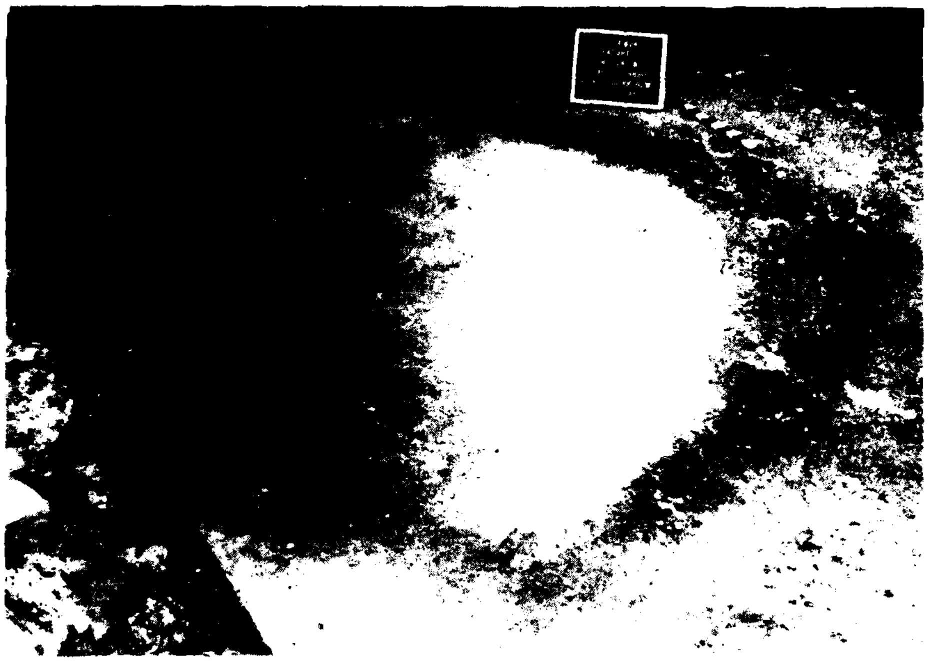


Figure 3.19. Feature 7 in Block B at 22It624 as first exposed (above), and in cross-section (below). Feature first became well-defined at 98.80 (arbitrary) elevation, at the top of Stratum III. In profile Strata III, IVA, IVB, IVC, V, and VI (Paleosol) are visible. Both photos facing northeast. Iron bar at right center of lower photo is center stake of 4 x 4 m block.

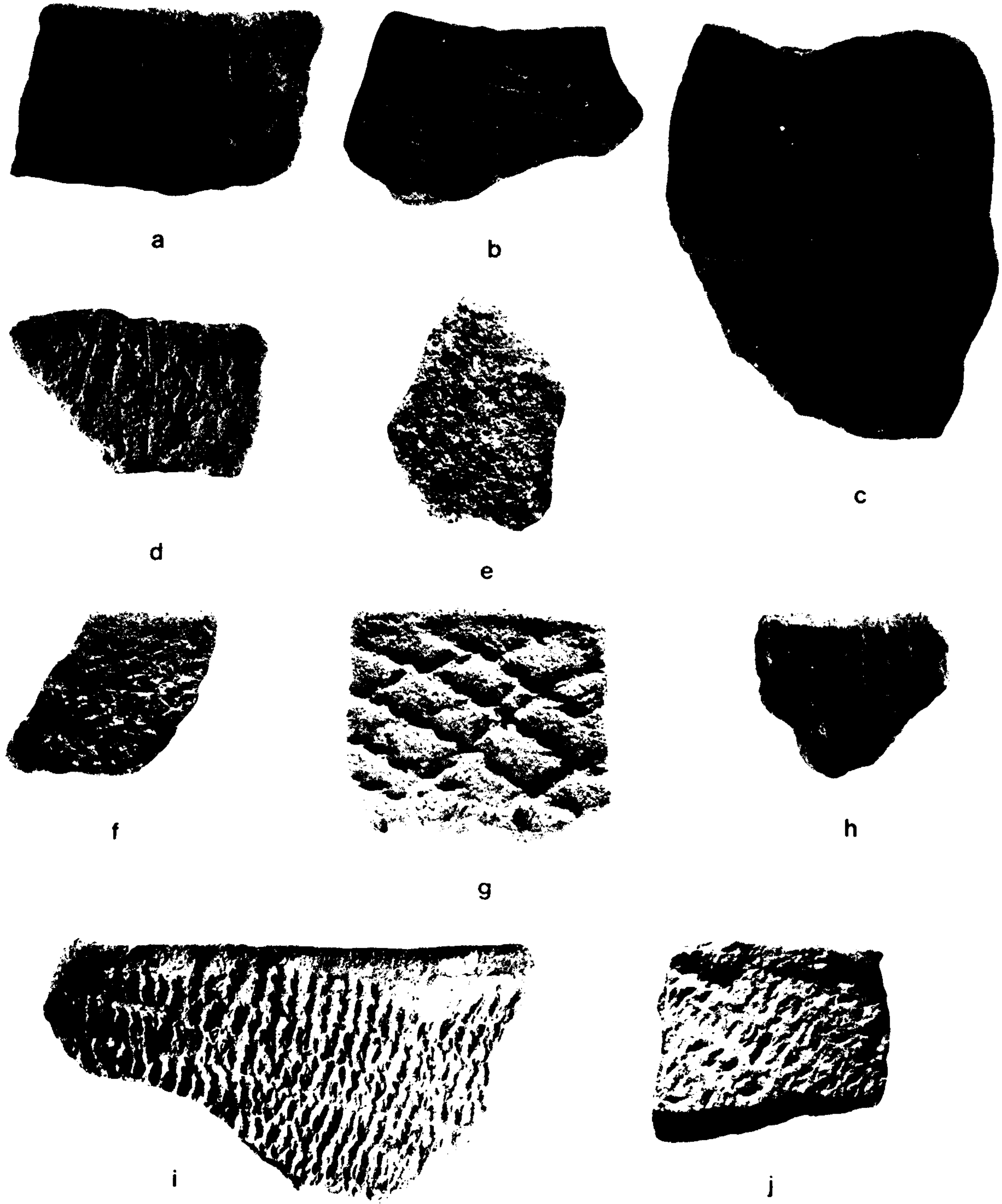


Figure 3.20. Grog Tempered Sherds: a, Baytown Plain (490-3689/624); b, Cormorant Cord Impressed (1123-3062/623); c, Mulberry Creek Cord Marked (491-102/624); d, Grog-other (1006/624). Bone Tempered Sherd: e, Bone-other (381-559/624). Sand Tempered Sherds-Miller Series: f-h, Furrs Cord Marked (682-3525/623, 784-32/623, 491-111/624); i-j, Saltillo Fabric Marked (381-573/624, 331-353/623).

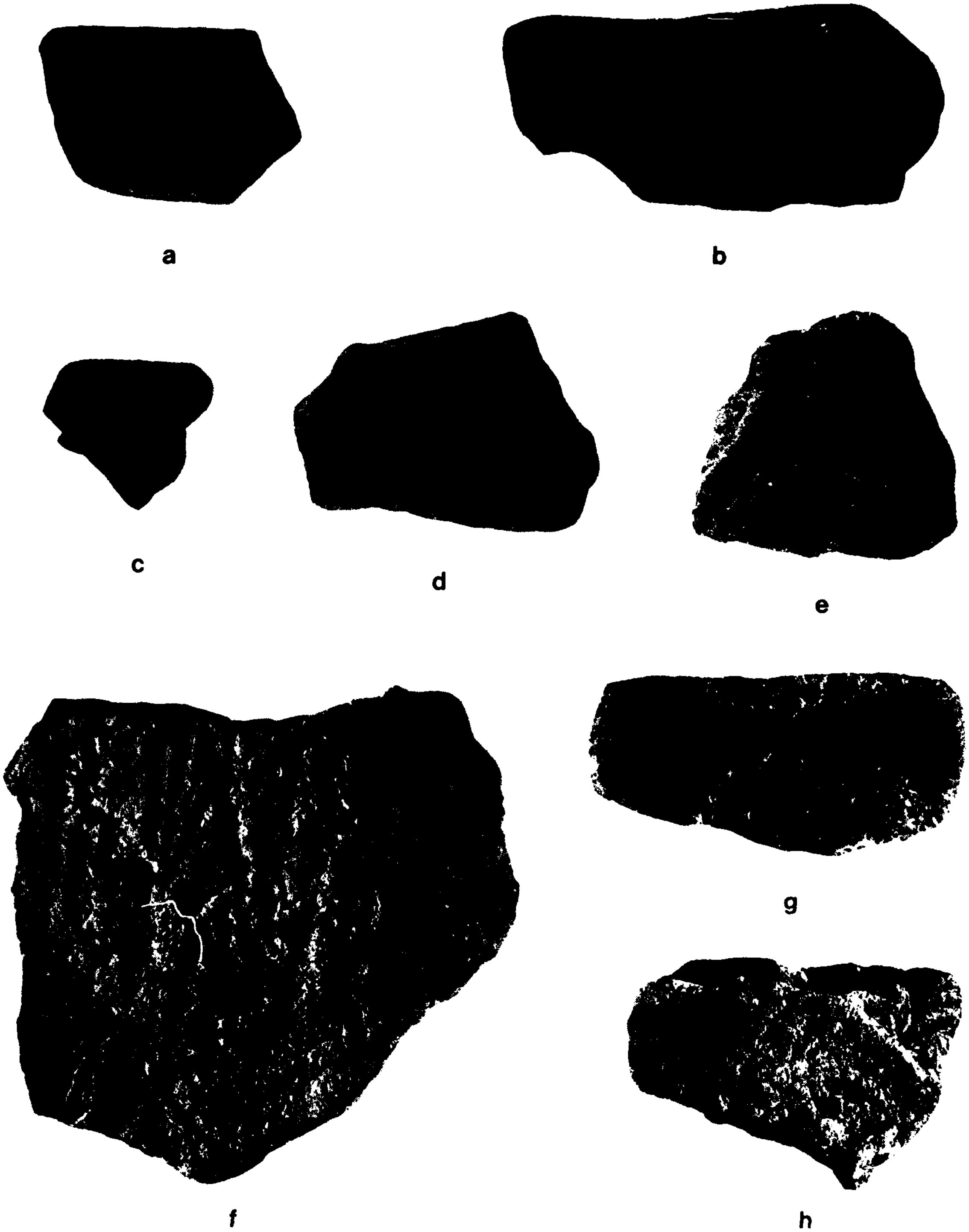


Figure 3.21. Sand Tempered Sherds-Alexander Series: a, Smithsonia Zone Stamped (490-3784/624); b-c, Alexander Pinched (682-3542/623, 682-3544/623). Miscellaneous Sand Tempered: d, Sand-other (1123-3421/623). Fiber Tempered Sherds: e, Wheeler Plain (519-15/624); f, Wheeler Simple-Stamped (490-3971/624); g, Wheeler Punctated (490-3979/624); h, Eroded Fiber (491-195/624).

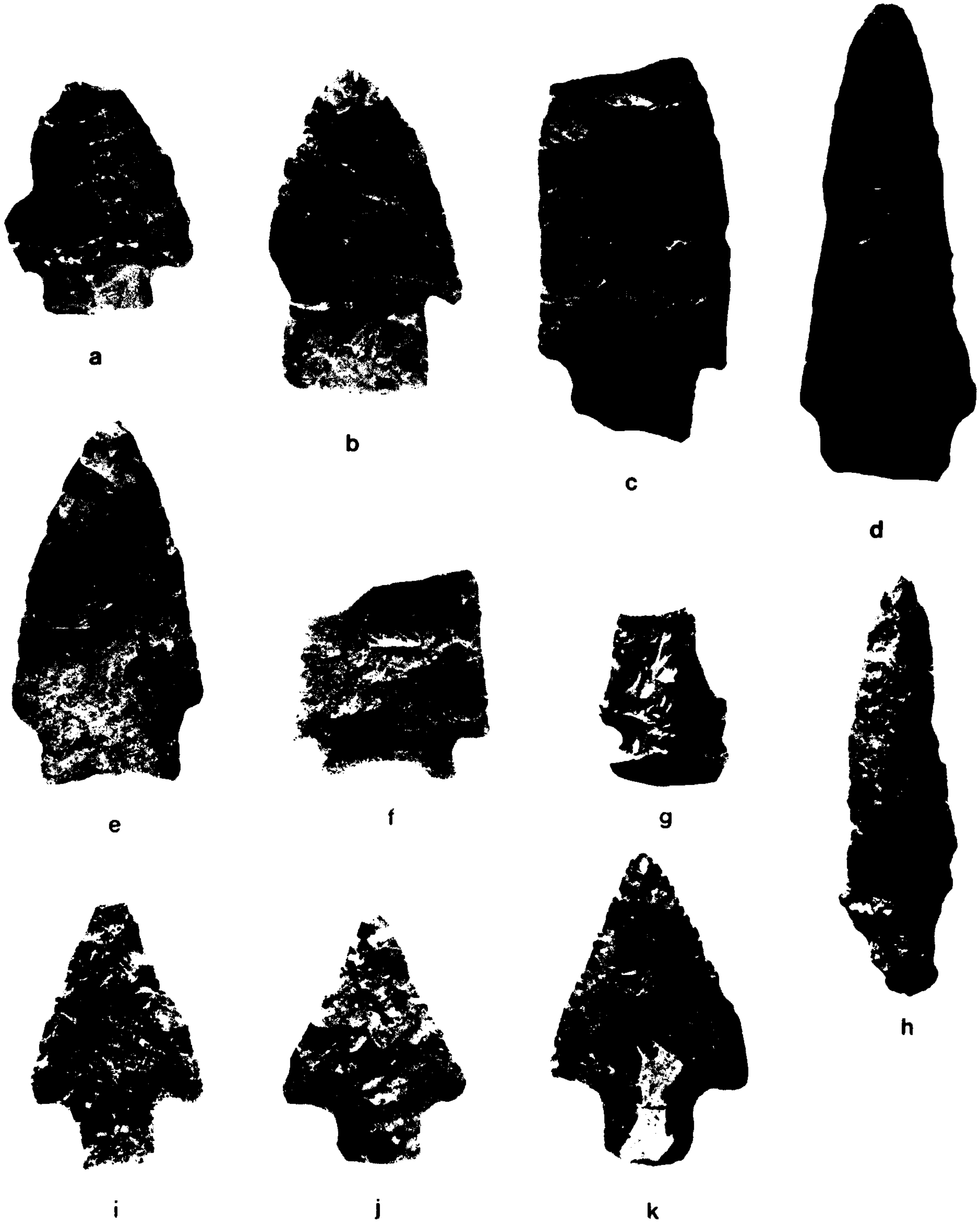


Figure 3.22. Projectile Point/Knives: a-b, Beachum (1066-1/624, 1512-44/624); c, Benton Extended Stem (1106-1/624); d-f, Benton Short Stem (491-197/624, 507-1/623), 347-35/623); g, Big Sandy Side Notched (546-7/623); h, Bradley Spike (561-1/623); i-k, Cotaco Creek (490-3996/624, 490-3997/624, 489-9661/624).

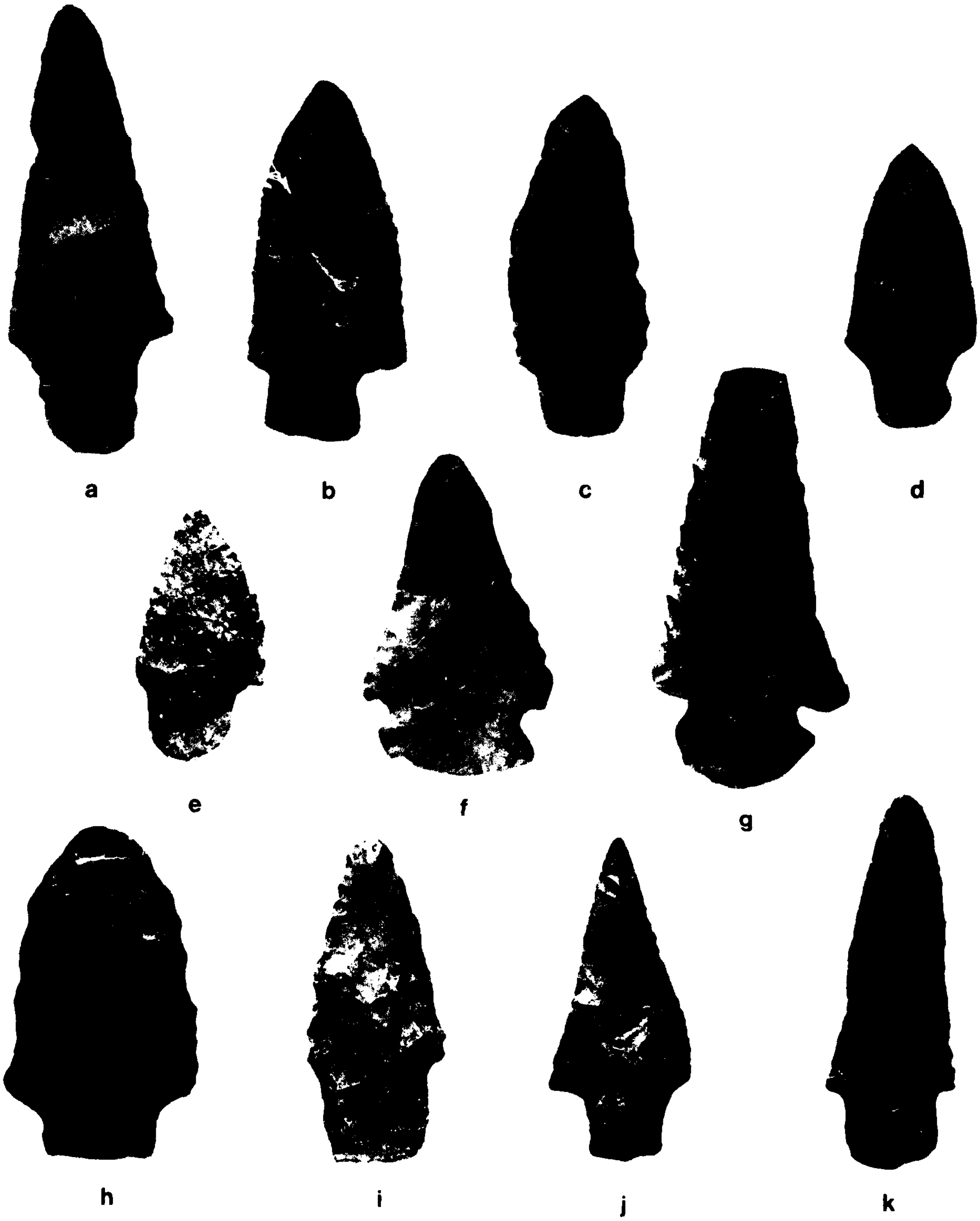


Figure 3.23. Projectile Point/Knives: a-d, Flint Creek (381-628/624, 490-3998/624, 465-1/624, 491-200/624); e, Gary (489-972/624); f-g, Kirk Corner Notched (1123-2857/623, 489-973/624); h, Ledbetter/Pickwick (890-1/623); i-k, Little Bear Creek (1421-6/624, 489-976/624, 489-974/624).

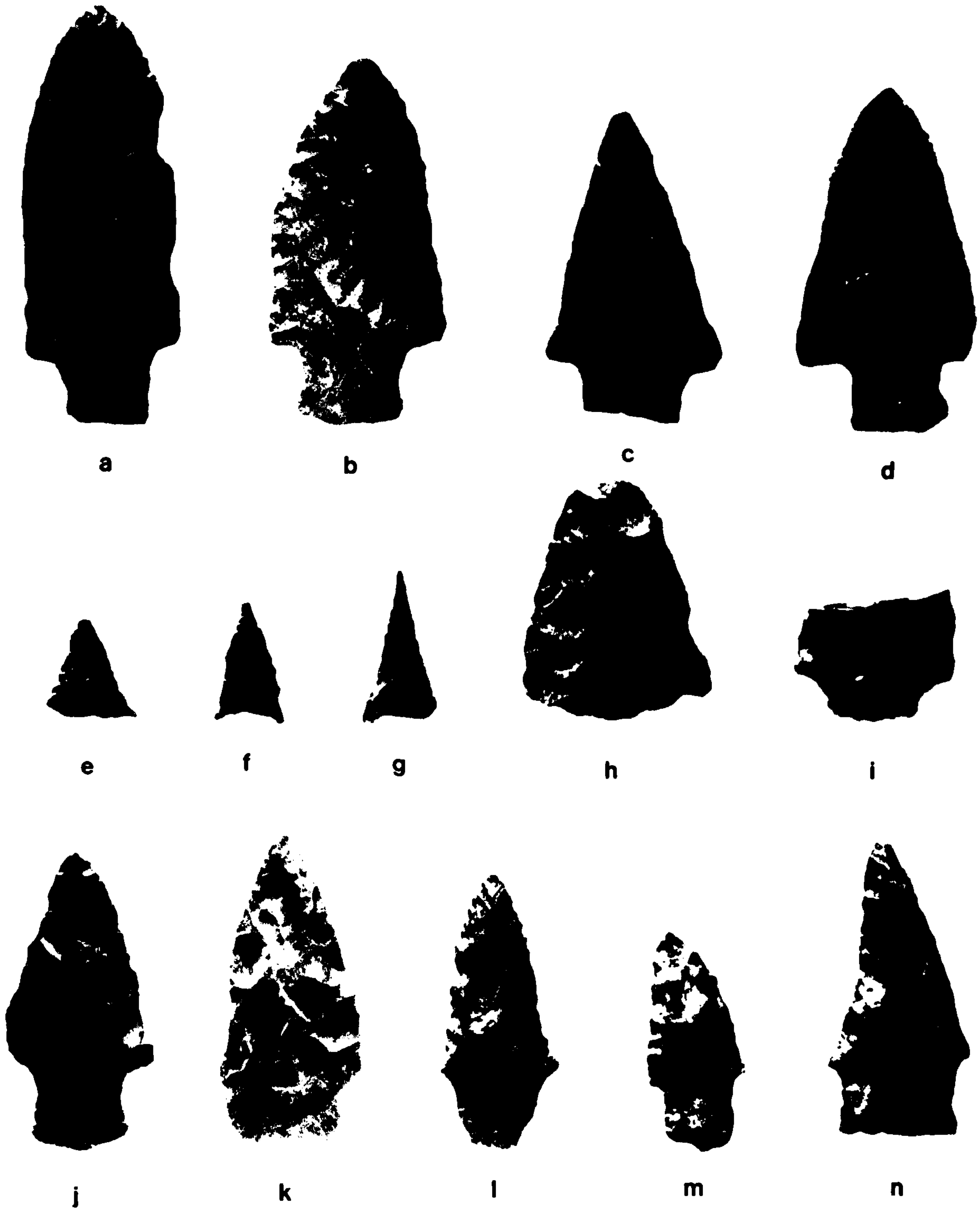


Figure 3.24. Projectile Point/Knives: a-b, Little Bear Creek (381-629/624, 1123-2858/623); c-d, McIntire (1515-25/624, 1038-1/623); e-g, Mississippian-Woodland Triangular (1123-2860/623, 381-631/624, 489-977/624); h, Morrow Mountain (657-1/624); i, Morrow Mountain Straight Base (509-6/623); j, Mud Creek (490-4006/624); k-n, Residual Stemmed (415-1/623, 1123-2868/623, 491-206/624, 713-3/624).

Figure 3.25. Projectile Point/Knives: a, Swan Lake (1123-2869/623); b, Tombigbee Stemmed (490-4011/624); c, Vaughn (347-1/624) d, Wade (834-1/623); e, Unidentified PP/K (429-52/624); f, Turkey Tail (753-1/623); g, Unidentified (double side-notched) PP/K Proximal Fragment (763-1/623).

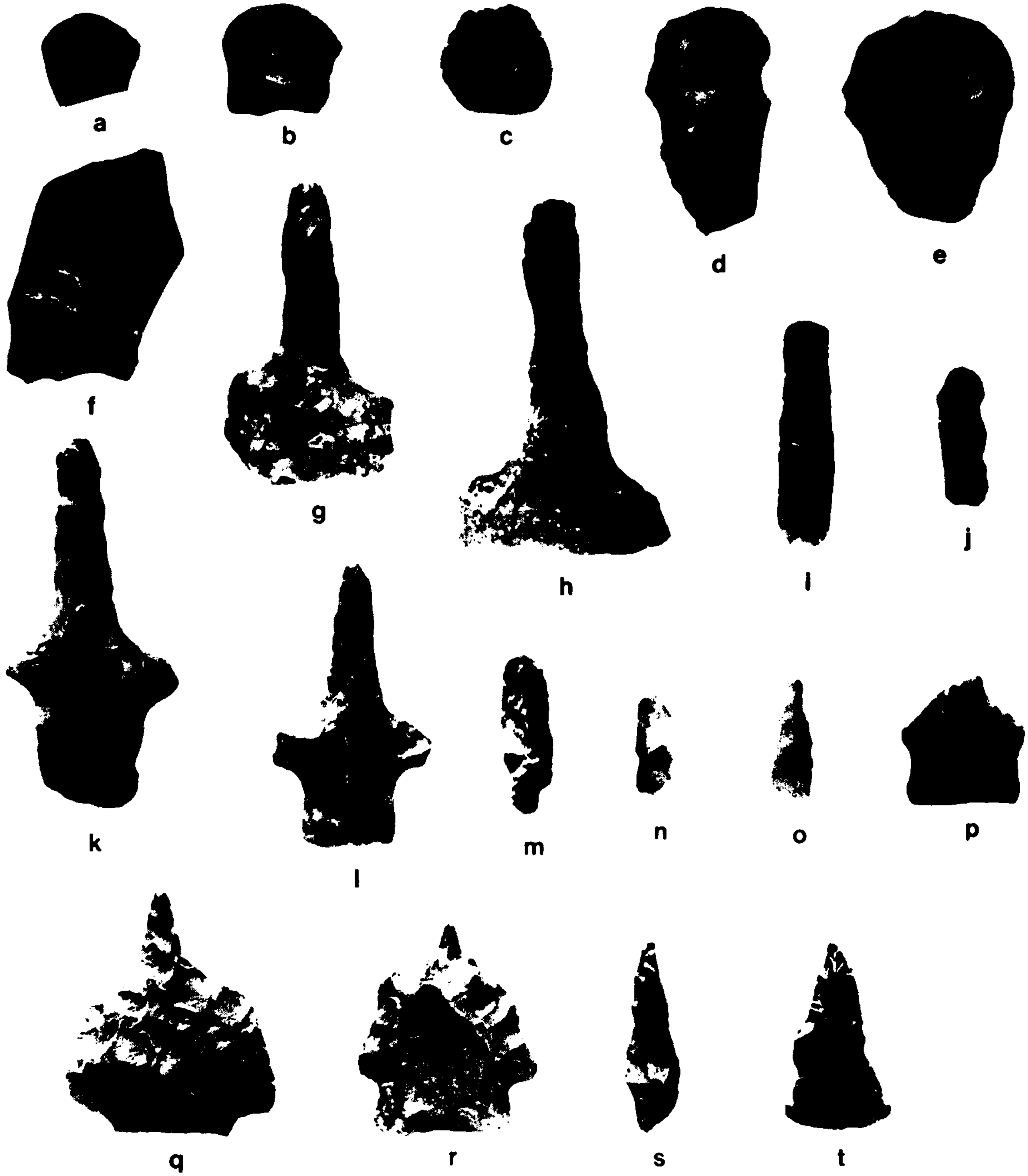


Figure 3.26. Chipped Stone Tools: a-b, Uniface End Scrapers (977-1/623, 411-36/624); c-e, Uniface End-Side Scrapers (1262-6, 644-5, 1002-11/624); f, Biface Cobble Scraper (426-4/623); g-h, Expanding Base Drill (356-50/624, 1116-1/623); i-j, Shaft Drill (410-27/624, 370-21/623); k-l, Stemmed Drill-recycled (352-1/623, 458-1/624); m-o, Microlith (876-9/623, 994-1/623, 750-4/624); p, Perforator(491-214/624); q-r, Perforator-recycled (489-1002/624, 463-1/624); s-t, Reamer (1123-2923/623, 1223-6/624).

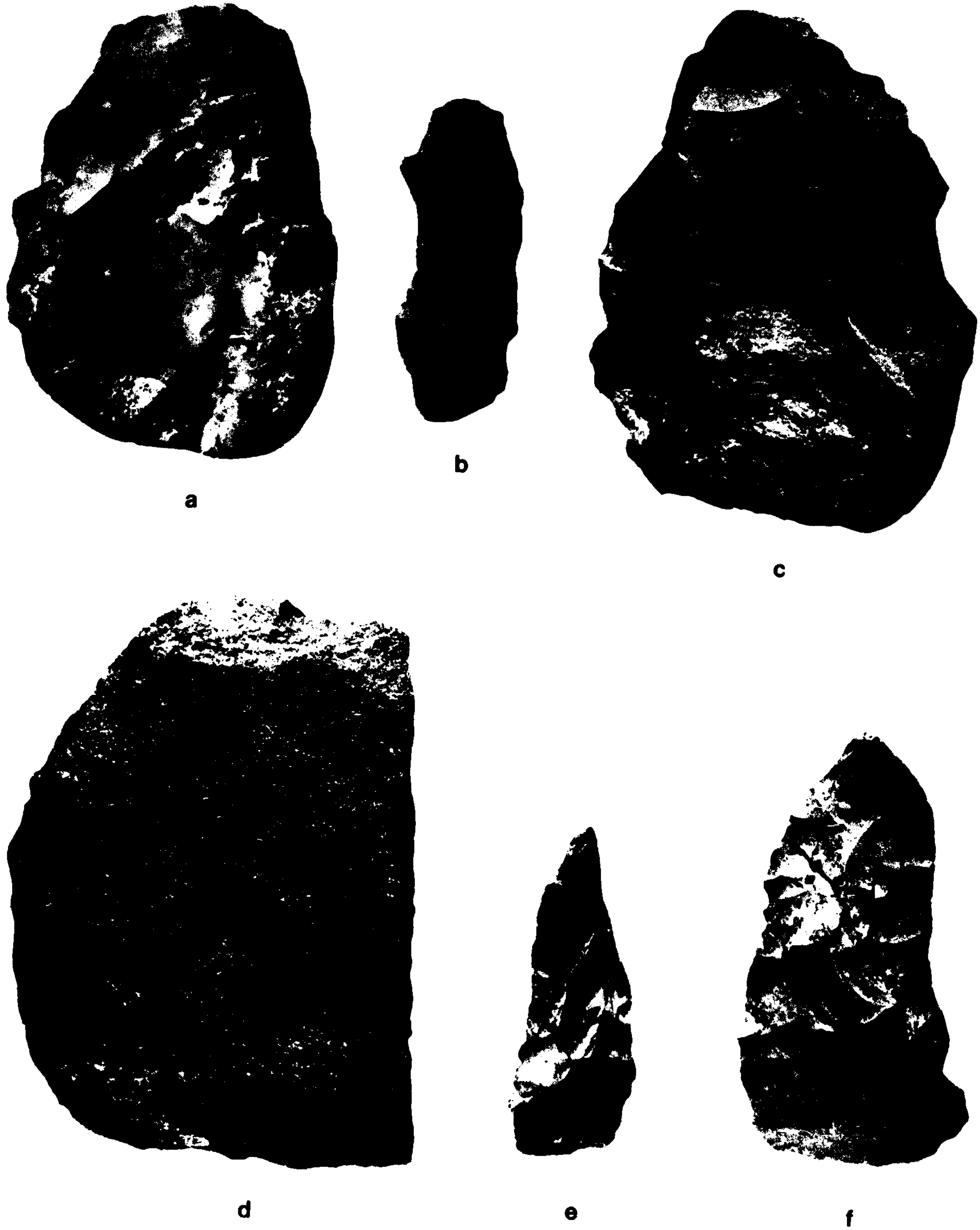


Figure 3.27. Chipped Stone Tools: a, Uniface Chopper (536-2/623); b, Uniface Flake Knife (1123-2925/623); c-d, Biface Chopper (536-6/623, 489-1003/624); e-f, Biface Flake Knife (570-30/624, 490-4064/624).

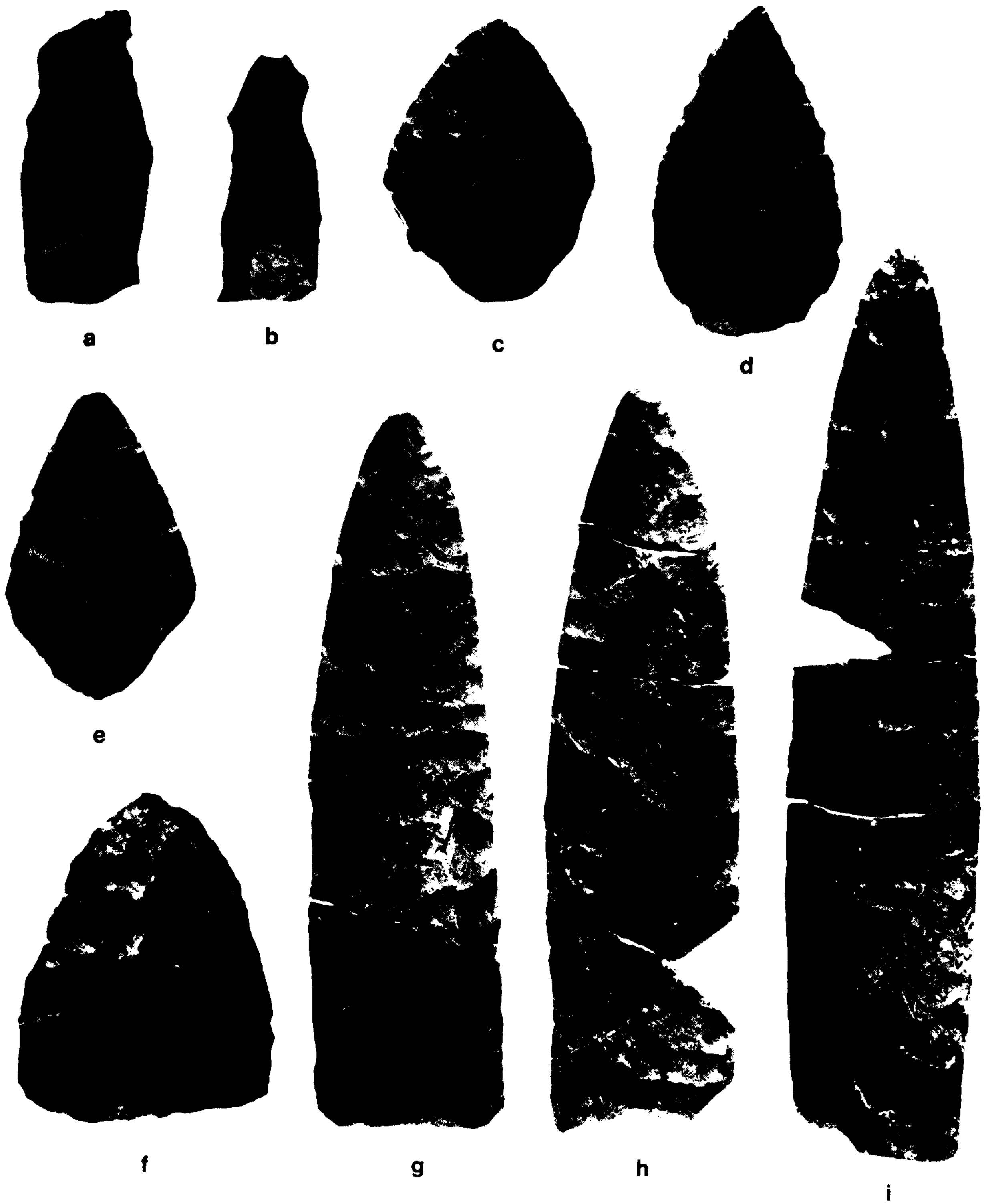


Figure 3.28. Chipped Stone Tools: a, Utilized Prismatic Blade (470-15/623); b, Utilized Blade/Like Flake (331-385/623); c-d, Ovoid Bifaces-Flake (489-1017/624, 1118-1/623); e, Ovoid Biface-Other (490-4078/624); f, Broad Based Triangular Biface-Flake (429-55/624); g-i, Biface Fragments (781-1/623, 779-1/623, 762-1/623).

Figure 3.29. Chipped Stone Tools: a-e, Biface Fragments (780-1/623, 750-1/623, 777-1/623, 771-1/623, 758-1/623).

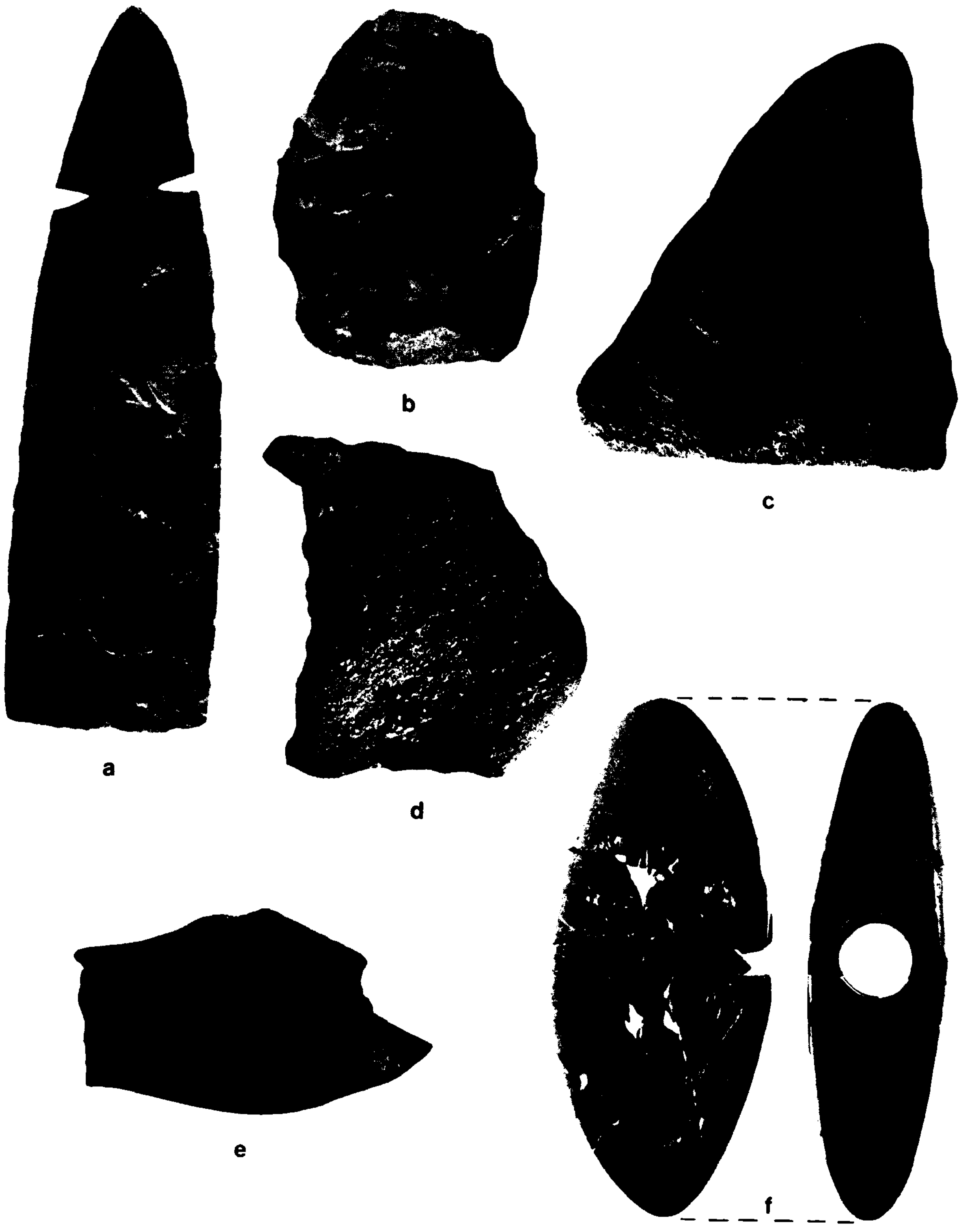


Figure 3.30 Chipped Stone Tools: a, Biface Fragments (749-1/623); b, Preform II-Indeterminate (345-1/624). Ground Stone Tools: c, Abrader (1484-36/624); d, Pitted Anvilstone (989-6/624); e, Atlatl Weight (1442-1/624); f, Atlatl Weight (1361/624).

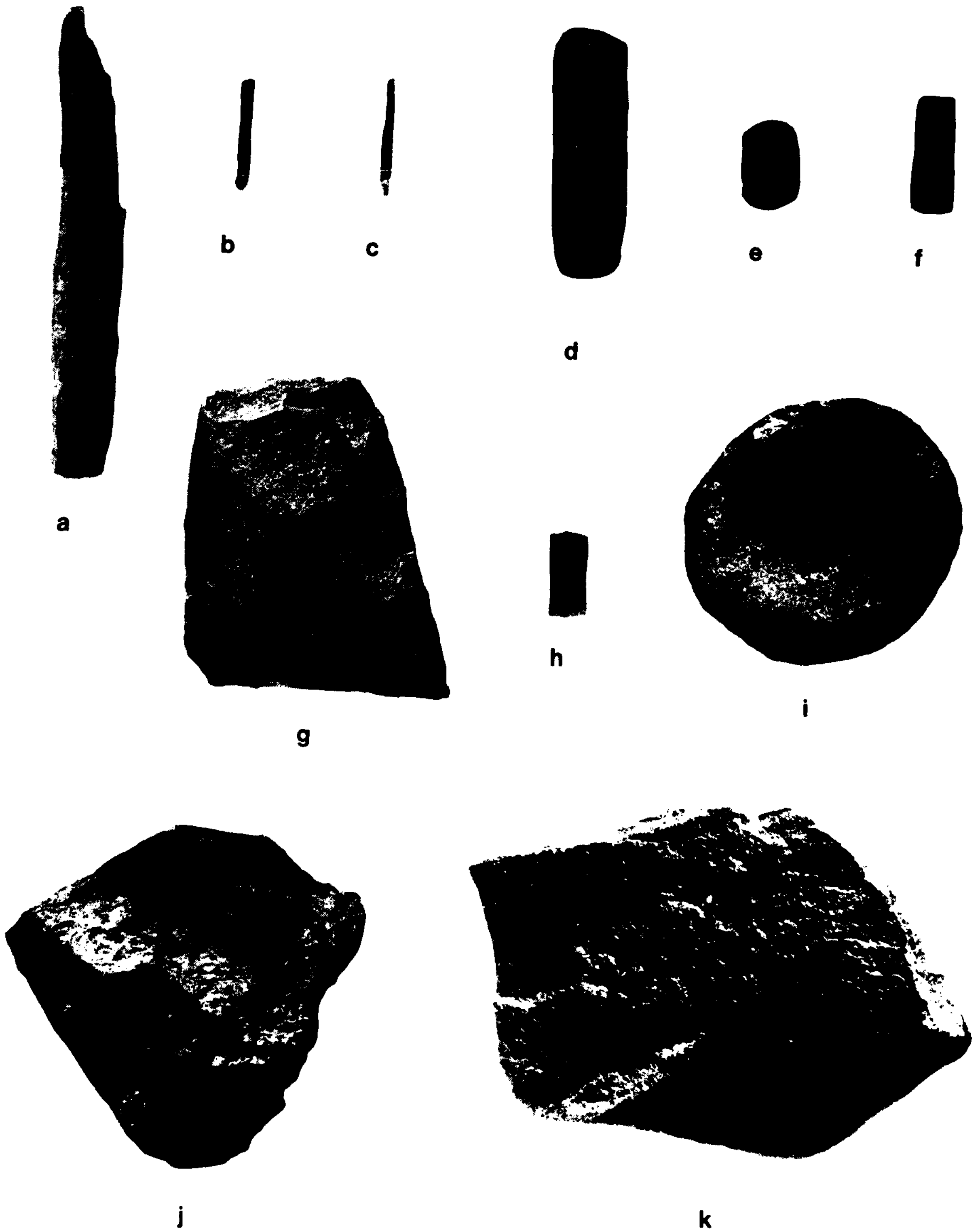


Figure 3.31. Ground Stone Tools: a-c, Awls (1123-3034//623, 963-1/624, 584-1/623); d, Bead (1123-3035/623); e-f, Bead Preforms (393-51/623, 370-36/624); g, Celt (686-1/623); h, Drill Core (479-15/624); i, Sandstone Concretion (1421-21/624); j, Ground Limonite (490-4115/624); k, Unidentified Ground Stone Tool (536-4/623).

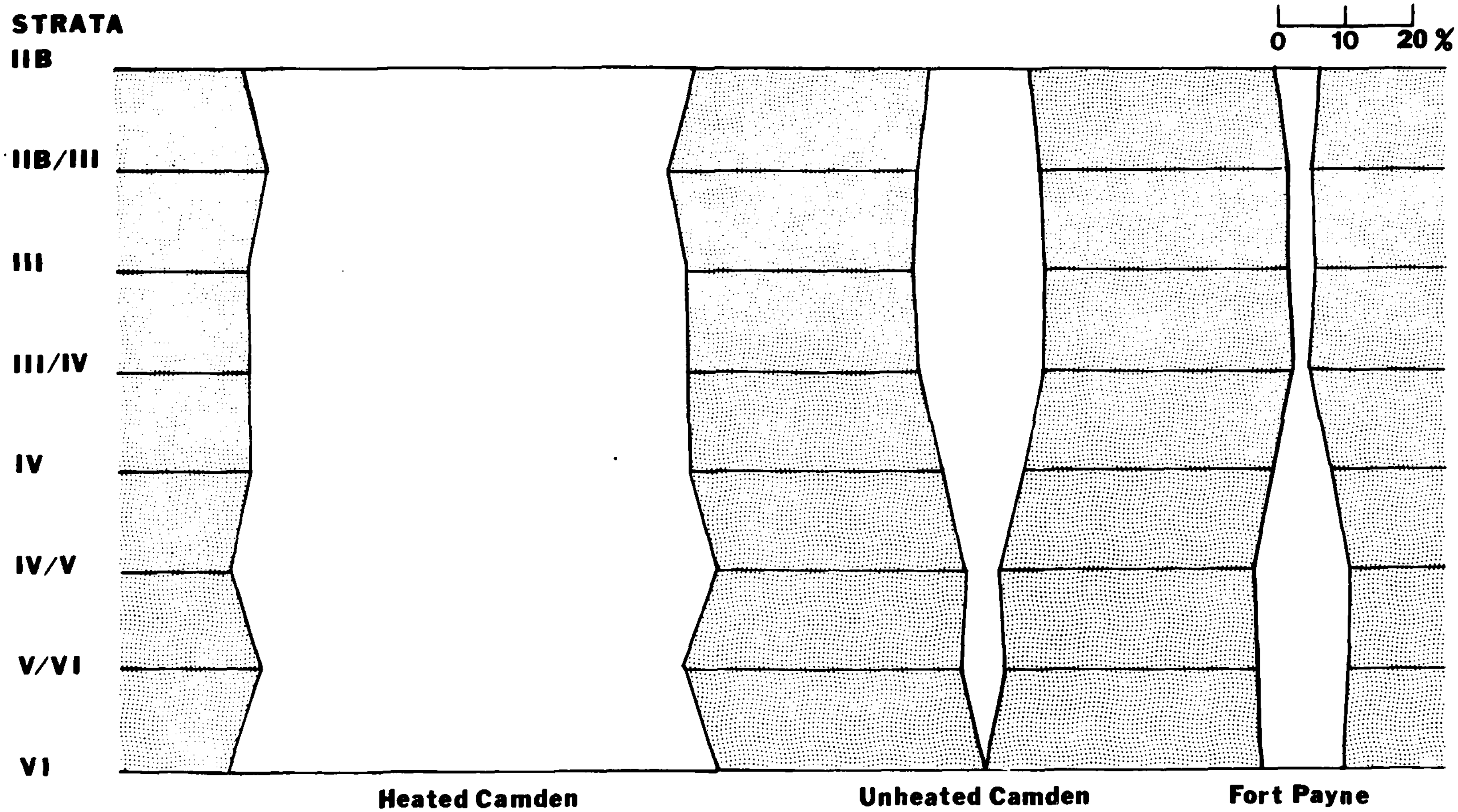


Figure 3.32. Relative stratigraphic distributions of principal lithic raw material types for unutilized debitage at the Beech site, 22It623.

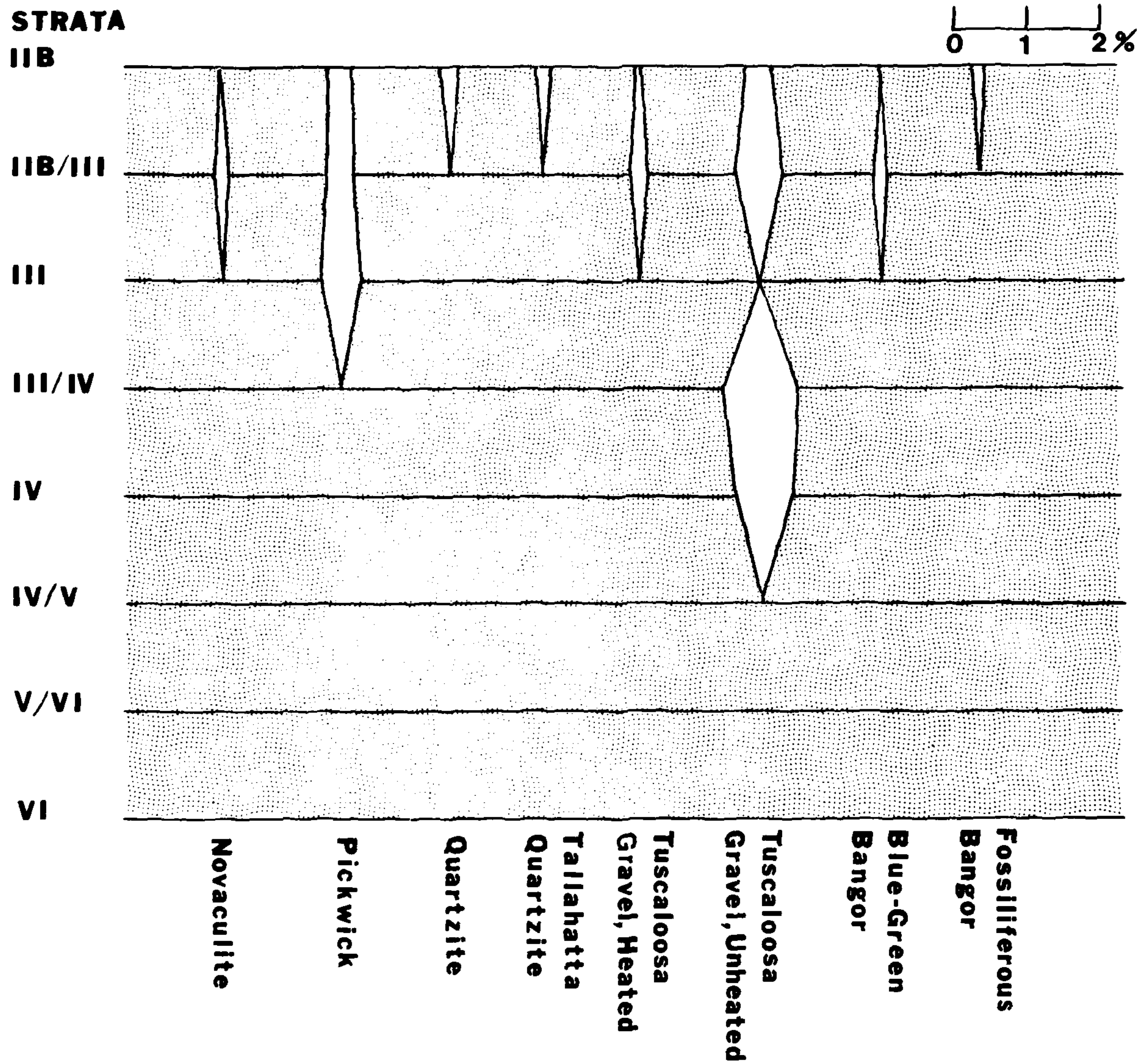


Figure 3.33. Relative stratigraphic distributions of minority lithic raw material types for unutilized debitage at the Beech site, 22It623.

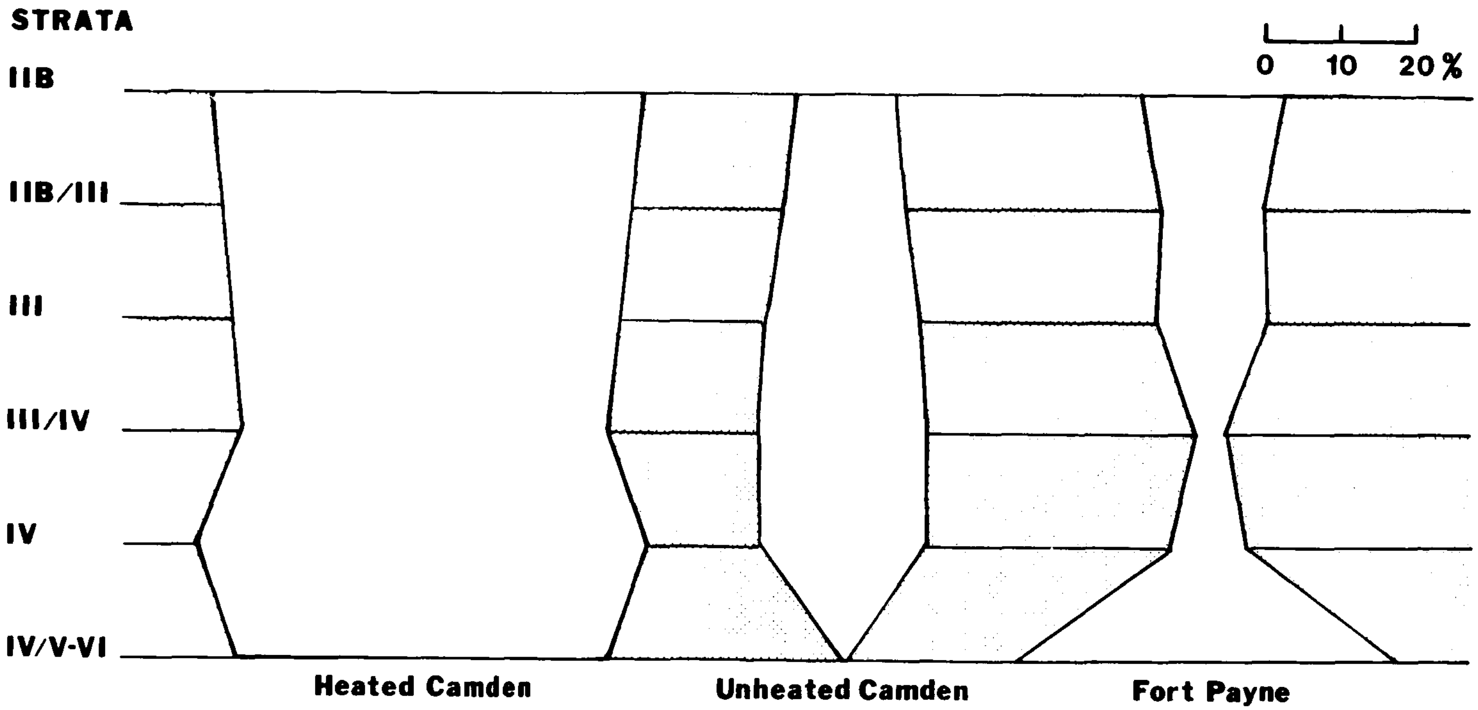


Figure 3.34. Relative stratigraphic distributions of principal lithic raw material types for unutilized debitage at the Oak site, 22It624.

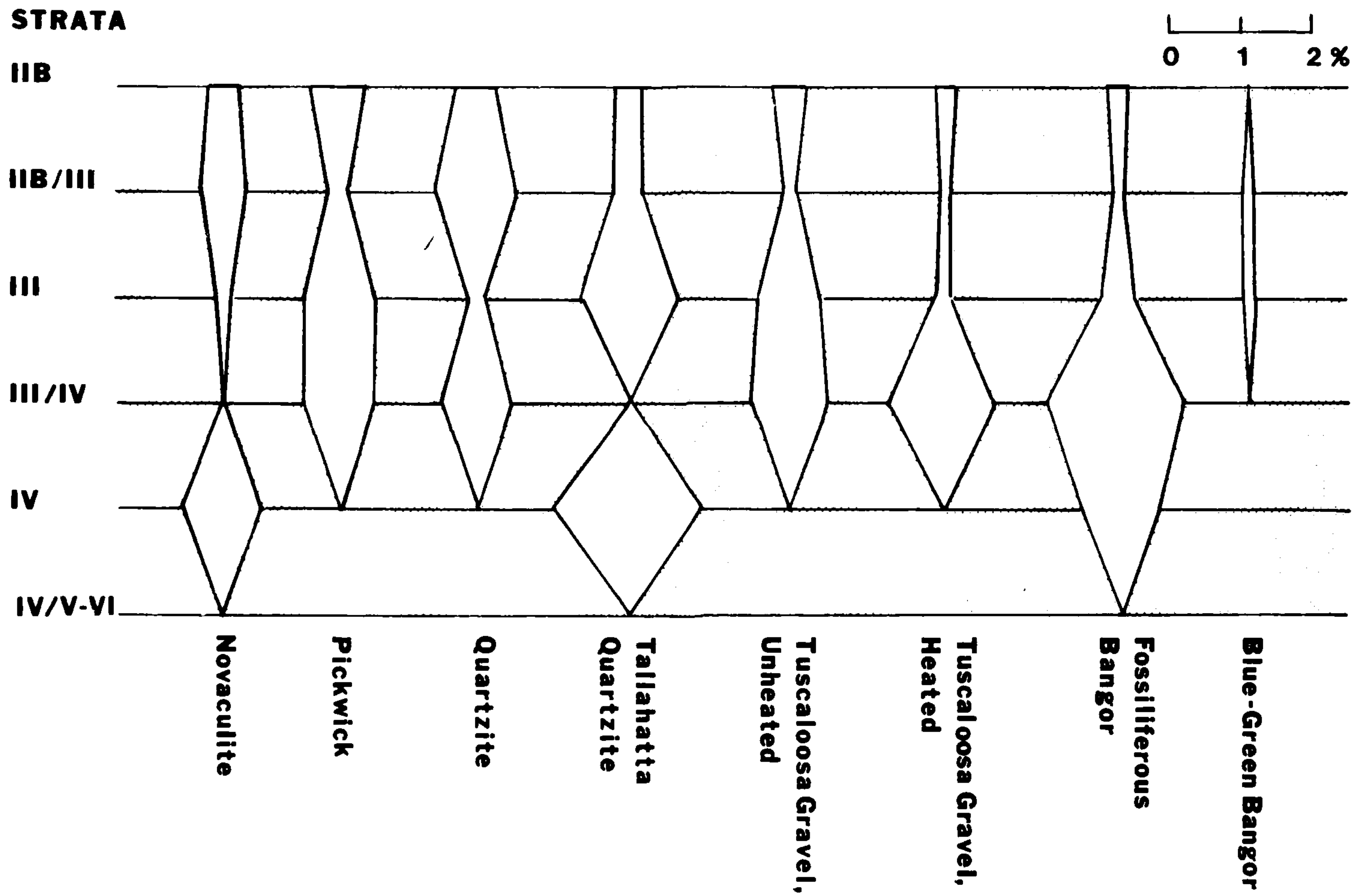


Figure 3.35. Relative stratigraphic distributions of minority lithic raw material types for unutilized debitage at the Oak site, 22It624.

CHAPTER IV

THE HICKORY SITE (22It621)

INTRODUCTION: HISTORY AND DESCRIPTION

The Hickory site (22It621) is located approximately 14 km north of Fulton, Mississippi, on the Tombigbee River floodplain near the eastern river valley escarpment (Figure 4.1). The site is 2.3 km to the east of the present river channel. It sits within the pool above Lock D of the canal under construction, and will soon be submerged. It is a low ovoid knoll, measuring 25 m north-south and 38 m east-west, with a maximum elevation of about 87 m (286 feet) above sea level. The knoll rises 60 cm above the surrounding floodplain, exhibiting a higher profile on the northern end than on the south. This morphology is a good indication that the site was probably formed by fluvial deposition as a point bar along a now abandoned tributary of the Tombigbee. Also contributing to site formation was the accumulation of cultural debris from repeated human habitation on the knoll, enhancing the natural depositional environment.

The bottomland surrounding the Hickory site supports a mixed mesophitic forest with a diverse variety of terrestrial and aquatic fauna. The climate is moderate. In his extensive report on Phase I operations (Bense 1982: Chapter 10) Rodeffer postulated that similar environmental characteristics have existed at least since the formation of the site.

The upper portions of the midden at the site have undergone various and extreme disturbances. Clearing and grading for waterway construction and the activities of relic hunters have been the major destructive factors. According to Rodeffer evidence of past plowing was not noted during Phase I investigations.

Initial testing of the Hickory site was carried out principally to determine the nature of the midden deposits. Testing was accomplished by the hand excavation of two 4 x 4 meter blocks placed on a high portion of the site which did not exhibit signs of disturbance. Results indicated the multicomponent nature of the site and the high potential for investigating intact deposits dating to the Early Archaic period.

EXCAVATIONS

Excavation of the Early Archaic component at the Hickory site was the major purpose of Phase II investigations, and all field operations there were directed toward this goal. Fieldwork was conducted between 9 November 1981 and 9 January 1982. Excavation was planned to focus upon the highest, central portion of the site. Three topographical considerations structured the planning. First, site geomorphology, indicating it to be a point bar, suggested that the deepest cultural sediments would correspond to the portion of the site with the greatest topographic relief. This straightforward assumption was partially validated during Phase I testing. Second, the nature of the fluvial environment in which the site was formed would have caused the most reworking of sediments to occur along the site's edges. Consequently, it was assumed that the sediments least disturbed by cutting and filling would also correspond to the highest, central portion of the site. Finally, the deepest part of the site was thought to contain the oldest cultural sediments; thus, we would be excavating to great depths. The technical and logistic problems that accompany deep excavation, especially in this low floodplain area had to be dealt with.

Phase II excavations of the Hickory site were initiated by the machine stripping of the upper midden layers explored during testing the previous year. Stripping allowed quick access to a cemented manganese stratum which effectively sealed the Early Archaic component beneath it. A backhoe was used to remove approximately the top 75 to 85 cm from the general site area, exposing the intact subsoil over a space measuring approximately 18 x 25 meters.

An area of about 250 square meters was then chosen in the most central portion of the site, close to remains of the two blocks excavated during Phase I, which were used as reference points. Around this central area a de-watering trench was excavated with the backhoe. Ordering of Phase II priorities prevented work from beginning here before late autumn. The site's floodplain location as well as the expected inclement weather for this time of year were factors which would cause the water table of the area to be higher than the depth to which excavations would extend. Consequently, the central site was "pedestaled" within the encircling trench system. A 1.5 m to 2 m wide continuous sump trench 60 m in total extent served to isolate the pedestal, which measured 22.5 meters north-south by 11 meters east-west (Figure 4.2). The sump trench varied in depth from 2 to 3.5 meters. It had to be deep enough to drain water from the pedestal and allow excavations below the (arbitrary) Level 15 (an average of 1.70 m below original ground surface) reached during Phase I test excavations. Using similar de-watering tactics on a small scale (a drainage trench around a single 4 x 4 m block), Phase I excavators had first been able to document the presence of the Early Archaic component here.

Due to the depth of the Phase II trench and the relatively soft sandy soils at the site, the entire length of the trench had to be shored with heavy lumber and cross-braced to prevent the walls from collapsing inward (Figures 4.3 and 4.4). Plastic sheeting (Figure 4.5) draped over the edges helped prevent erosion.

Ground water within the pedestal collected in the trench and ran toward two slightly deeper collection points dug at the north and south corners. From there it was pumped out, usually into a sump dug to obtain water for use in the waterscreening process. The trench was pumped out an average of twice daily (Figure 4.4). As long as its water level was kept as low as possible, excavation blocks remained dry at depths well below the water table.

Excavation took place within three 4 x 4 meter blocks (Blocks C, D and E) oriented north-south within the pedestal according to the Cartesian grid established during Phase I (Figure 4.2). Vertical control was maintained by the use of an elevation datum reestablished with reference to the arbitrary benchmark set down during Phase I. All excavated levels were therefore consistent with those of earlier investigations. Unit floor elevations were obtained by subtracting from the elevation datum arbitrarily designated 100 m. The true elevation of this datum, which originally approximated the highest part of the site, was later measured at 286.34 (187.28 m) above mean sea level by a Corps survey team. All three 4 x 4 meter blocks were taken to Level 19.2 (arbitrary elevation of 97.10), beyond which the cultural materials were quite sparse. From there a 2 x 2 meter unit was excavated in each block until sterile soils were encountered at approximate Level 22.2 or 23.1 (97.30 to 97.35 arbitrary elevation or about 2.45 meters below the original ground surface).

Block excavations followed the procedure outlined in Chapter 2; 1 x 1 meter units were removed in 5 cm sub-levels. Alterations or improvements of some techniques were introduced, based upon the experience of our previous six weeks of work at the Beech and Oak sites and also upon the singular situation at the Hickory site. Soil interpretation was the key to understanding site formation here, and additional soil and stratigraphy records were needed. On the advice of soil scientist David Pettry, artifacts discovered in situ were not only plotted but also photographed in order to record their orientations (e.g., Figure 4.8). It was hoped that this would provide information on the possibility of artifact movement into lower strata through bioturbation and soil discontinuities such as polygonal cracking. Another permanent record was procured by taking a soil "monolith" or column from a profile (west wall of Block D) that exhibited the total stratigraphic sequence at the site.

The procedure for taking control samples from each level of each block was also changed slightly at the Hickory site. Instead of dividing the 1 x 1 meter "control block" unit into quarters for various samples, the entire unit was processed by flotation except for a four liter soil sample taken for curation in perpetuity. This change was advised by Elizabeth Sheldon, the project's ethnobotanist, as a way of compensating for the sparse botanical remains expected in these soils and the dearth of prehistoric features. Though no control sample was processed in the fine screen at the site with this procedure, the fine screen fraction of the flotation recovery is the same thing.

Still, the sump water was not clean enough to be used for flotation. There would always be the possibility of sample contamination by the addition of recent materials or materials recycled by the pumping system and derived from one level but ending up in another. Flotation was therefore accomplished at a special station set up adjacent to the City of Fulton fire station, one block away from the field laboratory. All feature fill and control block samples were brought from the site and processed with city water. A second flotation machine was built to double processing speed; both could be run simultaneously by a single person.

Speed and efficiency were essential to every aspect of excavation as the season progressed and the weather deteriorated. Shelters of plastic pipe and sheeting similar to those at the Beech and Oak sites were constructed over the blocks and waterscreen station (Figure 4.5) and two others were set up and furnished with tables and stools to be used for work or break times. Some respite from the constant chill north winds blowing unobstructed down the open clear cut of the canal was afforded by propane-fueled space heaters placed inside the shelters. Severe storms with violent winds occasionally demolished the shelters. After one heavy thunderstorm in early January the de-watering trench was filled nearly to the top from runoff. Some excavation walls suffered damage, though profiles were able to be reconstructed. Very few work days were lost to weather, however. Fieldwork was completed just before the coldest weather recorded for the area in this century occurred. The few control soil samples recovered for flotation that could not be processed due to time and weather constraints were brought to the home lab at the university in Pensacola for processing. The site was backfilled later in January by the project's backhoe operator and now lies awaiting inundation.

A summary of excavations at the Hickory site is presented in Table 4.1. Approximate volumes for the different excavation units and deeply extended portions thereof are given. The total volume of controlled excavations for Phases I and II combined is over 100m^3.

STRATIGRAPHY

DESCRIPTION

The Hickory site was a probable point bar remnant, a low mound on the floodplain sloping to the south, the probable direction of the stream flow that shaped it. Coarser sands underlay the northern end of the site, as compared with finer sands to the south. Much of the stratigraphy at both ends, as compared with the middle portion, was the product of cutting and filling action that displaced the ancient paleosol and replaced it with coarse, mottled, diverse sand layers and lenses. Cultural activities from at least the Early Archaic onward probably also contributed to the formation of the mound, though their extent and nature are as yet indeterminate. Few organic remains were preserved in the deeper strata of the site, the strata excavated during

Phase II; thus a considerable portion of the prehistoric record is unavailable. However, lithic materials and, from the late prehistoric periods, ceramics were abundant.

Four major stratigraphic zones were present at the Hickory site. The uppermost thick dark midden zone contained the mixed remains of many prehistoric components. It overlay a very dark, cemented zone characterized by ferruginous loam packed with manganese nodules. Underlying this was the thick paleosol stratum of mottled and streaked browns and grays, becoming uniformly bright orange at its base. Below it was the culturally sterile blue-gray clay or gley (Figures 4.9, 4.10 and 4.11).

Not quite constituting a developed horizon, various coarse sand lenses and zones replaced the upper portion of the paleosol at the northern and southern ends of the site. This sand was originally thought to represent the base of the cultural deposits, containing the Early Archaic component, and was so described by Reed in the Phase I report (Bense 1982: Chapter 10, especially Figure 10.6). During Phase II operations the existence of the paleosol was recognized. It was then also realized that the sand occurred only intermittently and, having replaced portions of the paleosol through cut and fill action, actually had a lesser cultural content than the paleosol.

The revised stratigraphy descriptions are given in detail below and pictured in Figure 4.9. A list of arbitrary excavation levels included within each stratum by excavation block and the excavated volumes of each stratum not including features is given in Table 4.2. (As Phase I excavations were in 10 cm instead of 5 cm levels, the .1 or .2 subdivisions do not occur in Blocks A and B). As with the Beech and Oak sites, arbitrary excavation levels sometimes overlapped the transitions between two strata. Such cases were given separate, transitional categories on the tables to distinguish the data from those derived purely from a single stratum. Densities of selected artifact categories per stratum are shown in Table 4.3. All cultural materials recovered are listed by stratum in Table 2 of Appendix II (and by arbitrary excavation level in Table 1 of that appendix).

Stratum I: the recently formed, shallow, dark reddish brown (5YR2.5/2) loam topsoil. Removed by machine prior to the commencement of Phase II excavations, this stratum was only briefly described in Reed's Phase I report (Bense 1982). It averaged 10 cm thick, presumably contained the forest humus and root mat, and had been disturbed by much recent unauthorized excavation. Cultural materials attributable to nearly all prehistoric time periods, including the Early Archaic, were recovered from it (see list of diagnostic projectile points in Table 4.15 near the end of this chapter).

Stratum II: the thick dark midden zone, containing the heaviest cultural deposits. Archaic and ceramic-bearing components of many time periods were present and apparently mixed by both subsequent prehistoric activity and recent pot-hunting. Artifact density for all categories was the greatest of all strata, as is clear on Table 4.3.

Characteristics of the later prehistoric deposits predominating in Stratum II are discussed in Reed's Phase I report (Bense 1982: Chapter 10). This stratum, averaging 50-70 cm thick, was machine-stripped from the area of the site to be excavated during Phase II.

Stratum III: a tough, dark, very mottled ferruginous sand or sandy loam midden zone, with a high density of manganese concretion. It was divided into two sub-strata based on degree of cementation. IIIA was a very dark gray (10YR3/2) extremely hard-packed sand mottled with brownish gray (10YR6/2) and black (10YR2/1) ferric and manganese concretions. It was machine-stripped from the investigated area of the site prior to Phase II operations.

Stratum IIIB was essentially identical to IIIA except that it was slightly less cemented. Phase II excavations began with this stratum in the artifically drained pedestal area (Figure 4.9). During Phase I this sub-stratum was given a different stratum name (IV; see Bense 1982: Figure 10.6).

The entirety of Stratum III was thought to have been an effective sealer responsible for the well preserved condition of the underlying early prehistoric cultural deposits. With the upper, harder portion removed by the backhoe, hand excavation of the lower portion was expected to expose more carefully the top of the soft pale sand thought to contain the early sediments. Though much of the site was found to have the paleosol directly underlying Stratum III, this technique was useful for accurate exposure of the uppermost boundary of this paleosol, as well as for careful treatment of the soft sands of Stratum IV where they did exist.

Stratum III contained the earliest ceramic-bearing deposits at the site. The density of sherds decreased with depth (see Table 4.3) such that, from the 11.2 m^3 of Stratum IIIB excavated, only 5 sherds were recovered: one Saltillo Fabric-Marked, 3 indeterminate sand-tempered, and one fiber-tempered. The high mineral concretionary content of Stratum III may have been due to the high organic content of the midden here, coupled with the position and flux of the water table, according to project soil scientist David Pettry. Manganese concretions in features have already been described for the Beech and Oak sites. The interactions of cultural and natural processes that result in such concretions in their many different expressions certainly merit further study. The remarkably mottled appearance of Stratum IIIB is probably due in a large part to such concretionary action. This coloring may have effectively masked any but the most obvious cultural features (Figures 4.6 and 4.7).

An accurate characterization of the cultural components and their boundaries within Stratum III is not possible at this preliminary stage of analysis, nor may it ever be. The situation is similar to that at the Beech and Oak sites and others where continual prehistoric reuse or reoccupation has resulted in mixed cultural sediments to a greater or lesser degree. Some seriation is possible of diagnostic artifacts, however. The entirety of Stratum III is probably dominated by Middle Archaic deposits, especially in its lower portions. The upper portion probably saw the deposition of the earliest Late Archaic remains.

Slight disturbances by later peoples, or perhaps natural agents, probably introduced the few ceramic sherds. These evaluations are suggested by the data as arranged by stratum in Tables 4.3 (also see Table 4.15).

Stratum IV: a highly irregular assortment of coarse sands present sporadically throughout the site. It was originally considered a true, complete stratum by Phase I investigators (IV; Bense 1982: Chapter 10, Figure 10.6), and judged to contain the sealed, intact early Archaic cultural deposits. During the Phase II excavations it became obvious that the sand existed only at the north and south extremes of the site and was expressed in several different versions.

This is best illustrated through a comparison of the photo (Figure 4.12) and the drawing (Figure 4.9, bottom) of the west wall of Block E, the northernmost excavation block at the site. Stratum IV proper was a partial stratum, not continuous throughout the site. It was composed of very mottled dark brown (7.5YR3/4) and gray (10YR5/1) loamy sand with manganese and ferric concretions. The lighter areas appeared as tongues in the darker, as if light sandy streaks had been shot through a matrix similar to the manganese zone of Stratum III. Figure 12 shows Stratum IV (at the top) as it appeared in the south half of the west wall of Block E. Below it were lenses labeled IVS on the drawing in Figure 4.9. These are less mottled, smaller units of massive, coarse sand. They were often very pale, but could be dark, or mottled. Below Stratum IV (at left, above scale) in the photo in Figure 4.12 is a lens of almost white sand apparently turned dark gray brown at its bottom from a water table mark. Other lenses to the right (one vertically oriented; compare with Figure 4.9) are mottled. The entirety of the south wall of Block E, even when freshly troweled, as pictured in Figure 4.13, is a confusion of light, dark, and mottled areas under a thin dark, irregular Stratum IV.

All the sands included under the categories of IV and IVS were estimated by soils consultant Pettry to be later deposits than the Holocene paleosol which they usually overlay. In one one case the sand was present within the paleosol; this was in Block A, as shown in Figure 4.10, where the sand lens has been labeled VS. Stream action resulted in cutting and filling, apparently at the peripheries of an already existing "knob" on the floodplain. Thus these sands were deposited nearer the edges of the site. Where they did not exist Stratum III directly overlay the paleosol, as in Block D (Figure 4.11) in what is judged to be the center of the site and the main area of prehistoric cultural deposits.

Both partial Stratum IV and the sand lenses grouped under the heading IVS had a much lower artifact density than adjoining Stratum III, and even than the paleosol in Stratum V (Table 4.3). The latter would be expected if the sands were later deposits, rapidly accumulated and not necessarily as associated with human activity. Many of the discrete lenses were excavated separately as segments of blocks and levels (see following section, also Table 4 of Appendix II). A later, more detailed study of their natural and cultural content might provide insights into the ancient fluvial dynamics as well as cultural behavior at the site. The three diagnostic projectile points recovered from Stratum IV (See Table 4.15) do suggest it contained only Early Archaic deposits, which may have been mixed in from their place of origin in the underlying paleosol.

Stratum V: the Holocene paleosol, with characteristic polygonal cracking. This ancient, buried soil was not recognized as such during Phase I, though a small area of it was exposed in Block A (Figure 4.10). Phase II operations involved the excavation of over 33 m^3 of it, predominantly but by no means exclusively from the center portion or "heart" of the site in Blocks C and D. In these blocks for the most part Stratum V directly underlay the cemented manganese zone of Stratum III, with no intervening coarse sand deposits of IV or IVS (Figure 4.11).

The paleosol here was similar to in color and only slightly more clayey in texture than its manifestation at the Beech and Oak sites. It was composed of a basically gray (10YR7/2) sandy loam matrix, heavily mottled, with streaks and tongues in cross-section, with yellow, reddish yellow, brown, and light gray (10YR7/6, 2.5YR7/4, 7.5YR5/8, 5Y7/1) sandy loam and clayey sand. Processes such as bioturbation, leaching of soil minerals, water percolation, and general flux in water table levels have been responsible for this appearance, according to soils consultant Pettry. Within the thick stratum of this paleosol Pettry distinguished several episodes of deposition under slightly different fluvial regimes by noting where small changes in soil texture occurred. Three such episodes are indicated by the bands labeled VA, VB, and VC in the stratigraphy of Block D shown in Figure 4.9.

At the base of the paleosol the excessive concentration of iron and other minerals resulted in color changes extreme enough to require demarcation into separate strata by the archaeologists during excavation (VI and VII, see below). Above these, Stratum V varied in thickness from 10 or 20 cm in areas where it had been displaced by Stratum IV deposits (Figures 4.9, bottom; 4.10; 4.12; 4.13) to over a meter in the undisturbed central portion of the site (Figures 4.9, top; 4.11).

Stratum IV in plan view was heavily mottled, but probably not transformed enough to mask prehistoric cultural features, in Pettry's opinion. The lack of such features may be attributable to cultural reasons. Pettry also suggested the recording and photographing of artifacts encountered in it *in situ* whenever possible (Figure 4.8), to see how they lay and if a pattern could be discerned to illuminate the mechanisms of alluvial deposition. Though detailed study of all such photos and records has not yet been undertaken, no consistency of orientation can yet be detected. Though artifacts such as the chert tool in Figure 4.8 were not lying flat when first encountered, the reasons could be cultural as well as natural. Some vertical displacement and reorientation of artifacts in soft sands is to be expected at prehistoric occupation sites, especially through trampling and especially at periodically reoccupied hunter-gatherer camps (Yellen 1977: 103, Villa 1982: 279). Furthermore trampled materials tend to become sorted by size, with smaller objects traveling deeper (Ibid.). Such a process may account for the declining presence of diagnostic or large chert tools with increasing depth, and the increasing proportion of smaller debitage pieces in the total artifact assemblage for each stratum of the paleosol (V, VI, and VII). (Future studies should investigate similar possibilities in the data recovered from other sites during Phases I and II.)

There is some positive evidence and a great deal of negative evidence that all cultural remains in the paleosol are of Early Archaic age. The rough seriation discussed later in this chapter in Table 4.16 demonstrates the vertical progression of cultural components and notes the five Early Archaic projectile points from Stratum V. The general artifact density of Stratum V is much greater than that for IV where it occurs above V, and also greater than that for all deeper strata.

Stratum VI: essentially the lowest portion of the paleosol, where heavy iron and other minerals have collected in high concentration. This high mineral content is a result of the impermeability of the underlying gray clay and the elevation of the permanent water table, according to soil scientist Pettry.

Stratum VI is described in objective terms as a strong brown (7.5YR5/8) sandy loam mottled with gray (10YR7/2) averaging 20-40 cm in thickness. It actually appeared as a bright orange in contrast to all other soils here. It also had slightly greater clay content than the paleosol above. The extreme color contrast from Stratum V to VI is apparent in Figure 4.11.

The cultural content of Stratum VI is evident in Table 4.3. Artifact density is much lower than that of the main body of the paleosol, Stratum V, being closer to that of the discontinuous sand of Stratum IV. No diagnostic cultural materials were recovered; it is assumed the chert tools, fragments, and debitage relate to the Early Archaic component, though there is some (extremely small) chance they may be earlier (see discussion in concluding section of this chapter).

Stratum VII: small, discontinuous lenses of brown clayey sand, most probably representing a transition zone between Strata VII and VIII. Encountered only in Blocks C and D, the areas comprising Stratum VII were so labelled principally because of their color difference. They were actually reddish yellow on the Munsell chart (7.5YR5/8), but appeared brown by contrast with the bright orange of Stratum VI above and the deep blue gray clay (Stratum VIII) below. In the black and white photo of Block D's stratigraphy (Figure 4.11) Stratum VII lenses do not show up well but are nearly the same intensity of gray as is the bright orange of Stratum VI.

No discrete portions of Stratum VII soils were able to be isolated, as is noticeable on Table 4.2. In the excavated levels containing a mixture of VI-VII-VIII soils the artifact density was not far from that of Stratum VI alone, but this is no doubt due to the contribution of VI to that mixture. Presumably these materials, none of which are diagnostic artifacts, are also attributable to the Early Archaic.

Stratum VIII: the blue gray clay or "gley" soil underlying the paleosol (Figure 4.11). Actually a dark gray on the Munsell scale (5YR4/1), this soil is below the permanent water table and underlies much of the Upper Tombigbee Valley. Its color and texture, according to soil scientist Pettry, are due to the reducing atmosphere at this depth, about 2 1/2 meters below the original ground surface.

Pettry stated that the gley was never a surface soil or a horizon and therefore by nature had to be culturally sterile. The observant reader will notice a few chert flakes recorded from Stratum VIII (Table 4.3; Table 2 in Appendix II), including utilized flakes, which are counted as chipped stone tools in our classification system. Nearly all of these flakes noticed by the excavators in situ in the clay were in lighter blue, small, very sandy pockets or veins, which were probably root or animal disturbances. In other words most of these artifacts originated in the paleosol above and had been artifically introduced into the gley. The tabulated data for Stratum VIII thus provide an interesting example of the rate and volume of cultural materials filtering down into what are actually sterile soils. Such knowledge is helpful in interpreting other sites investigated during both phases of this project where there is some ambiguity in the stratigraphic record concerning what are truly archaeologically sterile soils.

It is also important to note here another aspect of interpretation pertinent to the artifacts in Stratum VIII. It is quite likely that a few of the tiny flakes from this gley soil had to have reached the waterscreen by accident. By the time Stratum VIII was reached even the extremely artifically lowered water table was being approached. Muddy excavation floors were kept as clean as possible, but the excessive stickiness of the grey clay made even walking difficult, let alone shovel-skimming. Extreme precautions were taken, such as the placement of planks on the floor for excavators to stand on (Figure 4.13). Yet it was inevitable that some mixing of soils took place, especially since within any one block one 2 x 2 unit was being excavated into Stratum VIII while others were still in the orange soil of Stratum VI. Hence the best explanation is that these few flakes were dragged in while sticking to shovels, boots, etc.

SUMMARY AND OBSERVATIONS

The correlation of cultural components with the stratigraphy at the Hickory site is relatively complex (as shown in the seriation in Table 4.16). The paleosol (Strata V, VI, VII) clearly contains most of the Early Archaic component, however, and is judged to be undisturbed by or unmixed with other components.

Figure 4.14 shows a schematic profile of the site along the best north-south axis available (data from north wall of Block B and west walls of all other blocks). As far as can presently be determined, the initial process of site formation involved the development of the central core "hump" of what is now paleosol, and the deposition of the Early Archaic remains in it. Continuing accretional natural alluvial deposits and, to some degree, cultural deposits, built up the site to its "midden mound" configuration. At some time (or times) later than the formation of the paleosol, probable swift water cutting action scoured away soil, mostly from the periphery of the site, and replaced it with the coarse sand deposits of Stratum IV and IVS (and probably VS). Smaller lenses of this sand somehow formed closer to the center of the site as well, as seen in the stratigraphic column diagram from Block C in Figure 4.14. The cemented manganese zone and upper midden then accumulated above this, the excessive manganese and ferric concretions possibly being formed after deposition of cultural sediments.

Cultural components can only be demarcated by the few diagnostic artifacts in them. Thus the seriation (in Table 4.16) can show only overlapping components within the strata. This is to be expected at a site which was most probably a short-term repeated use camp for exploitation of one or a few specific resources, such as nuts. Even the upper part of the intact Early Archaic component was probably disturbed by later cultures, resulting in the occurence of the few diagnostic tools in much later strata (see Table 4.16). In addition, some of the recent pot-hunting disturbance may have caused mixing of materials of different ages and time periods.

A gross component assignment can be done for the other strata (see Table 4.16). The major part of the Middle Archaic component seems confined to the lower portion of the cemented manganese layer, Stratum IIIB. The initial Late Archaic deposits are also in this stratum, in very low density, and similarly in IIIA. The heaviest Late Archaic deposits are in the upper dark midden, Stratum II, where the Gulf Formational and Woodland materials are also deposited. Thus Stratum II is the most extensively mixed, though its most intensive occupation was probably Early Woodland, judging from the predominance of sand-tempered ceramics. More specific component boundaries are not really ascertainable.

Further analyses of the Middle and Early Archaic deposits and materials recovered will undoubtedly be quite fruitful. Diagnostic points will always be few. Hunter-gatherers would have tended to discard only worn or broken tools, and few were likely to have been lost; instead, important tools would most probably have been meticulously cared for and husbanded (Yellen 1977: 103). However there is a large lithic assemblage accompanying the diagnostic points. The types of tools and debitage and their horizontal and vertical distributions reveal much about these components. For example, the stratigraphic distributions of chert raw material types (Figures 4.22 and 4.23) document change through time in material procurement and use patterns (see discussion in last section of this chapter). The artifact densities of each stratum (Table 4.3) permit comparison at many levels.

The problem of natural soil disturbance, discussed at length in the last chapter, is apparently and inexplicably diminished at the Hickory site. Fewer areas of bioturbation were noted in the excavation Blocks and where they did exist they were obvious (as in the floor shown in Figure 4.12, bottom).

Future research utilizing the collected data from the site will no doubt profit from the large body of carefully obtained stratigraphic records, including artifacts and other cultural materials, soils information, and even a complete soil column removed from Block D and now in permanent storage. There is a wealth of study material for the analysis of culture chronology and process in the Early Archaic.

FEATURES

INTRODUCTION

Only eight features were encountered at the Hickory site during the course of the Phase II investigations, and no features were reported from the Phase I testing project at the site. Of the eight features, four were apparently cultural in origin while the others turned out to be natural disturbances. Table 4.4 presents a brief summary of information on each feature, including dimensions, types, soil colors, and important associated cultural materials. Table 3 in Appendix II provides a complete list of cultural materials recovered from all features.

Of the four probable cultural features, three were basin-shaped pits and one was a lithic debitage cluster. One Kirk stemmed projectile point (Figure 4.17f) was contained in Feature 4, indicating an Early Archaic association. No other features yielded any diagnostic artifacts.

In addition to the features, a number of anomolies such as stains and artifact concentrations were designated as segments of levels if they were not distinct enough to be labelled as features at the time of excavation. As excavation progressed past the upper layers, some of the segments turned out to be disturbed upper portions of features while others turned out to be either parts of strata, sand lenses, or natural disturbances. The following is a list of segments investigated during the excavations, with a brief identification.

Block C, Segment A: upper part of Feature 4.
Segment B: upper part of Feature 3.
Segment C: concentration of manganese, transition from Stratum III to V.
Segment D: Sand lens, Stratum IVS
Segment E: Sand lens, Stratum IVS
Segment F: Sand lens, Stratum IVS
Segment G: manganese concentration, Stratum IV

Block D,	Segment A:	upper part of Feature 6.
	Segment B:	root mold, Stratum IIIB-V
	Segment C:	part of Stratum VII
	Segment D:	part of Stratum VIII
Block E,	Segment A:	upper part of Feature 7.
	Segment B:	upper part of Feature 8.
	Segment C:	mottled sand lens, Stratum IVS
	Segment D:	stain within Stratum IV

Cultural materials recovered from each segment are listed in Table 4 in Appendix II. More discussions concerning these segments can be found in the stratigraphy section of this chapter.

FEATURE DESCRIPTIONS

Feature 1: a lithic debitage cluster (Figure 4.7). No discernable pit boundary was recognized. It contained two utilized and 139 nonutilized flakes. Over 69% of the nonutilized flakes were 1/4" flakes (n=97) and 29.5% were 1/2" flakes, while only one flake, or 0.7%, was larger than one inch. It appears that this feature may have been a refuse pile of flaking debris resulting from stone tool manufacturing.

Feature 2: an irregularly-shaped soil stain, probably a natural disturbance. A single 1/4" nonutilized flake was recovered from this feature.

Feature 3: a basin-shaped pit containing nine nonutilized flakes, 4.3 grams of hickory, and 0.1 gram of acorn shell. This irregular oval dark stain contained mostly mottled dark gray and reddish brown sandy loam with dark manganese and white sand. Its upper portion was extensively disturbed and was named Segment B and excavated separately. Cultural materials recovered from this segment include 23 flakes and over 900 grams of various rocks.

Feature 4: a circular, shallow, basin-shaped pit. The upper portion of the pit was extensively disturbed and was initially named Segment A. This segment was excavated and screened separately, and yielded 20 chert flakes. As the excavation progressed, the dark circular stain became an obvious feature, and it was excavated thereafter accordingly. The depth of an undisturbed portion of the pit was approximately 15 cm and the diameter was 78 cm. Cultural materials recovered from the feature include one Kirk stemmed projectile point (Figure 4.17f), one grooved axe, three utilized flakes, 49 nonutilized flakes, and 141.9 grams of introduced rocks.

Botanical remains recovered from the feature were identified by the ethnobotanist. They include 12.5 grams of hickory shell fragments, 0.05 grams of acorn shell fragments, two fern spores, and 1.5 grams of wood fragments. One fragment of bone (0.5 gram) was also recovered from the feature. This is the only feature from the Hickory site that produced a diagnostic artifact, a Kirk stemmed point which suggests it to be an Early Archaic feature.

Feature 5: a root mold, not a post mold as was originally speculated. It was first recognized as a small (approx. 12 cm diameter) dark circular stain with a relatively deep (50 cm) straight profile. The only cultural materials recovered from the feature fill were two small flakes (1/4" nonutilized), which probably had been introduced from the general level.

Feature 6: a subcircular basin-shaped pit (Figure 4.6). The upper, disturbed portion of the pit was excavated as Segment A, an irregular dark shape that yielded a shaft drill and 25 chert flakes. The intact portion of the pit was relatively shallow (15 cm deep). In addition to 93.3 grams of introduced rock, 34 chert flakes were recovered from the feature fill, three utilized and 31 nonutilized. Other material remains include 13.3 grams of hickory shell, 0.05 gram of acorn shell, and 0.9 gram of wood fragments. Since no diagnostic artifacts were recovered, the cultural affiliation of the pit ıld not he determined.

Feature 7: a krotovina. This dark circular stain revealed an irregular profile as the excavation progressed. Three nonutilized flakes were recorded from the fill.

Feature 8: also a natural disturbance. One chipped stone tool fragment and one flake were recovered from it and they probably had been introduced from the general level.

SUMMARY

Altogether, eight features were excavated during Phase II investigations at the Hickory site: five features from Block C, one from Block D and two from Block E. All these features were first encountered in Stratum IIB. A total volume of less than one cubic meter of feature fills was hand excavated and processed through the flotation system. No features were investigated during Phase I operations. Of these eight features, four (#2, #5, #7, and #8) were considered natural disturbances after close examination, even though they produced one or two flakes each. The other four (#1, #3, #4, and #6) were apparently cultural features: one lithic debitage cluster and three basin-shaped pits.

In terms of cultural contents, there is one similarity among these cultural features: all contained a relatively large amount of unmodified flaking debris (Table 4.4). Also, the three segments which were considered as upper portions of these features produced more flakes than other segments. So, the original features probably contained a fairly large number of flakes.

Although it is difficult to discern their primary function these features may have been associated with stone tool manufacturing or utilized as refuse pits. It is speculated with the present data that Feature 1 was a probable refuse pile of lithic debitage. Of 141 flakes recovered, only two were utilized (1/4" flakes). All these flakes were just piled up in the matrix without any pit boundary. The three basin-shaped pits contained a moderate amount of botanical remains in addition to the lithic materials. The density of these botanical remains in the feature fill was much higher than that in the general levels. All three pits contained carbonized remains identified as hickory nutshell (82%-94%), acorn (1%-2%), wood (5%-16%), and a few seeds. A fair amount of rocks was also recovered from each feature. Considering their shapes and contents, it is likely that these features were utilized for refuse pits. It is also possible that some of them, Feature 4 for example, may have originally been used as storage pits.

In all but one case, discerning the cultural affiliation of the feature was not an easy task. Feature 4 was the only pit that produced a diagnostic artifact, a Kirk stemmed point, considered Early Archaic. This point could even have been deposited into the pit by the later occupants of the site. All features, including Feature 4, originated from Stratum IIB, which is probably Late Archaic in age based on stratigraphic position (Table 4.16).

In terms of cultural contents, the features were all alike except Feature 4 which yielded a couple of extra artifacts (one Kirk point and one grooved axe). These features may have originated during the Early Archaic, although we do not rule out the possibility of a Late Archaic association. It is hoped that more botanical remains can be sorted from flotation recovery materials in order to obtain charcoal for chronometric analysis for these features, so that their cultural association can be reassessed. Analysis of lithic debitage from these features will also provide further data on behavioral patterns; further work may permit association of certain lithic raw material type distribuitions with individual prehistoric components.

CULTURAL REMAINS

Cultural materials recovered from the Hickory site, 22It621, consist of ceramics, lithic materials, and floral and faunal remains. At the initial stage of the lab work, ceramic materials were sorted into groups of ceramics, sherdlets, and fired clay. Lithic materials were grouped as projectile point/knives, other chipped stone tools, cores and preforms, ground stone tools, unmodified flaking debris, and introduced rock. Table 4.5 presents the total frequencies of cultural materials recovered from the site by collapsed artifact classes, excluding floral and faunal remains. In the collapsed artifact class, cores and preforms are included in other chipped stone tools. The artifact frequencies are listed under the three major proveniences--general level, feature, and general surface/backhoe area.

Small amounts of floral and faunal remains were recovered from the site. A sample of botanical remains recovered from flotation was sent to the project ethnobotanist for analysis. Faunal remains were also recorded, but only by weight due to their very small sample size and fragmentary nature.

CERAMICS

Eighty-one sherds were recovered from the Hickory site. An examination of Table 4.5, which lists ceramics from the site reveals that only one sherd, or 1.2%, was recovered from a general level, while the rest were recovered from the general surface/backhoe area. This suggests that the ceramic-bearing zones were removed by the scraping operation. In addition to rim and body sherds, small amounts of sherdlets (35) and fired clay (144) were also recovered. The following discussion of the ceramic categories is organized by the major temper groups. The four major temper groupings were grog, limestone, sand, and fiber (Table 4.6). A description of each ceramic category is presented under the individual temper headings along with quantitative data.

Grog-Tempered

Three grog-tempered sherds were recovered from the site. The ceramic categories represented include Cormorant Cord Impressed (*n*=1) and Mulberry Creek Cord Marked (*n*=2). These sherd categories probably represent a Miller III phase.

Limestone-Tempered

Only one limestone-tempered sherd was recovered. This sherd was classified as Mulberry Creek Plain.

Sand-Tempered

Fifty-eight sand-tempered sherds were recovered. This temper grouping represents 71% of the total number of sherds recovered from the site. These sand-tempered sherds are classified into the major ceramic series: the Miller Series of the middle Woodland Period and the Alexander Series of the Late Gulf Formational Period. In addition, a number of the sand-tempered sherds could not be assigned to either of the above series due to eroded surfaces.

Miller Series

Fifteen sherds were assigned to the Miller Series, representing two ceramic categories: Furrs Cord-Marked (*n*=4) and Saltillo Fabric-Marked (*n*=11).

Alexander Series

Of 43 sherds assignable to the Alexander Series, five types were identified: Alexander Incised (n=10) (Figure 4.15 a-c), Alexander Pinched (n=28), Alexander Incised/Pinched (n=1) (Figure 4.15 d), Alexander Incised/Punctated (n=2), and Columbus Punctated (n=2).

Miscellaneous Sand-Tempered

Altogether, 23 sherds were classified as Residual Sand Plain (n=7) and Eroded Sand (n=16). These could not be classified into types because of either severely eroded (n=16) or plain surfaces (n=7).

Fiber-Tempered

Nineteen fiber-tempered sherds were recovered. These include Wheeler Plain (n=2), Wheeler Punctated (n=16) (Figure 4.15 e-f), and Fiber-Other (n=1).

Sherdlets

Ceramic fragments which passed through a 0.5 inch square mesh were weighed rather than counted. A total of 35 g was recovered. Most of the sherdlets were eroded, but they include the majority of the temper types found at the site.

Fired Clay

One hundred forty-four grams of fired clay were recovered from the site. It appears that most of these fired clay samples are actually burned silt loam or sandy loam, with color ranging from orange to black.

STONE TOOLS

Stone tools include chipped stone tools, ground stone tools, and unmodified flaking debris (see Chapters II and III for definitions). The chipped stone tools were initially classified into functional/technological types. They include projectile point/knives, scrapers, drills and perforators, other uniface and biface tools, bifaces, cores, preforms, and utilized flakes. Altogether, 1,139 chipped stone tools, 30 ground stone tools, and 9,899 pieces of unmodified flaking debris were recovered from the Hickory site (Table 4.7). The discussion of these stone tools is presented below. Metric data are summarized in Table 4.8 and also in Table 7 of Appendix II.

Chipped Stone Tools

Of the 1,139 chipped stone tools, 712 specimens, or 62.5% are utilized flakes. The remaining tools are projectile point/knives, scrapers, drills, biface/uniface tools, cores and preforms. Table 4.7 presents the frequency of chipped stone tools by type and category.

Projectile Point/Knife

Beachum n = 1 (Not illustrated):

Material:
Tallahatta Quartzite 1

Discussion: Only one specimen in this category was recovered, and it has a broken distal end. Although a portion of the shaft element is missing, the specimen exhibits a slight incurvate stem with a straight base and a tapered shoulder. This type is usually associated with the Middle Archaic.

Benton Short Stem n = 2 (Figure 4.16a):

Material:
Heated Camden 1 Fort Payne 1

Discussion: Of the two recovered, one is intact and the other has a broken distal end. The haft elements are broad and short with incurvate base edges. The shoulders are narrow and relatively tapered; the cross-section is flattened. This type is usually associated with the "initial" Late Archaic.

Big Sandy Side-Notched n = 1 (Figure 4.16b):

Material:
Heated Camden 1

Discussion: A single, unbroken specimen with an acute distal end and blade edges slightly excurvate. The hafting end is distinctively side-noched with a ground base. This type is associated with the Early Archaic.

Cotaco Creek n = 2 (Figure 4.16d-e):

Material:
Heated Camden 2

Discussion: Both have broken distal ends with straight blade edges, tapered shoulders, and straight haft elements. This type is probably associated with the "terminal" Late Archaic.

Cumberland n 1 (Figure 4.16f):

Material:
Fort Payne 1

Discussion: This specimen has a broken distal end and fluting on both faces. There is no clear distinction between the blade edges and the ground edge of the hafting area (proximal end) which is expanded and then rounded with an incurvate basal edge. This type is from the Paleo-Indian Period.

Cypress Creek $\underline{n}$ = 1 (Figure 4.16g):

Material:
Heated Camden 1

Discussion: Lateral edges are broken, but a corner-notched shoulder and the haft element are intact enought to classify it. Stylistically, this category is assumed to be associated with the Early Archaic.

Eva $\underline{n}$ = 5 (Figure 4.16h-j):

Material:
Heated Camden 4 Fort Payne 1

Discussion: Only two of the five specimens are intact; the rest have broken distal ends. Shoulders are usually simple-barbed and inversely tapered. Haft elements are straight and longer than the barbs except on one specimen. This type is associated with the Middle Archaic.

Flint Creek $\underline{n}$ = 4 (Figure 4.16k and 4.17a):

Material:
Heated Camden 4

Discussion: Two of the four are complete, and two have broken distal ends. The shoulders are tapered and the haft elements are slightly expanded. The morphology of this category resembles that of Little Bear Creek projectile point/knives. There is considerable overlap in both stylistic and technological aspects of these two types. Both are usually associated with the Late Archaic and Gulf Formational.

Greenbriar $\underline{n}$ = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: These specimens have broken distal ends and broad side notches created as the shoulders taper into the expanded stems. The bases are incurvate. This type is usually associated with the Early Archaic.

Kirk Corner-Notched $\underline{n}$ = 7 (Figure 4.17b-e):

Material:
Heated Camden 7

Discussion: Four of the seven are complete (Figure 4.17b-c), and three have broken distal ends which appear to be retouched to make scrapers (Figure 4.17d-e). Blade edges of these specimens are usually serrated. These points are associated with the Early Archaic.

Kirk Stemmed   n = 1   (Figure 4.17f):

Material:
  Fort Payne   1

Discussion: A single specimen in this category was recovered. The shoulders are tapered and blades display serrated edges. The stem has relatively straight side edges with an incurvate basal edge. This type is usually associated with the Early Archaic.

Ledbetter/Pickwick   n = 3   (Figure 4.17g):

Material:
  Heated Camden   3

Discussion: All three specimens recovered during the excavations have broken distal ends. Shoulders are tapered and the stems appear to be straight. This type is usually associated with the Late Archaic period.

Little Bear Creek   n = 4   (Figure 4.17h-j):

Material:
  Heated Camden   3   Fort Payne   1

Discussion: Of the four specimens recovered, all but one have broken distal ends. The shoulders are straight to tapered and the haft elements are usually straight. In terms of morphology and technology, Little Bear Creek points closely resemble Flint Creek points. This point type is associated with the Late Archaic period.

McIntire   n = 1   (Figure 4.17k):

Material:
  Fort Payne   1

Discussion: A single specimen in this category was recovered. The shoulders are horizontal, with a slightly expanding haft element. The stem base edge is slightly excurvate. This type is usually associated with the Late Archaic period.

Morrow Mountain   n = 6   (Figure 4.17l-m):

Material:
  Heated Camden   6

Discussion: Of the six specimens recovered from the site, three are intact and three have broken distal ends. All six have rounded basal edges with only slight stemming which may have resulted from corner-removing. Morrow Mountain points are associated with the Middle Archaic period.

Morrow Mountain Rounded Base *n* = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: Of the two specimens recovered from the site, both have broken distal ends. Blade edges appear to be slightly excurvate, and basal edges are rounded. This type is associated with the Middle Archaic period.

Morrow Mountain Straight Base *n* = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single specimen was recovered from the site. It has a broken distal end. This category is one of the three varieties of Morrow Mountain PP/Ks recovered. The major characteristic of the Morrow Mountain Straight Base is its pronounced straight haft element, while the two other varieties lack such a haft element. This variety of Morrow Mountain Point is also associated with the Middle Archaic period.

Residual Stemmed *n* = 5 (Figure 4.18a):

Material:
Heated Camden 3   Fort Payne 2

Discussion: Five specimens were recovered from the site. Three have broken distal ends while two are intact. All five have haft elements but none fits any of the established PP/K categories. The type is, however, associated with the Late Archaic period.

Residual Triangular *n* = 2 (Figure 4.18b):

Material:
Heated Camden 2

Discussion: Of the two specimens recovered from the site, one is intact and the other has a broken distal end. These are medium-sized triangular PP/Ks with rounded bases. This category is characterized by the absence of stems. This type is probably associated with the Late Archaic period.

Sykes-White Springs *n* = 1 (Figure 4.16c):

Material:
Tallahatta Quartzite 1

Discussion: One specimen in this category was recovered. The shoulders are tapered, with a contracted stem. The basal edge is straight and the blade edges are slightly excurvated. This type is usually associated with the Early Archaic.

Vaughn n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered. This is a medium-sized stemmed PP/K with relatively straight edges. The specimen has a broad haft element with tapered shoulders. It is associated with the Middle Archaic.

Wade n = 1 (Figure 4.18c):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered from the site. It has a broken distal end, inversely tapered shoulders, a broad haft element. This type is usually associated with the Late Archaic.

Unidentified Projectile Point/Knife n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: Included in this category is one projectile point which does not conform to any of the other established PP/K categories. The specimen has a broken distal end.

Unidentified Projectile Point/Knife Distal Fragment n = 20 (Not illustrated):

Material:

Fossiliferous Bangor	1	Heated Camden	12
Unheated Camden	5	Fort Payne	2

Discussion: Among the PP/K fragments recovered from the site, 20 specimens are unclassifiable distal ends. No metric data were recorded for this category except weights.

Unidentified Projectile Point/Knife Medial Fragment n = 16 (Not illustrated):

Material:

Heated Camden	12	Unheated Camden	1
Fort Payne	2	Fossiliferous Fort Payne	1

Discussion: Included in this category are 16 unidentified PP/K medial fragments. They are too fragmentary for further classification. No metric data were recorded for them except weights.

Unidentified Projectile Point/Knife Proximal Fragment n = 11 (Not illustrated):

Material:

Heated Camden	10	Unheated Camden	1

Discussion: Included in this category are 11 unidentified PP/K proximal fragments too fragmentary for further classification. No metric data were recorded except weights.

Unidentified Projectile Point/Knife Lateral Fragment n = 7 (Not illustrated):

Material:
Heated Camden 7

Discussion: There were seven unclassifiable PP/K lateral fragments. No metric data were recorded for them except weights.

Scrapers

Uniface End Scraper n = 19 (Figure 4.18d-f):

Material:

Heated Camden	16	Unheated Camden	1
Fort Payne	2		

Discussion: Included in this category are the four end scraper categories employed during the Phase I analysis: uniface end scraper, uniface end scraper on expanding flake, uniface end scraper on other flake, and uniface end scraper on thermal spall. The specimens were usually manufactured on thin flakes. The steep unifacial retouch is confined to the distal ends of the flakes. These scrapers were most likely hafted.

Uniface Side Scraper n = 15 (Figure 4.18g):

Material:

Heated Camden	11	Unheated Camden	4

Discussion: A total of 15 specimens in this category were recovered from the site. Most were manfactured on thin flakes. These scrapers exhibit steep unifacial retouch confined to the lateral edges of the flakes.

Uniface End-Side Scraper n = 15 (Figure 4.18h-i):

Material:

Heated Camden	11	Unheated Camden	2
Conglomerate	1	Fort Payne	1

Discussion: A total of 15 specimens in this category were recovered. Most appear to have been manufactured on flakes. One of the characteristic attributes of this category is the steep unifacial retouch present on both distal and lateral edges.

Uniface Cobble Scraper $\underline{n}$ = 3 (Figure 4.18j):

Material:
Unheated Camden 2 Pickwick 1

Discussion: Three specimens in this category were recovered. These scrapers are unifacially flaked cobbles which exhibit modified margins on one edge.

Uniface Notched Flake-Spokeshave $\underline{n}$ = 4 (Not illustrated):

Material:
Heated Camden 1 Unheated Camden 3

Discussion: Four specimens in this category were recovered from the site. They appear to have been manufactured on flakes and exhibit a steeply retouched narrow concavity on one edge.

Biface Flake Scraper $\underline{n}$ = 1 (Figure 4.18k):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered. It is characterized by steep bifacial retouch on lateral edges.

Biface Cobble Scraper $\underline{n}$ = 2 (Figure 4.18l):

Material:
Heated Camden 1 Conglomerate 1

Discussion: Two specimens were recovered. They are bifacially flaked cobbles exhibiting modified margins which appear to have been worked edges.

Biface Scraper-Graver $\underline{n}$ = 1 (Not illustrated):

Material:
Unheated Camden 1

Discussion: A single specimen in this category was recovered. It exhibits two functionally different characteristics: a steep bifacial retouch on one edge, and a short, thin projection with a sharp tip on the other edge.

Biface Side Scraper-Spokeshave $\underline{n}$ =1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered. It is a bifacially retouched flake with lateral modification to produce a working edge. It has a steeply retouched narrow concavity on the other edge.

Scraper-Other n = 5 (Not illustrated):

Material:
    Heated Camden 4   Pickwick 1

Discussion: Five specimens were recovered from the site. These possess steeply retouched unifacial or bifacial edges which exhibit a scraper morphology but do not conform to the other established scraper categories.

Unidentified Scraper Fragment n = 6 (Not illustrated):

Material:
    Heated Camden 4   Unheated Camden 2

Discussion: Six scraper fragments were recovered from the site. They have at least one segment of a steeply retouched margin indicative of scraper morphology, but they were too fragmentary to be placed in any established scraper categories.

Uniface Scraper-Graver n = 1 (Not illustrated):

Material:
    Heated Camden 1

Discussion: One uniface scraper-graver was recovered from the site. This specimen possesses both a unifacially retouched edge and a short, thin projection.

Drills, Perforators, etc.

Expanding Base Drill n = 4 (Figure 4.19a-b):

Material:
    Heated Camden 2   Fort Payne 2

Discussion: Of the four specimens in this category three are intact and one is broken. All have long, narrow cylindrical cross sections with expanded bases. The range of lengths varies from 37.3 mm to 100.4 mm.

Shaft Drill n = 4 (Not illustrated):

Material:
    Heated Camden 4

Discussion: Four specimens in this category were recovered. Three are intact and one is a broken. The range of lengths varies from 35.5 mm to 66.6 mm. These specimens have long, narrow cylindrical cross sections with no haft modification.

Stemmed Drill - Recycled *n* = 2 (Not illustrated):

Material:
    Heated Camden   2

Discussion: Two specimens in this category were recovered. They were originally projectile point/knives, but were broken during either manufacture or utilization. Thus, both exhibit a PP/K form at the proximal end, with long, narrow working edges of the drill.

Drill Fragments *n* = 4 (Not illustrated):

Material:
    Heated Camden   4

Discussion: Included in this category are two medial and two distal drill fragments. The medial drill sections exhibit fractured distal and proximal ends. The distal drill fragments represent the working edge of the drill.

Graver *n* = 2 (Figure 4.19f):

Material:
    Heated Camden   2

Discussion: Two specimens were recovered from the site. The tools in this category differ from perforators primarily by the length of projection. Both specimens were made on flakes exhibiting a short, sharp projection.

Microlith *n* = 2 (Figure 4.19g):

Material:
    Heated Camden

Discussion: Two microliths were recovered from the site. Both were made on small blades exhibiting fine pressure retouching along both lateral edges.

Reamer *n* = 1 (Figure 4.19h):

Material:
    Heated Camden   1

Discussion: A single specimen in this category was recovered. It is a bifacial tool exhibiting a thick, trianguloid cross-section.

Drill-Other *n* = 1 (Not illustrated):

Material:
    Heated Camden   1

Discussion: A single specimen in this category was recovered from the site. It appears to have been utilized as a drill but does not conform to an established drill/perforator category.

Other Uniface and Biface Tools

Uniface Chopper *n* = 1 (Not illustrated):

Material:
    Unheated Camden 1

Discussion: Only one uniface chopper was recovered from the site. This specimen was manufactured employing hard hammer percussion technique. It is a medium-sized tool with a battered edge.

Uniface Flake Knife *n*= 5 (Figure 4.19i-j):

Material:
    Heated Camden 3   Unheated Camden 2

Discussion: Five specimens were recovered. They were manufactured on flakes by either pressure or percussion technique. The size of these specimens varies as indicated by the weights, which range from 3.7 to 58.0 g.

Biface Chopper *n* = 1 (Not illustrated):

Material:
    Heated Camden 1

Discussion: A single specimen in this category was recovered. It was manufactured by hard hammer percussion, and has a battered edge.

Biface Hammer-Chopper *n* = 1 (Not illustrated):

Material:
    Conglomerate 1

Discussion: A single specimen in this category was recovered. It is a multi-functional tool possessing the combined morphology of a hammer and a chopper: a pecked and battered edge on one end and a bifacially flaked edge on the other end.

Biface Flake Knife *n* = 5 (Figure 4.20a-b):

Material:
    Heated Camden 5

Discussion: Included in this category are five specimens which appear to have been made by both pressure and light percussion techniques.

Biface Wedge $\underline{n}$ = 1 (Not illustrated):

Material:
Unheated Camden 1

Discussion: A single specimen in this category was recovered from the site. It has a thick cross-section and a steep, transverse, battered working edge.

Uniface/Biface - Other $\underline{n}$ = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: Two specimens were recovered; they do not conform to the other established uniface and biface tool categories.

Unidentified Chipped Stone Fragment $\underline{n}$ = 103 (Not illustrated):

Material:

Little Mountain Bangor	1	Heated Camden	82
Unheated Camden	82	Conglomerate	2
Fort Payne	4	Pickwick	1

Discussion: Included in this category are 103 unifacial or bifacial tool fragments too small and fragmentary for precise classification into the established categories.

Utilized Flakes $\underline{n}$ = 712 (Figure 4.20c-d):

Material:
Table 4.8

Discussion: Five categories are included under the heading of "utilized flakes": 1" utilized flakes ($\underline{n}$=8), 1/2" utilized flakes ($\underline{n}$=286), 1/4" utilized flakes ($\underline{n}$=381), utilized blade-like flakes ($\underline{n}$=4), and utilized chert chunks ($\underline{n}$=33). Altogether, 712 specimens were recovered from the site. Table 4.9 presents frequency of these utilized flakes by raw material and category. Of 712 specimens, 1/2" utilized flakes comprise 40.2% and 1/4" utilized flakes, 53.5%. These ratios are almost identical to those from 22It623 and 22It624. The majority of the specimens, comprising nearly 94% of the sample, were made of Camden chert (76.3% heated and 17.4% unheated). Fort Payne chert comprises only 2.4% while conglomerate comprises 1.7%. Seven minority raw material classes comprise the remaining 2.2%.

Bifaces

Ovoid Biface - Other $\underline{n}$ = 1 (Figure 4.20e):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered. It has an unmodified haft element. The nature of the original blank is not determinable.

Triangular Biface - Flake $\underline{n}$ = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: Two specimens were recovered, one intact and the other broken. They are thinned, retouched triangular bifaces with two symmetrical blade edges.

Triangular Biface - Other $\underline{n}$ = 1 (Figure 4.20f):

Material:
Heated Camden 1

Discussion: One specimen in this category was recovered. Morphological attributes are similar to those of the triangular biface-flakes described above, except the nature of the original blank is indeterminate. As can be seen from Figure 4.20f, the percussion-flake scars are broad and shallow, with some evidence of secondary flaking.

Biface Other $\underline{n}$ = 3 (Figure 4.20g):

Material:
Heated Camden 3

Discussion: Three specimens of this category were recovered. These tools do not conform to any other established biface category.

Crude Biface $\underline{n}$ = 8 (Not illustrated):

Material:
Heated Camden 6 Unheated Camden 2

Discussion: Eight crude bifaces were recovered. They are relatively thick, with very crude and irregular faces, probably resulting from predominant hard and soft hammer percussion. Little evidence of retouch flaking was noticed.

Biface Fragments $\underline{n}$ = 74 (Figure 4.20h):

Material:
Table 4.9

Discussion: Five categories of biface fragments are included under this heading: biface proximal fragments (n=3) (Figure 4.20h), biface medial fragments (n=5), biface distal fragments (n=11), biface lateral fragments (n=37), and biface fragments (n=18). None could be identified as any of the above four portions of a biface. Altogether, 74 biface fragments were recovered from the site. Of these, as Table 4.10 depicts, the majority were made of Camden chert (83.8% of heated and 10.8% of unheated Camden chert).

Cores

Uniface Core 360   n = 1   (Not illustrated):

Material:
Unheated Camden   1

Discussion: A single specimen in this category was recovered. It exhibits unifacial flaking around the periphery of a cobble. The flaked edge shows little evidence of utilization.

Biface Core Adjacent 180   n = 1   (Not illustrated):

Material:
Heated Camden   1

Discussion: A single specimen in this category was recovered. It is a core which was bifacially flaked continuously around approximately one half of the edge of a cobble. Little evidence of utilization was noticed.

Biface Core 360   n = 2   (Not illustrated):

Material:
Heated Camden   1   Fort Payne   1

Discussion: Two specimens in this category were recovered. They were flaked on both faces around the entire periphery with little evidence of utilization as tools.

Preforms

Preform I-Cobble   n = 1   (Not illustrated):

Material:
Unheated Camden   1

Discussion: Only one specimen was classified into the Preform I-Cobble category. It was a relatively thick, primarily percussion-flaked preform with little evidence of secondary flaking or utilization.

Preform I-Flake   n = 2   (Not illustrated):

Material:
Unheated Camden   2

Discussion: They were made on flakes with primarily percussion-flaking technique with little evidence of secondary retouch or utilization.

Preform I-Indeterminate n = 4 (Not illustrated):

Material:
Heated Camden 2 Unheated Camden 1
Fossiliferous Fort Payne 1

Discussion: These are bifacially flaked exhibiting little evidence of secondary flaking and utilization. The nature of the original blank, however, can not be determined.

Preform II-Flake n = 3 (Not illustrated):

Material:
Heated Camden 1 Unheated Camden 1
Fossiliferous Fort Payne 1

Discussion: These specimens are thinner than the Preform I with some evidence of secondary retouching.

Preform II-Indeterminate n = 3 (Not illustrated):

Material:
Heated Camden 2 Unheated Camden 1

Discussion: They exhibit some secondary flaking but little evidence of utilization as tools. The nature of the original blank could not be determined.

Ground Stone Tools

Thirty ground stone tools were recovered from the Hickory site. Their definition in this study is presented in Chapter III, and Table 4.10 provides their frequency by category. As the table shows, 11 categories are represented in the sample. The following is a brief description of each tool category with raw material and metric data.

Abrader n = 3 (Figure 4.21a):

Material:
Sandstone 1 Ferruginous Sandstone 2

Discussion: These abraders exhibit localized areas of grinding and smoothing as a result of intentional or use-derived modifications. The resultant wear patterns are usually either deep elongated grooves (see Figure 4.21a) or broad, shallow expanses of abrasions.

Anvilstone n = 1 (Not illustrated):

Material:
Quartzite 1

Discussion: This exhibits irregular depressions, on a generally tabular surface, which apparently derived from battering and pecking activities.

Anvilstone-Hammerstone n = 2 (Not illustrated):

Material:
Quartzite 2

Discussion: These tools exhibit two functionally different wear patterns: one localized area displays irregular pitted and pecked surfaces while battering activities were evidenced at tool edges.

Pitted Anvilstone n = 7 (Figure 4.21b):

Material:
Sandstone 1   Ferruginous Sandstone 6

Discussion: These tools exhibit well-formed conical depressions which were apparently derived from battering and pecking activities.

Pitted Anvilstone - Abrader n = 2 (Not illustrated):

Material:
Sandstone 1   Ferruginous Sandstone 1

Discussion: These are multi-functional tools possessing characteristics of both a pitted anvilstone and an abrader. One sample is intact and the other is broken. The size of the intact sample is relatively large.

Grooved Axe n = 1 (Not illustrated):

Material:
Ferruginous Sandstone 1

Discussion: One grooved axe was recovered from the site. It has transverse grooves for hafting that occur parallel to the working edge of the axe.

Hammerstone n = 6 (Not illustrated):

Material:
Unheated Camden 2   Conglomerate 1
Quartzite 3

Discussion: These specimens are non-flaked stone objects possessing the attributes of battering or crushing. They display little evidence of intentional shaping of the original raw material pieces and were probably utilized as pounding implements.

Muller-Pitted Anvilstone n = 1 (Not illustrated):

Material:
Ferruginous Sandstone 1

Discussion: This is a multi-functional tool possessing characteristics of both a muller and a pitted anvilstone.

<u>Ground Limonite</u> $\underline{n}$ = 1 (Not illustrated):

Material:
Limonite 1

Discussion: This specimen displays areas of grinding and smoothing on the surfaces and was probably utilized for pigment.

<u>Other - Ground Flake</u> $\underline{n}$ = 1 (Not illustrated):

Material:
Ferruginous Sandstone 1

Discussion: The dorsal surface of the sample appears to have been smoothed and it was probably detached from a ground stone tool during re-sharpening or utilization.

<u>Unidentified Ground Stone</u> $\underline{n}$ = 5 (Not illustrated):

Material:
Sandstone 2 Ferruginous Sandstone 3

Discussion: These fragments appear to have been parts of larger, intact ground stone implements. Most, however, could not be classified further due to their fragmentary conditions.

<u>Unmodified Flaking Debris</u>

A total of 9,899 pieces of unmodified flaking debris were recovered from the Hickory site during the excavations (Table 4.12). These flakes were size-graded into three categories: 1" nonutilized flake (Figure 4.21 c-d), 1/2" nonutilized flake, and 1/4" nonutilized flake. Two more categories were nonutilized prismatic flake and nonutilized other flake. Table 4.13 presents the frequency of these flaking debris by raw material categories, of which 20 are present in the debitage collections from the Hickory site. Of these 20 Camden chert appears to be the material most favored by the prehistoric inhabitants at the site since it comprises 8,968 pieces, or 90.6% (61.2% of heated and 29.4% of unheated Camden) of the total collection. Conglomerate comprises 3.7% and Fort Payne chert 2.4%. Both are imported raw materials. The proportion of Fort Payne chert at the Beech and Oak sites is much higher (14.1%) than that at the Hickory site. This implies that the occupants at the Hickory site were less dependent upon imported raw materials. The remaining 16 raw material categories comprise the rest of 3.3% of the debitage collection.

BIOTIC REMAINS

Floral Remains

Relatively small amounts of macrobotanical remains were recovered by flotation at the Hickory site. Samples from each arbitrary general level in the control block unit (1 m x 1 m), as well as all feature fills, were completely processed. Materials recovered were then brought to the lab to sort into botanical and non-botanical remains Then the following selected samples were sent to the project ethnobotanist for taxonomic identification:

1. Three feature samples (Feature 3, Feature 4 and Feature 6).

2. Samples from each general level within the control block (99S/108W) in Block D.

Resultant identification of floral remains is presented in Table 4.14, along with provenience data, volume of floated sediments, amounts of floral remains following the initial sorting in the lab, and the percentages identified.

Relative density of floral remains at the site, as shown in Table 4.15, is extremely low compared to that of Phase I sites and of the Beech and Oak sites. Overall, the concentration of plant remains from the Hickory site ranges from 0.08% to 0.00009%. Field observation noted the same trend of low density. In an effort to obtain more floral samples, sediments from the entire control block units (except four liters of perpetuity samples) were processed. It should be emphasized that expanding flotation volume did not yield proportionately more botanical remains, and the following discussion is based on very small amounts of floral remains. Even so, moderate amounts were recorded for the features.

Again, as observed from the Beech and Oak sites, carbonized hickory nutshell (Carya spp.) is the most abundant of the plant remains. Specifically, for features, hickory nutshell comprises an average of 88.3% while acorn shell and wood comprise 1.3% and 10.3%, respectively. It should be noted, however, that the percentage of hickory nutshell from the Hickory site is lower than those from the Beech (97.25%) and Oak (95.6%) sites. Two fern spores and one indeterminate seed were also recovered from the features.

Plant remains recovered from the general levels are particularly scarce. Of the floral samples from the 15 general levels, 10 levels produced hickory nutshells (although there was less than one gram from each level), while five levels yielded no hickory nutshell. Acorn was not recovered from the general levels at all. Small amounts of wood fragments were recorded for every level except Level 17. With the exception of a few pieces, most of the woods were, however, too fragmentary to identify. Other items recovered from the general levels include six fern spores and five unidentified seeds.

The scarcity of plant remains may have resulted from the natural conditions of the site, such as soil and floodplain location, which may have accelerated the rate of organic decomposition. Or it may have stemmed from a short duration of occupation and/or the function of the site. The site is postulated as a camping station for exploiting the biotic resources of the surrounding floodplain. It is probable that all of these factors contributed to the scarcity of the botanical remains at the site. The scarcity makes impossible any postulation concerning the seasonality and the prehistoric vegetation at the site, however.

Faunal Remains

Eight grams of faunal remains were recovered from the site. Most is calcined bone and too fragmentary for taxonomic or element identification. Further analysis is, therefore, not attempted.

DISCUSSION AND INTERPRETATION

SITE FORMATION

The main objective of the Phase II project at the Hickory site was the investigation of an Early Archaic component as specified in the Phase II proposal. The upper midden layer of the general site area was removed by a machine prior to Phase II excavations. The machine stripping operation exposed the top of Stratum IIIB, and Phase II investigations began with this stratum (Table 4.2). During the Phase I project, excavations were initiated from the top soil and most of stratigraphic information of the upper strata was obtained. Thus the following discussion concerning the site formational process, both cultural and natural, is based on data from both Phase I and II field investigations. As discussed in the previous chapter, it should be kept in mind that major sources of error in stratigraphic interpretation are bioturbation and pothunting, but every effort has been made to minimize such error. During the extremely careful excavation most bioturbations were recorded. Also, pothunting activity was limited to the top soils, and this disturbance appears to have minimal damage to the site. Less well known is the amount of disturbance to deeper cultural strata by later prehistoric peoples. Eight natural strata were recognized during Phase II investigations (corresponding arbitrary levels with strata are presented in Table 4.2). These strata were subsumed into four major stratigraphic zones. The uppermost zone is a by thick dark midden layer. This zone includes Strata I and II. Below this was a very dark, cemented zone of ferruginous loam mixed with manganese nodules (Strata III - IV). The third zone was the thick paleosol, characterized by mottled, grey sandy loam which became uniformly bright orange at the bottom. This paleosol includes Strata V, VI, and VII. The fourth zone was the lowest layer reached during Phase II investigations. It was the blue-gray clay or gley, Stratum VIII.

Table 4.16 presents a seriation showing stratigraphic distributions and densities of diagnostic projectile points from the site. This seriation reveals that cultural components probably overlapped different strata, but it can be used for understanding the overall cultural sequence at the site.

As discussed in the stratigraphy section, the lowest zone, the gley soil, has never been a topsoil and, accordingly, it is culturally sterile. Though five small flakes (all 1/4 " in size) were recovered from Stratum VIII, it is assumed that they were not in situ but originated in the paloesol above.

Above the gley the Holocene paleosol containedg one Greenbrier and four Kirk corner-notched projectile points and some utilized and nonutilized flakes. Geological and archaeological evidence indicates that the first time the site was occupied was during the Early Archaic period. The site was probably formed by fluvial activity as a point bar along the Tombigbee River. Once inhabited, it was probably reoccupied continually resulting in accumulations of natural and cultural debris. Following the formation of the paloesol and the initial occupation it appears that the site was occupied frequently through the Middle Archaic and the following periods. More Early Archaic deposits were encountered at the bottom of the very dark cemented zone (i.e., above the paleosol-Strata IIIB-IV). The major occupation during the formation of this zone was perhaps related to the Middle Archaic component (Strata IIIB), however. The initial Late Archaic deposits encountered in the upper portion of the zone (Strata IIIA - IIIB) overlap with the Middle Archaic component, although the density of the initial Late Archaic artifacts was relatively low (Table 4.16).

A wealth of cultural remains came from the top, thick, dark midden zone (Strata I and II). The recovered artifacts are extensively mixed and assignable to Paleo-Indian, Early Archaic, Middle Archaic, Late Archaic, Gulf Formational, and Woodland. However, the predominance of sand- and fiber-tempered sherds from Stratum II, coupled with the 52 Little Bear Creek points, indicates the intensive occupation of the site occurred during the terminal Late Archaic and Gulf Formational. The transitional zone between Strata I and II yielded more Flint Creek points (n=12) than Stratum II and fewer Little Bear Creek points (n=15), and an abundance of sand-tempered sherds. This is considered a strong indication of continuous intensive occupation during the Gulf Formational. A Middle Woodland occupation is postulated on the basis of sand- and grog-tempered sherds from Strata I and II.

An examination of the diagnostic artifacts from the Hickory site reveals that the site was intermittently occupied during the Early and Middle Archaic Periods. The beginning of extensive occupation was apparent in the initial Late Archaic component and the site appears to have been continuously exploited thereafter until the Middle Woodland Period. Evidence of a Late Woodland occupation was not well documented. Through such continual though probably brief occupations, the original point bar along the river saw the gradual accumulation of of natural and cultural debris. Fluvial deposits and river currents also probably were actively involved in the formation of the site in its present configuration.

COMPONENTS: CULTURAL MATERIALS AND ACTIVITIES

The possibility of a Paleo-Indian occupation at the site is postulated on the basis of two Paleo-Indian projectile points. One Quad point was unearthed from Strata II/IIIA (or arbitrary Level 5) during Phase I testing. It may have occurred there due to accidental disturbance of the earlier component by later prehistoric peoples or reuse of older artifacts by these people. One Cumberland Point (Figure 4.16f) was recovered from the backdirt removed by a backhoe from the de-watering trench. It may have been an in situ deposit. At the present time, however, it is difficult to verify a Paleo-Indian component at the site, but we do not, however, completely rule out the possibility.

The recovery of 19 Early Archaic points (12 Kirk Corner-Notched, two Cypress Creek, one Greenbriar, and one Big Sandy) clearly indicates an Early Archaic component at the site. Five specimens (four Kirk Corner-Notched and one Greenbriar) from Stratum V are undoubtedly in undisturbed soil and may well represent the Early Archaic component in situ. Seven Early Archaic points from Strata IIIB - IV may or may not have come from their original deposits; these seven are four Kirk Corner-Notched, two Cypress Creek and one Big Sandy Side-Notched. The other diagnostic artifacts assignable to the Early Archaic component from the upper strata were apparently out of the context since they were mixed with the Late Archaic and Gulf Formational deposits.

Three Kirk Corner-Notched points, all from the Early Archaic stratum, were obviously recycled. They have broken distal ends which appear to have been retouched for use as scrapers (Figure 4.17d-e). A moderate number of chipped stone tools (8.8 per m^3) and unmodified flaking debris (131.2 per m^3) were unearthed from the same stratum (Stratum V). The chipped stone tools include a dozen additional scrapers or scraper fragments and 215 utilized flakes. Based upon the cursory examination of the stone tools from Stratum V, several inferences can be made. First, a relative abundance of scrapers suggests particular activities (e.g., hide and/or wood working) took place at the site during the Early Archaic period. Second, the recycled projectile points and large number of utilized flakes suggest that the Early Archaic inhabitants at the site made every effort to maximize the use of lithic materials. Even small flakes (1/4" in size) were extensively utilized. Camden chert (both heated and unheated) appears to have been the predominant lithic resource material during the Early Archaic period, with minor utilization of Fort Payne and conglomerate (Figures 4.22 and 4.23) It is postulated that the site was utilized by Early Archaic people as a camping station, rather than as a permanent or semi-permanent habitation site, to procure the natural resources of the surrounding floodplain.

Figures 4.22 and 4.23 show relative stratigraphic distributions of major and minor lithic raw material types, respectively, for unmodified flaking debris. These figures depict trends of lithic raw material utilization through time. Overall, the predominant raw material recorded at the site was Camden chert. The percentage of heated Camden chert increased through time while unheated Camden chert followed the reverse trend. The other important raw material was Fort Payne chert, but it was less utilized at the Hickory site than, for example, the Beech and Oak sites. Of the minority types, conglomerate was the preferred lithic raw material. As at the Beech and Oak sites, more raw material types were utilized later in time than earlier.

A Middle Archaic component was represented by 12 diagnostic projectile points. Of these, eight (four Morrow Mountain and four Eva) were recovered from the dark, cemented zone (Strata III - IV) while the other four specimens (three Sykes-White Springs and one Morrow Mountain) from Stratum II. The stratigraphic position seems to indicate that the latter four artifacts were not in situ deposits. Within the dark, cemented zone, more artifacts were retrieved from Stratum IIIB (Table 4.30) than from any other stratum within the same zone. Recovered artifacts from Stratum IIIB comprise six projectile points (four Eva and two Morrow Mountain), 659 chipped stone tools including 440 utilized flakes, and 6,604 nonutilized flakes. In addition, seven ceramic sherds were also recovered from the same stratum or below. Natural and/or cultural phenomena could be responsible for a deposition of these ceramics in the lower strata. Overall, a continuation of the Middle Archaic occupation at the Hickory site is well-documented by recovery of Eva, Morrow Mountain, and Cypress Creek points. During this period, extensive utilization of the site is suggested by the fair amount of chipped stone tools and flaking debris from Stratum IIIB. It is postulated that the same activity pattern(s) seen in the Early Archaic component continue through the Middle Archaic.

Although a large amount of cultural remains was encountered in the upper strata (Strata I - IIIA/IIIB), components that follow the Middle Archaic, and their stratigraphic boundaries, can only be broadly defined because of an admixture of diagnostic artifacts retrieved from Strata I through IIIA/IIIB (Tables 4.3 and 4.16). An initial Late Archaic period occupation is indicated by the presence of seven Benton Stemmed projectile points. Benton Stemmed points are thought to date approximately from 3,800 B.C. to 2,500 B.C.(Bense 1982). Even though its stratigraphic position is difficult to define, the initial Late Archaic component is tentatively assigned to the upper portion of Stratum III (i.e., Strata IIIA - IIIA/IIIB). Strata IIIA and IIIA/IIIB produced over 140 ceramics sherds, primarily sand- and fiber-tempered, but the density of ceramics from these strata was relatively low (41.3 per m^3 and 5.6 per m^3, respectively).

A terminal Late Archaic component is identified on the basis of 75 Little Bear Creek points. Of these, 52 specimens were recovered from Stratum II. However, an assignment of stratigraphic position for the component is not attempted because of a severe admixture of cultural remains. A component containing these types of points is estimated to date ca. 2,500 - 1,000 B.C. (Bense 1982).

The presence of a Middle Gulf Formational component is postulated on the basis of fiber-tempered ceramics. The fiber-tempered Wheeler series is considered the earliest in the Upper Tombigbee Valley (Jenkins 1981:18). Altogether, 919 fiber-tempered sherds were recovered from the Hickory site. They include 202 Wheeler Plain, 66 Wheeler Dentate-Stamped, 117 Wheeler Punctated, two unclassifiable fiber-tempered and 532 eroded fiber-tempered sherds. According to Jenkins (1981:18), this component is estimated to date ca. 1,200 - 1,000 B.C. to 500 B.C. In addition, 22 Flint Creek points were recovered from Strata I/II - II/IIIA and these points are also assignable to the Middle Gulf Formational component.

A late Gulf Formational component at the site was indicated by sand-tempered Alexander ceramics. This ceramic series first appeared in the Central Tombigbee Valley around 500 B.C. according to Jenkins (1981:19) who notes that it includes ceramics predominantly decorated with incising and pinching. Alexander ceramics recovered from the Hickory site include 141 Alexander Incised, 223 Alexander Pinched, 10 Alexander Incised/Pinched, and 14 Alexander Incised/Punctated sherds.

The Middle Woodland period has been divided into Miller I and Miller II phases. The Miller I phase is estimated to date ca. 100 B.C - A.D. 300 and the Miller II phase ca. A.D. 300 - 600. At the present time, it is not feasible to segregate Miller I from Miller II due to the mixture of artifacts from the upper strata. Nevertheless, the presence of both components at the site is clearly indicated by a fair amount of ceramics of the Middle Woodland period: 484 Saltillo Fabric Marked, 157 Furrs Cord Marked, 19 Cormorant Cord Impressed, 18 Mulberry Creek Plain, 16 Long Branch Fabric Marked, and two Turkey Paw Plain sherds.

Late Woodland is represented by the Miller III phase in the Central and Upper Tombigbee Valley. A suggested date for the Miller III phase is ca. A.D. 600 - 1,100 (Jenkins 1981: 24-29). Rodeffer saw the a presence of Late Woodland component at the Hickory site based upon "a sparse number of shell-tempered sherds and Baytown Plain ceramics" (Bense 1982:VII 10.60). In fact, two eroded shell-tempered, one shell and grog-tempered, and four grog-tempered Baytown Plain sherds were recovered from the site. The number of these ceramics is too small (less than 0.2% of the total) to indicate a large Late Woodland occupation at the site.

In summary, cultural materials from the Hickory site (22It621) indicate the remote possibility of a Paleo-Indian occupation. The site was perhaps intermittently utilized as a camping station during the Early and Middle Archaic periods for exploiting the natural resources of the surrounding floodplain. A range of tools retrieved from the Early and Middle Archaic strata generally indicates a series of limited activities involving procurement, processing, and manufacturing. An extensive occupation of the site was indicated by the abundance of cultural remains of the succeeding Late Archaic, Gulf Formational, and Woodland components. It is postulated that the site has been continually utilized as a temporary or seasonal camp for procurement and processing of natural resources available throughout the surrounding area.

FUTURE RESEARCH

Cultural remains and environmental information recorded during the Phase I and II operations at the Hickory site are considered to form a considerable data base for future research. Basic descriptive and distributional studies are essentially completed for all artifact classes. The primary goals of Phase II were minimally accomplished by delineating the Early Archaic component and the site formational process. The investigation, however, presented a number of research questions which should lead to further in-depth analyses.

First of all, we lack absolute dates for entire components at the site. There was an insufficient amount of botanical remains (both charred wood and carbonized hickory shell) for chronometric analysis. The proposed sequence of the site relies heavily on morphological analyses of selected artifact classes (i.e., projectile points and ceramics). The proposed sequence therefore seems to need further scrutiny and testing by means of comparative analysis. In addition, it is hoped that more botanical remains can be sorted out from the fine-screen recovery to provide radiocarbon dating samples. Also, additional botanical remains may provide critical information concerning cultural-ecological relationships. Thus far only a negligible amount of botanical remains have been obtained.

An intra-site as well as inter-site analysis of stone tools may evaluate evolutionary trends in the development of stone tool technology revealed at the Hickory site. More specifically, a detailed examination of selected stone tool specimens from each component -- Early Archaic (Kirk Stemmed, Big Sandy, Cypress Creek), Middle Archaic (Eva, Morrow Mountain), Late Archaic (Benton, Little Bear Creek), and Gulf Formational (Flint Creek) - may provide a basic understanding of stylistic changes and adaptive strategies during the prehistoric period. Further research is also deemed to be appropriate for other chipped stone tools and unmodified flaking debris. An intensive analysis of these stone artifact categories may provide an understanding of their functional usages as well as manufacturing sequences. In the stone tool analysis, patination is considered as a time-depth indicator. However, some of the recent studies (Purdy 1974, Purdy and Clark 1979) indicate that patination is a chemical process linked with time. Further examination of patination seem to be useful in understanding preceramic components, particularly the Early Archaic component at the site.

Research with soils and stratigraphy of the site may permit further evaluation of the site's formational processes, as well as an understanding of the nature of the association between cultural materials and pedological process. Further, the Hickory site data will be important and useful for an inter-site comparison of stratigraphy and site formational process, particularly for those sites located within the floodplain environment.

Table 4.1. Summary of Excavations at the Hickory site, 22It621.

PHASE	UNIT	GENERAL LOCATION	APPROXIMATE SIZE (m)	MAXIMUM (arbitrary) LEVEL EXCAVATED	VOLUME (cubic m)
I	Test Pit	South	1 x 1 x 0.90	7.2	0.9
I	Block A	East Central	4 x 4 x 0.90	8.2	14.4
			2 x 4 x 0.70	15.2	5.6
			2 x 2 x 0.10	16.2	0.4
I	Block B	South	4 x 4 x 0.80	6.2	12.8
II	Block C	West Central	4 x 4 x 1.20	19.2	19.2
			2 x 2 x 0.40	23.2	1.6
II	Block D	Central	4 x 4 x 1.50	22.2	24.0
			4 x 2 x 0.10	23.2	0.8
			2 x 2 x 0.30	25.2	1.2
II	Block E	Northwest	4 x 4 x 1.10	19.2	17.6
			2 x 2 x 0.40	23.2	1.6
			TOTAL CONTROLLED EXCAVATION:		100.1

Table 4.?. Arbitrary Levels Included in Strata at the Hickory site, 22It621.

STRATUM	LEVELS Block A	Block B	Block C	Block D	Block E NW 1/3	Block E SE 2/3	Volume (cubic m)
I		1.1-1.2					3.2
I-II*	1.1-1.2	1.3					4.8
II	1.3-3	2-4					9.6
II-IIIA*	4	5					3.2
IIIA	5	6					3.2
IIIA-IIIB*	6						1.6
IIIB	7-8		8.1-9.2	8.1-9.2	9.1-10.1	9.1-10.1	11.2
IIIB-IV*					10.2-11.1	10.1-11.1	1.6
IV					11.2-18.1		3.7
IIIB-V*	9		10.1-11.1	10.1-10.2			4.8
IVS						11.2-18.1	9.5
IVS-V*					18.2	18.2	0.8
V	10-11		11.2-20.1	11.1-19.1	19.1-20.2	19.1-20.2	33.4
VS	12-16						2.0
V-VI*			20.2-21.1	19.2-20.2	21.1-21.1	21.1-21.2	3.0
VI			21.2-22.2	20.1-22.2	22.1-22.2	22.1-22.2	4.6
VI-VII-VIII*			23.1	23.1-24.2			0.8
VIII			23.2	25.1-25.2	23.1	23.1	0.8
Total Volumes excavated (not including features)	22.4	12.8	19.8	25.4	19.4		99.8

* Transitional zones, where they exist

Table 4.3. Densities (per cubic meter) of Selected Artifact Categories per Stratum at the Hickory site, 22It621.

	Densities		
Stratum	Debitage	Chipped Stone Tools	Ceramics
I	545.0	34.7	108.4
I/II	1185.6	64.4	235.2
II	2102.3	120.7	411.0
II/IIIA	1151.9	53.1	108.1
IIIA	732.5	43.8	41.3
IIIA/IIIB	346.3	28.8	5.6
IIIB	589.6	58.8	0.5
IIIB/IV	69.4	7.5	-
IIIB/V	253.1	21.5	1.2
IV	60.5	5.1	-
IVS	23.7	2.5	-
IVS/V	13.8	2.5	-
VS	12.5	-	-
V	131.2	8.8	-
V-VI	14.0	1.0	-
VI	22.2	2.4	-
VI-VII-VIII	18.8	1.3	-
VIII	7.5	1.3	-

Table 4.4. **Features at the Hickory site, 22It621.**

No.	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
				HICKORY SITE (22It621)			
1	IIB 8.2	103.71/ 112.09	Lithic debitage cluster	36 cm N-S	No discernible pit; matrix dark gray, yellowish and reddish brown (10YR 4/7, 4/4; 5YR3/2) with manganese chunks	Refuse pile?	141 chert flakes
2	IIB 8.2	104.03/ 110.30	Irregular dark stain, irregular profile	22 cm NW-SE 12 cm NE-SW 6 cm deep	Dark reddish brown (5YR2.5/2) sandy loam	Natural disturbance	1 chert flake
	8.2	110.8	Dark irregular oval stain, basin-shaped profile	34 cm NW-SE 54 cm NE-SW 15 cm deep	Mottled dark gray and reddish brown (5YR4/1,3/2) sandy loam with dark manganese, white sand (2.5YR 8/0)	Pit	9 chert flakes, rocks, charred plant remains
4	IIB 8.2	106.5/ 111.15	Dark circular stain, basin-shaped profile	78 cm diam. 15 cm deep	Very dark gray (7.5YR3/0) sandy clay with black manganese	Early Archaic pit	Kirk point, ax, debitage, charred plant remains

Table 4.4. Features at the Hickory site, 22It621 (continued).

No.	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
5	IIB 8.2	103.82/ 112.7	Small dark circular stain, very deep, straight profile, horizontal base	11 cm N-S 12 cm E-W 50 cm deep	Black (10YR2/1) interior, gray-ish brown (2.5YR 5/2) exterior sandy loam	Probable root mold	3 flakes
6	IIB	102.4/ 110.15	Dark subcircular stain, basin shaped profile	84 cm N-S 76 E-W 15 cm deep	Black, white, and gray (10YR 2/1, 8/1, 6/1) loamy sand with manganese	Pit	34 chert flakes, rocks, char-red plant remains
7	IIB 11.1	95/ 112.7	Dark circular stain, irregular profile	42 cm diam. 30 cm deep	Dark reddish brown (5YR3/2) sandy loam with abundant manganese	Probable krotovina	3 chert flakes
8	IIB 11.1	94.68/ 111.76	Mottled irregular ovoid area with amorphous profile	103 cm N-S 101 cm E-W 18 cm deep	Mottled light gray, dark brown, and black (10YR 7/2, 7.5YR3/2, 5YR2.5/1) sandy loam	Probable natural disturbance	1 chert tool fragment, 1 flake

Table 4.5. Total Frequencies of Cultural Materials by Collapsed Artifact Class at the Hickory site, 22It621.

Artifact Class		General Level	Feature	General Surface and Backhoe	Total
Projectile Point/Knives	n	73	1	35	109
	%	67.0	0.9	32.1	100.0
Other Chipped Stone Tools	n	988	9	33	1,030
	%	95.9	0.9	3.2	100.0
Ground Stone Tools	n	20	1	9	30
	%	66.7	3.3	30.0	100.0
Unmodified Flaking Debris	n	9,652	235	12	9,899
	%	97.5	2.4	0.1	100.0
Ceramics	n	1	0	80	81
	%	1.2	0	98.8	100.0
Total	n	10,734	246	169	11,149
Introduced Rock	Wt*	18,367	262	972	19,601
	%	93.7	1.2	5.0	100.0
Sherdlets	Wt*	1	0	34	35
	%	2.9	0	97.1	100.0
Fired Clay	Wt*	144	0	0	144
	%	100	0	0	100.0
Total	Wt*	18,512	262	1,006	19,780

* in grams

Table 4.6. Ceramic Frequencies by Category at the Hickory site, 22It621.

Temper	Category	Total
Grog	Cormorant Cord Impressed	1
	Mulberry Creek Cord Marked	2
Subtotal, Grog		3
Limestone	Mulberry Creek Plain	1
Subtotal, Limestone		1
Sand	Furrs Cord Marked	4
	Saltillo Fabric Marked	11
	Alexander Incised	10
	Alexander Pinched	5
	Alexander Incised/Pinched	1
	Alexander Incised/Punctated	2
	Columbus Punctated	2
	Residual Sand Plain	7
	Eroded Sand	16
Subtotal, Sand		58
Fiber	Wheeler Plain	2
	Wheeler Punctated	16
	Fiber, other	1
Subtotal, Fiber		19
Total		81

Table 4.7. Total Frequencies of Chipped Stone Tools by Type and Category at the Hickory site, 22It621.

Type	Category	Total
Projectile Point/Knives	Beachum	1
	Benton Short Stem	2
	Big Sandy Side Notched	1
	Bradley Spike	1
	Cotaco Creek	2
	Cumberland	1
	Cypress Creek	1
	Eva	5
	Flint Creek	4
	Greenbriar	2
	Kirk Corner Notched	7
	Kirk Serrated Stem	1
	Ledbetter/Pickwick	3
	Little Bear Creek	4
	McIntire	1
	Morrow Mountain	6
	Morrow Mountain Rounded Base	2
	Morrow Mountain Straight Base	1
	Residual Stemmed	5
	Residual Triangular	2
	Vaughn	1
	Wade	1
	Unidentified Projectile Point/Knife	1
	Unidentified PP/K Distal Fragment	20
	Unidentified PP/K Medial Fragment	16
	Unidentified PP/K Proximal Fragment	11
	Unidentified PP/K Lateral Fragment	7
Subtotal, Projectile Point/Knives		109
Scrapers	Uniface End Scraper	19
	Uniface Side Scraper	15
	Uniface End-Side Scraper	15
	Uniface Cobble Scraper	3
	Uniface Scraper-Graver	1
	Uniface Notched Flake-Spokeshave	4
	Biface Flake Scraper	1
	Biface Cobble Scraper	2
	Biface Scraper-Graver	1
	Biface Side Scraper-Spokeshave	1
	Scraper-other	5
	Unidentified Scraper Fragment	6
Subtotal, Scrapers		73

Table 4.7. **Total Frequencies of Chipped Stone Tools by Type and Category at the Hickory site, 22It621 (continued).**

Type	Category	Total
Drills, Perforators, Etc.	Expanding Base Drill	4
	Shaft Drill	4
	Stemmed Drill, Recycled	2
	Drill, Fragment-Medial	2
	Drill, Fragment-Distal	2
	Graver	2
	Microlith	2
	Reamer	1
	Drill-other	1
Subtotal, Drills, Perforators, Etc.		20
Other Uniface and Biface Tools	Uniface Chopper	1
	Uniface Flake Knife	5
	Biface Chopper	1
	Biface Hammer-Chopper	1
	Biface Flake Knife	5
	Biface Wedge	1
	Uniface-Biface Tool-other	2
	Unidentifiable Chipped Stone Fragment	103
Subtotal, Other Uniface and Biface Tools		119
Bifaces	Ovoid Biface-other	1
	Triangular Biface-Flake	2
	Triangular Biface-other	1
	Biface-other	3
	Biface Proximal Fragment	3
	Biface Medial Fragment	5
	Biface Distal Fragment	11
	Crude Biface	8
	Biface Fragment	37
	Biface Lateral Fragment	18
Subtotal, Bifaces		89

Table 4.7. Total Frequencies of Chipped Stone Tools by Type and Category at the Hickory site, 22It621 (continued).

Type	Category	Total
Cores	Uniface Core 360	1
	Biface Core Adjacent 180	1
	Biface Core 360	2
Subtotal, Cores		4
Preforms	Preform I-Cobble	1
	Preform I-Flake	2
	Preform I-Indeterminate	4
	Preform II-Flake	3
	Preform II-Indeterminate	3
Subtotal, Preforms		13
Utilized Flakes	Utilized Flake 1"	8
	Utilized Flake 1/2"	286
	Utilized Flake 1/4"	381
	Utilized Blade-like Flake	4
	Utilized Chert Chunk	33
Subtotal, Utilized Flakes		712
Total		1,139

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621.

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			PROJECTILE POINT/KNIVES					
			Beachum					
WEIGHT	1	0	16.00	-	16.00	16.00	0.00	-
WIDTH	1	0	34.60	-	34.60	34.60	0.00	-
THK	1	0	12.60	-	12.60	12.60	0.00	-
BASLW	1	0	28.80	-	28.80	28.80	0.00	-
SHOULDRW	1	0	34.70	-	34.70	34.70	0.00	-
JUNCW	1	0	27.50	-	27.50	27.50	0.00	-
HAFTL	1	0	7.30	-	7.30	7.30	0.00	-
			Benton Short-Stemmed					
WEIGHT	2	8	52.00	48.65	17.60	86.40	68.80	2366.72
LENGTH	1	9	144.90	-	144.90	144.90	0.00	-
WIDTH	7	3	37.19	8.97	27.10	55.00	27.90	80.40
THK	2	8	8.25	1.20	7.40	9.10	1.70	1.45
BASLW	7	3	23.70	5.04	18.00	32.00	14.00	25.45
SHOULDRW	8	2	34.61	5.76	26.90	44.80	17.90	33.22
JUNCW	9	1	24.62	4.32	19.10	33.20	14.10	18.69
HAFTL	7	3	9.94	1.49	8.20	12.00	3.80	2.21
			Big Sandy Side-Notched					
WEIGHT	1	0	7.60	-	7.60	7.60	0.00	-
LENGTH	1	0	44.40	-	44.40	44.40	0.00	-
WIDTH	1	0	26.70	-	26.70	26.70	0.00	-
THK	1	0	6.30	-	6.30	6.30	0.00	-
BASLW	1	0	25.00	-	25.00	25.00	0.00	-
SHOULDRW	1	0	26.40	-	26.40	26.40	0.00	-
JUNCW	1	0	21.70	-	21.70	21.70	0.00	-
HAFTL	1	0	12.00	-	12.00	12.00	0.00	-
			Bradley Spike					
WEIGHT	1	0	7.10	-	7.10	7.10	0.00	-
LENGTH	1	0	43.40	-	43.40	43.40	0.00	-
WIDTH	1	0	17.60	-	17.60	17.60	0.00	-
THK	1	0	11.00	-	11.00	11.00	0.00	-

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Cotaco Creek				
WEIGHT	2	1	10.85	1.48	9.80	11.90	2.10	2.21
LENGTH	1	2	42.40	-	42.40	42.40	0.00	-
WIDTH	2	1	31.15	2.90	29.10	33.20	4.10	8.40
THK	2	1	9.80	0.28	9.60	10.00	0.40	0.08
BASLW	3	0	15.90	2.46	13.20	18.00	4.80	6.03
SHOULDRW	2	1	30.00	3.11	27.80	32.20	4.40	9.68
JUNCW	3	0	19.37	0.21	19.20	19.60	0.40	0.04
HAFTL	3	0	11.60	1.14	10.30	12.40	2.10	1.29
				Cumberland				
WEIGHT	1	0	12.60	-	12.60	12.60	0.00	-
WIDTH	1	0	21.90	-	21.90	21.90	0.00	-
BASLW	1	0	21.90	-	21.90	21.90	0.00	-
SHOULDRW	1	0	21.30	-	21.30	21.30	0.00	-
				Cypress Creek				
WEIGHT	2	0	14.85	6.86	10.00	19.70	9.70	47.04
LENGTH	2	0	51.80	9.19	45.30	58.30	13.00	84.50
WIDTH	1	1	31.10	-	31.10	31.10	0.00	-
THK	2	0	9.50	1.13	8.70	10.30	1.60	1.28
BASLW	2	0	19.60	4.38	16.50	22.70	6.20	19.22
SHOULDRW	1	1	30.00	-	30.00	30.00	0.00	-
JUNCW	2	0	19.15	4.45	16.00	22.30	6.30	19.84
HAFTL	2	0	7.45	0.21	7.30	7.60	0.30	0.04
				Elora				
WIDTH	1	0	37.10	-	37.10	37.10	0.00	-
THK	1	0	12.10	-	12.10	12.10	0.00	-
BASLW	1	0	11.40	-	11.40	11.40	0.00	-
SHOULDRW	1	0	32.80	-	32.80	32.80	0.00	-
JUNCW	1	0	17.50	-	17.50	17.50	0.00	-
HAFTL	1	0	11.50	-	11.50	11.50	0.00	-

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Eva				
WEIGHT	5	1	10.52	2.76	6.70	13.50	6.80	7.64
LENGTH	2	4	49.25	0.64	48.80	49.70	0.90	0.40
WIDTH	4	2	29.27	0.84	28.50	30.00	1.50	0.70
THK	3	3	10.13	1.22	8.80	11.20	2.40	1.49
BASLW	5	1	11.02	4.21	3.80	13.80	10.00	17.72
SHOULDRW	5	1	27.52	1.03	26.60	29.00	2.40	1.07
JUNCW	5	1	14.22	0.94	13.20	15.50	2.30	0.88
HAFTL	5	1	4.24	1.62	1.50	5.80	4.30	2.61
				Flint Creek				
WEIGHT	10	16	10.16	3.07	5.00	13.20	8.20	9.45
LENGTH	9	17	48.82	8.16	36.80	58.70	21.90	66.51
WIDTH	15	11	24.80	3.28	19.80	29.50	9.70	10.77
THK	15	11	9.92	1.73	7.50	13.00	5.50	3.00
BASLW	19	7	14.42	2.68	9.70	20.60	10.90	7.16
SHOULDRW	18	8	23.54	3.18	17.00	28.60	11.60	10.11
JUNCW	21	5	15.60	1.78	11.90	18.00	6.10	3.16
HAFTL	18	8	11.89	2.77	4.40	17.80	13.40	7.67
				Gary				
WEIGHT	1	1	26.00	-	26.00	26.00	0.00	-
LENGTH	1	1	66.90	-	66.90	66.90	0.00	-
WIDTH	2	0	31.15	1.63	30.00	32.30	2.30	2.64
THK	2	0	13.15	1.20	12.30	14.00	1.70	1.45
BASLW	1	1	12.80	-	12.80	12.80	0.00	-
SHOULDRW	2	0	30.95	1.91	29.60	32.30	2.70	3.64
JUNCW	2	0	23.65	0.21	23.50	23.80	0.30	0.05
HAFTL	1	1	12.90	-	12.90	12.90	0.00	-
				Greenbriar				
WEIGHT	2	0	3.75	0.92	3.10	4.40	1.30	0.84
BASLW	2	0	24.05	1.34	23.10	25.00	1.90	1.81
JUNCW	1	1	17.10	-	17.10	17.10	0.00	-
HAFTL	1	1	10.00	-	10.00	10.00	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Kirk Corner-Notched				
WEIGHT	7	7	8.26	3.89	4.50	15.30	10.80	15.16
LENGTH	5	9	42.92	12.79	22.00	56.00	34.00	163.56
WIDTH	6	8	28.85	3.59	25.00	34.40	9.40	12.86
THK	6	8	7.78	0.60	7.30	8.90	1.60	0.36
BASLW	7	7	23.47	5.72	12.20	29.50	17.30	32.72
SHOULDRW	5	9	26.92	2.74	23.80	30.00	6.20	7.49
JUNCW	8	6	18.50	3.04	14.50	23.30	8.80	9.22
HAFTL	7	7	10.53	1.90	7.90	13.00	5.10	3.59
				Kirk Serrated Stemmed				
WEIGHT	1	0	5.40	-	5.40	5.40	0.00	-
LENGTH	1	0	40.50	-	40.50	40.50	0.00	-
WIDTH	1	0	24.00	-	24.00	24.00	0.00	-
THK	1	0	7.50	-	7.50	7.50	0.00	-
BASLW	1	0	16.10	-	16.10	16.10	0.00	-
SHOULDRW	1	0	23.60	-	23.60	23.60	0.00	-
JUNCW	1	0	17.50	-	17.50	17.50	0.00	-
HAFTL	1	0	10.20	-	10.20	10.20	0.00	-
				Ledbetter/Pickwick				
WEIGHT	5	2	20.28	6.21	14.00	27.40	13.40	38.59
LENGTH	3	4	59.70	6.03	52.90	64.40	11.50	36.37
WIDTH	4	3	35.80	2.68	33.10	38.70	5.60	7.17
THK	5	2	11.28	2.23	8.40	14.50	6.10	4.97
BASLW	6	1	14.45	2.02	12.00	17.00	5.00	4.09
SHOULDRW	6	1	35.02	1.92	31.90	37.20	5.30	3.68
JUNCW	7	0	21.54	3.02	16.70	24.60	7.90	9.11
HAFTL	7	0	11.80	1.35	9.60	13.30	3.70	1.83
				Little Bear Creek				
WEIGHT	23	59	12.58	4.75	6.70	30.00	23.30	22.57
LENGTH	23	59	56.65	8.04	38.20	73.80	35.60	64.70
WIDTH	42	40	25.04	3.69	18.50	34.60	16.10	13.62
THK	34	48	9.78	1.32	6.60	13.00	6.40	1.76
BASLW	56	26	13.60	2.73	8.20	25.70	17.50	7.43
SHOULDRW	48	34	24.13	3.48	18.00	32.40	14.40	12.10
JUNCW	57	25	16.02	2.13	11.50	23.40	11.90	4.54
HAFTL	51	31	12.39	1.72	7.20	16.00	8.80	2.95

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				McIntire				
WEIGHT	1	1	17.20	-	17.20	17.20	0.00	-
LENGTH	1	1	48.60	-	48.60	48.60	0.00	-
WIDTH	2	0	34.40	5.09	30.80	38.00	7.20	25.92
THK	1	1	10.00	-	10.00	10.00	0.00	-
BASLW	2	0	23.00	4.67	19.70	26.30	6.60	21.78
SHOULDRW	2	0	32.70	6.36	28.20	37.20	9.00	40.50
JUNCW	2	0	23.50	3.82	20.80	26.20	5.40	14.58
HAFTL	2	0	9.30	2.97	7.20	11.40	4.20	8.82
				Morrow Mountain				
WEIGHT	6	2	10.53	2.11	8.00	13.80	5.80	4.46
LENGTH	3	5	40.03	3.56	36.30	43.40	7.10	12.70
WIDTH	7	1	29.16	3.68	24.80	35.00	10.20	13.56
THK	4	4	10.67	2.12	8.60	13.20	4.60	4.48
BASLW	4	4	11.30	2.86	9.10	15.40	6.30	8.19
JUNCW	5	3	14.34	2.64	11.10	12.30	6.20	6.95
SHOULDRW	7	1	28.06	3.20	23.60	32.20	8.60	10.24
HAFTL	4	4	4.40	1.67	3.40	6.90	3.50	2.79
				Morrow Mountain Rounded-Stemmed				
WEIGHT	2	1	5.95	2.62	4.10	7.80	3.70	6.84
WIDTH	1	2	29.00	-	29.00	29.00	0.00	-
BASLW	2	1	16.35	0.92	15.70	17.00	1.30	0.85
SHOULDRW	3	0	27.67	0.47	27.30	28.20	0.90	0.22
JUNCW	2	1	19.95	1.63	18.80	21.10	2.30	2.64
HAFTL	2	1	8.65	4.45	5.50	11.80	6.30	19.85
				Morrow Mountain Straight-Stemmed				
WEIGHT	1	0	18.80	-	18.80	18.80	0.00	-
WIDTH	1	0	39.20	-	39.20	39.20	0.00	-
BASLW	1	0	19.50	-	19.50	19.50	0.00	-
SHOULDRW	1	0	37.10	-	37.10	37.10	0.00	-
JUNCW	1	0	25.10	-	25.10	25.10	0.00	-
HAFTL	1	0	7.80	-	7.80	7.80	0.00	-
				Quad				
BASLW	1	0	26.00	-	26.00	26.00	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
Residual Stemmed								
WEIGHT	7	26	10.74	6.25	6.00	23.80	17.80	39.10
LENGTH	6	27	48.45	5.71	42.50	55.40	12.90	32.61
WIDTH	14	19	26.84	4.82	18.80	33.90	15.10	23.23
THK	12	21	9.52	1.73	7.00	11.80	4.80	2.99
BASLW	21	12	15.93	4.47	9.50	25.70	16.20	19.94
SHOULDRW	15	18	26.82	3.23	22.00	32.00	10.00	10.43
JUNCW	20	13	17.78	3.34	11.70	24.30	12.60	11.15
HAFTL	18	15	11.11	2.04	8.50	15.00	6.50	4.17
Residual Triangular								
WEIGHT	2	0	10.50	0.28	10.30	10.70	0.40	0.08
LENGTH	1	1	43.80	-	43.80	43.80	0.00	-
WIDTH	2	0	34.55	1.06	33.80	35.30	1.50	1.13
THK	1	1	8.20	-	8.20	8.20	0.00	-
SHOULDRW	2	0	34.35	0.92	33.70	35.0	1.30	0.85
Sykes-White Springs								
WEIGHT	2	1	28.95	2.05	27.50	30.40	2.90	4.21
THK	1	2	9.90	-	9.90	9.90	0.00	-
BASLW	1	2	20.30	-	20.30	20.30	0.00	-
SHOULDRW	2	1	28.30	1.84	27.00	29.60	2.60	3.38
JUNCW	2	1	20.20	0.85	19.60	20.80	1.20	0.72
HAFTL	1	2	5.90	-	5.90	5.90	0.00	-
Tombigbee Stemmed								
WIDTH	1	0	23.00	-	23.00	23.00	0.00	-
BASLW	1	0	12.00	-	12.00	12.00	0.00	-
SHOULDRW	1	0	22.80	-	22.80	22.80	0.00	-
JUNCW	1	0	16.60	-	16.60	16.60	0.00	-
HAFTL	1	0	10.90	-	10.90	10.90	0.00	-
Vaughn								
WEIGHT	1	0	15.40	-	15.40	15.40	0.00	-
LENGTH	1	0	49.90	-	49.90	49.90	0.00	-
WIDTH	1	0	32.30	-	32.30	32.30	0.00	-
THK	1	0	9.80	-	9.80	9.80	0.00	-
BASLW	1	0	18.80	-	18.80	18.80	0.00	-
SHOULDRW	1	0	31.90	-	31.90	31.90	0.00	-
JUNCW	1	0	25.80	-	25.80	25.80	0.00	-
HAFTL	1	0	10.30	-	10.30	10.30	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Wade				
WEIGHT	1	0	17.00	-	17.00	17.00	0.00	-
WIDTH	1	0	41.30	-	41.30	41.30	0.00	-
THK	1	0	10.30	-	10.30	10.30	0.00	-
SHOULDRW	1	0	40.00	-	40.00	40.00	0.00	-
JUNCW	1	0	21.90	-	21.90	21.90	0.00	-
HAFTL	1	0	12.00	-	12.00	12.00	0.00	-
				PPK - Distal Fragment				
WEIGHT	20	99	3.82	2.24	0.50	8.30	7.80	5.02
				PPK - Medial Fragment				
WEIGHT	16	64	4.66	2.62	0.90	11.50	10.60	6.88
				PPK - Proximal Fragment				
WEIGHT	11	76	2.77	1.90	0.80	7.50	6.70	3.63
BASLW	5	82	19.36	6.60	9.90	27.10	17.20	43.50
				PPK - Lateral Fragment				
WEIGHT	7	0	1.69	1.28	0.30	3.80	3.50	1.63
				PPK - Unidentified				
WEIGHT	1	0	14.90	-	14.90	14.90	0.00	-
				SCRAPERS				
				Uniface End Scraper				
WEIGHT	[illegible]	4	3.36	2.46	0.70	10.40	9.70	6.07
LENGTH	20	7	24.73	7.73	13.40	44.60	31.20	59.83
WIDTH	20	7	21.57	5.38	12.00	30.30	18.30	28.95
THK	20	7	6.05	2.79	0.60	13.40	12.80	7.81
				Uniface Side Scraper				
WEIGHT	26	2	6.46	8.06	0.70	32.10	31.40	64.94
LENGTH	22	6	30.45	11.14	17.50	69.10	51.60	124.07
WIDTH	24	4	25.70	9.54	10.30	51.80	41.50	90.93
THK	23	5	7.73	4.38	2.90	20.10	17.20	19.21

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
Uniface End Side Scraper								
WEIGHT	19	1	11.39	19.65	0.40	83.20	82.80	386.29
LENGTH	18	2	30.51	13.73	14.10	61.20	47.10	188.51
WIDTH	19	1	26.69	10.58	8.80	50.60	41.80	112.02
THK	19	1	9.42	9.26	3.00	45.00	42.00	85.79
Uniface Cobble Scraper								
WEIGHT	3	0	84.00	57.68	47.50	150.50	103.00	3327.25
LENGTH	3	0	65.53	12.91	53.40	79.10	25.70	166.66
WIDTH	3	0	40.63	8.17	33.40	49.50	16.10	66.80
THK	3	0	29.60	3.63	25.50	32.40	6.90	13.17
Uniface Notched Flake/Spokeshave								
WEIGHT	7	0	3.09	1.70	0.80	5.30	4.50	2.87
LENGTH	7	0	22.87	11.31	2.20	33.70	31.50	127.86
WIDTH	7	0	20.63	6.86	13.10	32.90	19.80	47.03
THK	7	0	6.51	3.22	0.60	9.60	9.00	10.38
Biface Flake Scraper								
WEIGHT	2	1	7.60	2.26	6.00	9.20	3.20	5.12
LENGTH	2	1	32.30	2.83	30.30	34.30	4.00	8.00
WIDTH	2	1	27.50	9.48	20.80	34.20	13.40	89.78
THK	2	1	9.05	0.49	8.70	9.40	0.70	0.25
Biface Cobble Scraper								
WEIGHT	2	0	127.70	100.97	56.30	199.10	142.80	10195.92
LENGTH	2	0	62.65	10.82	55.00	70.30	15.30	117.05
WIDTH	2	0	54.20	4.24	51.20	57.20	6.00	18.00
THK	2	0	33.45	16.19	22.00	44.90	22.90	262.20
Biface Scraper Graver								
WEIGHT	1	0	262.00	-	262.00	262.00	0.00	-
LENGTH	1	0	109.90	-	109.90	109.90	0.00	-
WIDTH	1	0	57.60	-	57.60	57.60	0.00	-
THK	1	0	33.30	-	33.30	33.30	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Biface Side Scraper/Spokeshave					
WEIGHT	1	0	62.00	-	62.00	62.00	0.00	-
LENGTH	1	0	64.50	-	64.50	64.50	0.00	-
WIDTH	1	0	40.90	-	40.90	40.90	0.00	-
THK	1	0	31.80	-	31.80	31.80	0.00	-
			Scraper - Recycled					
WEIGHT	1	0	25.70	-	25.70	25.70	0.00	-
LENGTH	1	0	47.10	-	47.10	47.10	0.00	-
WIDTH	1	0	40.30	-	40.30	40.30	0.00	-
THK	1	0	22.10	-	22.10	22.10	0.00	-
			Scraper - Other					
WEIGHT	8	0	17.84	17.55	0.10	52.90	52.80	208.09
LENGTH	7	1	34.57	14.68	11.40	57.00	45.60	215.42
WIDTH	7	1	30.97	12.28	12.50	50.00	37.50	150.88
THK	7	1	11.36	5.58	2.60	19.50	16.90	31.18
			Scraper - Unidentified Fragment					
WEIGHT	6	9	9.30	13.45	0.60	32.80	32.20	180.97
			DRILLS AND PERFORATORS					
			Expanded Base Drill					
WEIGHT	7	6	4.77	2.46	2.00	7.60	5.60	6.03
LENGTH	5	8	58.26	27.72	31.70	100.40	68.70	768.61
WIDTH	12	1	18.59	4.76	11.60	26.20	14.60	22.63
THK	12	1	8.24	1.26	6.40	10.40	4.00	1.58
			Shaft Drill					
WEIGHT	10	2	4.39	2.04	2.40	8.70	6.30	4.17
LENGTH	8	4	49.44	11.08	33.20	66.60	33.40	122.84
WIDTH	12	0	11.06	1.52	8.10	12.90	4.80	2.30
THK	12	0	7.97	1.61	5.80	12.00	6.20	2.58
			Stemmed Drill - Recycled					
WEIGHT	12	8	7.58	3.08	2.30	13.60	11.30	9.47
LENGTH	8	12	48.52	9.08	38.50	65.00	26.50	82.43
WIDTH	18	2	21.87	6.73	7.30	34.00	26.70	45.25
THK	18	2	11.14	6.63	4.90	36.40	31.50	44.00

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Drill - Medial Fragment				
WEIGHT	2	13	2.00	0.42	1.70	2.30	0.60	0.18
				Drill - Distal Fragment				
WEIGHT	2	30	1.90	0.28	1.70	2.10	0.40	0.08
				Graver				
WEIGHT	4	0	10.05	16.59	0.80	34.90	34.10	275.12
LENGTH	4	0	30.25	9.48	22.30	43.40	21.10	89.83
WIDTH	4	0	21.00	11.00	11.20	36.60	25.40	120.90
THK	4	0	10.12	9.58	4.20	24.30	20.10	91.73
				Microlith				
WEIGHT	2	0	1.45	0.35	1.20	1.70	0.50	0.12
LENGTH	2	0	31.25	10.82	23.60	38.90	15.30	117.04
WIDTH	2	0	8.00	2.12	6.50	9.50	3.00	4.50
THK	2	0	4.70	0.42	4.40	5.00	0.60	0.18
				Perforator				
WEIGHT	5	2	4.40	2.79	1.70	8.00	6.30	7.79
LENGTH5	5	2	24.74	4.56	21.80	32.80	11.00	20.81
WIDTH	5	2	22.86	6.56	17.60	33.90	16.30	43.08
THK	5	2	8.44	2.09	4.90	10.00	5.10	4.39
				Reamer				
WEIGHT	2	1	3.65	2.33	2.00	5.30	3.30	5.45
LENGTH	2	1	43.80	20.93	29.00	58.60	29.60	438.08
WIDTH	2	1	14.90	8.06	9.20	20.60	11.40	64.98
THK	2	1	11.60	5.66	7.60	15.60	8.00	32.00
				Drill - Other				
WEIGHT	1	0	2.50	-	2.50	2.50	0.00	-
				OTHER UNIFACE AND BIFACE TOOLS				
				Uniface Adze				
WEIGHT	1	0	22.30	-	22.30	22.30	0.00	-
LENGTH	1	0	43.00	-	43.00	43.00	0.00	-
WIDTH	1	0	33.20	-	33.20	33.20	0.00	-
THK	1	0	16.40	-	16.40	16.40	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Uniface Chopper				
WEIGHT	1	0	125.70	-	125.70	125.70	0.00	-
LENGTH	1	0	63.20	-	63.20	63.20	0.00	-
WIDTH	1	0	45.00	-	45.00	45.00	0.00	-
THK	1	0	35.60	-	35.60	35.60	0.00	-
				Uniface Flake Knife				
WEIGHT	7	4	22.87	19.63	3.70	58.00	54.30	385.15
LENGTH	7	4	50.70	8.45	41.90	65.90	24.00	71.37
WIDTH	7	4	32.07	12.35	15.00	47.00	32.00	152.47
THK	7	4	12.94	6.58	4.70	23.70	19.00	43.28
				Biface Adze				
WEIGHT	5	4	26.92	8.91	18.00	39.60	21.60	79.31
LENGTH	5	4	48.22	11.05	36.00	58.60	22.60	122.20
WIDTH	5	4	33.70	4.70	28.80	39.50	10.70	22.06
THK	5	4	17.42	2.49	14.60	20.20	5.60	6.20
				Biface Chisel				
WEIGHT	1	0	2.00	-	2.00	2.00	0.00	-
LENGTH	1	0	15.10	-	15.10	15.10	0.00	-
WIDTH	1	0	10.50	-	10.50	10.50	0.00	-
THK	1	0	9.40	-	9.40	9.40	0.00	-
				Biface Chopper				
WEIGHT	5	0	142.12	82.48	76.90	280.50	203.60	6802.33
LENGTH	5	0	67.54	15.77	50.30	90.70	40.40	248.82
WIDTH	5	0	51.52	10.13	42.70	68.00	25.30	102.59
THK	5	0	39.24	12.28	22.90	53.20	30.30	150.70
				Biface Hammer Chopper				
WEIGHT	2	2	886.55	980.12	193.50	1579.60	1386.10	960636.60
LENGTH	2	2	112.20	52.04	75.40	149.00	73.60	2708.48
WIDTH	2	2	85.90	45.82	53.50	118.30	64.80	2099.52
THK	2	2	61.75	17.75	49.20	74.30	25.10	315.00
				Biface Flake Knife				
WEIGHT	9	0	22.67	18.95	3.80	57.40	53.60	359.05
LENGTH	9	0	55.32	12.06	31.70	74.90	43.20	145.50
WIDTH	9	0	33.11	11.30	18.60	53.80	35.20	127.75
THK	9	0	12.60	5.78	6.20	24.00	17.80	33.38

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Biface Wedge				
WEIGHT	1	1	13.00	-	13.00	13.00	0.00	-
LENGTH	1	1	36.80	-	36.80	36.80	0.00	-
WIDTH	1	1	27.10	-	27.10	27.10	0.00	-
THK	1	1	12.90	-	12.90	12.90	0.00	-
				Biface Tool - Other				
WEIGHT	3	0	14.57	19.00	3.20	36.50	33.30	360.96
LENGTH	2	1	42.60	31.11	20.60	64.60	44.00	968.00
WIDTH	2	1	31.90	4.38	28.80	35.00	6.20	19.22
THK	2	1	13.60	12.45	4.80	22.40	17.60	154.88
				Unidentified Chipped Stone Fragment				
WEIGHT	103	379	2.26	2.33	0.10	9.60	9.50	5.41
				UTILIZED FLAKES				
				Utilized Flake 1"				
WEIGHT	28	0	24.40	21.03	5.60	94.00	88.40	442.31
				Utilized Flake 1/2"				
WEIGHT	355	2	8.74	13.06	0.50	82.00	81.50	170.66
				Utilized Flake 1/4"				
WEIGHT	362	2	2.28	3.92	0.10	28.00	27.90	15.40
				Utilized Blade-like Flake				
WEIGHT	4	0	3.42	3.62	0.30	8.60	8.30	13.12
				Utilized Chert Chunk				
WEIGHT	31	21	8.03	7.94	0.20	32.10	31.90	63.11

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
BIFACES								
Ovoid Biface Flake								
WEIGHT	1	1	9.20	-	9.20	9.20	0.00	-
LENGTH	1	1	38.40	-	38.40	38.40	0.00	-
WIDTH	2	0	28.15	6.15	23.80	32.50	8.70	37.85
THK	2	0	12.00	1.27	11.10	12.90	1.80	1.62
Ovoid Biface Other								
WEIGHT	1	0	38.00	-	38.00	38.00	0.00	-
LENGTH	1	0	65.90	-	65.90	65.90	0.00	-
WIDTH	1	0	43.50	-	43.50	43.50	0.00	-
THK	1	0	15.50	-	15.50	15.50	0.00	-
Triangular Biface Flake								
WEIGHT	5	3	13.12	10.18	4.50	30.60	26.10	103.73
LENGTH	4	4	51.15	11.73	42.00	67.70	25.70	137.71
WIDTH	5	3	25.94	4.75	21.40	32.80	11.40	22.59
THK	5	3	10.88	1.35	9.20	12.40	3.20	1.81
Triangular Biface Other								
WEIGHT	1	4	20.40	-	20.40	20.40	0.00	-
LENGTH	1	4	50.10	-	50.10	50.10	0.00	-
WIDTH	3	2	34.90	4.23	31.70	39.70	8.00	17.92
THK	3	2	11.17	1.81	9.10	12.50	3.40	3.29
Narrow Triangular Biface Flake								
WEIGHT	5	0	16.26	2.46	13.10	19.70	6.60	6.07
LENGTH	4	1	61.60	4.88	57.20	67.10	9.90	23.78
WIDTH	5	0	24.40	4.04	20.00	30.00	10.00	16.30
THK	5	0	11.06	1.49	9.30	12.90	3.60	2.23
Biface Other								
WEIGHT	3	0	31.40	27.91	4.60	60.30	55.70	778.93
LENGTH	3	0	54.97	19.30	33.50	70.90	37.40	372.65
WIDTH	3	0	28.93	14.94	14.70	44.50	29.80	223.34
THK	3	0	14.80	5.86	8.50	20.10	11.60	34.39

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Rehafted Biface Fragment				
WEIGHT	1	1	6.20	-	6.20	6.20	0.00	-
LENGTH	1	1	37.60	-	37.60	37.60	0.00	-
WIDTH	1	1	18.90	-	18.90	18.90	0.00	-
THK	1	1	9.30	-	9.30	9.30	0.00	-
				Biface - Proximal Fragment				
WEIGHT	3	16	10.77	4.74	5.30	13.70	8.40	22.45
				Biface - Medial Fragment				
WEIGHT	5	9	15.08	12.66	3.10	33.60	30.50	160.31
				Biface - Distal Fragment				
WEIGHT	11	21	12.26	7.42	4.60	26.60	22.00	55.01
				Crude Biface				
WEIGHT	8	0	32.65	23.37	10.60	72.90	62.30	546.06
LENGTH	3	5	53.00	17.60	32.70	64.00	31.30	309.79
WIDTH	3	5	25.47	5.32	20.40	31.00	10.60	28.25
THK	3	5	16.60	6.86	12.10	24.50	12.40	47.11
				Biface Fragment				
WEIGHT	37	0	11.54	10.05	1.60	40.90	39.30	100.92
LENGTH	1	36	80.10	-	80.10	80.10	0.00	-
WIDTH	1	36	55.10	-	55.10	55.10	0.00	-
THK	1	36	37.10	-	37.10	37.10	0.00	-
				Biface - Lateral Fragment				
WEIGHT	18	0	3.38	4.23	0.20	17.90	17.70	17.88
				Uniface Scraper Graver				
WEIGHT	1	0	2.30	-	2.30	2.30	0.00	-
LENGTH	1	0	22.50	-	22.50	22.50	0.00	-
WIDTH	1	0	20.00	-	20.00	20.00	0.00	-
THK	1	0	5.50	-	5.50	5.50	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
CORES AND PREFORMS								
Uniface Core 90 degrees								
WEIGHT	2	0	56.05	36.27	30.40	81.70	51.30	1315.85
LENGTH	2	0	48.75	7.28	43.60	53.90	10.30	53.05
WIDTH	2	0	40.50	12.16	31.90	49.10	17.20	147.92
THK	2	0	31.10	16.69	19.30	42.90	23.60	278.48
Uniface Core Opposing 180 degrees								
WEIGHT	2	1	63.55	35.99	38.10	89.00	50.90	1295.41
LENGTH	2	1	51.95	12.09	43.40	60.50	17.10	146.20
WIDTH	2	1	39.20	3.96	36.40	42.00	5.60	15.68
THK	2	1	29.10	1.84	27.80	30.40	2.60	3.38
Uniface Core Adjacent 180 degrees								
WEIGHT	4	0	50.12	21.21	38.00	81.80	43.80	449.68
LENGTH	4	0	63.95	10.13	50.30	71.70	21.40	102.66
WIDTH	4	0	36.97	6.20	28.00	42.00	14.00	38.47
THK	4	0	25.17	7.76	18.00	35.90	17.90	60.27
Uniface Core 360 degrees								
WEIGHT	4	0	59.10	66.99	10.40	158.00	147.60	4487.64
LENGTH	4	0	49.70	11.80	35.30	64.20	28.90	139.22
WIDTH	4	0	40.11	11.82	29.30	56.20	26.90	139.77
THK	4	0	25.32	13.09	13.00	43.40	30.40	171.25
Biface Core Opposing 180 degrees								
WEIGHT	1	0	20.40	-	20.40	20.40	0.00	-
LENGTH	1	0	33.70	-	33.70	33.70	0.00	-
WIDTH	1	0	33.10	-	33.10	33.10	0.00	-
THK	1	0	22.40	-	22.40	22.40	0.00	-
Biface Core Adjacent 180 degrees								
WEIGHT	1	0	71.00	-	71.00	71.00	0.00	-
LENGTH	1	0	76.00	-	76.00	76.00	0.00	-
WIDTH	1	0	32.40	-	32.40	32.40	0.00	-
THK	1	0	27.00	-	27.00	27.00	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
			Biface Core 270 degrees					
WEIGHT	2	0	66.40	36.35	40.70	92.10	51.40	1320.98
LENGTH	2	0	56.65	1.34	55.70	57.60	1.90	1.81
WIDTH	2	0	48.10	3.25	45.80	50.40	4.60	10.58
THK	2	0	28.40	9.90	21.40	35.40	14.00	98.00
			Biface Core 360 degrees					
WEIGHT	3	2	63.40	51.42	20.50	120.40	99.90	2644.11
LENGTH	3	2	55.37	20.87	41.00	79.30	38.30	435.36
WIDTH	3	2	36.87	12.09	29.20	50.80	21.60	146.09
THK	3	2	28.57	5.70	22.50	33.80	11.30	32.44
			Microblade Core					
WEIGHT	1	0	5.30	-	5.30	5.30	0.00	-
LENGTH	1	0	25.20	-	25.20	25.20	0.00	-
WIDTH	1	0	19.00	-	19.00	19.00	0.00	-
THK	1	0	16.40	-	16.40	16.40	0.00	-
			Preform 1 - Cobble					
WEIGHT	2	1	84.60	28.85	64.20	105.00	40.80	832.32
LENGTH	1	2	54.00	-	54.00	54.00	0.00	-
WIDTH	1	2	53.30	-	53.30	53.30	0.00	-
THK	1	2	25.90	-	25.90	25.90	0.00	-
			Preform 1 - Flake					
WEIGHT	8	7	16.89	5.68	9.00	26.70	17.70	32.30
LENGTH	7	8	46.97	7.41	38.20	61.40	23.20	54.95
WIDTH	8	7	29.11	2.74	23.80	32.60	8.80	7.53
THK	7	8	13.99	2.56	9.30	16.50	7.20	6.55
			Preform 1 - Indeterminate					
WEIGHT	4	0	34.45	41.12	9.80	95.80	86.00	1690.76
WIDTH	1	3	29.70	-	29.70	29.70	0.00	-
THK	1	3	14.00	-	14.00	14.00	0.00	-
			Preform 2 - Cobble					
WEIGHT	1	1	55.50	-	55.50	55.50	0.00	-
LENGTH	1	1	63.40	-	63.40	63.40	0.00	-
WIDTH	1	1	45.20	-	45.20	45.20	0.00	-
THK	1	1	20.20	-	20.20	20.20	0.00	-

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Preform 2 - Flake				
WEIGHT	12	5	30.59	15.87	9.60	59.00	49.40	251.89
LENGTH	11	6	54.21	13.32	34.60	73.70	39.10	177.47
WIDTH	11	6	37.20	7.71	23.40	51.40	28.00	59.48
THK	11	6	16.19	3.76	9.70	23.30	13.60	14.15
				Preform 2 - Indeterminate				
WEIGHT	8	18	25.62	13.72	12.90	53.10	40.20	188.22
LENGTH	5	21	51.86	10.16	36.00	64.00	28.00	103.23
WIDTH	5	21	30.32	6.15	20.50	36.80	16.30	37.77
THK	5	21	16.54	3.25	12.00	19.80	7.80	10.57
				GROUND STONE TOOLS				
				Abrader				
WEIGHT	3	0	267.77	274.29	43.00	573.40	530.40	75235.60
LENGTH	3	0	107.87	64.16	60.60	180.90	120.30	4115.96
WIDTH	3	0	78.80	27.54	52.60	107.50	54.90	758.19
THK	3	0	20.07	5.06	14.50	24.40	9.90	25.64
				Anvilstone				
WEIGHT	2	0	779.75	121.27	694.00	865.50	171.50	14706.13
LENGTH	2	0	115.15	8.13	109.40	120.90	11.50	66.13
WIDTH	2	0	106.70	13.29	97.30	116.10	18.80	176.72
THK	2	0	47.10	0.71	46.60	47.60	1.00	0.50
				Anvilstone/Hammerstone				
WEIGHT	2	1	734.35	132.02	641.00	827.70	186.70	17428.44
LENGTH	2	1	123.45	16.62	111.70	135.20	23.50	276.12
WIDTH	2	1	82.80	10.61	75.30	90.30	15.00	112.50
THK	2	1	52.35	11.67	44.10	60.60	16.50	136.13
				Pitted Anvilstone				
WEIGHT	8	2	261.80	93.03	126.70	395.30	268.60	8654.38
LENGTH	6	4	82.25	16.17	58.70	106.80	48.10	261.51
WIDTH	6	4	68.35	19.17	46.00	103.20	57.20	367.67
THK	6	4	37.65	11.45	25.00	56.70	31.70	131.19

Table 4.8. Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Pitted Anvilstone/Abrader				
WEIGHT	2	0	249.50	201.10	107.30	391.70	284.40	40441.68
LENGTH	1	1	118.40	-	118.40	118.40	0.00	-
WIDTH	1	1	50.70	-	50.70	50.70	0.00	-
THK	1	1	42.60	-	42.60	42.60	0.00	-
				Grooved Axe				
WEIGHT	1	0	187.40	-	187.40	187.40	0.00	-
LENGTH	1	0	78.80	-	78.80	78.80	0.00	-
WIDTH	1	0	63.90	-	63.90	63.90	0.00	-
THK	1	0	27.50	-	27.50	27.50	0.00	-
				Bead				
WEIGHT	1	0	7.50	-	7.50	7.50	0.00	-
LENGTH	1	0	23.80	-	23.80	23.80	0.00	-
WIDTH	1	0	19.40	-	19.40	19.40	0.00	-
THK	1	0	15.40	-	15.40	15.40	0.00	-
				Discoidal				
LENGTH	1	0	42.80	-	42.80	42.80	0.00	-
WIDTH	1	0	41.30	-	41.30	41.30	0.00	-
				Gorget				
WIDTH	1	0	39.30	-	39.30	39.30	0.00	-
THK	1	0	11.00	-	11.00	11.00	0.00	-
BASLW	1	0	8.80	-	8.80	8.80	0.00	-
				Hammerstone				
WEIGHT	15	9	133.71	135.49	9.40	551.40	542.00	18346.96
LENGTH	13	11	63.51	19.43	33.10	98.00	64.90	377.50
WIDTH	14	10	43.69	15.87	25.50	78.50	53.00	251.82
THK	14	10	29.67	14.18	1.60	48.60	47.00	200.98
				Muller				
WEIGHT	5	2	205.40	101.37	108.60	358.00	249.40	10276.66
LENGTH	5	2	88.02	24.39	60.50	118.90	58.40	594.88
WIDTH	4	3	44.70	7.71	37.50	545.00	16.50	59.46
THK	5	2	40.14	4.41	34.20	45.80	11.60	19.45

Table 4.8. **Measurement Statistical Summary for Lithic Artifacts from the Hickory site, 22It621 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Muller/Pitted Anvilstone				
WEIGHT	4	1	388.57	110.96	270.00	537.00	267.00	12311.99
LENGTH	4	1	75.45	43.03	12.00	107.00	95.00	1852.01
WIDTH	3	2	69.93	10.62	59.00	80.20	21.20	112.69
THK	4	1	33.05	4.07	29.80	39.00	9.20	16.54
				Ground Limonite				
WEIGHT	1	1	31.20	-	31.20	31.20	0.00	-
				Ground Flake - Other				
WEIGHT	1	10	49.50	-	49.50	49.50	0.00	-
				Unidentified Ground Stone				
WEIGHT	5	115	13.60	22.17	0.50	52.50	52.00	491.56

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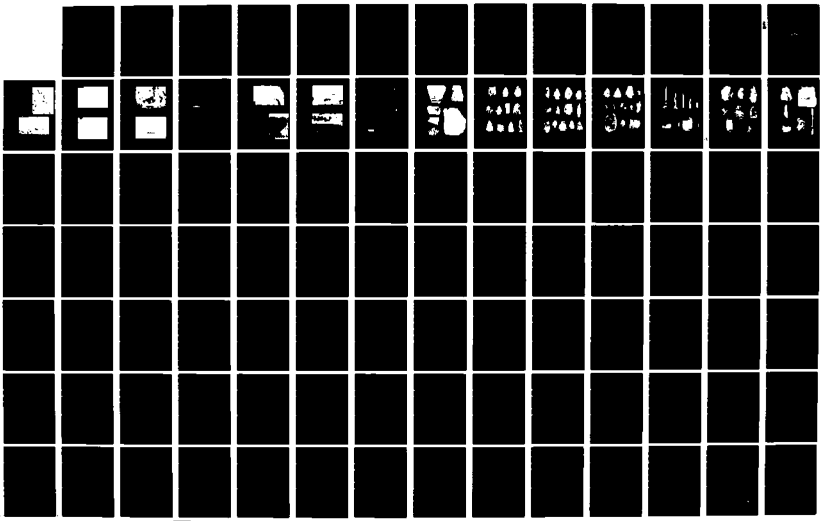

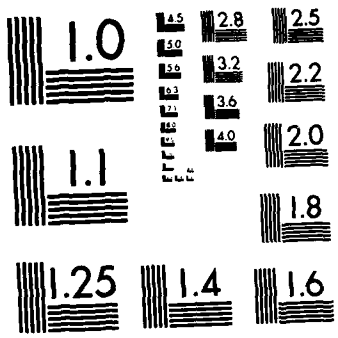
1.0
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2.2
2.5
2.8
3.2
3.6
4.0

Table 4.9. Frequencies of Utilized Flakes by Category and Raw Material at the Hickory site, 22It621.

Raw Material	1"	1/2"	1/4"	Blade-like Flake	Chert Chunks	Total
Blue-Green Bangor	-	-	3	-	-	3
Fossiliferous Bangor	-	2	-	-	-	2
Heated Camden	4	199	310	3	27	543
Unheated Camden	3	69	47	1	4	124
Conglomerate	-	6	5	-	1	12
Fort Payne	-	7	9	-	1	17
Fossiliferous Ft. Payne	-	1	-	-	-	1
Pickwick	1	2	4	-	-	7
Quartzite	-	-	1	-	-	1
Heated Tuscaloosa	-	-	1	-	-	1
Unheated Tuscaloosa	-	-	1	-	-	1
Total	8	286	381	4	33	712

Table 4.10. Frequencies of Biface Fragments by Raw Material at the Hickory site, 22It621.

Raw Material	Proximal	Medial	Distal	Lateral	Frag.	Total
Fossiliferous Bangor	-	-	-	1	-	1
Heated Camden	1	4	10	33	14	62
Unheated Camden	2	1	1	2	2	8
Fort Payne	-	-	-	1	-	1
Fossiliferous Fort Payne	-	-	-	-	1	1
Heated Tuscaloosa	-	-	-	-	1	1
Total	3	5	11	37	18	74

Table 4.11. Total Frequencies of Ground Stone Tools by Category at the Hickory site, 22It621.

Category	Total
Abrader	3
Anvilstone	1
Anvilstone-Hammerstone	2
Pitted Anvilstone	7
Pitted Anvilstone-Abrader	2
Grooved Axe	1
Hammerstone	6
Muller-Pitted Anvilstone	1
Ground Limonite	1
Other-Ground Flake	1
Unidentified Ground Stone Fragment	5
Total	30

Table 4.12. Total Frequencies of Unmodified Flaking Debris by Category at the Hickory site, 22It621.

Category	Total
Nonutilized Flake - 1"	47
Nonutilized Flake - 1/2"	1489
Nonutilized Flake - 1/4"	8352
Nonutilized Flake - Prismatic	1
Nonutilized Flake - Other	10
Total	9899

Table 4.13. **Frequencies of Unmodified Flaking Debris by Category and Raw Material at the Hickory site, 22It621.**

Raw Material	1"	1/2"	1/4"	Prismatic Blade	Other	Total
Blue-green Bangor	-	2	57	-	-	59
Fossiliferous Bangor	-	2	13	-	-	15
Little Mountain Bangor	-	1	-	-	-	1
Heated Camden	12	732	5306	-	5	6055
Unheated Camden	23	564	2321	1	4	2913
Conglomerate	7	99	260	-	-	366
Fort Payne	1	22	211	-	-	234
Fossiliferous Fort Payne	-	13	21	-	-	34
Hematite	-	1	-	-	-	1
Limonite	-	-	1	-	-	1
Novaculite	-	2	20	-	-	22
Pickwick	2	31	57	-	-	90
Quartzite	-	1	6	-	-	7
Sandstone	1	-	1	-	-	2
Ferruginous Sandstone	-	14	21	-	-	35
Tallahatta Quartzite	-	-	2	-	-	2
Heated Tuscaloosa	-	1	2	-	-	3
Unheated Tuscaloosa	-	1	24	-	-	25
Unidentified Chert	-	-	2	-	-	2
Unidentified Material	1	3	27	-	1	32
Total	47	1489	8352	1	10	9899

Table 4.14. **Macrobotanical Remains by Provenience from the Hickory site, 22It621.**

PROVENIENCE	SAMPLE: VOLUME of FILL	SAMPLE: TOTAL FLORAL Wt. (g)	IDENTIFICATION: HICKORY NUTSHELL Wt. (g)	ACORN NUTSHELL Wt. (g)	SEEDS	WOOD Wt.(g)	OTHER
Feature 3, ESE1/2 (98.60)	24	0.6					
Feature 3, WNW1/2 (98.60)	20	8.4	4.3	0.1		0.85	
Total, Feature 3			4.3	0.1		0.85	
Feature 4, S1/2 (98.60)	48	5.1	4.45	<0.05	2 fern spores	0.8	
Feature 4, N1/2 (98.60)	24	8.3	8.0			0.7	
Total, Feature 4			12.45	<0.05	2 fern spores	1.5	
Feature 6, W1/2 (98.65)	36	10	9.1	<0.05	1/2 exine	0.4 hard-wood	
Feature 6, W1/2 (98.65)	30	4	13.3	<0.05		0.9	
Total, Feature 6			22.4	<0.1		1.3	
BLOCK D							
Level 12.1	65	1.1*	0.7		1 angular seed (?)	0.25 pine	
Level 12.2	46	0.35	0.2			0.15	
Level 13.1	46	0.4*	0.25			0.15	
Level 13.2	68	0.65	0.35			0.3	
Level 14.2	42	0.7*	0.15			0.4	
Level 15.1	46	1.8*	0.45			0.35	
Level 15.2	46	0.1				0.1	

Table 4.14. **Macrobotanical Remains by Provenience from the Hickory site, 22It621 (continued).**

SAMPLE			IDENTIFICATION				
PROVENIENCE	VOLUME of FILL	TOTAL FLORAL Wt. (g)	HICKORY NUTSHELL Wt. (g)	ACORN NUTSHELL Wt. (g)	SEEDS	WOOD Wt.(g)	OTHER
Level 16.1	62	0.1*				0.1	
Level 16.2	59	0.7	0.2			0.5	
Level 17.1	50	0.2*	0.1		2 fern spores		
Level 17.2	61	<0.1	1 frag.				
Level 18.1	54	0.3*			2 fern spores	0.45	
Level 18.2	62	<0.1				<0.05	
Level 19.1	46	0.2*		0.1	1 fern spore	0.1	
Level 19.2	46	<0.1	<0.05			2 frags	
Level 20.1	52	0.3*				0.15	
Level 20.2	63	<0.1	1 frag.			<0.05	
Level 21.1	52	0.1*				0.05 pine	
Level 21.2	54	0.1	3 frags.				
Level 22.1	44	0.2*	<0.05		2 oblong frags. 1 fern spore	0.15	
Level 22.2	37	0.2				0.2	
Level 23.1	49	0.1*			1 ob-long	<0.05	
Level 24.1	4	0.5	0.2		1 spher-ical frag.	0.05	3 frags.
Level 24.2	4	0.2	2 frags			0.2	

Table 4.14. Macrobotanical Remains by Provenience from the Hickory site, 22It621 (continued).

	SAMPLE		IDENTIFICATION				
PROVENIENCE	VOLUME of FILL (liters)	TOTAL FLORAL Wt. (g)	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEEDS	WOOD Wt.(g)	OTHER
Level 25.1	2	0.8	0.35			2 ring-porous hardwood	
Level 25.2	4	0.3	2 frags			0.3	
BLOCK D 100S/108W							
Level 16.2 from 1/4" screen					1 modern	1 modern membrane	
BLOCK D 100S/111W							
Level 17.1 from 1/4" screen						1(?)	

*indicates that the total floral weight entered here comprises all "A" fractions, 10% of "B" and "C" fractions.

Table 4.15. Relative Densities of Macrobotanical Remains at the Hickory site, 22It621.

Feature or General Level	Concentration Percentage* (%)	Hickory Nutshell (%)	Acorn Nutshell (%)	Wood (%)	Seed (Count)
Feature 3	0.01	82	2	16	
Feature 4	0.02	89	<1	10	2 fern spores
Feature 6	0.08	94	<1	5 hard-wood	1 indet.
Level 12.1	0.001	74		26	
Level 13.1	0.0008	63		37	
Level 14.2	0.001	27		73	
Level 15.1	0.002	56		44	
Level 16.1	0.0002			100	
Level 17.1	0.0002	99+			2 fern spores
Level 18.1	0.0008			99+	2 fern spores
Level 19.2		50		50	1 fern spore
Level 20.1	0.0003			100 pine	
Level 21.1	0.00009			100 pine	
Level 22.1	0.008	<1		99	1 fern spore 2 indet.
Level 23.1	0.0001			100	1 indet.
Level 24.1	0.006	80		20	2 indet.
Level 25.1	0.03	64		36 ring-porous hardwood	

*Concentration percentage is calculated based upon quantity (weight) of carbonized botanical remains per unit fill.

Table 4.16. Stratigraphic Distributions and Densities of Diagnostic Projectile Points from Different Time Periods at the Hickory site, 22It621.

STRATUM	WOODLAND	GULF FORMATIONAL	LATE ARCHAIC	MIDDLE ARCHAIC	EARLY ARCHAIC	PALEO(?)
I	-	-	2(0.6)	-	1(0.3)	-
I/II	-	12(2.0)	22(4.6)	-	-	-
II	1(0.1)	9(0.9)	77(8.0)	4(0.4)	3(0.3)	-
II/IIIA	-	1(0.3)	10(3.1)	-	2(0.6)	1(0.3)
IIIA	1(0.3)	-	4(1.3)	-	-	-
IIIA/IIIB	-	-	2(1.3)	1(0.6)	-	-
IIIB	-	-	3(0.3)	6(0.5)	2(0.2)	-
IIIB/V	-	-	-	1(0.2)	2(0.4)	-
IV	-	-	-	-	3(0.8)	-
IVS	-	-	-	-	-	-
V	-	-	-	-	5(0.2)	-
VI	-	-	-	-	-	-
VII	-	-	-	-	-	-
VIII	-	-	-	-	-	-

*expressed as raw counts and densities per cubic meter

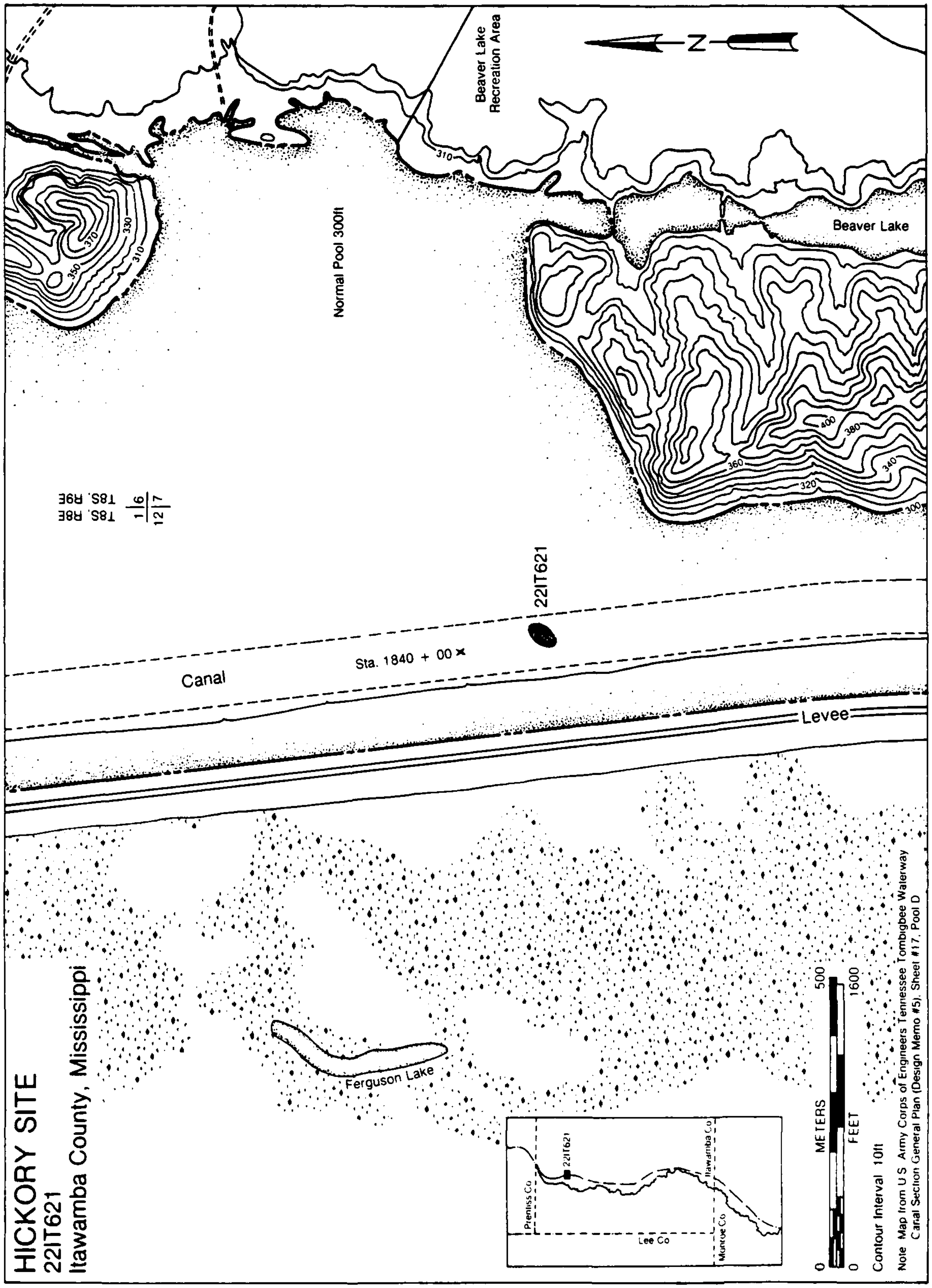


Figure 4.1. Location of the Hickory site, 22It621.

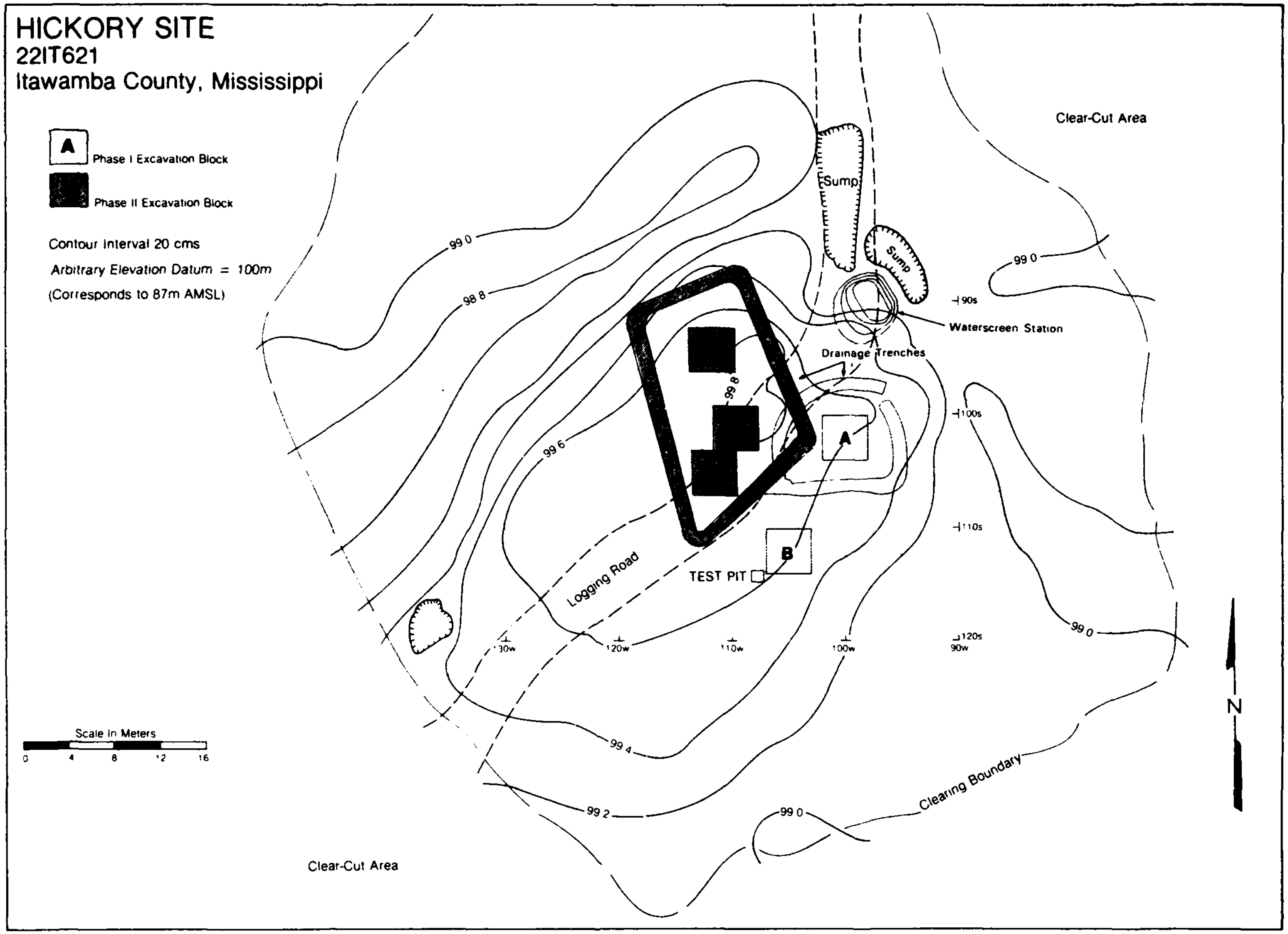


Figure 4.2. Contour map showing excavations at the Hickory site, 22It621.

FIGURE 4.3: Site preparation at the Hickory site (22It621). Drainage trench excavated by the backhoe is shored with logs and lumber. Bottom of trench is angled so water will run toward collection point from which it can be pumped. Backhoe (stabilizers visible in top of photo) cannot excavate next segment until existing walls are shored.

FIGURE 4.4: Beginning Phase II excavation at 22It621. Block C is delineated with string (in left center of photo) and its beginning elevation is being taken with transit and rod. Adjacent to the northeast, Block D is also strung. Behind D (to the upper right), pump intake hose draws water from drainage trench around site pedestal. Beyond trench, backdirt from its excavations surrounds site. Canal is in background; levee in far left background, just in front of floodplain forest. View facing northwest.

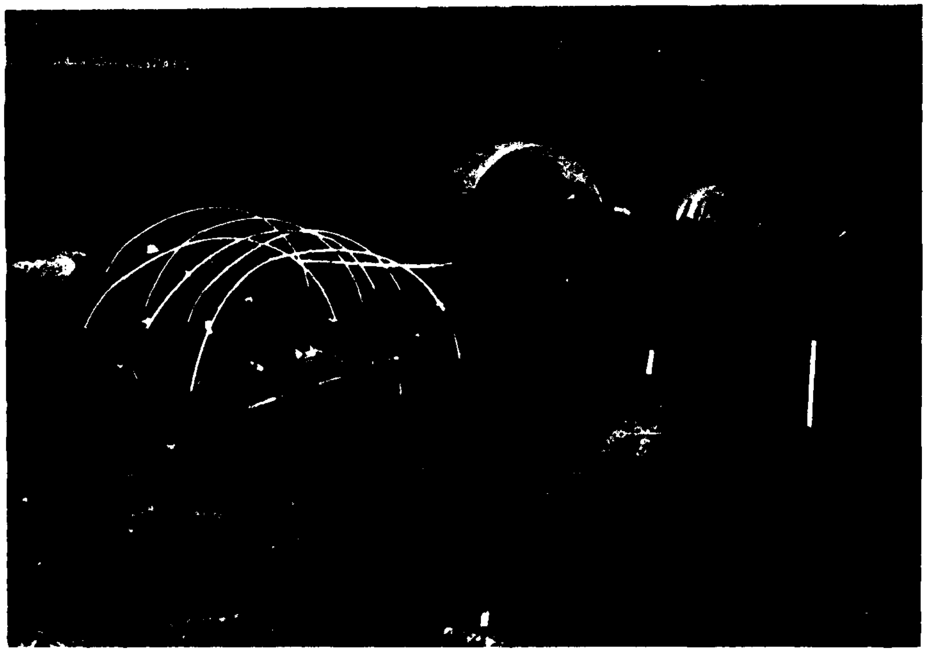


FIGURE 4.5: Overview of 22It621, facing northeast, showing excavation in progress. Ribs for shelters cover Blocks B and C; plastic sheet walls are removed in good weather for easier access. Waterscreen station is under large shelter at right; smaller shelter for general use is at far right. Full wheelbarrows are lined up in front of ramp to screen.

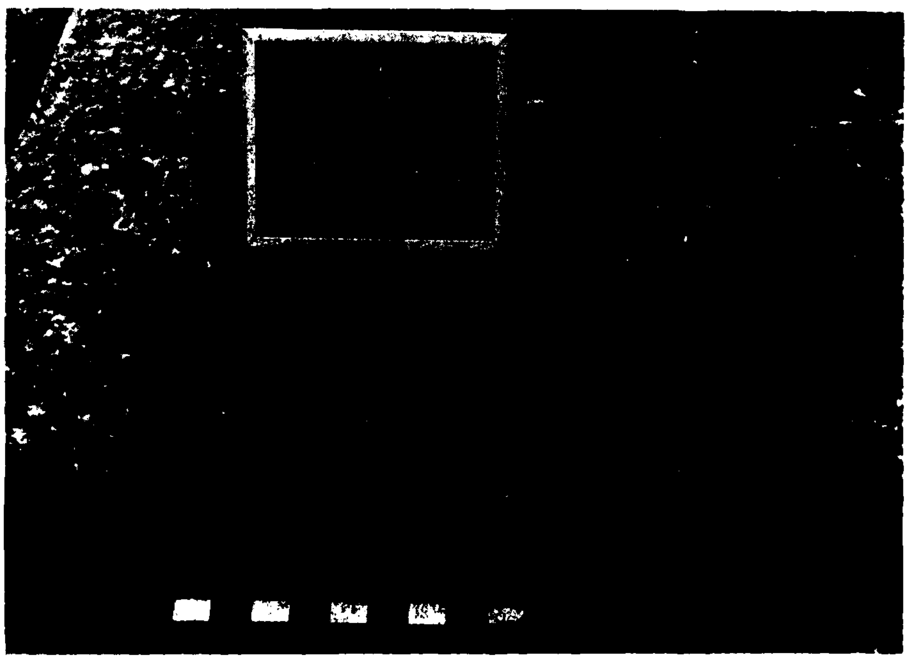
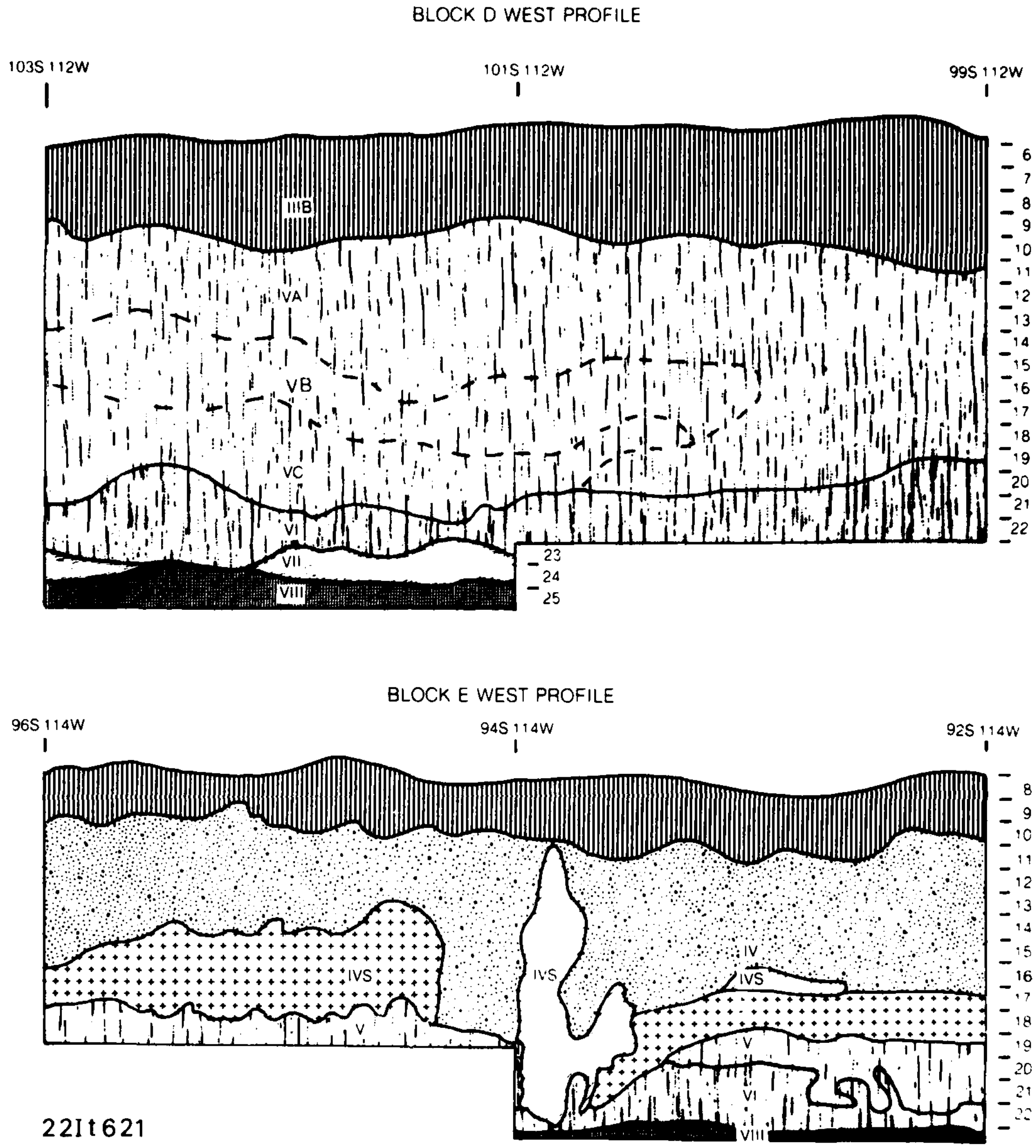


FIGURE 4.6: Feature 6 at 22It621, shown in cross-section, in Stratum III B. View facing west; scale in decimeters.

FIGURE 4.7: Closeup of Feature 1 at 22It621, concentration of chert debitage in situ in Block C in mottled soil at 98.73 elevation (Level 8.2 or Stratum IIIB). Scale in centimeters.

FIGURE 4.8: Closeup of chert scraper in situ in paleosol, in floor of Block D at 98.04 elevation (Level 15.2), Stratum V.



IIIB	Very dark gray (10 yr 3/2) sand mottled with light brownish gray (10 yr 6/2) and black (10 yr 2/1) manganese zone
IV	Dark brown (7 5 YR 3/4) sandy loam mottled with gray (10 YR 5/1)
IVS	Gray to yellowish brown (10 YR 7/2, 10 YR 5/6) massive sand
VA	Paleosol, gray sandy loam matrix (10 YR 7/2) with reddish yellow reticulate mottling
VB	Same as A, more sandy
VC	same as A, very sandy
VI	Paleosol, strong brown (7 5 YR 5/8) sandy loam mottled with gray (10 YR 7/2) (appears bright orange in contrast to other strata)
VII	Reddish yellow (7 5 YR 5/8)
VIII	Dark gray clay (5 YR 4/1) with gray sandy loam pockets
2	Arbitrary 10cm excavation level

Figure 4.9. Stratigraphy of Blocks D & E at the Hickory site, 22It621

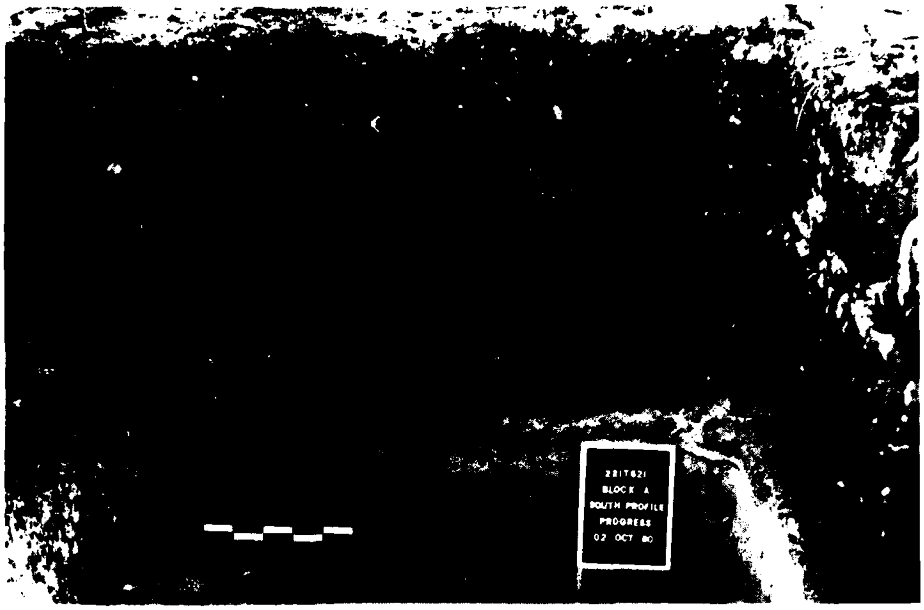


FIGURE 4.10: Upper stratigraphy of Block A (excavated during Phase I), south wall at 22It621, showing upper midden, manganese zone, paleosol, and white sand lens (right) from cut-and-fill action. Floor is at approximately 98.00 elevation (Level 15.2) but is already below natural water table, as indicated by water that has begun to seep in (right foreground). Scale in decimeters.

FIGURE 4.11: Final profile of south half of west wall (coordinates 103S to 101S), Block D, at 22It621, clearly showing major strata investigated during Phase II. The bottom of the manganese zone (Stratum IIIB) was the first to be hand excavated during Phase II. It directly overlay the paleosol (Stratum V) here. The lowest portion of the paleosol (Stratum VI) was bright orange from iron concentration, and appears here as a wide gray band near the bottom. Blue-gray clay is the dark band at extreme bottom of wall. Floor is at 97.05 elevation (Level 25.1, Stratum VIII).

FIGURE 4.12: Southwest 2 x 2 meter section (94s 114w) of Block E, Level 17.2 (elevation 97.80) at 22It621, showing Stratum IV's sands. Note cracking in floor, evidence of cutting and filling (sand lenses) in walls, and diverse colors of sands. Scale in decimeters; view facing west.

FIGURE 4.13: Final clean profile of south wall of Block E at 22It621. Floor is at 97.60 elevation (Level 19.2, Stratum V). Heavy cut-and-fill action has left irregular lenses of pale sand beneath manganese zone (Stratum IIIB) and overlying paleosol (Stratum V). Planks were used for secure footing and to avoid extensive damage to cleaned floor at this deep level, just above artificially lowered water table, where soil was very wet.

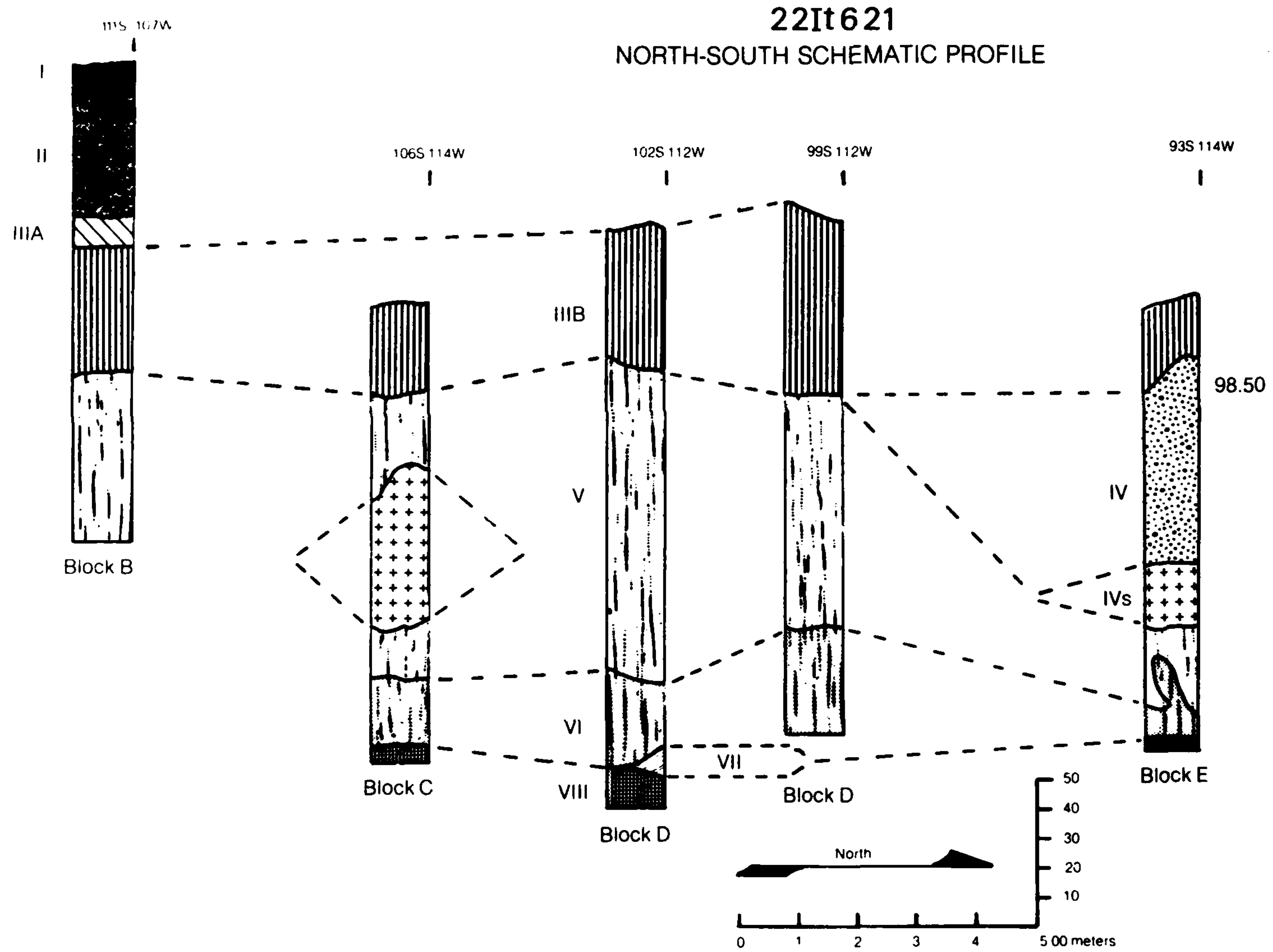


Figure 4.14. North-south schematic profile of the Hickory site, 22It621.

FIGURE 4.15: Sand-tempered sherds: a-c, Alexander Incised (2019-44, 2019- 46, 2019-39); d, Alexander Incised/Pinched (2019-52). Fiber-tempered sherds: e-f, Wheeler Punctated (2019-94, 2019-88).

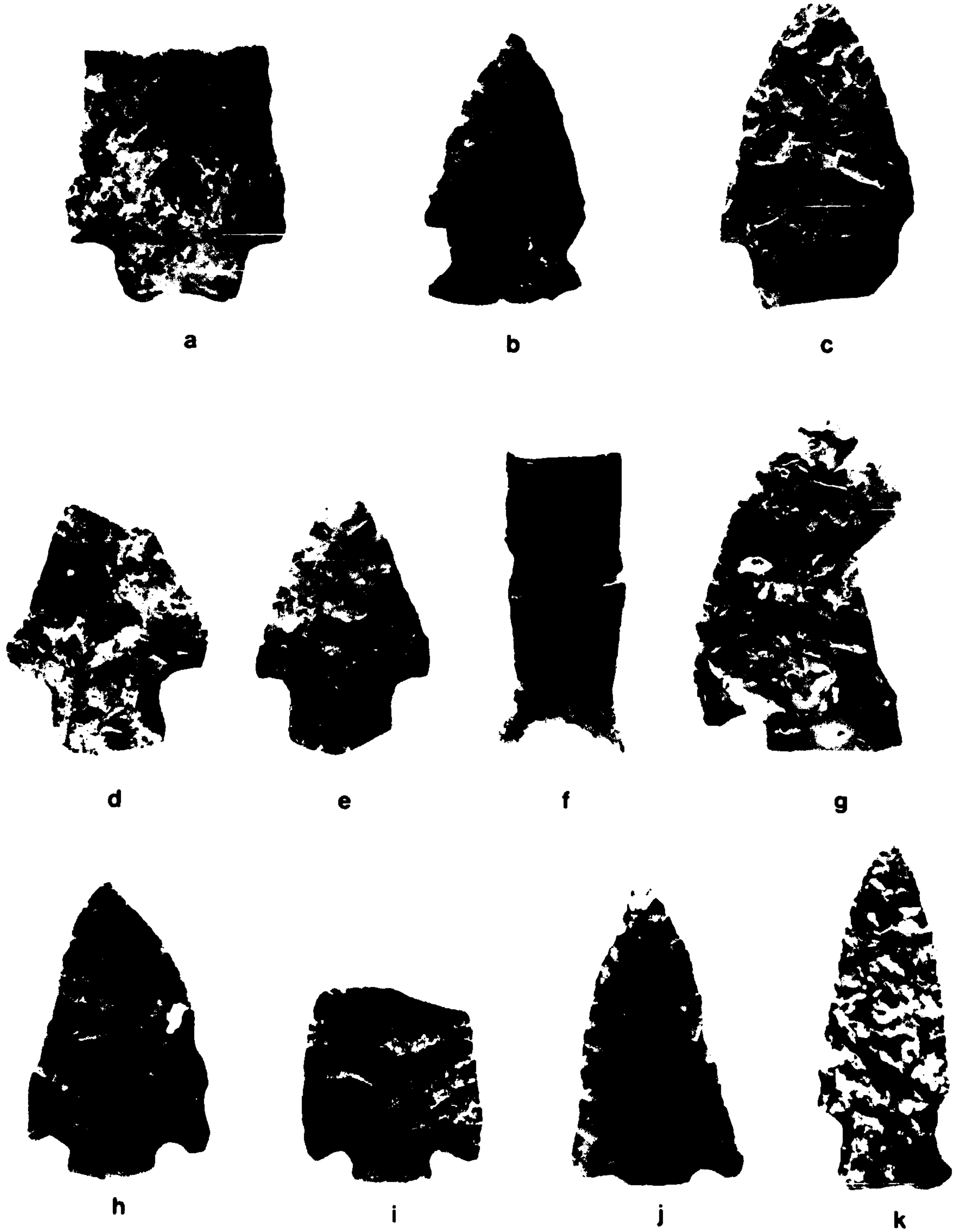


FIGURE 4.16: Projectile Point/Knives: a, Benton Short Stem (359-1); b, Big Sandy Sidenotched (618-2); c, Sykes-White Springs (357-1);d-e, Cotaco Creek (2019-102, 2019-101); f, Cumberland (2019-103); g, Cypress Creek (511-22); h-j, Eva (411-76, 1374-450, 363-1); k, Flint Creek (2019-106).

FIGURE 4.17: Projectile Point/Knives: a, Flint Creek (2019-105); b-e, Kirk Corner Notched (958-9, 747-1, 1478-12, 592-12); f, Kirk Stemmed (520-1); g, Ledbetter/Pickwick (2019-110); h-j, Little Bear Creek (2019-112, 405-1, 2019-113); k, McIntire (362-1); l-m, Morrow Mountain (2019-116, 349-1).

FIGURE 4.18: Projectile Point/Knives: a, Residual Stemmed (452-1); b, Residual Triangular (348-1); c, Wade (2019-122). Chipped Stone Tools: d-f, Uniface End Scrapers (548-7, 931-23, 470-25); g, Uniface Side Scraper (1670-5); h-i, Uniface End-Side Scrapers (491-37, 2019-135); j, Uniface Cobble Scraper (2019-136); k, Biface Flake Scraper (1375-297); l, Biface Cobble Scraper (770-4).

FIGURE 4.19: Chipped Stone Tools: a-b, Expanding Base Drills (369-63, 355-1); c-e, Shaft Drills (589-1, 380-19, 559-17); f, Graver (372-1); g, Microlith (553-17); h, Reamer (385-52); i-j, Uniface Flake Knives (1186-1, 2019-143).

FIGURE 4.20: Chipped Stone Tools: a-b, Biface Flake Knives (870-1, 1304-3); c-d, 1/2" Utilized Flakes (1218-1, 369-2); e, Ovoid Biface-Other (1052-1); f, Triangular Biface-Other (351-1); g,

FIGURE 4.21. Ground Stone Tools and Other Stone Objects; a, Abrader (703-17); b, Pitted Anvilstone (435-1); c-d, 1" Nonutilized Flakes (1310-1, 416-3); e, Fire-cracked Chert Chunk (701); f, Petrified Wood (354-1).

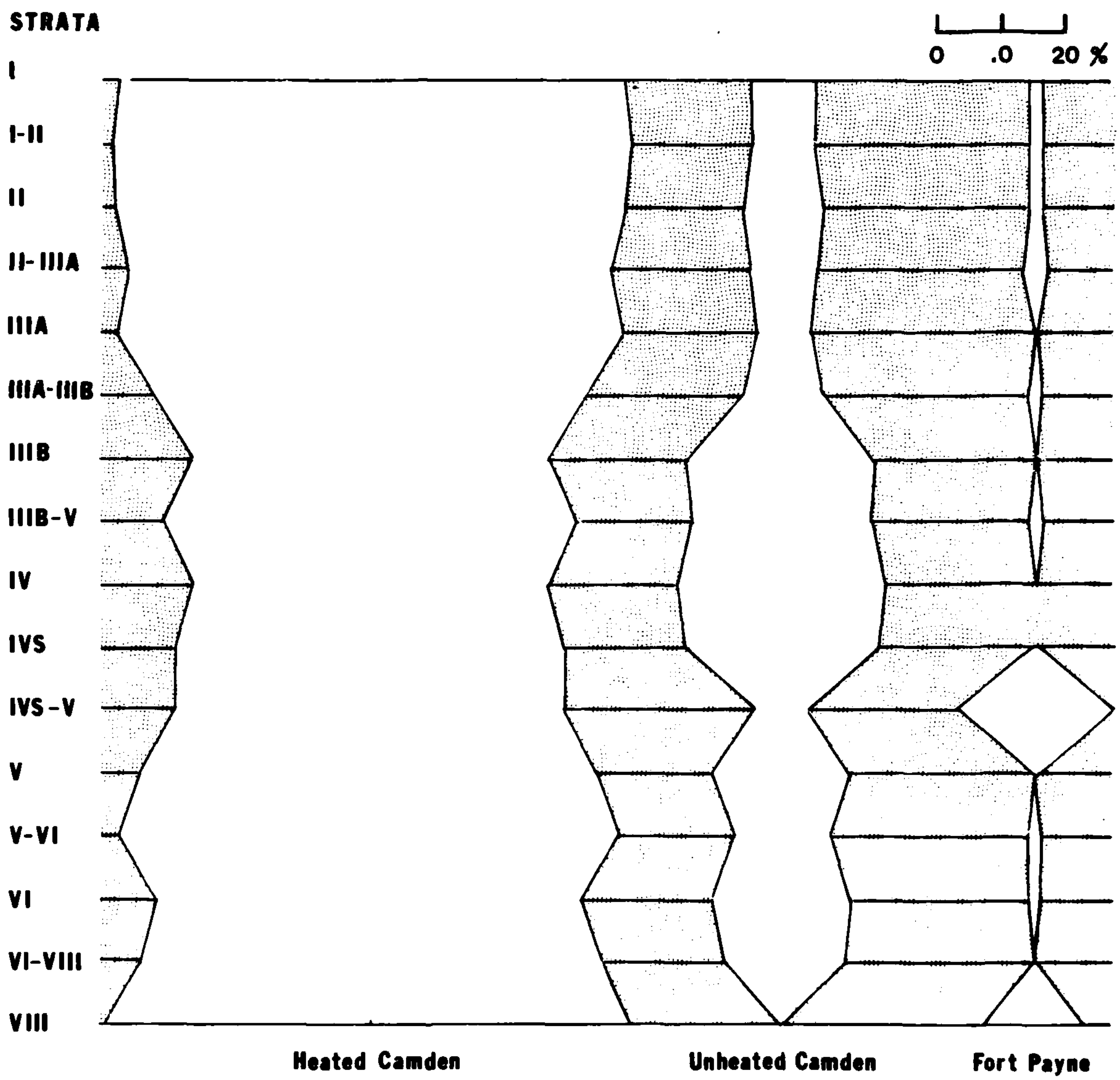


Figure 4.22. Relative stratigraphic distributions of principal lithic raw material types for unutilized debitage at the Hickory site, 22It621.

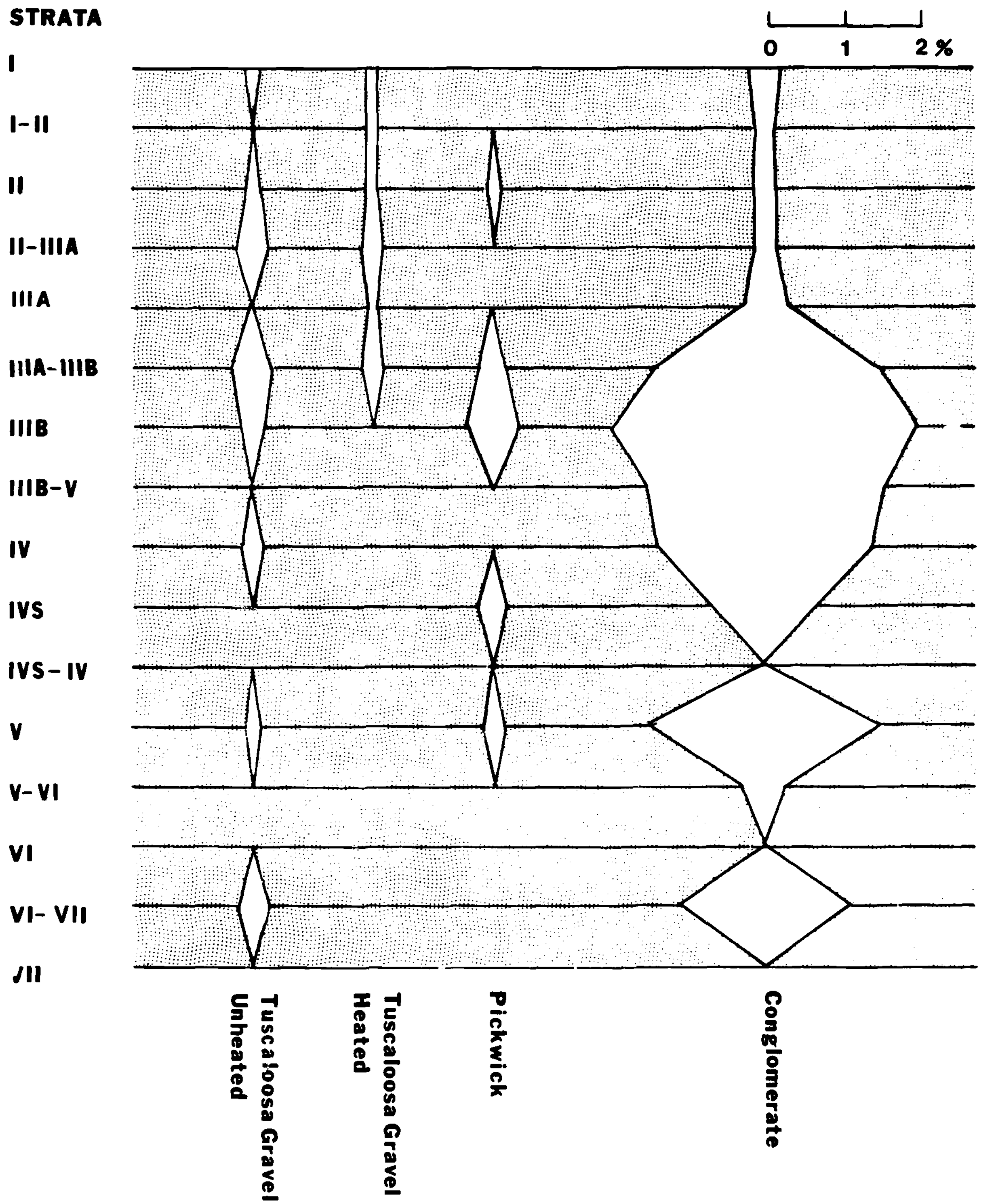


Figure 4.23. Relative stratigraphic distributions of minority lithic raw material types for unutilized debitage at the Hickory site, 22It621.

CHAPTER V

22It606

INTRODUCTION: HISTORY AND DESCRIPTION

An upland site located approximately 13 km north of Fulton, Mississippi, 22It606 sits on a Pleistocene terrace remnant overlooking the floodplain of the Tombigbee River (Figure 5.1). According to Reed (Bense 1982:Chapter 9) this upland area probably once supported an oak-hickory-pine forest along with associated plant and animal communities. The site area is also enhanced by the presence of Mud Creek, which flows southwestward along its southern border. Within the area of this terrace remnant the site itself measures approximately 60 m northwest-southeast by 140 m northeast-southwest. It has been distributed and diminished by several natural and cultural factors. Down-cutting by Mud Creek has caused the development of a steep bank along the southern and southwestern perimeter, thereby somewhat reducing the site's southern extension. Erosion has also removed portions along the eastern and western site perimeter.

Modern cultural disturbance is evident from the recent historic occupation of the site (it was abandoned only three years ago). An associated plowed garden plot had disarranged the prehistoric sediments of the central portion of the site to a depth of about 20-30 cm. In addition, heavy machinery had damaged the northeastern third of the site.

Taking into consideration the destructive factors that have been in operation at 22It606, Phase I testing was initiated to determine the nature and integrity of what remained of the site. Testing began with a controlled surface collection, which produced materials diagnostic of a Late Woodland/Mississippian occupation. Two 2 x 2 m units were then excavated to an average depth of 100 cm, and five additional stratigraphic cuts averaging 50 cm deep were also made, to obtain data on cultural and natural stratigraphy and geomorphological processes at the site. The last stage of testing was the machine-stripping of the plow zone in two 2.5 meter wide trenches across the site. In the exposed, undisturbed subsoil fourteen prehistoric features were delineated by Phase I operations.

EXCAVATIONS

Data recovery at 22It606, consisting chiefly of feature exposure and excavation, was the fourth segment of the Phase II project. Because of time constraints and the threat of ever-worsening late autumn weather, excavations were begun early, before work at the Hickory site was completed. An auxiliary field crew consisting primarily of former lab workers excavated most of the features, with some regular crew members joining the work during the last week. Field operations were conducted from 4 December through 24 December 1981.

The initial step was the machine stripping of the disturbed topsoil (plow zone) to expose prehistoric features. After clearing of the vegetation cover, mostly tall weeds, with a tractor and bush hog, the major part of the heavy overburden was removed with a large bulldozer. A small bulldozer then stripped the final few cm of topsoil (Figure 5.3). All dark stains and other possible features exposed in the lighter, yellower, undisturbed subsoil were flagged. One by one these were investigated by shovel skimming, to eliminate all obvious burrows or other natural disturbances. Those remaining were numbered as features; there were 27 newly discovered and one (Feature 18) remaining (in part) from Phase I investigations.

The map in Figure 5.2 shows all features exposed and excavated. It can be compared with the south portion of Figure 9.2 in the Phase I report (Bense 1982). During Phase II stripping the two dozer trenches from the previous year's testing were located first. The north-south trench edge was needed to locate the unexcavated remains of Feature 18. The east-west trench was used as a general north boundary for Phase II stripping operations. North of it very little of the site remained, and only one (probably historic) feature had been found during Phase I (Feature 5). Therefore Phase II investigations concentrated on the productive southern end, and from the testing trench south all topsoil was removed from the entire summit of this knoll. The overburden was pushed to the sides or off the edges for the most part, with some retained for backfilling after fieldwork was completed.

No blocks or other such units were excavated at 22It606 during Phase II, these units as well as stratigraphic profiles on the hill's west and south faces having provided adequate data during Phase I. Little or no intact midden remained, and the sole focus of the work was data recovery from all remaining undisturbed features.

All features were plotted on the general site map before excavation. The southeast corner of Phase I's old Test Unit #1, 108S/94W, which was the only known point on the testing grid easily relocated, was used as both a horizontal and vertical datum. Its location at the southern end of the site made it a convenient reference point from which to obtain transit readings for each feature. These readings were later "converted" to obtain feature center points in the Cartesian grid system established during Phase I and also elevations in terms of the arbitrary system used during Phase I. Horizontal grid readings were aligned not with magnetic north but with a grid north (N 16°E) used during Phase I that was closer to the long axis of the knoll.

The original Phase I arbitraray elevation datum, labelled 100 m, was actually 93.96 m above sea level. It was not relocated, but the test unit corner had been measured from it and recorded (as 100.78 m), and thus could be the basis for all Phase II measurements. The amount of change in that corner's elevation in one year was judged to be negligible; and it was avoided by heavy machine operations.

Feature excavation procedures were those described for later phases of fieldwork at the Beech and Oak sites, and thus were slightly different from techniques employed here during Phase I. Features and an adequate portion of the surrounding subsoil matrix were shovel-skimmed, troweled clean, drawn, described on forms, and photographed. Each feature was then halved along its longest axis, preferably along a cardinal direction, and the fill of one half was removed. Usually the half chosen for first removal was that which would effect better exposure of the cross-section to the sun, for easier reading of the stratigraphic profile. Removal of the first half was always accompanied by excavation of a portion of the subsoil matrix surrounding that half, cut in a clean, usually squared-off shape extending a few cm beyond all edges of the feature (Figures 5.5 through 5.10). In this manner a clear outline of the feature's shape, especially its bottom, could be seen, recorded, and photographed. The remaining half was then removed and bagged separately.

After cross-sectioning, several features were found to be stratified or otherwise composed of different fill zones. In such cases each zone or stratum in the remaining half was given a segment label and bagged separately.

All feature fill was shoveled or troweled into large feed bags labelled by these sub-proveniences. Artifacts from the exposed top or profile of a feature, or large fragile sherds or charcoal pieces noticed in the fill were sometimes separated for more careful handling. A one liter sample of fill from the most central portion of the feature or of each of its segments was also bagged separately for curation in perpetuity. Future analyses are expected to use portions of these samples for other special studies. Other than these samples, all fill was subjected to flotation, which was more efficiently carried out at the home lab in Pensacola after the completion of fieldwork and demobilization of the field station.

Excavations at 22It606 involved a different set of activities than those at other sites investigated during Phase II. No waterscreen station or flotation machine needed to be set up. The lack of concentrated excavation areas made erecting any sort of shelters impractical. On this high exposed bluff cold weather and winter precipitation had severe effects during the last days of fieldwork. Heavy rains occasionally turned the soil into unmanageable muck. Very low temperatures froze the exposed soil and necessitated delays of a few hours on some days until the sun made the soil again penetrable by shovel or trowel. At all times when they were not being worked on exposed features were covered by plastic sheeting, however, and all excavations were carefully controlled and supervised. Though it was the most pragmatic solution to the soil processing problem, transport of all feature fill to the field station and then to the home lab in Pensacola did involve much hauling of at least a ton of soil.

The site was backfilled later in January of 1982 by the project's backhoe operator. While cultural materials undoubtedly remain in surface and disturbed soils, it is estimated that all undisturbed portions have been excavated. The site now lies awaiting development along the canal edge.

STRATIGRAPHY

The stratigraphy at 22It606 was defined during Phase I investigations at the site. Two 2 x 2 meter test units were excavated at that time, along with five additional stratigraphic profiles placed around the perimeter of the site. Markedly evident from these excavations was the differential depth of cultural deposits across the site. Reed (Bense 1982) stated that in the southern portion of the site cultural deposits were thicker than those in the northern portion. He attributed this difference to the occurrence in the south of a posssibly localized midden zone, while the northern deposits were distributed and deflated.

The description of the 22It606 stratigraphy which follows is a condensation of that defined by Reed, discussed in relation to the feature data recovered by Phase II operations (see the stratigraphic diagram of Figure 9.6 in Bense 1982 for characteristic southern profile). The site generally consists of a mature, well developed soil representing colluvial sediments combined with organic and some cultural residues, overlying the Pleistocene terrace, which is mostly weathering *in situ*.

Stratum I: the dark brown (7.5YR3/4) sandy loam topsoil which was the plow zone. It occurred consistently across the site in a layer approximately 20-25 cm thick, slightly thicker at the south end. Its cultural contents were mixed: prehistoric materials and modern cultural debris. This stratum was, of course, extensively disturbed by cultivation and possibly earth-moving machinery or other recent construction activities. It had also suffered greatly from erosion and probably extensive deflation from this high, exposed knoll. This plow zone was machine stripped as the first step in Phase II operations in order to expose the intact prehistoric features below.

Stratum II: a sandy loam of dark brown (7.5YR4/6) color but lighter than the overlying plow zone. As mentioned above this stratum may represent a localized midden zone. It did not occur in the northern portion of the site.

Artifact recovery from this stratum was good within the Phase I test units although diagnostic types were sparse. However, a Kirk

Corner-Notched projectile point came from the bottom of this stratum. Whether or not it dates the beginning of its formation is presently problematic.

Most of Stratum II was left intact after machine stripping, and features were easily located in it. A large portion of the features excavated during Phase III originated in this zone.

Stratum III: a strong brown (7.5YR4.6) sandy loam mottled with yellowish brown (10YR5/8) sandy loam lighter in color than the overlying Stratum II. This stratum was considered by Reed to be a transitional zone between the midden and the subsoil Strata II and IV. He noted that soil compaction increased from this stratum downward. Cultural materials continued to occur within this stratum but began to taper off.

Stratum IV: a yellowish brown (10YR4/6) sandy clay loam. Manganese staining and manganese nodules were noted throughout this stratum. Cultural materials consist of a single "quarter inch" flake, some fired soil pieces, and rock. Pottery was noted below Feature 45 (q.v.) within this stratum, but it may have traveled downward through bioturbation.

Stratum V: the Pleistocene paleosol. Polygonal cracking characterized by reticulate mottling was evident as a light gray (10YR7/2) against a yellowish brown (10YR5/8) sandy clay loam matrix. The soil of the stratum is very compact. Neither Phase I or Phase II excavations recovered cultural material from this stratum.

FEATURES

INTRODUCTION

With the exception of a few artifacts recovered from the disturbed overburden during machine-stripping operations, all data and materials recovered during Phase II at 22It606 were from feature excavations. Phases I and II work resulted in the excavation of a total of 39 cultural features. Many were outstanding, sometimes stratified, records of cultural activity during the span of time generally termed Late Woodland/Mississippian, and a few documented quite well earlier components at the site. Others were indeterminate in age or cultural affiliation. Four dark stains excavated were natural disturbances, either root stains or rodent burrows.

The following list summarizes features by type and time period where known:

3 Late Woodland/Mississippian pits
3 Late Woodland/Mississippian possible pits
1 Late Mississippian pit
1 Mixed Alexander, Late Woodland/Mississippian, recent historic pit and Alexander fire basin

1 Mixed Late Woodland/Mississippian, Early Archaic pit
1 Middle Archaic pit
1 Possible Late Archaic pit
3 Pits, indeterminate
5 Pits, indeterminate, non-ceramic
5 Possible post molds or small pits, indeterminate, non-ceramic
1 Sandstone cluster, indeterminate
3 Recent historic pits or refuse dumping areas
5 Recent historic posts
2 Recent historic post molds
4 Natural disturbances
2 Feature numbers voided

Table 1 in Appendix III lists all cultural materials recovered from features, by segments when present. Table 5.1 in this chapter briefly summarizes data on each feature, including location, appearance, and contents. Figure 5.2 shows the distribution of significant features across the southern portion of the site investigated during Phase II.

In the discussion that follows each feature is described individually and interpreted as far as possible in terms of its cultural affiliation and relationships at the site. The conclusion of this section presents a few observations on the many components represented by the features and the Late Woodland/Mississippian in general. The trends through time in ceramic type frequencies are discussed.

This discussion presents features in numerical order. Numbers 1 through 18 were investigated during Phase I. Phase II excavations began with the remainder of Feature 18 and continued through Feature 45.

FEATURE DESCRIPTIONS

Feature 1: a possible pit, perhaps for refuse. It yielded a shaft drill, a drill fragment, a large amount of lithic debitage (130 flakes), various rocks, especially sandstone pieces, some carbonized plant remains, and a single sherdlet. Possibly the sherdlet originated at the junction of disturbed and undisturbed sediments, in which case the pit might be attributable to a preceramic period. The sherdlet, which is grog-tempered, may also indicate the pit to be Woodland/Mississippian in age but primarily non-ceramic in function. This feature is classed as an indeterminate pit.

The bottom outline of the pit was indefinite as the fill gradually became lighter with increasing depth and blended into the subsoil. The excavators recorded the bottom as the greatest depth of artifact occurrence.

Feature 2: a pit, probably for refuse or storage. Cultural materials from many time periods were mixed in the fill. They included a predominance of grog-tempered and sand-tempered ceramics, lesser numbers of shell-tempered Alexander, Longbranch and Turkey Paw bone-tempered ceramics, six late Woodland/Mississippian triangular projectile points, an Early Archaic Kirk Corner-Notched point, various chert tool fragments, and a large amount of lithic debitage. The pit was probably excavated during Mississippian times, judging from the ceramic type percentages expressed in Table 5.2 (shell-tempered is relatively high). The earlier ceramics attest to the presence of other components now mostly gone. Reworked edges on the Kirk point may be the result of utilization by later peoples.

Many carbonized plant remains were recovered from Feature 2, including hickory and acorn shell, pine wood and cone fragments, persimmon seeds, *Smilax*, and several other seeds. What component(s) they are associated with is unknown.

Feature 3: a possible small pit, perhaps for refuse. Described by Reed (Bense 1982:9.25) as an artifact concentration directly beneath the plow zone, this feature is characterized on the original form as a small basin-shaped pit. It yielded a chert flake knife, three flakes, and a handful of grog- and bone-tempered sherds. It is of Late Woodland/Mississippian age but the ceramics are probably too few for their relative frequencies to permit assignment to a more specific period or sub-phase.

Feature 4: a historic trash dumping area near what had been the southwest area of the old house. Mixed in with plastic, glass, nails, crockery, and other recent refuse were chert tools, including a scraper, and grog- and sand-tempered prehistoric ceramics. The dump was over 12 m long, and of indeterminate width; materials recovered came from the two wheelbarrow loads of fill removed as a sample.

Feature 5: a historic pit, undoubtedly dug to plant a peach tree (which had to be removed before excavation of dozer trench). It contained a large number of prehistoric artifacts, however, from many time periods. There were three Kirk Corner-Notched points, a Woodland-Mississippian Triangular point, a scraper, drill and other tool fragments, several hundred pieces of chert debitage, sandstone, quartzite, and other rocks, grog-, sand-, limestone-, and shell-tempered ceramics, and many pieces of recent historic material. The principal significance of this pit, actually a small preserved pocket of the thick topsoil, was its documentation of the rich midden that had once existed at this site, containing evidence of an Early Archaic component, a small Alexander occupation, and continuous Woodland/Mississippian habitation atop this favorably situated bluff.

Feature 6: number voided.

Feature 7: possibly a historic post mold now filled with recent trash. It was not excavated.

Feature 8: a historic wood post, mostly decayed, probably of pine, no doubt associated with Features 9, 12, 13, 17, and probably 43 as part of a structure (barn?).

Feature 9: a historic post; same description as Feature 8.

Feature 10: proved to be a tree stump.

Feature 11: a small, somewhat irregular pit. It yielded only two non-diagnostic sherds, one shell and grog-tempered and another grog-tempered, so its cultural placement can only be listed as Late Woodland/Mississippian.

Feature 12: a historic post; same description as Feature 8.

Feature 13: a historic post; same description as Feature 8.

Feature 14: a Late Mississippian pit, apparently stratified with different sorts of refuse fill. When first exposed it was an irregular shape in plan view, with a concentration of fired soil fragments to the southwest and a more darkly stained area about a meter away to the northeast. These segments gradually merged toward the bottom of the feature. The fired soil area was bright orange in contrast to the surrounding dark brown feature fill. Below it was a darker reddish brown, then a charcoal band. (The same sequence of soils was encountered in Feature 18). Below this the actual bottom of the feature was hard to discern as the darker brown graded into the medium brown of the subsoil matrix. Thus the true shape and exact depth of the pit are undetermined.

Materials recovered from Feature 14 were not separated by stratum. Lithic materials included a Flint Creek point and a Woodland/Mississippian triangular point (the former obviously re-utilized or inadvertently included in the pit by the later people who dug it), various chert tools, and debitage. There were shell-, shell and grog-, grog-, and sand-tempered ceramics in frequencies of 16%, 10%, 58% and 16%, respectively. There was a variety of rocks, pebbles, fired soil, and possibly daub pieces, and several charred botanical specimens, including pine wood and cone fragments, fern spores, and unidentified seeds. One large piece of charred pine had an unburned interior, which was able to survive so long due to its high resin content and to the protection afforded by its charred exterior, according to botanical consultant E. Sheldon (Bense 1982:9.34).

Charcoal from Feature 14 submitted for radiocarbon dating yielded an age of 412±50 years (Table 5.4). Converted to an uncorrected date this is A.D. 1538; corrected it becomes A.D. 1440. In either case the feature dates to Late Mississippian times and thus provides interesting data for comparison with other, earlier dated features from the Late Woodland/Mississippian period at this site. Feature 14 itself is judged to be the remains of several discrete episodes of refuse dumping including secondary deposition of fired soil and charcoal from a hearth or other fire elsewhere.

Feature 15: number voided.

Feature 16: wide shallow pit, possibly for refuse. It contained over 100 chert flakes, many utilized, a bifacial tool (preform), various rocks, especially sandstone, pieces of fired soil, and some charcoal bits. The absence of ceramics possibly means the pit is preceramic in age.

Only the portion of Feature 16 within the bulldozer trench was excavated during Phase I, leaving 1/2 to 1/3 of the pit unexcavated in the trench wall. This remaining portion could not be relocated during Phase II operations, however. Perhaps that part of the trench wall collapsed during backfilling. During Phase II stripping not even a dark stain was visible at the location of the feature's center point coordinates.

Feature 17: a historic post; same description as Feature 8. It was not excavated.

Feature 18: a clearly stratified Late Woodland/Mississippian refuse pit. First uncovered in the Phase I bulldozer trench, about 1/3 of it was excavated during the testing phase of this project. That eastern third yielded a multitude of ceramics, fired clay, rocks, charred plant materials, chert tools and debitage, a Late Woodland/Mississippian triangular point, and two Archaic points, an Early Archaic Kirk and a Late Archaic Little Bear Creek. Both of these last may have been either inadvertently or deliberately included in this feature by its original excavators. Charred plant materials were recovered also, and identified as hickory nut, pine, and acorn (Bense 1982:9.35).

During Phase II the western 2/3 portion of Feature 18 was easily located and in good condition after machine-stripping operations (Figure 5.4). The southerly half of this portion (labeled SW 1/4 on Table 1 in Appendix III but actually the southwestern third of the entire feature) was removed to obtain a south-facing cross-section profile. It contained similar materials, including three Late Woodland/Mississippian triangular points, a scraper, and other chert tools, and numerous ceramics (Figures 5.14b,i, and j). The profile clearly showed that Feature 18 had cut into the east edge of the already existing Feature 19 (Figures 5.5 and 5.6).

The remaining 1/3 of Feature 18 was excavated according to the five extremely well-defined strata visible in the profile (Figure 5.6) and is best described schematically as follows:

Segment A:	dark reddish brown (5YR3/2), with reddish yellow (7.5YR6/6)
Segment B:	very dark reddish brown (5YR3/2)
Segment C:	yellower (7.5YR5/8), outer.
Segment D:	very red (5YR4/2 and 5YR4/3), inner
Segment E:	black (5YR3/1), packed with charcoal
Segment F:	dark brown (7.5YR3/2)

Each of the five strata was labelled as a segment except the middle stratum, which was separated by color into two segments, an inner and an outer. Soils of all strata contained pebbles, chert flakes, and tiny flecks of charcoal, unidentifiable burned bone, and red/orange fired soil. Segment E was thoroughly packed with large charcoal pieces, and the redder strata, especially the inner portion of the middle one (Segment D) had a very high content of fired soil mixed in. All the strata appeared to represent secondary deposition of midden garbage with varying evidence of burning. The feature itself was not a fire pit or burning area, from all appearances.

Samples of charred macrobotanical remains from five strata of Feature 18 were identified as listed and described in Tables 5.13 and 5.14. The most common materials were hickory nutshells, wood fragments and resin, and acorn shells. There were also several seeds of weedy plants (Acalypha, Portulacca, and Polygonaceae), persimmon (Diaspuros), and many unidentifieable seeds, and fern spores. Unfortuantely, from Segments A and D there were also very fresh, (uncharred) weed seeds. These could only have become mixed in with feature fill either during the time between the feature's exposure and its excavation or during flotation, as the integrity of these clearly delineated, unmixed, sealed strata is unquestionable. (These seeds do not affect the archaeological interpretation.) Differences exist in the proportions of archaeologically associated plant types from stratum to stratum, but their significance is uncertain, as discussed further at the end of this section. It is clear, however, that the plants represented are all wild species, the largest proportion of which (nutshells and wood) were probably used for fuel.

Ceramic type frequencies from all different portions of Feature 18 are listed on Table 5.2. They are also summarized in Table 5.4 and compared with those of other features with known dates, as discussed at the end of this section. Two radiocarbon dates were obtained from Feature 18 (Table 5.3). A sample of Segment E's thick charcoal yielded a date of 680±80 years or A.D. 1270. A charcoal piece from Segment C directly above it was dated at 600±80 years or A.D. 1350. The corrected dates for these two are A.D. 1260-1290 and 1350, respectively. These dates are close enough to represent either essentially contemporaneous episodes of refuse deposit in the same pit or episodes separated by no more than two or three generations. Successive groups using a campsite often deposit garbage in the same location if it is recognizable by a hole or depression in the ground surface.

The progression of ceramic frequency distributions shown in Table 5.4 suggests all the strata were close in age, as there is little real variation. The majority ware is grog-tempered plain (Figure 5.12b, c, e, f, i, 5.13a) representing between about 60%-90%, though it does seem to decrease slightly through time. The two principal grog-tempered types are Baytown Plain and Mulberry Creek Cord-Marked. A minority ware is sand-tempered at about 10%; most of these sherds are plain-surfaced. Significantly, only an extremely small percentage of the sherds have any shell-temper (0-4%), either with or without grog. There are a very few sherds with limestone temper (Mulberry Creek Plain) and bone temper (Turkey Paw Plain and Cord-Marked). The small sample sizes (indicated at the top of Tables 5.2 and 5.4) from the individual strata of the northwest third of the feature may render less than significant some of these percentages, but the combined assemblage from the rest of the feature (SE 2/3) shown on Table 5.4 probably shows a fairly representative picture for the late thirteenth/early fourteenth century A.D. Whether to call this Late Woodland or Mississippian is more than a question of terminology, however, as discussed later in this chapter.

Feature 19: a shallow pit of unknown function (possibly for refuse). It was a long oval in plan view, partially wedged in between the two dark circular pits that were Features 18 and 20 (Figure 5.4), not only spatially but also temporally. The south-facing stratigraphic profiles of these features exposed during cross-sectioning unmistakably showed that Feature 19 intruded just a few (5-10) cm into the east side of Feature 20, and was itself cut into (5-8 cm) by the west side of Feature 18 (Figure 5.5). It therefore can only date to some time in the interval between the radiocarbon dates for these two features (Table 5.4), though of course it could be essentially contemporaneous with either one); a date of A.D. 1250 is suggested.

Following upon the secure establishment of its age, Feature 19's greatest contribution toward the interpretation of this site is its existence as a non-ceramic-bearing Late Woodland/Mississippian feature. Its cultural materials included chert tool fragments, nearly 100 flakes, a few utilized, and various rocks and pebbles, but no potsherds.

There were also charred floral remains (Tables 5.13 and 5.14) identified as predominately hickory nutshell and also wood, acorn shell, and nearly 100 unidentifiable seeds and two fresh grass seeds <Eleusine indica> doubtless picked up during excavation and not affecting the archaeological intrepretation; see later discussion. Whatever its function, Feature 19 retained few clues concerning age or cultural affiliation in its contents, but only through the chance of its stratigraphic position. Thus is clearly demonstrated the fallacy of relegating all features without ceramics to the Archaic.

Feature 19's fill was slightly lighter brown than that of Features 18 and 20, and more mottled with the yellower subsoil. While this would-be clue suggests no definite function it does indicate perhaps a less intense or briefer utilization of the feature.

Feature 20: a stratified pit, probably for refuse. It was adjacent to Feature 19 on the west and intruded upon by that feature. The cross-sectioning of Feature 20 involved removal of its south half first (Figure 5.5). Material contents of this half were ceramics (some sherds quite large; Figure 5.11b,h; 5.12d) various rocks , chert tools (Figure 5.14k), a large amount of debitage, and a Late Woodland/Mississippian Triangular point (Figure 5.14c). In cross-section the feature was found to be stratified. The strata in this profile, labelled "segments," can be represented schematically as follows:

Segment A: brown (10YR4/3), little charcoal
Segment B: dark reddish brown (5YR3/2), much charcoal
Segment C: dark yellowish brown (10YR4/4), some charcoal

Two additional segments, D and E, were lighter areas near the west edge of the feature that most probably represented rodent intrusions. The bottom of the feature was very clear, with a distinct line between the darker fill of Segment C and the lighter yellowish brown subsoil.

The strata apparently are the remains of three individual episodes of refuse depositing. They contained lithic and ceramic materials (Figure 5.11d; 5.13b,d), and charred macrobotanical remains. Charcoal from the middle stratum, Segment B, yielded a radiocarbon date of 730±55 years or A.D. 1220 (corrected date: A.D. 1240; Table 5.2). This age is either roughly contemporaneous with a generation or three earlier than that of Feature 18. The validity of the date is further strengthened by the stratigraphic evidence. Feature 20 was cut into by Feature 19, which itself was cut by Feature 18; therefore, Feature 20 is necessarily earlier than Feature 18.

A sample of floral remains recovered by flotation from Feature 20 provided similar data to those of Feature 18, but also significant differences. Materials identified were hickory nutshells; acorn and acorn shells; oak and pine wood; fruit (indeterminate), Chenopodium, and unidentifiable seeds; fern spores; and four maize cupules (Tables 5.13 and 5.14). These last from Stratum C, represent the sole occurrence of maize, indeed of any domesticate, within the recovered archaeological record of this site, or any of the sites investigated during Phases I and II. It is noteworthy that though present at this time, estimated to be about A.D. 1200 based on the radiocarbon date from Stratum B above, this maize appears in such a small quantity. The suggestion is that it was not as economically important as wild plants to those inhabiting the site. Ethnobotanist Sheldon further states that the charred Chenopodium seeds recovered were too fragmentary and damaged to measure, but that they may be a large and thus a domesticated variety. The combination of a small amount of maize and some chenopods is typical, she indicated, for Late Mississippian in the Tombigbee region; apparently it fits well for Middle or earlier Mississippian here too. The plant species of Feature 20 may not really be representative of diet or even total proportional utilization of different flora, however, but simply those most useful for recycling as fuels (see later discussion of plant remains in this chapter).

The ceramic evidence from Feature 20 (Table 5.3) definitely indicates a different assemblage from that of the later Feature 18. Table 5.4 compares the percentages of different types with those from other dated features. The largest group of sherds in Feature 20 is grog-tempered, as usual, but the actual relative frequency is only about 33%-50%. The two main types in this category are Baytown Plain and Mulberry Creek Cord-Marked. Another well-represented group is the sand-tempered types, comprising 11-45%, including plain-surfaced, a few Furrs Cord-Marked, and a single Saltillo Fabric-Marked sherd. While still low in frequency, shell-tempered wares are relatively abundant, constituting 5-23%; shell and grog-tempered sherds account for another 0-10%. Limestone-tempered, mostly Mulberry Creek Plain sherds range from 2-7%, and bone-tempered Turkey Paw types, from 3-8%.

To generalize from the evidence of this single feature as compared with that from Feature 18, the early thirteenth century A.D. ceramic assemblage has less grog temper and more shell and sand temper than that of the late thirteenth/early fourteenth century A.D. What change through time that may be documented in Feature 20 itself by the progression from oldest to youngest stratum (C-A) supports these trends, as well (Table 5.4). Late Woodland /Mississippian ceramics are discussed at greater length in the concluding part of this section.

Feature 21: a shallow pit, possibly for refuse. It was a large oval pit with a flat bottom. The dark brown sandy loam fill yielded chert tool fragments and debitage, various rocks and pebbles, and Late Woodland/Mississippian ceramics.

As shown on Table 5.2, the relative frequencies of different ceramic temper categories are as follows: shell, 7%; shell and grog, 4%; grog 50%; sand, 33%; bone, 7%. Of the five radiocarbon-dated assemblages in Table 5.4, this distribution comes closest to that of Feature 20, though it is not necessarily close enough (nor is the Feature 21 sample size great enough) to allow certain placement of Feature 21's age in the early thirteenth century A.D.

Feature 22: a small basin-shaped possible pit filled with red fired soil, of indeterminate cultural affiliation but possibly quite recent. Adjacent to the southeast was a large amorphous brown stain that graded nearly imperceptibly in color into the brown of the subsoil matrix. Originally both the fired area and the brown stain were considered as parts of the feature and cross-sectioned together by removal of the south half. Inspection of the resulting profile revealed the brown area to be some sort of disturbance, probably natural though possibly of recent historical origin. The disturbed soils existed under the fired area as well as next to it. They were not separated from the red soil of the real feature for flotation of the south half, so it is uncertain from which came the lithic tools, debitage, and sherdlets. An Early Archaic Big Sandy projectile point (Figure 5.14a) was removed by hand, however, from the disturbed brown soil under the south half of the fired soil feature.

To get a clearer picture of this feature only the red fired soil was taken as representing the north half. It yielded 35 chert flakes, some rocks, sherdlets, and an eroded-surface sand-tempered sherd and a grog-tempered sherdlet. Thus the cultural affiliation of the feature is considered to be Late Woodland/Mississippian. As to function, it is most likely an area of secondary deposit of fired soil, as one would expect a larger area with evidence of firing if burning took place *in situ*, as well as some charcoal or other such evidence.

Feature 23: a shallow oval pit, possibly for refuse. Very similar in size and appearance to Feature 21, this pit yielded no ceramics, which may or may not mean it is preceramic in age. Its contents included nearly 100 chert flakes, some utilized, and various rocks, especially more than 200 g of sandstone, but also including a few conglomerate pieces. The age and cultural affiliation of this feature are indeterminate.

Feature 24: a small, extremely shallow dark stain that could have been the very bottom of a pit or post mold. It yielded only three chert flakes, a Furrs Cord-Marked sherd, and a probable grog-tempered sherdlet. The feature is tentatively classed as Late Woodland/Mississippian.

Feature 25: a shallow oval pit, possibly for refuse. It was similar in size and appearance to Features 21 and 23. It contained no ceramics other than a single sherdlet, but yielded some 70 pieces of lithic debitage and various rocks. This pit is classed as indeterminate in age or cultural affiliation, as the sherdlet is meager evidence and may have come from the junction of the feature with the plow zone.

Feature 26: a small circular soil stain with a tapered profile; possibly a post mold. It had a darker brown interior and lighter exterior. Cultural materials in the fill were ten chert flakes and a few pebbles. The age or cultural affiliation of the feature is unknown.

Feature 27: a small pit (or post mold?) with what may have been a small adjacent "prepared" soil area. This shallow basin-shaped feature was only 28 cm in diameter and 6 cm deep. When just exposed it was found to contain a Late Archaic Residual Stemmed point (Figure 5.14g). Its only other artifact was a chert flake.

Adjacent to this pit to the southwest and bordering its whole southwest side was an amorphously-shaped area of very hard-packed pale soil which may have been a prepared area of some sort, or may have been some natural disturbance. It was examined partly in cross-section but found to contain no cultural remains. Its total extent was undetermined.

As the projectile point was on top of the feature instead of securely embedded in it and as there is demonstrated reuse of earlier artifacts by later peoples at this site, Feature 27 is only tentatively assigned to the Late Archaic.

Feature 28: a deep pit. Oval in plan view, it resembled features 21 and 23; however it was deeply stratified. The south half was removed during cross-sectioning and found to contain chert debitage and rocks. The remaining north half was excavated in three distinct strata of silt loam, as follows:

Segment A: dark yellowish brown (10YR4/4), 12-17 cm
Segment B: dark brown (10YR4/3) with charcoal, 17-20 cm
Segment C: yellowish brown (10YR6/6), 22-27 cm

All strata yielded similar chert debitage, tools (Figure 5.14n), and rocks. The top stratum produced a single sand-tempered sherdlet. From the middle stratum came a Middle Archaic Sykes-White Springs projectile point. Associated charcoal was radiocarbon dated to 5800 years of age (Table 5.2). Uncorrected, this date corresponds to 3850 B.C.; corrected, it is 4490 B.C. Either is acceptable for the later Middle Archaic.

A sample of the charred macrobotanical remains recovered from Feature 28 (Segment B) was identified as nearly 95% hickory nutshell (over 18g) with a very small amount of acorn shell and ring-porous hardwood and two spherical unidentifiable seeds (Tables 5.13 and 5.14). These remains are significant by contrast with data from other features (and sites). As demonstrated in Chapters 3 and 4, hickory is predominant in the material record for the Middle and Late Archaic. The high percentage of it here is further evidence for the feature's greater age. In Woodland/Mississippian features at the site hickory never represents more than 50-60% of the plant remains identified, and usually ranges much lower, down to 2% (Table 5.14), while acorn is more common. Thus the evidence from this feature probably documents change through time on wild plant procurement and/or utilization patterns.

Fill from the lowest stratum of Feature 28 was found to contain a tiny piece of leather of very modern appearance. This may have inadvertently been included during fieldwork as the feature profile remained exposed a couple days during inclement weather, or it may have been intruded by bioturbation.

Feature 28 was unquestionably a Middle Archaic pit with perhaps an uppermost stratum deposited at a later time period. It clearly documents what was probably the earliest human utilization of this site.

Feature 29: a very small pit or possibly the very bottom of a post mold. Though nearly surrounded by dark root stains, this feature was clearly distinguishable by its extremely dark color and distinct shallow basin shape. Its cultural contents were chert tool fragments and debitage, a Mississippi Plain sherd, a Baytown Plain sherd and a sherdlet. The cultural affiliation of this pit is considered Late Woodland/Mississippian. Finer determination of a time period is not possible and the temper type percentages (Table 5.2) are meaningless since the sample size is so small.

Feature 30: a large shallow pit or refuse deposit overlying a much earlier, prepared fire basin (Figure 5.7). It appeared in plan view as a dark oval stain some 3 m long, immediately beneath the plow zone. Its south half was removed first to achieve a cross-section. The portion designated "S1/3" (Table 1 of Appendix III) was the dark brown fill from this half of the shallow (15 cm deep) refuse deposit. It contained a Late Woodland/Mississippian triangular point, a Woodland age Tombigbee Stemmed point (Figure 5.14h), a Late Archaic Residual Stemmed point, a scraper, other chert tools and debitage, prehistoric ceramics that were predominantly sand-tempered (78%) though they included shell- and grog-tempered (14% total) and other sherds (Table 5.2; Figures 5.11g, 5.12h, and 5.13e), and recent historic materials in the form of four small metal nails or staples, four whiteware crockery sherds, and three window and bottle glass sherds. Its opposite side, the north half (N1/2) contained similar materials.

When exposed in cross-section this refuse-filled depression was seen to overlie what was actually another feature. It was a very regularly shaped basin dug into the yellowish brown subsoil and lined with bright red fired soil (Figure 5.8). This basin had been filled with refuse, now reddish brown soil, which was excavated as Segments A and B (its south and north halves). The basin fill contained stone debitage and tools, including a mortar and a Late Woodland/Mississippian triangular point. There were also many ceramic sherds, 95% of which were sand-tempered (Figure 5.13f) and four of which were unquestionably Alexander period types (O'Neal Plain, Columbus Punctate, Alexander Incised; Figure 5.13g).

Macrobotanical remains included hickory nut and acorn shell, ring-porous hardwood, fruit skin fragments, and seeds of weeds (Acalypha and Fabaceae) and of unidentified plants (Tables 5.13 and 5.14). As much as possible of the bright red soil lining the basin was also removed. . It was labelled Segment C and amounted to over 700 g (termed "fired clay" on Table 1 of Appendix III). A single eroded sand-tempered sherd and a few charred plant remains including hickory and acorn shell, wood, and fern spores (Table 5.13 and 5.14) were recovered from it.

As is clear in Figure 5.8, the basin did not directly underlie the shallow, upper refuse deposit, but was mostly covered by the south half of it. During removal of the north half, it became evident that soils from the upper refuse deposit were somewhat intermixed with the basin fill, especially as the brown colors of each graded into each other. Thus it is not unexpected that a few later artifacts were mixed into the basin fill.

It is highly likely, however, that this carefully shaped basin was constructed and utilized during Alexander times. Its exact function, other than for containing burning materials, is indeterminate, but it was apparently filled in with refuse after that original function was abandoned. Perhaps the lasting depression in the ground originating with this feature came to be filled, either deliberately as a dump or through general midden accumulation, with refuse from later Woodland, Mississippian, and recent historic times, thus accounting for the mixture of different diagnostic artifacts. That this mixture has such a high proportion of sand-tempered sherds suggests the Alexander refuse to have been the most dense, however. Further analysis of data and materials from this feature may permit isolation of the Alexander sherds from sand-tempered sherds of later periods. Analysis and dating of charred plant remains could provide more clues concerning function and permit comparison with Late Woodland/Mississippian features. Feature 30 has considerable potential for further investigation.

Feature 31: proved to be a rodent burrow.

Feature 32: a possible post mold. This fairly amorphous and unimportant-looking small stain proved to have a rather regularly shaped, tapered profile. Though not precisely definable, since its color graded into that of the surrounding subsoil matrix, its bottom appeared to be rounded. The feature fill yielded nine chert flakes and a few other bits of rock. Just as a definite characterization as a cultural feature is impossible for Feature 32, its age or cultural affiliation are also unknown.

Feature 33: a small pit of indeterminate age and function. A long oval in plan view, it was seen in cross-section to be a small basin with a great deal of slopover at the top accounting for its spread out appearance. The color of the fill lightened with increasing depth, grading into the lighter brown of the subsoil matrix and making the exact boundary of the feature slightly vague.

Fill from Feature 33 included various non-diagnostic cultural materials. These are a chert biface fragment, over 50 flakes, various rocks, a single eroded sand-tempered sherd and a few sherdlets, all of which are sand-tempered except one which is probably limestone-tempered (it is too tiny to be certain). These ceramics suggest a Woodland cultural affiliation for the feature, but a more precise characterization is not yet possible.

Feature 34: a small pit or post mold. It had a regularly tapered profile and rounded bottom. Though disturbed by root stains in its upper portions it appeared very clearly in cross-section. Cultural materials recovered from it were a chert biface and over 100 flakes, a great number considering the small volume of fill. There were no ceramics; hence the feature may or may not date to a preceramic period.

Feature 35: another possible small pit or post mold, more likely the latter, as it had a long tapered profile. Only seven chert flakes were recovered from the feature fill. Age and cultural affiliation are unknown.

Feature 36: a compact pile of dark soil and small reddish and purplish sandstone chunks. This unusual feature did not clearly appear to be in an excavated pit, but was more just a small cluster, weighing over 2 kg, of the very friable rocks, possibly redeposited after burning or heating. Among the sandstone pieces were a few pieces of hematite a d ochre, nine chert flakes, and a single sand-tempered sherdlet. There were also charred macrobotanical remains, a sample of which was identified as three fern spores and two wood fragments (Table 5.13). Interestingly enough, there were no nuts or acorns, further evidence that this feature was functionally quite different from all the others.

No valid assessment of cultural affiliation for Feature 36 is possible from these non-diagnostic materials, and the function must remain uncertain, as the disintegrating and fragmented condition of the rocks may even be due to causes other than firing.

Feature 37: a pit, possibly for organic refuse, as its soil was very black. It was oval in plan view and a very shallow (10 cm) basin in cross-section. Material contents were scarce: 16 chert flakes and a few rocks such as sandstone pieces. There is no evidence as to the pit's age or cultural affiliation.

Feature 38: proved to be a tree root stain

Feature 39: a possible post mold or small pit. Though rather amorphously shaped in plan view, this feature had a long tapered profile with a rounded bottom. It thus could have been cultural in origin. Cultural materials recovered from the fill were scant: two chert flakes and a small piece of sandstone. There is no evidence as to age or cultural affiliation of this feature even if it was of cultural origin.

Feature 40: a post mold, possibly of recent origin. This small dark oval stain was quite regular in cross-section, with nearly straight tapering sides and a flat bottom. Its fill was extremely dark and the shape exceptionally clearly defined in the yellowish brown subsoil matrix, leading to the impression that it must be quite recent in origin. The material contents of the feature suggest a Late Woodland origin. There were five chert flakes, six sherds of Baytown Plain, one Mulberry Creek Plain sherd, several sherdlets, and a few pebbles. It is quite possible, however, that these materials actually represent a small amount of the original topsoil midden fallen into a recent post hole.

At the present level of analysis the true cultural affiliation of Feature 40 must remain indeterminate. Further examination of possible alignments of all suggested posts or post molds at the site may help settle the question in future stages of work.

Feature 41: a possible post mold. In plan view it was a small mottled, more or less circular stain which became clearer with increasing depth. It had a tapered shape in cross-section and a rounded bottom, though it was only 13 cm deep. The only cultural remains in the fill were seven chert flakes and a piece of sandstone. Thus, age and cultural affiliation of this feature are indeterminate, if indeed it is even cultural in origin.

Feature 42: proved to be a root stain.

Feature 43: most likely a historic post (or possibly a very recent small tree); it consisted of charcoal and unburned wood. It was not excavated.

Feature 44: a deep, stratified pit, possibly for storage or refuse. It was cross-sectioned by removal of the south half, which was found to contain a scraper, over 40 pieces of chert debitage and various other rocks, including over 200 g of sandstone.

The profile of the feature thus exposed showed two strata: The upper was 22 cm thick and a dark reddish brown; it was labelled Segment A. The lower, Segment B, was 40 cm thick and a lighter mottled pale brown and yellowish brown. It was extremely hard-packed and nearly impossible to excavate without a mattock or pick. Its bottom was hard to determine, as it blended into the more darkly mottled polygonal subsoil (Figure 5.9). Cultural remains from both strata were chert debitage and various rocks and pebbles, mostly sandstone. The lower stratum also produced a microlith and an expanded-base drill (Figure 5.14 l-m).

Though large and deep, this pit yielded no prehistoric ceramics. It may be slightly more likely to have originated with a preceramic cultural group than other features with no ceramics, though this is not necessarily the case. Further analyses of data such as comparison of lithic raw material types, macrobotanical identifications, or radiocarbon dating of recovered charcoal may help answer this question.

Feature 45: a pit, probably for storage but possibly also for refuse. This long, shallow oval feature contained a large number of cultural remains. There were ceramics (Figures 5.11a, c, e, and f; 5.12a and g), three Late Woodland/Mississippian triangular points (Figure 5.14d-f), three scrapers, a perforator, other bifacial tools, over 300 chert flakes, a large number of rocks, including about 1.5 kg of sandstone and nearly 300 g of petrified wood, and charred plant remains. One unusual item was a large flat sandstone mortar (Figure 5.15), pictured in Figure 5.10 as it was exposed in situ in the north half of the feature. It is this item that may suggest one function of the pit to have been storage, as it appears in usable condition for grinding purposes.

Charcoal from Feature 45 yielded an age of 860±60 radiocarbon years or A.D. 1090 (corrected to A.D. 1170-1110; Table 5.2). With a known date for the ceramic assemblage, the relative frequencies of the different types become significant for interpreting change and continuity in this period of time generally called Late Woodland/Mississippian. As shown in the breakdown into types on Table 5.3 and the summary of temper types on Table 5.4, the majority of the sherds from the feature are grog-tempered (58%), mostly Baytown Plain (51%) with some Mulberry Creek Cord-Marked (7%). The next largest categories are shell- and grog-tempered sherds (27%) and shell-tempered (10%), including mostly Mississippi Plain (8%). The small remainder are eroded sand-tempered (3%) and bone-tempered Turkey Paw Plain (less than 1%). This feature thus documents the early appearance at a relatively high frequency of shell tempering in the Late Woodland/Mississippian period. Many of the sherds are quite large and may also be valuable for insights into attributes such as vessel shapes.

A sample of the charred floral remains recovered from this feature was composed of over 15g of hickory nutshell, a small amount of acorn shell, ring-porous hardwood and pine, two persimmon seeds, 88 unidentified seeds, 48 fern spores, a possible fruit seed and a pericarp fragment (Table 5.13). Some of these may represent plants processed on the large mortar.

SUMMARY

Features at 22It606 demonstrate the evidently short-term and intermittent but continual use of this site throughout most of prehistory, from Early Archaic through recent historic times. The heaviest occupation was the "Late Woodland/Mississippian," the focus of and primary reason for excavation here. This terminology is used to indicate a blend of both Woodland and Mississippian cultural (mainly ceramic) traditions. As inappropriate as it sounds, a better name must await further data.

Seven features attributable to this time period were pits (numbers 11, 18, 19, 20, 21, 29, and 45) and three (numbers 3, 22, and 24) were possible pits. Another (number 14) is probably better labelled Late Mississippian because of its radiocarbon date late in prehistoric times. Two others were Late Woodland/Mississippian with sediments from other time periods mixed in (numbers 2 and 30). These features are shown on Figure 5.2. They comprise no particular alignment, and none are known to be exactly contemporaneous within this time period. However, several have produced radiocarbon dates (Table 5.2) ranging within the period from about A.D. 1000 to 1500.

Among the observations most worthy of attention from these features are the ceramic type frequencies, since they are at present our best tool for demonstrating change through time. Table 5.3 presents this information for all features which yielded ceramics (except for a few with a single sherd or sherdlet). The absolute counts and also the total weight (excluding sherdlets) of sherds are given for each feature on this table and the percentages are given calculated both by counts and by weights, for comparative purposes.

Table 5.4 presents a summary of the type frequencies for the radiocarbon-dated features, to show changes through time. For Features 18 and 20, frequencies are given for all strata above and below the dated ones, and for the portion of the feature not excavated in strata (which acts as a sort of control). All frequencies on this table are calculated based on sherd counts only (not weights), for comparison with similar frequencies in the extant literature for this archaeological time period (e.g., Jenkins 1981). Total number of sherds is given at the top to indicate the sample size and thus the reliability of the relative frequencies.

The trends through time in ceramic type frequency distributions can be summarized from this table as follows: For the entire Late Woodland/Mississippian period grog tempering is predominant, comprising 50% to 60% of the ceramic assemblage except from about A.D. 1250 to possibly 1400, when it is 70% to 90%. The largest minorities are shell plus shell and grog temper, and sand temper. Bone- and limestone-tempered sherds may occur in extremely small frequencies (though these may actually be redeposited from earlier contexts).

Possibly the most sensitive time indicator is the shell-tempered ware.

Though always a small frequency, it displays variation through time within that small frequency that may be meaningful. If consideration is given to all sherds containing shell temper, whether alone or with grog temper, the results from 22It606 suggest shell tempering is introduced early, perhaps by A.D. 1000, to comprise at least 30% of the ceramic assemblage. It then nearly disappears, dropping to something under 5% by about A.D. 1250, only to pick up again in very late prehistoric times to something approaching its original frequency.

This entire picture of ceramic variation through time is unrefined, and inelegantly disregards aspects of temper groupings such as ceramic function and style, and the possibilities of earlier accidental inculsions in later assemblages. It also seems clearly at odds with what is known. Jenkins' (1981) accepted ceramic chronology in the Central Tombigbee Valley shows shell tempering barely present, perhaps a sherd or two per assemblage, by the very end of the late Woodland or "Terminal Miller III," while in the succeeding Mississippian stage (Moundville Phases) nearly the whole assemblage is shell-tempered.

The ceramic type frequencies at 22It606 will certainly be taken by some to indicate cultural mixing, and this may well be the case; however, there is good evidence that they are real. The data are extremely reliable: All features were clearly defined, with striking stratification in many cases. They were dug with great caution either by or under the direct supervision of the field director. If there was mixing of overlying midden soils with feature fill it was at the interface of feature and midden only (and there are some cases where this is likely, as in Feature 25, for example). Late Woodland midden soils would be likely to contain smaller grog-tempered sherds worn and battered from trampling, which might show up in features later dug by Mississippians. But all the dated features had very large sherds both the shell- and the grog-tempered, with sharp clean edges (easily glued together in the lab) suggesting breakage in situ. In many cases the greatest part of the charcoal for dating came from good-sized chunks that served to stick together two or more large "nested" sherds in a pile; again, this is not what would be expected of midden charcoal, which would be tiny, worn flecks. Furthermore, the features represented distinctive limited activities not midden floors lived on be many groups; and they were not necessarily refilled with the same soil. If earlier midden were mixed in all the features it would be impossible to explain phenomena such as Feature 19, stratigraphically clearly a late 13th century pit, overlapping and overlapped by other pits containing a kg or two of sherds, yet itself containing no ceramics at all.

It is possible that ceramic frequencies reflect function as much as ethnicity here too, of course. Clearly activity at 22It606 was not the standard, settled Mississippian maize agriculture. There may be many reasons why it continued to maintain predominately grog-tempered ceramics. It was expected at the outset that the Upper Tombigbee would look different archaeologically than what was known farther downriver. The fact that differences have been found does not mean that they are necessarily wrong or that the evidence is faulty and the components mixed.

Assuming the validity of the radiocarbon dates, therefore, these results from the Upper Tombigbee suggest another view of the last 500 to 600 years of prehistory. If Mississippian is understood as a time period or as a culture marked by the first appearance of shell-tempered pottery, it had already begun by A.D. 1000, and the "Late Woodland/Mississippian" terminology used for 22It606 is in error. Perhaps the Mississippian here is best understood as a regional variant with its own distinctive character. It could be similar to an essentially Woodland adaptation showing Mississippian influence, such as Fort Ancient in the Midwest (Griffin 1966) or to a true Mississippian culture that simply manufactured mostly non-shell-tempered pottery, such as Fort Walton on the Gulf Coast (Willey 1949). In fact, the 22It606 ceramic assemblage composition change through time is somewhat similar to that of Fort Walton, where shell-tempering seems to appear early and in small frequencies, then nearly disappears, then jumps to a higher frequency in very late prehistoric and protohistoric (White 1982).

Much further work is needed to confirm the results of this rather superficial analysis for the Upper Tombigbee Valley. It would be dangerously premature at best, to begin defining new phases or or other regional cultural manifestations based on evidence from only one site.

Other materials besides ceramics provide information about the Late Woodland/Mississippian features. Most features yielded a proportionately large quantity of lithic tools and debitage. While not yet analyzed in detail, these have the potential to provide other distinguishing chronological markers.

There was also a large volume of charred macrobotanical remains from the features. As discussed at the end of the next section, these are all wild species with the single exception of the tiny quantity of maize. Hickory nuts, acorns, and weed seeds predominate, and there are pine and hardwood fragments and evidence of fruits.

Of the two Late Woodland/Mississippian features containing unquestionably earlier materials, Feature 2 may simply have produced evidence of later use and reworking of an Early Archaic (Kirk) point, but Feature 30 most probably actually represents the superimposition of a later refuse area over an original Alexander period feature, the carefully shaped, reddened fire basin. Other features evidently from earlier time periods are Feature 27, a small pit containing a Late Archaic point, and Feature 28, a stratified Middle Archaic pit with a Middle Archaic point, a fourth to fifth century B.C. radiocarbon date, and a somewhat different composition of plant remains (overwhelmingly hickory nutshells).

Completing the last of features attributable to a definite time period are those of the recent past. Three were historic pits or dumps (numbers 4, 5, and 7); two, post molds (numbers 40 and 43); and five, actual posts not yet decayed (numbers 8, 9, 12, 13, and 17). Even with these data there is considerable research potential, especially concerning structural remains. Of interest to the discussion above is the fact that where aboriginal sherds did occur in these recent features, they are small, eroded, and clearly out of their original context.

The remainder of the features were indeterminate in age and cultural affiliation. Three pits (numbers 1, 25, and 33) labelled indeterminate contained chert debitage and a single sherd or sherdlet. The cluster of purplish, cracked sandstones (Feature 36) is also in this category. Five pits (numbers 16, 23, 34, 37, and 44) are also indeterminate but with no ceramics, as are five possible post molds or small pits (numbers 26, 32, 35, 39, and 41). All these features are worthy of further study to help determine their nature. They may go with any of the many components at the site, which are discussed in the final section of this chapter.

CULTURAL REMAINS

Cultural materials retrieved from 22It606 during Phase II include ceramics, lithic materials, historic artifacts, and biotic remains. All were recovered from the features, except for a very small number picked up on the surface as summarized in Table 5.5. Lithic artifacts were grouped as chipped stone tools, ground stone tools, unmodified flaking debris, and introduced rock. Ceramic artifacts were grouped as ceramics, sherdlets, and fired clay. A sample of floral remains recovered from flotation was sent to the project archaeobotanist for taxonomic identification, but for faunal remains only weight was recorded due to their very small size and fragmentary nature. Fewer than two dozen historic artifacts were also recovered, and only count was recorded for this material class.

CERAMICS

Altogether, 1,123 sherds were recovered from the features, initially sorted into five major temper groups: shell, grog, bone, limestone, and sand. Table 5.6 reveals that sand- and grog-tempered sherds comprise 45.1% and 36%, respectively, of this total. Minority temper groups include shell (13.4%), limestone (3.7%) and bone (1.2%). A fair amount of sherdlets and fired clay was also recovered from the site. The following Descriptions of ceramic categories are presented below under the individual temper headings, along with quantitative data.

Shell-Tempered

Altogether, 151 shell-tempered sherds were recovered. The ceramic categories types represented include Bell Plain (*n*=16), Mississippi Plain (*n*=46) (Figure 5.11a-c), Decorated Shell (*n*=1) (Figures 5.11d), and Eroded Shell (*n*=2). Eighty-six sherds contained combinations of shell and grog (Figure 5.11e-g). These sherd types are from the Mississippian period.

Grog-Tempered

A total of 411 grog-tempered sherds was recovered. This temper grouping represents 36.6% of the total number of sherds from the site. Types include Baytown Plain (n=218) (Figures 5.11h, 5.12a-b), Mulberry Creek Cord-Marked (n=138) (Figure 5.12c-d), Withers Fabric-Marked (n=2) (Figure 5.12e-f), Alligator Incised (n=2) (Figure 5.12g-h), Grog-Other (n=31) (Figures 5.12i and 5.13a), and Eroded Grog (n=20) (Figure 5.13b). These types are Late Woodland/Mississippian in cultural affiliation.

Bone-Tempered

Only 13 bone-tempered sherds were recovered from the site. Types are Turkey Paw Plain (n=7), Turkey Paw Cord Marked (n=3) (Figure 5.13c-d), and Eroded Bone (n=3). They are most likely from the Middle Woodland period or later.

Limestone-Tempered

Forty-one limestone-tempered sherds were recovered: 38 Mulberry Creek Plain, one Flint River Cord-Marked (Figure 5.13e), and one eroded limestone-tempered sherd.

Sand-Tempered

There were 507 sand-tempered sherds, representing over 45%, or the largest single temper group, of all sherds recovered from the site. They are assignable to two major ceramic series: the Miller series of the Woodland period and the Alexander series of the late "Gulf Formational" period (Jenkins 1981). However, over 87% of the sand-tempered sherds could not be assigned to either of the above series due to eroded surfaces or lack of diagnostic surface treatment.

Miller Series

Of 61 sherds assignable to the Miller series, 56 were classified as Furrs Cord-Marked (Figure 5.13f) and five as Saltillo Fabric-Marked.

Alexander Series

Of four sherds assignable to the Alexander series, three types were identified: Alexander Incised (n=1) (Figure 5.13g), Columbus Punctated (n=1), and O'Neal Plain (n=2).

Miscellaneous Sand-Tempered

There were 442 sand-tempered sherds, classified into Residual Sand Plain (n=154), Sand-Other (n=4), and Eroded Sand (n=284). None could be placed into specific categories due to either eroded and/or plain surfaces.

Sherdlets

Ceramic fragments which passed through a 0.5 inch screen were considered too small to provide meaningful data. A total of 1,514 grams of sherdlets were recorded from the site. Although most of the sherdlets were severely eroded, they represent all major temper groupings.

Fired Clay

There were 1,455 grams of fired clay recovered from the features at the site. No further analysis was attempted for this material category.

STONE TOOLS

Chipped stone tools, numbering 378, were classified into eight functional/technological groups: projectile point/knives, scrapers, drills and perforators, other uniface and biface tools, bifaces, cores, preforms, and utilized flakes. Many were further classified into specific types. In addition, 3,209 pieces of unmodified flaking debris and nine ground stone tools were also recovered. Discussion of each stone tool category is presented below with frequency data summarized in Table 5.7. Metric data are provided, when available, in Table 5.8 and also in Appendix III.

Chipped Stone Tools

Of 378 chipped stone tools 253 specimens, or 66.9%, were identified as utilized flakes. The remaining tools include projectile point/knives (7.7%), scrapers (4.8%), drills and perforators (1.9%), other uniface and biface tools (7.9%), bifaces (10.3%), and cores and preforms (0.5%). Table 5.7 summarizes their frequencies.

Projectile Point/ Knives

Big Sandy Side-Notched *n* = 1 (Figure 5.14a):

Material:
    Heated Camden 1

Discussion: A single specimen in this category was recovered; it has a broken distal end, distinctive side notches and a ground base. This type is usually associated with the Early Archaic.

McIntire *n* = 1 (Not illustrated):

Material:
    Heated Camden 1

Discussion: A single specimen in this category was recovered. It has a broken distal end, horizontal shoulders and a slightly expanding haft element. This type is associated with the Late Archaic period.

Mississippian-Woodland Triangular n = 13 (Figure 5.14b-f):

Material:
Heated Camden 12 Pickwick 1

Discussion: Thirteen specimens in this category were recovered, six with broken distal ends. All are very small, ranging in length from 18.8 mm to 33.2 mm with an average of 25.0 mm. These points were made during the Woodland and Mississippian periods.

Residual Stemmed n = 2 (Figure 5.14g):

Material:
Heated Camden 1 Pickwick 1

Discussion: Two specimens in this category were recovered during the excavations. Both specimens have haft elements but neither conforms to any of the established categories. Both have broken distal ends.

Sykes White Springs n = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single specimen was recovered from the site. It has a broken distal end and a shallow side-notched haft element.

Tombigbee Stemmed n = 1 (Figure 5.14h):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered. It has a broken distal end, slight tapered shoulders, and a contracting haft element.

Unidentified PP/K - Distal Fragments n = 4 (Not illustrated):

Material:
Heated Camden 3 Fort Payne 1

Discussion: Included in this category are four unidentified PP/K distal fragments too fragmentary for further classification.

Unidentified PP/K - Medial Fragments n = 3 (Figure 5.14i):

Material:
Heated Camden 2 Fort Payne 1

Discussion: Three unidentified PP/K medial fragments were recovered from the site. They are too fragmentary for further classification.

Unidentified PP/K - Proximal Fragments n = 2 (Not illustrated):

Material:
    Heated Camden   2

Discussion: Included in this category are two proximal fragments that do not conform to any established categories.

Unidentified PP/K - Lateral Fragment n = 1 (Not illustrated):

Material:
    Heated Camden   1

Discussion: Only one unidentified PP/K lateral fragment was recovered from 22It606.

Scrapers

Uniface Side Scraper n = 6 (Figure 5.14j):

Material:
    Heated Camden   6

Discussion: Six uniface side scrapers were recovered from 22It606. Scrapers in this category are steeply retouched thin flakes with straight or convex working edges positioned parallel to the long axis of the flake.

Uniface End-Side Scraper n = 2 (Figure 5.14k):

Material:
    Heated Camden   2

Discussion: There were two specimens in this category. Both exhibit unifacial retouch on lateral edges and distal ends. They were manufactured on thin flakes.

Uniface Cobble Scraper n = 1 (Not illustrated):

Material:
    Heated Camden   1

Discussion: A single specimen was recovered from the site. It is a unifacially flaked cobble which has been modified on one margin to produce a working edge.

Uniface Notched Flake-Spokeshave n = 1 (Not illustrated):

Material:
    Heated Camden   1

Discussion: A single specimen in this category was recovered. It is a flake exhibiting a steeply retouched narrow concavity on one edge.

Scraper, Other $\underline{n}$ = 6 (Not illustrated):

Material:
Heated Camden 3 Unheated Camden 3

Discussion: Six specimens in this category were recovered. They have steeply retouched margins, either unifacially or bifacially, which exhibit a scraper morphology but do not fit other scraper category descriptions.

Unidentified Scraper Fragment $\underline{n}$ = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: Two unidentified scraper fragments were recovered from the site. They have at least one segment of a steeply retouched edge which is indicative of a scraper use. They were, however, broken to the extent that a morphological assessment of their overall form was not possible.

Drills, Perforators, etc.

Expanding Base Drill $\underline{n}$ = 1 (Figure 5.14 l):

Material:
Unheated Camden 1

Discussion: A single specimen in this category was recovered. It has a broken distal end, but exhibits a cylindrical cross-section and an expanding base with side notches.

Drill - Medial Fragment $\underline{n}$ = 2 (Not illustrated):

Material:
Heated Camden 2

Discussion: Included in this category are two drill sections which exhibit fractured distal and proximal ends.

Microlith $\underline{n}$ = 3 (Figure 5.14m):

Material:
Heated Camden 3

Discussion: There were three microliths, made on small flakes and with fine pressure retouching along one or both edges.

<u>Perforator</u> <u>n</u> = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single small specimen was recovered from the site.

Other Uniface and Biface Tools

<u>Uniface Flake Knife</u> <u>n</u> = 3 (Not illustrated):

Material:
Heated Camden 3

Discussion: Three specimens in this category were recovered. They have either pressure or light percussion flaking on the lateral edges.

<u>Biface Hammer-Chopper</u> <u>n</u> = 1 (Not illustrated):

Material:
Unheated Camden 1

Discussion: One specimen in this category was recovered from the site. It is a multi-functional tool exhibiting the combined characteristics of a hammer (battered edge on one end) and a chopper (bifacially flaked edge on the other end).

<u>Biface Flake Knife</u> <u>n</u> = 3 (Not illustrated):

Material:
Heated Camden 3

Discussion: Three specimens in this category were recovered from the site.

<u>Biface Flake Knife/Spokeshave</u> <u>n</u> = 1 (Not illustrated):

Material:
Heated Camden 1

Discussion: A single specimen in this category was recovered from the site. It has a steeply retouched narrow concavity on one edge.

<u>Unidentified Chipped Stone Fragment</u> <u>n</u> = 22 (Not illustrated):

Material:
Heated Camden 17 Unheated Camden 3
Fort Payne 2

Discussion: Included in this category are 22 unifacial or bifacial tool fragments too small for precise classification.

Ovoid Biface - Other n = 1 (Figure 5.14n):

Material:
    Fort Payne   1

Discussion: A single specimen in this category was recovered from the site. It is technologically and morphologically similar to ovoid biface-flake, except the nature of the original blank is indeterminable.

Crude Biface n = 1 (Not illustrated):

Material:
    Pickwick   1

Discussion: One crude biface was recovered from 22It606. It is thick with very crude and irregular faces flaked predominantly by hard or soft hammer percussion, and little evidence of retouch.

Biface Fragments n = 37 (Not illustrated):

Material:
    See Table 5.8

Discussion: Included under this heading are five categories: biface proximal fragments (n=3), biface medial fragments (n=4), biface distal fragments (n=6), biface lateral fragments (n=8), and biface fragment (n=16) which could not be identified as any of the above four portions. Camden chert (heated and unheated) appears to be the preferred raw material type from which biface tools were manufactured.

Cores

Biface Core 270 Degrees n = 1 (Not illustrated):

Material:
    Unheated Camden   1

Discussion: A single specimen in this category was recovered from the site. It is a core bifacially flaked continuously around approximately two-thirds of the edge of a cobble. Little evidence of utilization was detected.

Preforms

Preform I - Indeterminate n = 1 (Not illustrated):

Material:
    Heated Camden   1

Discussion: One specimen in this category was obtained from 22It606. The specimen is a bifacial preform showing little evidence of secondary flaking or utilization. The nature of the original blank is indeterminable.

Utilized Flakes

Material:
See Table 5.10.

Discussion: Included under this heading are 1" utilized flakes, 1/2" utilized flakes, 1/4" utilized flakes, utilized blade-like flakes, and utilized chert chunks. Altogether, 253 specimens were recovered from the site (Table 5.10). Of these, 1/4" utilized flakes ($\underline{n}$=118) comprise 46.6% of the total flakes and 1/2" utilized flakes ($\underline{n}$=114), 45.1%. The combined frequency of these two categories comprises 91.7% of the total. Heated Camden chert is the most predominant raw material category, at 79.4%. Unheated Camden chert comprises 11.5%, and Fort Payne, 4.7%. Altogether, these three categories comprise 95.6%.

Ground Stone Tools

Only nine specimens of ground stone tools, in only four categories, were recovered from 22It606. Table 5.11 presents their frequencies by category and raw material.

<u>Hammerstone</u> $\underline{n}$ = 1 (Not illustrated):

Material:
Quartzite 1

Discussion: A single specimen in this category was recovered. It exhibits a localized area of battering and crushing, with little evidence of intentional shaping of the original raw material piece.

<u>Mortar</u> $\underline{n}$ = 3 (Figure 5.15):

Material:
Ferruginous Sandstone 3

Discussion: Three specimens in this category were recovered from the site. They exhibit relatively large, shallow concavities which were the results of grinding and pitting activities.

<u>Ground Limonite</u> $\underline{n}$ = 1 (Not illustrated):

Material:
Limonite 1

Discussion: One ground, slightly smoothed limonite piece was recovered.

Unidentified Ground Stone Fragment $n = 4$ (Not illustrated):

Material:
Sandstone 1 Ferruginous Sandstone 3

Discussion: Four unidentifiable fragments of ground stone implements were recovered from 22It606.

Unmodified Flaking Debris

A total of 3,208 pieces of unmodified flaking debris was retrieved from 22It606. These specimens were size-graded into three categories: 1", 1/2", and 1/4", and classified by raw material types, as presented in Table 5.12. Sixteen raw material categories were present in the debitage. Of these, heated and unheated Camden chert are dominant, comprising 73.0% and 12.7%, respectively. The next most important raw material was Fort Payne chert (6.7%), which was imported from the Tennessee River Valley. Camden and Fort Payne chert together comprise 92.4 % of the total debitage collection from the site.

HISTORIC ARTIFACTS

Historic artifacts recovered from 22It606 appear to be exclusively of recent origin. Feature 28 yielded a small piece of leather (probably cracked off from a fieldworker's frozen boot) and Feature 30's upper stratum, a wide shallow historic dump, produced six metal fragments, four recent ceramic crockery sherds, and eight glass fragments. A metal washer was recovered from the surface. All these specimens are small and obviously of twentieth century origin, and no further analysis was attempted.

BIOTIC REMAINS

Floral

A detailed list of floral remains identified from features at 22It606 is presented in Table 5.13. Charred macrobotanical specimens were identified by consultant Elisabeth Sheldon.

Immediately obvious from the table is the fact, that with one small exception, these are all wild plants, whether from Archaic, Woodland, or Mississippian features. Most of the sample is wood, both pine and hardwood, and hickory nutshells. There are some acorn shells and a large variety of seeds of grasses, weedy plants, and a few fruits, including persimmon. Miscellaneous specimens include fern spores, possible fruit skin fragments, pericarps, exines, pine resin, acorn fragments, and unidentified seeds of various shapes. The one domesticated plant is represented by four maize cupules.

Relative densities of different important floral types, given in Table 5.14, and different distributions in dated features (Table 5.13) provide some subsistence information. All peoples occupying the site were utilizing (or at least depositing) the same types of wild plants. Some change through time is suggested by the overwhelming predominance of hickory (96%) in the late Middle Archaic Feature 28 as compared to the somewhat lesser amounts of hickory and slightly increased evidence of acorn in all the later features. Both Feature 45, dated to A.D. 1090, and Feature 18, at A.D. 1270-1350, produced from 20%-65% hickory shells and <1% to 7% acorn shells. Features 20, however, dated to A.D. 1220 and also yielding the maize, produced an average of 7% hickory but from 2%-58% acorn, with more acorn in the later strata. This picture becomes even more interesting after re-estimation of the hickory:acorn ratio based on Chapman's (1975) acorn correction formula that increases acorn weight by a factor of 10 (see Table 5.14). The basis for the correction is that hickory shell is heavier and more durable as compared to the thin, fragile acorn shell, and much more likely to be preserved. With the correction is gained a more accurate representation of this nut in the diet.

Because hickory seems to be the preferred of the two, the increase in acorn, according to Sheldon, suggests a widening of the food base or possibly an increase in population. Combined with maize, greater acorn evidence is typical of a <u>late</u> Mississippian assemblage in the Tonbigbee Valley, she states, the acorn possibly representing an alternative food source in areas of low fertility or years of decreased productivity of domesticated crops. Whether anything resembling this is the case for Feature 20, in the 13th century, is not determinable at present.

As for the other plant remains, many of the seeds are of opportunistic species common to clearings or paths, but fern spores and wood also indicated forested land. Many of the weed plants are present today: As already noted, there were a few fresh, recent seeds among the charred archaeological specimens. These potential contaminants could only have blown in during flotation or excavation, and do not affect the archaeologial interpretation.

There were several unidentified seeds of various sizes and shapes. One was an unusual ellipsoid seed with a protruding point of attachment and a low ridge on one side. This occurred in Features 30B, 45, and 19, ranging from (possibly) Alexander times through the 13th century A.D.

The nuts, many seeds, and fruit parts potentially imply a late summer or fall occupation. However all could have been dried, stored, and used at other times during the year, as we know from ethnographic records of Native Americans in the Southeast (Hudson 1976). Especially notable are the fruit skin fragments, detectable by the carbonized sugary substance remaining from the original berry. The presence of these rather fragile remains demonstrates the high quality of preservation in effect at this site.

By way of summarization, two major points concerning the plant remains at 22It606 should be emphasized. First, the entire botanical assemblage is clearly not typical of what should be expected for a site with most features attributable to the Late Woodland or Mississippian time period, from about A.D. 1000-1500. Just as in Archaic times, later folk occupying this site were exploiting wild plant resources, doubtless for artifact manufacture and for fuel, as well as for food. Settlement must have been repeated, intermittent, low-density, and short-term in nature. Perhaps agricultural groups spent brief periods at gathering/hunting stations supplementing their maize diet. Or else there was less emphasis upon intensive agriculture in this relative hinterland area. A difference in subsistence may be associated with the apparent differences in the ceramic assemblages from those farther down the valley.

The second important point needing emphasis is that there remain large quantities of macrobotanical materials from features at 22It606 recovered by flotation but not sorted or identified. In addition to more materials from the dated features, there are many from all the other features, and the exceptional quality of preservation has been noted. Further information recoverable here, not only on plants *per se* but also from radiocarbon dates obtained on these materials, will help the interpretation of this somewhat puzzling site. Since there seem to be several other features of preceramic ages, potential comparative data may provide a clearer picture of both similarities and differences through several thousand years of use of this well situated small knoll overlooking the floodplain.

Faunal

Two grams of unmodified animal bone were recovered from Feature 18. The sample specimens are too small and fragmentary to allow any taxonomic or element identification.

DISCUSSION AND INTERPRETATION

SITE FORMATION AND CULTURAL DEPOSITS

The stratigraphic distribution of cultural sediments at 22It606 was shallow compared to that at the three other sites described in this report. The disturbed topsoil/plow zone contained most of the extensive midden, with a small amount of undisturbed midden remaining at the south end only in Stratum II. The lighter yellowish-brown subsoil of Stratum III, which contained all the features excavated, itself appeared sterile, but within the mottled, manganese-stained Stratum IV a few artifacts appeared. These were a chert flake recovered from below Feature 45, and a few other tiny chert flakes and possibly a sherd noted but not recovered during feature excavation. The subsoil below Feature 45 also yeilded a few plant remains (Table 5.13 and 5.14). These materials may have been deposited at such a depth by bioturbation or may represent a very thin, localized earlier occupation not noted during Phase I excavations, when recovered cultural remains were stated to have been confined to the "Ap and uppermost portion of the B horizons" (Bense 1982:9.16), presumably corresponding to Strata I-III. There was much less evidence of bioturbation at 22It606 than noted at other sites in the valley. If a deeper component still remains at the site it is insignificant and, at any rate, well protected by the heavy overburden. It may be related to the Archaic features.

The main body of data from 22It606 concerns the features. As a group they shared many attributes which serve to characterize the nature of this site. The large majority were relatively small pits. As already noted in this report, these are easily, quickly constructible, multi-purpose facilities, possibly suggestive of short term, recurring occupation or use, not long-term intensive settlement. Several of the pits were stratified, suggesting reuse of the same storage or, more likely, garbage dumping area. None of the pits except the (possible) Alexander basin (Feature 30) showed signs of fire <u>in situ</u>, though some have large amounts of secondarily deposited charcoal.

These facts are not easy to interpret at present. Hearths or cooking fires may have been shallow and masked by the dark plow zone. They also may have been unnecessary if use of the site was for brief exploitation of wild resources during a warm season of the year. As at the Beech, Oak, and Hickory sites, the lack of prepared, or ceremonial features, burials, or structural remains could reflect the utilitarian and short-term nature of the occupations. Though it is unlikely that this small, convenient bluff overlooking the valley was utilized in exactly the same manner all throughout prehistory, there are no outstanding functional differences apparent in the different components.

COMPONENTS: CULTURAL MATERIALS AND ACTIVITIES

Use of 22It606 during the Early Archaic is suggested, though not necessarily proven, by the presence of several Kirk points, both in the general midden and in the features. In some cases, as with Feature 2, there is some reason to believe these artifacts were collected and reutilized by later groups, however.

A small Middle Archaic component is much better established, if only by the presence of Feature 28, with its diagnostic artifact, a Sykes-White Springs point, combined with an age of 5800$\pm$160 radiocarbon years. Others of the features with no diagnostic materials and no ceramics may be attributable to this component or any others as well.

Late Archaic points from the site's general midden and from one very small pit, Feature 27, suggest a possible Late Archaic component, though of extremely light intensity, especially by comparison with the occupations at the Beech, Oak, and Hickory sites. An Alexander component is indicated by the shaped fire basin, Feature 30, and many of the stemmed points typical of Late Archaic may also be associated with this later cultural manifestation. The fire basin, whose original function was apparently discontinued and its use as a trash pit begun in Alexander times, hints at a slightly less transient use of this site by these peoples. The component seems very localized at the southeast edge of the site, however, and is represented by only this single feature.

Sand-, limestone-, and bone-tempered ceramics in varying but always small proportions from the site midden all may be from Early and/or Middle Woodland activity, but may also be merely the minority wares during the major period of habitation at 22It606, the Late Woodland/Mississippian. For this approximately 500 year late prehistoric period the site was was still undergoing light, short-term, intermittent use, but somewhat more intensively so than ever before, judging from the much higher proportion of features, artifacts, and other remains of this cultural affiliation. Details of the archaeological record and its unusual predminantly grog-tempered ceramics for this time period have been discussed at the length in the section on features.

It was an upland bluff campsite near a small stream, where wild foods were harvested. Significantly, little maize and no other domesticates seem to have been brought here. It may have been a hunting station or wild plant collecting locale visited only for a few days while crops were growing in the summer, or really at any other time of year. If nuts are plentifully evident autumn could be indicated; though they are perhaps easily stored and carried, so is maize, and it does not appear in any significant quantity. Small refuse pits (possible latrines, too?) from previous years, already low spots on the bluff tops, were loaded with garbage from sequential visits. Few or no long term facilities or structures were needed.

In the Late Woodland and Mississippian settlement pattern of the valley this site is but a small piece of the whole picture, complementing the arrangement of larger agricultural and ceremonial settlement. As discussed in the previous section, the site's nature and function may have much to do with the resulting patterns of ceramic change through time. Certainly no conclusions can be drawn about the ceramics until other similar sites are investigated.

The historic component at 22It606, while too recent to be of great significance at present, represents good documentation of a single family occupation on this same favorably situated bluff. In future work it may be worth investigating further, especially the structural remains.

FUTURE RESEARCH

The major focus of future work on the data from 22It606 should be upon the Late Woodland/Mississippian component and its ability to show us some different, less typical aspects of the settled, agricultural life of these people. Most archaeology concerned with this time period is at the larger, more spectacular sites in the southeast, and much can be learned from small, non-agricultural campsites. Feature data of earlier periods, however, are also important to help determine changing site functions through time and add to our knowledge of culture process bringing about different adaptations of the Archaic, Woodland, and Mississippian. Archaic and other components at 22It606 appear very different from those at the other sites excavated during Phase II. What is not present here (such as Wheeler ceramics) may also be important. An extremely wide variety of more specialized, typological, metric, physical, and other studies of the large body of information from this site may permit more precise component definition, and further, scientific study useful for more than just the parochial concerns of Mississippian research in the Upper Tombigbee Valley.

In-depth ceramic analyses might shed some light on questions of ceramic continuity and notions of in situ development versus intrusive change. Many southeastern archaeologists define the beginning of the Mississippian by the appearance of any shell-tempered pottery while others use the term in correlation with calendrical dates. Still others, in particular in the area of our investigations here, see it to a large degree as locational, occurring at Moundville Phase sites as opposed to sites such as 22It606, for instance. Whether or not agreement on the basic assumptions is possible at present, much more data are now in hand to permit more reliable and representative statements. The ceramic summary given in this report is necessarily brief and superficial. Further work could involve physical, technical analyses of sherds for better determination of place of origin, type frequency comparisons with other area collections, even detailed analysis and comparison with ceramics of other types excavated during Phase II and Phase I investigations. Comparisons of the clays of grog- and shell-tempered sherds may reveal more about their ages and origins.

The lithic assemblages from these features have not even been subjected to the close scrutiny and analysis that the ceramics have. It is probable that distinguishing characteristics of tool and debitage morphology, raw materials, and possible functional evidence (such as microwear) can be discerned to isolate groups of lithic materials associated with different cultural and chronological categories. For example there is some suggestion that the presence of conglomerate in the debitage might be indicative of an Archaic age. The large amounts of sandstone in the features also needs to be examined to determine whether its origins are cultural or natural.

Most of the macrobotanical materials recovered from features at 22It606 also remain to be identified and analyzed. There are many other charcoal samples from features that could be dated. Other kinds of studies or foci are important, for example, an overall comparison of Features 18, 19, and 20, which represent relatively rapidly sequential, well dated activities in the same short time period but with very different remains. Combined with lithic analyses, all these data are potentially extremely valuable for contributing major advances in interpretation at this site. The identification or cultural categorization of the features without diagnostic artifacts will help settle the question of whether features without ceramics are truly of preceramic cultures or are simply the result of activities not requiring or involving pottery. Once some of these quintessential archaeological problems of age versus function (and possibly versus ethnicity) are more adequately addressed, it will be possible to begin examination of changing adaptations in the valley and the different uses of the same site with a more valid diachronic view.

Table 5.1. Features at 22It606.

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
1	99.4	110.23/ 93.66	Dark circular stain, deep, slightly tapered profile	90 cm diam. 84 cm deep	Dark brown (7.5YR4/4) sandy loam possibly strat-ified or grading into lighter (7.5YR5/4) in lower portion	Pit	Drill, chert tool frags, debitage, rocks, one sherdlet
2	100.38	89.5/ 102.5	sub-circular dark stain, basin-shaped profile	1.5 m diam. 51 cm deep	Dark brown sandy loam (5YR3/3) mottled with lighter soil (10YR5/6)	Mixed Missis-sippian/ Late Woodland/ Early Archaic(?) pit	Triangular points, Kirk point, tool fragments, debitage, Miss. & Wdld. ceramics, plant remains
3	100.34	48.45/ 102.36	Soft circular area with arti-fact concentration possibly basin-shaped profile	18 cm diam. 10 cm deep	Medium brown sandy loam	Late Wood-land/Missis-sippian possible pit	chert tool, flakes, grog and bone-tem-pered sherds
4	?	78/ 86	Trench near SW corner of old house	12 m long, 10 cm deep	?	Historic trash dump	chert tool fragments, debitage, pre-historic and historic ceramics, glass, nails, plastic, etc.

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
5	100.38	72.3/ 102.25	Dark amorphous stain, amorphous profile	120 cm N-S 180 cm NW-SE 109 cm deep	Dark yellowish brown (10YR5/8) sandy loam	Historic pit	Points, chert tools, debitage, prehistoric and historic ceramics, other materials
6	Number Voided						
7						Possible historic post mold	recent trash
8	?	77.3/ 88.1	Dark circle of partially decayed wood, vertical sides, flat bottom	10 cm diam.	Bark, brown loose decaying wood	Historic post	wood fragments
9	100.43	91.4 101.7	Dark circle of wood fragments, straight sides, flat bottom	12 cm diam. 21 cm deep	brown partially decayed wood bark	Historic post	wood fragments
10						tree stump	
11	100.23	55.8/ 103.18	Dark subcircular stain, basin-shaped profile	25 cm diam. 13 cm deep	Brown (7.5YR4/6) sandy loam with some charcoal flecks	Late Woodland/Mississippian pit	two sherds

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
12	100.33	85.1/ 102.5	Dark circle of wood, straight	20 cm diam 32 cm deep	Brown partially decayed wood	Historic post	Wood fragments
13	100.47	94.83/ 101.5	Dark circle of wood, straight sides, flat bottom	10 cm diam 32 cm deep	Brown partially decayed wood	Historic post	Wood fragments
14	100.42	98.84/ 101.6	Dark amorphous area with associated red fired soil, amorphous basin	350 cm NE-SW 200 cm NW-SE	Dark yellowish brown (10YR4/6) loam with yellowish red fired areas (5YR5/8), strata	Late Mississippian pit	Points, chert tools, debitage, ceramics, rocks
15	Number voided						
16	100.25	82.05/ 101.6	Dark circular stain, shallow	120 cm diam 18 cm deep	Brown sandy loam	Non-ceramic pit	Chert flakes, rocks
17	?	88.6/ 102	Dark circle of wood fragments	?	Brown partially decayed wood	Historic post	Wood fragments
18	100.28	88.3/ 103.1	Dark sub-circular stain, deep basin-shaped profile	90 cm diam 42 cm deep	Many strata: mostly dark reddish brown sandy loam (5YR3/2), with varying amounts of charcoal & red fired soil	Late Woodland/Mississippian pit	Points, scraper, other chert tools debitage, ceramics, bone bits, rocks, charred plant remains

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
19	100.29	88.9/ 103.6	Dark oval stain, shallow basin-shaped profile	142 cm N-S, 56 cm E-W 13 cm deep	Dark brown (10YR4/3) loamy sand	Late Woodland/Mississippian pit	Chert flakes, tool fragments, rocks
20	100.33	88.5/ 103.9	Dark circular stain, basin-shaped profile	1 m diam, 48 cm deep	Dark brown (7.5 YR3/2) sandy loam stratum overlying darker and lighter strata, some charcoal	Late Woodland/Mississippian pit	Points, chert tools, debitage, ceramics, rocks charred plant remains
21	100.36	87.5/ 97.3	Dark oval stain, shallow basin-shaped, flat-bottomed profile	148 cm N-S 83 cm E-W 17 cm deep	Dark reddish brown (5YR3/4) sandy loam	Late Woodland/Mississippian pit	Chert tools, flakes, ceramics rocks
22	99.93	93/ 109.4	Small circle of red soil, basin-shaped profile, with dark amorphous area to SE	68 cm N-S 113 cm E-W fired area 30 cm diam 20 cm deep	Red area (7.5YR5/8); brown area (7.5YR4/4)	Small possible pit of fired soil with adjacent natural disturbance, possibly Late Woodland/Mississippian	Chert tool, point, flakes, few sherds

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recognized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
23	100.46	93.35/ 98.0	Dark oval stain, shallow basin-shaped profile	135 cm N-S 94 cm E-W 16 cm deep	Dark brown (7.5YR4/4) sandy loam	Non-ceramic pit	Chert debitage rocks
24	100.31	96.4/ 107.4	Small dark circular stain; very shallow (flat bottom?)	52 cm diam 5 cm deep	Dark reddish brown (10YR4/4) sandy loam	Possible small pit or post mold, Late Woodland/ Mississippian	3 flakes, 1 sherd, 1 sherdlet
25	100.45	96.3/ 97.9	Dark oval stain, shallow basin-shaped profile	104 cm N-S 96 cm E-W	Dark reddish brown (5YR3/3) sandy loam	Pit	Debitage, rocks, 1 sherdlet
26	100.41	94.1/ 92.9	Small dark sub-circular stain, tapered profile	13 cm diam, 8 cm deep	Dark brown (10YR3/2) sandy loam, grading to lighter brown (10YR4/3)	Possible post mold (non-ceramic)	10 chert flakes
27	100.34	104.9/ 82.6	Small dark, circular stain, basin-shaped profile; adjacent amorphous area of pale, hard-packed soil	Pit: 28 cm diam, 6 cm deep	Pit: reddish brown sandy loam (5YR3/4); adjacent area: hard-packed brownish yellow (10YR6/6) clay(?)	Small poss. Late Archaic pit and prepared (?) area	Point, flake

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
28	100.4	92/ 93.05	Dark oval stain, deep basin-shaped in profile	140 cm NE-SW 80 cm NW-SE 62 cm deep	Yellowish brown dark brown and brown (10YR4/4, 4/5, 4/3, 6/6) sandy loam strata	Middle Archaic pit	Point, chert tools, debitage, 1 sherdlet
29	100.5	100.25/ 91.75	Small dark sub-circular stain, basin-shaped profile	42 cm N-S 34 cm E-W 11 cm deep	Dark brown (7.5 YR3/2) sandy loam	Late Woodland Mississip-pian pit	Chert tools, debitage, 2 sherds, rocks
30	100.4	100.9/ 84.6	Very large oval stain; shallow basin-shaped profile over-lying shaped basin lined with red fired soil	Pit:180 cm N-S 302 cm E-W, 15 cm deep; basin fill: 125 cm N-S, 175 cm E-W, 25 cm deep; shaped basin: 90 cm N-S, 70 cm E-W, 21 cm deep	Pit:dark brown (7.5YR3/2) loam; basin fill: yel-lowish red (5YR 4/8); basin lining, red (5YR 6/8, 10YR5/8)	Mixed Alex-ander/Late Woodland/ Mississip-pian/his-toric and fire basin	Points, chert tools, debitage, mortar, ceramics, glass, metal
31	100.21	90.85/ 105.3	Dark sub-circular stain	16 cm x 13 cm	Rodent burrow		

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
32	100.38	87.1/ 78.9	Small dark amorphous stain, relatively regularly tapered profile, rounded bottom	33 cm N-S 26 cm E-W 46 cm deep	Dark brown (7.5YR3.2) sandy loam	Possible post mold (non-ceramic)	9 chert flakes
33	100.23	82.31/ 96.65	Dark oval stain tapering to small basin-shape in profile	167 cm N-S 72 cm E-W 36 cm deep	Dark brown (10YR4/3) silty loam, charcoal flecks	Pit	Chert debitage, 1 sherd, sherdlets, rocks
34	100.37	95.9/ 91.9	Small dark sub-circular stain, tapered profile, rounded bottom	30 cm diam. 33 cm deep	Dark reddish brown sandy loam (5YR3/3)	Non-ceramic pit	Chert biface, debitage, rocks
35	100.4	95.6/ 95.3	Small dark sub-circular stain, long tapered profile, rounded bottom	35 cm diam. 57 cm deep	Dark brown (7.5 YR3/2) sandy loam	Possible post mold (non-ceramic)	7 chert flakes
36	100.45	100.1/ 96.	Pile of broken sandstones and dark soil, rounded bottom in profile (no clear pit)	45 cm N-S 50 cm E-W 22 cm deep	Dark brown (10YR 4/3) sandy loam packed with red and purple rock pieces	Redeposited fired rock cluster (?)	>2 kg sandstone pieces, 9 chert flakes, sherdlet

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
37	100.30	88/ 95	Dark oval stain; shallow basin in profile	47 cm N-S 65 cm E-W 10 cm deep	Very dark brown (10YR3/3) silty loam	Non-ceramic pit	16 chert flakes, rocks
38	100.43	102/ 97.6	Dark irregular stain	32 cm diam.	Dark brown (7.5 4/3) soil mot-tled with lighter brown	Tree root stain	
39	100.27	104.2/ 81.8	Dark amorphous stain, long tapered profile, rounded bottom	28 cm N-S 32 cm E-W 32 cm deep	Reddish brown (5YR4/4) loose sandy loam	Possible post mold (non-ceramic)	2 chert flakes
40	100.36	89.9/ 88.65	Small very dark oval stain, tapered profile, flat bottom	21 cm N-S 14 cm E-W 20 cm deep	Black (10YR2/1) sandy loam, very clearly defined	Post mold, probably recent	chert flakes, sherds, rocks
41	100.47	88/ 99.3	Dark sub-circular stain, tapered profile	26 cm diam. 13 cm deep	Brown (7.5YR4/4) silty loam mot-tled with lighter brown	Possible post mold (non-ceramic)	7 chert flakes
42	100.31	100.1/ 92.1	Dark stain, irregular profile			Root stain	

Table 5.1. Features at 22It606 (continued).

No	Stratum and Level Recog-nized	Center Point	Description	Dimensions	Fill	Identity	Associated Cultural Materials Recovered
43	100.62	90.6/ 94.5	Dark amorphous stain	40 cm diam.	Brown with unburned wood fragments	Historic post mold or recent tree	
44	100.43	103.65/ 97.9	Dark circular stain, slightly tapered profile, flat (?) bottom	72 cm diam. 63 cm deep	Dark reddish brown and brown (7.5YR3/2, 4.4, 5/6) upper stra-tum; paler (10YR 5/4. 6/4, 7/4) lower stratum	Non-ceramic pit	Scraper, drill, micro-lith, chert debitage, rocks
45	100.65	103/ 102	Dark oval stain, basin-shaped profile	100 cm N-S 128 cm E-W 26 cm deep	Dark brown (10YR 4/3) sandy loam	Late Woodland/ Mississip-pain pit	Points, scrapers, other chert tools and flakes, ceramics, rocks, especially sandstones

Table 5.2. Radiocarbon Dates from Features at 22It606.

Feature Number	Sub-Provenience	Sample	DIC No.	Radio-carbon years	Uncorrected Date	Corrected Date*
14			2057	412+/-50	A.D. 1538	A.D. 1440
18	Segment C (middle stratum)	Wood Charcoal (21.2 g)	2447	600+/-80	A.D. 1350	A.D. 1350
	Segment E (next to lowest stratum)	Wood Charcoal (19.6 g)	2450	680+/-80	A.D. 1270	A.D. 1290-1260
20	Segment B (middle stratum)	Wood Charcoal	2449	730+/-55	A.D. 1220	A.D. 1240
28	Segment B (middle stratum; Middle Archaic)	Nut Shells (*Carya* sp.) (15 g)	2451	580+/-60	3850 B.C.	4490 B.C.
45	North 1/2	Wood Charcoal (15 g)	2448	860+/-60	A.D. 1090	A.D. 1170-1110

* corrections based on formula in Ralph *et al.* 1973.

Table 5.3. Relative Frequencies of Ceramic Types in Features at 22It606 (% by sherd count/% by weight).

		FEATURE NUMBER												
		2	3	4	5	11	14	18						
								SE2/3	A	B	C	D	E	F
	Sherdlets (weights in g)	1	10	107	84	0	43	186	5	2	8	3	32	18
	Raw Totals (counts/ wgts in g)	366/ 2280	6/ 83	14/ 50	42/ 204	2/ 18	31/ 102	157/ 1681	3/ 7	7/ 55	23/ 237	3/ 46	57/ 817	23/ 213
S	Dec Shell													
H	Bell Plain													
E	Miss Plain	7/8			2/8		6/3	3/1						
L	Erod Shell	2/4					10/4							
L	Shell Grog	1/6				50/77	10/21	4/3			4/2		4/5	
G	Withers F-M													9/9
R	Mulb Crk C-M	11/16	17/8				3/1	43/54		29/74	39/49	33/6	47/49	17/23
O	Baytown Pln	12/11	67/78		6/8		45/59	26/29		71/25	35/41		28/37	39/40
G	Grog, other	<1/<1						7/6				33/35	5/5	26/22
	Erod grog	8/7		43/48	2/6	50/23	10/6	4/2					2/1	
	Saltillo F-M	1/1			2/5									
S	Furrs C-M	4/5		7/14	2/2									
A	Res Sand Pln	8/6			21/24			6/3			13/8	33/59	5/2	
N	Erod Sand	36/22		50/38	45/37		16/6	4/3	33/28		9/2		2/<1	9/6
D	Sand, other	<1/<1						<1/<1						
	Alex *	1/2			5/6									
L														
I	Flint River C-M													
M	Long Br F-M	<1/<1												
E	Mulb Cr Pln	<1/<1						<1/<1	33/57				2/<1	
S	Erod Limestn	1/<1			10/4									
T														
N														
B	Trky Paw C-M	2/8	17/12										2/<1	
O	Trky Paw Pln	2/4											2/<1	
N	Erod Bone	1/1							33/14					
E														

* all Alexander ceramics

Table 5.3. Relative Frequencies of Ceramic Types in Features at 22It606 (% by sherd count/% by weight) (continued).

		FEATURE NUMBER											
		20						21	29	30		40	45
		S1/2	A	B	C	D	E			N+S1/2	A+B		
	Sherdlets (weights in g)	37	17	19	6	4	4	15	5	907	58	6	162
	Raw Totals (counts/ wgts in g)	87/ 714	28/ 176	31/ 398	20/ 178	6/ 20	1/ 9	28/ 192	2/ 7	445/ 2050	64/ 421	7/ 36	172/ 1728
S	Dec Shell		4/6										
H	Bell Plain	16/10											1/<1
E	Miss Plain	7/5	4/5	10/5				7/7	50/47	4/2			8/19
L	Erod Shell												1/<1
L	Shell Grog	6/4		10/13			100/100	4/4		4/5			27/22
G	Alligator Inc.				5/3								1/<1
R	Mulb Crk C-M	15/29	14/19	32/56	5/7			11/15		1/1			7/11
O	Baytown Pln	12/22	28/15	10/7	35/46	33/25		39/45	50/43	3/3	2/<1	86/97	51/43
G	Grog, other	6/3		3/4		17/20				<1/<1			<1/<1
	Erod grog		25/18	13/6	5/<1					1/<1	2/<1		
	Saltillo F-M	1/<1								<1/2			
S	Furrs C-M	8/8		3/1	5/3			4/3		6/7	30/38		
A	Res Sand Pln	14/9	7/3	6/3	15/22			4/2		24/29	14/25		
N	Erod Sand	10/<1	4/2	13/4	25/15	33/45		25/14		46/36	45/31		3/<1
D	Sand, other									<1/2			
	Alex *										6/2		
L													
I	Flint River C-M									<1/<1			
M	Long Br F-M												
E	Mulb Cr Pln		7/5		5/2	17/10				6/3	2/<1	14/3	
S	Erod Limestn	2/1											
N													
B	Trky Paw C-M	1/6	4/1										
O	Trky Paw Pln		4/26					7/10		<1/1			<1/2
N	Erod Bone	2/<'											
E													

* all Alexander ceramics

Table 5.4. **Summary of Ceramic Type (temper) Relative Frequencies* from Radiocarbon Dated Features at 22It606.**

Years A.D.: (uncorrected)	1090		1220			1270			1350				1538
Feature No/Seg:	45	20C	20B	20A	20S1/2	18F	18E	18D	18C	18B	18A	18SE2/3	14
Total sherds:	172	20	31	28	87	23	57	3	23	7	3	157	31
Shell	10%	-	10%	4%	23%	-	-	-	-	-	-	3%	16%
Shell/grog	27%	-	10%	-	6%	-	4%	-	4%	-	-	4%	10%
Grog	59%	50%	58%	67%	33%	91%	82%	66%	74%	100%	-	80%	58%
Sand	3%	45%	22%	11%	33%	9%	7%	33%	22%	-	33%	10%	16%
Bone	<1%	-	-	8%	3%	-	4%	-	-	-	33%	-	-
Limestone	-	5%	-	7%	2%	-	2%	-	-	-	33%	<1%	-

* percentages figured by sherd count

Table 5.5. Total Frequencies of Cultural Materials by Collapsed Artifact Class at 22It606.

Artifact Class	Feature	General Surface	Total
Projectile Point/Knives	27	2	29
Other Chipped Stone Tools	344	5	349
Ground Stone Tools	8	1	9
Unmodified Flaking Debris	3,206	3	3,209
Ceramics	1,123		1,123
Historic Artifacts	19	1	20
Total	4,727	12	4,739
Introduced Rock*	17,575	186	17,761
Sherdlets*	1,514	-	1,514
Fired Clay*	1,455	-	1,455
Total	20,544	186	20,730

* in grams

Table 5.6. Ceramic Frequencies by Temper and Category at 22It606.

Temper	Category	Percent	Total
Shell	Bell Plain		16
	Mississippi Plain		46
	Decorated Shell		1
	Eroded Shell		2
	Shell-Grog		86
Subtotal, Shell		13.4	151
Grog	Baytown Plain		218
	Mulberry Creek Cord Marked		138
	Withers Fabric Marked		2
	Alligator Incised		2
	Grog, Other		31
	Eroded Grog		20
Subtotal, Grog		36.6	411
Bone	Turkey Paw Plain		7
	Turkey Paw Cord Marked		3
	Eroded Bone		3
Subtotal, Bone		1.2	13
Limestone	Mulberry Creek Plain		38
	Flint River Cord Marked		1
	Eroded Limestone		2
Subtotal, Limestone		3.7	41
Sand	Furrs Cord Marked		56
	Saltillo Fabric Marked		5
	Alexander Incised		1
	Columbus Punctated		1
	O'Neal Plain		2
	Residual Sand Plain		154
	Sand, Other		4
	Eroded Sand		284
Subtotal, Sand		45.1	507
Total		100.0	1,123

Table 5.7. Total Frequencies of Chipped Stone Tools by Type and Category at 22It606.

Type	Category	Total
Projectile Point/Knives		
	Big Sandy Sidenotched	1
	McIntire	1
	Mississippi-Woodland Triangular	13
	Residual Stemmed	2
	Sykes-White Springs	1
	Tombigbee Stemmed	1
	PP/K Distal Fragment	4
	PP/K Medial Fragment	3
	PP/K Proximal Fragment	2
	PP/K Lateral Fragment	1
Subtotal, Projectile Point/Knives		29
Scrapers		
	Uniface Side Scraper	6
	Uniface End-side Scraper	2
	Uniface Cobble Scraper	1
	Uniface Notched Flake-Spokeshave	1
	Scraper, Other	6
	Unidentified Scraper Fragment	2
Subtotal, Scrapers		18
Drills, Perforators, Etc.		
	Expanding Base Drill	1
	Drill Medial Fragment	2
	Microlith	3
	Perforator	1
Subtotal, Drills, Perforators, Etc.		7
Other Uniface and Biface Tools		
	Uniface Flake Knife	3
	Biface Hammer-Chopper	1
	Biface Flake Knife	3
	Biface Flake Knife-Spokeshave	1
	Unidentified Chipped Stone Fragment	22
Subtotal, Other Uniface and Biface Tools		30

Table 5.7. **Total Frequencies of Chipped Stone Tools by Type and Category at 22It606.**

Type	Category	Total
Bifaces		
	Ovoid Biface-Other	1
	Biface Proximal Fragment	3
	Biface Medial Fragment	4
	Biface Distal Fragment	6
	Crude Biface	1
	Biface Fragment	16
	Biface Lateral Fragment	8
Subtotal, Bifaces		39
Cores and Preforms		
	Biface Core 270 degrees	1
	Preform I-Indeterminate	1
Subtotal, Cores and Preforms		2
Utilized Flakes		
	Utilized Flake - 1"	7
	Utilized Flake - 1/2"	114
	Utilized Flake - 1/4"	118
	Utilized Blade-Like Flake	1
	Utilized Chert Chunk	13
Subtotal, Utilized Flakes		253
Total		378

Table 5.8. Measurement Statistical Summary for Lithic Artifacts from the 22It606.

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
PROJECTILE POINT/KNIVES								
Big Sandy Side-Notched								
WEIGHT	1	0	13.00	-	13.00	13.00	0.00	-
WIDTH	1	0	25.30	-	25.30	25.30	0.00	-
THK	1	0	8.90	-	8.90	8.90	0.00	-
BASLW	1	0	20.30	-	20.30	20.30	0.00	-
SHOULDRW	1	0	25.10	-	25.10	25.10	0.00	-
JUNCW	1	0	17.40	-	17.40	17.40	0.00	-
HAFTL	1	0	13.50	-	13.50	13.50	0.00	-
McIntire								
BASLW	1	0	17.70	-	17.70	17.70	0.00	-
SHOULDRW	1	0	38.00	-	38.00	38.00	0.00	-
JUNCW	1	0	21.60	-	21.60	21.60	0.00	-
HAFTL	1	0	9.00	-	9.00	9.00	0.00	-
Woodland/Mississippian Triangular								
WEIGHT	13	0	1.17	0.40	0.40	1.80	1.40	0.16
LENGTH	7	6	25.00	5.63	18.80	33.20	14.40	31.67
WIDTH	11	2	15.10	1.11	13.30	16.60	3.30	1.23
THK	11	2	3.95	0.42	3.40	4.60	1.20	0.18
SHOULDRW	9	4	12.81	4.85	4.30	16.60	12.30	23.50
Residual Stemmed								
WEIGHT	2	0	7.90	3.25	5.60	10.20	4.60	10.58
WIDTH	2	0	28.05	7.28	22.90	33.20	10.30	53.05
THK	1	0	[illegible]	-	7.30	7.30	0.00	-
BASLW	2	0	[illegible]	3.32	12.60	17.30	4.70	11.05
SHOULDRW	2	0	27.75	6.72	23.00	32.50	9.50	45.13
JUNCW	2	0	21.20	4.10	18.30	24.10	5.80	16.82
HAFTL	2	0	12.40	4.38	9.30	15.50	6.20	19.22
Sykes-White Springs								
WEIGHT	1	0	4.70	-	4.70	4.70	0.00	-
BASLW	1	0	22.50	-	22.50	22.50	0.00	-
JUNCW	1	0	23.00	-	23.00	23.00	0.00	-
HAFTL	1	0	6.70	-	6.70	6.70	0.00	-

Table 5.8. **Measurement Statistical Summary for Lithic Artifacts from the 22It606 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Tombigbee Stemmed				
WEIGHT	1	0	10.00	-	10.00	10.00	0.00	-
WIDTH	1	0	26.50	-	26.50	26.50	0.00	-
BASLW	1	0	16.70	-	16.70	16.70	0.00	-
SHOULDRW	1	0	26.20	-	26.20	26.20	0.00	-
JUNCW	1	0	17.70	-	17.70	17.70	0.00	-
HAFTL	1	0	10.40	-	10.40	10.40	0.00	-
				PP/K - Distal Fragment				
WEIGHT	4	0	3.57	3.62	0.60	8.20	7.60	13.07
				PP/K - Medial Fragment				
WEIGHT	3	0	4.50	3.95	0.60	8.50	7.90	15.61
				PP/K - Proximal Fragment				
WEIGHT	2	0	3.30	0.28	3.10	3.50	8.40	0.08
				PP/K - Lateral Fragment				
WEIGHT	1	0	1.00	-	1.00	1.00	0.00	-
				SCRAPERS				
				Uniface Side Scraper				
WEIGHT	6	0	4.52	2.77	1.70	8.20	6.50	7.69
LENGTH	6	0	33.83	3.68	28.20	38.20	10.00	13.54
WIDTH	6	0	23.23	9.23	10.60	38.30	27.70	85.14
THK	6	0	6.72	3.18	3.60	11.40	7.80	10.14
				Uniface End-Side Scraper				
WEIGHT	2	0	5.35	5.87	1.20	9.50	8.30	34.45
LENGTH	2	0	27.85	2.90	25.80	29.90	4.10	8.40
WIDTH	2	0	18.80	9.33	12.20	25.40	13.20	87.12
THK	2	0	6.90	4.24	3.90	9.90	6.00	18.00
				Uniface Cobble Scraper				
WEIGHT	1	0	85.30	-	85.30	85.30	0.00	-
LENGTH	1	0	64.40	-	64.40	64.40	0.00	-
WIDTH	1	0	49.70	-	49.70	49.70	0.00	-
THK	1	0	29.00	-	29.00	29.00	0.00	-

Table 5.8. Measurement Statistical Summary for Lithic Artifacts from the 22It606 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Uniface Notched Flake/Spokeshave				
WEIGHT	1	0	1.50	-	1.50	1.50	0.00	-
LENGTH	1	0	20.70	-	20.70	20.70	0.00	-
WIDTH	1	0	15.70	-	15.70	15.70	0.00	-
THK	1	0	4.80	-	4.80	4.80	0.00	-
				Scraper, Other				
WEIGHT	6	0	12.77	6.93	6.10	24.10	18.00	48.05
LENGTH	6	0	40.50	11.08	29.50	58.20	28.70	122.74
WIDTH	6	0	27.37	3.69	22.50	32.90	10.40	13.63
THK	6	0	13.27	3.23	8.90	16.80	7.90	10.44
				Scraper, Unidentified Fragment				
WEIGHT	2	0	1.40	0.14	1.30	1.50	0.20	0.02
				Expanded Base Drill				
WEIGHT	1	0	6.40	-	6.40	6.40	0.00	-
WIDTH	1	0	18.10	-	18.10	18.10	0.00	-
THK	1	0	12.00	-	12.00	12.00	0.00	-
				Drill - Medial Fragment				
WEIGHT	2	0	0.85	0.21	0.70	1.00	0.30	0.05
				Microlith				
WEIGHT	3	0	1.07	0.98	0.50	2.20	1.70	0.96
LENGTH	3	0	19.93	8.02	14.20	29.10	14.90	64.34
WIDTH	3	0	7.90	2.34	6.40	10.60	4.20	5.49
THK	3	0	3.73	1.86	2.00	5.70	3.70	3.46
				Perforator				
WEIGHT	1	0	3.90	-	3.90	3.90	0.00	-
LENGTH	1	0	26.50	-	26.50	26.50	0.00	-
WIDTH	1	0	17.00	-	17.00	17.00	0.00	-
THK	1	0	8.10	-	8.10	8.10	0.00	-
				Uniface Flake Knife				
WEIGHT	3	0	4.40	1.35	3.30	5.90	2.60	1.81
LENGTH	3	0	30.37	7.78	23.00	38.50	15.50	60.50
WIDTH	3	0	23.60	4.29	19.00	27.50	8.50	18.43
THK	3	0	8.23	2.99	5.00	10.90	5.90	8.94

Table 5.8. **Measurement Statistical Summary for Lithic Artifacts from the 22It606 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Biface Hammer-Chopper				
WEIGHT	1	0	107.10	-	107.10	107.10	0.00	-
LENGTH	1	0	60.00	-	60.00	60.00	0.00	-
WIDTH	1	0	54.00	-	54.00	54.00	0.00	-
THK	1	0	41.20	-	41.20	41.20	0.00	-
				Biface Flake Knife				
WEIGHT	3	0	1.37	0.91	0.70	2.40	1.70	0.82
LENGTH	3	0	20.27	4.63	16.70	25.50	8.80	21.44
WIDTH	3	0	16.43	3.16	12.80	18.50	5.70	9.96
THK	3	0	3.77	1.68	2.30	5.60	3.30	2.82
				Biface Flake Knife/Spokeshave				
WEIGHT	1	0	13.20	-	13.20	13.20	0.00	-
				Unidentified Chipped Stone Fragment				
WEIGHT	22	0	1.85	1.82	0.30	8.30	8.00	3.30
				UTILIZED FLAKES				
				Utilized Flake - 1"				
WEIGHT	7	0	19.73	15.49	4.10	43.20	39.10	239.96
				Utilized Flake - 1/2"				
WEIGHT	60	0	5.90	6.78	0.80	36.30	35.50	46.03
				Utilized Flake - 1/4"				
WEIGHT	43	0	2.25	3.48	0.30	22.90	22.60	12.10
				Utilized Blade-like Flake				
WEIGHT	1	0	1.10	-	1.10	1.10	0.00	-
				Utilized Chert Chunk				
WEIGHT	7	0	8.19	6.17	1.10	16.80	15.70	38.06

Table 5.8. **Measurement Statistical Summary for Lithic Artifacts from the 22It606 (continued).**

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
BIFACES								
Ovoid Biface, Other								
WEIGHT	1	0	27.70	-	27.70	27.70	0.00	-
LENGTH	1	0	41.00	-	41.00	41.00	0.00	-
WIDTH	1	0	37.50	-	37.50	37.50	0.00	-
THK	1	0	17.40	-	17.40	17.40	0.00	-
Biface - Proximal Fragment								
WEIGHT	3	0	7.47	1.30	6.20	8.80	2.60	1.69
Biface - Medial Fragment								
WEIGHT	4	0	4.00	1.72	1.70	5.70	4.00	2.95
Biface - Distal Fragment								
WEIGHT	6	0	6.05	4.99	0.50	14.00	13 50	24.95
Crude Biface								
WEIGHT	1	0	6.50	-	6.50	6.50	0.00	-
LENGTH	1	0	42.10	-	42.10	42.10	0.00	-
WIDTH	1	0	20.90	-	20.90	20.90	0.00	-
THK	1	0	10.90	-	10.90	10.90	0.00	-
Biface Fragment								
WEIGHT	16	0	5.01	5.79	0.30	23.60	23.30	33.50
Biface - Lateral Fragment								
WEIGHT	8	0	1.74	1.39	0.50	4.30	3.80	1.94
CORES AND PREFORMS								
Biface Core 270								
WEIGHT	1	0	75.10	-	75.10	75.10	0.00	-
LENGTH	1	0	48.50	-	48.50	48.50	0.00	-
WIDTH	1	0	43.70	-	43.70	43.70	0.00	-
THK	1	0	36.00	-	36.00	36.00	0.00	-

Table 5.8. Measurement Statistical Summary for Lithic Artifacts from the 22It606 (continued).

VARIABLE	N	N MISSING	MEAN	SD	MIN VALUE	MAX VALUE	RANGE	VARIANCE
				Preform 1 - Indeterminate				
WEIGHT	1	0	48.40	-	48.40	48.40	0.00	-
LENGTH	1	0	67.50	-	67.50	67.50	0.00	-
WIDTH	1	0	48.00	-	48.00	48.00	0.00	-
THK	1	0	16.80	-	16.80	16.80	0.00	-
				GROUND STONE TOOLS				
				Hammerstone				
WEIGHT	1	0	120.30	-	120.30	120.30	0.00	-
LENGTH	1	0	58.40	-	58.40	58.40	0.00	-
WIDTH	1	0	44.60	-	44.60	44.60	0.00	-
THK	1	0	35.00	-	35.00	35.00	0.00	-
				Mortar				
WEIGHT	3	0	1436.47	2034.88	238.90	3786.00	3547.10	4140750.00
LENGTH	3	0	147.47	82.86	95.20	243.00	147.80	6865.21
WIDTH	3	0	107.97	58.06	73.30	175.00	101.70	3371.42
THK	3	0	30.97	9.04	25.50	41.40	15.90	81.70
				Ground Limonite				
WEIGHT	1	0	4.90	-	4.90	4.90	0.00	-
				Unidentified Ground Stone				
WEIGHT	4	0	253.70	478.57	0.50	971.10	970.60	229028.35

Table 5.9. Frequencies of Biface Fragments by Category and Raw Material Type at 22It606.

Raw Material	Proximal	Medial	Distal	Lateral	Fragment	Total
Heated Camden	3	2	5	8	13	31
Unheated Camden	-	1	-	-	2	3
Fort Payne	-	1	1	-	1	3
Total	3	4	6	8	16	37

Table 5.10. **Frequencies of Utilized Flakes by Category and Raw Material Type at 22It606.**

Raw Material	1"	1/2"	1/4"	Blade-like Flake	Chert Chunk	Total
Blue-Green Bango	-	-	1	-	-	1
Heated Camden	3	85	100	1	12	201
Unheated Camden	2	17	9	-	1	29
Conglomerate	1	-	-	-	-	1
Fort Payne	1	7	4	-	-	12
Fossiliferous Ft. Payne	-	1	-	-	-	1
Graphite	-	-	1	-	-	1
Pickwick	-	3	2	-	-	5
Heated Tuscaloosa	-	-	1	-	-	1
Unident. Material	-	1	-	-	-	1
Total	7	114	118	1	13	253

Table 5.11. Total Frequencies of Ground Stone Tools at 22It606.

Category	Raw Material: Limonite	Quartzite	Sandstone	Ferruginous Sandstone	Total
Hammerstone	-	1	-	-	1
Mortar	-	-	-	3	3
Ground Limonite	1	-	-	-	1
Unidentified Ground Stone Tools	-	-	1	3	4
Total	1	1	1	6	9

Table 5.12. Frequencies of Unmodified Flaking Debris by Category and Raw Material Types at 22It606.

Raw Material	1"	1/2"	1/4"	Other	Total
Blue-Green Bangor	-	1	17	-	18
Fossiliferous Bangor	-	1	8	-	9
Heated Camden	7	260	2,075	1	2,343
Unheated Camden	4	62	342	-	408
Conglomerate	1	6	108	-	115
Fort Payne	-	23	191	-	214
Fossiliferous Fort Payne	-	2	28	-	30
Hematite	-	-	1	-	1
Novaculite	-	-	1	-	1
Pickwick	1	3	24	-	28
Quartz	-	1	-	-	1
Quartzite	-	-	3	-	3
Ferruginous Sandstone	1	5	14	-	20
Heated Tuscaloosa	-	-	7	-	7
Unheated Tuscaloosa	-	1	2	-	3
Unidentified Material	-	2	5	-	7
Total	14	367	2,826	1	3,208

Table 5.13. Macrobotanical Remains by Provenience at 22It606.

SAMPLE			IDENTIFICATION				
PROVENIENCE	VOLUME of FILL (liters)	TOTAL FLORAL Wt. (g)	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEEDS	WOOD Wt.(g)	OTHER
Feature 18 Segment A	8	28.8	5.05	1.6	11 modern (Cheno-Am) 2 *Acalypha* 2 *Portulacca* 2 fernspores 2 unident. (hemispherical)	14.95	0.3 resin
Segment B	8	14.2	1.9	0.55			7.6
Segment C	16	71.1	25.05	0.04			43.3
Segment D	7	9.6	5.1	0.1	60 modern (Cheno-Am- *Portulacca* *Polygonaceae*), 6 *Acalypha* 4 *Polygonaceae*, 15 unident. spherical	2.7 pine & ring-porous hardwood	
Segment E	11	127.2	6.9	0.25	3 *Diospyros* fragments 1 *Acalypha* 4 unident. eroded frags	20.15 pine & ring-porous hardwood	
Feature 19 NE1/4	28	3.2	1.7	2 frags	2 modern (*Eleusine indica*) 45 unident. spherical 1 unident. oblong	0.25	
NW1/4	30	5.6	0.4		45 unident. spherical 1 unident. ellipsoid	0.15	

Table 5.13. Macrobotanical Remains by Provenienceat 22It606 (continued).

SAMPLE			IDENTIFICATION				
PROVENIENCE	VOLUME of FILL (liters)	TOTAL FLORAL Wt. (g)	HICKORY NUTSHELL Wt. (g)	ACORN SHELL Wt. (g)	SEEDS	WOOD Wt.(g)	OTHER
Feature 20 Segment A N1/2	58	125.7	3.1	21.95	1/2 acorn 1 unident. eroded elliptical	12.6	1 fruit with at least 2 seeds
Feature 20 Segment B N1/2	34	248.2	0.6	5.9	1/2 acorn 2 *Chenopodium* 59 fern spores, 7 unident. lg. oblong	19.2	2 fruit with at least 2 seeds; 1 exine
Feature 20 Segment C	46	102.9	4.2	0.7	1 exine	28.85 oak & pine	4 maize cupules
Feature 28 Segment B	62	182.9	18.25	0.1	2 unid. spherical	0.6 ring-porous hardwood	
Feature 30 Segment B	54	40.1	1.4	0.05	1 *Acalypha*, 1 *Fabaceae* 14 unid. spherical 6 unident. ellipsoid	2.6 ring-porous hardwood	2 fruit skin frags?
Feature 30 Segment C	15	0.8	0.1	4 frags	99 fern spores	0.3	
Feature 36 N1/2	14	<0.1	-	-	3 fern spores	2 frags	-
Feature 45 S1/2	92	171.2	14.95	0.2	2 *Diospyros* 85 unid. spherical 3 unid. ellipsoid	14.4 ring-porous hardwood & pine	1 fruit? 2 pericarp ?
Subsoil below N1/2 Feature 45	4	7.4	1.15	0.2	48 fern spores	5.15 hardwood	

Table 5.14. Relative Densities of Macrobotanical Remains at 22It606.

PROVENIENCE	% HICKORY	% ACORN	% WOOD	CORRECTED RATIO HICKORY:ACORN*
Feature 18				
Seg A	23.0	7.3	68.4	38.7:61.3
Seg B	18.9	5.5	75.6	25.6:74.4
Seg C	36.4	0.6	63.0	86.2:13.8
Seg D	64.5	1.3	34.2	83.6:16.4
Seg E	25.3	0.9	73.8	73.4:26.6
Feature 19				
NE1/4	87.2	2 frags	12.8	-
NW1/4	72.7	-	27.3	-
Feature 20				
Seg A	8.2	58.3	33.5	1.4:98.6
Seg B	2.3	23.0	74.7	1.1:98.9
Seg C	12.4	2.1	85.5	37.5:62.5
Feature 28				
Seg B	96.3	0.5	3.2	94.8: 5.2
Feature 30				
Seg B	34.6	1.2	64.2	73.7:26.3
Seg C	25.0	4 frags	75.0	-
Feature 45				
S1/2	17.7	3.1	79.2	36.5:63.5
Subsoil below Feature 45	50.6	0.7	48.7	88.3:11.7

* based on acorn correction factor (weight x 10) in Chapman 1975.

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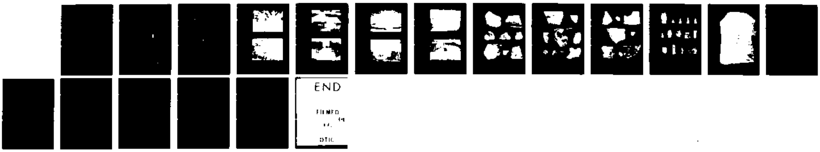

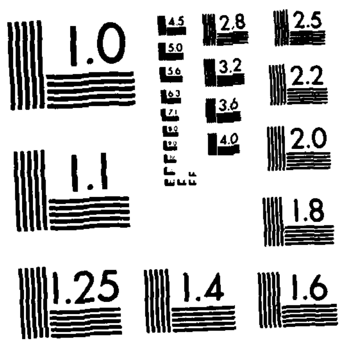

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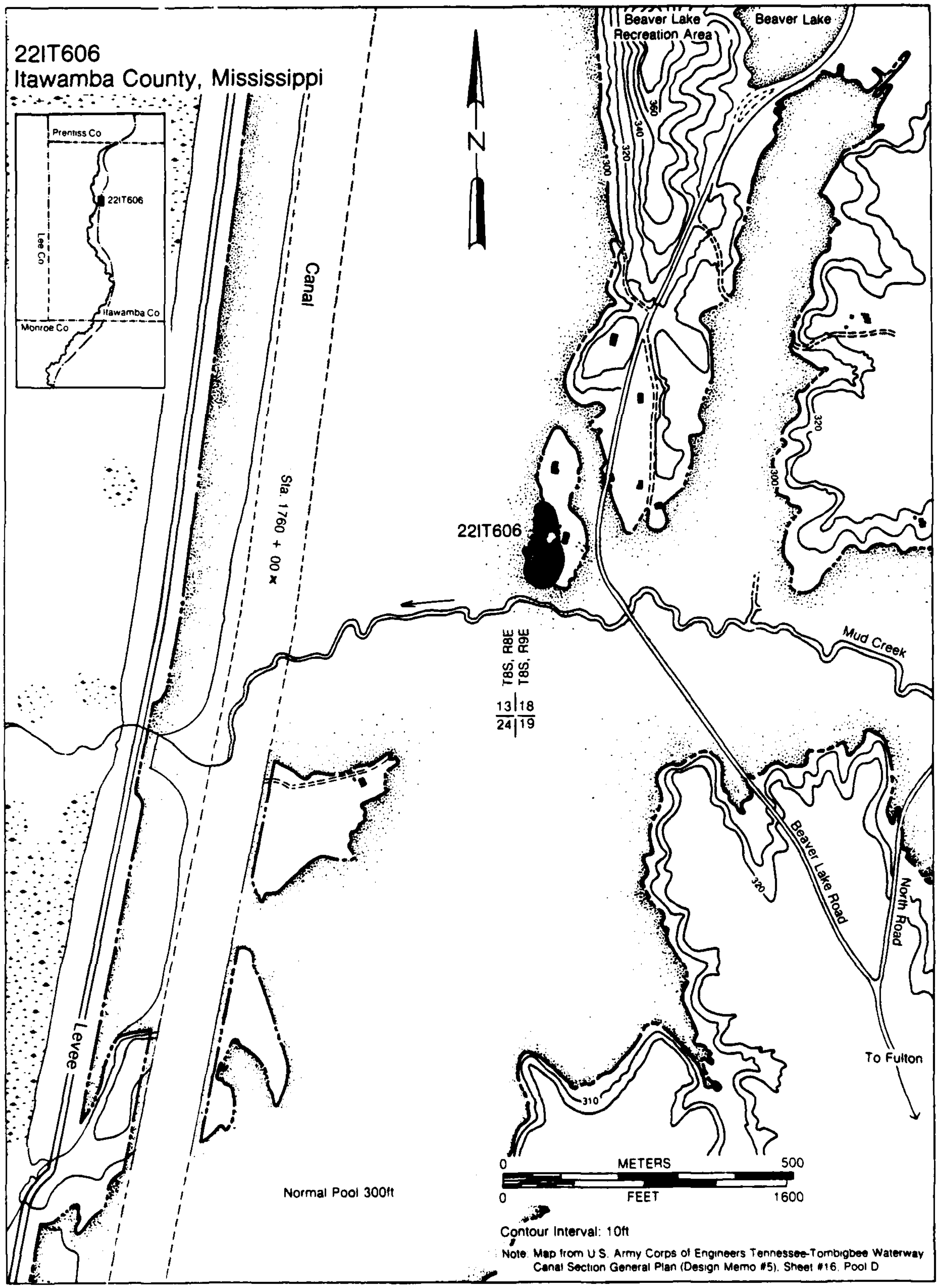

Figure 5.1. Location of 22It606.

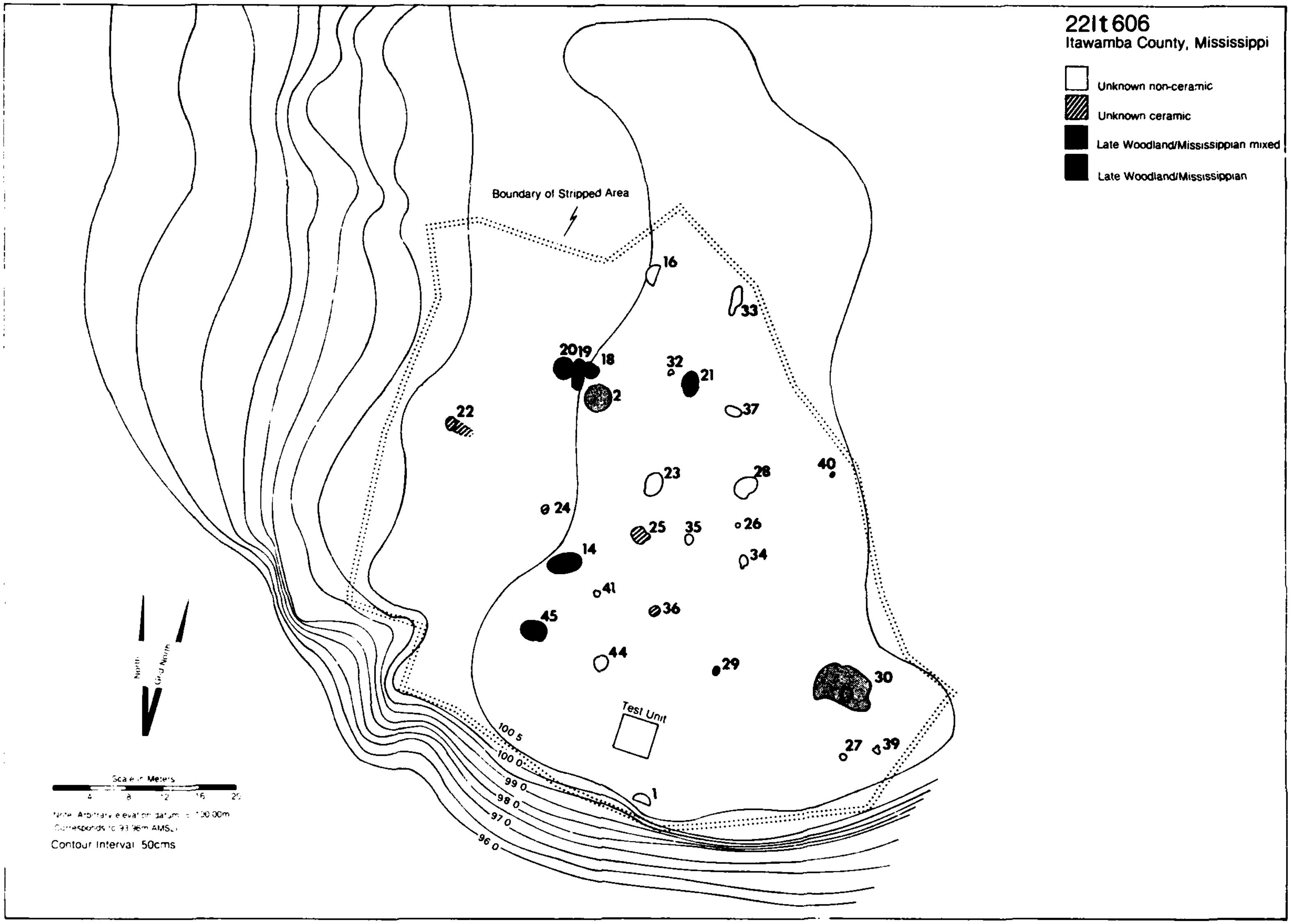

Figure 5.2. Contour map showing significant features in stripped area at 22It606.

Figure 5.3. Machine-stripping of plow zone at 22It606. View facing southwest (with floodplain and canal in distant background). Stakes and flags mark features already located in strips opened earlier. Small bulldozer is same one used for test-stripping during Phase I.

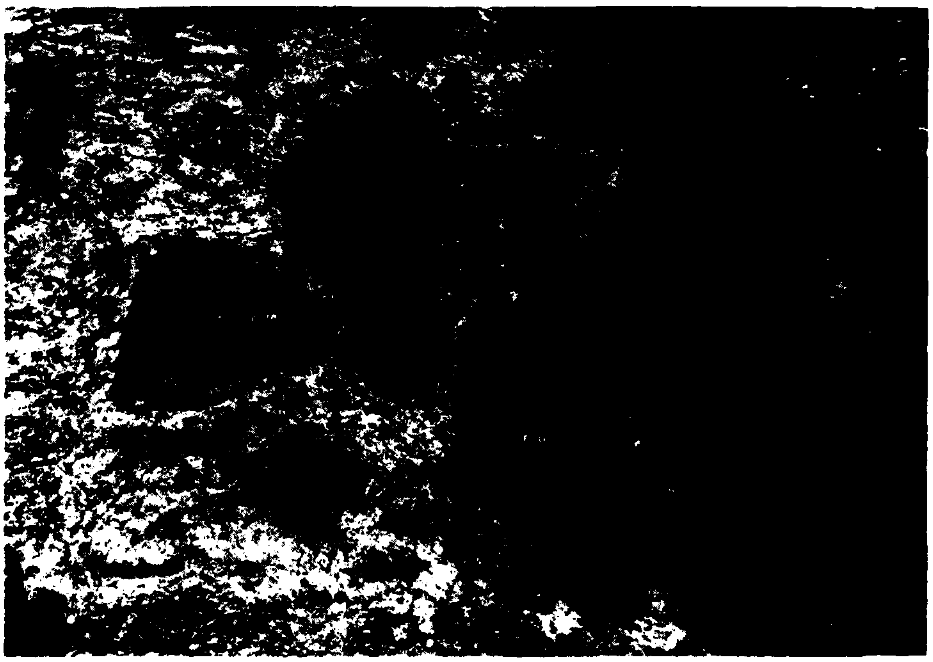

Figure 5.4. Features 18 (West 1/2), 19, and 20 (left to right) at 22It606, as first exposed in pale, undisturbed subsoil; view facing south. Features and area around them have been shovel-skimmed. Phase I stripping trench, at left, is now filled in, but accounts for straight edge of Feature 18 on left side.

Figure 5.5. Features 20, 19, and 18 (left to right) in cross-section at 22It606, view facing north. Photo shows the spatial and temporal relationships of these pits: Feature 20, the earliest, is cut into by Feature 19, which is itself cut by Feature 18.

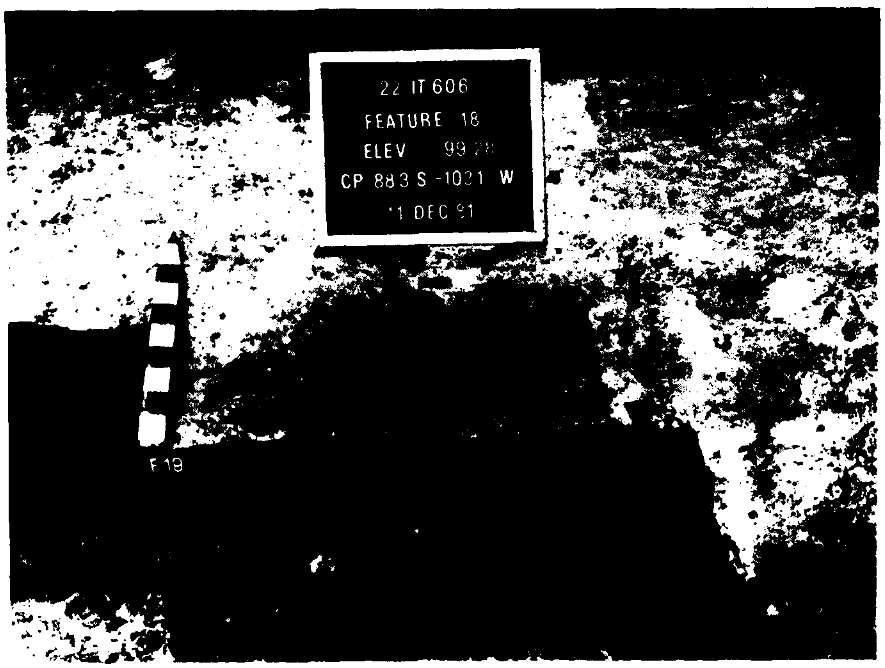

Figure 5.6. Closeup of cross-section of Feature 18 at 22It606, showing profile of what is approximately the northwest 1/4 of this well-stratified pit, with large sherds exposed <u>in situ</u>. A tiny, squarish portion of Feature 19 (labelled at left) remains, showing the intrusive nature of Feature 19, which cut into it.

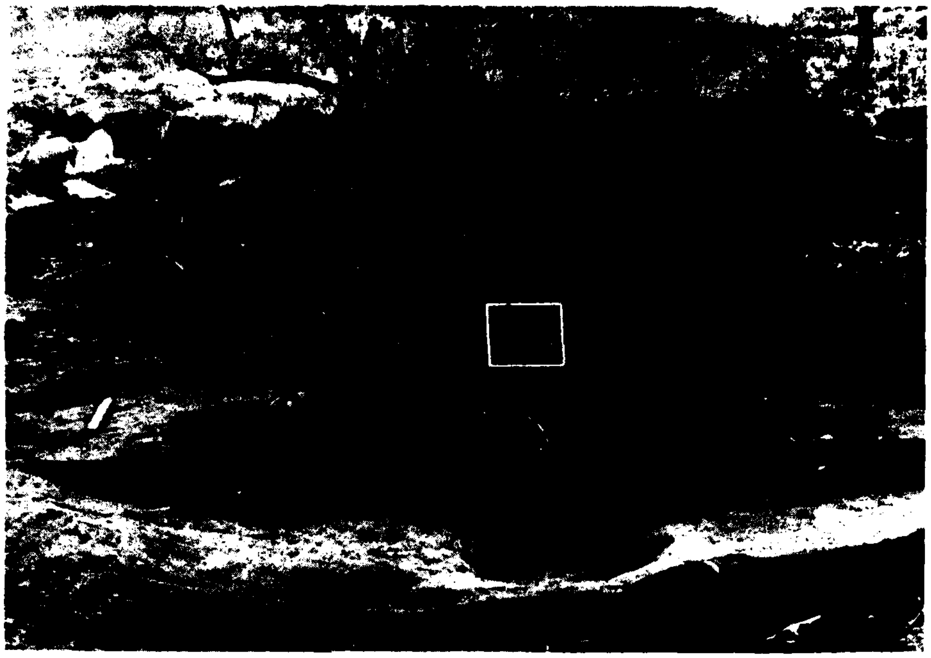

Figure 5.7. Feature 30 at 22It606, shown in cross-section; view facing north-northeast. Large shallow oval pit overlies mottled fill within shaped basin lined with fired soil. In background are backdirt piles from machine-stripping. White feed bags in upper left are being filled with soil from another feature.

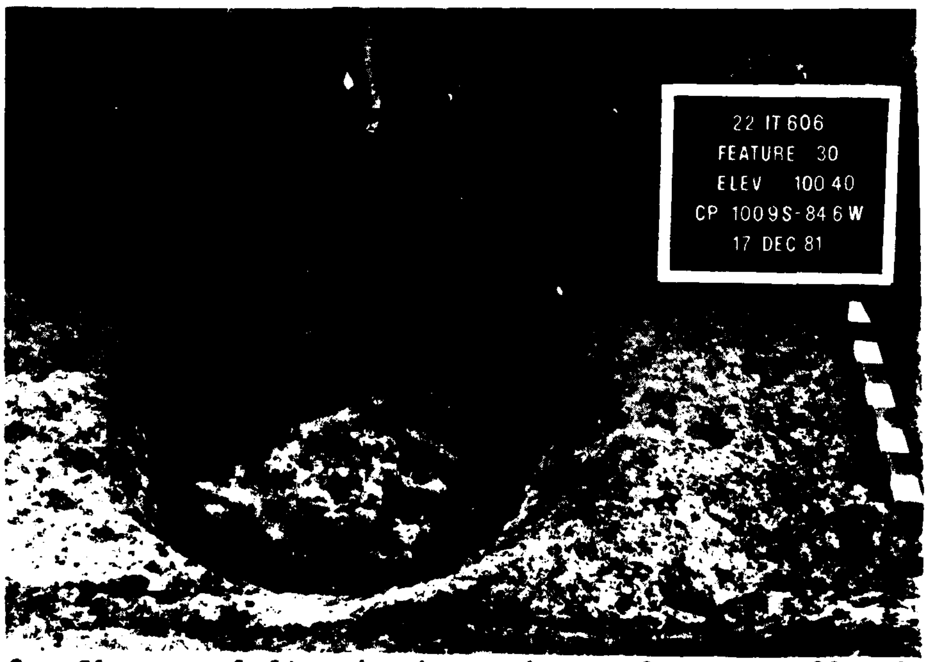

Figure 5.8. Closeup of fire basin at base of Feature 30. It was not centered under the main body of the feature; nearly all of it was exposed during removal of south half. Gray in photo is bright red lining of basin. Scale in decimeters.

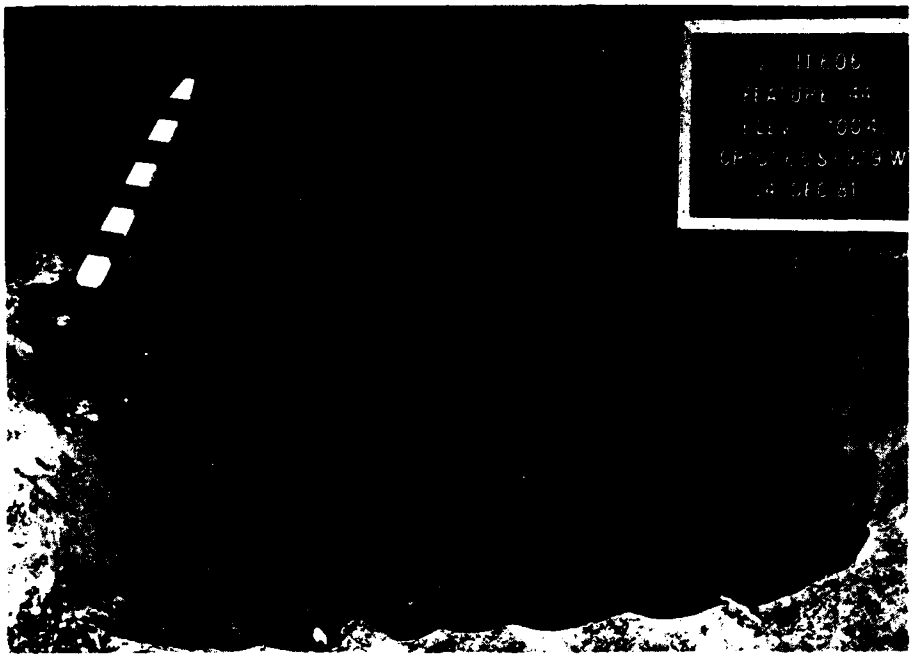

Figure 5.9. Feature 44 at 22It506, shown in cross-section, view facing north. Upper stratum of this deep pit is filled with darker soils. Lower, larger stratum extends into dark, veined paleosol (Stratum V) and exact bottom of feature is obscured. Feature is possibly from a preceramic time period.

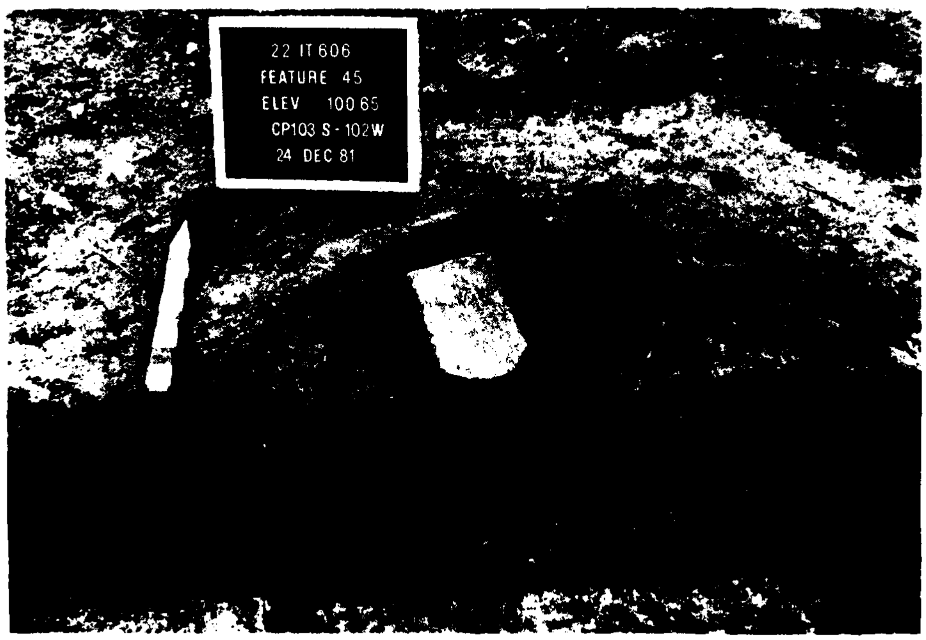

Figure 5.10. Feature 45 at 22It606, shown after cross-sectioning and with remaining half nearly excavated exposing large stone slab mortar in situ. Dark fill around slab is feature remains. This shallow oval pit was disturbed on its west edge by some natural agent (dark extension in lower left) but was otherwise intact. View facing north.

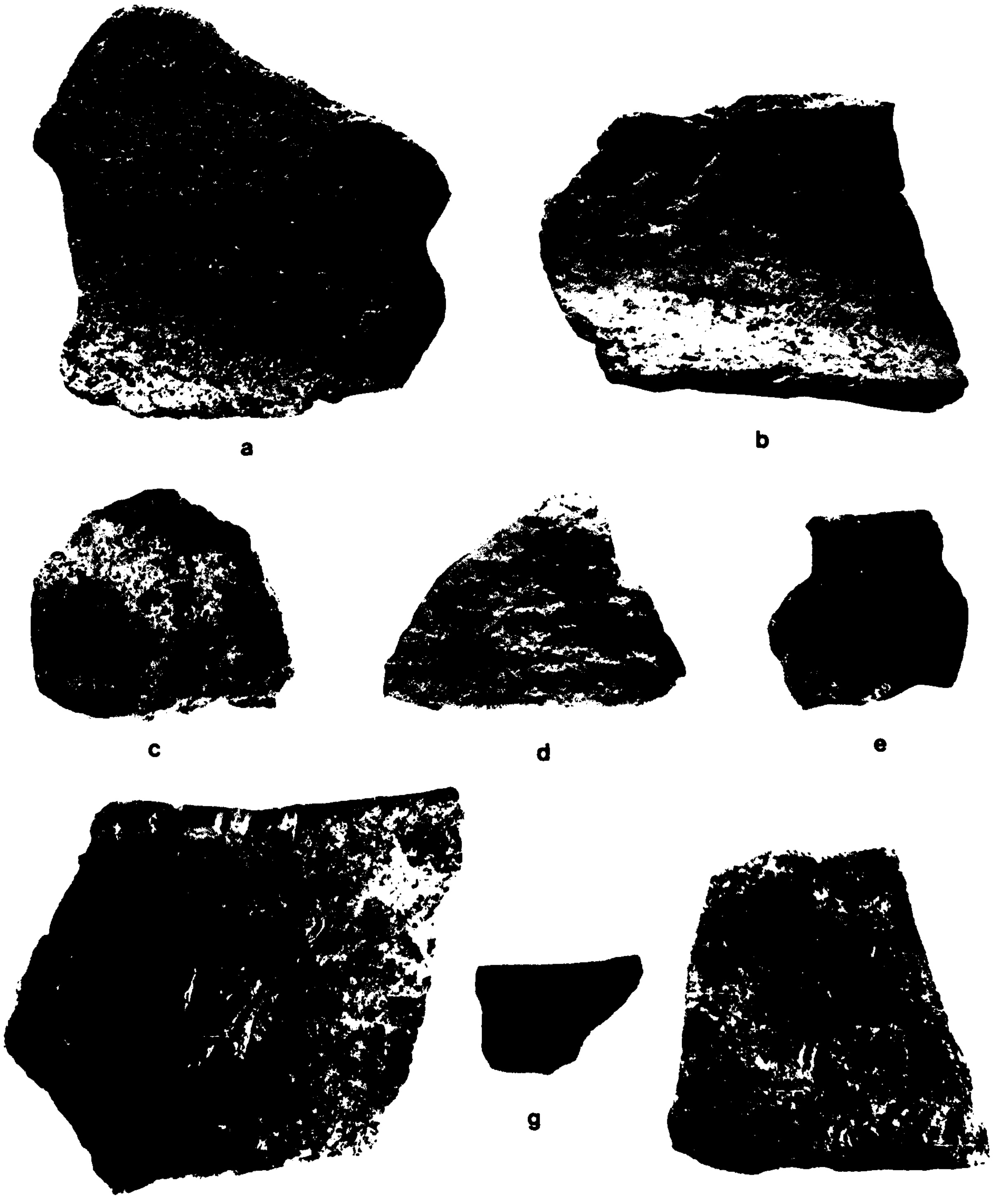

Figure 5.11. Shell-tempered sherds: a-c, Mississippian Plain (556-3, 336-6/7, 556-2); d, Decorated Shell (319-121); e-g, Shell-grog (556-6, 556-5, 443-556). Grog-tempered sherd: h, Baytown Plain (336-13).

Figure 5.12. Grog-tempered sherds: a-b, Baytown Plain (556-10, 299-7); c-d, Mulberry Creek Cord Marked (280-29, 336-21); e-f, Withers Fabric Marked (280-30, 280-31); g-h, Alligator Incised (547-233, 446-60); i, Grog-other (299-18).

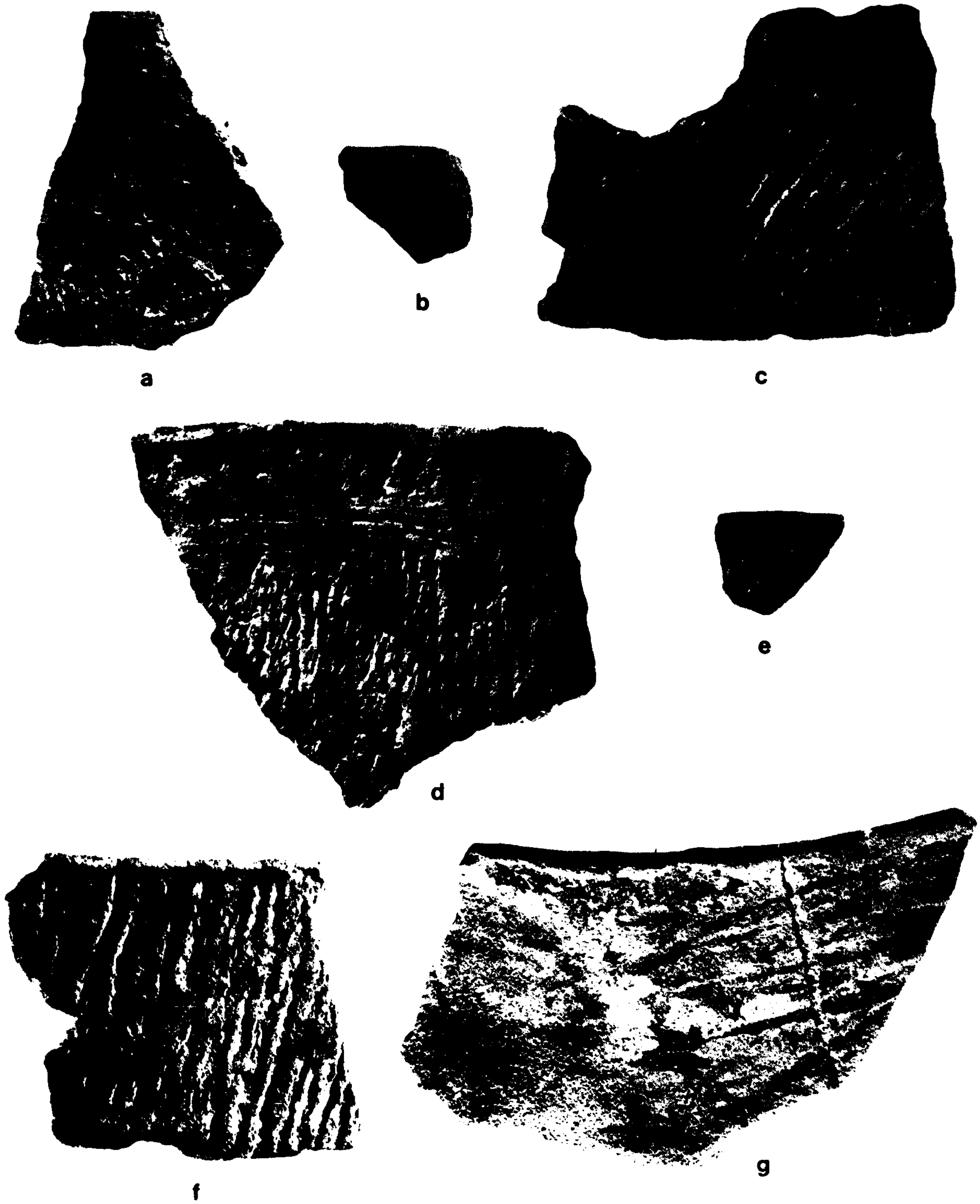

Figure 5.13. Grog-tempered sherds: a, Grog-other (280-36); b, Eroded Grog (319-136). Bone-tempered sherds: c-d, Turkey Paw Cord Marked (316-33, 319-138). Limestone-tempered sherd: e, Flint River Cord Marked (449-494). Sand-tempered sherds: f, Furrs Cord Marked (446-58/59); g, Alexander Incised (458-6/7).

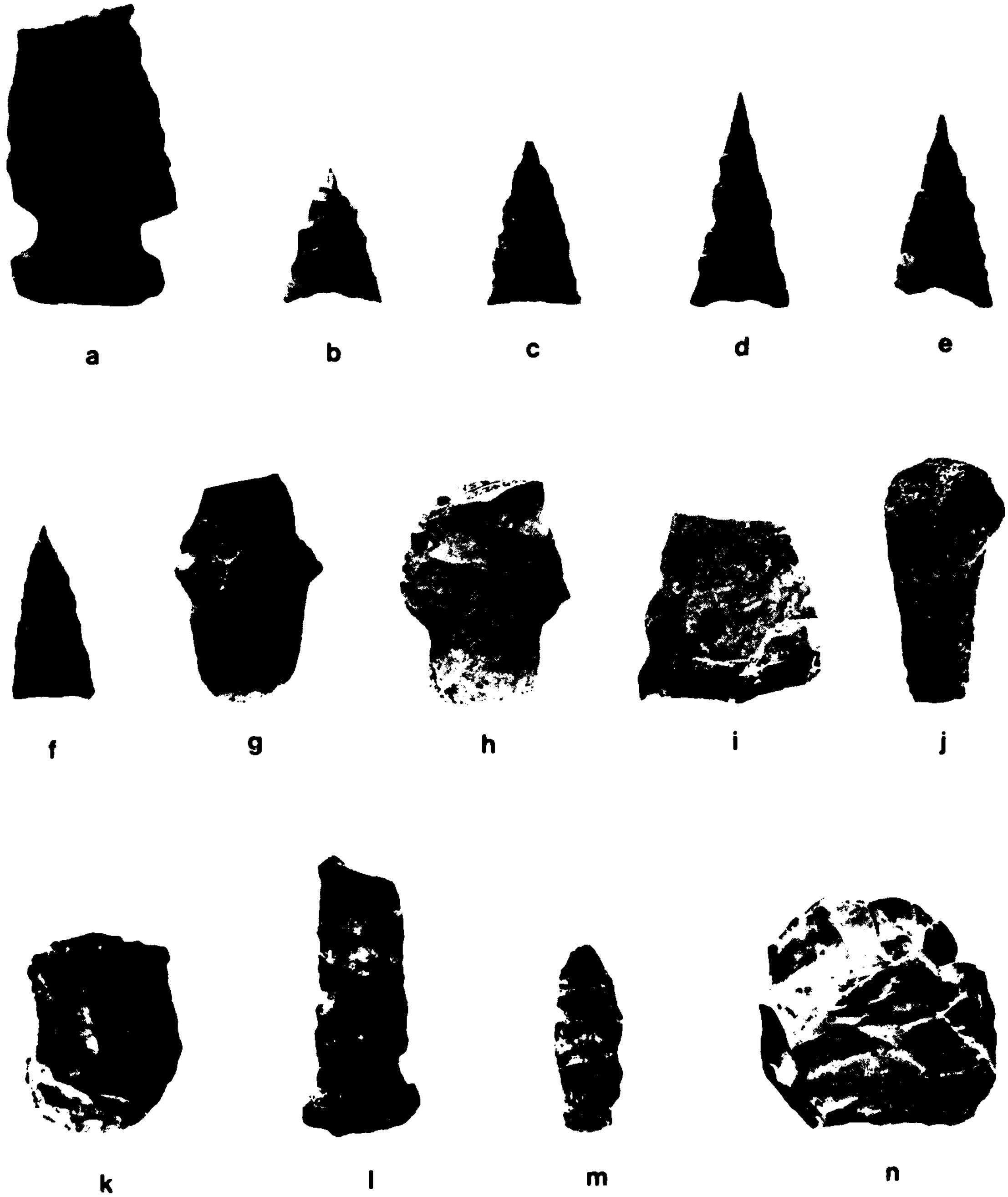

Figure 5.14. Projectile Point/Knives: a, Big Sandy Sidenotched (373-1); b-f, Mississippian-Woodland Triangular (262-275, 323-1, 547-235, 547-236, 550-253); g, Residual Stemmed (414-1); h, Tombigbee Stemmed (458-1); i, Medial fragment (262-276). Chipped Stone Tools: j, Uniface Side Scraper (262-277); k, Uniface End Scraper (319-118); l, Expanding Base Drill (540-1); m, Microlith (540-2); n, Ovoid Biface-Other (435-1).

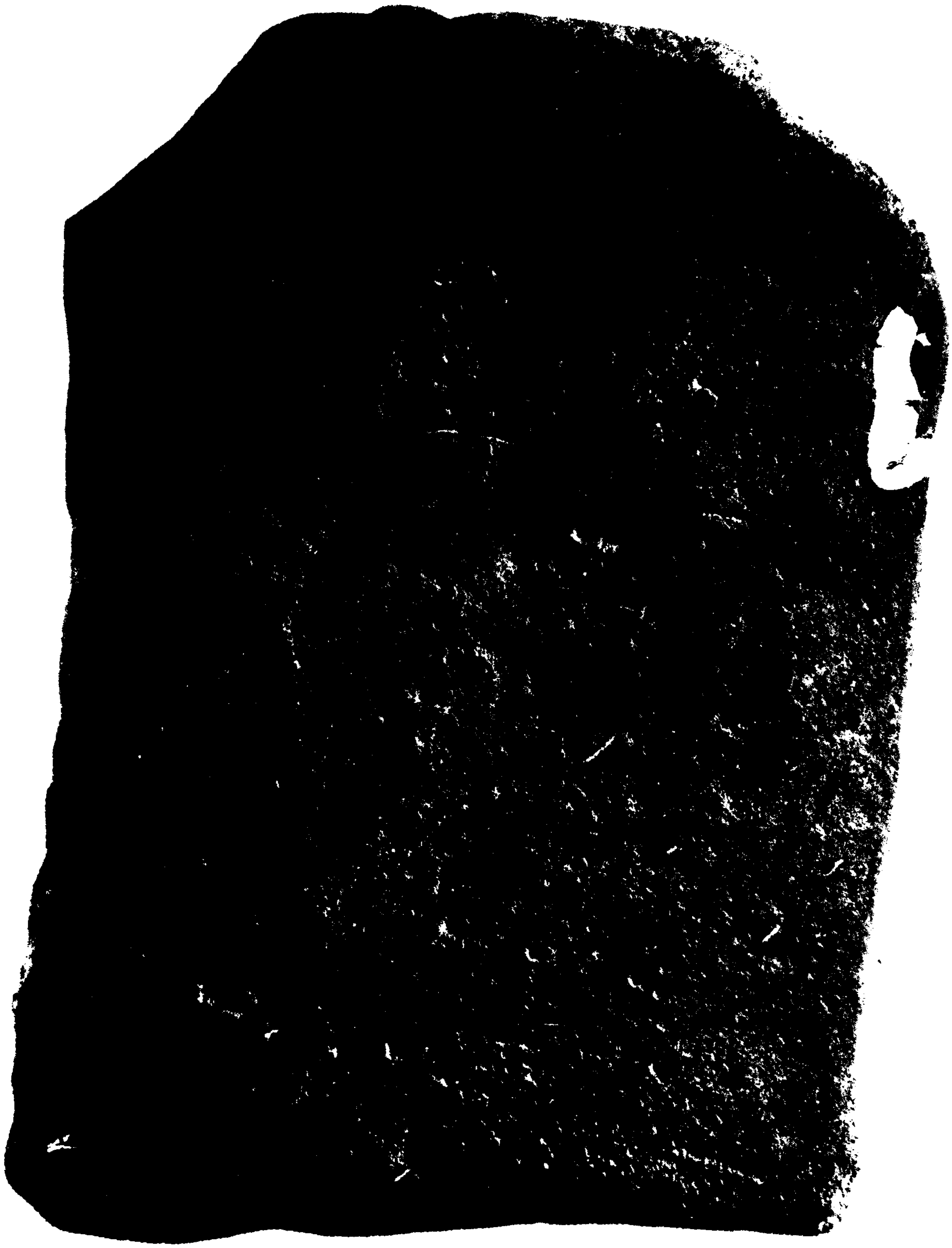

Figure 5.15. Ground Stone Tool: Mortar (562-1).

CHAPTER VI

CONCLUSIONS

RESEARCH DESIGN EVALUATION

The Phase II project was designed to complement that of Phase I, to excavate the four important and endangered sites tested during Phase I. Insofar as these sites were carefully, extensively, and intensively excavated to yield a massive body of well-controlled data, some similar to the already known archaeological record in this region and some very different, the work was successful.

Throughout the course of fieldwork, methods initially patterned after those of the previous years evolved somewhat in response to changing conditions and desired results. Of great importance is the fact that all four sites proved to be what had been expected of them based on the testing results, plus a bit more. The Beech and Oak sites contained Late Archaic components separable in a relatively large part from the other many components. The Hickory site did produce unmixed Early Archaic cultural deposits, as well as a distinguishable and distinctive Middle Archaic, among the other components. The well-dated Late Woodland/Mississippian features at 22It606 were most numerous, but there were also several older features documenting earlier prehistoric activity, especially for the Middle Archaic.

Excavation of the Beech and Oak sites included dealing with extensive but usually separable evidence of bioturbation. The great depth of the Hickory site's Early Archaic sediments required site preparation techniques and engineering of a sort quite unusual for archaeologists, and excavation of both this site and 22It606 were successful despite the early and heavy descent of winter upon the valley.

The scale, timing, and design of the Phase II project and large size of the recovered body of data dictated the character of analysis and reporting: primary-level description. Compromises were necessary, such as analysis of only selected samples of macrobotanical materials, processing and storage but not examination of finescreen recovery materials, and classification of lithic debitage by size instead of morphology. The entire lithic classification system, in particular, though sorely in need of major overhaul, was retained in a form very close to that of Phase I for practical reasons. Detailed comparison of similar components at the four Phase II sites, as well as with those of

Phase I sites and others in the valley, were not possible within the project time schedule. It is anticipated that the next stages of work will address all of these problems.

The four sites themselves have provided documentation for a portion of the prehistoric record not as likely to be investigated as other, larger, more elaborate occupation or ceremonial sites. They are all locales used throughout prehistory for many brief periods of time apparently in connection with specialized resource extraction. The individual groupings of evidence left by each repeated use have great potential for analysis as microcosms of human behavior, for yielding the specifics of the past by comparison through time and across space.

RESEARCH POTENTIAL OF THE DATA

Only a brief summary of the many possible areas of furthur study with the Phase II data can be presented here. Many topics of investigation have already been suggested in the individual site reports. Combined with the recovered materials and information from Phase I there is a vast potential for future research.

The cultural remains recovered during Phase II have merely been described and classified so far. True functional, morphological, technical, and other studies have yet to be done. Many materials such as charred plants and finescreen recovery have yet to be identified. There are a great many charcoal samples that could be radiocarbon dated. Beyond the level of counts, weights, and typology of artifacts, many comparative and contextual analyses remain to be accomplished.

Refinement of the lithic typology, including the actual practical sorting criteria, as well as the classification system itself, will almost certainly permit recognition of diagnosticity of artifact groupings characteristic of different individual cultural adaptations. The projectile point typology could be considerably improved to eliminate major ambiguities, especially among well-dated types, and to add our new data to those on uncertain or provisional types such as the Beachum point (Brookes 1979). Recognition of the range of different attribute expressions should enable us to distinguish continuity and change through time. For example, there may be minute but characteristic differences not presently noted in short-stemmed points from the preceramic Late Archaic to the earliest ceramic periods. All the lithic measurement data so painstakingly collected and merely described at the present stage of work should become quite usful for such studies. Similar research is possible with the ceramic artifacts, as well as technical studies of sherds and cross-site comparisons.

Having reached a better understanding of the particular character of each site and its contents through these types of inquiry, future investigation could then move beyond site boundaries to explore broader space/time connections. The huge lithic collections will be ideal for exploring changing tool use through time. For example, later peoples may have been using more finished tools and fewer utilized flakes than earlier, or vice versa. Our large collection of soils, macrobotanical and other ecological data will be useful for interpretation of intra- and inter-site settlement patterning and resource procurement scheduling at different stages of prehistoric adaptation. Particularly interesting might be a holistic comparison of wild food acquisition and intra-site occupation systems as documented in the archaeological records of both non-agricultural and agricultural groups. The project research design (Bense 1982) relies heavily on ethnographic evidence of wild resource exploitation systems, but these are of course only lesser sub-systems within a primarily agricultural subsistence base. Comparing the evidence from the late prehistoric utilization of 22It606, for example, with that of the other, earlier sites may help considerably to evaluate such a model.

The four sites excavated during Phase II were not the typical late prehistoric large village or ceremonial sites as have been more likely to command archaeological attention in the past. They represent a specific set of activities that were probably only a limited portion of the yearly round. The absence of burials, structures, hearths, and the near-absence of ceremonial or non-utilitarian features, or even of utilitarian features suggestive of permanent or long-term use, are characteristics common to all the components at all these sites. Their relationships to other, contemporaneous sites in the region remain to be determined, so that we can approach a clear picture of the many millenia of human experience in this region of the mid-southeastern U.S.

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