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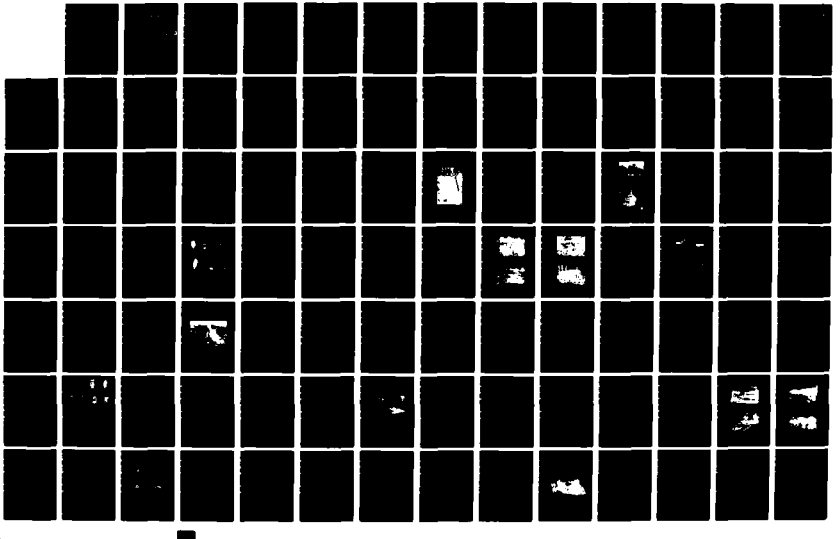

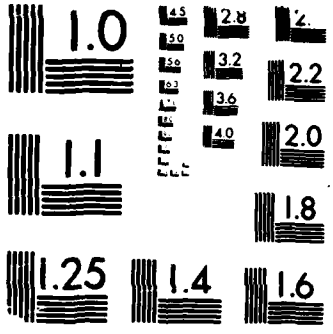

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US Army Corps
of Engineers
Little Rock District

CULTURAL RESOURCES INVESTIGATIONS: TERRACE SURVEY AND SITE EVALUATIONS

TABLE ROCK LAKE MISSOURI AND ARKANSAS

BY

W.J. BENNETT, JR., JACK H. RAY

AND ANNE FRANCES GETTYS

ARCHEOLOGICAL ASSESSMENTS REPORT NO. 69

SUBMITTED TO

LITTLE ROCK DISTRICT, U.S. ARMY
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1987

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Cultural Resources Intr.	Lithic Reduction	Table Rock Lake
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		White River Basin

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A program of site location, site evaluation, and materials examination was undertaken by Archeological Assessments, Inc., in the Table Rock Lake Area, Missouri and Arkansas. This workwas sponsored by the United States Army Engineer District, Little Rock, under Contract No. DACW03-86-0068, Order Number 5. This work included a cultural resources reconnaissance of several unexamined terrace structures of the Table Rock Lake area to document the presence of sites on these landforms and to gather information regarding the possibility of buried cultural deposits in these landforms. A total of 21 such terrace areas were examined.

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20. (con't) Sixteen of these contained prehistoric sites of which 14 were recommended for further investigations. The presence of buried surfaces and cultural deposits was also documented for this area and a thorough program of geomorphological study was recommended for the region. Ten sites were evaluated for possible nomination to the National Register of Historic Places. These included 3B0234, 3B0236, 3CR234, 3CR235, 3CR236, 23BY340, 23SN793, 23TA226, 23TA291, and 23TA309. Sites 3CR234, 3CR236, 23TA226, 23TA291, and 23TA309 were judged eligible for nomination to the National Register of Historic Places. A reconstruction of the lithic reduction sequence used at 3 sites (23BY441, 23BY591, and 23BY605) was undertaken.

Archeological Assessments Report No. 69

Cultural Resources Investigations: Terrace Survey and Site Evaluation at Table Rock Lake Missouri and Arkansas

by

W. J. Bennett, Jr.
Jack H. Ray
and
Anne Frances Gettys

Submitted
to the
Little Rock District
U.S. Army Corps of Engineers

Contract DACW03-86-D-0068
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ABSTRACT

A program of site location, site evaluation, and materials examination was undertaken by Archeological Assessments, Inc., in the Table Rock Lake Area, Missouri and Arkansas. This work was sponsored by the United States Army Engineer District, Little Rock, under Contract No. DACW03-86-D-0068, Order Number 5. This work included a cultural resources reconnaissance of several unexamined terrace structures of the Table Rock Lake area to document the presence of sites on these landforms and to gather information regarding the possibility of buried cultural deposits in these landforms. A total of 21 such terrace areas were examined. Sixteen of these contained prehistoric sites of which 14 were recommended for further investigations. The presence of buried surfaces and cultural deposits was also documented for this area and a thorough program of geomorphological study was recommended for the region. Ten sites were evaluated for possible nomination to the National Register of Historic Places. These included 3BO234, 3BO236, 3CR234, 3CR235, 3CR236, 23BY340, 23SN793, 23TA226, 23TA291, and 23TA309. Sites 3CR234, 3CR236, 23TA226, 23TA291, and 23TA309 were judged eligible for nomination to the National Register of Historic Places. A reconstruction of the lithic reduction sequence used at 3 sites (23BY441, 23BY591, and 23BY605) was undertaken.

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CHAPTER 1: INTRODUCTION

Project Authorization

Under the authority of and in compliance with the National Historic Preservation Act of 1980 (Public Law 96-515) and other authorities, the United States Army Engineer District, Little Rock (USAED,LR) contracted with Archeological Assessments, Inc., Nashville, Arkansas, to conduct site evaluation investigations at a number of previously recorded site locations within Table Rock Lake and to conduct an intensive survey of selected portions of Table Rock Lake. Work was authorized by Contract DACW03-86-D-0068, Order No. 5.

Project Area Location

Table Rock Lake is located in the Ozark Mountains Region primarily in southwestern Missouri with some portions along the upper White and Kings rivers and Long Creek in northwestern Arkansas (Figure 1-1). Table Rock Dam, completed in 1958, impounds the waters of White River near the town of Branson, Missouri. Major tributaries of the White River affected by this impoundment are the Kings River, the James River, Big Indian Creek, North Indian Creek, and Long Creek. The conservation pool elevation for Table Rock Lake is 915 feet amsl. At this level Table Rock Lake creates 745 miles of shoreline. A total of 14,772 acres of fee land is included in the facility.

The project area is situated at the junction of the Salem and Springfield Plateaus of the Ozark Mountains Region and is within the White River Drainage Basin of the Southwest Drainage Region as defined by Chapman (1975, 1980). The area includes numerous steep valleys, large interfluvial divides, and steep stream gradients (Douthit et al. 1979: 18). Natural vegetation in the region consists of generally mixed hardwood forests with some mixed pines. Soils in the region are principally composed of the Bodine-Gasconade-Clarksville soil association which formed from cherty siliceous dolomites and limestones (Scrivner, Baker and Miller 1975: 24). The area is designated the West White Study Unit (Figure 1-2) in Weston and Weichman (1987).

Specific areas of investigation are discussed individually below.

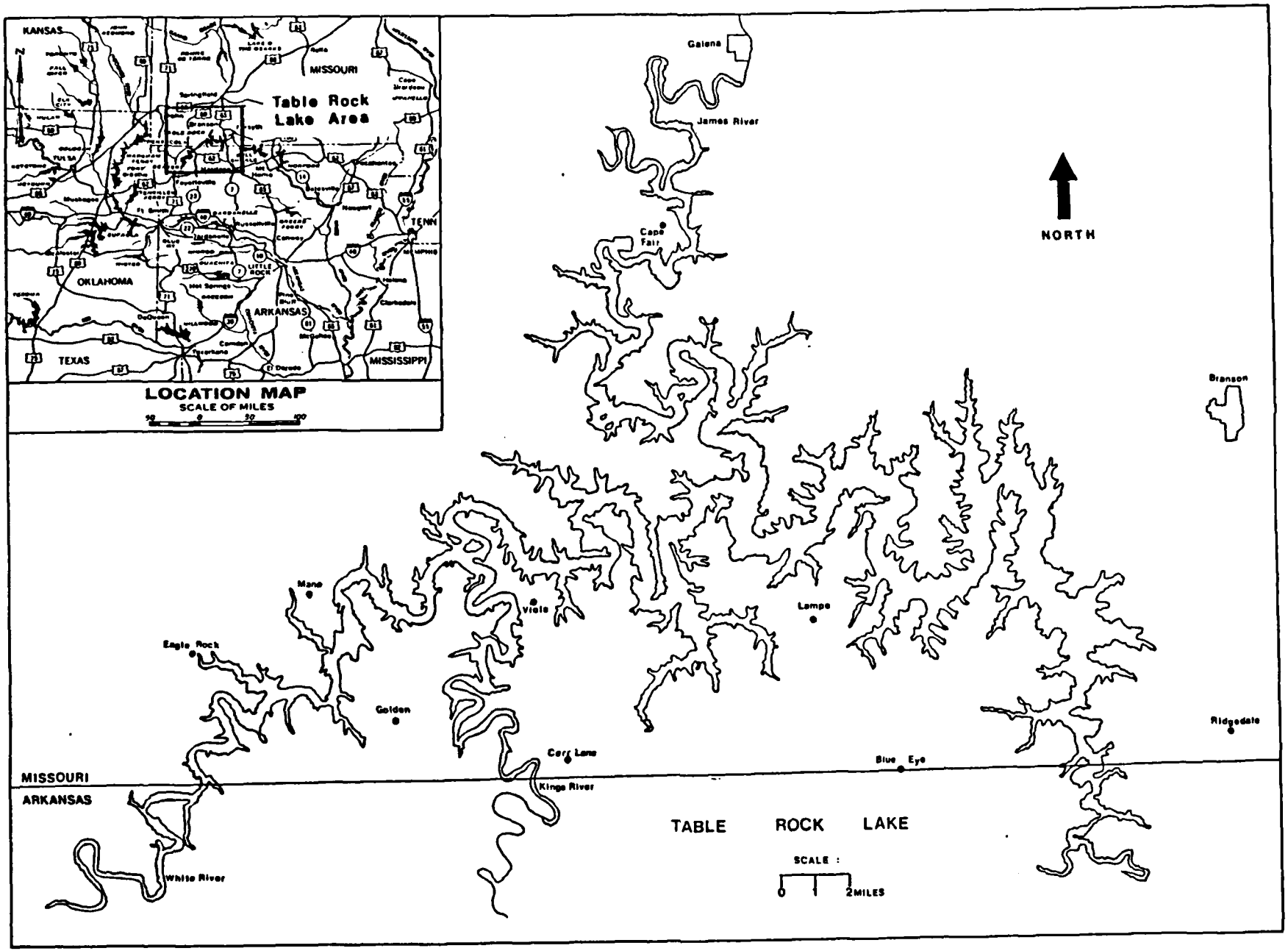


Figure 1-1. General Vicinity Map.

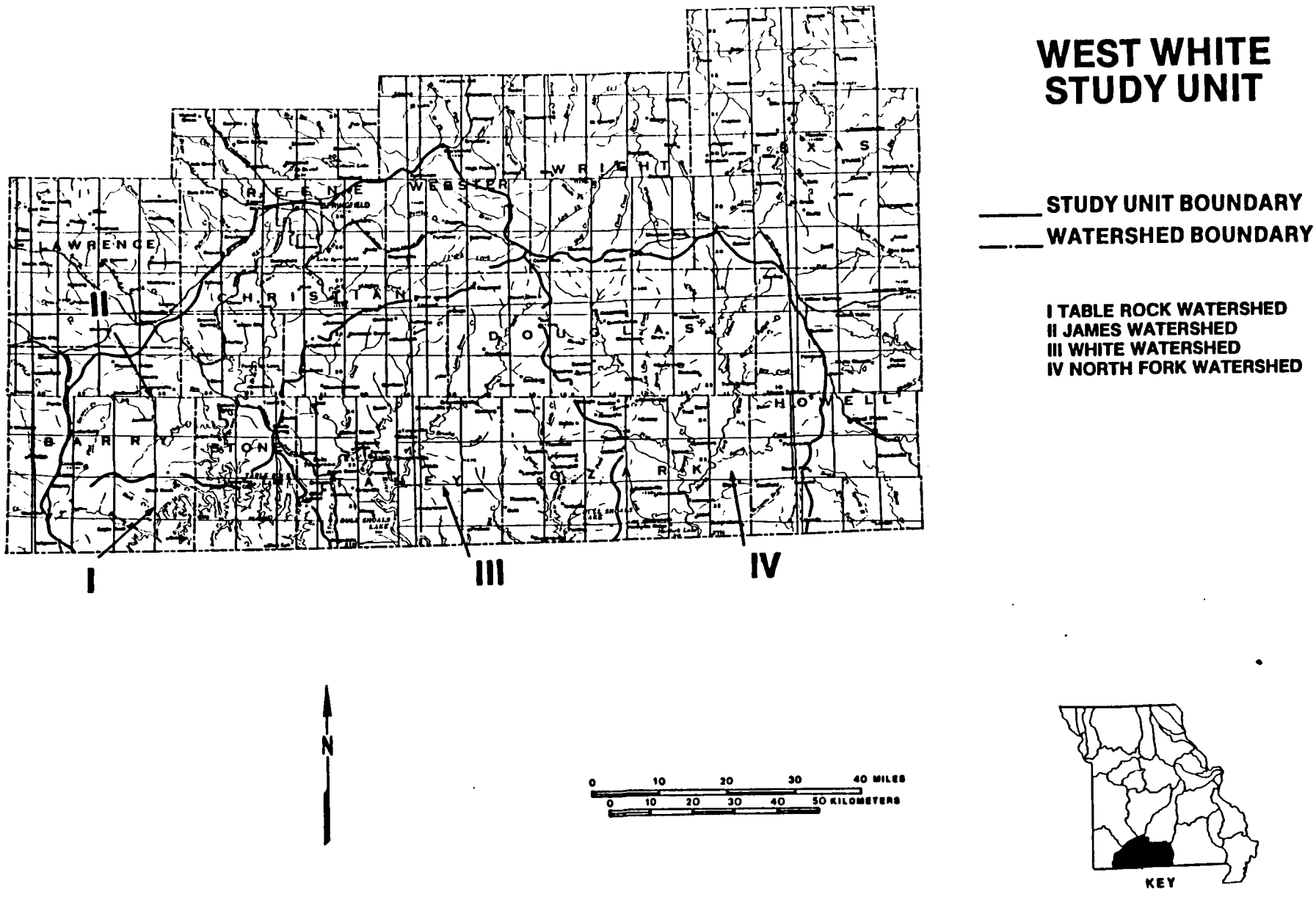


Figure 1-2. Location of the West White Study Unit.
Map Source: Weston and Weichman (1987:B-25-F1).

Goals and Orientation

This effort was an attempt to pursue several different avenues of investigation suggested by an analysis of the results of a reconnaissance level cultural resources survey undertaken during 1985 (Bennett and Ray 1986). Intensive testing was undertaken at 10 sites (3BO234, 3BO236, 3CR234, 3CR235, 3CR236, 23BY340, 23SN793, 23TA226, 23TA291, and 23TA309) to consider their eligibility for nomination to the National Register of Historic Places. These sites were recorded during an intensive survey of public use areas and selected areas with high site potential. Also part of the project was a detailed analysis of the collections of lithic debris from sites 23BY591, 23BY605, and 23SN441 to determine further characteristics of the lithic reduction and procurement systems in use in the Table Rock Lake area and to determine more precisely the activities performed at these sites. This information will be used to assess the significance of the numerous shallow lithic scatters at Table Rock Lake and to produce an archeological context for evaluating sites in the region. An intensive archeological survey was undertaken at selected terrace locations which have been identified as having a high site density. It is considered highly probable that several presently unrecorded sites exist within these alluvial structures which would be eligible for the National Register of Historic Places. It was anticipated that the results of this effort would assist in the establishment of an appropriate context for the evaluation of other sites. While this latter portion of the project is referred to as a "Terrace Survey," it is clear that not all the large alluvial landforms examined were, strictly speaking, terrace formations. The valleys include alluvial and colluvial fans, levee formations, and a variety of other features. However, until these can be subjected to a much more detailed geomorphological analysis, the exact nature of particular localities cannot be stated. Thus it is our belief that many of the features called terraces in this report may be judged to be other types of landforms at a later stage, but until such investigations are conducted, we will refer to these by the somewhat generic term terrace.

Summary of Investigations

There were 3 basic types of activities involved in this project: the evaluation for significance at several site locations, an analysis of collections made from sites recorded in 1985, and a survey of terrace areas.

Site Evaluation. In general, the techniques used in the site evaluation portion of this effort were designed to evaluate site significance in terms of criteria developed for the evaluation of sites for inclusion on the National Register of Historic Places as stated in 36CFR60.6, which states that

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, worksmanship, feeling, and association, and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may be likely to yield, information important in prehistory or history.

In terms of the sites to be investigated during this project, Criteria D is the one most often applied to archeological sites and, for such sites, the crucial consideration is whether or not the sites still contain intact deposits. Thus, our investigation techniques were designed to make a determination of whether there were intact deposits at the sites examined.

Sites examined included 3BO234, 3BO236, 3CR234, 3CR235, 3CR236, 23BY340, 23SN793, 23TA226, 23TA291, and 23TA309. Sites 3CR235, 23SN793, and 23TA309 had been judged possible prehistoric mound sites and were investigated for this reason. Of these, 3CR235 and 23SN793 contained only a single possible artificial mound, and investigations at those sites were not extensive. Sites 3CR236, 23TA226, and 23TA291 were sites with buried components and investigations were designed to determine the possible age of these buried deposits. However, because of the depth of the buried deposits, investigations were largely restricted to the investigation of bank-line or gully profiles. Sites 3BO234, 3BO236, 3CR234, and 23BY340 were thought to be multi-component prehistoric sites. 3BO236 also contained a historic period component.

Site examination activities took place from September 8 through October 17, 1986. The field team was directed by W. J. Bennett, Jr. with Jack H. Ray and John D. Northcutt serving as crew leaders. John Northrip, Robert Abbott, and Mary Bennett served as crew members. James Hoelscher was the project soils scientist.

A variety of excavation techniques were employed, including the careful examination of bank-line profiles, the excavation of test units, and controlled surface collections. All artifacts collected were processed under the supervision of Anne Frances Gettys and have been prepared for curation at the Center for Archaeological Research, Southwest Missouri State University.

Collections Analysis. The analysis of collections made in 1985 from sites

23SN441, 23BY591, and 23BY605 were done under the supervision of Anne Frances Gettys who was assisted by Janis Campbell. W. J. Bennett, Jr., assisted in the interpretation. The intent of this exercise was to determine if a sufficient amount of material had been collected from sites situated on deflated ridge situations or whether further data gathering activities should be conducted at those sites.

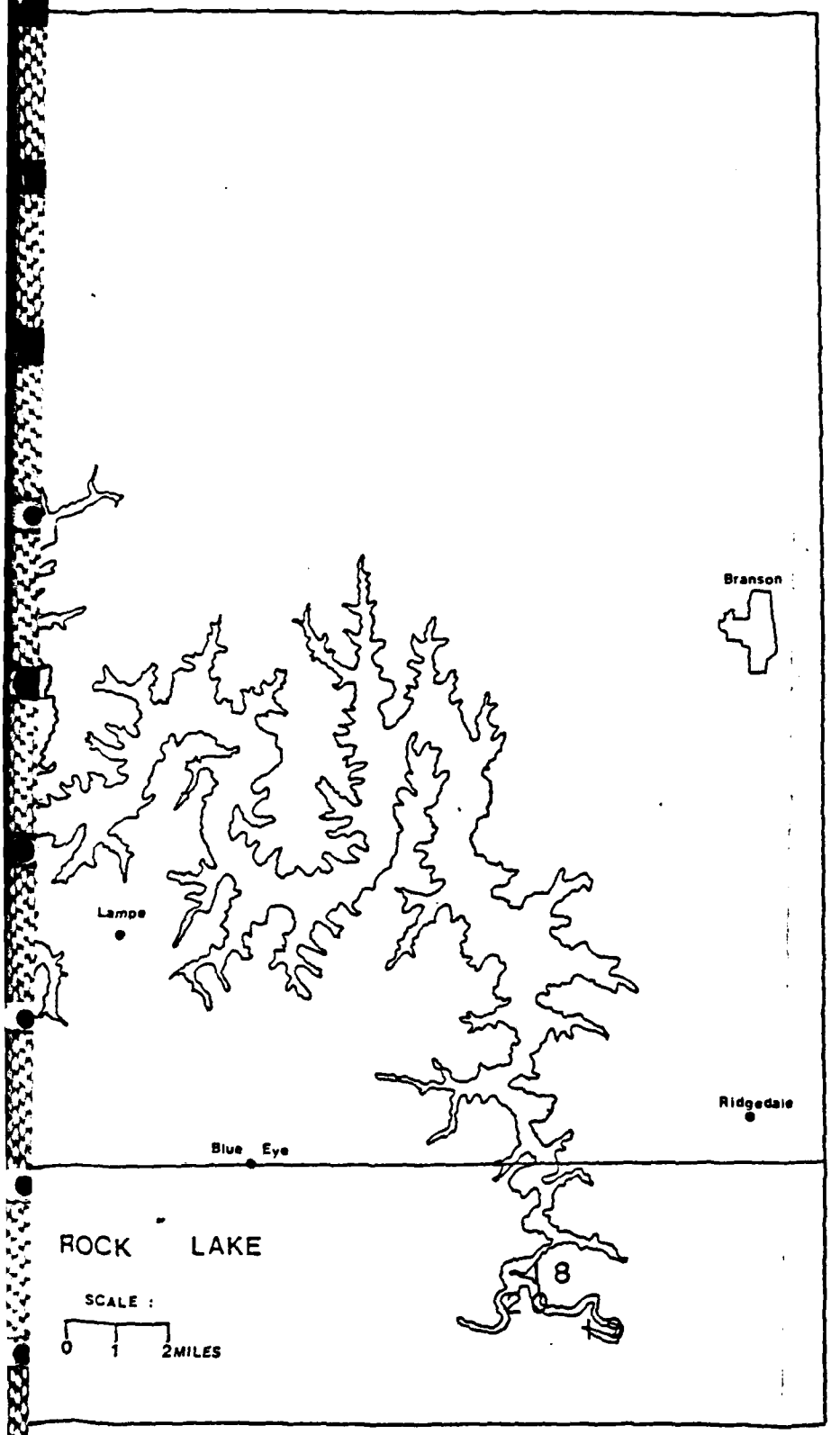
Terrace Survey. An intensive survey of terrace landforms was recommended for Table Rock Lake as a result of the findings of the 1985 shoreline survey (Bennett and Ray 1986: 73 - 83). During that effort a very high correlation between terrace structures and site presence was noted. Moreover, the presence of deeply buried cultural remains was also documented as was a number of adverse impacts, including unauthorized collection and shoreline erosion to these locations.

In order to investigate these locations more completely, it was decided to include a program of site location focusing on terrace structures during the 1986 investigations. In addition to the location of sites it was also our goal to locate sites which exhibited bank-line exposures or profiles for subsequent detailed soils and geomorphological analysis and interpretation.

An additional incentive for conducting the terrace survey at this time was to take advantage of the low water level of Table Rock Lake in the month of September which varied between 905 and 907 feet amsl (10 - 12 feet below normal pool level). The terrace survey was conducted between September 8 and September 19, 1986. The survey crew consisted of Jack H. Ray, field supervisor, and John D. Northrip, field technician.

The survey was structured according to the 7 major survey units defined during the 1985 Table Rock Project: Upper White River, Middle White River, Lower White River, James River, Kings River, Long Creek, and Side Valleys (Bennett and Ray 1986: 7). The Middle White River and Lower White River units, however, were omitted from consideration since all terraces in these two units are permanently inundated by lake waters. The upper reaches of each of the remaining units were patrolled by boat for terraces with wave-cut exposures. All terrace areas within each major survey unit actually surveyed were assigned a successive letter designation (e.g., James River - A, James River - B, Side Valleys: Roaring River - A, etc.). The locations of these terraces have been plotted on appropriate U.S.G.S. 7.5' quadrangle sheets on file with the USAED,LR. Such alluvial structures were present throughout this portion of the White River Valley but currently only in a few portions of the Upper White River and its tributaries are these above water. Therefore, the basis for the selection of these particular areas for investigation was opportunistic.

Twenty-one terrace areas were surveyed (Figure 1-3), including 9 in the Upper White River unit, 3 in the Kings River unit, 2 in the James River unit, 2 in the Long Creek unit, and 5 in the Side Valleys unit. The Side



1. Upper White River - A
2. Upper White River - B
3. Upper White River - C
4. Upper White River - D
5 Upper White River - E
6. Upper White River - F
7. Upper White River - G
8. Upper White River - H
9. Upper White River - I
10. Upper White River - J
11. Leather Wood Creek
12. Roaring River
13. Kings River - A
14. Kings River - B
15. Kings River - C
16. James River - A
17. James River - B
18. Long Creek - A
19. Long Creek - B
20. Yocum Creek

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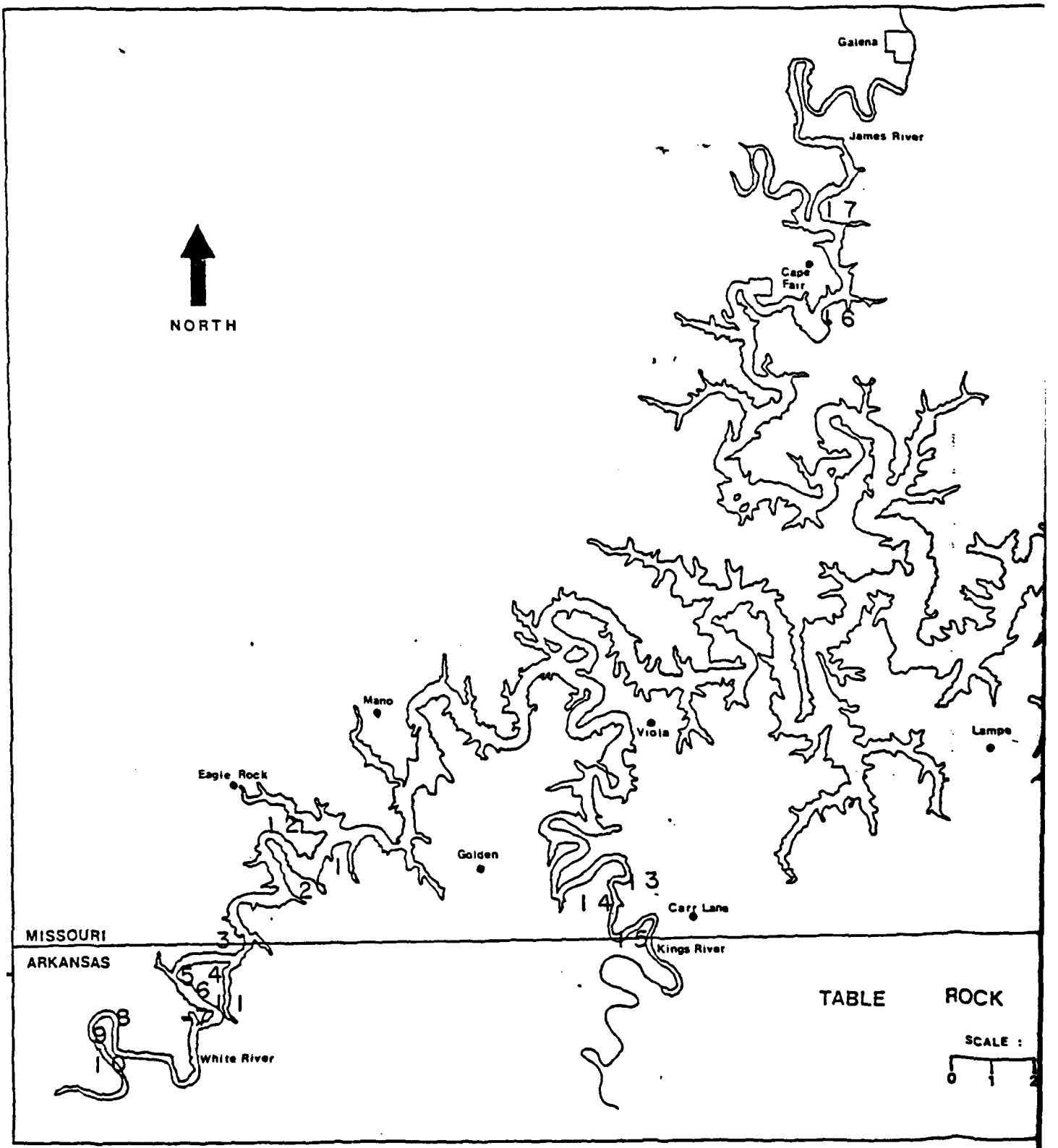


Figure 1-3. General Location of Areas Examined During Terrace Survey.

Valleys unit included Roaring River, Leatherwood Creek, Butler Creek, Flat Creek, and Yocum Creek. Of the 21 terrace areas surveyed, 16 contained sites.

While the fluctuating lake level made it impossible to compute accurately the number of miles of shoreline or acres covered in this effort, we estimate that a minimum of 9 and a maximum of 11 miles of shoreline and between 400 and 600 acres were examined. Lake level during this investigation was slightly above 905 feet amsl.

Survey techniques used at terrace sites included intensive surface survey and/or systematic shovel testing. Terrace surfaces exhibiting greater than 20% ground visibility such as eroded shoreline areas and wave-cut banks were visually inspected along transects spaced 5 - 40m apart. Areas with dense vegetative cover or less than 20% ground visibility were shovel tested at 25 - 50m intervals.

All sites discovered during the terrace survey were recorded on USGS 7.5' quadrangles. Site boundaries were generally delineated by distribution of surface finds and/or positive shovel tests. However, in some cases sites were bounded by modern factors such as lake waters at 905 - 907 feet and private land at 931 feet. Thus, estimates given for site extent are quite likely to be incomplete.

All diagnostic artifacts, bifaces, and other worked tools encountered during the survey were collected and placed in bags clearly labelled as to provenience. No systematic attempt was made to collect debitage such as waste flakes, core fragments, and shatter. Materials collected have been prepared for curation at the Center for Archaeological Research, Southwest Missouri State University in Springfield.

Report Organization. The report of these investigations has been organized as follows: Following a brief summary of the regional culture-historic context, we present a discussion of the sites which were formally evaluated for possible nomination to the National Register of Historic Places, a discussion of the collections made from sites in 1985, a description of the sites visited during the terrace survey, and finally a discussion of the terrace structures.

CHAPTER 2: REGIONAL CULTURE-HISTORICAL CONTEXT

The record of human occupation of this portion of the Missouri Ozarks extends back in time for at least 12,000 to 15,000 years. The following pages present a summarized account of the general contemporary understanding of the basic elements in this history of occupation. Table 2-1 illustrates the general chronological framework used in this study.

Table 2-1. Chronological Framework

A.D. 1700-present	Historic
A.D. 900-1700	Late Ceramic (Mississippi)
A.D. 1-900	Early Ceramic (Woodland)
3000 B.C.-1 B.C.	Late Archaic
5000 B.C.-3000 B.C.	Middle Archaic
7000 B.C.-5000 B.C.	Early Archaic
8000 B.C.-7000 B.C.	Dalton
12,000 B.C.-8000 B.C.	Paleo-Indian
+12,000 B.C.	Early Man

This presentation draws directly, in large measure verbatim, upon Bennett and Ray (1986) which in turn followed the sequence developed by Chapman (1975, 1980) for the prehistoric occupation of the area. There are a number of other regional summaries which can be recommended. These include Chapman et al. (1960), Spears, Myer, and Davis (1975), and Douthit et al. 1979. Marshall (1958), a study of projectile point variations through time, is still an important resource. Price's study of the Historic Period ceramics of the Ozark Border region to the east is also an important resource (Price 1979). Accounts of recent archeological work in the area can be found in Bennett and Ray (1986) for Table Rock Lake and Novick and Cantley (1979) for Bull Shoals Lake.

Pre-Euro-American occupation

Early Man. For most of its history of human occupation, the region was home to groups of Native Americans who for thousands of years practiced a generalized hunting and gathering economy. At present there is no direct evidence for occupation of the region prior to the Paleo-Indian Period. However, some evidence suggesting such occupation has been recovered from the Shriver site in northwestern Missouri, where a Paleo-Indian occupation surface was underlain with predominately unifacial tools suggesting an earlier, perhaps culturally distinct use of the site (Reagan et al. 1978).

Paleo-Indian (ca. 12,000-8,000 B.C.). Paleo-Indians were hunters and gatherers whose lifestyle was at least initially adapted to the late Pleistocene environment. During this period the spruce-dominated forest of the late glacial episode was changing to one dominated by deciduous trees and prairie. Pleistocene megafauna (e.g. elephant, sloth, camel, horse) had not yet become extinct. Small bands (i.e. small egalitarian groups with informal leadership) of hunters are thought to have exploited now extinct big game as well as modern smaller fauna. The relative scarcity of Paleo-Indian remains suggests that they had a small, dispersed population and were not sedentary. However, it is quite possible that much of the evidence relating to this period has been removed from the archeological record by erosion or masked by alluvium.

Diagnostic artifacts of this period include burins, gravers, specialized cutting and scraping tools, and fluted projectile points such as Clovis and Folsom (Chapman 1975: 60-69). At least 43 Paleo-Indian sites have been reported from the White River basin (Spears et al. 1975: 5).

Dalton (8000-7000 B.C.). This period has been considered both a transitional stage between the Paleo-Indian and Archaic periods (Chapman 1975: 29, 95) and part of the Early Archaic Period (Morse 1971; Price and Krakker 1975). The Dalton adaptation was to the warmer and drier post-Pleistocene environment and to the changing floral and faunal resources characteristic of the Holocene. Considerable modeling of the Dalton manifestation has been undertaken in northeastern Arkansas in the Mississippi Valley and adjacent Ozark Escarpment. Investigations of the intense Dalton occupation of this locality (Morse 1971, 1975a, 1975b; Goodyear 1975; Schiffer 1975a, 1975b) have resulted in a model of Dalton settlement patterns, consisting of a base camp and outlying resource procurement camps located within small territories. Morse also suggests that common Dalton lithic tools include the Dalton Lanceolate projectile point and its reworked variants, Dalton Serrated, as well as the snub-ended (end) scraper and burinated forms. In addition, the Dalton tool kit seems to have included a variety of woodworking tools such as adzes, spokeshaves, and steep-edged scrapers. The presence of diagnostic Dalton artifacts throughout the larger White River Valley suggests that many parts of the region were occupied during the Dalton Period (Chapman 1975: 98).

Early Archaic (7000-5000 B.C.). During this period, human occupants of southwestern Missouri continued to be hunters and gatherers organized into small bands (Chapman 1975: 49). In the White River drainage the Early Archaic artifact assemblage has been termed the Rice complex, named for the Rice shelter "type" site in Stone County (Bray 1956; Chapman 1975: 129). The Rice complex includes the following projectile point/knives: Dalton Serrated, Rice Lobed, Rice Contracting Stemmed, Rice Lanceolate, Agate Basin Lanceolate, and Graham Cave Notched. Other associated artifacts range from end, ovoid, and stemmed scrapers to choppers, adzes, and pitted anvil stones.

As noted above, Dalton and Early Archaic artifacts often occur together, perhaps indicating that types diagnostic of both periods were made at the same time. It has been suggested (Ahler 1971; Joyer and Roper n.d.) that lanceolate points represent different tool functions from notched points; thus, typological differences may be indicative of technical functions rather than cultural affiliations. The typological and cultural details of the Early Archaic Period remain to be elucidated, although sites of this period are fairly common. Early Archaic components are represented in rock shelter and open sites in Table Rock Reservoir (Chapman 1956, 1960).

Middle Archaic (5000-3000 B.C.). This cultural period coincides with the hypsithermal, a drier climatic period which caused an eastward shift of grasslands along the forest-prairie ecotone in Southwest Missouri (McMillan and Wood 1976: 240; King and Allen 1977). Human subsistence strategies during the Middle Archaic Period are interpreted as adaptations to the changing, less favorable (drier) environment (Chapman 1975: 158; McMillan and Wood 1976: 240; Joyer and Roper n.d.: 10-11). While continuing a hunting and gathering strategy, people of this period are conjectured to have exploited a wider range of resources that featured more prairie and edge species, such as small mammals and rabbits, and a mixed inventory of aquatics (McMillan 1976: 225; Purrington 1971: 9-15). The White River tool complex has been identified with the Middle Archaic Period in Table Rock Reservoir (Chapman 1960, 1975: 159-171). Diagnostic artifacts in this complex include Big Sandy Notched (or White River Archaic), Jakie Stemmed, Rice Lobed, and Stone Square Stemmed projectile points. The full-grooved axe and celt also came into use (Chapman 1975: 158), but other ground stone processing tools are not common (McMillan 1976: 225). Middle Archaic sites are found in many different riverine and upland contexts (Cooley and Fuller 1975: 6; Joyer and Roper n.d.; Scholtz 1968: 55), which is evidence that has been interpreted to mean that humans were seeking more varied resources. The notion that Middle Archaic sites may be more visible because of their depositional context (i.e. geomorphologically) has not yet been explored as an alternative to the aforementioned cultural explanation.

Late Archaic (3000-1000 B.C.). This period, spanning part of the late Hypsithermal (ca. 3000-2000 B.C.), was a time of climatic amelioration (i.e. wetter) relative to the drying maximum of about 4000 B.C. Some investigators (Chapman 1975: 185; Douthit 1981: 54) have suggested that there might have been a population migration into the Ozark Highlands away from Central Missouri and Northeast Oklahoma. Whether or not this occurred, there appears to have been an overall population increase during the Late Archaic, as evidenced by the larger numbers of sites and greater densities of materials (Chapman 1975; Joyer and Roper n.d.; Purrington 1971; Morse 1975b: 191). Hunting and gathering continued to be the dominant modes of production. Late Archaic sites present considerable diversity and density of materials, perhaps indicating differences in base camps versus collecting/hunting loci. Base camps are especially distinguished from sites of the previous culture periods by their increased

densities and diversity of materials (e.g. McMillan 1976: 226; Purrington 1971; Joyer and Roper n.d.; Roper 1978). Also characteristic of the Late Archaic is a return to intensive use of white-tailed deer (McMillan 1976: 226), aquatic resources (Klippel et al 1978), and an intensive exploitation of plants, especially nuts (e.g. McMillan 1976; Chomko 1978; King 1980). Cultigens (bottle gourd, Lagenaria siceraria; squash, Cucurbita pepo) make their appearance as well at Phillips Spring, about 100 miles north of Galena (Chomko 1978; King 1980). Elsewhere in the Ozarks (Fuller 1975: 15-45; Douthit 1981: 515) a dichotomous settlement pattern of large, permanent base camps on terraces and extractive loci in the uplands has been proposed for Late Archaic cultures. This model is based on the proposition that sites were situated where wild resources could be gathered, hunted, and fished from prescribed territories with the least effort--the "minimax" model (Price and Krakker 1975; Klinger 1978). This model ostensibly allows for population packing of hunters and gatherers. The tool assemblages usually associated with base camps are a diverse array, sometimes termed the "James River complex" (Chapman 1975: 186). Diagnostic projectile points in this complex include Stone Square Stemmed, Smith Basal Notched, Table Rock Stemmed, Afton Corner Notched, Langtry, and Gary. Other tools common to this assemblage are flake knives, scrapers of various forms, chert core hammerstones, manos, anvilstones, axes, trianguloid bifaces, and drills.

Woodland/Early Ceramic (1000 B.C.-A.D. 900). This time period is often divided into the Early Woodland, Middle Woodland, and part of the Late Woodland periods outside the Ozarks, but these distinctions have not found utility in the Ozark Highlands (Chapman 1960: 1160; Roper 1979). Current evidence indicates that Late Archaic tool technology and other traits continued to be used during the Early Ceramic Period. Typical Early Ceramic point types include Kings Corner Notched, Rice Side Notched, Table Rock Pointed Stemmed, Langtry, Gary, Snyder affines, and Steuben affines. Modifications typically associated with Woodland culture were gradually introduced beginning about A.D. 400. The most significant of these modifications was the introduction of the bow and arrow, as indicated by the presence of small notched points (e.g. Scallorn, Table Rock Corner Notched, Jakie Notched), ellipticals or leaf-shaped points (e.g. White River Elliptical), and notched and unnotched triangular points (e.g. Cahokia). The shifts in point sizes and styles probably reflect the transition from the use of darts to the bow and arrow. The bow and arrow is not necessarily a weapon of greater effectiveness or killing range (relative to a spear or dart), but it is a weapon that increases the efficiency of the lone hunter. Another technology which appears early in the Ozark Woodland sequence (but late, relative to other parts of the Midwest) is the ceramic vessel. Grit-tempered (and occasionally grog-tempered) conoidal pots with cord-roughened exterior surfaces probably were produced by A.D. 1. Often, early ceramics are decorated with various combinations of stamping, embossing, and punctating. A third artifact that is characteristic of the Early Ceramic Period is the burial mound or rock burial cairn (Wood 1967). Many investigators seem to agree (McMillan 1976;

Chapman 1975; Purrington 1971; Roper 1978; Douthit 1981) that the population increased during the Early Ceramic Period. Settlement patterns probably consisted of small hamlets as base camps (Pangborn, Trawick, and Wood 1971) and small hunting and resource extractive sites scattered throughout the floodplains, rock shelters, and uplands of the Ozarks. It is not incorrect to generalize that the basic Archaic productive pattern continued to be pursued during the Ceramic periods without significant increases in the utilization of Cultigens; however, more intensive social interaction made the Woodland mode of production different from that of Late Archaic. During the time when Kansas City Hopewell (Johnson 1979) and the Cooper phase (of Northeast Oklahoma; Purrington 1971) were in progress, Hopewell influence in the Ozark Highlands seems to have been sporadic. For instance, Hopewell materials in Southwest Missouri include occasional objects in Fristoe complex graves (Wood 1967), Cooper Zoned Stamped pottery and a reel-shaped gorget in Table Rock Reservoir (Chapman 1980: 25), and a clay platform pipe from Christian County (Cooley and Fuller 1975: 76). Some of these represent long-distance trade, but it is clear that all of the objects were deposited in "everyday" contexts and not in status graves. Exotic materials in the Ozark Highlands are indicative of social interaction at a regional level, but they are not necessarily indicative of the Hopewell cult.

Mississippian/Late Ceramic (A.D. 900-1700). Archeological evidence for this time period presents an interesting situation of culture contact between people we identify with Woodland traits, as outlined above, and village horticulturalists, i.e. the Mississippians. Outside the Ozarks of southwestern Missouri, the familiar Mississippian cultures were the Caddoans of the Oklahoma-Texas-Arkansas border vicinity (Wyckoff 1980) and the Steed-Kisker manifestations in the vicinity of Kansas City (Wedel 1943). The best-known Mississippian manifestation within the western Ozarks is the Loftin phase (Chapman 1980: 143, Wood 1983). This manifestation is named for the Loftin site located at the confluence of the James and White rivers. Loftin was a Mississippian ceremonial center possibly established by Caddoan colonists (Chapman 1960: 323; Wood and Marshall 1960: 326; Henning 1960: 366). How influential this Mississippian intrusion was is uncertain, owing to the paucity of archeological evidence. Investigations on the upper James River (Fuller 1975) have revealed sites dating A.D. 1200 (23GR303, 23WB60) and containing typical Woodland artifacts such as limestone-tempered pottery and notched and Elliptical projectile points. Other sites in that vicinity (23WB49, 23GR10a, 23GR303) have produced Cahokia Notched, Maud, and Reed (latter two are Caddoan) points (Fuller 1975; Fuller 1981). Excavations in an earthen mound at 23GR46 (Douthit 1981: 364) revealed fragments of a hooded-effigy water bottle, a typical shell-tempered, Mississippian ceramic type. Similar amalgamated or contemporaneous Woodland and Mississippian artifact forms have been recorded by Purrington (1971) for the Delaware B phase in Northeast Oklahoma and by several investigators (Chapman 1980: 150-151) for the Stockton, Fristoe, and Bolivia complexes in counties to the north and northeast of Table Rock Lake.

Limited evidence suggests that the Late Ceramic people of southwestern Missouri had a limited horticultural system and that their lifestyle was still that of the semi-sedentary hunter and gatherer. Bray (1963:73) suggested that "A farming economy with attendant surpluses seems to have been practically nonattainable under aboriginal conditions in the Table Rock Area." The alternative interpretation is that the late prehistoric occupations of bluff shelters and small upland sites in the West Central Ozarks represent limited activity sites of Caddoan and/or Mississippian peoples. Much additional work needs to be done to determine the identity of the occupants of the various site types in the region and the relationships between these sites.

Open Sites. In his study of prehistoric sites within the Beaver Reservoir area, James Scholtz divided the site inventory into two categories: shelters and open sites. His definition and description of the category open site is of interest to us in this study:

> The term "open site" as used throughout this paper refers to any location showing evidence of aboriginal habitation other than those in natural shelters provided by bedrock overhangs or caves. Open sites are those on the relatively exposed position of stream terraces, hillsides, and ridge tops. All of the open sites recorded during this study are regarded as temporary camping stations, as there was no indication that any of them were used for an extended period of time (with the possible exception of the Brady site [3WA22]), although some had large quantities of stone artifacts and stone-chipping debris and areally were quite extensive. Interpretive statements concerning the nature of the sites are made in the concluding sections of this paper. The great majority of the open sites occurred along the edges of the second terrace of the White River. Dissection by intermittent streams has cut the terraces into remnants paralleling the river or spurs whose length lies perpendicular to the river. Erosion has left many of them as gentle low ridges and it was along these terrace crests that the cultural material was concentrated, decreasing in quantity as one moved away from the highest portion of the site. In many cases it was difficult to determine where one site ended and another began. In areas where continuous stretches of the river terraces had been cultivated recently, long series of adjacent fields all showed evidence of Indian occupation. One received the impression that if all the river bottomlands had been freshly plowed, mile after mile of cultural material would have been exposed, divided only by gullies and streams. (Scholtz 1967:19, 20).

Despite this affirmation of the importance of such locations for the prehistoric populations of the region, very little has been done to

investigate such sites in this portion of the White River Valley. More extensive terrace investigations have been conducted in the Missouri portions of Table Rock Lake (Chapman et al. 1960). This work involved the use of a power-driven ditch digger which tested areas to a depth of about a meter. This effort resulted in work at a number of large sites along the White River terraces. Many more sites were scheduled for investigation but this was not possible because of the premature filling of Table Rock Reservoir.

Scholtz's survey was followed by a program of site testing conducted and reported by Bernard Golden (1962). In this work, 13 such sites were examined by the placement of 1x1m test units. At most of these sites the depth of the cultural deposit was judged to be less than 40cm. However, Golden's report gives no indication that any attempt was made during this study to investigate or to document the basic stratigraphy of these landforms. McGimsey's 3-page report of work at the Tisdale (3WA90) and North Clifty (3CR67) sites (McGimsey 1963) indicates materials at much greater depth and asserts that stratigraphy was observed at the Tisdale site. The results of this work, with the important addition of excavations in 1971 and 1976 at the Lake Sequoyah site (3WA107) reported in Stahle (1986), led to the judgment voiced in Raab et al. (1982: 6-7) that stream terrace sites are important locations for understanding the prehistoric lifeways of the Ozark region. Unfortunately this portion of the Arkansas State Plan took the results of the Beaver Reservoir investigations at face value and went on to assert that in addition to buried sites,

> it should be recognized that many "surface" sites are located on stream terraces. Test excavations within the Beaver Reservoir floodpool revealed that most open sites there contained no undisturbed buried deposits in spite of abundant remains of lithic tools and debitage on the surface. Only four of the 26 open sites tested by archeologists during work prior to construction of Beaver Lake contained artifacts below 50 centimeters, and most of the test squares encountered sterile soil immediately below the plowzone. Scholtz (1967: 15) attributed the shallowness of deposits to recent erosion. It is also possible that physiographic and biotic factors were not conducive to deposition even before the terraces were deforested and cultivated.

More recent work in the upper White River portions of Table Rock Lake (Bennett and Ray 1986) has indicated that, to the contrary, subsurface deposits are not generally absent in these alluvial landforms. Rather, they are buried at depths much greater than 50cm. It seems that the judgment regarding the lack of buried or stratified materials is based on an extremely naive conception of the nature of these landforms and the geomorphic processes which created and modified them. This judgment seems to rest upon the idea that all surfaces are of the same age and were equally available for use during the long history of human occupation of

the region. Nothing could be further from the actual situation in this highly dynamic riverine environment. Failure to recognize this important fact about the landscape led to the loss of great quantities of information about the human use of the area, since the valleys within which these landforms were set are now inundated and the sites are generally inaccessible for investigation. This situation means that such landforms that are still available for investigation take on an extra dimension of importance and extreme care must be taken to preserve these sites and to extract the greatest possible amount of information from them.

Historic Period Background

The following historical sketch of the White River Hills region of Southwest Missouri is adapted from Benn (1982: 26-29) and Harris and Reuter-Hart (1983: 35-39).

When European explorers and Euro-Americans arrived in Southwest Missouri, the Osage Indians were the indigenous residents. The Osage claimed all of the land west of the Mississippi River to the Rocky Mountains and south of the Missouri River to the Arkansas River (Mathews 1961: 88; Boyd 1975: 21). It is not known how long the Osage tribe had inhabited this territory. By 1800 the Osage in Missouri were in the southwest quadrant of the state (Meyer 1970: 20). Prior to the Louisiana Purchase in 1803, the Osage had difficulties protecting their region from other tribes, especially the Kickapoo, who had established small villages along the Osage River (Gibson 1963: 92). A treaty with the Osage in 1808 allowed the United States government to move displaced eastern tribes into Osage territory. Weslager described this situation:

> . . . the Osage continued to hunt on these lands and regarded with animosity any trespass of alien Indians on their hunting grounds. The Osage position was that they had sold their lands to the United States, but not the beaver, bear, deer, buffalo, and other animals living on the lands, because the animals were needed for their survival. To make matters worse, the government also moved the Shawnee, Piankashaw, Kickapoo, Arkansas, Cherokee, Creek, Peoria, Wea, and other tribes into this same territory. This was not done purposely to antagonize the Osage, but it made a confrontation inevitable between them and the newcomers (Weslager 1972: 364-365).

Archeological evidence of Osage Indian presence in Southwest Missouri has proved to be illusive. Chapman (1960: 1169-70) reports that it was not possible in most instances to separate late Mississippi, protohistoric, and

historic components in the Table Rock Reservoir. He does suggest that distinctive artifacts from the Protohistoric Period (A.D. 1400-1700) include Jakie Notched, Table Rock Corner Notched, Elliptical and triangular projectile points in addition to Neosho Punctate and Woodward Plain (shell-tempered) pottery. In Barry County the site in McDowell Cave (Adams 1958: 194-5) yielded Mississippian artifacts mixed with historic trade goods which Adams interpreted as an Osage occupation.

The Osage were forcibly removed from Southwest Missouri during the winter of 1836-37 (Holcombe 1883: 179-82). This episode is loosely termed the "Osage War."

Small bands of Delaware and Kickapoo Indians moved into Missouri soon after the Spanish obtained the land from the French in 1762. The Spanish had invited the eastern tribes to locate on the west bank of the Mississippi River to act as a buffer against western expansion of the American frontier and to help contain the Osage to the west (Ingenthron 1970:111). Regarding the resettlement of the Kickapoos, Gibson (1963: 91) states: "The government's removal of the Kickapoos to the Osage River country, under the auspices of the treaties of Edwardsville and Fort Harrison (1819), simply made official a movement which had been under way for nearly a century." A Kickapoo village of 100 "wigwams" is recorded in the vicinity of Springfield in 1824 (Escott 1878: 25; Holcombe 1883: 126). In 1818 the Treaty of St. Mary's assigned the portion of Southwest Missouri around Stone County to the Delaware Indians, and in 1821-22 as many as 2,100 Delaware arrived on the banks of the James River north of Stone County (Ingenthron 1970: 114). Escott (1878: 15-19) indicates that the principal Delaware town was on the right (west) bank of the James River in northwest Christian County. The Delaware tribe moved to land near Kansas City in 1830. Mr. Jack Howard recalled his grandfather's descriptions of the Delaware and their village:

> . . . the Delawares in their camp near Springfield lived for the most part in log cabins constructed similar to the ones occupied by white men. Most of the cabins had puncheon floors and fireplaces, but few were built directly on the ground with dirt floors and a hole in the center of the roof to allow smoke to escape from fire burning in the center of the floor. Still others. . . preferred a small rounded hut manufactured from tree limbs, brush, cedar boughs and covered with grass and hides from animals. . . The Delawares decorated their clothing with bead work, small metal balls, bits of glass, and other trinkets obtained from white traders. Some of the Lenapes. . . had strings of beads which appeared to be bone or shell, but the majority of the men and women wore colorful glass beads. The Delawares in their village on James River used metal tools, such as hoes, axes, guns and cast iron kettles, in which they cooked their corn, beans and meat into a type of thick stew (Melton 1977: 9-8).

One of the earliest written descriptions of Southwest Missouri was that by Henry Rowe Schoolcraft (Park 1955) who explored the region in the winter of 1818-19. Schoolcraft encountered several trappers and hunters, one of them being James Yochem. Yochem arrived as early as 1790 (Campbell 1874: 609) and settled at the mouth of the James River in Stone County (Goodspeed 1894: 383). Joseph Philabert, an early trader, was in and out of Stone County and eventually established a trading post at the confluence of the James and White rivers where there was a Delaware village (Stone County Newspaper Centennial Edition 1951). Philabert's home and second trading post were investigated by Marshall during the Table Rock archeological investigations (Marshall 1960: 987). The first major influx of Euro-American settlers occurred between 1820 and 1860, but the rate of settlement was slow at first due to the Indian presence (Collins 1971: 50-51; Ingenthron 1970: 121).

One of the best documented migrations into the White River country is that of the Pettijohn family. Escott (1878: 12-15) describes the difficult voyage, via waterways, of the Pettijohns and other families in 1818 from Ohio to the middle reaches of the James River near Springfield, Missouri. As this small group of early settlers moved up the White River, they saw settlements at the mouth of the North Fork in Arkansas. These families settled on the White River farther upstream, and made frequent excursions up the tributaries and back into the hills during 1820 and 1821.

The White River was a travel route for the earliest traders and settlers who used flatboats, canoes and keelboats. Supplies were unloaded at river towns for distribution into the Ozarks and north to Springfield. The upper White River seemed to resist steamboat travel above the Arkansas border because there were fluctuations in the flow and shallow shoals. The river became navigable after the dredging of Elbow Shoal, and in 1858 steamboats plied upstream as far as the mouth of the James River. Steamboat travel and commerce were an important part of the economy until the onset of the Civil War, at which time activity above the Arkansas border was limited to transporting reinforcements for Confederate forces.

At the onset of the Civil War, the inhabitants of the White River Valley were torn between their ties of origin, family, and friendship with the South and their loyalty to the Union. Slavery was not an issue with area residents since few families in the rugged White River Hills owned slaves. However, sympathies appeared to lean toward the Confederate cause.

Most of the populace left the White River Valley during the last two years of the war. Lawlessness reigned in the region for over two decades, but despite the turmoil some exiles returned and rebuilt homes and farmsteads. A vigilante organization, the Bald Knobbers, was formed in an attempt to return law and order to the region. The public supported this attempt by electing some Bald Knobbers to public office in 1884.

When Missouri became a state in 1821, the study area was a part of Wayne

County. In 1831, Wayne County was fragmented to form several new counties, with some areas left in an unorganized territory that was placed under the jurisdiction of Crawford County. Greene County came into existence in 1833 and took over the jurisdiction of the unorganized territory until 1837, when the territory became Taney County. In 1851, the present Stone County was created out of the western portion of Taney County and a part of eastern Barry County. When Barry County was formed in 1835, it was comprised of all the territory known now as Newton, Lawrence, Jasper, Barry, McDonald, Barton, and Dade counties and part of Cedar County.

With the construction of Lake Taneycomo, then Norfork Lake, and more recently the development of Bull Shoals, Table Rock and Beaver lakes on the White River, a new dimension was added to the basically rural economy of the area. The Powersite Dam was completed in 1912, thus creating Lake Taneycomo (Rafferty 1980: 206). The recreational potential of the lake was evident. Branson, lying within a bend of Lake Taneycomo, grew rapidly as a resort town (Edom and Edom 1983: 152). Development of the Shepherd of the Hills Farm may have begun as early as 1910 (Rafferty 1980: 215) whereas the commercialization of Marvel Cave, which lies below Silver Dollar City, had begun in 1894 (Rafferty 1980: 216). The theme park Silver Dollar City opened in 1960 (Rafferty 1980: 216). Recreation and tourism continue to be crucial to the area's economy.

Research Questions

In the portion of A State Plan for the Conservation of Archeological Resources in Arkansas dealing with the Arkansas Ozarks (Raab et al. 1982), there are listed 7 research questions which have been proposed to assist in the assessment of site significance. These are:

(1) Is the Paleo-Indian stage in the Ozarks coincidental with Pleistocene climates?

(2) Were the western Ozarks depopulated or did human populations in the western Ozarks undergo a shift in subsistence and technology between 6,300 and 3,000 years B.P. from a large mammal hunting pattern to greater small game and plant resource exploitation and then back to a large mammal hunting pattern as a result of a climatic altithermal period?

(3) Is there evidence of an "Eastern Complex" of Cultigens (native plants such as Helianthus, Iva, and Amaranthus) that predates a "Tropical Complex" (corn, beans, and squash -- Zea, Phaseolus, and Cucurbita)?

(4) Did the use of Cultigens, indigenous or "exotic," have an immediate or gradual effect on the prehistoric human populations of the Ozarks?

(5) Do mounds located in the Ozarks and their associated artifact, mortuary, and settlement complexes stylistically resemble the Arkansas

River Valley Caddoan to the west and southwest or the Mississippi River Valley Mississippian to the east?

(6) Do the mound sites in the Ozarks represent an intrusion of cultural traits (stimulus diffusion) onto an existing sedentary, horticultural base or the (site-unit) migration of peoples into the region?

(7) During the late Mississippian stage, was Mississippian culture on the decline in the Ozarks with the region being used by transient groups such as the Osage for hunting?

To date, no similar set of research issues has been proposed for Missouri (Weston and Weichman 1987: B-25-3a).

CHAPTER 3: SITE EVALUATION

3BO234

Discussion and Description (Figure 3-1)

This site, situated within Cricket Creek Public Use Area, was severely impacted by the construction of the park. When originally recorded, numerous artifacts were observed along the eroded shoreline with some concentrations of material noted in the wooded area east of the developed area. Remnants of what was thought to be an intact midden were also recorded for that area.

Site testing was undertaken on October 3, 6, and 7, 1986, by a team consisting of W. J. Bennett, Jr., Jack H. Ray, John Northcutt, Mary Bennett, Robert Abbott, and John Northrip. Additional soil profile descriptions were recorded later during a visit on October 14 by Jack H. Ray and James Hoelscher.

Investigations began with the excavation of a soil profile (Profile 1) along a gully bank (Figures 3-2 and 3-3). This profile was composed of the following elements: a thick midden-like A horizon overlying a silt loam B horizon which rested on a clay loam deposit containing numerous subangular chert chunks. This profile was interpreted as containing 3 discrete units. The upper organically rich layer was not a natural soil development but a culturally produced deposit. The lower unit had formed in colluvium. The middle layer was thought to be an alluvial deposit of sufficient age for the development of an argillic horizon. Cultural materials, primarily flakes and lithic debris, were present in the upper 2 units.

With this information we excavated 8 small (50 x 50cm) units within the developed portion of the park and a larger (1 x 1m) unit in the wooded area near Profile 1 (Figure 3-1). Excavation in the developed area revealed the almost total absence of the midden and alluvial deposits seen in Profile 1. Uniformly the upper 10-20cms of these units were disturbed. None of the midden observed in Profile 1 was encountered, and only in Unit 6 did we encounter a deposit similar to the alluvial layer seen in Profile 1. This layer in Unit 6 contained a high concentration of flakes (n=26; 28.6% of the total number of flakes recovered from these 8 units) in the upper 10cm of the layer. Otherwise the sparse cultural materials recovered from these units (91 total flakes and 7 tools) were confined to the upper disturbed layers.

Unit 9 was placed near Profile 1 to investigate what we originally thought were relatively undisturbed cultural deposits. During the excavation of Unit 9 a large, shallow pit was discovered (Figures 3-4 through 3-7), causing us to expand the excavated area by adding Units 10, 11, and 12, making this a 2 x 2m unit. Profiles of this 2 x 2m unit (Figure 3-8)

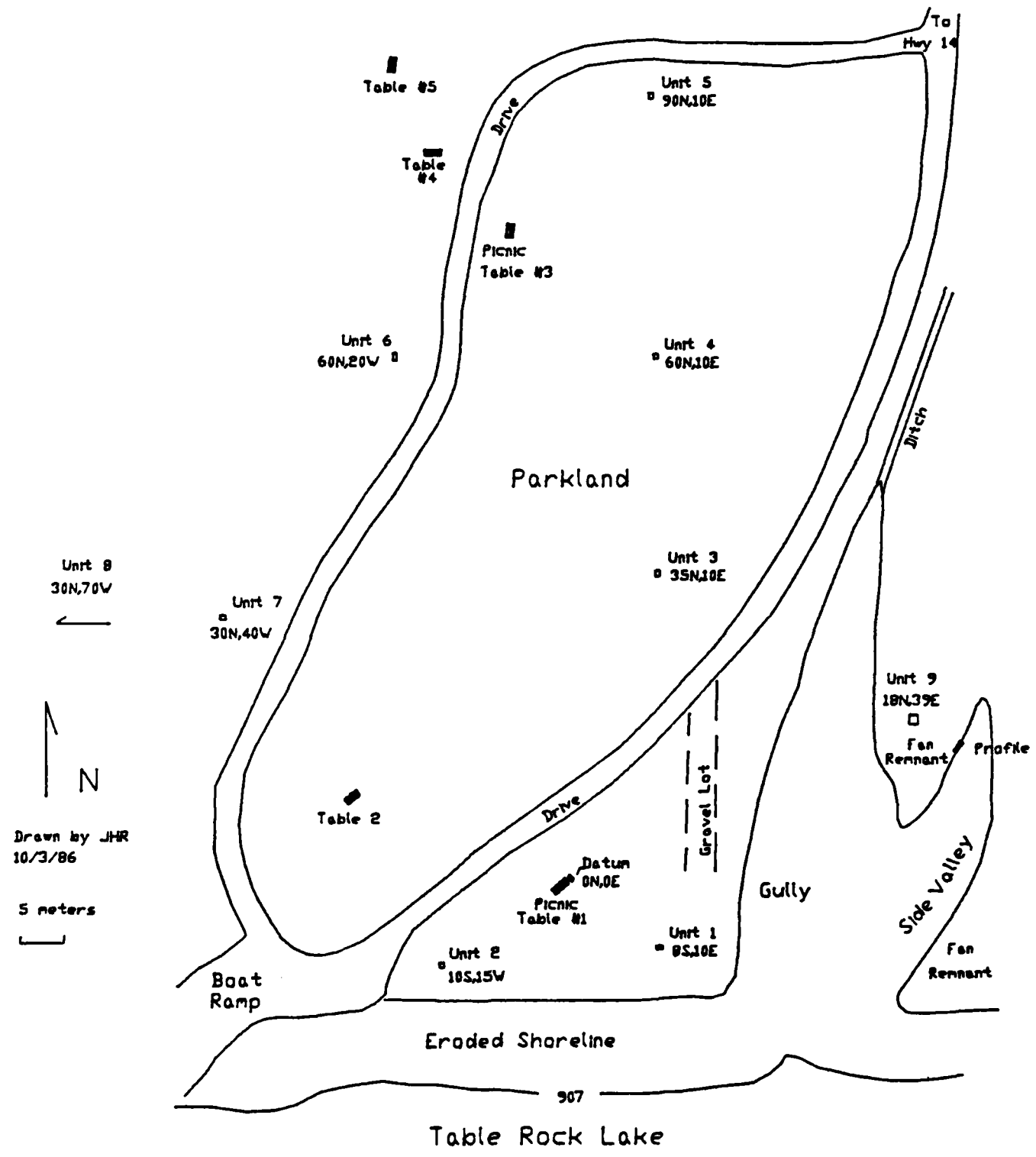
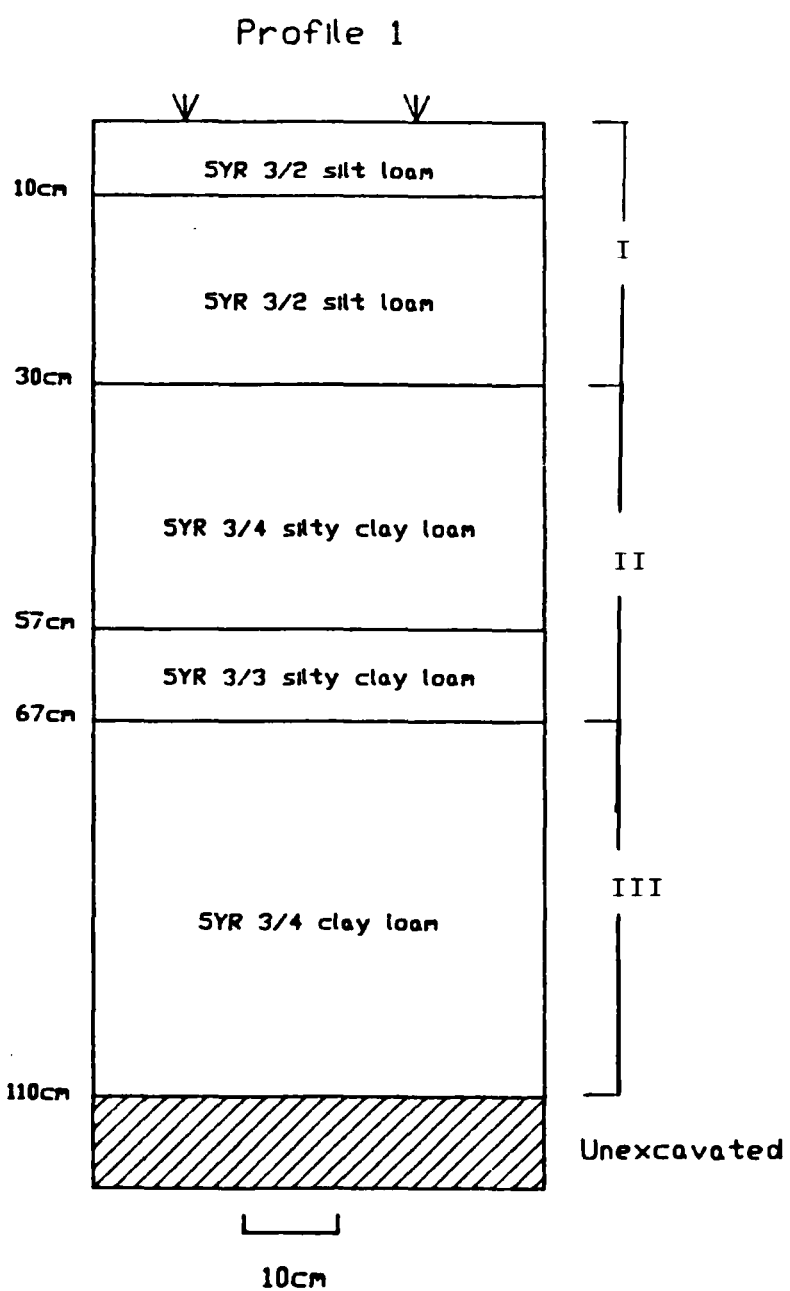


Figure 3-1. Sketch Map for Site 3BO234.

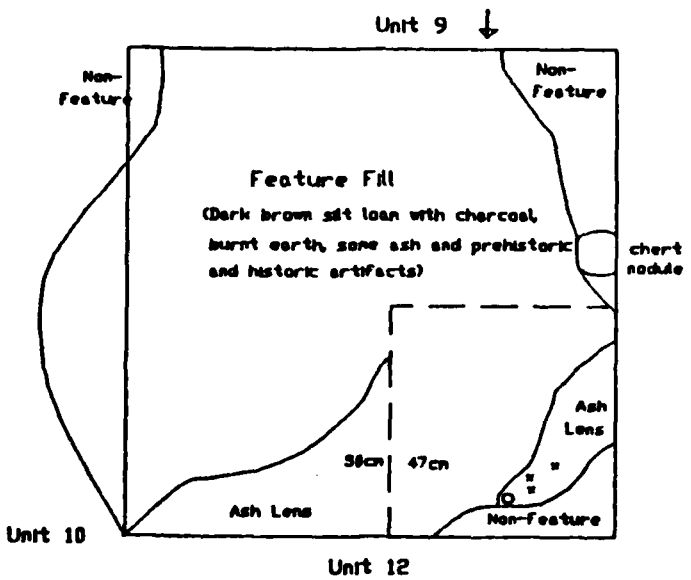


3BO234 Soil Profile 1 Description

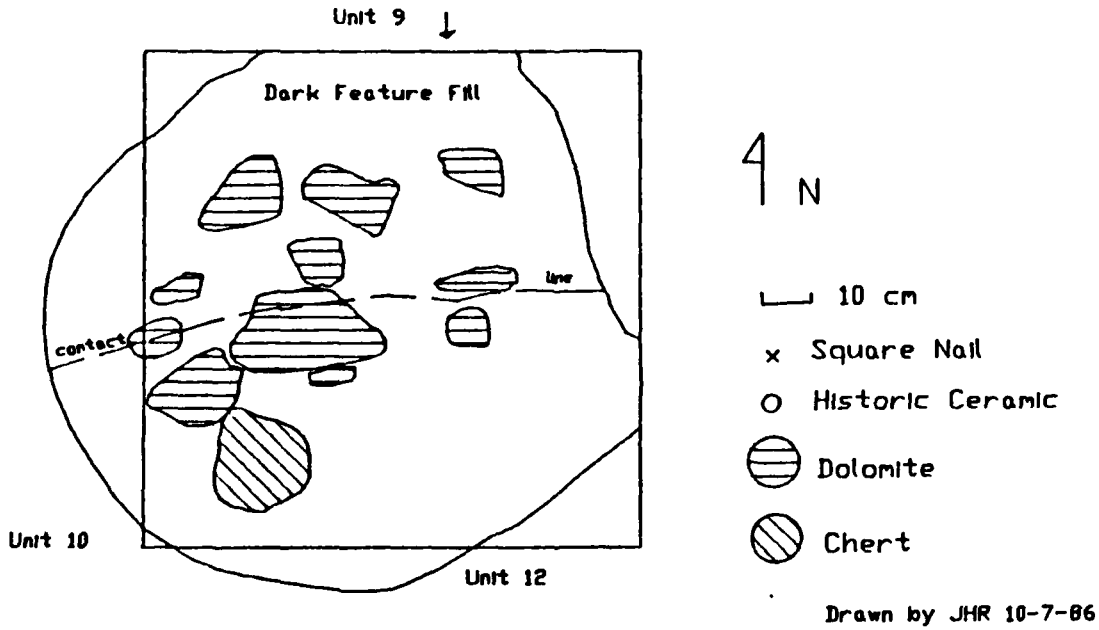
Ap	0-10cm. Dark reddish brown (5YR3/2) silt loam; moderate granular structure; friable; many fine and medium roots; 10%+ by volume flint chips; smooth clear boundary.
A12	10-30cm. Dark reddish brown (5YR3/2) silt loam; moderate granular structure; friable; many fine and medium roots; 10%+ by volume flint chips; smooth abrupt boundary.
B21t	30-57cm. Dark reddish brown (5YR3/4) silty clay loam; weak moderate subangular blocky structure; friable; patchy faint films on peds(?); common fine and medium roots; smooth clear boundary.
B22t	57-67cm. Dark reddish brown (5YR3/3) silty clay loam; common medium distinct reddish brown (5YR4/4) mottles; moderate subangular blocky structure; patchy faint films on peds(?); common fine and medium roots; smooth abrupt boundary.
II	67-110cm+. Dark reddish brown (5YR3/4) clay loam; common medium distinct yellowish red (5YR4/6) mottles; moderate subangular blocky structure; friable; patchy distinct films on peds; few fine and medium roots; 40% by volume subangular chert chunks.

Figure 3-2. Profile 1 for Site 3BO234.

Figure 3-3. 3BO234: Profile 1 (Photograph). View to the North.



Unit 9 (18N, 39E), Feature 1 Planview
47 - 50 cm below surface



Unit 9 Contact between 2 Feature
Deposits, 65 - 85 cm below surface

Figure 3-4. Site 3BO234 Planviews of Unit 9, Feature 1.

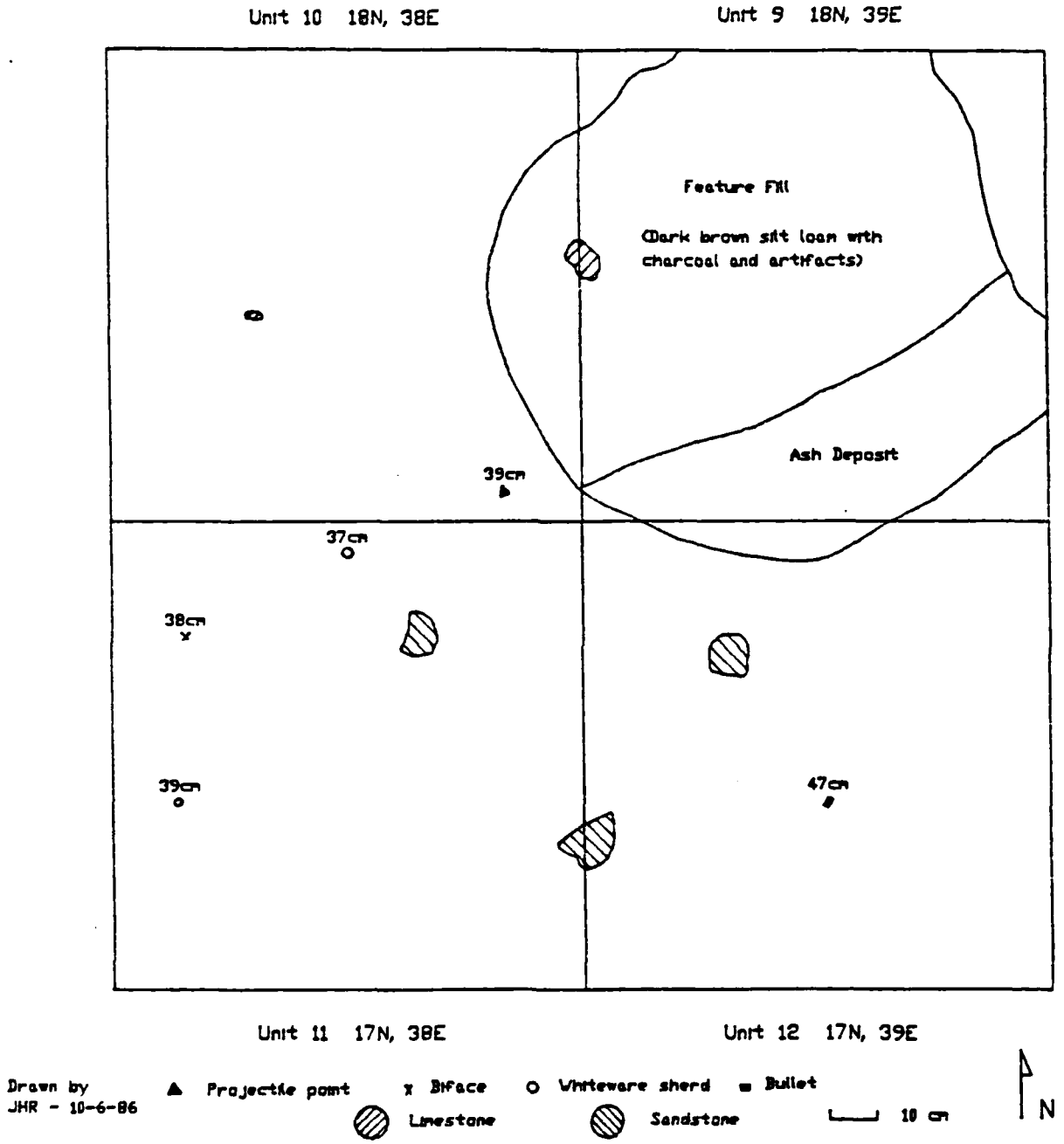


Figure 3-5. Site 3BO234 Units 9 - 12 Planview at 50cm Below Surface.

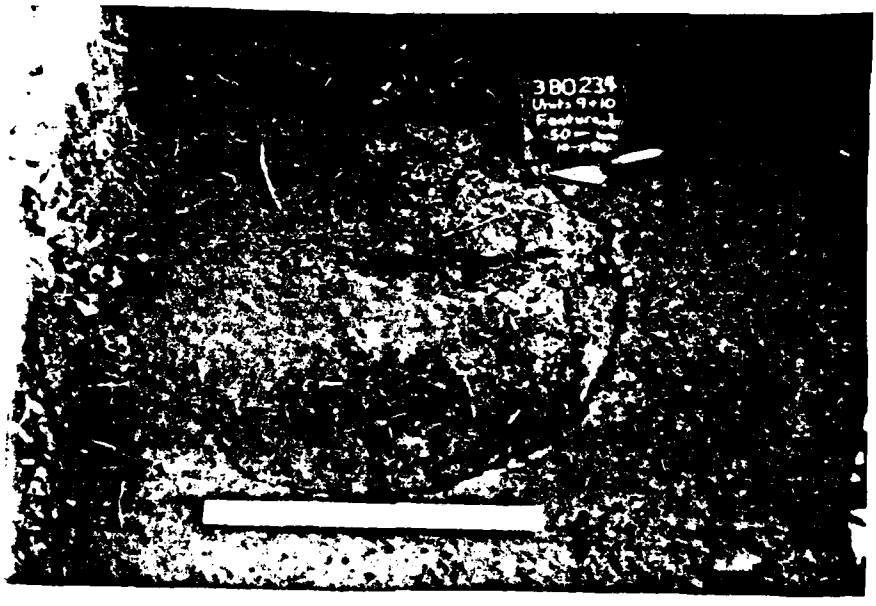


Figure 3-6. 3BO234: Feature 1 Prior to Excavation.

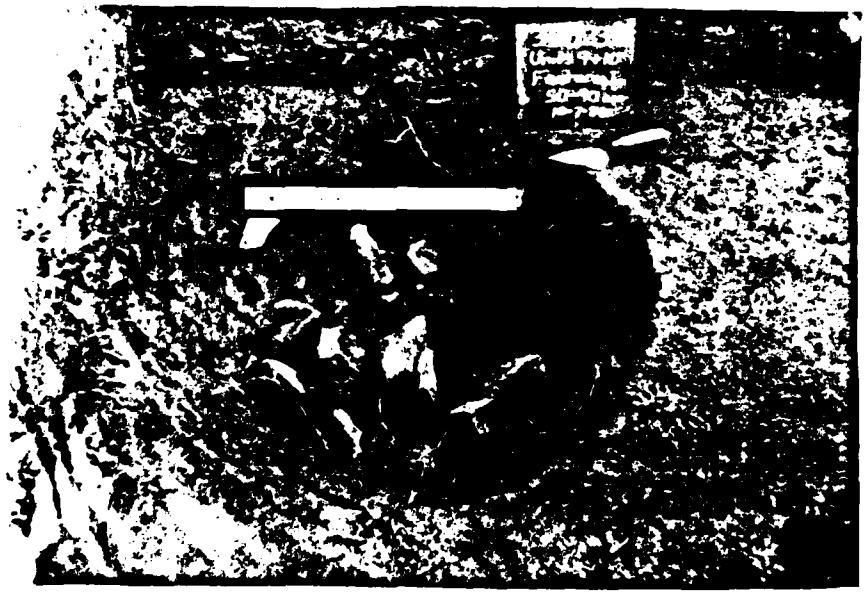


Figure 3-7. 3BO234: Feature 1 After Excavation.

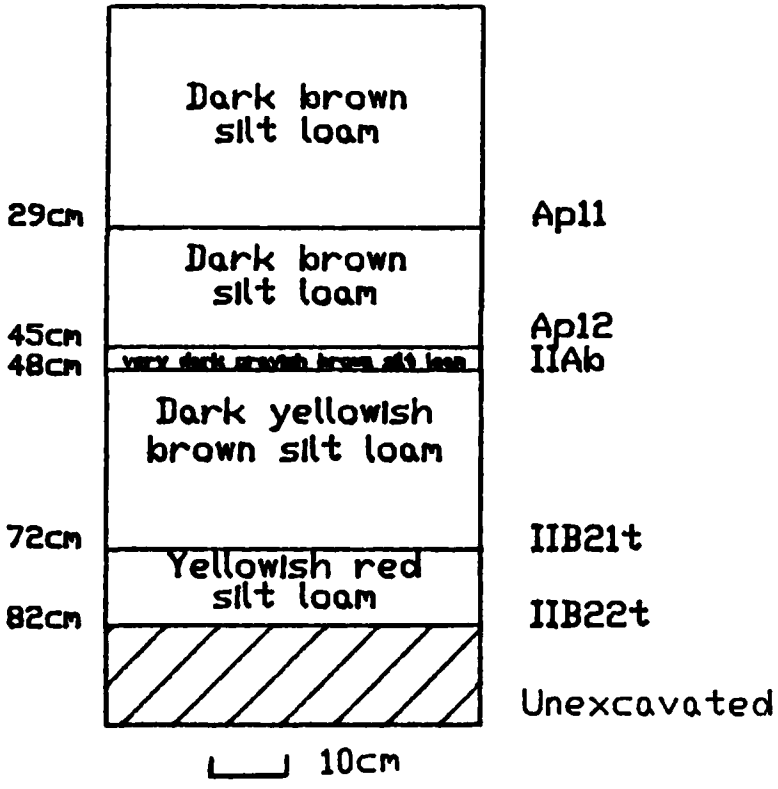


Figure 3-8. 3BO234 East Wall Profile for Units 9 and 12.

3BO234 (Units 9 and 12)
East Wall Profile Description

Ap11	0-29cm. Dark brown (10YR3/3) silt loam; strong moderate structure; friable; common fine and medium roots; common fine and medium pores; less than 1% coarse fragments, artificial profile; slightly acid (pH 6.5); clear smooth boundary.
Ap12	29-45cm. Dark brown (10YR4/3) silt loam; strong moderate structure; friable; common fine and medium roots; common fine and medium pores; less than 1% coarse fragments, artificial profile; strongly acid (pH 5.5); clear smooth boundary.
IIAb	45-48cm. Very dark grayish brown (10YR3/2) silt loam; strong moderate structure; friable; common fine and medium roots; common fine and medium pores; less than 1% coarse fragments, natural profile; strongly acid (pH 5.5); abrupt boundary.
IIB21t	48-72cm. Dark yellowish brown (10YR4/4) silt loam; medium moderate subangular blocky structure; friable; few patchy faint films on peds; common fine and medium roots; common fine and medium pores; 1% fine angular chert fragments + charcoal, contains Feature 1 - natural profile; strongly acid (pH 5.5); abrupt smooth boundary.
IIB22t	72-82cm. Yellowish red (5YR5/6) silt loam; medium moderate subangular blocky structure; friable; few patchy faint films on peds; common fine and medium roots; common fine and medium pores; 1% fine angular chert fragments + charcoal, contains Feature 1 - natural profile; strongly acid (pH 5.5).

indicated the presence of a 45cm-deep layer artificially covering the silt loam alluvial unit as well as Feature 1. Remnants of a buried A horizon associated with the silt loam alluvial unit were also detected. Feature 1 had been excavated into the alluvial layer to depth of 93cm. Artifacts (flakes) were recovered from only the upper portions of the lower alluvial unit as shown in Table 3-1.

Table 3-1. Distribution of Flakes in Units 9, 10, 11, and 12

	Unit 9	Unit 10	Unit 11	Unit 12	Feature 1
0-10cm	7	3	2	2	
10-20cm	9	8	3	5	
20-30cm	14	6	7	11	
30-40cm	35	55	22	48	
40-50cm	31	34	39	40	
50-60cm	0	2	0	0	
50-93cm					42
Totals	96	108	73	106	42

Recovered Materials

Both historic and prehistoric materials were recovered from this site. The Historic Period materials were composed primarily of ceramic, glass, and metal trash recovered from Feature 1. Some organic materials were also present in that pit. Ceramics and nails from Feature 1 are judged to have been made in the late 19th and early 20th centuries.

Since no other evidence of Euro-American use of the site was discovered, a search of the documentary record for possible ownership and association with the materials in the pit was not conducted. The date range for materials was determined by the presence of both square and wire nails, presumably parts of the boards burned in the pit. No speculation regarding the use of the pit other than as a refuse pit is offered.

Prehistoric materials were largely restricted to waste from the manufacture and use of bifacial tools. Culturally diagnostic artifacts included Jakie Stemmed, Kings Corner Notched, and a possible Table Rock Stemmed dart point. Later prehistoric use of the site is indicated by the recovery of an arrow point midsection and a single, possible sand-tempered sherd which may, in fact, be a piece of fired or burned earth.

PREHISTORIC CERAMICS

Temper	Description	Figure Reference
sand	plain body sherd, eroded and leached	3-9f

TOOLS

Material	Description	Figure Reference
Osagean	chunk with steep unifacial edge modification	
	Jakie Stemmed point	3-9a
	biface tip, broken in use, then HF	
	biface edge fragment, broken in use?	
	arrow point midsection, serrated	3-9g
Pierson	large biface fragment with blunt tip	3-9e
	biface edge fragment, broken in manufacture	
	fragment of steep unifacial tool edge	
Reeds Spring	thin biface corner fragment	
	biface end fragment?, production failure	
	tabular fragment with flake scar	
	biface edge fragment	
Reeds Spring?	Kings Corner Notched point	3-9b
Jefferson City chert	Table Rock Stemmed point?	3-9d
	fragment with bifacial edge modification	
	large chunk with edge modification	
	chunk with bifacial edge modification	
	chunk with bifacial edge modification	
	chunk with steep unifacial edge modification	
	chunk with flake scars, bipolar?	

TOOLS
(continued)

Material	Description	Figure Reference
Jefferson City chert (cont'd)	biface edge fragment, use damage	3-9c
	chunk with edge modification, possibly incidental	
	biface edge fragment, broken in manufacture	
	biface edge fragment	
	biface edge fragment	
Jefferson City quartzite	possibly ground quartzite	
sandstone	mano/hammer? on small pebble	

HISTORIC ARTIFACTS

Provenience	Level(cm)	Cat. No.	Description
3BO234: CERAMICS			
Unit 1	00-10	3-24	plain whiteware (earthenware) rim sherd
		3-25	plain whiteware plate or saucer base fragment (earthenware)
Unit 2	00-10	4-08-09	plain whiteware (earthenware)
Unit 9	40-50	25-01	plain whiteware saucer base fragment (earthenware)-burned
Unit 10	40-50	31-43	plain whiteware (earthenware)
Unit 11	30-40	37-43	plain, burned whiteware (earthenware)
Unit 11	40-50	40-06	plain whiteware (earthenware)
Unit 12	40-50	45-08	plain whiteware rim fragment (earthenware)
		45-09	blue, sponge-decorated whiteware (earthenware) rim sherd
Units 9/10	50-93	47-01	plain whiteware (earthenware)
Unit 11	36	38-01	plain whiteware plate or bowl fragment
		38-2-3-4	plain whiteware fragments

HISTORIC ARTIFACTS
(continued)

Provenience	Level(cm)	Cat. No.	Description
			GLASS
Unit 2	00-10	4-10	aquamarine window pane fragment
		4-11	clear window pane fragment
		4-12-13	aquamarine window pane fragment
		4-14-16	clear container fragment
		4-17	burned clear glass
		4-18	burned white opaque glass
Unit 7	00-10	13-01	clear container fragment
Unit 9	40-50	24-16	clear container fragment
Unit 9	40-50	25-02	burned clear window pane fragment
Unit 10	40-50	31-42	burned clear container fragment
Unit 12	40-50	45-07	aquamarine window pane fragment (burned)
Units 9/10	50-93	46-92	burned aquamarine bottle/jar fragment
			METAL
Unit 1	00-10	2-10	wire nail (5d. pennyweight), total length (4.7cm), shaft length (4.5cm)
Unit 2	00-10	4-19	wire nail
		4-20	bolt(?)
		4-21	unidentified iron fragment
Unit 9	40-50	25-03	square-cut nail (4d. pennyweight), machine made head, common cut style (burned), total length (3.89cm), shaft length (3.77cm)
		25-04	square-cut nail (4d. pennyweight), machine made head, common cut style
		25-05-06	square-cut nails (machine made heads)
		25-07	square-cut nail, shaft length (2.92cm)
		25-08-11	square-cut nails
Unit 12	40-50	45-01-05	square-cut nails (burned?)
		45-06	square-cut nail (5d. pennyweight), machine made head, common cut (burned?), total length (3.57cm), shaft length (3.3cm)
		45-10	small caliber bullet shell
Units 9/10	50-93	46-93	square-cut nail (4d.), shaft length (3.95cm)
		46-94	square-cut nail (4d., common cut, machine made head)
		46-95-96	square-cut nails (machine made heads)
		46-97	square-cut nail fragment

HISTORIC ARTIFACTS
(continued)

Provenience	Level(cm)	Cat. No.	Description
			METAL (cont'd)
Units 9/10	50-93	47-02	square-cut nail
Units 9/12	50-93	48-32	steel bailing wire (possibly burned, not oxidized)
		48-33	unidentified iron fragment (possibly burned, not oxidized)
			MISCELLANEOUS
Unit 2	00-10	4-22	unidentified plastic fragment
		4-23-24	concrete(?) fragment
Unit 10	30-40	29-66	wood charcoal (+15 pieces)
Unit 10	40-50	31-44	wood charcoal (+20 pieces)
Unit 11	00-10	34-12	wood charcoal (+10 pieces)
Unit 11	40-50	40-46	wood charcoal (+40 pieces)
Unit 12	40-50	45-11	brick fragment
Units 9/10	50-93	46-01-85	large mammal bone (many identifiable elements)
		46-86-90	mammal tooth (carnivore?)
		46-91	wood charcoal
Units 9/10	50-93	47-03-18	large mammal bones (cow?), (2 ribs, 1 femur, hip socket)
Units 9/12	50-93	48-01-09	large mammal bone (many identifiable elements)
		48-10	mussel shell
		48-11	wood charcoal
		48-12-15	egg shell(?)
		48-16-26	burned clay
		48-27-31	burned clay?
Unit 5	00-10	9-07	unidentified burned bone fragment

Evaluation and Recommendations

Test excavations in the developed portion of Cricket Creek Park indicate that very little of the artifact-bearing soil horizon is left and that, therefore, further investigations in this portion of the site are

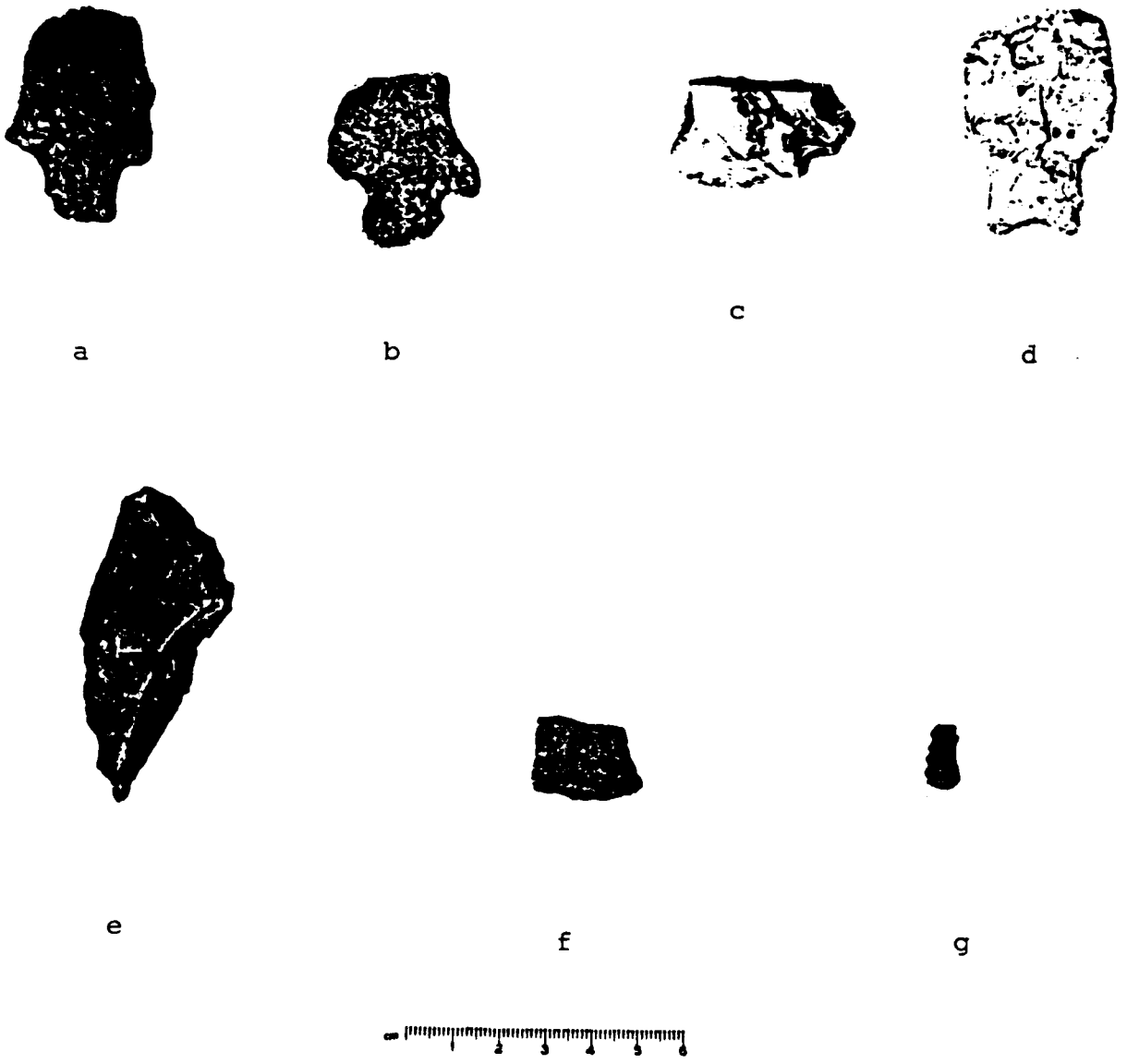


Figure 3-9. Lithic Artifacts and Prehistoric Ceramics from Site 3BO234. a- Table Rock Stemmed? point; b- Kings Corner Notched point; c- biface edge fragment; d- Jakie Stemmed point; e- large biface fragment with blunt tip; f- possible sand-tempered plain body sherd; g- arrow point midsection.

unwarranted. Excavation in Units 9 - 12 revealed that the midden-like zone was of recent historic origin and that prehistoric materials in this matrix are clearly out of context. Materials in the upper B horizon in this area seem likely to be in situ. However, these deposits are now so patchy and isolated it seems unlikely that further investigation of these deposits would yield further insight into the prehistoric occupants of this site.

It is our judgment that the site is not eligible for inclusion on the National Register of Historic Places.

3BO236, The Long-Cricket Site

Discussion and Description

This site is an extensive scatter of prehistoric lithic debris covering most of the summit of a meander core (Figure 3-10). There is also a historic component consisting of a series of ruined farm buildings (Figure 3-11). These include a collapsed log barn, root cellar, and two concrete slab foundations.

It was originally planned to institute a program of systematic surface collection, but at the time of investigations the site was in very heavy vegetation (Figure 3-12) making systematic surface collection ineffective. Thus, the 1986 investigations consisted of the excavation of a series of screened shovel tests (ca 30cm in diameter) at 25-meter intervals across the summit. A north-south base line was established just east of an old road and fence line and 5 east-west transit lines were established set between the northern summit edge and a farm road near the southern edge of the summit. Shovel test locations were determined using a tape and transit method but because of the vegetation it was not possible to place the shovel tests at completely systematic intervals. Their location is shown in Figure 3-10.

Principal objectives in the investigation of 3BO236 were to determine the stratigraphy or soil horizonation of the upper layer, identify artifact bearing zones or horizons, determine how that was configured areally, identify concentrations of materials, and collect a sample of materials from the site. The soils encountered in the shovel tests across the summit of the meander core consisted of an easily definable (10YR 3/4) silt loam to a depth of 20-25cm over a (5YR 4/6) silty clay B horizon which often contained large amounts of rounded and suorounded stream gravels. This suggested that the upper portions of the site consisted of a remnant Pleistocene terrace deposit. Artifacts were found only in the A horizon. Some evidence of disturbance, no doubt associated with the clearing of the summit and other agricultural practices, was observed.

In addition, a tape and compass map of the historic buildings was made and additional shovel testing was done on this component of the site. No intact deposits were discovered (Figures 3-13, 3-14, and 3-15). The lack of appreciable areas of A horizon as indicated in the shovel testing during the initial and current investigation make it unlikely that buried features are present at the site.

Investigations in Boone County records, including visits to the local abstract office, the County Clerk's office, and the County Tax Assessor's Office, revealed that prior to the purchase of the land in 1958 as part of Table Rock Lake the principal owner of record had been E. F. Jarnagin, with some undefined portions owned by Logan L. Jarnagin and Fern Jarnagin. Prior to 1937 the property had been owned by L. D. Buchanan, although the sale of

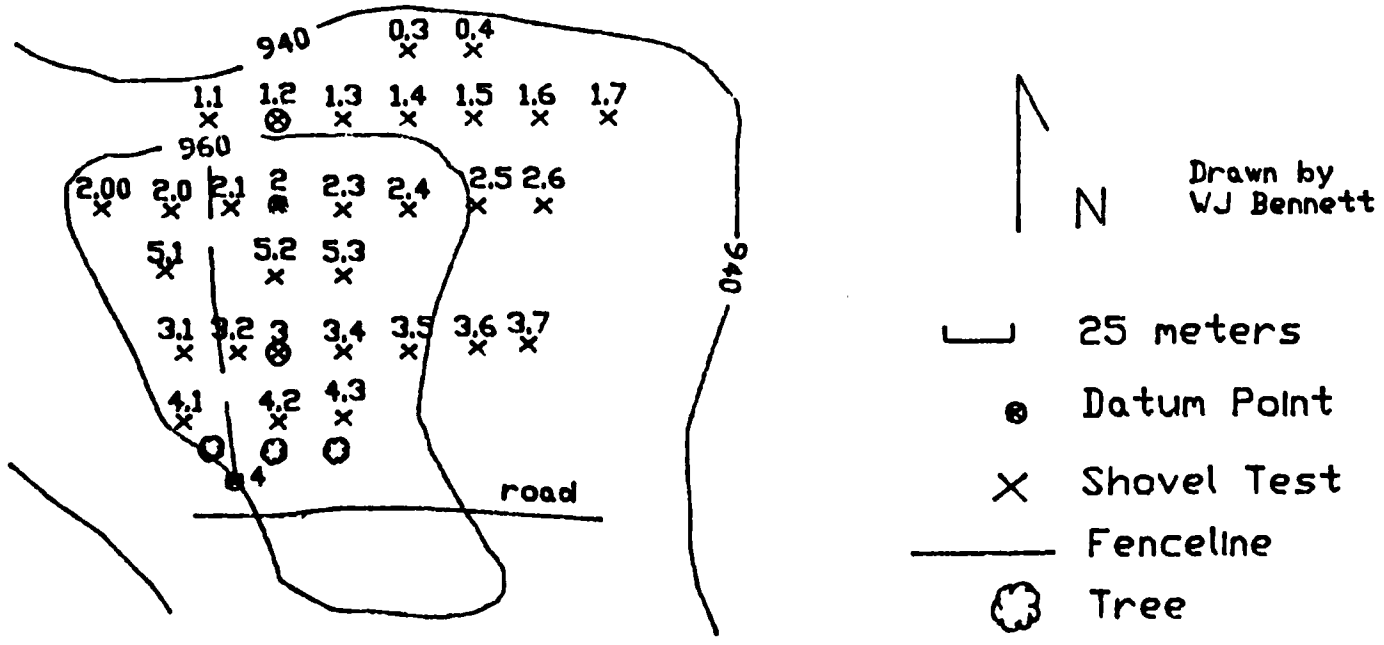


Figure 3-10. Sketch Map of 3BO236.

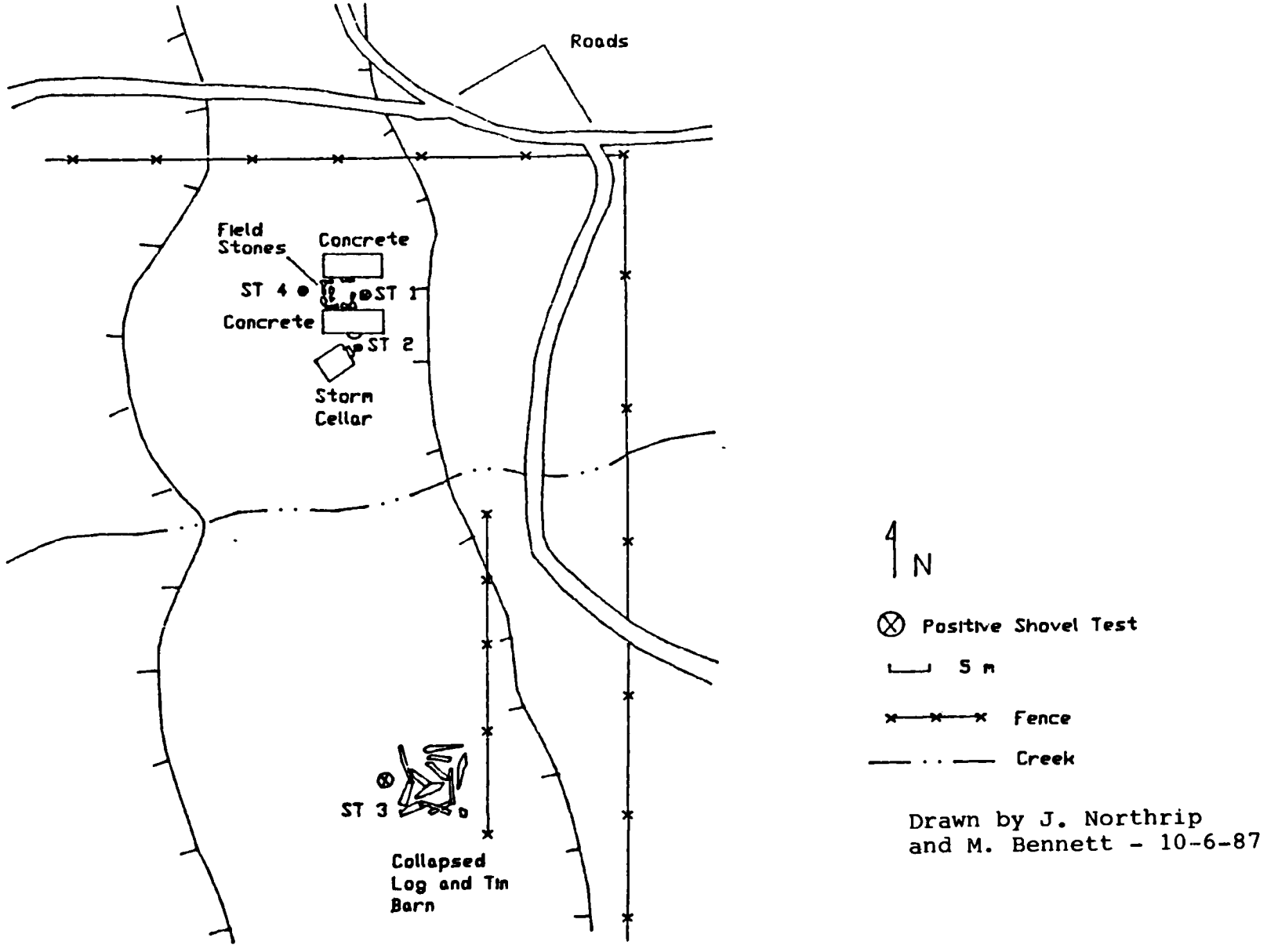


Figure 3-11. Sketch Map for Site 3BO236: Historic Component.

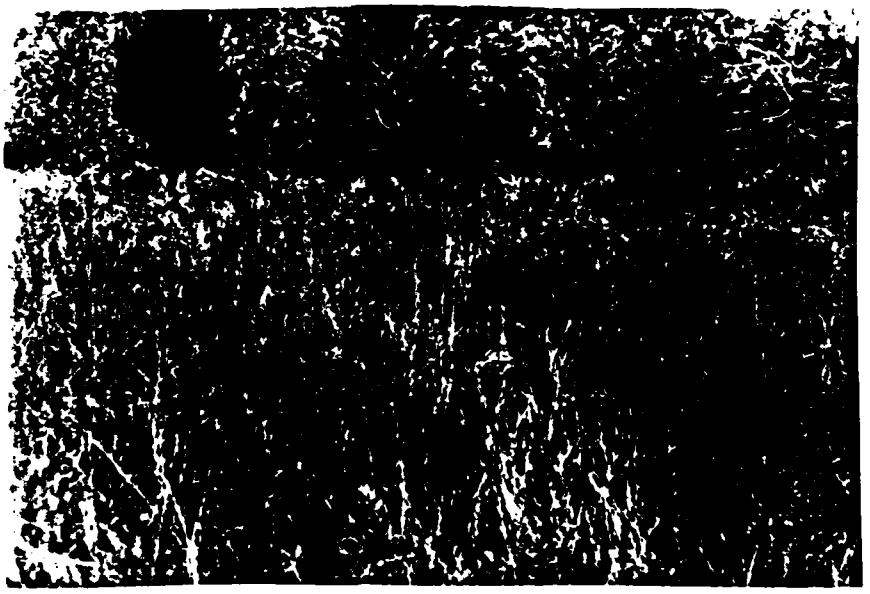


Figure 3-12. View of Top of the Meander Core, 3BO236.

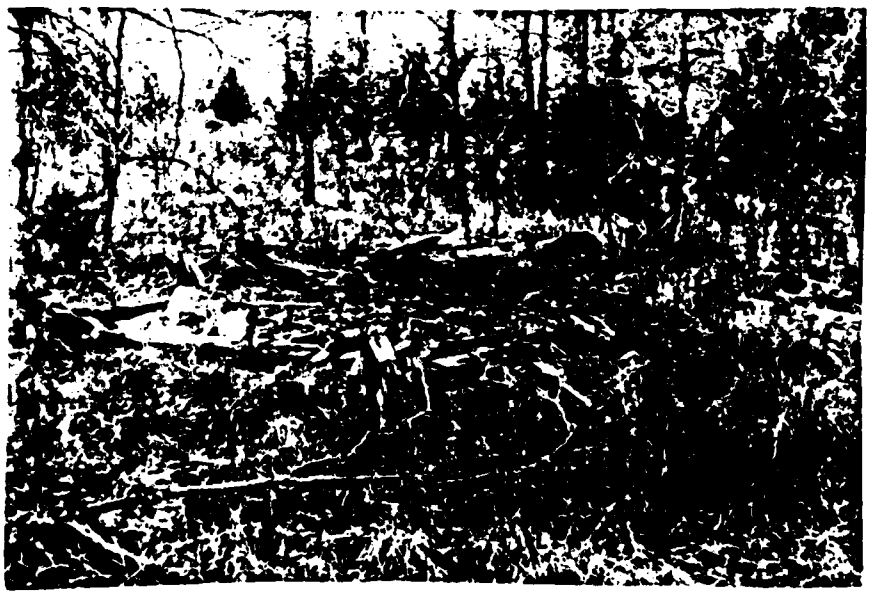


Figure 3-13. Demolished Structure, 3BO236.

Figure 3-14. House Foundation, 3BO236.

Figure 3-15. Cellar Opening, 3BO236.

the land from Buchanan to Jarnagin was not recorded until 1958. County tax records did not show any improvement assessments associated with the property. Further information about land ownership should be available in the records office of the USAED,LR.

Recovered Materials

Prehistoric lithic debris recovered from the summit of the meander core consisted primarily of waste from the manufacture and use of bifacial tools. No culturally diagnostic materials were recovered, but 2 expanding stem dart points thought to be of Woodland age were recovered during the 1985 survey.

Historic period materials included numerous pieces of whiteware and stoneware as well as sherds from glass vessels and a variety of metal objects and fragments. A 20th century occupation seems indicated by these materials.

TOOLS

Material	Description	Figure Reference
Osagean	core or tested pebble	
Pierson	biface end fragment or point stem	
	biface tip, broken in use/ resharpening	
Reeds Spring	large biface with sinuous edge	
	large thin biface, broken in use	
	flake scraper, no platform	
	point midsection with 1 shoulder	
	biface end fragment, broken in manufacture	
	biface tip or corner fragment	
	biface edge fragment, broken in manufacture	
	biface edge fragment	
	worn biface edge fragment	
	heat spall from flaked item	
Jefferson City chert	large biface blade with blunt tip	
	biface edge fragment	
	biface tip fragment from large point?	
	chunk with 1 flake scar,core?	
	heat spall from flaked item	
Jefferson City quartzite	possibly ground tabular fragment	

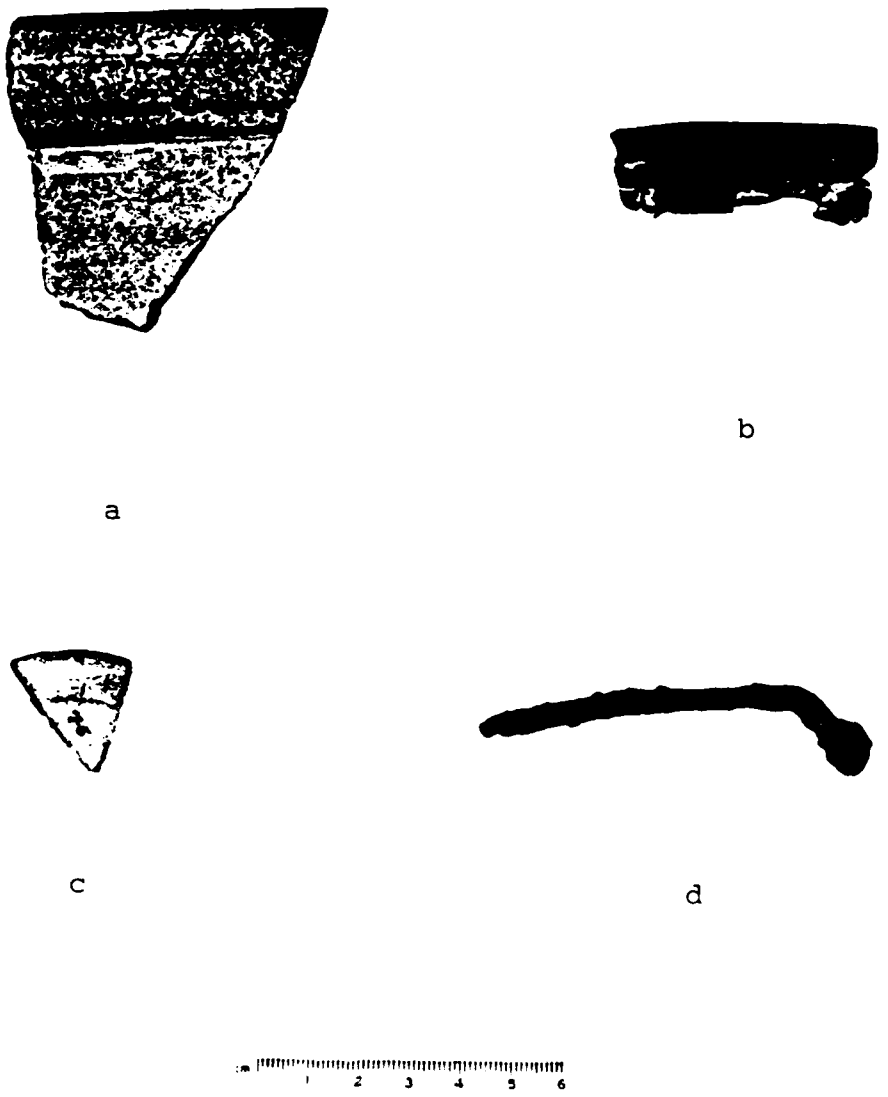


Figure 3-16. Historic Artifacts from Site 3BO236. a- Bristol glazed stoneware rim fragment; b- zinc canning lid fragment; c- milk glass lid liner, embossed; d- unidentified nail. (a, b, c, d - shovel test #4.)

Number	Description	Figure Reference
	3BO236: CERAMICS	
1	semi-porcelain whiteware plate or bowl base sherd	
2	whiteware sherds	
1	whiteware plate or bowl rim sherd	
1	2-hole button with remnants of blue paint on front	
1	whiteware plate or bowl base sherd	
1	earthenware vessel sherd with cream-colored glaze on both surfaces	
2	whiteware sherds	
1	Bristol glazed stoneware rim fragment, from straight-walled crock	3-16a
1	whiteware bowl base fragment	
2	whiteware sherds	
	GLASS	
1	screw-top coffee jar with base missing; mold mark extends over lip; front is embossed with sun and lion emblem	
6	clear (greenish tinge) window pane fragments	
2	clear vessel fragments	
1	burned clear vessel fragment	
1	greenish vessel fragment, burned and/or patina	
1	clear vessel fragment, patina	
1	greenish vessel fragment, patina	
1	turquoise vessel fragment	
1	melted clear glass blob	
1	milk glass lid liner fragment, embossed R	
1	clear vessel fragment	
1	burned greenish fragment	
1	greenish vessel fragment, heavy patina	
2	clear window pane fragments	
1	green milk glass vessel fragment	

HISTORIC ARTIFACTS
(continued)

Number	Description	Figure Reference
1	milk glass lid liner fragment, embossed E PCR?	3-16c
1	brown vessel fragment	
1	clear vessel base fragment	
2	clear vessel fragments	
2	clear (greenish tinge) window pane fragments	
4	clear vessel fragments	
1	greenish vessel fragment	
1	greenish-white milk glass fragment	
	METAL	
1	4-tinned fork, missing socketed bone or plastic handle	
3	round head wire nails, all incomplete lengths	
1	fence staple	
1	nail or wire?	
1	barbed wire fragment?	
1	thin ferrous metal with enamel coating on both surfaces (vessel fragment?), burned	
1	brass .22 shell	
1	brass front of overall? button, embossed FITSU	
1	wire nail, total length (6.8cm), shaft length (6.5cm)	
1	wire nail, total length (4.4cm), shaft length (4.1cm)	
1	ferrous metal pipe or casing fragment	
1	zinc canning lid fragment	3-16b
1	unidentified nail, total length (8.0cm)	3-16d
1	unidentified ferrous metal fragment	
1	ferrous metal pipe with hex shaped connector and porcelain cap with green transfer on end	

HISTORIC ARTIFACTS
(continued)

Number	Description	Figure Reference
	MISCELLANEOUS	
1	clear plastic vessel base, 3.5cm diameter (pill bottle?)	
1	asbestos shingle fragment?	

Evaluation

While 3BO236 was clearly an important location for the prehistoric occupants of the region, the deposits of prehistoric archeological materials were found to be shallow and generally not below the plow zone. It is extremely doubtful if additional investigations would result in the gathering of significant data beyond that already acquired. The historic period component seems to be related to agricultural use in the 1930s and/or 1940s and no in situ deposits were found. It is therefore our judgment that 3BO236 is not eligible for inclusion on the National Register of Historic Places.

3CR234, The Long-Yocum Site

Discussion and Description (Figure 3-17)

Situated at the confluence of Long and Yocum creeks, this was originally described as an extensive multicomponent prehistoric site. Test activities confirmed the extensive site extent and long history of prehistoric use.

The site has been in cultivation for much of this century and has been both intensively and systematically vandalized by artifact hunters. We estimate from local interviews that several hundred dart points have been taken from the site. Notwithstanding this damage, our investigations demonstrate the concentrated nature of the prehistoric lithic debris remaining at the site. At the time of testing, the water level was at approximately the 907-foot level exposing a narrow stretch of eroded shoreline littered with lithic debris (Figure 3-18).

Testing activities were undertaken using all crew members from October 7 through October 10, 1986. The objectives were to form an estimate of the site's extent and stratigraphy as well as to gather a sample of artifacts. Investigations were to concentrate on that portion of the site managed by the USAED,LR and were, therefore, conducted mainly below the 930 foot contour. As it turns out the landform below this level is distinct from the upper terrace system observed from the 940- to 960-foot level. Very little artifactual material was observed in a walk-over of the upper portion, and local residents confirmed that materials had never been collected from this upper area.

As a base line along which to estimate site extent and patterns of artifact distribution along this landform, 2 grid lines (E/W and N/S) were established on the site (Figure 3-17). Flags were placed at 25m intervals and these locations were surface-collected using a 1m in diameter dog-leash method at each location. Based on the materials collected, a number of locations were selected for the excavation of 50 x 50cm screened test units: Units 1, 5, 9, 12, 14, 15, 17, 20, 22, 23, and 26.

In order to investigate the site's stratigraphy, bank-line profiles were excavated along the east (Profile 1; Figure 3-19) and west (Profile 2; Figure 3-20) shoreline. Further, a probe (Trench 1) 7.5 m x 1 m was placed at the east edge of the site inside the tree line along the eastern edge of the site in an area thought to have been less impacted by cultivation. As this was a stratigraphic probe, the soil was not screened and only culturally diagnostic artifacts were collected.

The macro-stratigraphy of the site as reconstructed from Profiles 1 and 2 indicates that this landform is composed of at least 2 large, fine-grained alluvial deposits overlying bedrock which is exposed at about the 908-foot contour at the east end of the site. There the bedrock is covered by a

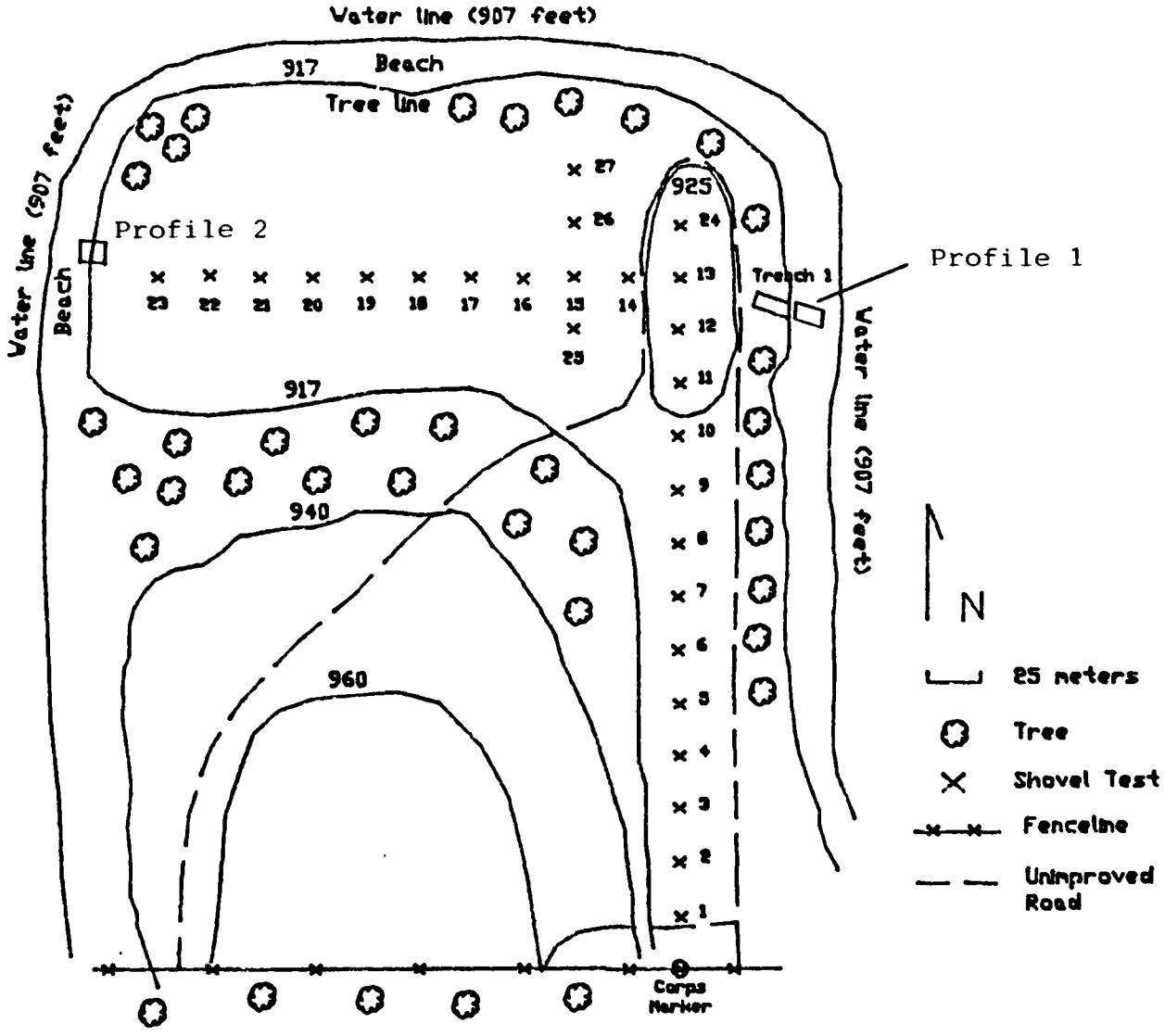


Figure 3-17. Sketch Map of 3CR234.

Figure 3-18. 3CR234: Eroded Shoreline.

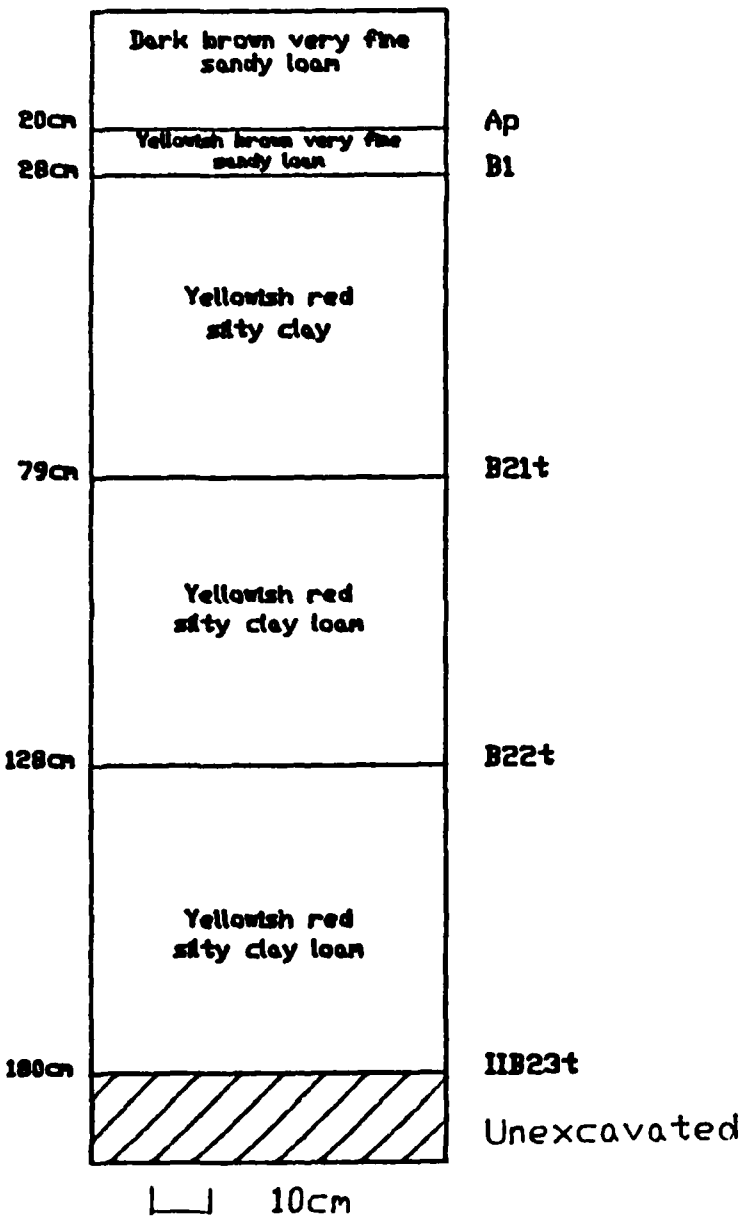
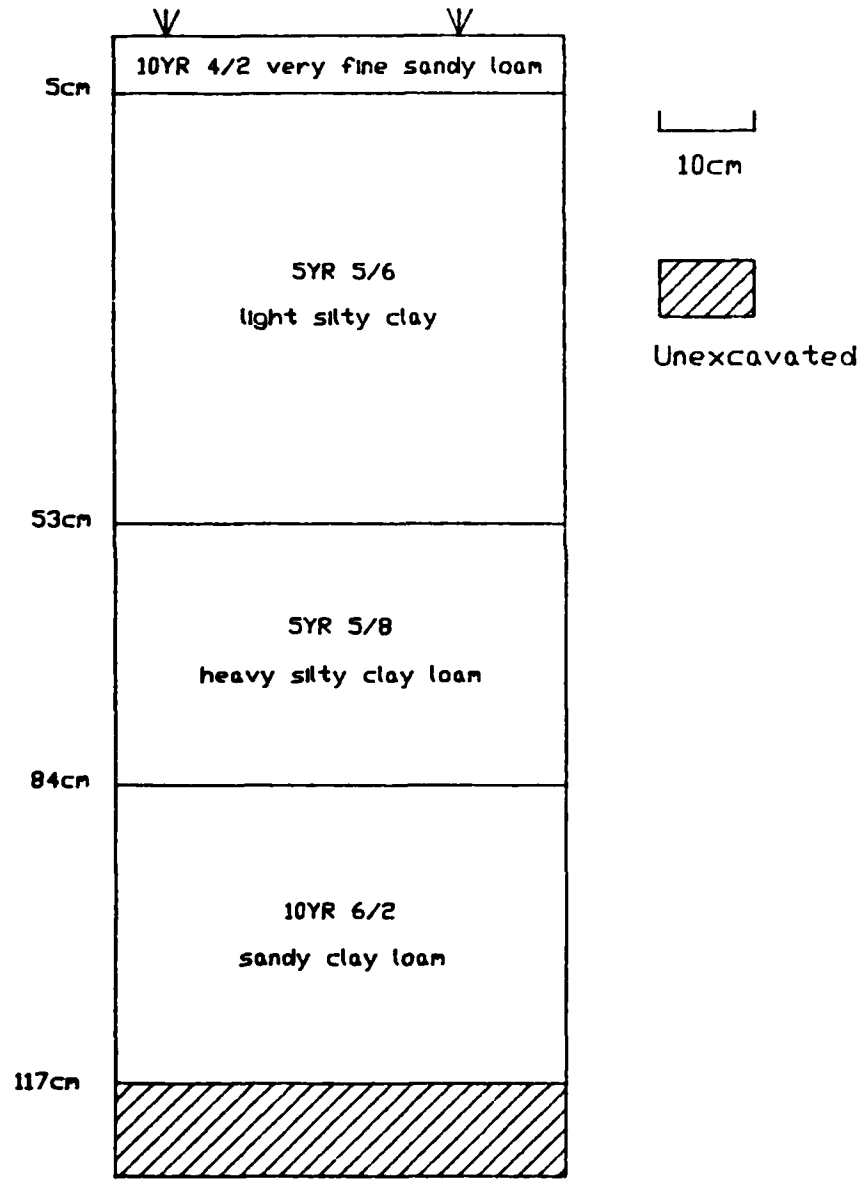


Figure 3-19. Soil Profile for Site 3CR234.

3CR234 Profile 1 Soil Description

Ap	0-20cm. Dark brown (10YR4/3) very fine sandy loam; moderate strong granular structure; very friable; common fine and medium roots; common fine and medium pores; 5-10% coarse fragments and artifacts; medium acid (pH 6.0); gradual smooth boundary.
B1	20-28cm. Yellowish brown (10YR5/4) very fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; few very fine pores; 5% coarse fragments and artifacts; strongly acid (pH 5.5); clear smooth boundary.
B21t	28-79cm. Yellowish red (5YR5/8) silty clay; strong moderate angular blocky structure; firm; complete distinct films on peds; few fine and medium roots; few fine and medium pores; 3% chert fragments, subrounded and angular; strongly acid (pH 5.5); gradual smooth boundary.
B22t	79-128cm. Yellowish red (5YR5/8) silty clay loam; common medium distinct pale brown (10YR6/3) mottles; moderate subangular blocky structure; firm; complete distinct films on peds; few fine and medium roots; few fine pores; 1% subrounded chert fragments; strongly acid (pH 5.5); gradual smooth boundary.
IIB23t	128-180cm. Yellowish red (5YR5/8) silty clay loam; common medium prominent pale brown (10YR6/3) and light brownish gray (10YR6/2) mottles; moderate blocky structure; firm; clay films on macro ped faces; common fine and medium pores; 1% chert fragments, alluvial gravel layer at base of stratum (180cm); abrupt smooth boundary.



3CR234 Soil Profile Description

Ap	0-5cm. Dark grayish brown (10YR4/2) very fine sandy loam; weak medium granular structure; friable; common fine and medium roots; common fine pores; 1-3% coarse fragments; strongly acid (pH 5.5); smooth abrupt boundary.
B21t	5-53cm. Yellowish red (5YR5/6) light silty clay; strong moderate angular blocky; firm; complete distinct films on peds; few fine roots; few fine pores; 1% 3-4mm angular chert fragments; very strongly acid (pH 5.0); smooth clear boundary.
B22t	53-84cm. Yellowish red (5YR5/8) heavy silty clay loam; common medium distinct pale brown (10YR6/3) mottles; strong moderate subangular blocky structure; firm; patchy distinct films on peds; few fine roots; few fine pores; 1% 3-4mm angular chert fragments; very strongly acid (pH 5.0); smooth gradual boundary.
IIB23t	84-117cm. Yellowish red (5YR5/8) sandy clay loam; common medium distinct light brownish gray (10YR6/2) mottles; strong moderate subangular blocky structure; firm; patchy distinct films on peds; few fine roots; 1% 3-4mm angular chert fragments; very strongly acid (pH 5.0).

Figure 3-20. 3CR234: Profile 2 (West End).

gravel layer upon which the lower of the 2 fine-grained deposits rests. In Profile 1 this lower unit consists of a well-developed argillic B horizon comprised of a yellowish red (5YR5/8) silty clay loam in excess of 50cm thick having the characteristics of a B23 Horizon. Within the nearly 130cm thick upper fine-grained unit, four different soil horizons were observed. These consisted of a dark brown (10YR4/3) very fine sandy loam Ap horizon [0-20cm] which was considerably thicker within Trench 1. Below this was a B1 or transitional horizon [20-28cm]. The B horizon contained a B21 unit (yellowish red 5YR5/8) silty clay [28-79cm] and a B22 unit (yellowish red - 5YR5/8, silty clay loam [79-128cm] with pale brown, 10YR6/3, common, medium and distinct mottles). The B21 horizon contained numerous subrounded and angular chert fragments. The B22 horizon contained a few subrounded chert fragments.

Profile 2 at the western edge of the site revealed a similar series of horizons. Here, however, the upper fine-grained deposit was only 84cm thick. This is thought to be due to a severely truncated Ap horizon at this particular spot.

Excavation in each Test Unit illustrated that the prehistoric lithic debris was largely confined to the A and B1 levels of the upper fine-grained unit. The artifact recovery dropped dramatically within the B horizon as Figure 3-21 shows. The depth to the B2 horizons, however, varied considerably across the site.

The heaviest concentration of material was recorded at the western end of the site (Units 22 and 23), that portion of the site nearest the actual confluence of Long and Yocum creeks. In Unit 22 the B horizon of the upper fine-grained unit did not exhibit the characteristic yellowish red color (Figure 3-21) but was heavily influenced by the leaching and staining of organic materials to a depth of 66cm which marked the contact with the lower fine-grained alluvial deposit. At approximately the 45cm level a cluster of stones thought to be a possible intact prehistoric cultural feature (hearth?) was encountered and the unit was enlarged to 75 x 75cm (Figure 3-22).

Materials Collected

The only materials recovered from 3CR234 consisted of various types of lithic debris. This included debris from the manufacture and use of bifacial tools, grinding stones, and fire-cracked rock. Some charcoal (tiny bits of charred nut shells) was observed at various locations, notably around Feature 1 in Unit 22.

Chronologically diagnostic materials were restricted to various identifiable dart points. These were principally Archaic period points (Figure 3-23) and included Big Sandy, Smith Basal Notched, Afton, Landers, Table Rock Point Stem, and White River Corner Notched. The earliest points noted were Dalton Serrated.

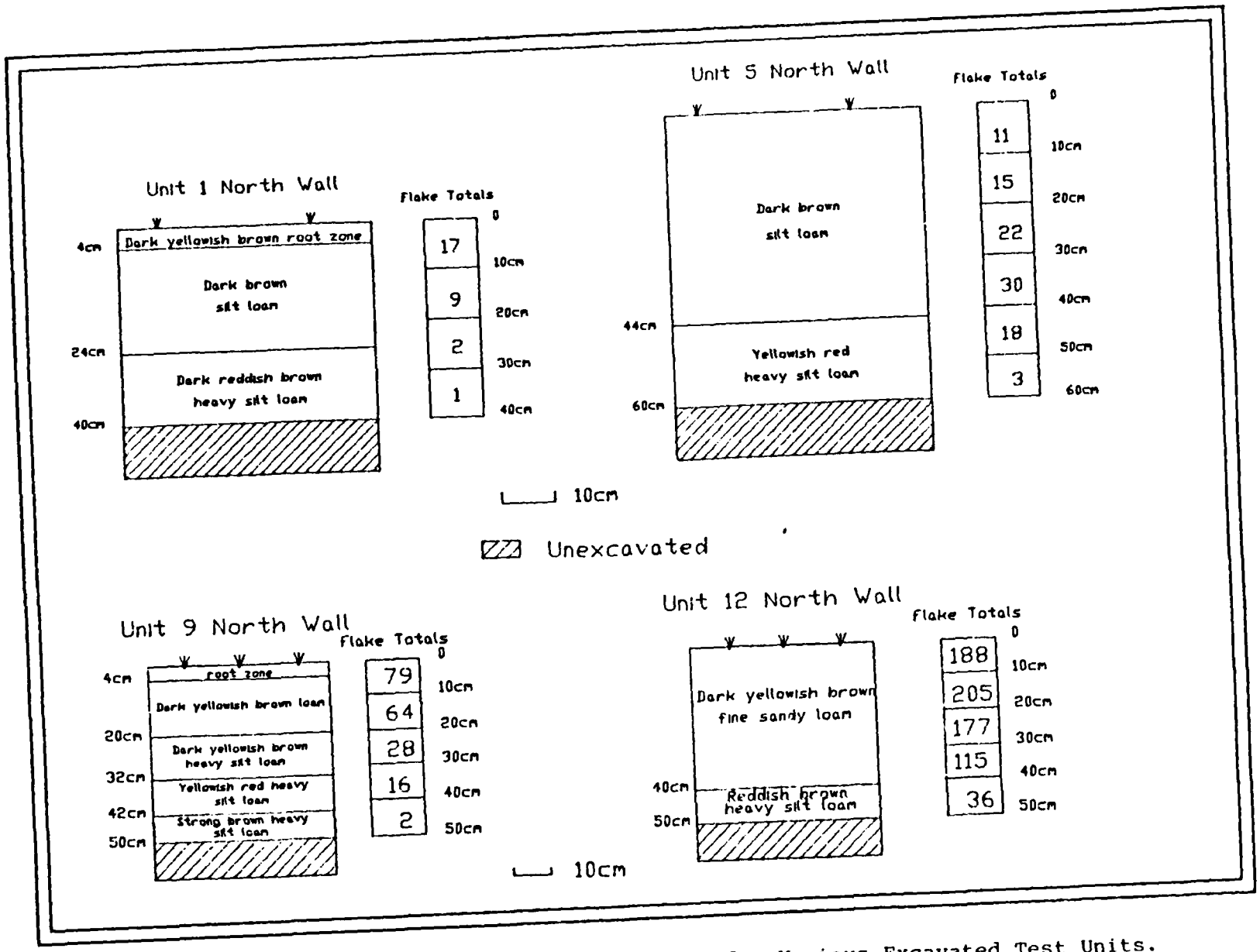


Figure 3-21. Soil Profiles and Flake Totals for Various Excavated Test Units.

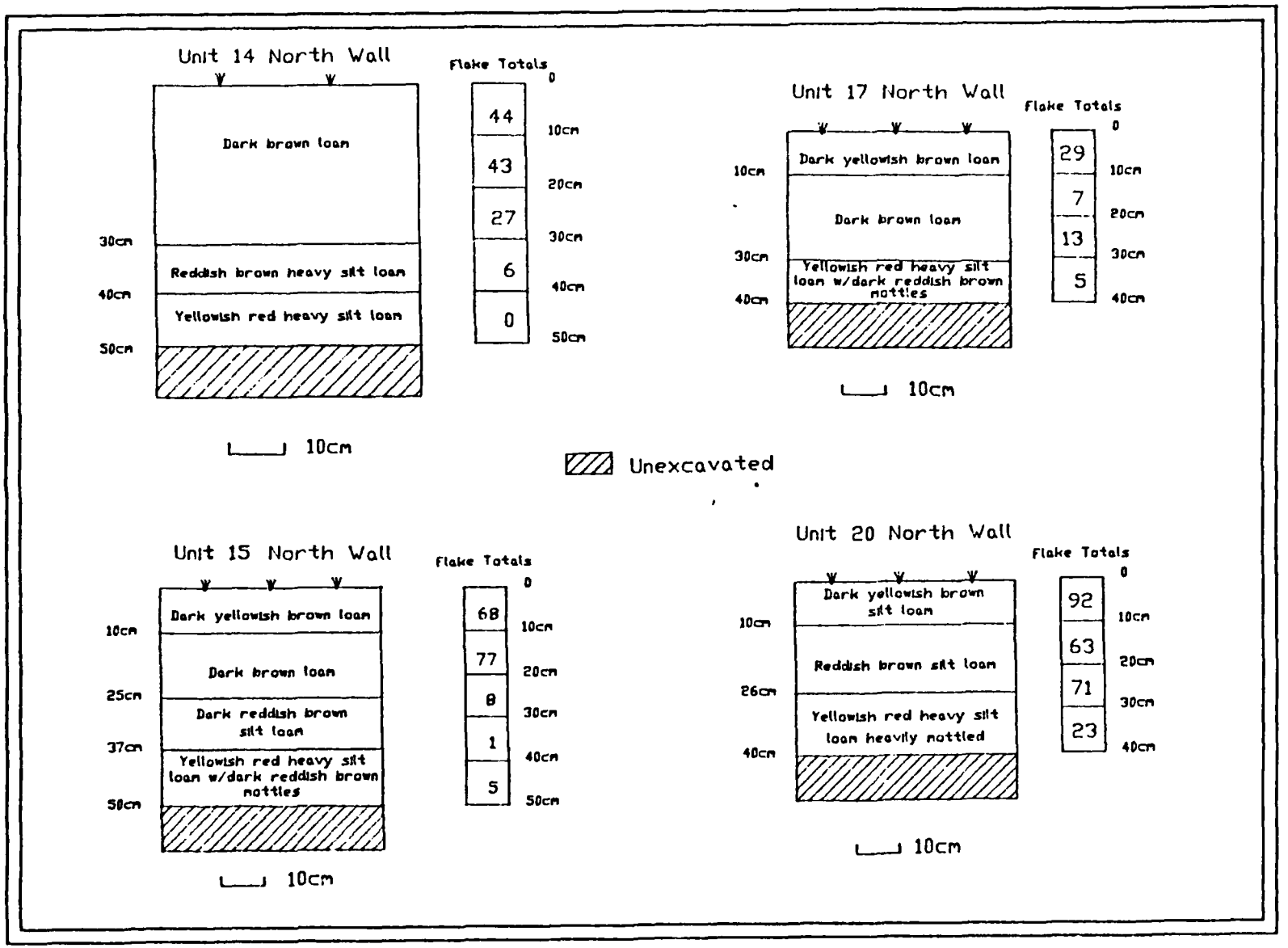


Figure 3-21. Soil Profiles and Flake Totals for Various Excavated Test Units (cont'd).

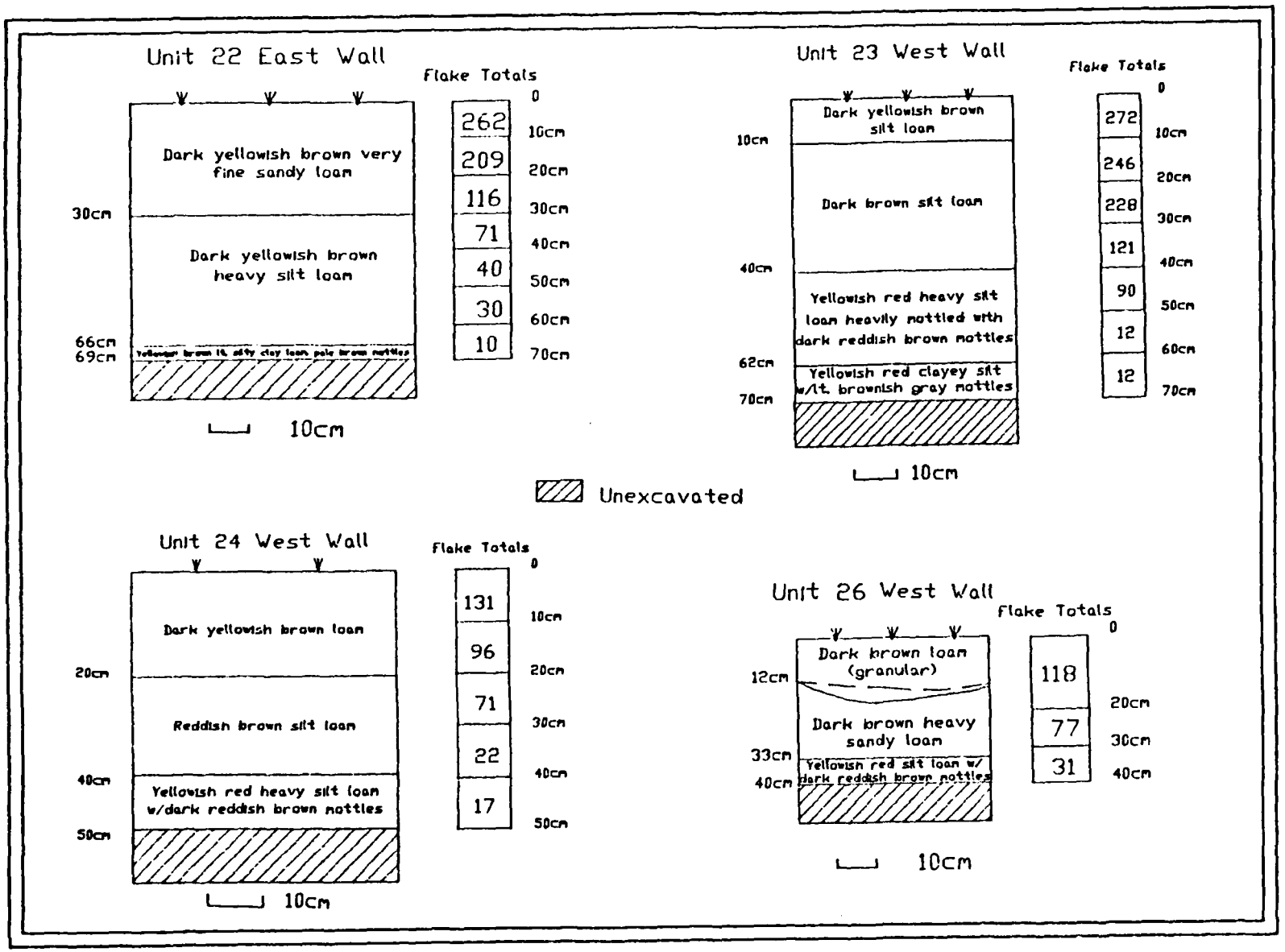


Figure 3-21. Soil Profiles and Flake Totals for various Excavated Test Units (cont'd).

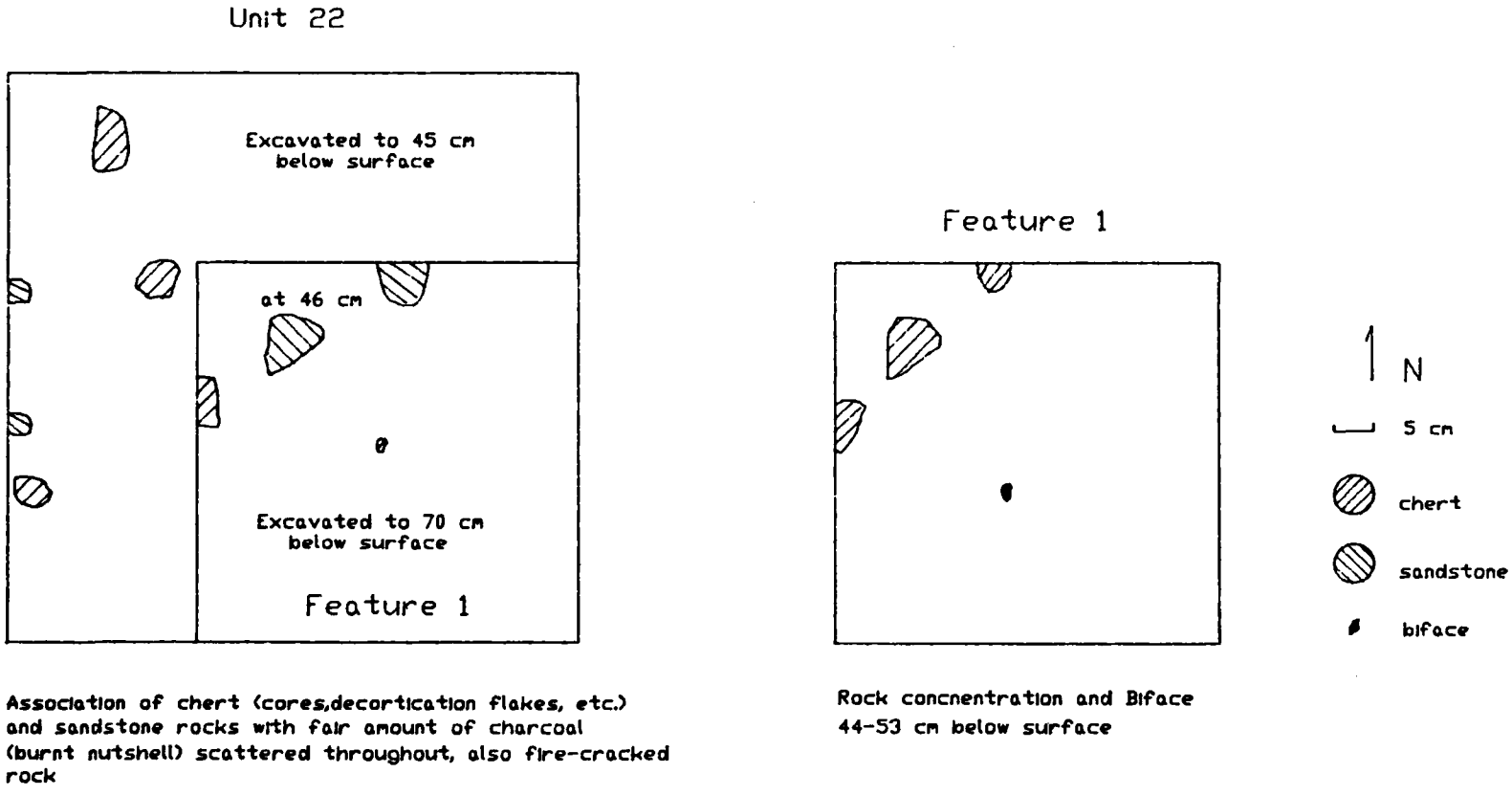


Figure 3-22. Site 3CR234 Unit 22, Feature 1, Level 5 (40-50cm).

Provenience	Level (cm b.s.)	Material	Description	Figure Reference
Trench 1	00-25	Mo	Lander Corner Notched point?	
		Mrs	Table Rock Pointed Stem point	3-23b
	00-35	Mrs	Jakie Stemmed point?	3-23h
	00-40	Mrs	White River Corner Notched point	3-23c
	05	Mrs	biface edge or end fragment	
	15-18	Mo	untyped expanding stem fragment	
		Mrs	Rice Corner Notched point	3-23i
	22	Mrs	large point fragment, notch untyped	
	23-29	Mo	Rice Corner Notched point	3-23a
	35-37	Mp	untyped side notched point	3-23g
	45-50	Ojc cht	Afton Corner Notched point	3-23e
	grab	Mo	biface end fragment, broken in manufacture	
		Mp	biface tool	
		Mrs	biface made on large flake	
		Mrs	biface edge fragment, broken in use	
		Mrs	biface tip fragment, broken in use	
		Mrs	biface end fragment, broken in use	
		Ojc cht	rounded biface end, broken in use	
		Ojc cht	large biface end fragment	
Unit 5	20-30	Mrs	untyped corner notched point	
	30-40	Mo	Dalton Serrated point, worn stem	
Unit 9	00-10	Ojc cht	large corner notched point fragment	
	10-20	Mrs	core & hammer made on pebble	
	20-30	Mrs	split pebble core, use damage?	
		Mrs	biface/bifacial core, worn edge	
	30-40	Mo	biface edge fragment, broken in manufacture	
		Mrs	rounded biface end with worn edge	
Unit 12	00-10	Mp	biface edge fragment	
		Mp	biface edge fragment	
		Mrs	thin biface edge fragment	
		Mrs	biface edge fragment, unifacial wear	
		unid	indented point base, untyped	
	10-20	Mrs	thin biface tip, broken in use	
		Ojc cht	biface edge fragment	

TOOLS
(continued)

Provenience	Level (cm b.s.)	Material	Description	Figure Reference
Unit 12 (cont'd)	20-30	Mo	biface edge fragment, broken in manufacture?	
		Mrs	biface edge fragment, broken in manufacture?	
		Ojc snd	hammer fragment	
	33	Mo	untyped corner notched point	3-23k
	40-50	Mo	fragment with flake scars	
Unit 14	00-10	Mo	large thin biface midsection	
	10-20	sandstn	mano/hammer/anvil	
Unit 15	00-10	Mp	biface edge fragment, broken in use?	
Unit 17	00-10	Mrs	biface/core fragment, steep retouch	
Unit 20	00-10	Mrs	irregular biface, reworked fragment?	
		Mrs	biface edge/stem fragment, broken	
		Ojc cht	thick biface edge fragment	
		Ojc snd	mano/hammer	
	10-20	Mrs	biface edge fragment, broken in use	
Unit 22	00-10	Mp	fragment with flake scars	
		Mp	heat spall from flaked item	
		Mp	biface edge fragment	
		Mrs	biface tip/corner fragment	
		Ojc cht	biface edge fragment?	
		sandstn	ground stone fragment	
	00-30	Mp	biface edge fragment, broken in manufacture	
		Mrs	heat spall from flaked item	
		Mrs	biface edge fragment	
	20-30	Mo	fragment with flake scars, edge modification	
		Mrs	biface and/or core	
		Mrs	biface edge fragment, broken in use	
	30+	Mp	thin biface made on flake	
		Mp	heat spall from flaked item	
		Mrs	biface edge fragment, broken in use	
		Ojc cht	fragment with edge modification, incidental?	
		Ojc cht	thin unifacial tool fragment	

TOOLS
(continued)

Provenience	Level (cm b.s.)	Material	Description	Figure Reference
Unit 22 (cont'd)	30-40	Mp	fragment of water-worn core?	
		Mrs	fragment with flake scars	
		Mrs	biface end fragment, broken in manufacture?	
		Ojc cht	hammer fragment	
		sandstn	hammer fragment?	
	40-50	Mrs	biface edge fragment	
		Mrs	biface edge fragment	
	60-70	Mrs	biface edge fragment	
Feature 1	44-54	Mrs	biface and/or core fragment	
		Ojc cht	large chunk w/edge modification	
		Ojc cht	core fragment?	
		sandstn	ground and pecked fragment	
Unit 23	00-10	Mp	biface midsection/stem fragment	
		Mrs	biface edge fragment, broken in use	
		Mrs	biface edge fragment, broken in manufacture	
		Mrs	biface edge fragment	
		Ojc cht	biface edge fragment, broken in use	
		sandstn	mano fragment	
		sandstn	ground and pecked stone fragment	
		sandstn	ground and pecked stone fragment	
	10-20	Mrs	biface/core, bipolar flaking?	
		Mrs	biface edge fragment, broken in manufacture	
		Ojc cht	untyped point stem	
	20-30	Mp	untyped large point stem	
		Ojc cht	large point shoulder fragment	
		sandstn	possibly ground and pecked fragment	
		sandstn	mano/hammer fragment	
	28	unid	large point midsection/shoulders	
	30-40	Mrs	core fragment?	
		Mrs	biface edge fragment, broken in use	
		Ojc cht	small ovate biface, worn edge	
Unit 24	10-20	Ojc cht	shoulder fragment from large point	
	20-30	Mrs	biface tip, broken in use/ resharpening	
		Mrs	biface edge fragment, broken in manufacture	
		Ojc cht	biface edge fragment, broken in use	
	40-50	Mrs	thin biface tip/corner fragment	

TOOLS
(continued)

Provenience	Level (cm b.s.)	Material	Description	Figure Reference
Unit 26	00-20	Mo	biface edge fragment	
		Mrs	thin biface midsection	
		Mrs	fragment with edge modification, incidental?	
		Mrs	biface edge fragment	
		Mrs	biface edge fragment	
	20-30	Mp	biface edge fragment	
Surface		Mo	unidentified corner notched point fragment	
		Mo	Smith Basal notched point	3-23j
		Mo	untyped large point stem, worn	
		Mo	untyped point, reworked blade	
		Mo	thin biface midsection	
		Mo	untyped large point stem	
		Mrs	worn biface edge fragment	
		Mrs	Dalton Serrated point	3-23f
		Mrs	unidentified large point fragment, broken	
		Mrs	Lander Corner Notched point	3-23d
		Mrs	Smith Basal Notched point	
		Mrs	Langtry Stemmed point, broken	
		Mrs	Big Sandy Side Notched point	
		Ojc cht	fragment with unifacial edge, bipolar?	
		Ojc cht	pointed biface, stem broken	
		Ojc cht	large corner notched point fragment	
		sandstn	broken hammer, pecked end	
		sandstn	mano/anvil/hammer	
		unid	thin biface tip fragment	

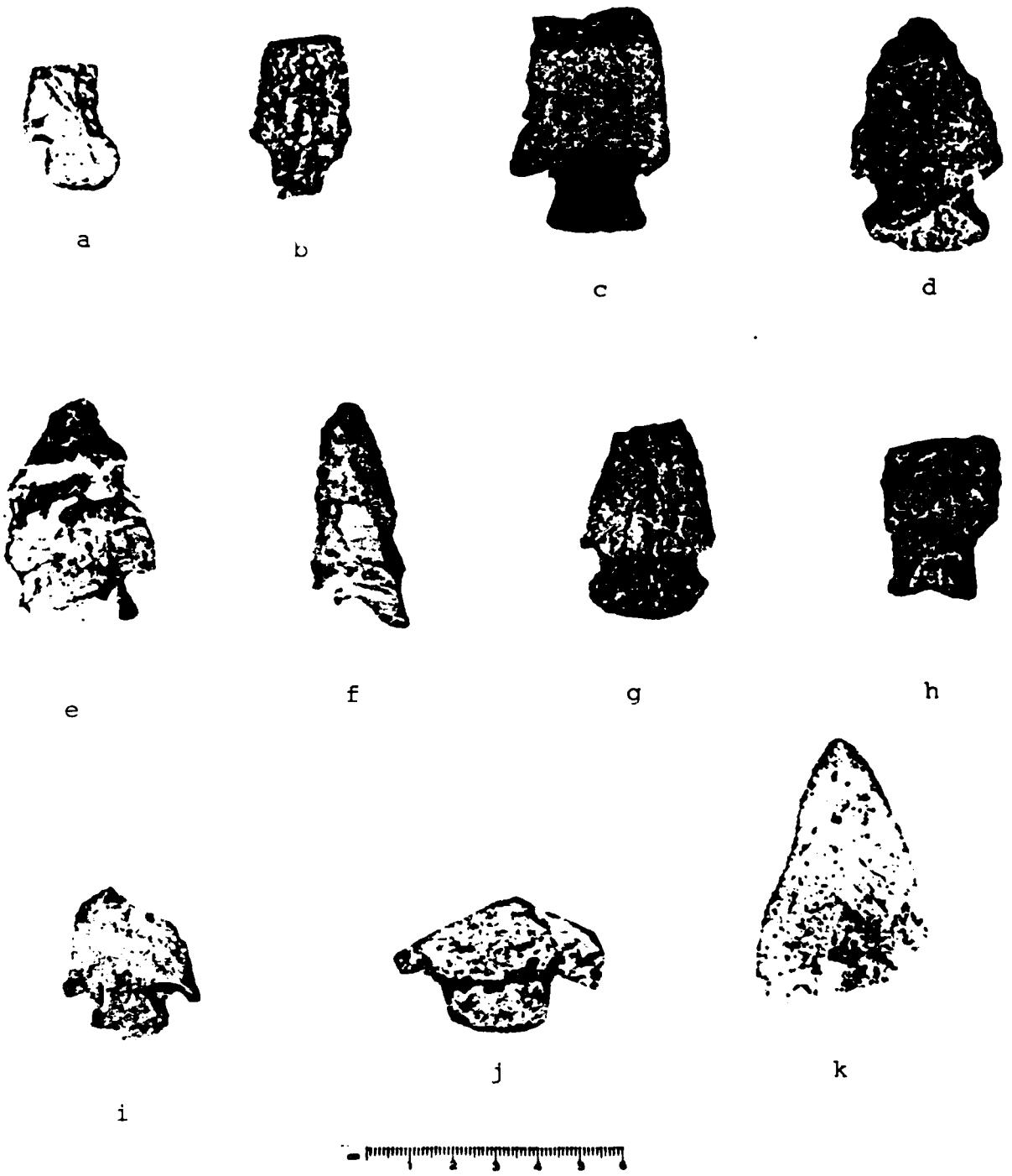


Figure 3-23. Lithic Artifacts. a- Rice Corner Notched point; b- Table Rock Pointed Stem point; c- White River Corner Notched point; d- Landers Corner Notched point; e- Afton Corner Notched point; f- Dalton Serrated point; g- untyped side notched point; h- Jakie Stemmed point?; i- Rice Corner Notched point; j- Smith Basal Notched point; k- untyped corner notched point.

Evaluation and Recommendation

It is clear from these investigations that this was the location of numerous prehistoric campsites, probably during the time in which the upper fine-grained unit was being deposited. These materials have been mixed by the normal agents of bio- and pedoturbation. Cultivation and pot hunting have also severely compromised the integrity of the site. Nevertheless, we believe that portions of the site contain relatively undisturbed prehistoric deposits and for this reason we believe that the site is eligible for nomination to the National Register of Historic Places.

Materials from these deposits are thought to contain information important to the consideration of possible changing settlement patterns and subsistence strategies during the period of the altithermal (Raab et al. 1982: 12). In this regard further work should include detailed geomorphological and paleoecological studies at this site and vicinity to determine the presence or absence of indicators sensitive to climatic fluctuations. On the basis of present information, it is impossible to offer informed speculation regarding the paleoecological setting for this site.

Because the site contains relatively undisturbed prehistoric deposits which are likely to yield further information regarding an important research issue, we believe that the site is eligible for nomination to the National Register of Historic Places. We therefore recommend that steps be taken to insure that the site be protected from further unauthorized excavation, either cultivation or pot hunting.

3CR235, The Backbone Bluff Meander Core Site

Discussion and Description

The Backbone Bluff Meander Core site, 3CR235, was discovered and recorded on September 12, 1986. It is located on a meander core (detached portion of Backbone Bluff) in the former valley of Long Creek (now an island in Table Rock Lake) approximately 350 - 550m northwest of the former confluence of Blair Branch and Long Creek.

During the initial survey of 3CR235, a sparse scatter of prehistoric artifacts and a possible artificial mound were found. The mound is situated on the summit of the meander core on the south side or bluff side overlooking the former channel of Long Creek. The mound, which measures approximately 5.75 x 6.0m wide by about 15cm high, was reported to contain rock and earthen fill. The site was assessed as a limited activity knapping area and possible mound site (Bennett and Ray 1986).

Investigations made during the present project focused on the possible artificial mound. A test excavation was conducted on October 8, 1986, to determine whether the low mound was cultural or natural in origin. The mound was situated in a wooded area exhibiting 0-5% ground visibility. A single narrow trench 30cm wide and 5m long was placed east-to-west across the center of the mound and dug to a depth of 10-25cm. Due to the rocky nature of the mound, the trench was dug with shovels and a hand pick.

It soon became apparent that the mound feature was natural in origin. No cultural material was recovered from the excavation. The mound fill was composed primarily of well-rounded river cobbles intermixed with a light brown silt loam and a couple of large residual nodules of Jefferson City - Cotter chert and dolomite from the underlying bedrock. The profile of the trench wall was a consistent mixture of alluvial cobbles and silt loam within and below the mound fill. There were no unrandomly placed dolomite or sandstone slabs or other evidence suggestive of artificial construction. The alluvial cobbles are remnants of an ancient gravel bar, deposited in a paleo-channel of Long Creek now situated on the meander core summit.

Thus, the low mound appears to have derived from differential weathering along the meander core summit, capped with ancient river gravel. The sparse surface scatter of lithic debris (2 flaked chunks and 1 flake) is interpreted to a limited prehistoric use of unknown age or function.

Recovered Materials

There were no materials recovered from the site during these investigations.

Evaluation and Recommendations

No further investigations are recommended for this location.

3CR236

Discussion and Description (Figure 3-24)

This site is set on the inside bend of the upper White River where there is a cluster of alluvial landforms of considerably different ages. Very little of the site lies on federal land. In certain places the boundary marker is less than 20m from the shoreline. Our examination September 18, 19, and 20 consisted primarily of excavating and examining bank-line profiles. Two excavation units were placed near the southwest corner of the bend.

The stratigraphy of this landform as revealed in 5 profiles is complex and, in places, still forming. The soil horizons exposed in Profile 1 are very poorly developed and the upper several 10s of centimeters consists of very recent deposits. Figure 3-25 shows recent stratification lines filled with partially decomposed organic material. Below this to a depth of 1.75m was a massive sandy loam deposit with very little soil development and a great deal of disturbance from tree roots and animal burrows.

Elsewhere along the shoreline, however, we were able to identify 2 distinct alluvial deposits. These are best shown in Profiles 3 and 5 (Figures 3-26 and 3-27). The textural characteristics of these 2 units are very similar, composed of sandy loam with a small (less than 18%) clay fraction.

In Profiles 3 and 5 the lower of the 2 units was marked by a buried A horizon (Ab) which still retained over 1% organic matter in each spot (1.2% in Profile 3 and 1.3% in Profile 5). The pH values were also considerably higher in the Ab horizon than the adjacent B horizons; Profile 5 - Ab - 6.3, B = 5.2. The B horizons in each unit were well-developed argillic horizons.

No artifacts were observed in Profiles 3 or 5 but artifacts were recovered from the lower unit in Profiles 2 and 4. Unfortunately the upper portions of these 2 profiles had been very badly disturbed so that neither the upper unit nor the upper portion of the lower unit could be accurately defined. Artifacts (flakes) were recovered from a disturbed area, probably an old tree root structure well into the lower unit, and a single artifact was found buried (1.70m below ground surface) in the lower unit at Profile 4. We consider this strong evidence for the prehistoric use of the surfaces associated with the lower alluvial unit.

Two 1 x 1m test units were excavated near the southwest end of the landform. However, only a single flake was recovered from these units (10 - 20cm level in Unit 2). Additionally, the profiles of these units could not be matched with confidence to any of the bankline profiles.

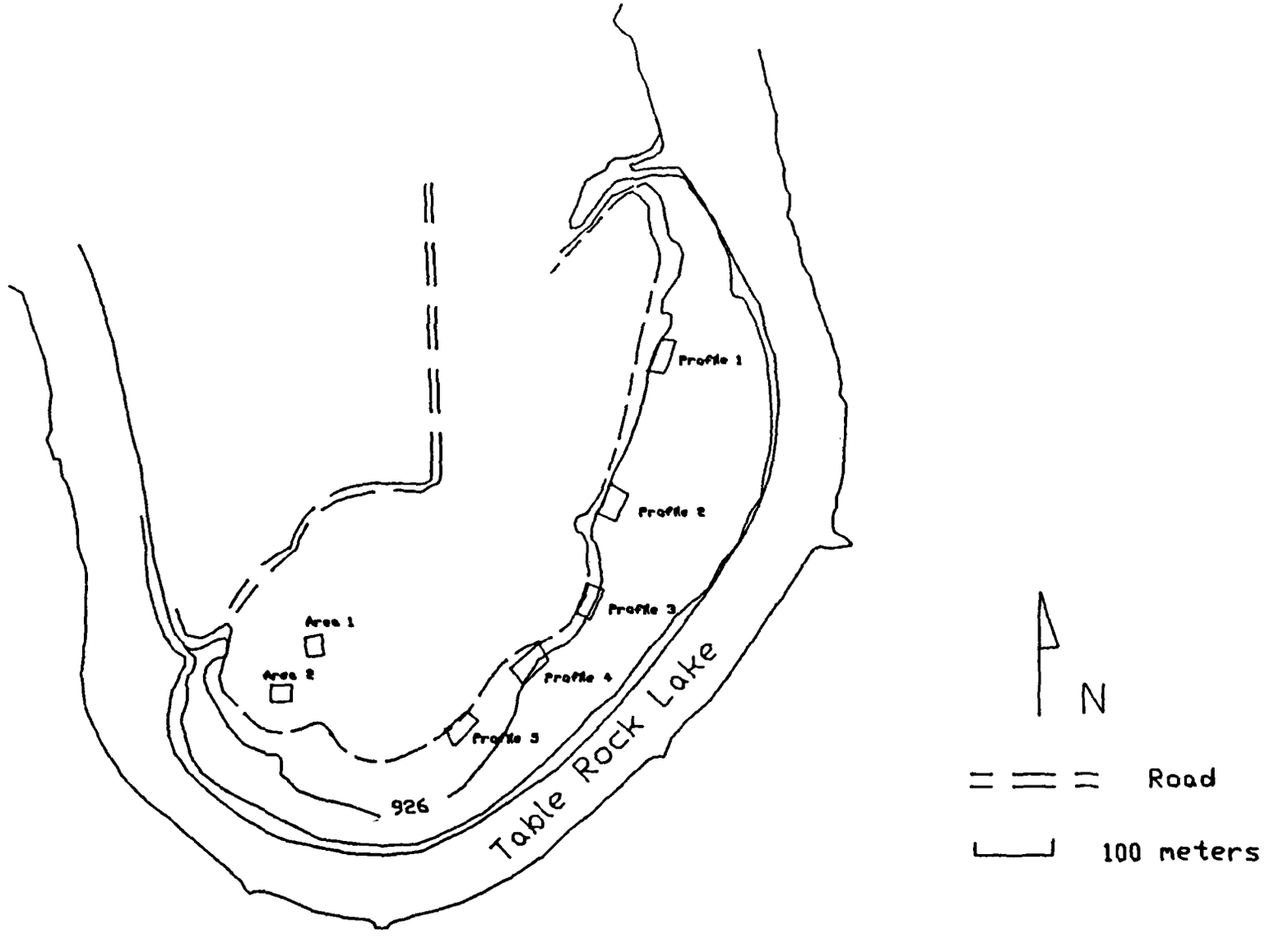


Figure 3-24. Site Plan for 3CR236.

Figure 3-25. 3CR236: Profile 1, Recent Alluviation. View to the North.

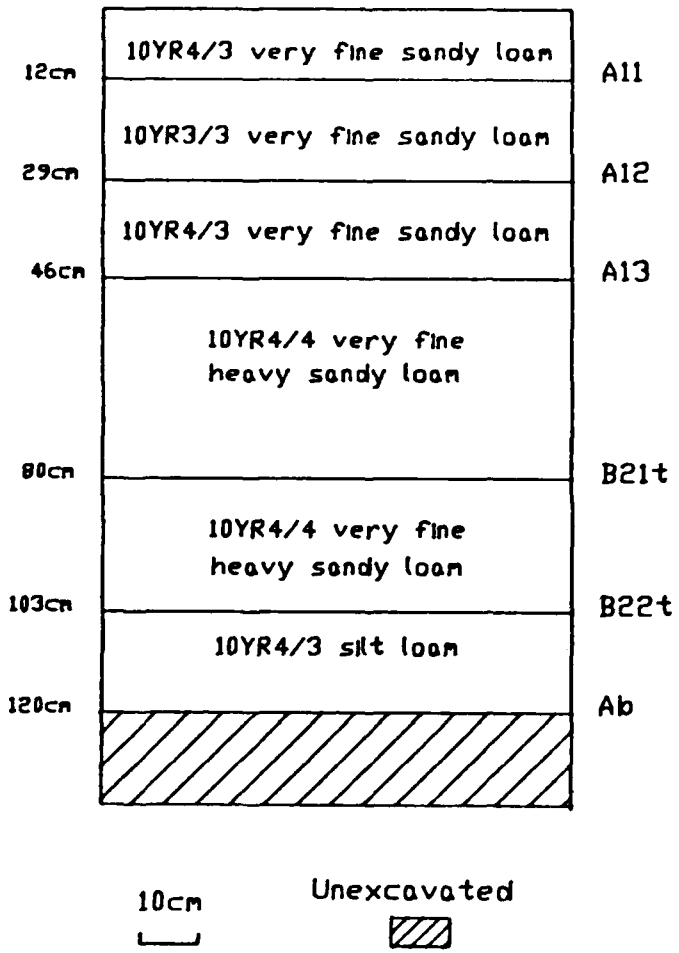
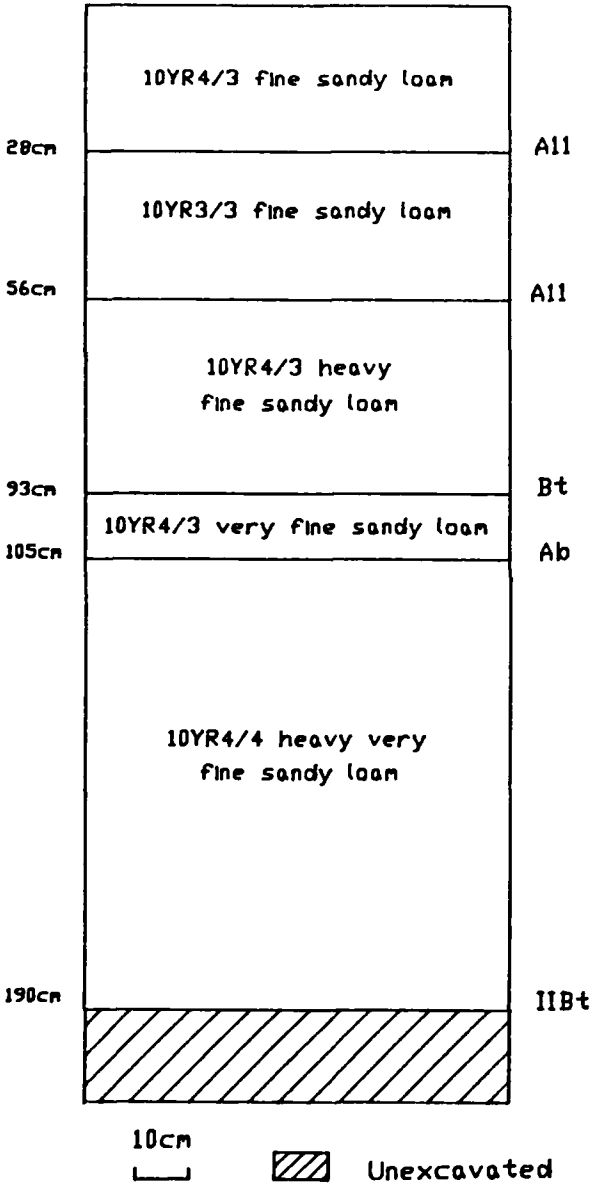


Figure 3-26. Soil Profile 3 of 3CR236.

3CR236 Soil Profile 3 Description

A11	0-12cm. Dark brown (10YR4/3) very fine sandy loam; moderate strong granular structure; very friable; common fine and medium roots; common fine and very fine pores; medium acid (pH 6.0); clear smooth boundary.
A12	12-29cm. Dark brown (10YR3/3) very fine sandy loam; moderate strong granular structure; very friable; common fine and medium roots; common fine and very fine pores; medium acid (pH 6.0); clear smooth boundary.
A13	29-46cm. Dark brown (10YR4/3) very fine sandy loam; common medium faint dark yellowish brown (10YR4/4) mottles; moderate strong granular structure; very friable; common fine and medium roots; common fine and very fine pores; medium acid (pH 6.0); clear smooth boundary.
B21t	46-80cm. Dark yellowish brown (10YR4/4) very fine heavy sandy loam; moderate subangular blocky structure; firm; patchy faint films on peds; few fine roots; strongly acid (pH 5.5); clear smooth boundary.
B22t	80-103cm. Dark yellowish brown (10YR4/4) very fine heavy sandy loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; firm; patchy faint films on peds; few fine roots; strongly acid (pH 5.5); clear smooth boundary.
Ab	103-120cm+. Dark brown (10YR4/3) silt loam; common fine distinct light brownish gray (10YR6/2) mottles; weak subangular blocky structure; firm; common fine roots; common very fine pores; strongly acid (pH 5.5).



3CR236 Soil Profile 5 Description

A11 0-28cm. Dark brown (10YR4/3) fine sandy loam; common medium distinct yellowish brown (10YR5/4) mottles; moderate granular structure; friable; common fine and medium roots; sandy overburden; very strongly acid (pH 5.0); abrupt smooth boundary.

A11 28-56cm. Dark brown (10YR3/3) fine sandy loam; common medium distinct yellowish brown (10YR5/4) mottles; moderate granular structure; friable; common fine and medium roots; medium acid (pH 6.0); clear wavy boundary.

Bt 56-93cm. Dark brown (10YR4/3) heavy fine sandy loam; moderate subangular blocky structure; firm; patchy faint films on peds(?); few fine roots; strongly acid (pH 5.5); clear smooth boundary.

Ab 93-105cm. Dark brown (10YR4/3) very fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots; strongly acid (pH 5.5); clear smooth boundary.

IIBt 105-190cm+. Dark yellowish brown (10YR4/4) heavy very fine sandy loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; firm; patchy distinct films on peds; few fine roots; strongly acid (pH 5.5).

Figure 3-27. Soil Profile 5 of 3CR236.

Recovered Materials

A few items of historic trash were recovered from the upper 20cm of the Test Units. Otherwise the only materials recovered were flakes which we judged to be waste from bifacial tool manufacture.

HISTORIC ARTIFACTS

Provenience	Level(cm)	Cat. No.	Description
			3CR236: CERAMICS
Test Unit 1	00-10	3-01	whiteware rim sherd
			GLASS
Test Unit 1	00-10	3-02	purpled vessel fragment
			METAL
Test Unit 1	10-20	4-01	flat rusted iron fragment
			MISCELLANEOUS
Test Unit 2	20-30	6-01	charcoal (3 fragments)

Evaluation

Investigations have shown that this site contains buried deposits. In fact, very little material was recovered from the present surface. For this reason few artifacts were recovered, and it is not possible at the present time to estimate the age of this site or to evaluate precisely its scientific potential. However, because of the presence of buried and therefore likely in situ deposits, it is our judgment that the site should be treated as if it were eligible for inclusion on the National Register of Historic Places. If project management activities are deemed likely to impact this locality, a program designed specifically to document the nature and extent of the buried deposits should be undertaken. Such a program would include a program of coring to determine the structure of the landform and the excavation of a series of backhoe trenches to determine the nature and extent of the cultural materials associated with the various alluvial depositions at the site.

23BY340

Discussion and Description (Figure 3-28)

During its examination in 1985 this site was described as a multicomponent site located on a bench overlooking the White River. A wet sinkhole is situated on the northwest end of the site (Figure 3-29). The site was examined in the mid-1970s as a part of an inundation study (Garrison et al. 1977). However, at that time most of the investigation was directed toward the remains contained in a completely inundated shelter at the northern end of the site (Figure 3-30). A portion of the shoreline was covered by rip-rap at that time (Figure 3-31) which has somewhat protected a small portion of the site, but considerable erosion has taken place elsewhere along the shoreline over the past 10 years (Figure 3-32).

A bank-line profile, Profile 1, was described from the northern edge of the site (Figure 3-33). Four separate horizons were identified. The upper 7cm was composed of a dark brown, very fine sandy loam. It was estimated to contain angular flint chips to less than 1% of its volume. Below this to a depth of 28cm was a silty clay loam horizon containing numerous concretions and rounded pebbles. This rested upon a horizon composed of over 50% of rounded and subrounded pebbles which in turn lay upon another gravel layer.

Three test units (1 x 1m) were excavated. In unit 1 the A horizon had a depth of 19cm. In Units 2 and 3 the A horizon extended to 25cm below ground surface. Each unit was excavated 10cm into the upper gravel layer. No artifacts were recovered below the A horizon.

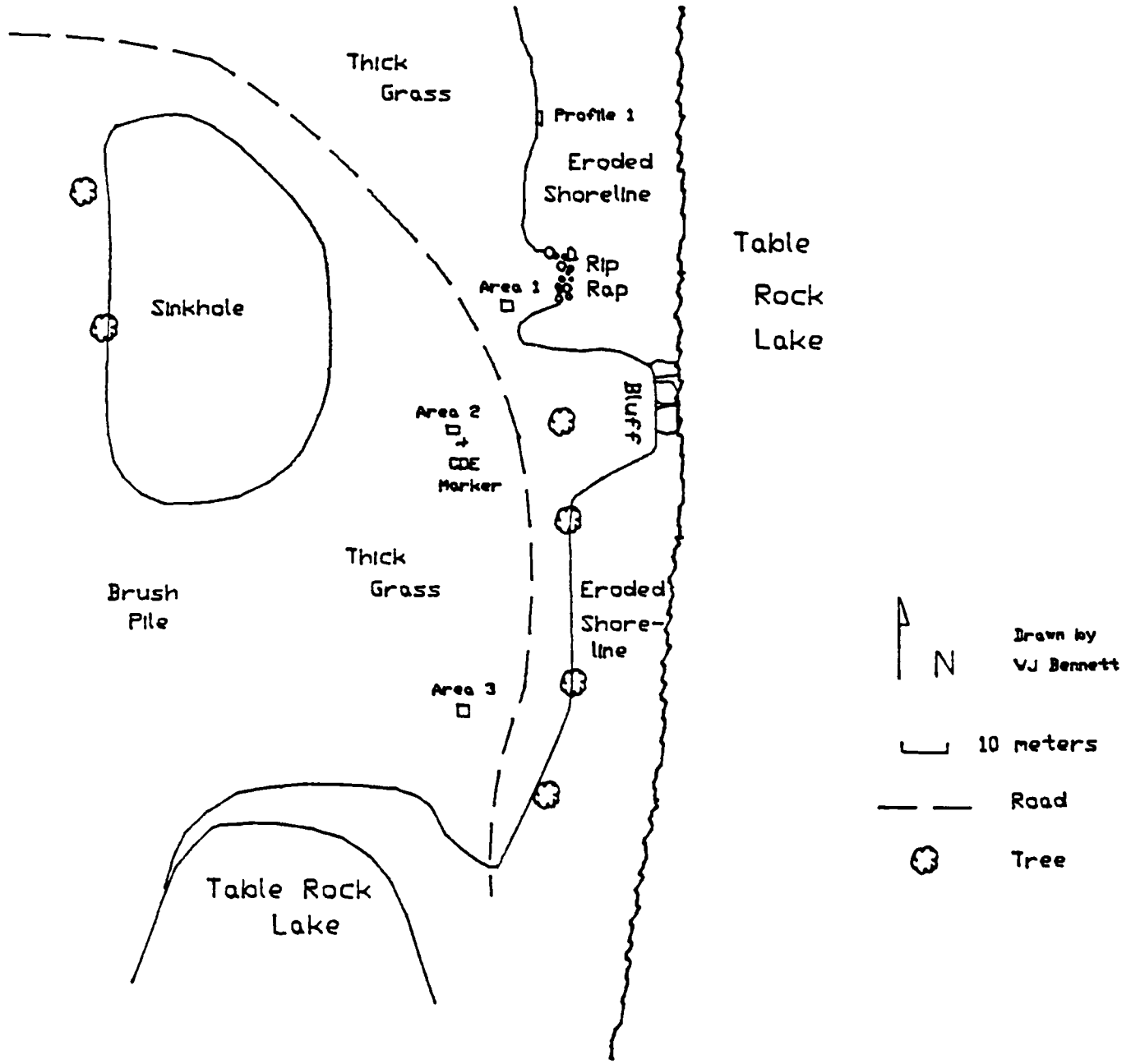


Figure 3-28. Site Plan for 23BY340.

Figure 3-29. 23BY340: Sinkhole. View to the Southeast.

Figure 3-30. 23BY340: Bluffline. View to the South.

Figure 3-31. 23BY340: Eroded Shoreline and North End of Rip-Rap. View to the West.

Figure 3-32. 23BY340: Artifacts Eroding at Shoreline. View to the West.

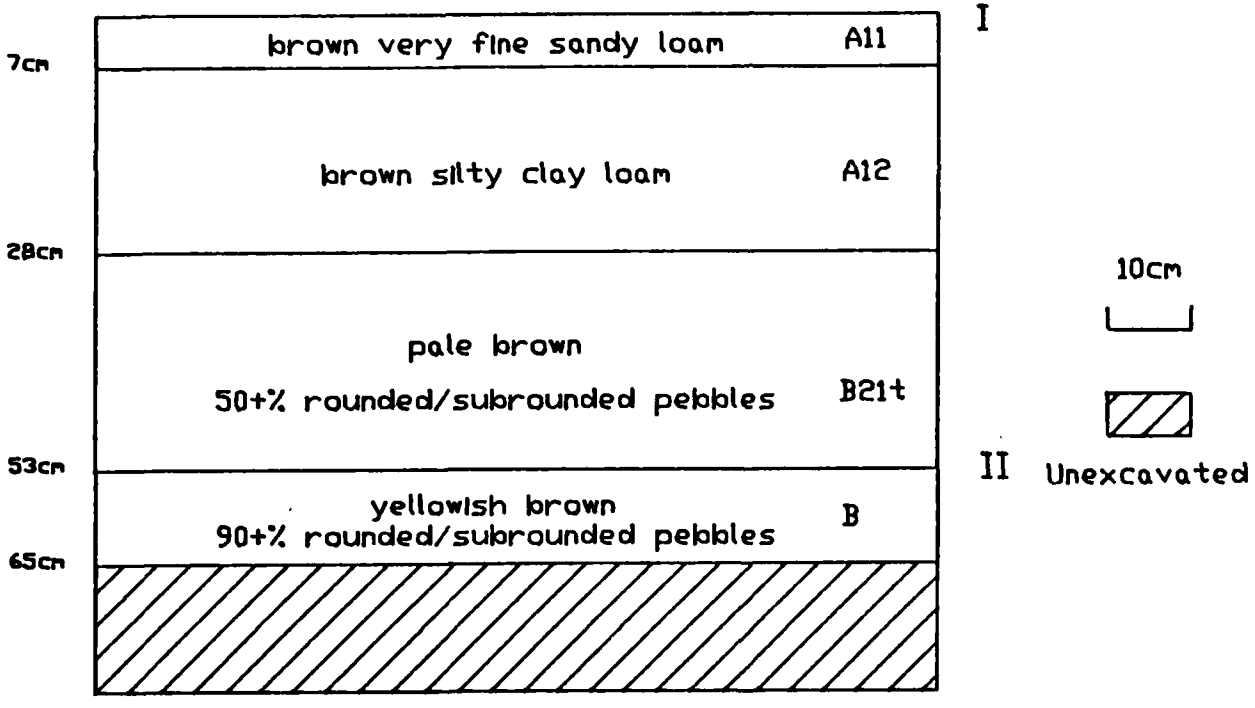


Figure 3-33. Soil Profile 1 of 23BY340.

Recovered Materials

A variety of lithic materials was recovered from 23BY340 during these investigations. However, the only chronologically diagnostic materials recovered were 3 Jakie Stemmed points (Figure 3-34). The 1985 surface collection recovered other Archaic Period dart points (Bennett and Ray 1986:45) indicating an extensive use of the site by a number of groups during the Middle and Late Archaic periods.

A few items of Historic Period trash were also recovered.

LITHIC TOOLS

Material	Description	Figure Reference
Osagean	Jakie Stemmed point, tip missing	3-34b
	Jakie Stemmed point, rounded tip	3-34c
Reeds Spring	ovate biface	3-34d
	biface edge fragment	
	core fragment?	
	pebble fragment, incidental edge modification	
	biface edge fragment	
Jefferson City chert	Jakie Stemmed point, tip reworked	3-34a
	biface edge fragment	

HISTORIC ARTIFACTS

PROVENIENCE	LEVEL(cm)	CAT. NO.	DESCRIPTION
23BY340: CERAMICS			
Surface		3-01	blue shell-edge whiteware rim sherd from plate or bowl
		3-02	hand-painted whiteware, unidentified green and black decoration on interior
METAL			
Test Unit 1	20-30	6-01	carriage bolt with nut, total length (10.9cm), diameter (0.6cm)

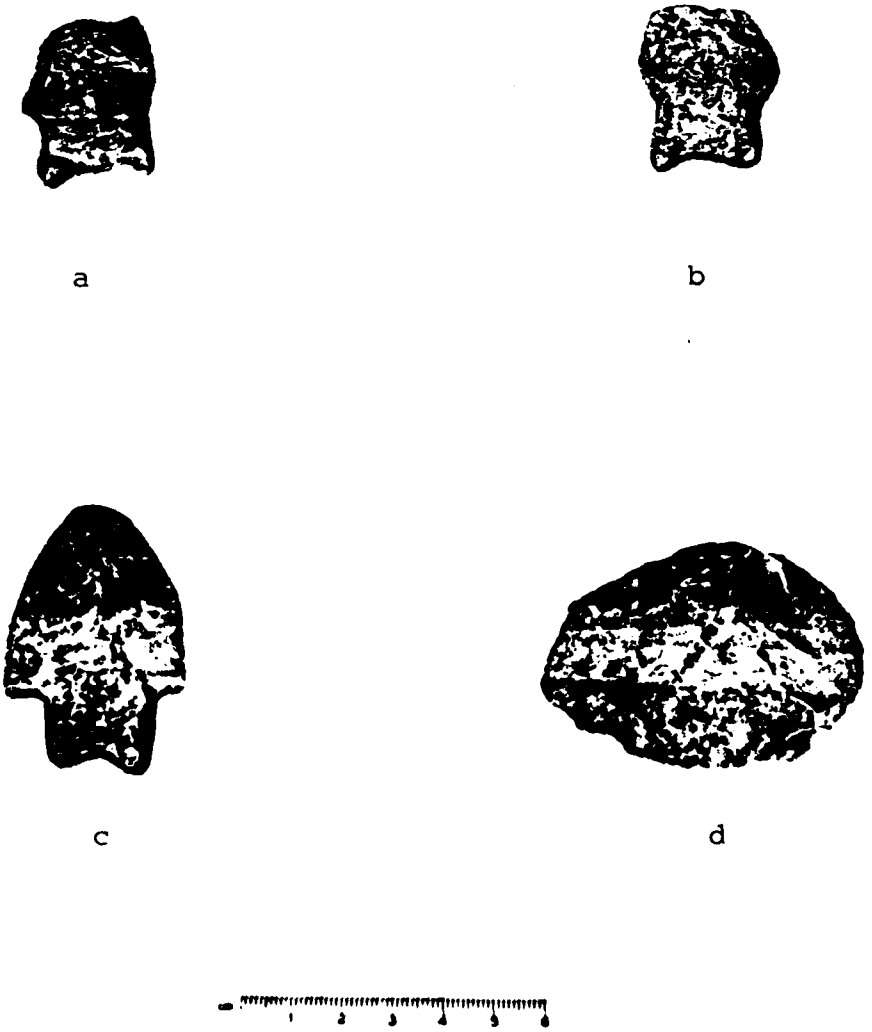


Figure 3-34. Lithic Artifacts. a,b,c- Jakie Stemmed points; d- ovate biface.

Evaluation and Recommendations

From these investigations it seems clear that the debris-bearing deposit at the site is restricted to the upper 25cm or so with no internal stratification.

Our observations regarding the stratigraphy of the site indicates that intact deposits do not exist at this site. Further, it is our judgment that the materials collected from this and the previous investigations at the site (Bennett and Ray 1986) constitute an adequate sample of materials. Therefore we believe that the potential for the site, at least those portions of the site above an elevation of 917 amsl, to yield significant insights into the past lifeways of the human groups who used this location has largely been exhausted. It is our judgment that this site is not eligible for inclusion on the National Register of Historic Places.

23SN793, The Cape Fair Park Site

Discussion and Description

The Cape Fair Park site, 23SN793, was discovered and recorded on August 30, 1985. It is located on an interfluve summit in the northern portion of Cape Fair Public Use Area, approximately 250 - 750m east of the former James River (now Table Rock Lake).

During the initial survey of 23SN793, a light scatter of prehistoric artifacts and 3 possible artificial mounds were discovered (Bennett and Ray 1986). The artifacts included 1 contracting stemmed projectile point base (Langtry), bifaces, and flakes found on the summit and shoulders of the interfluve.

The three earthen mounds are situated on the summit of the interfluve and appear as prominent features on the generally rocky ridgetop. The mounds, spaced 10-25m apart, are roughly circular and vary in size from 8 to 20m in diameter and from approximately 25 to 60cm high. The mound fill in each was noted to be a reddish brown silt loam, whereas the surrounding soil was nonexistent to a very thin, dark brown silt loam. The site was assessed as a temporary Late Archaic-Woodland campsite and possible mound site (Bennett and Ray 1986).

Investigations made during the current project focused on the earthen mounds. A test excavation was conducted on October 31, 1986, to determine whether the mounds were cultural or natural in origin. The mounds are situated in a wooded area with dense cedar thickets and isolated hardwoods. The mounds were given successive letter designations in the order of discovery, with Mound A located on the east end of the summit, Mound B (the largest mound) in the center, and Mound C on the west end; a fourth low mound, located 10m northeast of Mound A, was found during the test excavation and designated Mound D.

One test unit (1 x 1m) was placed over the center of Mound A, which measures 8 x 8m wide x 40cm high. The entire unit was carefully troweled by hand in arbitrary 10cm levels to bedrock. Artifacts were recorded horizontally and vertically to the nearest centimeter.

Unit 1 was excavated to a depth of 36 - 42cm below surface. The soil stratigraphy of the mound consisted of two strata with a third unit of dolomite bedrock. Stratum I consisted of a dark yellowish brown (10YR3/4) silt loam 7-14cm thick with numerous roots and residual chert gravel. This Stratum included the grass sod and humus layer (A0 Horizon) and topsoil (A1 Horizon). Stratum II consisted of a dark reddish brown (5YR3/4) clayey silt loam 22-33cm thick with numerous fine to medium roots and approximately 5-10% angular, residual chert gravel. This Stratum represents the B1/B2 subsoil. The base of the unit excavation delineated the contact with the

third Stratum represented by the parent material, which in this area consisted of a silty member of the Jefferson City-Cotter dolomite. The dolomite bedrock which dips 5-7cm to the west in Unit 1, appears to be approximately 8-10cm higher than the bedrock surrounding the mound.

Recovered Materials

Artifacts recovered from the unit included 1 biface fragment, 1 core, and 2 small flakes. The core was knapped from Jefferson City chert, and the biface fragment was made from Reeds Spring chert. Both chert types are locally available to the project area.

The biface fragment and core were found 8-11cm below surface near the bottom of Stratum I, whereas the two small flakes were recovered between 25-27cm in Stratum II. Stratum I, which contains the core and biface fragments, is interpreted as the only cultural horizon in Mound A. It is probably associated with the thin scatter of artifacts across the rest of the summit, which accumulated as a result of the limited activities conducted at the temporary campsite. The two small flakes found in Stratum II were probably redeposited from the upper (cultural) Stratum by root action and/or rodent burrowing.

Evaluation and Recommendations

Based on the soil profile and other data obtained from the test excavations, Mound A and its associated mounds, are interpreted as unmodified natural features that are capped with a thin 10cm Ap horizon or light midden layer. Although natural mounds are not uncommon in Southwest Missouri (Max Aldridge, personal communication), the natural genesis of these mounds are not fully understood. Theories include erosional remnants produced from differential weathering between adjacent formations, remnant features resulting from the reworking of transported sediments such as loess or alluvium, and mounds created by the workings of various fauna and/or flora.

No further investigations are recommended for this site.

TOOLS

Material	Description
Reeds Spring	biface fragment, broken in manufacture?
Jefferson City chert	chunk, 1 flake scar possibly incidental
	core with several platforms

Sites 23TA226/23TA291

Discussion and Description (Figure 3-35)

During the 1985 survey several items of prehistoric lithic debris were observed eroding from and within disturbed surface areas of a large, complex alluvial structure below Table Rock Dam. At that time two site number designations were used to record these locations; 23TA226 - a previously recorded site and 23TA291 - a new designation. This locale was judged to be potentially very significant due to the apparent depth (over 5m) of buried materials found in a deep gully-cut. At that time the only chronologically diagnostic material recovered was an Archaic Period dart point found in a redeposited position on the gully floor.

On November 21, 1985, a large volunteer force from Archeological Assessments and the Center for Archaeological Research, Southwest Missouri State University, returned to the gully-cut to clean and map the gully-wall. Figure 3-36 drawn by Dr. David Benn was a major product of this effort.

The 1986 investigations in this locale were conducted from September 29 to-October 3. Activities included the re-examination of the gully-wall at 23TA226 and the deep cutbank at 23TA291 as well as systematic collection efforts and the excavation of 4 test units at 23TA226 (Figure 3-35). It was hoped that additional chronological indicators would be found to date either the surface or buried deposits. Unfortunately, no such materials were discovered.

Excavation in the disturbed upper portions of 23TA226 indicated the extensive but relatively shallow disturbance of this portion of the deposits. However, Unit 4 in the more thickly vegetated portion of the area indicated much less disturbance (Figure 3-37). Because of the extremely thick vegetation at the eastern end of this landform where 23TA291 had been recorded, our investigations were restricted to the examination of a deep cutbank profile (Figure 3-38). No cultural materials were recovered from this area.

The gully-wall profile (Figure 3-36) clearly indicates that this is a very complex landform with a considerably involved geomorphic history. Apparently this structure was formed through a combination of both alluvial and colluvial processes. Cultural materials found deeply buried in various of these depositional units strongly indicate human use during the time of its formation.

Three soil profiles were recorded for the gully-wall (Figures 3-39, 3-40, and 3-41). Profile 2 (Figure 3-40) was the most extensive of these. An analysis of this profile indicates the following depositional units and episodes:

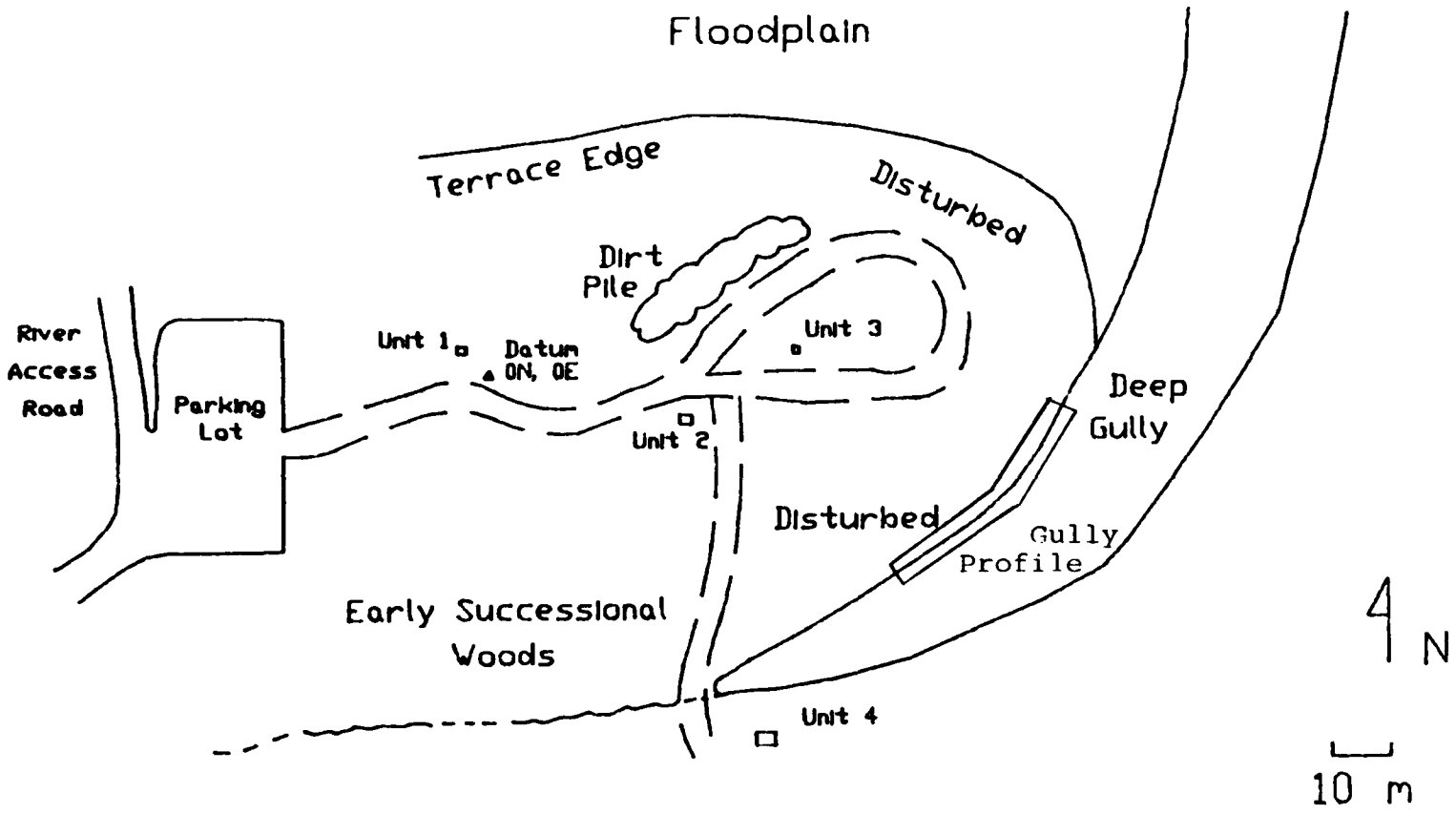


Figure 3-35. Sketch Map of Site 23TA226.

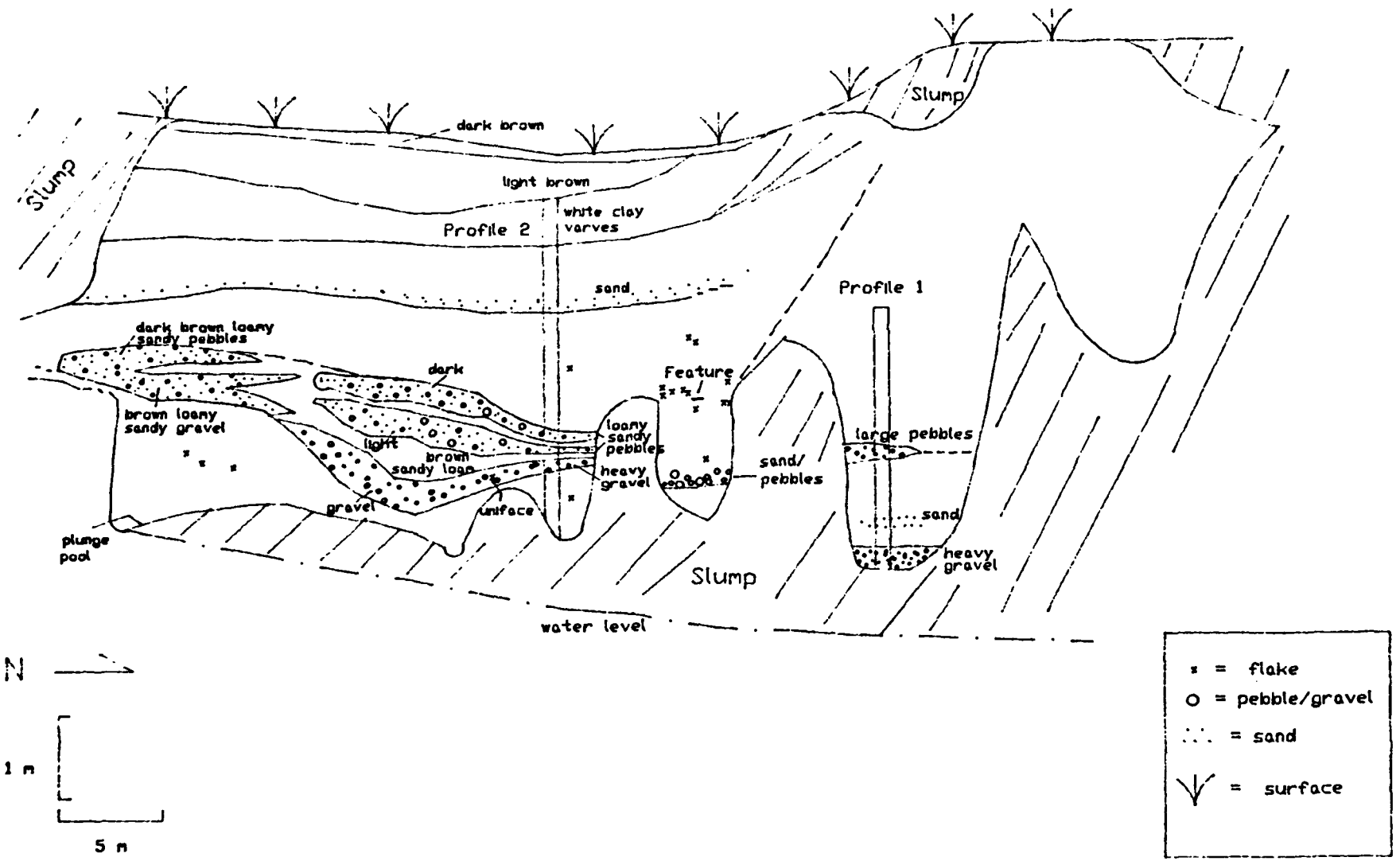


Figure 3-36. West Wall of Site 23TA226 Gully.

Figure 3-17. Test Unit 4, North Wall for Site 23TA291.

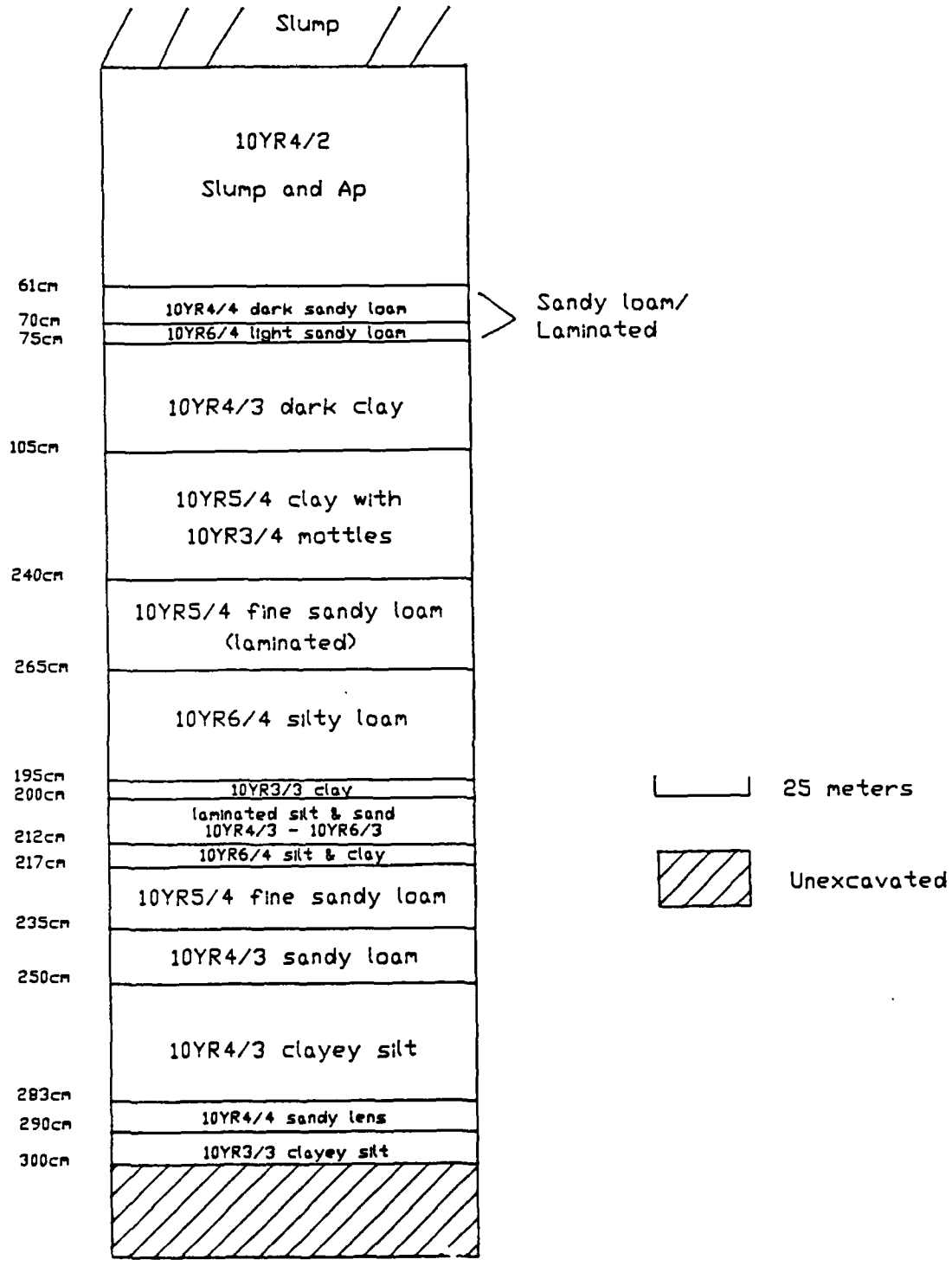
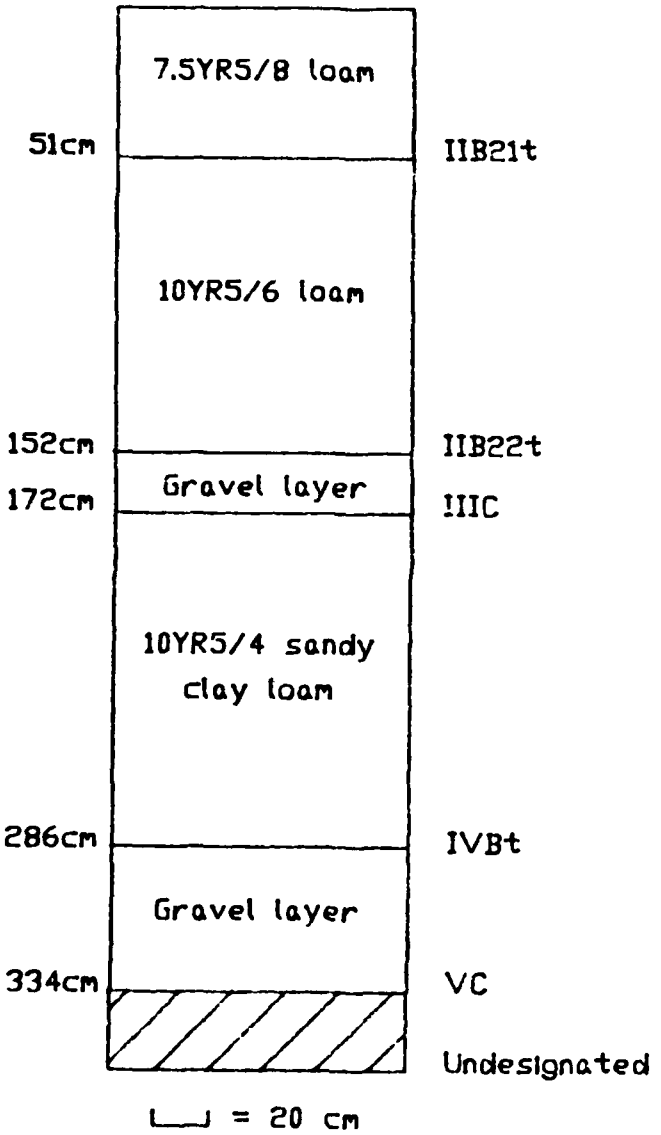


Figure 3-38. Soil Profile 1 of 23TA291.



23TA226 Soil Profile 1 Description

IIB21t	0-51cm. Strong brown (7.5YR5/8) loam; medium strong subangular blocky structure; firm; patchy distinct films on peds; common fine roots; common fine pores; few holes; mildly alkaline (pH 7.4); gradual smooth boundary.
IIB22t	51-152cm. Yellowish brown (10YR5/6) loam; medium strong subangular blocky structure; firm; patchy distinct films on peds; few fine roots; few fine pores; few holes; mildly alkaline (pH 7.6); abrupt wavy boundary.
IIIC	152-172cm. Gravel layer; structureless; firm; 95% angular chert fragments, 5% sand and silt; abrupt wavy boundary.
IVBt	172-286cm. Yellowish brown (10YR5/4) sandy clay loam; medium moderate subangular blocky structure; firm; few medium roots; common fine pores; mildly alkaline (pH 7.8); abrupt wavy boundary.
VC	286-334cm+. Yellowish brown (10YR5/6) gravel layer; structureless; firm; 95% gravel (subrounded and angular) and 5% sand; boundary unobserved.

Figure 3-39. Soil Profile 1 for 23TA226.

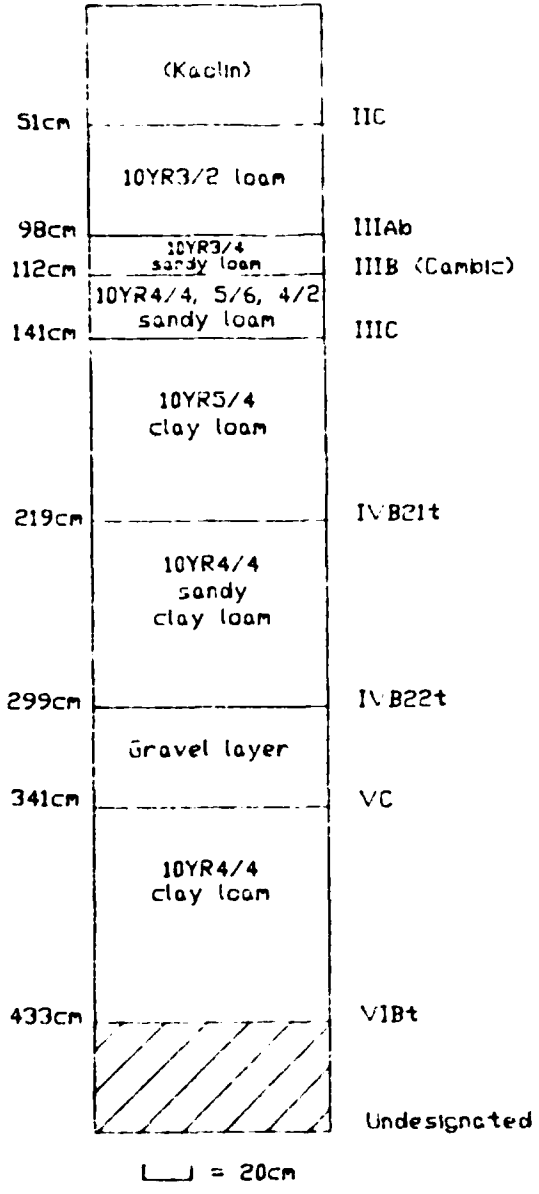
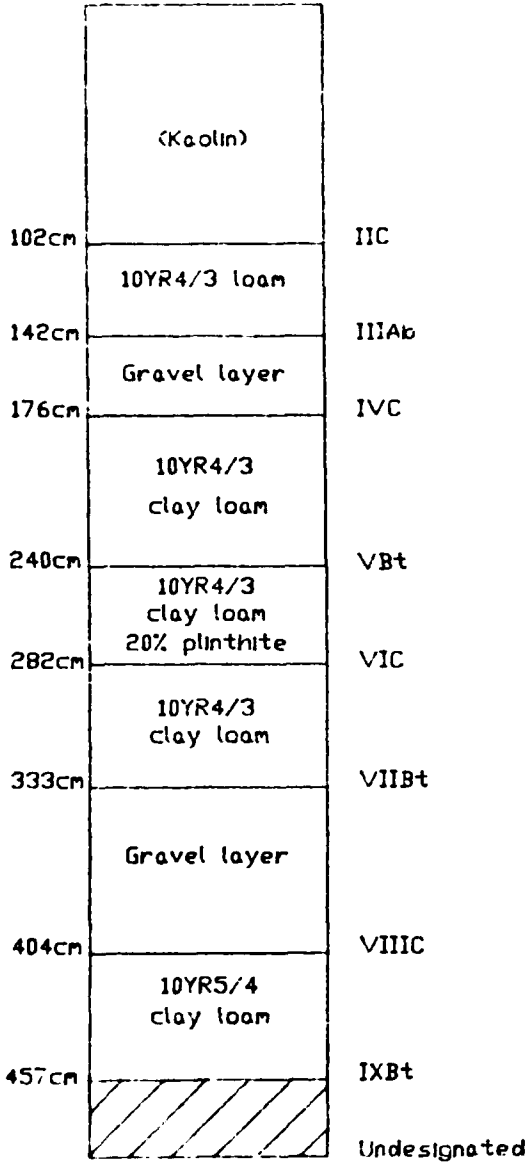


Figure 3-40. Soil Profile 2 for 23TA226.

23TA226 Soil Profile 2 Description

IIC	0-51cm. Thinly stratified Kaolin.
IIIAb	51-98cm. Very dark grayish brown (10YR3/2) loam; medium moderate granular structure; friable; common fine and medium roots; common fine and medium pores; common fine and medium holes; moderately alkaline (pH 8.0); clear smooth boundary.
IIIB (Cambic)	98-112cm. Dark yellowish brown (10YR3/4) sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; common fine pores; common fine holes; moderately alkaline (pH 8.1); clear smooth boundary.
IIIC	112-141cm. Dark yellowish brown (10YR4/4), yellowish brown (10YR5/6), and dark grayish brown (10YR4/2) sandy loam; structureless; friable; few fine and medium roots; few fine pores; few fine holes; thinly stratified; moderately alkaline (pH 8.1); clear smooth boundary.
IVB21t	141-219cm. Yellowish brown (10YR5/4) clay loam; common medium distinct dark grayish brown (10YR4/2) mottles; strong medium subangular blocky structure; firm; patchy distinct films on peds; common fine and medium roots; common fine pores; few fine holes; desiccation cracks filled with Kaolin material; moderately alkaline (pH 8.0); clear smooth boundary.
IVB22t	219-299cm. Dark yellowish brown (10YR4/4) sandy clay loam; common medium distinct dark grayish brown (10YR4/2) mottles; strong medium subangular blocky structure; firm; patchy distinct films on peds; few fine roots; few fine pores; few fine holes; mildly alkaline (pH 7.9); abrupt wavy boundary.
VC	299-341cm. Gravel layer; structureless; firm; 95% chert fragments and 5% sand and silt; abrupt wavy boundary.
VIBt	341-433cm. Dark yellowish brown (10YR4/4) clay loam; strong medium subangular blocky structure; firm; patchy distinct films on peds; mildly alkaline (pH 7.7); boundary unobserved.



23TA226 Soil Profile 3 Description

IIC	0-102cm. Thinly stratified Kaolin.
IIIAb	102-142cm. Dark brown (10YR4/3) loam; strong medium granular structure; friable; common fine and medium roots; common fine and medium pores; common fine and medium holes; mildly alkaline (pH 7.6); abrupt wavy boundary.
IVC	142-176cm. Gravel layer; 95% gravel and 5% sand; abrupt wavy boundary.
VBt	176-240cm. Dark brown (10YR4/3) clay loam; strong medium subangular blocky structure; firm; patchy distinct films on peds; common fine and medium roots; common fine and medium pores; common fine and medium holes; dark red coatings on faces of peds, desiccation cracks filled with Kaolin; mildly alkaline (pH 7.4); abrupt wavy boundary.
VIC	240-282cm. Dark brown (10YR4/3) clay loam; structureless; firm; few fine roots; 20% plinthite; abrupt wavy boundary.
VIIBt	282-333cm. Dark brown (10YR4/3) clay loam; moderate medium subangular blocky structure; firm; patchy distinct films on peds; common fine and medium roots; common fine and medium pores; common fine and medium holes; 15% chert fragments; neutral (pH 7.1) clear wavy boundary.
VIIIC	333-404cm. Gravel layer; 95% gravel and 5% silt and sand; abrupt wavy boundary.
IXBt	404-457cm. Yellowish brown (10YR5/4) clay loam; strong medium subangular blocky structure; firm; patchy distinct films on peds; mildly alkaline (pH 7.7); boundary unobserved.

Figure 3.41. Soil Profile 3 for 23TA226.

AD-A191 550 CULTURAL RESOURCES INVESTIGATIONS: TERRACE SURVEY AND SITE EVALUATION TAB... (U) ARCHEOLOGICAL ASSESSMENTS INC NASHVILLE AR W J BENNETT ET AL DEC 87 2/3

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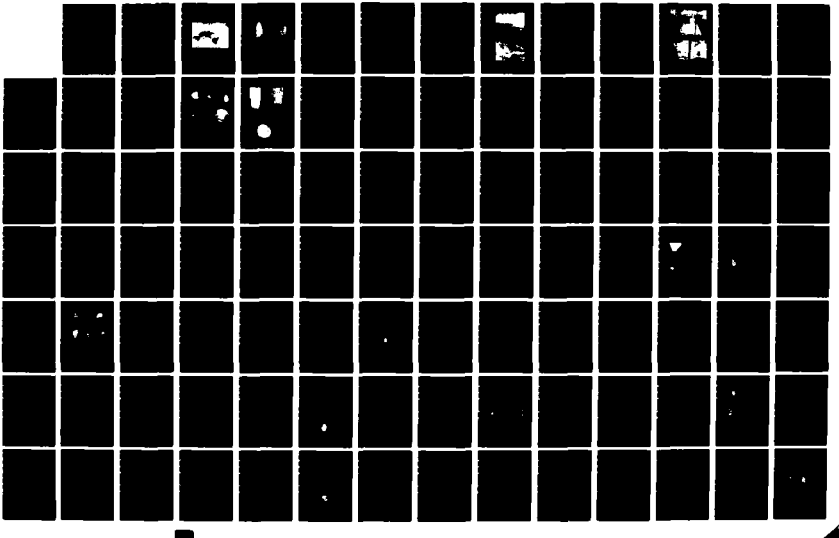
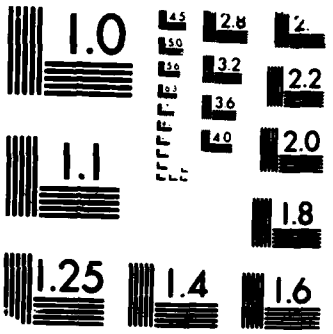




(1) The upper portion of the profile is dominated by a very unusual deposit of white clay varves (Figure 3-42) which we judge to be of very recent origin, perhaps connected with dam construction and/or associated quarrying activities.

(2) This unique material covers a unit consisting of a buried A and a cambic B horizon which rests upon a water-laid sandy loam within which stratification lines are still visible.

(3) The third unit is a deposit of fine-grained materials over 1.5m thick within which both a B21 and B22 argillic horizon have been formed. No buried A or A' horizon was detected with this unit. In the 1985 investigations various bits of lithic debris (primarily flakes) had been discovered in this deposit. During re-examination in 1986 an amorphous concentration of lithic debris (Feature 1) was located in this deposit (Figure 3-36).

(4) This unit consisted of a number of discrete lenses of coarse gravel and pebbles. A tested or flaked river cobble was located in this gravel deposit.

(5) The lowest unit observed was another thick, fine-grained deposit within which a well-developed argillic horizon has been formed.

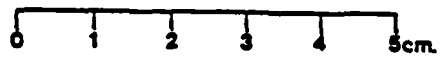
Profile 1 (Figure 3-39) approximately 20m farther east of Profile 2 which could be examined only for about 3.5m above the gully floor contained some of the same types of deposition elements; thick, fine-grained deposits with well-developed argillic B horizons and gravel lenses. However, soil chemical and laboratory textural identification indicate sufficient differences between the fine-grained deposits at these 2 locations to make us reluctant to match units between these 2 profiles. Further, a third profile (Figure 3-41) described on the south side of the gully was also slightly different from Profiles 1 and 2. Such a situation is, of course, normal for such a complexly formed landform.

Bank-line profiles farther south on this landform (Figure 3-38) also indicate a comparably complex geomorphic development elsewhere on this landform.

Recovered Materials

With the exception of bits of historic trash in the upper few centimeters of the Test Units, the recovered cultural material consisted of lithic debris, primarily flakes and flaked chunks. The single culturally diagnostic item recovered from the site is the Archaic dart point found in 1985, shown in Figure 3-43a. In addition to the flaked cobble found in the lower gravel lens, the only other tool recovered was a small biface we believe to have been broken during use (Figure 3-43b).

Figure 3-42. Clay Varves at top of Gully Profile, 23TA226.



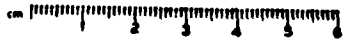


Figure 3-43. Lithic Artifacts. a- Marshall, Castroville, or Williams point from 1985 collection of 23TA226; b- large biface end, broken in use from 23TA226.

Evaluation and Recommendation

Investigations at this location have indicated the presence of cultural materials throughout this landform. The upper, near-surface deposits seem to have been disturbed to a considerable degree, but there is every indication that intact deposits of prehistoric cultural materials are present, buried in the landform.

Since we interpret these materials to be the residue of human activity during the formation of the landform, we believe that the investigation of these deposits and their relationship to the formation of the landform is quite capable of yielding significant insights into the use of this area during at least the Archaic Period. For this reason we believe that the site should be considered eligible for nomination to the National Register of Historic Places. We recommend that the site be monitored on a regular basis (at least annually) to determine if it is being threatened by erosion.

23TA309 - Long Creek Meander Core Mound Group

Discussion and Description (Figure 3-44)

The Long Creek Meander Core Mound Group site, 23TA309, was discovered and recorded on September 12, 1985. It is located on a meander core (isolated hill) in the former valley of Long Creek (now Table Rock Lake) approximately 650 - 900m southwest of the former confluence of Clevinger Branch and Long Creek and 700 - 900m south-southeast of the former confluence of Jakes Branch and Long Creek.

During the initial survey of 23TA309, a sparse scatter of prehistoric artifacts and a group of eight probable artificial mounds were discovered (Bennett and Ray 1986). The artifacts, all recovered from the surface, included a split cobble, 2 chert chunks with edge modification, and 3 flakes. The mound group is situated on the summit of the meander core which is periodically inundated by Table Rock Lake during flood pool stage. The mounds were designated A through H from west to east. The mounds are spaced 10-20m apart and are oriented on roughly north-south, east-west axes. Except for Mound B, they are all circular in shape, varying in size from 7 to 10m in diameter and 10 to 55cm high; Mound B is oblong (15 x 18m) and is approximately 80cm high. The mounds are composed of a light to dark reddish brown clay loam compared to the very thin dark brown to black silt loam between mounds. At the time of investigations the mounds were situated in a fairly dense cedar thicket (Figures 3-45 and 3-46).

Investigations made during the present project focused on the content, stratigraphy, and origin of the earthen mounds. Test excavations were conducted on Mounds A, B, C, and E from September 22 through 26, 1986.

Investigations began with the excavation of a north-south trench 1m wide and 11m long placed on the south half of Mound B with the north end (0N, 0E) situated on the mound apex (Figure 3-47). Units 1 South and 6-11 South were excavated to bedrock, whereas Unit 2 South was excavated to a depth of 40cm, and Units 3-5 South were not excavated. All units were excavated in 10cm levels but only portions of each unit were screened.

The soil profile in the center of Mound B consisted of two soil units (Figures 3-48 and 3-49). The upper 50 - 55cm of the profile was composed of a clay loam within which a well-developed B horizon was present. This unit was clearly composed of transported sediment placed upon a residual layer of dark brown silty clay which had formed from the underlying bedrock (Figure 3-50). Soil profiles within Mounds A and E were identical to that observed in Mound B. Soil samples from the B horizons of Mounds A and B were given a description of clay loam (Mound A = 37% sand, 31% silt, 32% clay; Mound B = 32% sand, 38% silt, 36% clay). Chemically the samples were also very similar.

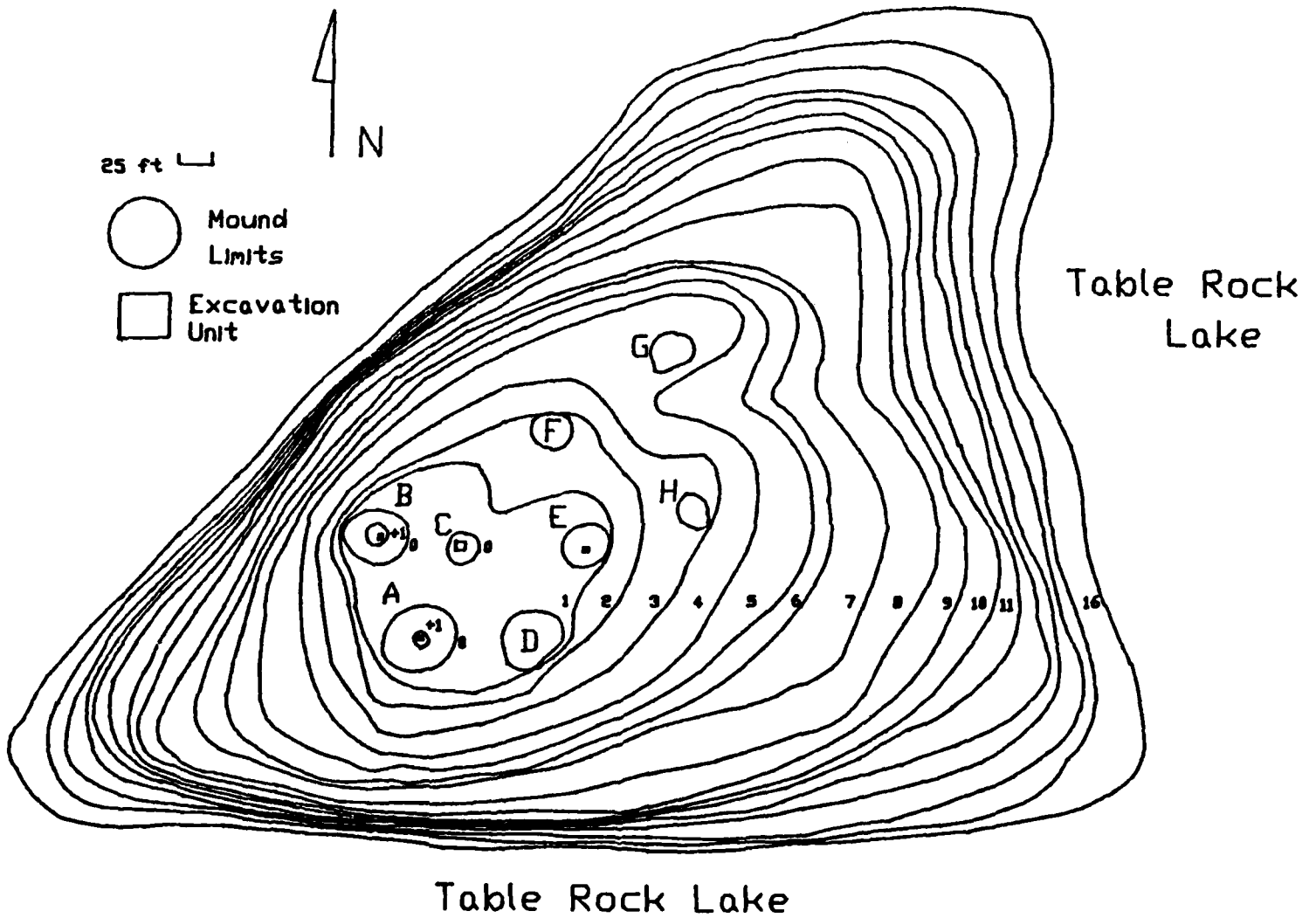


Figure 3-44. One Foot Contour Map of Site 23TA309.

Figure 3-45. 23TA309 View to the South.

Figure 3-46. 23TA309 View to the north, Mound A in the background.

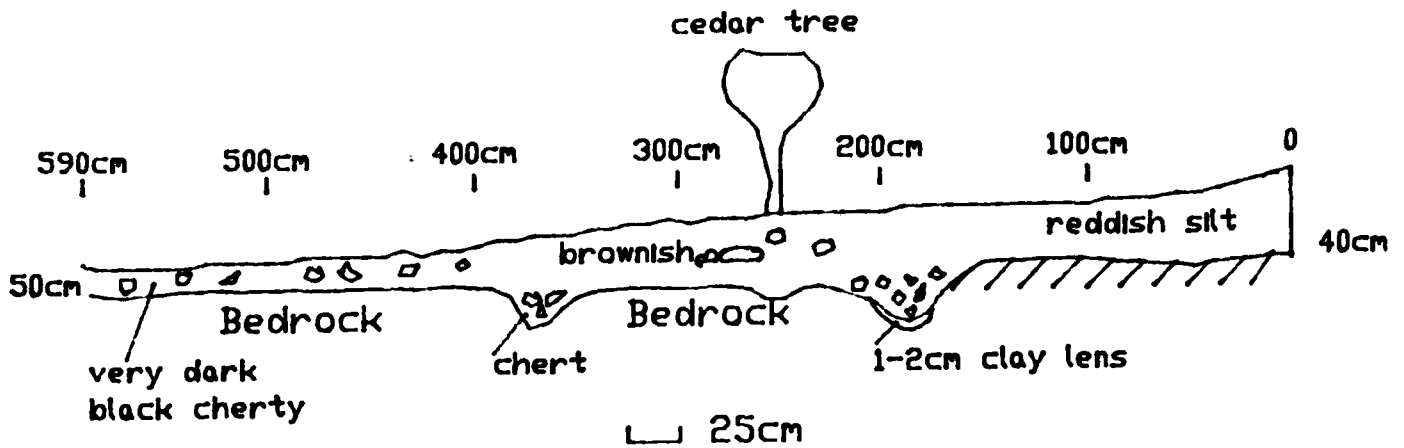
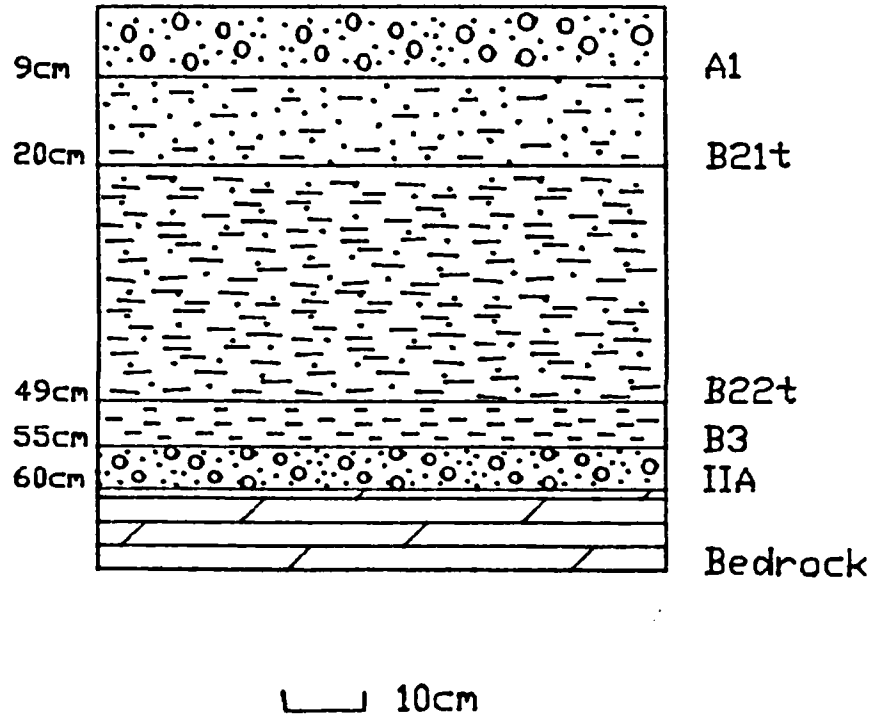


Figure 3-47. Site 23TA309 (Mound B) Soil Profile, Trench 1, West Section.



Site 23TA309 Soil Horizon Descriptions - Mound B

A1	0-9cm. Dark brown (10YR4/3) silt loam; moderate granular structure; friable; common fine and medium roots; common fine and medium pores; 2% by volume of chert fragments; very strongly acid (pH 5.0); clear smooth boundary.
B21t	9-20cm. Yellowish brown (10YR5/6) heavy silt loam; strong moderate subangular blocky; firm; patchy distinct films on peds; common fine roots; common fine pores; 2% by volume of angular chert fragments; extremely acid (pH 4.5); gradual smooth boundary.
B22t	20-49cm. Strong brown (7.5YR5/6) silty clay loam; strong moderate subangular blocky structure; firm; complete distinct films on peds; few fine roots; few fine pores; 2% by volume of angular chert fragments; extremely acid (pH 4.5).
B3	49-55cm. Yellowish red (5YR5/6) silty clay; weak moderate subangular structure; very firm; few patchy films; 60% by volume of angular chert fragments - transitional; abrupt smooth boundary.
IIA	55-60cm. Dark brown (10YR3/3) silty clay; weak coarse granular structure; very firm; strongly acid (pH 5.5).

Figure 3-48. Site 23TA309 (Mound B) Soil Profile.

Figure 3-49. Soil Profile of Mound B, 23TA309.

Figure 3-50. Soil Profile of Mound B, Detail of Contact with Bedrock, 23TA309.

Two features were observed during the excavation of Mound B. Feature 1 consisted of an ash and charcoal deposit in a basin-shaped pit in the southwest corner of Unit 1S, 0E. That portion of the feature located within the unit measured 52 x 55cm wide by 13cm deep. The feature fill consisted of ash and charcoal in a medium gray silt loam. No prehistoric artifacts were recovered; however, a bottle cap and a used band-aid were found near the perimeter of the feature at 1-4cm below surface.

This feature represents a recent (post-1960) fire pit or hearth associated with camping on the island in Table Rock Lake. Site 23TA309 is a popular campsite as evidenced by several abandoned campfires, trash, and stone alignments.

Feature 2 consisted of a dark stained area with pieces of charcoal in the southeast corner of Unit 8S, 0E and northeast corner of Unit 9S, 0E. That portion of the feature within the two units measured 62 x 67cm wide and was 22-32cm below surface. The feature fill, which contained bits of charcoal, was damp and much less compact than the surrounding yellowish brown silt. Feature fill was subjected to flotation but no artifacts or identifiable pieces of charcoal were recovered. The function of this feature is uncertain, but the depth of the feature makes us somewhat hesitant to rule out a prehistoric origin.

One 2 x 2m test unit was placed on the east half of Mound A with the west side of the unit positioned across the mound apex. The entire unit was excavated to a depth of 30cm below surface; however, only the northwest quadrant (1 x 1m) was excavated to the base of the mound at 55cm below surface. The unit was excavated in 10cm levels and dirt was screened through 1/4-inch mesh. Artifacts found during excavation were recorded horizontally and vertically to the nearest centimeter.

A number of items of cultural origin were recovered from Mound A. A Rice side-notched projectile point/knife (Figure 3-51e) was found near the center of Mound A at a depth of approximately 10-15cm. The Rice side-notched point type (Chapman 1980:311), which exhibits wide shallow side notches and a straight to slightly concave base, is most characteristic of the Woodland period--in particular the Late Woodland period--but also extends into the Mississippian period. Rice side-notched points were the second most common artifacts (after arrowpoints) found in mounds of the Fristoe Burial Complex in Southwest-Central Missouri (Wood 1961:34; Wood 1967:113) and are also found in mounds of the Bolivar Burial Complex in Southwest Missouri (Wood and Brock 1984:116). A large grinding stone or metate and charcoal flecks were discovered near the geographic center of the mound. The metate, which exhibits a lightly ground and polished surface, was found with the grinding side up at the base of the mound fill (50-55cm below surface), at its junction with the thin chert and clay layer. The metate was made from a rectangular slab of Jefferson City quartzite measuring 28x39cm wide and 5cm thick (Figure 3-52c). Although quartzite occurs in the local Jefferson City formation, an extensive examination of the meander core summit revealed that

quartzite does not occur in the vicinity of the mounds at 23TA309. A tested cobble, 2 flakes, a core fragment, and several charcoal flecks were found immediately above and south of the metate between 32-47cm below surface. No well-defined pit feature was observed during excavation, although a faint possible outline was noted to dip under the metate in the profile between the southwest and northwest quadrants of the test unit.

A 2.0 x 2.5m area on the west side of Mound C was shovel-skimmed without screening the soil to a depth of 1 - 7cm below surface in an attempt to locate a feature observed eroding out of the mound the previous year. A metate made from stream-rounded quartzite slab (Figure 3-52b) and an expanding-stem point fragment (Figure 3-51d) were recovered from the surface on the edge of the mound. The metate exhibits a moderately ground and pecked shallow basin, and like the metate found in Mound A, was also found with the grinding side up.

A 1.0 x 2.0m unit was placed on the north half of Mound E with the south side (long axis) of the unit situated on the mound apex. The entire unit was excavated to a depth of 60cm. The unit was excavated in 10cm levels. No artifacts or features were observed in Mound E.

Finally, we were successful in extracting 2 solid soil cores, 3" in diameter, from the center of Mounds A and B. These cores were X-rayed at the U.S. Army Corps of Engineers Waterways Experiment Station and the resultant X-radiographs and other data from the site were examined by Dr. Lawson M. Smith. The following paragraphs are taken from his memorandum to the USAED,LR on this subject.

> 1. At the request of Dr. W. J. Bennett, Jr., Archeological Assessments, Inc. (A. A. I.), contractor for your office, Dr. Lawson M. Smith has evaluated Site 23TA309 with respect to its apparent origin. As you are aware, Site 23TA309 is a group of small mounds identified in the survey of the Table Rock Lake project area by A. A. I. for your office. The site is situated on a small island subject to periodic inundation and traffic by recreationists.
>
> 2. In the process of determining the apparent origin of the mounds, Dr. Smith has considered five factors:
>
> a. Geomorphological position of the site.
>
> b. External morphology of the mounds.
>
> c. Internal morphology of the mounds.
>
> d. Spatial distribution of the mounds.
>
> e. Cultural features.

Data used to complete the evaluation include a 1:24,000 topographic map, site survey forms, field photographs, soil textural and chemical analyses, X-radiographs, and soil field descriptions. In the following paragraphs, Dr. Smith will outline the evidence for the probable origin of the mounds at Site 23TA309 as interpreted from the available data.

3. Site 23TA309 is situated on an upland erosional remnant within an incised meander of Long Creek. The site is adjacent to a steep cliff, 147 feet above a former alignment of Long Creek. The upland erosional remnant, referred to in the field notes as a "meander core", is connected to the adjacent upland area by a narrow neck. The principal geomorphic processes which are and have been acting on this feature are weathering of the shallow bedrock and erosion. No significant natural depositional processes have been active at the site.

4. The external morphology of the mounds, as recorded in field notes prepared by A. A. I., is round. The mounds average 8 meters in diameter and 25 cm in height, with the exception of Mound B, which is approximately 18 m in diameter and 75 cm high. The circular nature of the mounds suggests an anthropogenic origin. Natural depositional processes usually result in the formation of an asymmetrical form, not a circular feature.

5. The internal morphology of the mounds was examined in terms of sedimentological and pedological features. From the field notes and the field photographs, field soil samples, and X-radiographs of short soil cores taken at Mounds A and B, there appear to be no significant textural trends horizontally or vertically in Mounds A and B. The mound materials are very poorly sorted, with sporadic angular cobbles in a matrix of equal parts of sand, silt, and clay. The base of the mound is clearly distinct from the underlying chert layer which rests on bedrock. X-radiographs of intact cores taken from Mounds A and B show no sedimentological stratification, however the radiographs do reveal a "patchy" character, typical of soil units produced by fill or loading by man. Considering the texture of the soil the geomorphic process which would most likely be the agent for producing the mounds would be mudflow. However, mudflows result in sheet-like deposits at the base of a slope, not round mounds on the top of a slope.

6. Pedological descriptions of the mound soils suggest that the mounds have been weathering in place for at least 2,000 years. Argillic horizons produced by prolonged weathering exist with the mounds and are related to the present surface. No natural stratification is noted in the soil descriptions.

7. The mounds at Site 23TA309 are regularly spaced along a well-defined rectangular grid, not a distribution which is likely to result from natural deposition or erosional processes. Apparently, the mounds occur only on this ridgetop. Mounds such as those at Site 23TA309 have not been observed on similar landscape positions in the area.

8. Several archeological artifacts were discovered associated with the mounds. These items include chert artifacts, several hearth-like features, and a large metate. The metate was found within the soils of the mound, an occurrence which does not appear to have been produced by natural (non-cultural) causes.

9. Considering the lines of evidence stated above, it appears that the mounds are of anthropogenic origin and were not produced by natural geomorphic processes.

Field investigations at the site were concluded with the production of a 1-foot contour map of the site under the direction of John Northcutt.

Recovered Materials

Aside from a single piece of rusted metal found in the upper 10cm of Mound A, all recovered materials were prehistoric lithics. These included 27 flakes, 4 from Mound A, 3 surface finds, and 20 from Mound B; 14 from 0 - 10cm, 3 from 10 - 20cm, and 3 from 20 - 30cm. The tools are described below.

TOOLS

Material	Description and Provenience	Figure Reference
Osagean	Rice side-notched point, reworked (Mound A, 10-15cm)	3-51e
Reeds Spring	small ovate-pointed biface (Mound B, Surface)	3-51c
	expanding stem of large point (Mound C, Surface)	3-51d
	large split pebble core?/hammer (Mound A, Surface)	3-52a
Jefferson City chert	chunk with edge modification, possibly incidental (Mound A, 45-46cm)	

TOOLS
(continued)

Material	Description and Provenience	Figure Reference
Jefferson City chert (cont'd)	core and/or hammer fragment (Mound A, 45-46cm)	
	heat spall from core/hammer (Mound B, 20-25cm)	
	heat spall from flaked piece (Mound B, 20-30cm)	
	chunk with edge modification, possibly incidental (Mound B, 20-30cm)	
Jefferson City sandstone	mano/hammer (Mound G, Surface)	3-51f
quartzite	metate (Mound C, Surface)	3-52b
	metate (Mound A, 50-55cm)	3-52c

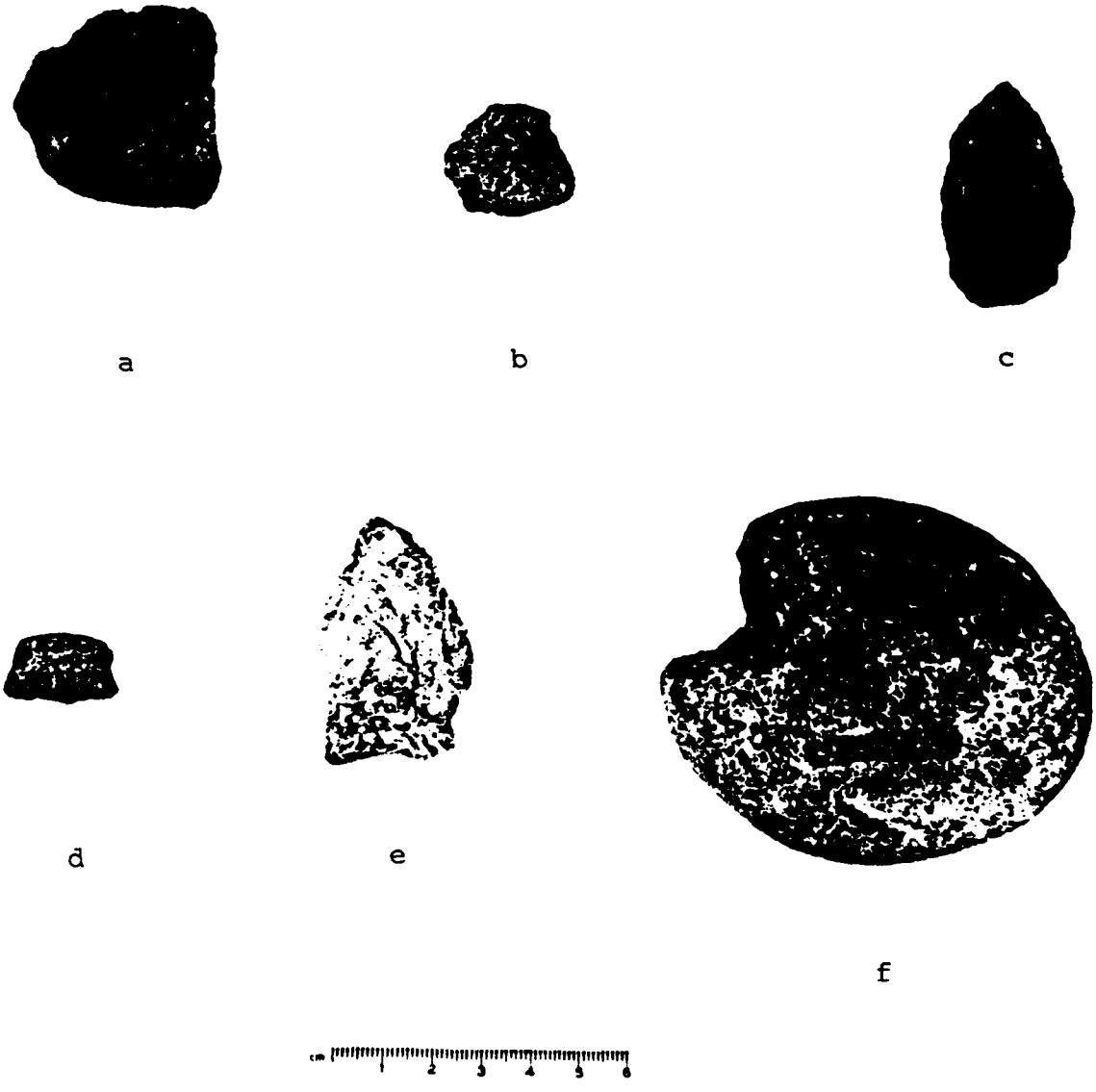
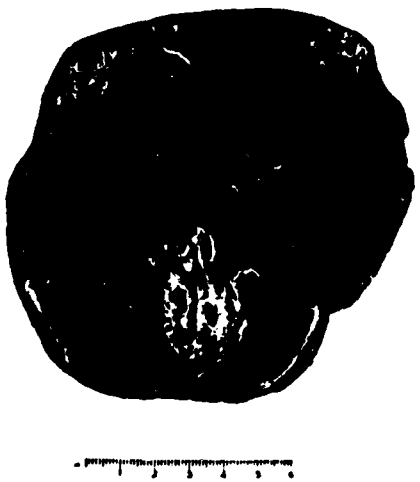
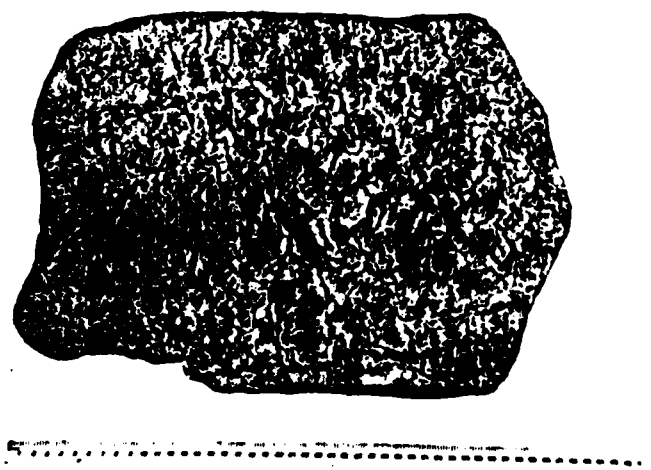


Figure 3-51. Lithic Artifacts. a,b- flakes; c- small ovate-pointed biface; d- expanding stem from large point; e- Rice side-notched point; f- mano/hammer.



a

b



c

Figure 3-52. Lithic Artifacts. a- large split pebble core? and/or hammer, bipolar fracture; b,c- metate.

Evaluation and Significance

After careful consideration of all the likely causes of the creation of these mounds, it is our best judgment that even though the amount of cultural materials recovered from the site is very sparse, the mounds should be considered cultural and not natural in origin.

The problem of distinguishing between natural and man-made earthen mounds in the Table Rock Lake area of Southwest Missouri was noted early by Adams (1950, 1958). He states that such mounds are scattered over the entire country and are found singly or more often in groups of 4 to 15 (Adams 1958:18). These earthen mounds occur in large groups on prairie areas (undissected portions of the Springfield Plateau), on gentle slopes of the "hill country" (highly dissected Salem Plateau), and along narrow creek bottoms and sides of the ridges bordering the streams (Adams 1950:9; Adams 1958:18). The mounds vary in size from 4.6 - 18.3m (15-60 feet) in diameter and 0.3 - 0.9m (1-3 feet) in height. Large groups seem to have no definite arrangement but small groups often appear to be evenly spaced and in rows (Adams 1950:9). Many of these earthen mounds located in upland settings far from water sources and campsite locations are likely to be natural in origin, while other mounds situated on prominent landforms overlooking village sites in major stream valleys suggest a cultural origin.

Recent investigations in the Table Rock Lake area have recorded additional examples of these earthen mounds. Besides the mound group at 23TA309, Bennett and Ray (1986) recorded site 23SN793 with 3 earthen mounds. Ray, McGrath, and Benn (1987:93) reported at least eight earthen mounds at 23SN839, located on a narrow divide between the Kings River and Big Indian Creek.

Mound sites in the Ozarks are often placed on a prominence of high bluff/ridgetop with a commanding view of the stream valley(s) below (Wood 1961, 1967; Wood and Brock 1984). A meander core affords the additional advantage of being isolated from surrounding terrain. Two known mound sites in Southwest Missouri located on isolated (detached) hills or meander cores include Fairfield Mound Group (23BE006) in Benton County (Wood 1961:26-38) and the Cave Knob Mound (23HI149) in Hickory County (Wood 1961:41-45).

The size and configuration of the mounds at 23TA309 are comparable with other known mounds in Southwest Missouri. The Bolivar Burial Complex and Fristoe Burial Complex mounds average about 6m and 8m in diameter, respectively, and 45cm high (Wood and Brock 1984; Wood 1961, 1967).

At the present time it is unclear whether this site functioned as a mortuary complex or served as the location for other undetermined activities. However, based on the Rice side-notched point recovered from Mound A, the site is apparently associated with the Late Woodland period and/or Mississippian period (Chapman 1980:311). Chapman (1980:311) notes this point type is an integral part of the burial mound complexes of the Late

Woodland/Mississippian cultural phases in the Southwest Drainage region of the Ozark Highland.

It is our judgment that this site is eligible for the National Register of Historic Places. It is recommended that nomination procedures go forward and that steps be taken to avoid any further adverse impacts to this site.

It is recognized that the management of this site will be particularly difficult because of its elevation and situation in the middle of Table Rock Lake. The summit is now an island which is often used by the public for picnics, fishing, and diving. The mounds which have thus far escaped major vandalism are, nonetheless, extremely vulnerable to unauthorized excavation. Further, repeated inundation with the raising and lowering of the lake level has and will take its toll on the site. Unless positive steps are taken to mitigate this impact, the mounds will continue to be eroded and this very valuable resource will be lost.

CHAPTER 4: COLLECTION ANALYSES

Goals and Methods

As indicated before, the 1985 survey obtained large surface collections of lithic materials from 3 sites, 23BY441, 23BY591, and 23BY505, indicating substantial prehistoric use of these locations. However, shovel testing clearly indicated that the soil horizons containing prehistoric cultural debris were very thin. In addition, these sites had been subjected to considerable modification because of later use. Thus there seemed to be no real prospect for isolating cultural components through excavation techniques. This situation seemed to indicate that any further data gathering at the site would have to rely primarily, if not solely, on surface collection methods. However, before additional efforts aimed at gathering field data were undertaken it was decided to proceed further with the analysis of materials collected in 1985 to determine if it would be helpful or necessary to gather such data.

Study of these collections began by sorting the collections into raw material categories using criteria specified by Jack Ray. Then each item was placed into one of three mutually exclusive categories: tools, flakes, or debris.

As used in this report the term tool includes lithic items which can be recognized morphologically as tools (e. g., dart points) or which show evidence of attempts to shape them into usable tools. It is not necessary for the item to show edge damage for its placement in this category if there is evidence that an attempt was made to shape the piece.

Flakes are various shaped lithic items which were detached from larger object pieces. Each flake was described according to size (Figure 4-1), presence or absence of cortex (a = absent; p = present), type of cortex (stream-rolled = ps; weathered, outcrop, quarry = pq), presence or absence of platform (a = absent; p = present), type of platform (facetted = pf; worn or rounded = pw), and evidence for post-detachment modification. Flakes exhibiting edge damage were still considered under the flake category and not reclassified as tools. Special attention was given, however, to this group of materials.

The category of debris included any blocky materials which did not display post-detachment modification. Simple counts and weights of these materials were recorded and the material was discarded. No attempts were made to manipulate the data related to debris.

These various observations were used to fill a detailed computer data base, dBase II, which was used to manipulate these data in a variety of ways. Data manipulation was largely the responsibility of Brauna Hartzell. The tables used later in this discussion were all produced from dBase II files.

Flakes are positioned with platform toward top of page.

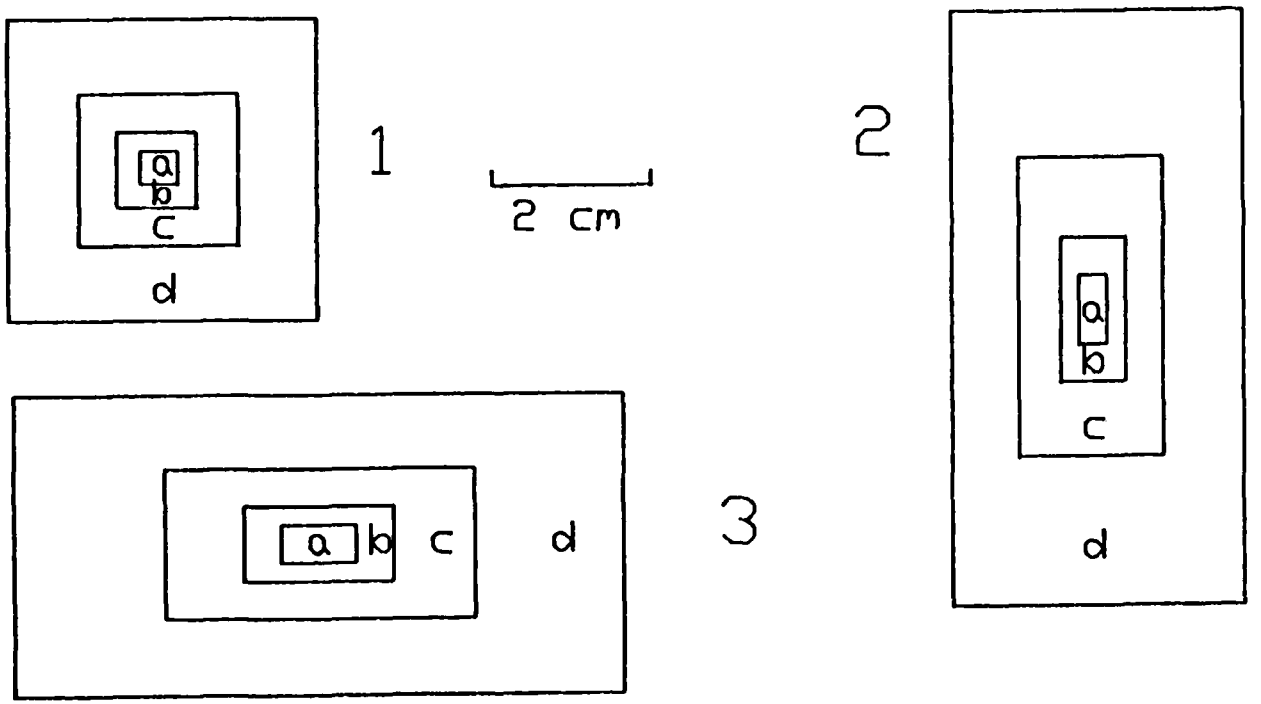


Figure 4-1. Flake Size Chart.

The Collections

A listing of the lithic artifacts from these sites was given in the earlier survey report (Bennett and Ray 1986). They are repeated here for the reader's convenience. The following tables (Tables 4-1, 4-2, 4-3) present a master description for all the tools and flakes recovered from these sites.

Table 4-1. 23BY441: Artifacts and Flakes

Artifacts

Number	Material	Description
2	Mo	biface with cortex
2	Mo	flaked pebble with cortex
1	Mo	pebble with flakes removed
1	Mo	bifacially flaked chunk
1	Mo	pebble with flakes removed
2	Mo	chunk with flake scars
4	Mo	biface fragments
1	Mo	biface
1	Mo	biface point tip
1	Mo	biface point?
1	Mo	possible Kramer point stem
1	Mrs	point stem
1	Mrs	biface
1	Mrs	point stem and shoulder
1	Mrs	point
1	Mrs	heat-fractured biface
2	Mrs	biface edge fragment
1	Mrs	biface fragment
1	Mrs	pebble fragment with cortex
1	Mrs	biface midsection
1	Mrs	biface
1	Mrs	split pebble fragment
1	Ojc cht	point stem
1	Ojc cht	point and tip
2	Ojc cht	biface fragment
1	Ojc cht	biface fragment with cortex
1	Ojc cht	heat-fractured biface
1	Ojc qtz	flaked chunk
1	qtz	possibly ground hammerstone
2	ss	possibly ground chunks
1	ss/qtz	mano/cupstone/hammerstone

Table 4-1. 23BY441: Artifacts and Flakes
(continued)

Flakes

Number	Material	Cortex	Platform	Size	Note
130	Mo	a	a	-	
8	Mo	a	a	-	HF
20	Mo	a	a	-	mod
2	Mo	a	a	-	mod, HF
57	Mo	a	p	-	
2	Mo	a	p	-	HF
7	Mo	a	p	-	mod
1	Mo	a	p	1b	
7	Mo	a	p	1c	
2	Mo	a	p	1d	
1	Mo	a	p	1d	mod
7	Mo	a	p	2b	
4	Mo	a	p	2c	
2	Mo	a	p	2c	mod
1	Mo	a	p	2d	mod
1	Mo	a	p	3b	mod
1	Mo	a	p	3c	mod, HF
6	Mo	a	pf	-	
2	Mo	a	pf	-	mod
2	Mo	a	pf	1c	
1	Mo	a	pf	1d	
1	Mo	a	pw	-	
1	Mo	pc	p	-	
3	Mo	pq	a	-	
1	Mo	pq	p	1d	
2	Mo	pq	pc	-	
1	Mo	pq	pf	-	
30	Mo	ps	a	-	
2	Mo	ps	a	-	HF
1	Mo	ps	a	-	HF, mod
5	Mo	ps	a	-	mod
15	Mo	ps	p	-	
1	Mo	ps	p	-	mod
1	Mo	ps	p	1d	
9	Mo	ps	pc	-	
1	Mo	ps	pc	-	DRP, mod
1	Mo	ps	pc	-	mod
5	Mo	ps	pc	1c	
4	Mo	ps	pc	1d	
2	Mo	ps	pc	1d	mod

Table 4-1. 23BY441: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
4	Mo	ps	pc	2c	
1	Mo	ps	pc	2c	mod
1	Mo	ps	pc	2d	mod
1	Mo	ps	pf	1c	
1	Mo	ps	pf	2c	mod
2	Mo	pu	a	-	
1	Mo	pu	a	-	HF
1	Mo	pu	a	-	mod
1	Mo	pu	p	-	
1	Mo	pu	pc	-	
59	Mrs	a	a	-	
8	Mrs	a	a	-	HF
21	Mrs	a	a	-	mod
2	Mrs	a	a	-	mod, HF
21	Mrs	a	p	-	
2	Mrs	a	p	-	HF
5	Mrs	a	p	-	mod
1	Mrs	a	p	-	split pebble
4	Mrs	a	p	1c	
2	Mrs	a	p	1c	mod
2	Mrs	a	p	2b	
1	Mrs	a	p	2c	
1	Mrs	a	p	2c	HF
2	Mrs	a	p	2c	mod
2	Mrs	a	p	3c	
1	Mrs	a	pf	-	
1	Mrs	a	pf	-	HF
1	Mrs	a	pf	-	HF, mod
1	Mrs	a	pf	1c	
1	Mrs	a	pf	2c	
1	Mrs	a	pf	2c	mod
1	Mrs	pc	pf	-	
1	Mrs	pq	a	-	
1	Mrs	pq	pc	-	
1	Mrs	pq	pc	-	mod
1	Mrs	pq	pc	1c	mod
13	Mrs	ps	a	-	
4	Mrs	ps	a	-	HF
1	Mrs	ps	a	-	mod

Table 4-1. 23BY441: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
8	Mrs	ps	p	-	
1	Mrs	ps	p	-	HF
3	Mrs	ps	p	-	mod
2	Mrs	ps	p	1c	
1	Mrs	ps	p	2c	mod
4	Mrs	ps	pc	-	
1	Mrs	ps	pc	-	HF
2	Mrs	ps	pc	-	mod
1	Mrs	ps	pc	-	split pebble
1	Mrs	ps	pc	1c	mod
1	Mrs	ps	pc	2c	
1	Mrs	ps	pf	-	mod
1	Mrs	ps	pf	2c	mod
1	Mrs	pu	p	-	
1	Mrs	pu	pc	1c	
4	Ojc cht	a	a	-	
1	Ojc cht	a	p	-	
2	Ojc cht	a	p	-	mod
1	Ojc cht	a	p	2b	mod
1	Ojc cht	a	p	2d	
1	Ojc cht	p	a	-	
2	Ojc cht	pq	a	-	
1	Ojc cht	ps	p	3c	
2	Ojc cht	ps	pc	-	
1	Ojc cht	ps	pc	-	mod
2	Ojc Qtz	a	a	-	
1	Ojc Qtz	a	a	-	mod
1	Ojc Qtz	a	p	-	
1	Ojc Qtz	pq	p	-	mod
1	Ojc Qtz	ps	p	-	

23BY441: Flake Totals

Mo	Mrs	Ojc Cht	Ojc Qtz	Und	Other	Total
364	191	16	6	0	0	577

Table 4-2. 23BY591: Artifacts and Flakes.

Artifacts

Number	Material	Description
1	Mo	drill midsection
1	Mo	large biface
1	Mo	pointed biface, heat fractured
2	Mo	biface fragment
1	Mo	biface midsection, heat fractured
1	Mo	biface edge fragment,heat fractured
1	Mo	heat spall with modified edge, heat fractured
1	Mo	heat treated biface end fragment
1	Mrs	point tip
1	Mrs	biface with worn edge
1	Ojc cht	chunk with flake scars and cortex

Flakes

Number	Material	Cortex	Platform	Size	Note
49	Mo	a	a	-	
5	Mo	a	a	-	HF
3	Mo	a	a	-	mod
12	Mo	a	p	-	
1	Mo	a	p	-	HF
3	Mo	a	p	-	mod
2	Mo	a	p	1c	
1	Mo	a	p	2b	
4	Mo	a	p	2c	
3	Mo	a	pf	-	
1	Mo	pq	a	-	
1	Mo	pq	a	-	mod
1	Mo	pq	p	1c	
1	Mo	pq	p	3c	
1	Mo	pq	pf	-	
3	Mo	ps	a	-	
3	Mo	ps	p	-	
1	Mo	ps	p	1c	
1	Mo	ps	p	2d	
16	Mrs	a	a	-	

Table 4-2. 23BY591: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
2	Mrs	a	a	-	HF
6	Mrs	a	a	-	mod
12	Mrs	a	p	-	
1	Mrs	a	p	-	HF
2	Mrs	a	p	1c	
1	Mrs	a	p	2b	
1	Mrs	a	p	2c	
1	Mrs	a	pf	-	
1	Mrs	a	pf	-	mod
1	Mrs	a	pf	2b	
1	Mrs	a	pf,pw	-	
1	Mrs	pq	p	1c	
1	Mrs	pq	p	1c	mod
1	Mrs	pq	p	2c	mod
3	Mrs	ps	a	-	
1	Mrs	ps	p	-	
1	Mrs	ps	pc	-	
1	Mrs	pu	pf	2c	
1	Ojc cht	a	a	-	
1	Ojc cht	a	a	-	mod
2	Ojc cht	a	p	-	
1	Ojc cht	pq	pc	1c	
1	Ojc cht	pq	pc	1d	mod
1	Ojc cht	pu	pc	-	
1	und	a	a	-	

23BY591: Flake Totals

Mo	Mrs	Ojc Cht	Ojc Qtz	Und	Other	Total
96	54	7	0	1	0	158

Table 4-3. 23BY605: Artifacts and Flakes.

Artifacts

Number	Material	Description
1	Mo	broken scraper
4	Mo	cobble choppers
2	Mo	cobble cores
1	Mo	tested stream cobble
12	Mo	biface fragments
5	Mo	broken biface fragments
1	Mo	biface
1	Mo	biface cobble
1	Mo	biface
1	Mo	irregular unifacial flake
1	Mo	broken biface tool
1	Mo	crude biface fragment
1	Mo	broken biface
1	Mo	possible scraper
1	Mo	point fragment
1	Mo	irregular core fragment
1	Mo	modified flake fragment
1	Mo	irregular biface
1	Mo	biface chopper fragment
1	Mo	point fragment
1	Mo	point
1	Mo	broken point
1	Mo	tested cobble core
1	Mo	cobble core fragment
1	Mo	scraper
1	Mo	biface, knife or tip
1	Mo	irregular scraper
1	Mo	biface tip
1	Mo	irregular biface
14	Mrs	biface fragments
2	Mrs	broken biface fragments
1	Mrs	cobble chopper-hammer
1	Mrs	cobble core-chopper
2	Mrs	cobble choppers or tested cobbles
1	Mrs	pebble tool, possible knife
1	Mrs	irregular biface, heat fractured
1	Mrs	biface fragment, heat fractured
1	Mrs	scraper fragment with modified edge
1	Mrs	scraper fragment
1	Mrs	crude biface
1	Mrs	scraper fragment

Table 4-3. 23BY605: Artifacts and Flakes.
(continued)

Artifacts
(continued)

Number	Material	Description
1	Mrs	modified blade/possible knife
1	Mrs	biface fragment, heat fractured
1	Mrs	biface fragment/possible knife
1	Mrs	biface tip
1	Mrs	broken biface base
1	Mrs	irregular biface fragment
1	Mrs	biface tip
2	Mrs	bifaces/possible knives
1	Mrs	point base
1	Mrs	Shumla point
1	Mrs	broken point base
1	Mrs	thin biface
1	Mrs	Table Rock point
1	Ojc cht	knife
1	Ojc cht	tested pebble, modified
1	Ojc cht	crude scraper
1	Ojc cht	chopper or scraper
1	Ojc cht	point tip
2	ss	broken mano

Flakes

Number	Material	Cortex	Platform	Size	Note
21	Mo	a	a	-	
2	Mo	a	a	-	HF
1	Mo	a	a	-	HT?
4	Mo	a	a	-	mod
1	Mo	a	a	-	mod?
1	Mo	a	a	2c	HT, HF
11	Mo	a	pf	-	
1	Mo	a	pf	-	DSB
2	Mo	a	pf	-	mod
4	Mo	a	pf	1b	

Table 4-3. 23BY605: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
4	Mo	a	pf	1c	
1	Mo	a	pf	1c	DSB
1	Mo	a	pf	1c	HT, HF
2	Mo	a	pf	1c	mod
1	Mo	a	pf	1d	
1	Mo	a	pf	1d	mod
4	Mo	a	pf	2b	
3	Mo	a	pf	2c	
1	Mo	a	pf	2c	DSB
1	Mo	a	pf	2c	HT
1	Mo	a	pf	2c	Scraper flake
2	Mo	a	pf	2c	mod
1	Mo	a	pf	3c	DSB
1	Mo	pq	a	-	
1	Mo	pq	pc	-	
2	Mo	pq	pf	1c	
1	Mo	pq	pf	2c	
1	Mo	pq	pf	2c	mod
1	Mo	pq	pf	2d	mod
1	Mo	ps	a	1d	mod
1	Mo	ps	pc	1c	
1	Mo	ps	pf	-	
1	Mo	ps	pf	-	HT
1	Mo	ps	pf	-	mod
2	Mo	ps	pf	1d	mod
3	Mo	ps	pf	2c	
1	Mo	ps	pf	2c	DSB
2	Mo	ps	pf	2d	
1	Mo	ps	pf	2d	mod
1	Mo	ps	pf	3c	DSB
1	Mo	ps	pf	3d	fragment
1	Mo	ps	pw	-	mod
1	Mo	ps	pw	1d	HF
2	Mo	ps	pw	1d	mod
1	Mo	ps	pw	2c	DSB
1	Mo	ps	pw	2c	mod
1	Mo	ps	pw	2d	
2	Mo	ps	pw	3c	

Table 4-3. 23BY605: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
1	Mo	ps	pw	3d	
1	Mo	ps	pw	3d	HF
1	Mo	ps	pw	3d	mod
1	Mo	pu	pf	2d	Natural flake
30	Mrs	a	a	-	
4	Mrs	a	a	-	mod
1	Mrs	a	a	-	mod?
1	Mrs	a	a	1b	
17	Mrs	a	pf	-	
1	Mrs	a	pf	-	HF
4	Mrs	a	pf	-	mod
1	Mrs	a	pf	1b	
15	Mrs	a	pf	1c	
2	Mrs	a	pf	1c	mod
4	Mrs	a	pf	1d	
2	Mrs	a	pf	1d	mod
1	Mrs	a	pf	2a	
4	Mrs	a	pf	2b	
1	Mrs	a	pf	2b	mod
7	Mrs	a	pf	2c	
1	Mrs	a	pf	2c	HT?
2	Mrs	a	pf	2c	mod
1	Mrs	a	pf	3b	
1	Mrs	a	pf	3c	
1	Mrs	p	pf	2c	HF
1	Mrs	pq	pc	2c	
1	Mrs	pq	pf	-	
3	Mrs	ps	a	-	
1	Mrs	ps	a	-	HF
2	Mrs	ps	pc	1c	
1	Mrs	ps	pc	1d	
1	Mrs	ps	pc	2c	mod
2	Mrs	ps	pf	-	
1	Mrs	ps	pf	1b	
1	Mrs	ps	pf	1b	mod
2	Mrs	ps	pf	1c	
2	Mrs	ps	pf	1c	mod
3	Mrs	ps	pf	1d	

Table 4-3. 23BY605: Artifacts and Flakes.
(continued)

Flakes
(continued)

Number	Material	Cortex	Platform	Size	Note
1	Mrs	ps	pf	2c	mod
1	Mrs	ps	pf	2d	
1	Mrs	ps	pf	2d	mod
2	Mrs	ps	pf	3c	
2	Mrs	ps	pw	1c	
3	Mrs	ps	pw	1d	
2	Mrs	ps	pw	2c	
1	Mrs	ps	pw	2d	mod
1	Mrs	ps	pw	3c	
1	Mrs	ps	pw	3d	
1	Ojc cht	a	a	-	
1	Ojc cht	a	pf	3c	
2	Ojc cht	pq	a	-	
2	Ojc cht	ps	a	-	
1	Ojc cht	ps	pf	2c	
1	Ojc cht	ps	pf	2c	mod?
1	Pitkin	a	pf	2c	

23BY605: Flake Totals

Mo	Mrs	Ojc Cht	Ojc Qtz	Und	Other	Total
107	137	8	0	0	1	253

Procurement Strategies

Our initial goal in the analysis of materials from these sites was to attempt a reconstruction of the lithic procurement strategies used at each of these sites. We began with a consideration of the types of raw materials present at each site. However, before moving to that consideration, it seems appropriate to present a brief narrative discussion (composed by Jack Ray) of those lithic raw materials generally available in the region.

Available Raw Materials. The geological strata of much of the Table Rock Lake area have been mapped recently by Thomson (1982a; 1982b). The following discussion focuses on those formations containing chert and quartzite resources potentially available to prehistoric peoples for the manufacture of chipped stone tools. Although the bedrock stratigraphy in the vicinity of the project area varies from west to east, a total of 7 formations outcrop within the general area. From oldest to youngest these formations include the Cotter, Compton, Northview, Pierson, Reeds Spring, Elsey, and Burlington (Thomson 1982a). The Cotter formation is Ordovician in age while the remaining six are Mississippian-aged. All of these units except the Compton and Northview formations contain some chert and are described further below.

The Cotter formation consists of a silty grey to brown cherty dolomite with lenses of quartzite and locally persistent beds of sandstone (Thomson 1982a). Although the Cotter dolomite is distinguishable from the Jefferson City formation (Knight and Hayes 1961) in southwestern Missouri and each has been mapped separately (Thomson 1982b), they are nevertheless similar in lithology and their inclusive cherts are nearly identical. For this reason (from an archeological standpoint) the chert from both of these Ordovician units are considered together here under the "Jefferson City" chert type.

Jefferson City chert occurs in irregular masses, lenticular beds, thin bands, and in nodular form. Jefferson City chert is highly variable in color but it usually occurs in light to dark shades of blue, brown, grey, pink, or white (Ray 1983). Quartzose (hard, sandy chert) is commonly associated with Jefferson City chert; it occurs in nodules and occasionally as inclusions within a chert matrix. An additional trait besides quartzose patches, which sometimes reduces the knapping quality of Jefferson City chert, is the occasional presence of pockets of druse (quartz crystals).

Jefferson City chert most often occurs in three varieties: oolitic, banded, and mottled. Oolitic Jefferson City chert is a common variety. The oolites are generally relatively small and may be sand-centered, concentrically banded, or unstructured. The oolites may be the same color as or a different color from the matrix, densely or widely dispersed, and some may be elongated or disk-shaped. Oolites often distinguish Jefferson City chert from non-oolitic Mississippian cherts (Ray 1983). Banded Jefferson City chert is common to ellipsoidal nodules and is often concentric in cross-section; the bands are usually white alternating with blue, brown, or

grey. Banding is also distinctive of Jefferson City chert since Mississippian cherts are rarely banded (Ray 1983). Mottled Jefferson City chert is more common to irregular nodules; the mottling may be a combination of any of the dominant colors. Mottled Jefferson City chert is different from mottled Mississippian cherts in that it usually exhibits a streaked and swirled pattern or disturbed banded appearance (Ray 1983) rather than blotches or spots. Fossils are very scarce in Jefferson City chert. The only Fossils that are rarely found are gastropods (Beveridge 1951: 27; Ray 1981: 16); however, siliceous spicules or "spines" (possible or uncertain Fossils) may be found occasionally in the chert (Knight and Hayes 1961: 23). Fossils common to Mississippian cherts (crinoids, bryozoa, and brachiopods) are totally absent in Jefferson City chert.

Lenses and nodules of quartzite also occur in the Jefferson City-Cotter units in Southwest Missouri. The Jefferson City quartzite is usually white, tan, or light grey in color and is generally coarse-grained, producing rougher conchoidal fractures than the chert. The quartzite generally consists of medium-sized sand grains that have been cemented together by silica, which produces an equal hardness throughout the rock. The strong cementation created by the silica enables fractures to pass through the sand grains instead of around them as in more loosely cemented sandstone and more coarse-grained Quartzose.

The Pierson formation is predominantly a dolomitic limestone (Spreng 1961: 59-60) which contains chert in continuous beds or seams, discontinuous lenses, and in nodules stratified along bedding planes within the limestone matrix. In southern Stone, Taney, and Barry counties near the Missouri-Arkansas border, the Pierson formation thickens and becomes more cherty with seams of chert up to 25 cm thick that range in color from mottled grey, cream, and brown to light blue to brick red (Ray 1984). The grey-cream-brown and red varieties of Pierson appear to dominate in this area of extreme Southwest Missouri. The red variety of Pierson is particularly distinctive with white crinoid Fossils scattered throughout a brick red matrix; the texture grades from coarse to fine-grained. The mottled grey-cream-brown variety of Pierson is similar in appearance to other Mississippian cherts and is often difficult to distinguish from them.

The Reeds Spring formation consists of alternating layers of finely crystalline grey limestone and chert; the chert makes up from one- to two-thirds of the formation (Spreng 1961: 63). The Reeds Spring formation contains irregular nodules of dark-colored (bluish) chert in the lower part, and large amounts of irregular bedded to nodular, light-colored (white, tan, cream, grey) chert in the upper portion of the formation. Both light and dark varieties are fossiliferous (crinoidal), although the darker-colored Reeds Spring chert tends to contain fewer Fossils than the light-colored variety. Because of the light color, some mottling, and crinoid Fossils, the light variety of Reeds Spring chert is easily confused with other local Mississippian cherts such as Burlington, Elsey, and light-colored Pierson (Ray 1984). For this reason, the light variety of Reeds Spring chert is included within an Undifferentiated Osagean chert type discussed below.

The dark variety of Reeds Spring chert, sometimes referred to as Lower Reeds Spring (Ray 1984), tends to occur in elongated or ellipsoidal nodules and usually consists of either a solid dark (bluish) color in the matrix surrounded by a distinctive thick brown to grey border or rind just beneath the cortex, or a random mottling of the dark colors. The mottling usually consists of irregular blotches of brown, tan, or grey within a dark blue matrix. In terms of texture and knapping quality, the dark variety of Reeds Spring chert is generally fine-grained and glass-like with an excellent conchoidal fracture; in this form, it is probably the highest quality chert is southern Missouri.

The Elsey formation consists of a highly fractured, dense to fine-grained grey to brown limestone with abundant amounts of chert (Robertson 1967: 47-48). In the Table Rock Lake area, the Elsey formation interfingers or grades into the upper portion of the Reeds Spring formation, where it is sometimes considered transitional Elsey-Reeds Spring (Thomson 1982a). Elsey chert, which often composes up to 50% of the formation, occurs predominantly in elongated irregular nodules and lenticular forms which tend to stratify into discontinuous chert beds 15-35cm thick. Elsey chert usually consists of a mottling of white, cream, and grey colors but may also occur as solid white or cream. The mottling in Elsey chert consists of a matrix of white or cream containing small irregular blotches or circular spots of grey or brown (Ray 1984). Much of Elsey chert is brittle and often shatters into sharp slivers when weathered. The chert contains primarily crinoid fossils and sponge spicules. The colors and internal structure of Elsey chert often overlap with Burlington chert as well as the light- colored varieties of Reeds Spring and Pierson cherts, making secondarily deposited chert difficult to differentiate.

The Burlington formation is a light grey very crinoidal limestone (Thomson 1982a) which contains discontinuous beds of chert and isolated nodules, some of which are quite large. The chert is usually white, cream, or light grey and is highly fossiliferous, containing predominantly crinoids. Because of close physical similarities with other local Mississippian (Osagean) cherts, Burlington chert is included in the Undifferentiated Osagean chert type which follows.

As the presentation of the latter four (Osagean Series) chert types revealed, there is considerable similarity between the lighter varieties of Pierson and Reeds Spring cherts and Elsey and Burlington cherts in terms of color, internal structure, fossil composition, and texture. These cherts are generally distinguishable from one another in primary context (such as outcroppings, cutbanks, and roadcuts) due to differences in nodular form, chert percentages, and parent material. However, outside a bedrock matrix and especially after cultural modification (e.g. lithic reduction and/or heat treatment) these cherts are not readily distinguishable from one another. Therefore, for the purposes of this report, the lighter varieties of Pierson and Reeds Spring cherts and Elsey and Burlington cherts have been included within an Undifferentiated Osagean chert type.

In sum, five identifiable chipped stone resources are located in the Table Rock Lake area: Jefferson City chert (Ojc cht), Jefferson City quartzite (Ojc qtz), Pierson chert (red variety), Reeds Spring chert (dark variety; Mrs), and Undifferentiated Osagean chert (Mo). However, the availability of these chipped stone resources varies topographically. The White River Valley and its major tributary valleys are composed exclusively of the Jefferson City-Cotter formation while the surrounding ridgetops and divides are capped by the Pierson, Reeds Spring, Elsey, and Burlington formations, respectively (Anderson 1979; Thomson 1982a, 1982b). As a result, Pierson, Reeds Spring, and Undifferentiated Osagean cherts were also locally available in stream deposits of creeks draining the surrounding uplands, although all project/survey areas were located on Jefferson City strata containing chert and quartzite.

Raw Materials Present in the Collections. Our first activity in manipulating the data related to the lithic industries at these sites was to determine which raw material types were present and in what percentages at each site. No Pierson chert was present in the collections. These data are given in Tables 4-4 and 4-5.

Table 4-4. Distribution of Raw Materials: Artifacts

Material	23BY441	23BY591	23BY605	Total
Mo	17 - 23.0% 42.5%	9 - 12.2% 75.0%	48 - 64.9% 50.0%	74 50.0%
Mrs	12 - 21.8% 30.0%	2 - 3.6% 16.7%	41 - 74.5% 42.7%	55 37.2%
Ojc Cht	6 - 50.0% 15.0%	1 - 8.3% 8.3%	5 - 41.7% 5.2%	12 8.1%
Ojc Qtz	1 - 100.0% 2.5%	0	0	1 0.7%
Und	0	0	0	0
Other	4 - 66.7% 10.0%	0	2 - 33.3% 2.1%	6 4.1%
Total	40 - 27.0%	12 - 8.1%	96 - 64.9%	148

Table 4-5. Distribution of Raw Materials: Flakes

Material	23BY441	23BY591	23BY605	Total
Mo	364 - 64.2% 63.1%	96 - 16.9% 60.8%	107 - 18.9% 42.3%	567 57.4%
Mrs	191 - 50.0% 33.1%	54 - 14.1% 34.2%	137 - 35.9% 54.2%	382 38.7%
Ojc Cht	16 - 51.6% 2.8%	7 - 22.6% 4.4%	8 - 25.8% 3.2%	31 3.1%
Ojc Qtz	6 - 100.0% 1.0%	0	0	6 0.6%
Und	0	1 - 100.0% 0.6%	0	1 0.1%
Other	0	0	1 - 100.0% 0.4%	1 0.1%
Total	577 - 58.4%	158 - 16.0%	253 - 25.6%	988

In the tables related to both artifacts and flakes we see the clear preponderance of the Mississippian Strata cherts which are listed here as Mo (Osagean - undifferentiated) and Mrs (Lower Reeds Spring chert) over the Jefferson City Chert. Of all the tools from the 3 sites, over 87% are either Mo or Mrs. This dominance is even greater in the flakes where over 96% of the material was either Mo or Mrs. In fact only 39 out of nearly 1,000 flakes were not either Osagean or Reeds Spring.

When measured against each other, the ratio of Mo to Mrs for artifacts is 1 to 1.345 (Osagean/Reeds Spring). In the flakes it is 1 to 1.484, Osagean/Reeds Spring). However, this combined total is somewhat misleading. The Osagean/Reeds Spring ratio for flakes is somewhat similar for sites 23BY441 and 233Y591 (23BY441 = 1/1.905; 23BY591 = 1/1.777) but the situation is reversed at 23BY605 where the Osagean/Reeds Spring ratio is 1 to 0.781. At present we cannot account for this observed difference and, while we cannot rule out collector bias as a factor, we note that each site was collected in the same manner by the same people.

Source Areas. As discussed above, raw materials of these types are available as stream cobbles and are also available as residual deposits of material on ridge tops and ridge slopes. Residual raw material may be procured directly from the ground surface with very little effort, or less weathered subsurface residuum may be quarried from the soil below the frost-line. While this is not the same as "mining" or "quarrying" veins of material which results in large, open quarry pits, we have continued to refer to it as quarried materials since the source is still in place. Because we detected both stream and weathered cortex on pieces from these various sites, we attempted to define the source area for these materials by investigating the relative percentages of stream vs. quarry cortex found on the flakes. Tables 4-6, 4-7, and 4-8 show the relative percentages of different cortex types ordered by raw material types.

Table 4-6. Distribution of Cortex by Raw Material: Flakes

	23BY441				
Material	a	pq	ps	p	Total
Mo	265 - 73.0% 63.5%	7 - 1.9% 50.0%	85 - 23.4% 63.0%	6 - 1.7% 66.7%	363 63.1%
Mrs	139 - 73.2% 33.3%	4 - 2.1% 28.6%	45 - 23.7% 33.3%	2 - 1.1% 22.2%	190 33.0%
Ojc Cht	9 - 56.3% 2.2%	2 - 12.5% 14.3%	4 - 25.0% 3.0%	1 - 6.3% 11.1%	16 2.8%
Ojc Qtz	4 - 66.7% 1.0%	1 - 16.7% 7.1%	1 - 16.7% 0.7%	0	6 1.0%
Und	0	0	0	0	0
Other	0	0	0	0	0
Total	417 - 72.5%	14 - 2.4%	135 - 23.5%	9 - 1.6%	575

Table 4-7. Distribution of Cortex by Raw Material: Flakes

Material	23BY591 a	pq	ps	p	Total
Mo	83 - 86.5% 62.4%	5 - 5.2% 50.0%	8 - 8.3% 61.5%	0	96 60.8%
Mrs	45 - 83.3% 33.8%	3 - 5.6% 30.0%	5 - 9.3% 38.5%	1 - 1.9% 50.0%	54 34.2%
Ojc Cht	4 - 57.1% 3.0%	2 - 28.6% 20.0%	0	1 - 14.3% 50.0%	7 4.4%
Ojc Qtz	0	0	0	0	0
Und	1 - 100.0% 0.8%	0	0	0	1 0.6%
Other	0	0	0	0	0
Total	133 - 84.2%	10 - 6.3%	13 - 8.2%	2 - 1.3%	158

Table 4-8. Distribution of Cortex by Raw Material: Flakes

Material	23BY605 a	pq	ps	p	Total
Mo	71 - 66.4% 40.8%	7 - 6.5% 63.6%	28 - 26.2% 42.4%	1 - 0.9% 50.0%	107 42.3%
Mrs	100 - 73.0% 57.5%	2 - 1.5% 18.2%	34 - 24.8% 51.5%	1 - 0.7% 50.0%	137 54.2%
Ojc Cht	2 - 25.0% 1.1%	2 - 25.0% 18.2%	4 - 50.0% 6.1%	0	8 3.2%
Ojc Qtz	0	0	0	0	0
Und	0	0	0	0	0
Other	1 - 100.0% 0.6%	0	0	0	1 0.4%
Total	174 - 68.8%	11 - 4.3%	66 - 26.1%	2 - 0.8%	253

From these tables we note that while both stream and weathered cortex occurred on each of the different raw material types at each site, the stream cortex was much more prevalent. Table 4-9 summarizes the way the various cortex types were distributed on flakes for Osagean and Reeds Spring chert at each site.

Table 4-9. Ratio of Quarry to Stream Cortex by Raw Material

	23BY441 Q/S	23BY591 Q/S	23BY605 Q/S
Osagean (Mo)	7/85	5/8	7/28
Reeds Spring (Mrs)	4/45	3/5	2/34
Total	11/130	8/13	9/62

At 23BY441 stream cortex occurred more than 10 times more often than quarry cortex on both of the major chert types. This ratio is considerably lower at 23BY591 but the numbers are small. At 23BY605 the ratio is about 4 to 1 for Mo and 15 to 1 for Mrs.

It is probably a mistake to press these data very hard since it is quite likely that materials gathered from a quarry source might have only a very little of their surface covered by cortex, while stream pebbles or cobbles would likely be covered entirely. Nevertheless, these figures indicate the use of both source areas and stress the procurement of materials from stream beds.

To summarize our findings thus far, we can say clearly that the Mississippian strata cherts were by far the most heavily utilized and that both outcrops (quarry) and stream beds were exploited as source areas. Aside from the slight difference in the relative percentages of Mrs to Mo at 23BY605, the collections look fairly homogeneous in this regard when the 3 sites are compared.

Reduction Strategies

Since numerous bifaces and biface fragments were recovered from each of these sites, it was clear that the reduction of stream cobbles or residual blanks or preforms into bifacial tools was a major goal of the lithic industry of these 3 sites. Flaked stream cobbles and flaked chunks were recovered from sites 23BY441 and 23BY605 (Table 4-10).

Table 4-10. Flaked Stream Cobbles and Flaked Chunks

	23BY441		23BY605	
	Cobbles	Chunks	Cobbles	Chunks
Mo	2	4	4	1
Mrs	1	3	2	0

However, our examination of the flake debris determined the presence of numerous flakes exhibiting edge damage or modification. For this reason we wondered whether, in addition to biface manufacture, the production of flake tools had also been an important goal of the industry as practiced at these sites. In order to investigate this possibility as well as to further specify the bifacial reduction sequence, we examined the distribution of flake sizes and plotted the various size categories against the presence or absence of cortex and the presence or absence of modification.

One difficulty encountered in this regard was the presence of numerous flakes in the inventories. We were certain these had been broken after detachment, so we could not be sure of their original size. In order to deal with this problem we decided to use as a subset of the inventory those flakes which were complete or nearly complete. This subset included slightly more than 300 examples.

These examples were then placed into size categories using the graded set of boxes as shown in Figure 4-1. Because of the relatively small number in this subset we grouped the units into 3 size categories -- B, C, D -- and disregarded platform placement. Only a very few flakes of A size were recorded. This we regarded as a result of collector bias away from items measuring less than 1cm. While we regard this size category as an important one in the reduction sequence, we were forced to omit it from further consideration.

Once this was done we prepared a table showing the distribution of these flake sizes by the dominant raw materials (Mo and Mrs) for each site (Table 4-11). From this we were able to construct Table 4-12, which shows the relative distribution of flake sizes for Mo and Mrs raw materials for each site.

Table 4-11. Distribution of Flake Sizes for Raw Material: Mo and Mrs.

Size	23BY441 Mo	23BY441 Mrs	23BY441 Total	23BY591 Mo	23BY591 Mrs	23BY591 Total	23BY605 Mo	23BY605 Mrs	23BY605 Total
Unk.	313 - 65.3% 86.0%	166 - 34.7% 86.9%	479 86.3%	85 - 65.4% 88.5%	45 - 34.6% 83.3%	130 86.7%	49 - 43.4% 45.8%	64 - 56.6% 47.0%	113 46.5%
b	9 - 81.8% 2.5%	2 - 18.2% 1.0%	11 2.0%	1 - 33.3% 1.0%	2 - 66.7% 3.7%	3 2.0%	8 - 44.4% 7.5%	10 - 55.6% 7.4%	18 7.4%
c	28 - 54.9% 7.7%	23 - 45.1% 12.0%	51 9.2%	9 - 56.3% 9.4%	7 - 43.8% 13.0%	16 10.7%	32 - 41.6% 29.9%	45 - 58.4% 33.1%	77 31.6%
d	14 - 100.0% 3.8%	0	14 2.5%	1 - 100.0% 1.0%	0	1 0.7%	18 - 51.4% 16.8%	17 - 48.6% 12.5%	35 14.4%
Total	364 - 65.6%	191 - 34.4%	555	96 - 64.0%	54 - 36.0%	150	107 - 44.0%	136 - 56.0%	243

Table 4-12. Distribution of Flake Sizes

	23BY441	23BY591	23BY605
B	11 - 14.4%	3 - 15.0%	18 - 13.8%
C	51 - 67.1%	16 - 80.0%	77 - 59.2%
D	14 - 18.4%	1 - 5.0%	35 - 26.9%
Total	76	20	130

As Table 4-12 shows size category C dominates the set. The curves for Sites 23BY441 and 23BY605 are very close and the percentage of flakes for category B are very similar at all 3 sites.

In applying these figures to our analysis of the reduction sequence we note the presence of numerous flakes measuring in excess of 4cm on at least one axis (size category D). This indicates to us that a considerable amount of initial reduction was done at these sites. When the size categories are plotted against the presence or absence of cortex for flakes from the two larger collections (23BY441 and 23BY605) of all types of raw material this is even clearer (Table 4-13).

Table 4-13. Flake Size and Cortex

Size	23BY441 Total	23BY441 Cortex Present	23BY605 Total	23BY605 Cortex Present
B	12	0 - 00.0%	18	2 - 11.1%
C	51	21 - 41.1%	77	33 - 42.8%
D	14	9 - 64.2%	35	13 - 37.1%
Total	76		130	

In general this type of distribution is what one would expect for the reduction of stream cobbles into bifaces. That is, the larger the flake, the more likely it is to have cortex present. From this we conclude that the prehistoric users of these sites were bringing fairly large pieces (hand-size or so) of tested materials to the site and that all stages of the bifacial reduction sequence, except the initially testing of material, was being done on site.

Our next consideration was to investigate possible patterns which could be observed on the modified flakes in the inventories. Table 4-14 gives the distribution of these items plotted by raw material type.

Table 4-14. Distribution of Modified and Unmodified Flakes by Raw Material

Material	23BY441 Modified	23BY441 Unmodified	23BY441 Total	23BY591 Modified	23BY591 Unmodified	23BY591 Total	23BY605 Modified	23BY605 Unmodified	23BY605 Total
Mo	52 - 14.3% 50.0%	312 - 85.7% 66.0%	364 63.1%	7 - 7.3% 38.9%	89 - 92.7% 63.6%	96 60.8%	24 - 22.4% 50.0%	83 - 77.6% 40.5%	107 42.3%
Mrs	46 - 24.1% 44.2%	145 - 75.9% 30.7%	191 33.1%	9 - 16.7% 50.0%	45 - 83.3% 32.1%	54 34.2%	23 - 16.8% 47.9%	114 - 83.2% 55.6%	137 54.2%
Ojc Cht	4 - 25.0% 3.8%	12 - 75.0% 2.5%	16 2.8%	2 - 28.6% 11.1%	5 - 71.4% 3.6%	7 4.4%	1 - 12.5% 2.1%	7 - 87.5% 3.4%	8 3.2%
Ojc Qtz	2 - 33.3% 1.9%	4 - 66.7% 0.8%	6 1.0%	0	0	0	0	0	0
Und	0	0	0	0	1 - 100.0% 0.7%	1 0.6%	0	0	0
Other	0	0	0	0	0	0	0	1 - 100.0% 0.5%	1 0.4%
Total	104 - 18.0%	473 - 82.0%	577	18 - 11.4%	140 - 88.6%	158	48 - 19.0%	205 - 81.0%	253

As Table 4-14 illustrates, modified flakes do not make up a large fraction of the various inventories: 18.0% at 23BY441, 11.4% at 23BY591, and 19.0% at 23BY605, or less than 20% at each site. Further, we do not see any major divergence when this is considered by raw material type, so that no clear pattern of selection of a particular chert type for flake tool use is evident. This is illustrated in Table 4-15 which shows the percentage of modified flakes by major chert type compared to the percentage of those raw materials in the total flake inventories. The percentage of Mo and Mrs modified flakes is not markedly different from the percentage of Mo and Mrs for total flakes.

Table 4-15. Distribution of Raw Material for Modified Flakes

	23BY441		23BY591		23BY605	
	% of Mod	% of Total	% of Mod	% of Total	% of Mod	% of T
Mo	50.0	63.1	38.9	60.8	50.0	42.3
Mrs	44.2	33.1	50.0	34.2	47.9	54.2

The outlines of a more consistent pattern of distribution began to appear when we plotted the presence of cortex against the presence of edge modification (Table 4-16).

Table 4-16. Modification and Cortex

	23BY441			23BY591			23BY605		
Cortex	Mod	Non-Mod	Total	Mod	Non-Mod	Total	Mod	Non-Mod	Total
Present	27-17.8% (27.5%)	124-82.2% (21.3%)	151	3-13.6% (18.7%)	19-86.4% (14.2%)	22	19-26.0% (40.4%)	54-74.0% (27.4%)	73
Absent	71-13.4% (73.5%)	457-86.6% (79.7%)	528	16-12.2% (81.3%)	115-87.8% (85.6%)	131	28-16.5% (59.6%)	143-83.5% (73.6%)	171
Total	98-14.4%	581-85.6%	679	19-12.4%	134-87.6%	153	47-19.2%	197-81.8%	244

Table 4-16 indicates that the percentage of flakes with cortex which have edge damage is slightly but consistently higher in each case when compared to the percentage of total flakes with edge modification: 23BY441 - 17.8% to 14.4%, 23BY591 - 13.6% to 12.5%, and 23BY605 - 26.0% to 19.2%

A similar pattern also appeared when we plotted flake size against the presence of edge modification for all complete or nearly complete flakes (Table 4-17).

Table 4-17. Size Distribution of Modified Flakes

	23BY441		23BY591		23BY605	
	Total	Modified	Total	Modified	Total	Modified
B	11	1- 9.1%	3	0- 0.0%	18	2-11.1%
C	51	14-27.5%	16	2-12.5%	77	14-18.2%
D	14	5-35.7%	1	0- 0.0%	35	13-37.1%
Total	76	20	20	2	130	29

There is in this distribution a slight but clear tendency for edge damage to be present on larger pieces. These 2 distribution patterns suggested to us that there might be a correlation between the 3 variables: flake size, presence of cortex, and presence of edge modification. Since we only recovered 2 modified flakes from 23BY591 which could be sized, we prepared tables to chart these 3 variables for sites 23BY441 and 23BY605 (Table 4-18). Here the percentages of the modified flakes with and without cortex are compared.

Table 4-18. Flake Size, Modification, and Cortex

	23BY441				23BY605			
	B	C	D	Total	B	C	D	Total
Mod Present/ Cortex Present	0	6-67.7% (11.8%)	3-33.3% (21.4%)	9 (11.8%)	1-5.9% (5.6%)	6-35.3% (7.8%)	10-58.8% (28.6%)	17 (13.1%)
Mod Present/ Cortex Absent	1-9.0% (9.0%)	8-72.7% (15.7%)	2-18.1% (14.3%)	11 (14.5%)	1-8.3% (5.6%)	8-66.7% (10.4%)	3-25.0% (8.6%)	12 (9.2%)
Mod Absent/ Cortex Present	0	14-70.0% (27.5%)	6-30.0% (42.9%)	20 (26.3)	1-2.3% (5.6%)	25-58.1% (32.5%)	17-39.5% (48.6%)	43 (33.1%)
Mod Absent/ Cortex Absent	10-27.8% (91.9%)	23-63.9% (45.1%)	3-8.3% (21.4%)	36 (47.4%)	15-25.9% (83.3%)	38-65.5% (49.4%)	5-8.6% (14.3%)	58 (44.6%)
Total	11-14.5%	51-67.1%	14-18.4%	76	18-13.8%	77-59.2%	35-26.9%	130

Comparing the figures in Table 4-18 we observe that on a percentage basis the larger the flake, the more likely it is to have cortex presence and the more likely it is to exhibit edge modification. At 23BY441 91% of the B size flakes have neither modification or cortex. At 23BY605 this percentage is over 83%. In the D size category the situation is markedly different. At 23BY441 only 21.4% of the D size flakes have neither modification nor cortex and at 23BY605 less than 15%. At 23BY605 less than 6% of the flakes with both modification and cortex are of size B, while size D contains nearly 60% of the flakes with both of these attributes.

We believe that these data are strong enough to suggest the hypothesis that the past users of the site were rather consistently choosing larger flakes which retained at least some cortex to be used as tools; probably either as scrapers or cutting tools. It is impossible to assess the importance of the 2 different variables, size and cortex, in the selection process or for that matter to judge if the combination, size plus cortex, was responsible for selection.

While there does indeed seem to be strong enough evidence to suggest that these types of flakes were being chosen for use as tools, it is not yet clear whether the reduction strategy was aimed at their production or whether they were used "second-handedly." Could there have been "on-site" curation for these large flakes with cortex? It is possible to think of the industry as aimed primarily at the production of bifaces but structured in such a way as to produce a particularly useful by-product in the form of large flakes which retained cortex. Might this be a reason for the limited amount of reduction done at the source areas? It is also possible to envision a situation in which a flake tool was needed and simply struck from a piece of tested material with the resultant core curated for later use in biface manufacture. Whatever the actual case may have been, it is clear that the lithic industry seen in these inventories produced at least 2 different tool types and it is tempting to see these as products of an integrated system.

Conclusion

We believe that this series of data manipulations has resulted in the reconstruction of a coherent lithic industry for these sites. It is our hope that such a reconstruction can serve as a hypothetical model for studies at other sites in the region. The model does, however, suffer from at least one serious flaw: The lithic debris from each of these sites was treated as a single unit of analysis. We think it likely that this debris was deposited at the sites during the course of many different episodes or use, doubtlessly separated in time by several centuries. Because of this, it is an open question as to whether it is the result of numerous episodes of lithic tool manufacture which had the same pattern or the combination of a number of different patterns. Since it is not possible for us to discern separate deposits at these sites, the answer to this question must be sought elsewhere.

At any rate we believe we have used these collections to good advantage and do not see any reason to recommend further on-site data recovery investigations at these sites. Such efforts, we believe, are most likely to result simply in the gathering of redundant materials.

CHAPTER 5: TERRACE SURVEY

Site and Artifact Descriptions

Upper White River Survey Unit. A total of 10 terrace locations (Upper White River A - J) were examined within this unit. This resulted in the examination of 8 archeological sites. No sites were recorded for Units I and J at the extreme upper end of the White River in Table Rock Lake.

Rock Feature Site, 23BY317

Description and Discussion

This prehistoric and historic site is located on a periodically inundated terrace (905 - 910 feet amsl) approximately 350 - 450m south of the former confluence of Roaring River and the White River. The site had a cover of aquatic grasses and weeds with approximately 5 - 90% ground visibility. The soil consists of reddish brown silty clay with a thin surficial layer of wind-blown sand; the A horizon has been stripped or eroded away by wave action. The site exhibits considerable pot-hunting activity. At least 20 random pot holes to a depth of about 20cm were observed.

The site consists of a light to moderate scatter of prehistoric and historic artifacts. Prehistoric lithic artifacts are concentrated along the north side of the terrace, whereas historic artifacts are concentrated on the northeast side. Three rock features are also located on the northeast portion of the site consisting of dense concentrations of sandstone and limestone rocks. One feature is rectangular (2.2 x 2.5m) and the other two are circular (1.75 x 1.75m and 1.0 x 2.0m). They appear to be historic features associated with a nearby farmstead. Surface finds and lake waters delimited site size to be approximately 100 x 160m.

Recovered Materials

Chronologically diagnostic materials from the prehistoric component(s) include a Gary Stemmed point and 2 untyped dart points suggesting use of the site during the Archaic and possibly Woodland periods. The historic component is thought to date to the mid-19th century.

Analysis of the recovered lithic materials indicates both tool manufacture and tool use at this site. Biface manufacture is indicated, including the replacement of large dart points. Evidence for tool maintenance (resharpening) and reuse is present in the inventory. Several biface fragments and flakes show evidence of use. Both stream and weathered cortices were observed on the artifacts.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	thick biface end fragment, worn edge	
		untyped expanding stem point	5-2a
Surface	Reeds Spring	untyped corner notched point	5-2c
		Gary Stemmed point, broken	5-2b
		biface edge fragment, broken in use	
		biface preform/bifacial core	
		biface end fragment with worn edge	
		large biface with worn edge	
		rounded biface end, use damage	
		thick biface tip with use damage	
		biface made on thick flake	
		biface end fragment, some use wear	
Shovel Test 1		small thin irregular biface	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
3	64	0	1	2	0	75

HISTORIC ARTIFACTS

Provenience	Number	Description	Figure Reference
CERAMICS			
Surface	1	whiteware plate or bowl base sherd, part of impressed mark on base	

HISTORIC ARTIFACTS
(continued)

Provenience	Number	Description	Figure Reference
		CERAMICS (cont'd)	
Surface	1	handpainted whiteware, green decoration one surface	
	4	whiteware sherds	
	2	whiteware plate or bowl rim sherds with blue transfer decoration on interior, probably from same vessel	
	1	handpainted whiteware sherd, bold floral decoration in pink, green, black on interior	5-1f
	3	blue shell-edge plate or bowl rim sherds	5-1b, 5-1c
	1	unglazed red earthenware sewer or roof tile fragment	
	1	burned stoneware sherd, unidentified glaze	
	1	earthenware sherd, white interior, blue exterior	5-1d
	1	sponge-printed? whiteware sherd, pink decoration with green line on exterior	
	1	whiteware plate or bowl sherd with purple transfer decoration on interior	5-1e
	1	burned earthenware or stoneware sherd, unidentified brown glaze	
	1	burned earthenware or stoneware sherd, unidentified glaze on exterior, unglazed (or burned-off glaze?) on interior	
	1	burned earthenware or stoneware rim sherd sherd from straight-walled crock with heavy rim	5-1a
	1	whiteware sherd with light blue underglaze, painted? decoration on exterior	
Shovel Test 1	1	whiteware cup or bowl sherd with light blue handpainted decoration on exterior	

HISTORIC ARTIFACTS
(continued)

Provenience	Number	Description	Figure Reference
		GLASS	
Surface	1	purpled vessel fragment	
	1	clear vessel fragment with heavily patinated or burned surfaces	
	1	turquoise vessel base sherd, oval indentation in exterior, possibly hand-blown	
	1	greenish vessel fragment, contact mold blown with special relief decoration on exterior	
	1	dark brownish green bottle base sherd, with deeply indented (5.5 cm) base	

Evaluation and Recommendations

This site seems to hold the potential for both intact prehistoric and historic deposits. Further investigations are recommended to determine if it is possible to isolate separate components of the site's use and to further specify the cultural periods of use.

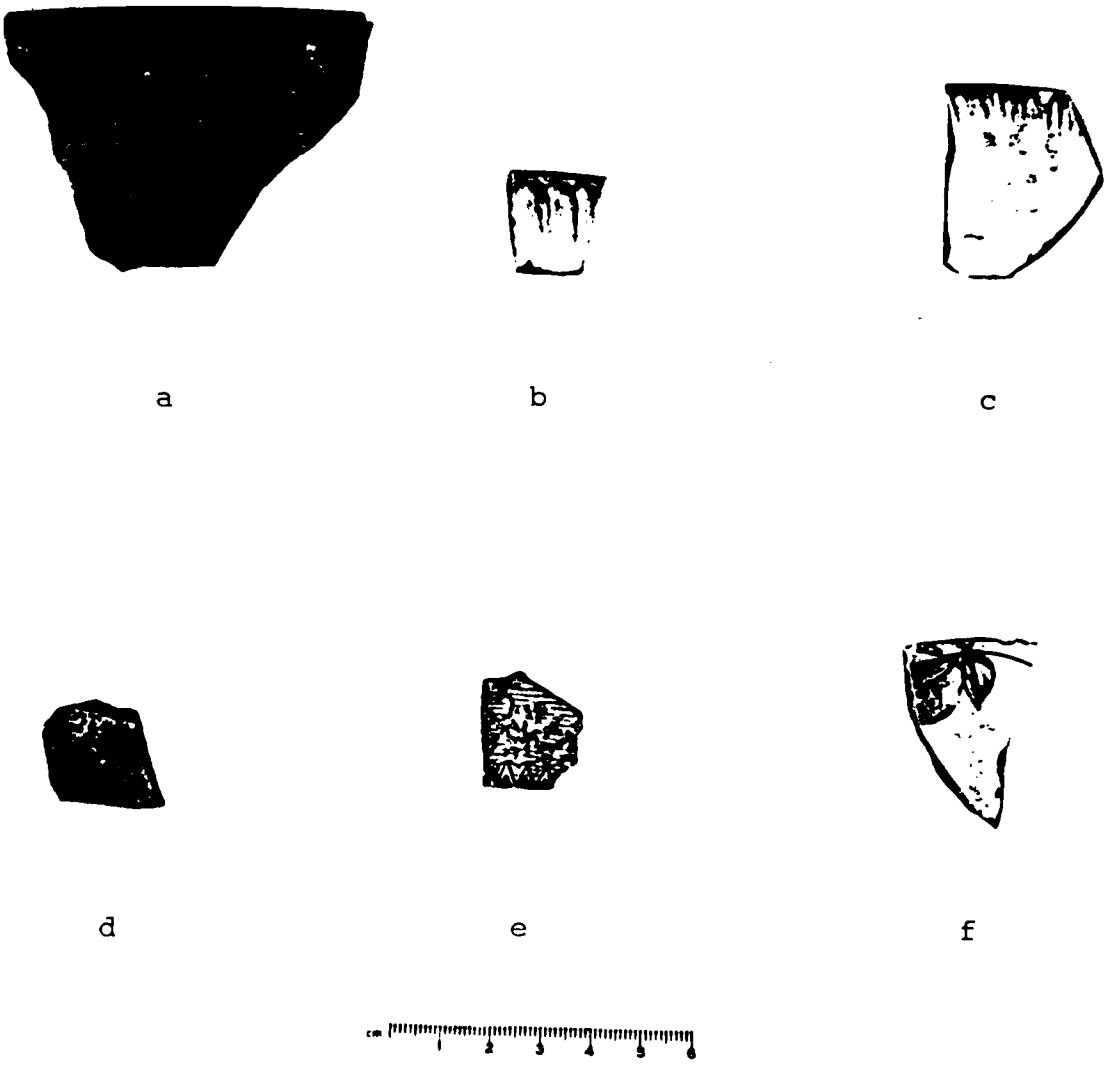


Figure 5-1. Historic Artifacts. a- earthenware or stoneware crock rim sherd; b,c- blue shell-edge rim sherds; d- earthenware sherd, white interior, blue exterior; e- whiteware sherd with purple transfer decoration; f- handpainted whiteware sherd, floral decoration.

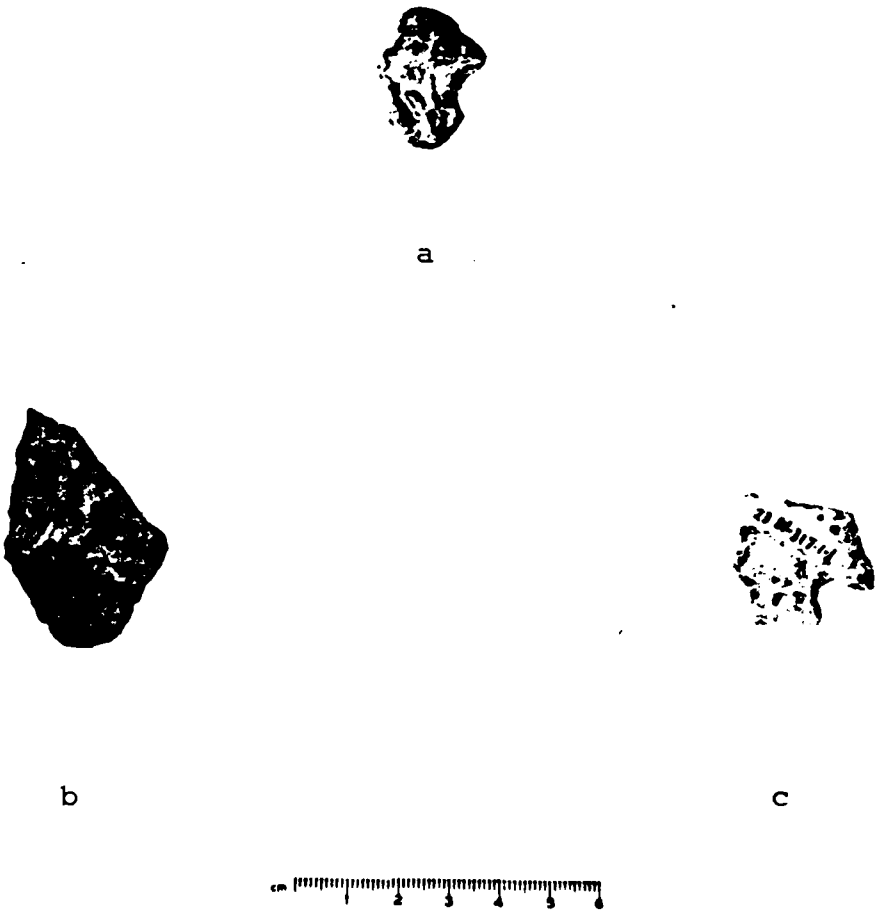


Figure 5-2. Lithic Artifacts. a- untyped expanding stemmed point; b- Gary Stemmed point; c- untyped corner notched point.

Long Bay Site, 23BY165

Description and Discussion

This prehistoric site is located on a high terrace on the end of an interfluve (905 - 931 feet amsl) approximately 150 - 275m west of the former White River. The eastern portion of the site consists of an eroded shoreline (10 - 90% ground visibility) and the western portion was covered by early successional woods (0 - 15% ground visibility). The soil has been heavily eroded by wave action. The site exhibited considerable pot-hunting activity including random digging and some screening of dirt.

The site consists of a light to moderate lithic scatter with most artifacts concentrated along the east side of the site. Site size was determined to be approximately 100 x 420m. Because of the disturbed nature of the area it was not possible to ascertain site depth.

Recovered Materials

Chronologically diagnostic materials recovered from the site include 1 Gary Stemmed point and 2 Stone Square Stemmed points indicating use of the site toward the end of the Late Archaic Period, possibly into the Woodland Period (Figure 5-3).

Tool manufacture and use are indicated by the recovered lithic materials. The use of a core/flake reduction strategy (possibly bipolar reduction) is indicated. Several of the bifaces seem to have been broken during use as well as during manufacture.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	biface end fragment, broken in manufacture	
Surface	Pierson	thick biface fragment, edge use?	
Surface	Reeds Spring	core, bipolar?/used as wedge?	
		biface edge fragment, broken in use	
		biface edge fragment, broken in use	
		biface end fragment, broken in use	5-3b
		large corner notched point fragment	5-3a
		Gary Stemmed point, broken in use	5-3c

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface	Reeds Spring	Stone Square Stemmed point	5-3e
(cont'd)	(cont'd)	Stone Square Stemmed point	5-3d
Surface	unidentified	biface end, broken in manufacture	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
1	0	0	1	0	0	2

Evaluation and Recommendations

A further program of site examination is recommended for this site to determine if there exist some areas with intact deposits.

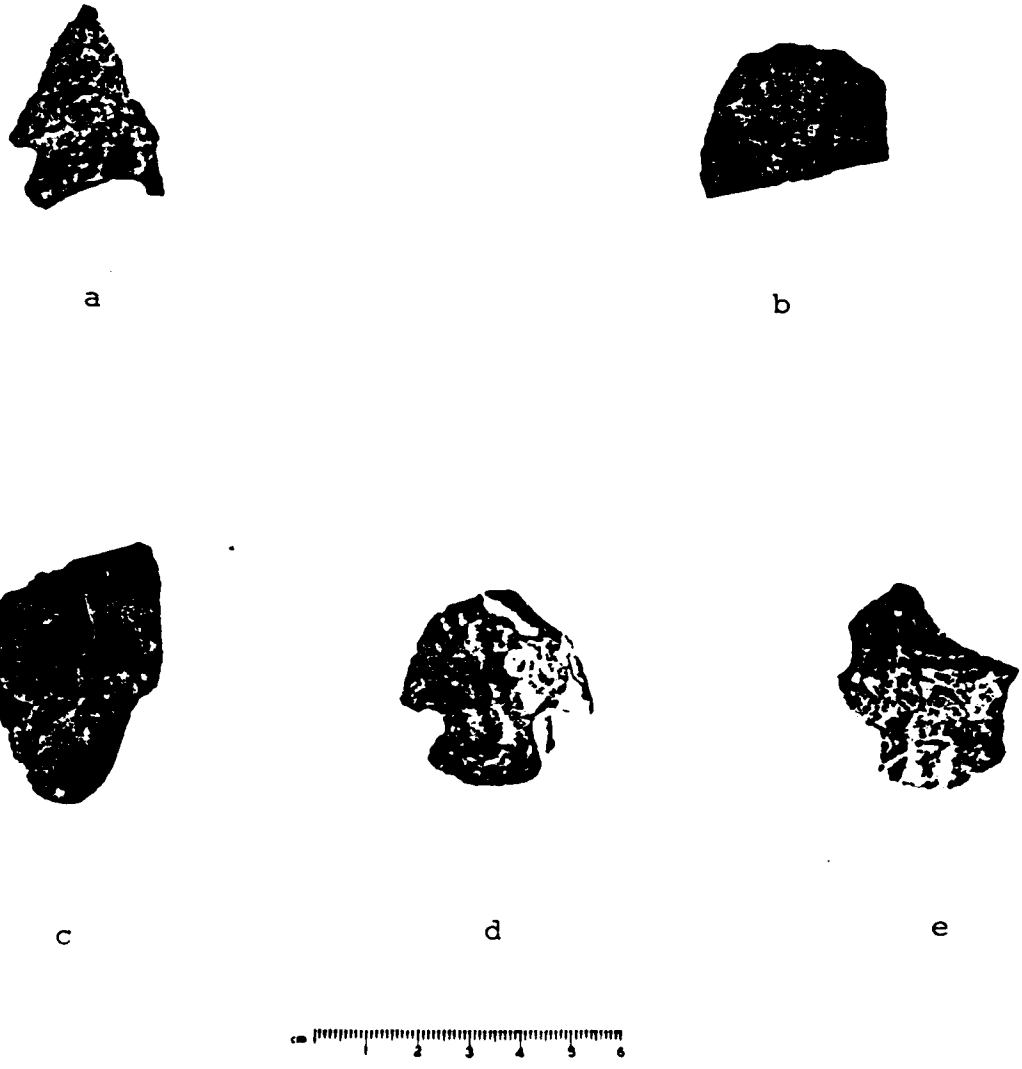


Figure 5-3. Lithic Artifacts. a- untyped large corner notched point; b- biface end fragment; c- Gary Stemmed point; d,e- Stone Square Stemmed points.

State Line Site, 3CR243

Description and Discussion

This prehistoric site is located on a triangular-shaped terrace (905 - 922 feet amsl) approximately 100m south of the Missouri-Arkansas state line and about 500 - 600m north-northeast of the former confluence of Leatherwood Creek and the White River. The summit of the terrace is covered by weeds and briars and the edges are eroded by wave action (0-90% ground visibility).

The soil consists of a light gray silt loam. The site has been primarily disturbed by shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was estimated to be approximately 50 x 100m.

Recovered Materials

Recovered materials consisted primarily of debris from the use and manufacture of bifacial tools. The only culturally diagnostic item recovered was a Gary Stemmed point.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	thick biface, reused as scraper heat spall from flaked pebble biface edge fragment, worn edge	
Surface	Reeds Spring	Gary Stemmed point, broken in use biface midsection, broken in manufacture	
Surface	unidentified	broken mano/hammer	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
8	27	0	1	0	0	36

Evaluation and Recommendations

A limited program of site investigation is recommended for this site to determine the extent to which the upper (artifact-bearing) portions of the site have been disturbed.

White-Leatherwood Site, 3CR244

Description and Discussion

This prehistoric site is located on a terrace system (905 - 920 feet amsl) approximately 150 - 300m southwest of the former confluence of Leatherwood Creek and White River. Ground visibility varied from 0-90% in grass-covered and eroded shoreline areas. The soil consists of a silt loam plowzone over a reddish-brown mottled silt loam. The site has been disturbed by shoreline erosion and extensive pot hunting.

The site consists of a light to moderate lithic scatter. Site size was estimated to be approximately 130 x 160m.

Recovered Materials

Chronologically diagnostic materials recovered indicate use in both the Archaic Period (Jakie Stemmed point) and Mississippian Period (Mississippi Triangle point).

Manufacturing efforts were directed toward the production of bifaces. Numerous recovered bifaces seemed also to have been broken in use and some tool maintenance (resharpening) is present. Several discarded biface preforms or cores were also recovered.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	reworked biface,used as wedge?	
		irregular biface,broken in manufacture	
		biface tip with worn edges	
		biface midsection, edge wear	
		biface edge fragment, edge worn	
		broken large biface, edge worn	
		biface end fragment, edge worn	
		biface end fragment, broken in use	
		biface midsection?	
Shovel Test 1		Jakie Stemmed point, broken in manufacture	
Surface	Reeds Spring	Mississippi Triangle point	5-4a
		biface midsection, broken in use	
		thick biface preform/core	

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface (cont'd)	Reeds Spring (cont'd)	thick biface preform/core	
		thick biface preform/core	
		small thick biface preform/core	
		biface end fragment, edge worn	
		small biface preform/core	
		large biface, resharpened edge	
		biface edge fragment	
		biface end fragment, broken in use	
		biface edge fragment, use damage	
		biface edge fragment, broken in manufacture	
		biface midsection, broken in manufacture	
		biface edge fragment, badly HF	
		biface edge fragment	
		biface preform or core	
		biface end fragment, edge damaged	
		biface edge fragment, broken in use	
		biface edge fragment, broken in use	
		biface edge fragment, broken in resharpening	
		thin biface end? fragment, worn edge	
		rounded biface end, worn edge	
		biface edge fragment, worn edge	
		thick biface edge fragment	
		biface edge fragment, edge worn	
		thin biface edge fragment, edge worn	
Shovel Test 1		biface tip fragment, worn tip	
Surface	Jefferson City chert	core, ring cracks, used as wedge	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
19	16	0	1	0	0	36

Evaluation and Recommendations

A program of site investigation is recommended for this site to determine the nature and extent of site disturbances.

Figure 5-4. Lithic Artifacts. a- Mississippi Triangle point.

Holiday Island West Site, 3CR245

Description and Discussion

This prehistoric site is located on an eroded terrace (905 - 910 feet amsl) on the west side of Holiday Island and approximately 200 - 500m southeast of the confluence of Cedar Creek and the White River. The site was covered by aquatic weeds with 0-90% ground visibility. The soil consists of a silt loam with surficial wind-blown sand. The site has been deeply eroded (approximately 1m) by wave action and picked over by collectors.

The site consists of a light to moderate lithic scatter. Site size was estimated to be approximately 70 x 310m.

Recovered Materials

No chronologically diagnostic materials were recovered from this site.

The lithic materials indicated biface manufacture, use, and maintenance. Several biface fragments exhibited worn edges. A single fragment of ground stone was also recovered.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	biface fragment on stream pebble	
		biface edge fragment, unifacial damage	
		biface edge fragment	
Shovel Test 1		biface edge fragment	
Surface	Reeds Spring	small irregular biface	
		biface midsection, broken in use	
		biface edge fragment, worn edge	
		biface edge fragment, worn edge	
		rounded biface end fragment	
		biface end fragment, broken in use	
Surface	sandstone	ground stone fragment	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
6	7	0	1	0	0	14

Evaluation and Recommendations

This site may well be associated with 3CR238 and represents only very limited activity and use. Since the site has been heavily disturbed, no further investigations are recommended.

Beaver North Site, 3CR247

Description and Discussion

This prehistoric site is located on a triangular-shaped terrace (905 - 920 feet amsl) approximately 500m northwest of Beaver, Arkansas. The site is partially wooded and partially eroded by wave action with approximately 0-95% ground visibility. The soil consists of a medium brown silt loam, the upper portion of which appears to have been eroded away. The site has been primarily disturbed by shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was estimated to be approximately 50 x 150m. Depth of deposit is estimated to be over 60cm.

Recovered Materials

The only possibly chronologically diagnostic artifact recovered was a reworked Table Rock point stem.

Biface manufacture, use, and maintenance are illustrated in the recovered materials. The use of flakes as cutting or scraping instruments is also indicated.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Reeds Spring	biface tip, broken in use/resharpening	
Surface	Jefferson City chert	fragment with flake scars?, edge modification	
		biface preform?, broken in manufacture	
		Table Rock pointed stem, reworked	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
1	0	0	2	0	0	3

Evaluation and Recommendations

Because of the observed depth of deposit, this site is recommended for further investigation to determine the age and extent of its use.

Blue Spring East Site, 3CR249

Description and Discussion

This prehistoric site is located on a terrace (905 - 920 feet amsl) on the right bank of the former White River approximately 250 - 300m northeast of Blue Spring. The site was partially wooded and partially eroded by wave action with about 0-70% ground visibility. The soil consists of a silt loam and a silty clay. The site has been extensively eroded by shoreline erosion.

The site consists of a light lithic scatter eroding from two localized areas of a high cutbank. Site size was determined to be approximately 20 x 175m.

The cutbank profile revealed 3 different alluvial deposits in the upper 3.5m (Figure 5-5). These consisted primarily of loam and sandy loam sediments. It is our judgment that this landform has a particularly complex geomorphic history and a considerable portion has been created by recent or at least post-settlement alluvium. Clearly there was prehistoric use of this landform as it was forming.

Recovered Materials

Eighteen items of lithic material were recovered from this site. The only 2 items classified as tools were chronologically undiagnostic.

TOOLS

Provenience	Material	Description	Figure Reference
Surface (Conc. B)	Jefferson City chert	chunk with incidental edge modification	
Cutbank (Conc. B)	unidentified	large biface tip, broken in use	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
5	6	1	2	0	2	16

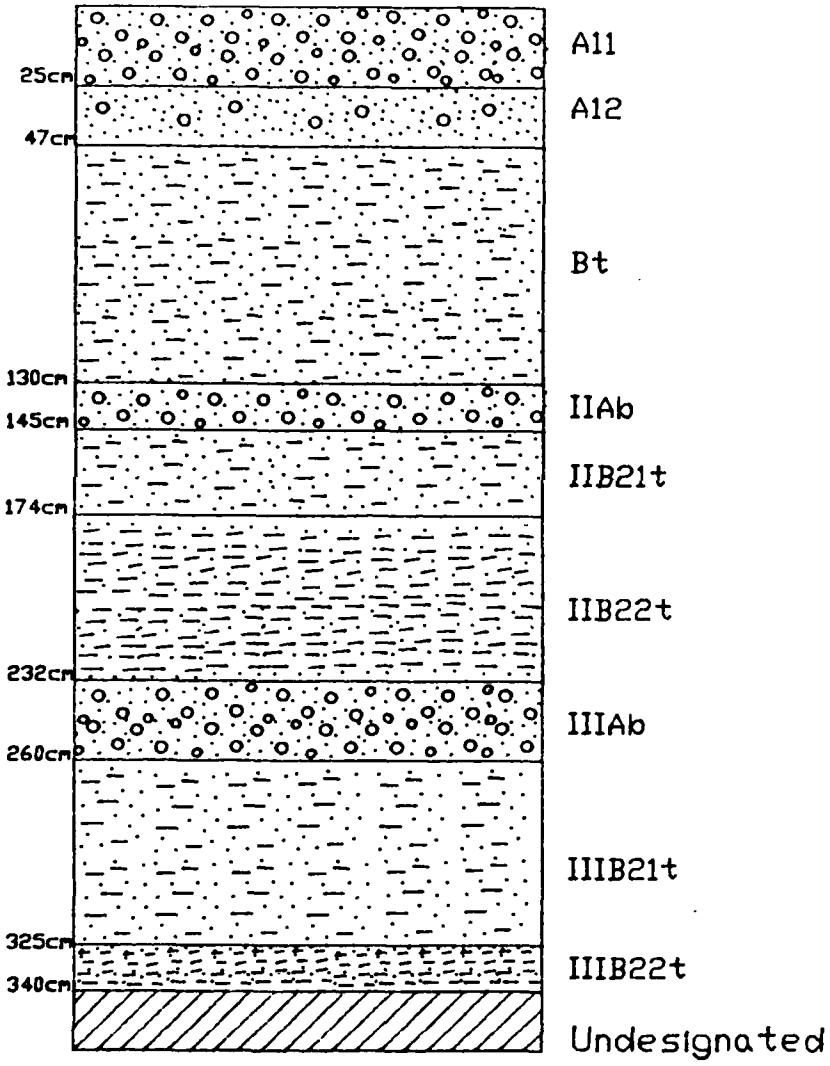


Figure 5-5. Soil Profile for 3CR249.

3CR249 Soil Profile Description

A11	0-25cm. Dark brown (10YR4/3) very fine sandy loam; strong medium granular structure; very friable; common fine and medium roots; slightly acid (pH 6.5); gradual smooth boundary.
A12	25-47cm. Dark brown (10YR3/3) very fine sandy loam; strong medium granular structure; very friable; common fine and medium roots; abrupt smooth boundary.
Bt	47-130cm. Dark brown (10YR4/3) loam; strong moderate subangular blocky structure; firm; patchy distinct films on peds; few roots; slightly acid (pH 6.5); clear smooth boundary.
IIAb	130-145cm. Dark brown (10YR3/3) loam; weak subangular blocky structure; friable; few fine roots; few fine pores; slightly acid (pH 6.2); clear smooth boundary.
IIB21t	145-174cm. Dark yellowish brown (10YR4/4) sandy clay loam; moderate subangular blocky structure; firm; patchy distinct films on peds; few fine roots; slightly acid (pH 6.2); gradual smooth boundary.
IIB22t	174-232cm. Dark brown (10YR4/3) loam; few fine distinct pale brown (10YR6/3) mottles; moderate subangular blocky structure; firm; patchy distinct films on peds; few roots; slightly acid (pH 6.3); gradual smooth boundary.
IIIAb	232-260cm. Dark brown (10YR3/3) loam; common fine faint dark brown (10YR4/3) mottles; moderate weak subangular blocky structure; firm; few fine roots; artifacts present; slightly acid (pH 6.5); clear smooth boundary.
IIIB21t	260-325cm. Dark brown (10YR4/3) loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; firm; patchy distinct films on peds; slightly acid (pH 6.5); gradual smooth boundary.
IIIB22t	325-340cm+. Dark yellowish brown (10YR4/4) heavy very fine sandy loam; common medium distinct light brownish gray (10YR6/2) mottles; subangular blocky structure; patchy distinct films on peds; neutral (pH 6.6); boundary not observed.

Evaluation and Recommendations

This site has several similarities to 3CR236. Cultural materials are clearly buried to some depth at this location, but very little of the site exists on lands managed by USAED,LR. Investigations sponsored by the USAED, LR would likely have to be confined to the excavation of bank-line profiles, and this cannot be expected to yield much in the way of culturally diagnostic materials. However, should this portion of the shoreline be threatened, it would be important to document in detail these profiles before they were destroyed.

James River Survey Unit

Two terrace sites were discovered and recorded in the James River survey unit.

Virgin Bottom Site, 23SN302

Description and Discussion

This prehistoric site is located on a terrace (905 - 931 feet amsl) on the left bank of the former James River approximately 700 - 1,050m northeast of Virgin Bluff. The site is periodically inundated by Table Rock Lake and exhibited about 0-90% ground visibility. The soil consists of a light gray silt loam with a surficial wind-blown sand deposit; it appears that the A horizon has been eroded from the terraces. Disturbances to the site include extensive erosion by wave action and pot-hunting activities by local collectors.

The site consists of a light scatter of lithics with a concentration of artifacts on the south end of the terrace. Site size was estimated to be approximately 160 x 350m. Site depth could not be estimated.

Recovered Materials

A single large untyped dart point and 1 possible Stone Square Stemmed point were recovered from the site, suggesting use in the Archaic Period.

Biface manufacture, use, and maintenance are evident in the collection. Several biface end fragments with very worn edges were recovered.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	broken biface preform	
		biface end fragment, broken in manufacture	
		thick biface edge fragment, worn	
Surface	Reeds Spring	large corner notched point fragment	
		Stone Square Stemmed? point	5-6a
		biface preform, edge wear	
		thick biface, outcrop material	
		biface edge fragment, broken in use	
		thick biface preform/core, worn	

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface (cont'd)	Reeds Spring (cont'd)	biface end fragment, very worn edge	
		biface end fragment, very worn edge	
		biface with heavily worn edge	
		biface end fragment, used as wedge?	
		irregular biface preform/core	
		biface end fragment, broken in use	
		biface tip,broken in use/resharpening	
		outrepasse flake	
		ovate-pointed biface, edge worn	
		biface end fragment, heavy use wear	
		biface tip,broken in use/resharpening	
		biface end fragment, broken in use	
Surface	Jefferson City chert	biface edge fragment	
Surface	Jefferson City Quartzite	thin biface midsection, worn?	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
0	1	0	0	0	0	1

Evaluation and Recommendations

Further investigations are recommended for this site in order to document the extent of site disturbances and to ascertain the presence or absence of possible intact deposits.

a

Figure 5-6. Lithic Artifacts. a- Stone Square Stemmed? point.

Black Band Site, 23SN848

Description and Discussion

This prehistoric and historic site is located on a high terrace (905 - 931 feet amsl) approximately 500m east-northeast of the former confluence of Flat Creek and the James River. The site is partially in pasture and partially eroded by wave action with 0-95% ground visibility. The soil consists of a silt loam plowzone over a silty clay subsoil. The site has been disturbed by shoreline erosion and intensive collecting by pot hunters.

The site consists of a light to moderate lithic scatter with artifacts concentrated in a dark midden zone across the site. Site size was estimated to be approximately 65 x 120m. Site depth could not be ascertained.

Recovered Materials

A Rice Corner Notched point, untyped contracting stem fragment, and large untyped corner notched point indicate use of the site during the Archaic Period. Sponge-printed and blue transfer decorated whiteware date at least a portion of the historic period occupation to the 19th Century.

Biface manufacture, use, and maintenance is indicated by the collection with some evidence for flake/core reduction. The materials indicate the reworking and probable replacement of broken tools at the site.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	biface edge fragment, heavy damage	
Surface	Pierson	biface/core, anvil damage?	
Surface	Reeds Spring	Rice Corner Notched point	5-7a
		large corner notched point	
		reworked notched point fragment	
		biface edge fragment	
		thick biface preform/core	
		biface edge fragment	
		biface preform/bifacial core	
		thin biface edge fragment	
		biface edge fragment, badly HF	
		thick biface/core, use damage	

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface (cont'd)	Reeds Spring (cont'd)	biface end fragment, broken in use	
		thin biface edge fragment	
		small thick biface preform/core	
		thin biface midsection, reworked	
		biface fragment, edge removed by HF	
		biface preform end	
		biface midsection	
Surface	unidentified	contracting point stem, edge wear	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
0	2	0	0	0	0	2

HISTORIC ARTIFACTS

Provenience	Number	Description	Figure Reference
		CERAMICS	
Surface	1	whiteware bowl rim sherd	
	1	whiteware sherd with blue transfer decoration on interior	5-8a
	1	whiteware (or semi-porcelain) cup or bowl base sherd	
	1	whiteware vessel sherd with pink and blue sponge-printed decoration on exterior	5-8d
	1	whiteware rim sherd with blue sponge decoration on exterior	5-8c

HISTORIC ARTIFACTS
(continued)

Provenience	Number	Description	Figure Reference
		CERAMICS (cont'd)	
Surface (cont'd)	1	burned earthenware or stoneware vessel sherd with Albany glazed interior, unidentified glaze on exterior	
		GLASS	
Surface	1	turquoise bottle neck, rim applied with lipping tool, probably from medicine bottle	5-8b
	1	purpled fragment of base from stemmed vessel (such as comport) with mold mark	
	1	turquoise sherd from base of rectangular bottle, embossed A&DII on exterior	
	1	dark green vessel fragment, heavily patinated	

Evaluation and Recommendations

Further investigations are recommended for this site to determine the extent and nature of the midden deposit and to access the extent of site damage.

a

Figure 5-7. Lithic Artifacts. a- Rice Corner Notched point.

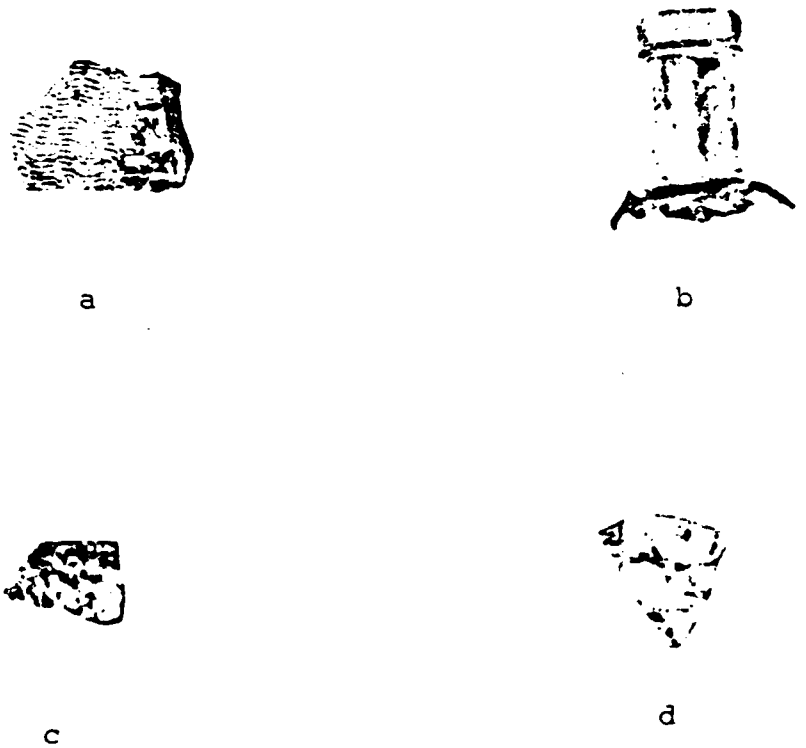


Figure 5-8. Historic Artifacts. a- whiteware sherd with blue transfer decoration; b- Turquoise bottle neck; c- whiteware rim sherd with blue sponge decoration; d- whiteware rim sherd with pink and blue sponge printed decoration.

Kings River Survey Unit

Two terrace sites were discovered and recorded in the Kings River survey unit.

Thunder Nose Site, 23BY392

Description and Discussion

This prehistoric site is located on a triangular-shaped terrace (905 - 920 feet amsl) on the right bank of the former Kings River north-northeast of State Route 86 bridge over the Kings River. The site is partially wooded and partially eroded by wave action, exhibiting 0-75% ground visibility. The soil consists of a mottled brown silt loam. It appears that most of the A horizon has been eroded away by wave action. The site has been primarily disturbed by shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was determined to be approximately 75 x 130m. Site depth could not be determined.

Recovered Materials

A single Table Rock Stemmed point is the only chronologically diagnostic artifact collected.

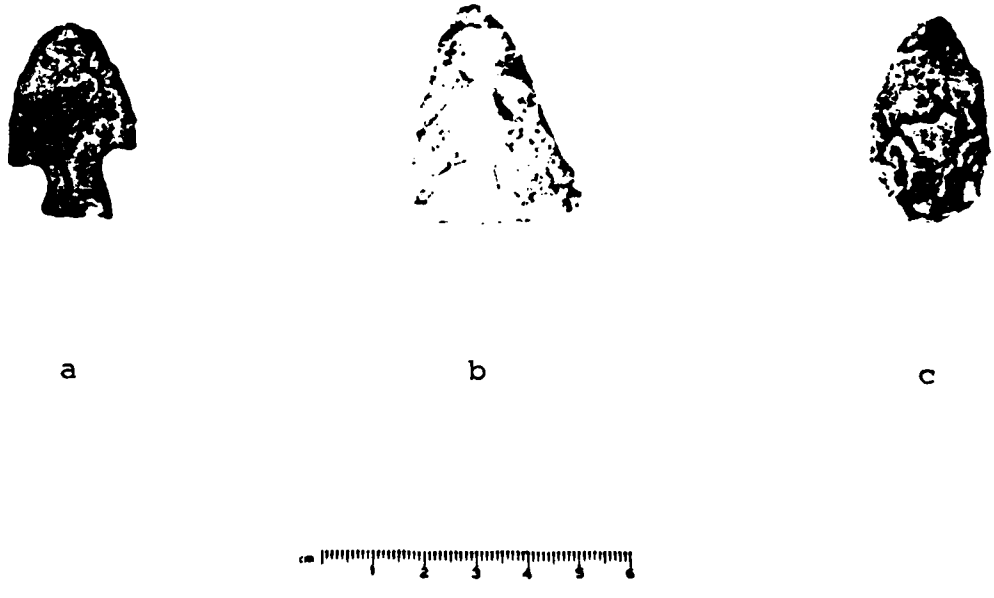
The collection contained evidence for biface use and maintenance but no evidence for large biface manufacture. Pitted manos were noted at the site but not collected.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	biface tip, broken in use/ resharpening biface midsection, broken in use	5-9b
Surface	Reeds Spring	Table Rock Stemmed point, resharpened biface midsection, broken in use	5-9a
Surface	Jefferson City chert	small leaf-shaped biface	5-9c
Surface	unidentified	midsection & shoulder of point biface edge fragment, broken in use	

Evaluation and Recommendations

Further investigations are recommended to determine the extent of site disturbances.



a b c

Figure 5-9. Lithic Artifacts. a- Table Rock Stemmed point; b- biface tip; c- small leaf-shaped biface.

Gallion Bottom Site, 23BY368

Description and Discussion

This prehistoric site is located on a terrace (905 - 930 feet amsl) on the left bank of the former Kings River north of State Route 86 bridge over the Kings River and Gallion Bluff. The site is partially covered by pasture grass and partially eroded by wave action, exhibiting 0-50% ground visibility. The soil consists of a silt loam underlain by a clayey silt. The site has been disturbed by plowzone mixing and shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was estimated to be approximately 50 x 310m. Site depth may be as deep as 1m. The cutbank profile was examined and determined to consist of at least 3 different depositions. The lowest of these was a gravel deposit. Because of the apparent soil development in all but the upper latest deposit, we believe it highly unlikely that cultural deposits are contained below the upper unit. There the artifacts cluster tightly in the Ap and upper few centimeters of the B21t horizon (Figure 5-10).

Recovered Materials

Chronologically diagnostic materials included a Big Sandy Side Notched point, a Langtry Stemmed point, and 2 Stone Corner Notched Points.

Biface manufacture, use, and maintenance is indicated by the collection.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	Langtry Stemmed point, made on flake	5-11e
		Stone Corner Notched point	5-11b
		Stone Corner Notched point	5-11d
		thin biface midsection, reworked	
		biface edge fragment, broken in use	
Shovel Test 3		biface tip fragment, broken in use	
Surface	Reeds Spring	corner notched point fragment	
		thin biface midsection	
		biface edge fragment, reworked	
		biface edge fragment	
		thin biface midsection	
		thin biface edge fragment	

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface	Jefferson City chert	Big Sandy Notched point large biface tip	5-11c
Cutbank 106cm b.s.		Stone Corner Notched point	5-11a
Surface	Jefferson City Quartzite	asymmetrical biface	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
2	2	0	6	1	0	11

Evaluation and Recommendations

It is quite likely that intact cultural deposits exist at this site. An extensive program of site evaluation is recommended.

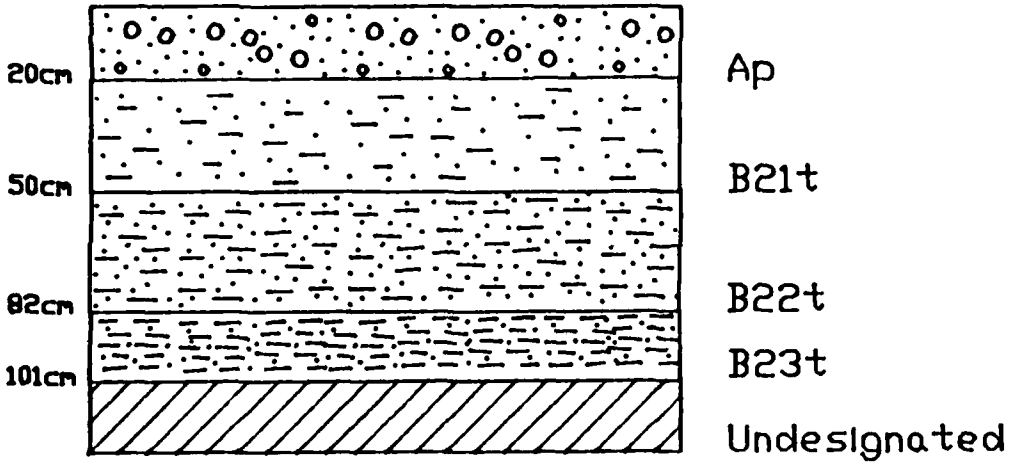


Figure 5-10. Soil Profile Description for 23BY368.

23BY368 Soil Profile Description

Ap	0-20cm. Dark grayish (10YR4/2) silt loam; common medium faint light brownish gray (10YR6/2) mottles; weak subangular blocky structure; friable; common fine and medium roots; common very fine and fine pores; top 30cm+ contains 5-10% by volume of artifacts; strongly acid (pH 5.5); abrupt smooth boundary.
B21t	20-50cm. Yellowish red (5YR5/6) silty clay loam; strong moderate subangular blocky structure; firm; patchy complete prominent films on peds; few fine roots; strongly acid (pH 5.5); clear smooth boundary.
B22t	50-82cm. Red (2.5YR4/6) silty clay; common medium prominent light brownish gray (10YR6/2) mottles; strong angular blocky structure; very firm; complete prominent films on peds; few fine and medium roots; common pores; very strongly acid (pH 5.0); gradual smooth boundary.
B23t	82-101cm+. Yellowish red (5YR5/6) silty clay; common medium prominent light brownish gray (10YR6/2) mottles; strong angular blocky structure; very firm; complete prominent films on peds; extremely acid (pH 4.5); boundary not observed.

Figure 5-11. Lithic Artifacts. a,b,d- Stone Corner Notched points; c- Big Sandy Notched point; e- Langtry Stemmed point.

Long Creek Survey Unit

One terrace site was discovered and recorded in the Long Creek survey unit.

Enon Site, 3CR242

Description and Discussion

This prehistoric and historic site is located on a peninsula (905 - 960 feet amsl) approximately 150 - 500m north of the former confluence of Yocum Creek and Long Creek. The site is partially in pasture and partially eroded by wave action with 0-80% ground visibility. The soil consists of a silt loam topsoil over a silty clay subsoil. The site has been disturbed by plowzone mixing, shoreline erosion, and pot-hunting activities.

The site consists of a light to moderate prehistoric artifact scatter over the entire peninsula, a razed farmstead at the southwest corner, and a historic cemetery at the southeast corner of the site. The razed farmstead consists of a house foundation and cellar measuring 6 x 11m and a barn foundation measuring 16 x 20m. According to the former landowner and resident Fred Badley (personal communication), the farmstead was razed in the early 1950s. Badley also stated that his family found a skull and a groundstone axe on the low terrace at the west end of the site. The cemetery, called Enon Cemetery, is active (presently used) and contains over 100 graves. Both the farmstead and cemetery are located outside Corps property (above 931 feet amsl). Site size was delimited to be approximately 300 x 600m. Site depth is estimated to be 40cm.

Recovered Materials

Chronologically diagnostic materials from the prehistoric use of the site include a Big Sandy Side Notched point and a large untyped corner notched point suggesting an Archaic Period use of the site.

The Historic Period ceramics and glass indicate a possible late 19th century/20th century occupation.

Biface manufacture, perhaps using the bipolar reduction technique, is evident in the recovered collection. Biface production failures as well as fragments broken during use are in the inventory. Many bifaces have edge wear, and evidence of reworking is present on several pieces. A pitted mano or hammer was also recovered.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	bipolar? core with one platform	
		irregular biface with edge wear	
		biface fragment with unifacial damage	
		biface midsection, scraper use	
		large point fragment?, reworked	5-12c
		Big Sandy Side Notched point	
Surface	Pierson	biface production failure, worn	
Surface	Reeds Spring	large corner notched point	
		ovate biface, part of edge worn	
		scraper made on flake/pebble	
		rounded biface end, broken in use	
		pebble fragment with flake scars	
		biface tip, broken during use	
		biface midsection with worn edge	
		small biface/core, edge wear	
		rounded biface end, broken in manufacture	
Surface	Jefferson City chert	biface with sinuous, irregular edge	
		biface preform/bifacial core	
		core with one main platform	
		chunk with flake scars, edge modification	
		biface edge fragment with worn edge	
Surface	sandstone	broken mano/hammer, pitted	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
4	11	1	2	0	0	18

HISTORIC ARTIFACTS

Provenience	Number	Description	Figure Reference
		CERAMICS	
Surface	1	bright blue earthenware plate base sherd, possibly Fiesta ware	
	1	Bristol glazed sherd from earthenware crock	
	1	Bristol glazed rim sherd from earthenware crock, possibly from same vessel as above	5-12a
	1	light blue earthenware vessel fragment	
	2	whiteware sherds	
		GLASS	
Surface	1	purpled vessel base fragment, heavy wear and patina	
	1	white milk glass bowl rim, embossed floral decoration on interior, light blue edge on interior	5-12b
	1	clear vessel base fragment	
	1	blue vessel fragment	
	1	white milk glass fragment	

Evaluation and Recommendations

Further investigations are recommended for this site to determine if there are intact deposits remaining at this location.

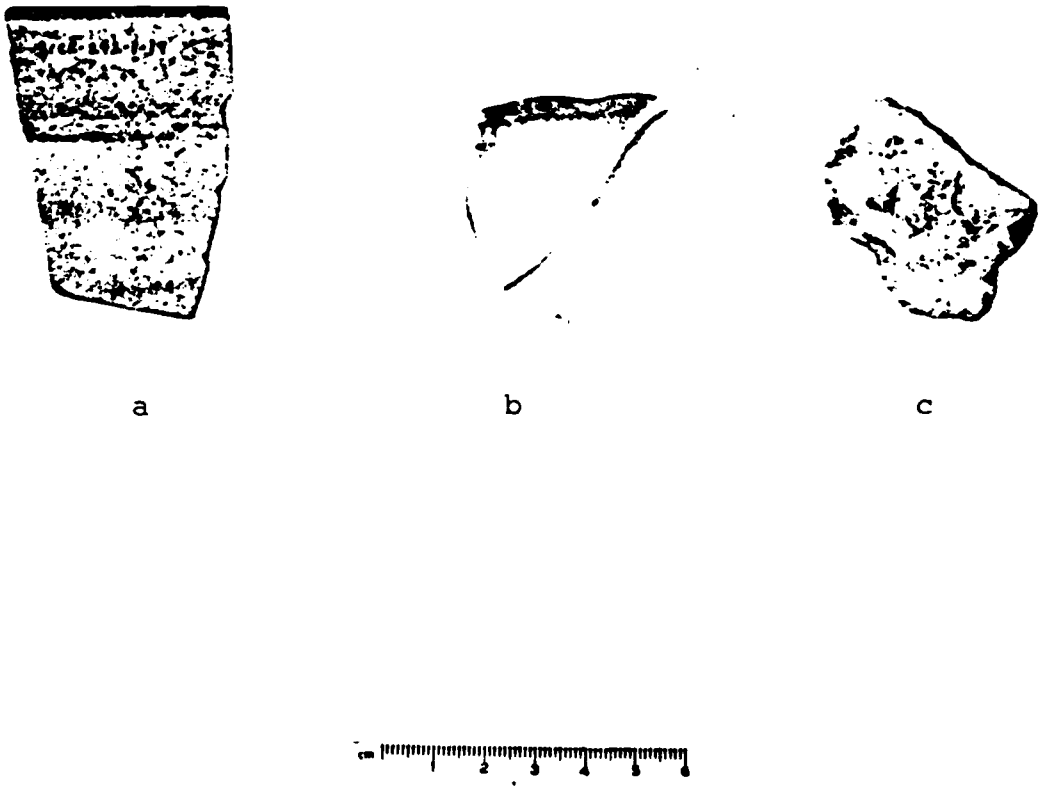


Figure 5-12. Historic and Lithic Artifacts. a- Bristol glazed rim sherd from crock; b- white milk glass bowl rim with embossed floral decoration; c- large point? fragment, untyped.

Side Valleys Survey Unit

Roaring Smith Site, 23BY514

Description and Discussion

This prehistoric and historic site is located on an alluvial fan/terrace (910 - 920 feet amsl) at the mouth of an intermittent drainage to Roaring River. The site was partially wooded and partially eroded by wave action, exhibiting approximately 0-40% ground visibility. The soil consists of a light brown to reddish-brown silt loam. The site has been disturbed primarily by shoreline erosion.

The site consists of a light to moderate scatter of lithic artifacts. Site size was estimated to be approximately 90 x 130m. Site depth is approximately 30cm.

Recovered Materials

The possible Rice Contracting Stem point and the Smith Basal Notched point indicate that the site was used during the Archaic Period. The Historic Period ceramics and glass are thought to indicate a use of the site during the 20th century.

Evidence for large biface manufacture, probably including the replacement of dart points, is present in the collection. Several pieces that likely served as anvils for lithic reduction were identified. Some of the bifaces examined could have also functioned as flake cores. Many of the broken pieces exhibited use ware characteristics. Several are thought to have been used in scraping type tasks.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	thick biface/core, edge damage? thin biface, made on a flake?	
Surface	Reeds Spring	contracting stem point preform irregular biface, edge damage rounded biface end, use damage biface/core with ring cracks contracting stem point preform broken biface preform/core	

TOOLS
(continued)

Provenience	Material	Description	Figure Reference
Surface (cont'd)	Reeds Spring (cont'd)	large biface, broken in use?	
		biface with sinuous edge, damaged	
		biface with stream-worn cortex	
		biface preform/core, edge damage	
		irregular biface, edge damage	
		biface end fragment, broken in use	
		irregular biface, scraper reuse?	
		biface preform with unifacial damage	
		biface end fragment, broken in use	
		biface end fragment, edge worn	
		biface end (stem?) fragment, worn	
		biface edge fragment, unifacial damage	
		untyped corner notched point stem	
Shovel Test 1		biface preform/bifacial core	
Shovel Test 5		Smith Basal Notched point, broken	5-13a
Shovel Test 1	Jefferson City chert	fragment with possible flake scars	
Surface	quartzite	broken anvil/hammer, pitted mano/anvil/hammer	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
5	17	0	4	0	0	26

HISTORIC ARTIFACTS

Provenience	Number	Description	Figure Reference
		CERAMICS	
Shovel Test 5	2	whiteware sherds	
		GLASS	
Shovel Test 5	1	clear vessel sherd	
	1	turquoise vessel sherd	
		METAL	
Shovel Test 5	1	rusted flat head wood screw, broken	

Evaluation and Recommendations

Further investigations are recommended for this site to further specify the nature of the deposits and to determine the extent of site disturbances.

a

Figure 5-13. Lithic Artifacts. a- Smith Basal Notched point.

Flat Access Site, 23SN483

Description and Discussion

This prehistoric site is located on a terrace just east of a public access area. The site was partially wooded and partially eroded by wave action, exhibiting 0-75% ground visibility. The soil consists of a light brown to light reddish-brown silt loam. Disturbances to the site include plowzone mixing and shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was estimated to be approximately 160 x 350m. Site depth could not be determined.

Recovered Materials

No chronologically diagnostic artifacts were recovered from this site.

Four bifaces or biface fragments were recovered. Two seemed to have been broken during manufacture, 1 broken during use.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	biface end fragment, broken in resharpening biface edge fragment, broken in manufacture	
Surface	Reeds Spring	biface with sinuous worn edge	
Surface	Jefferson City chert	biface end fragment, broken in use	

Evaluation and Recommendations

Because of the limited amount of artifactual debris and the possible shallowness of the deposit, no further investigations are recommended for this site.

Butler Bend Site, 3CR248

Description and Discussion

This prehistoric site is located on a peninsula (905 - 930 feet amsl) approximately 300 - 650m north of the former confluence of Butler Creek and White River. The site is partially wooded, partially fallow, and partially eroded, exhibiting 0-70% ground visibility. The soil consists of a gravelly silt loam over a gravelly clayey silt. The site has been disturbed primarily by shoreline erosion.

The site consists of a light scatter of lithic artifacts. Site size was determined to be approximately 90 x 325m. Site depth is judged to be about 15cm.

Recovered Materials

The only chronologically diagnostic artifact recovered was an Afton Corner Notched point.

The other tool identified in the collection was a biface preform/core on a pebble which had been reduced using a bipolar technique.

TOOLS

Provenience	Material	Description	Figure Reference
Surface Shovel Test 1	Reeds Spring	Afton Corner Notched point biface preform/core on pebble	5-14a

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
2	7	0	0	0	1	10

Evaluation and Recommendations

Because of the limited nature of the artifacts and the shallowness of the deposit, no further investigations are recommended for this site.

a

Figure 5-14. Lithic Artifacts. a- Afton Corner Notched point.

Two Horse Site, 3CR246

Description and Discussion

This prehistoric and historic site is located on a terrace (905 - 931 feet amsl) approximately 600 - 750m northwest of the former confluence of Yocum Creek and Long Creek. The site is partially in pasture and partially eroded by wave action, exhibiting approximately 0-80% ground visibility. The soil consists of a silt loam topsoil over a silty clay subsoil. Disturbances to the site include plowzone mixing and shoreline erosion.

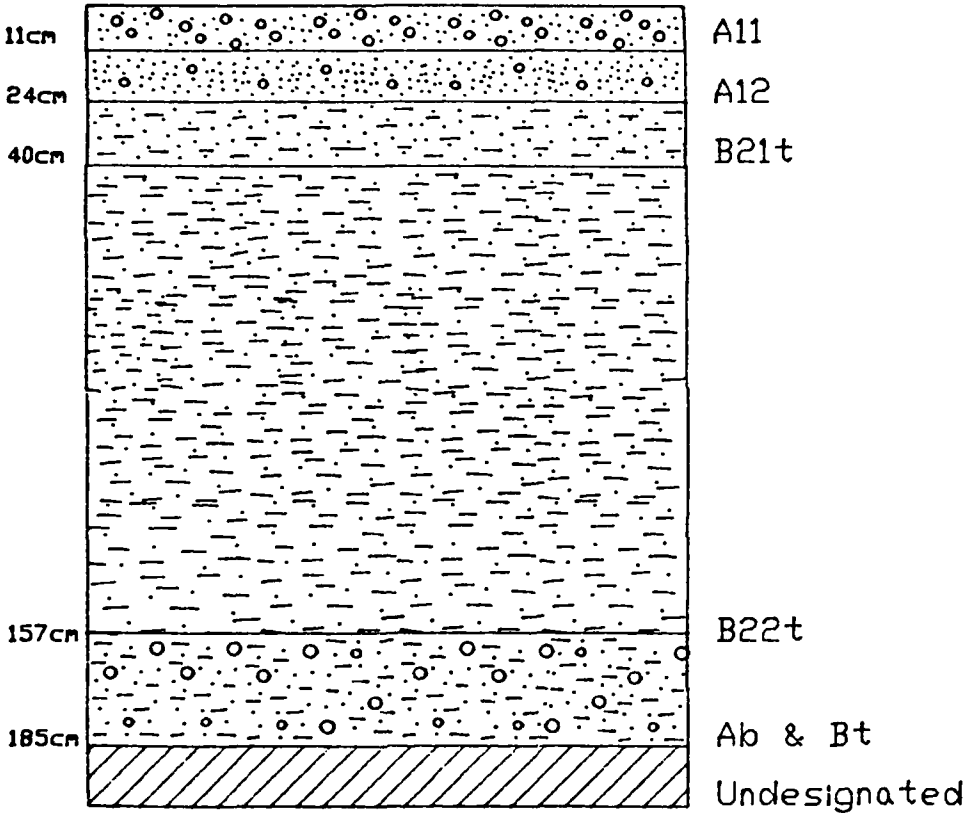
The site consists of a light to moderate prehistoric artifact scatter over the entire terrace and a razed houseplace on the west end of the site. The only extant features of the houseplace are a root cellar, cistern, and concrete slab. According to the former landowner and resident Orville Lippert (personal communication), the house was probably built around the turn of the century and razed in the early 1950s. Lippert also had a collection of over 100 projectile points that he said he had collected from this site. The points ranged from Early Archaic to Late Woodland/ Mississippian with the majority affiliated with the Archaic Period. Site size was delimited to be approximately 125 x 125m. Site depth is estimated at 60cm.

A soil profile was recorded at a cutbank along the western edge of the site (Figure 5-15). This profile revealed a buried contact within this landform at approximately 157cm below the present ground surface. Artifacts were observed, however, only in the A horizons of the upper unit. This fact, coupled with the amount of soil development observed in both units, suggests to us that cultural deposits in the lower units are unlikely.

Recovered Materials

No materials which could be definitely identified with a particular cultural period were recovered from the prehistoric materials. However, a large untyped, stemmed point fragment suggests a possible Archaic Period use. Historic Period materials included glass and ceramic items which could easily be placed into a 19th century or early 20th century context.

Biface manufacture, use, and maintenance are indicated by the recovered lithic materials. One biface seems to have been made on a blade. Broken preforms and tools seem also to have been used at the site.



3CR246 Soil Profile Description

A11	0-11cm. Dark brown (10YR4/3) silt loam; weak granular structure; friable; common fine roots; common fine and medium pores; strongly acid (pH 5.5); clear smooth boundary.
A12	11-24cm. Brown (10YR5/3) very fine silt loam; moderate granular structure; friable; few fine and common medium roots; common medium pores; chips and flakes visible in profile (1.5% by volume); very strongly acid (pH 5.0); abrupt smooth boundary.
B21t	24-40cm. Yellowish red (5YR5/6) heavy very fine silt loam; strong moderate subangular blocky structure; friable; patchy distinct films on peds; few roots; few fine pores; very strongly acid (pH 5.0); clear smooth boundary.
B22t	40-157cm. Yellowish red (5YR5/8) heavy very fine silt loam; strong moderate subangular blocky structure; friable; patchy distinct films on peds; few roots; few fine pores; very strongly acid (pH 5.0); clear boundary.
IIAb & Bt	157-185cm. Red (2.5YR4/6) silty clay loam; moderate subangular blocky structure; firm; patchy distinct films on pores; few fine roots; few fine pores; very strongly acid (pH 5.0); clear smooth boundary.

Figure 5-15. Soil Profile Description for 3CR246.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	broken biface preform, use damage	
		biface, possibly made on flake, worn	
		biface tip, broken in use/resharpening	
		biface end fragment, unifacial damage	
		biface edge fragment, worn edge	
		biface corner/tip/stem fragment	
		biface midsection, 1 edge reworked	
Surface	Pierson	biface end fragment, broken in use	
Surface	Reeds Spring	biface midsection,broken in use	
		biface tip, broken in use/ resharpening	5-16b
		biface corner/large point stem fragment	
		untyped large point, small blade	
		biface fragment, all margins gone	
		biface midsection, 1 edge reworked	
		irregular biface/bifacial core	
		biface edge fragment	
		untyped large point fragment	
		outrepasse flake of biface edge	
		narrow biface, made on blade?	
Surface	Jefferson City chert	biface tip, broken in use/ resharpening	5-16a
		biface midsection, broken in use	
		untyped large stemmed point fragment	5-16c

HISTORIC ARTIFACTS

Provenience	Number	Description	Figure Reference
		CERAMICS	
Surface	1	porcelain bowl base sherd	
	1	rim sherd from thick earthenware bowl, cream-gray glaze shading to pale blue over rim and exterior surface. Exterior faintly embossed with Chevron decoration	
	1	base sherd from earthenware bowl, yellow-brown paste or slip under clear glaze	
	1	earthenware bowl base sherd, unglazed exterior with embossed ridges on base, interior glazed light blue	
	1	earthenware bowl rim sherd, interior unglazed, exterior glazed blue and embossed with lattice pattern	5-17b
	1	whiteware bowl fragment with pink floral decal decoration on interior	
	1	Bristol glazed earthenware vessel sherd	
	1	porcelain bowl or plate rim sherd, shaded green on interior	5-17c
	1	porcelain sherd from doll or figurine?, exterior is burned, interior is partly unglazed	
	1	red earthenware tile fragment, unglazed	
		GLASS	
Surface	1	purpled glass tumbler rim sherd	
	1	purpled vessel fragment	
	1	blue glass vessel sherd, exterior is ridged	
	1	green milk glass sherd, rim from lid or disc-shaped base of base of vessel	5-17a

Evaluation and Recommendations

Because of the depth of the site and the extensive nature of the materials reported to have been collected, a program of site evaluation is recommended for this site. This should include efforts to document materials collected by amateurs.

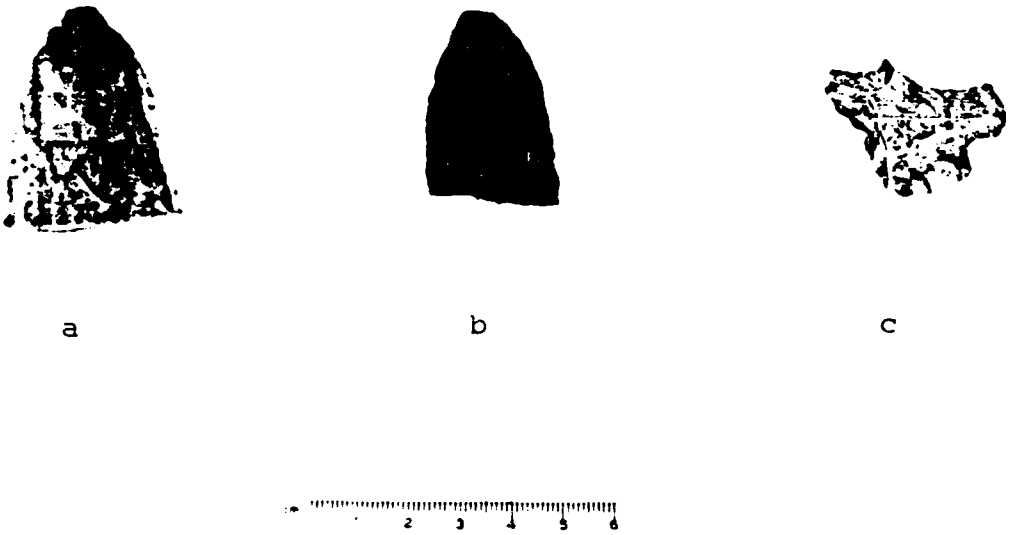


Figure 5-16. Lithic Artifacts. a,b- biface tips; c- untyped large stem point fragment.

AD-A191 550 CULTURAL RESOURCES INVESTIGATIONS: TERRACE SURVEY AND SITE EVALUATION TAB (U) ARCHEOLOGICAL ASSESSMENTS INC NASHVILLE AR W J BENNETT ET AL. DEC 87 1/3

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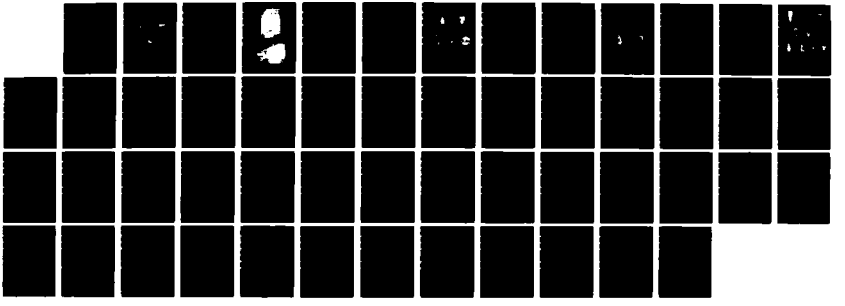

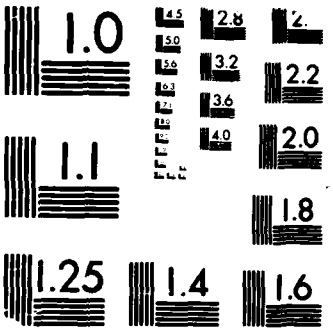

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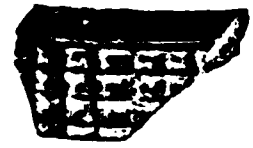


b

c

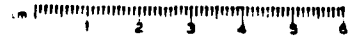


Figure 5-17. Historic Artifacts. a- green milk glass sherd; b- earthenware bowl rim sherd, unglazed interior, exterior glazed blue and embossed with lattice pattern; c- porcelain rim sherd, shaded green on interior.

Resurveyed Sites

In addition to the above 16 newly discovered sites, 3 previously recorded sites (23BY605, 23SN441, and 3CR238) were revisited. Each site evidenced moderate to substantial erosion by wave action over the past year as well as intensive pot-hunting activities by artifact collectors. The increased pot hunting along shoreline sites was apparently related to the unusually low water level of the lake during the summer and fall of 1986. Select surface collections were made at these sites, concentrating on tools and culturally diagnostic items, primarily dart points.

3CR238

Discussion and Description

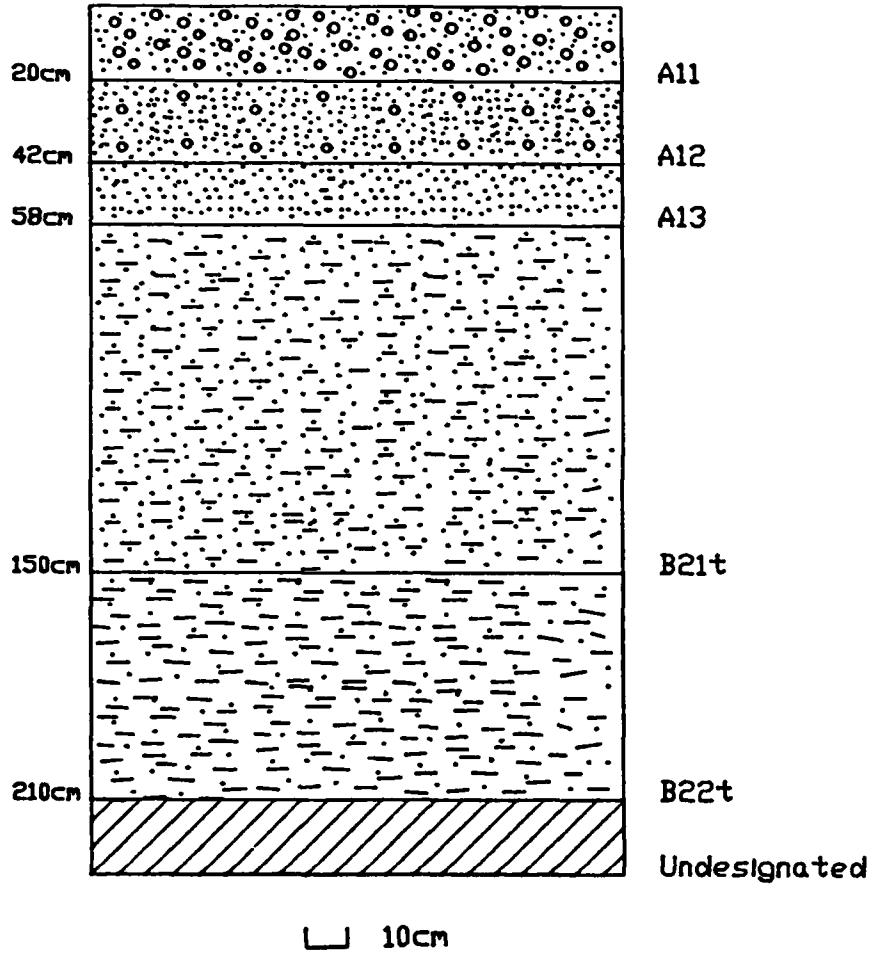
At the time of investigation in 1985 only a small portion of the site was exposed above the water level. However, in 1986 the water level was down approximately 10 feet which allowed for a more proper assessment of the site. Well over a meter has been eroded from the upper portion of most of this extensive site. As this erosion continues large quantities of artifacts are exposed (Figure 5-18), resulting in very heavy collecting activity at this site. A portion of the upper part of the site, however, has been protected from erosion. This is because of a former fence line along which trees grew (Figure 5-19). The root structure of these trees has served to retard erosion along a narrow (ca. 5m) strip approximately 30m long. Examination of the profile indicated a substantial terrace formation here within which artifacts are buried to depths of several 10s of centimeters. A bank-line profile (Figure 5-20) indicated that the upper 2m or so of the site consists of a single depositional unit composed of a sandy loam and sandy clay loam sediment. Soil chemistry tests on the various horizons of this profile revealed a high phosphorus (P1) content in both the A and B horizons of this profile. These sorts of readings (A11 = 20, A12 = 32, A13 = 25, B21t = 32, B22t = 44 [in parts per million]) are extremely unusual for the region and are higher than any others recorded at similar sites. We believe that it is highly likely that these readings are anthropogenic in nature and indicate considerable use of the site, most likely while this portion of the landform was being created. A number of groundstone artifacts (manos and metates) were noted along the eroded shoreline. In addition, a hearth feature of baked clay and sand (ca. 25x35cm) was found eroding from the wave-cut bank approximately 1m below surface.

Recovered Materials

Collection here concentrated on gathering culturally diagnostic materials from the surface of the site (Figure 5-21). These indicate use of the site from at least the Middle Archaic Period through the Woodland Period.

Figure 5-18. 3CR238: Artifacts Exposed in an Erosional Gully.

Figure 5-19. 3CR238: Treeline Protecting Remains of the Site. View to the East.



3CR238 Soil Profile Description

A11	0-20cm. Dark brown (10YR3/3) very fine sandy loam; strong medium granular structure; very friable; many fine and medium roots; many fine and medium pores; artifacts present; medium acid (pH 5.6); gradual smooth boundary.
A12	20-42cm. Dark brown (10YR3/3) very fine sandy loam; common medium distinct dark brown (10YR4/3) mottles; strong medium granular structure; very friable; many fine and medium roots; many fine and medium pores; artifacts present; slightly acid (pH 6.5); gradual smooth boundary.
A13	42-58cm. Dark brown (10YR4/3) very fine sandy loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; friable; few fine roots; few iron-manganese concretions; inceptive A2; neutral (pH 7.0); abrupt smooth boundary.
B21t	58-150cm. Dark yellowish brown (10YR4/4) sandy clay loam; few fine distinct light brownish gray (10YR6/2) mottles; strong medium subangular blocky structure; firm; patchy distinct films on peds; few fine roots; common fine pores; neutral (pH 6.6); gradual smooth boundary.
B22t	150-210cm. Brown (7.5YR5/4) sandy clay loam; common fine distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; firm; patchy distinct films on peds; common fine pores; slightly acid (pH 6.2); iron-manganese concretions present.

Figure 5-20. Soil Profile Description for 3CR238.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Osagean	Scallorn Corner Notched point	5-21d
		thin biface midsection, worn	
Gully surface 150cm b.s.		Stone Corner Notched? point	5-21c
Surface	Reeds Spring	Stone Corner Notched point fragment	
		irregular biface/large point fragment	
		untyped reworked large point fragment	
		large biface end, broken in manufacture	5-21e
		thin biface midsection	
Gully surface 137cm b.s.		Big Sandy Side Notched point	5-21a
Surface		biface/bifacial core, use wear	
		biface end fragment, broken in manufacture	
		tabular piece with flake scars	
		biface/core made on pebble	
Surface (collector's cache pile)		Stone Square Stemmed point	5-21b
		thin biface fragment, pointed tip	
		large thin biface fragment	
		large thin biface fragment, blunt tip	
		large thin biface fragment, blunt tip	
		large biface end, blunt tip	
Surface	Jefferson City chert	core made on stream pebble	
		core?/chunk with 2 platforms	
Surface (collector's cache pile)		thin biface edge fragment, worn edge	
		thin biface end with blunt tip	

FLAKES

Osagean	Reeds Spring	Pierson	Jefferson City Chert	Jefferson City Quartzite	Unidentified	Total
3	11	0	4	0	0	18

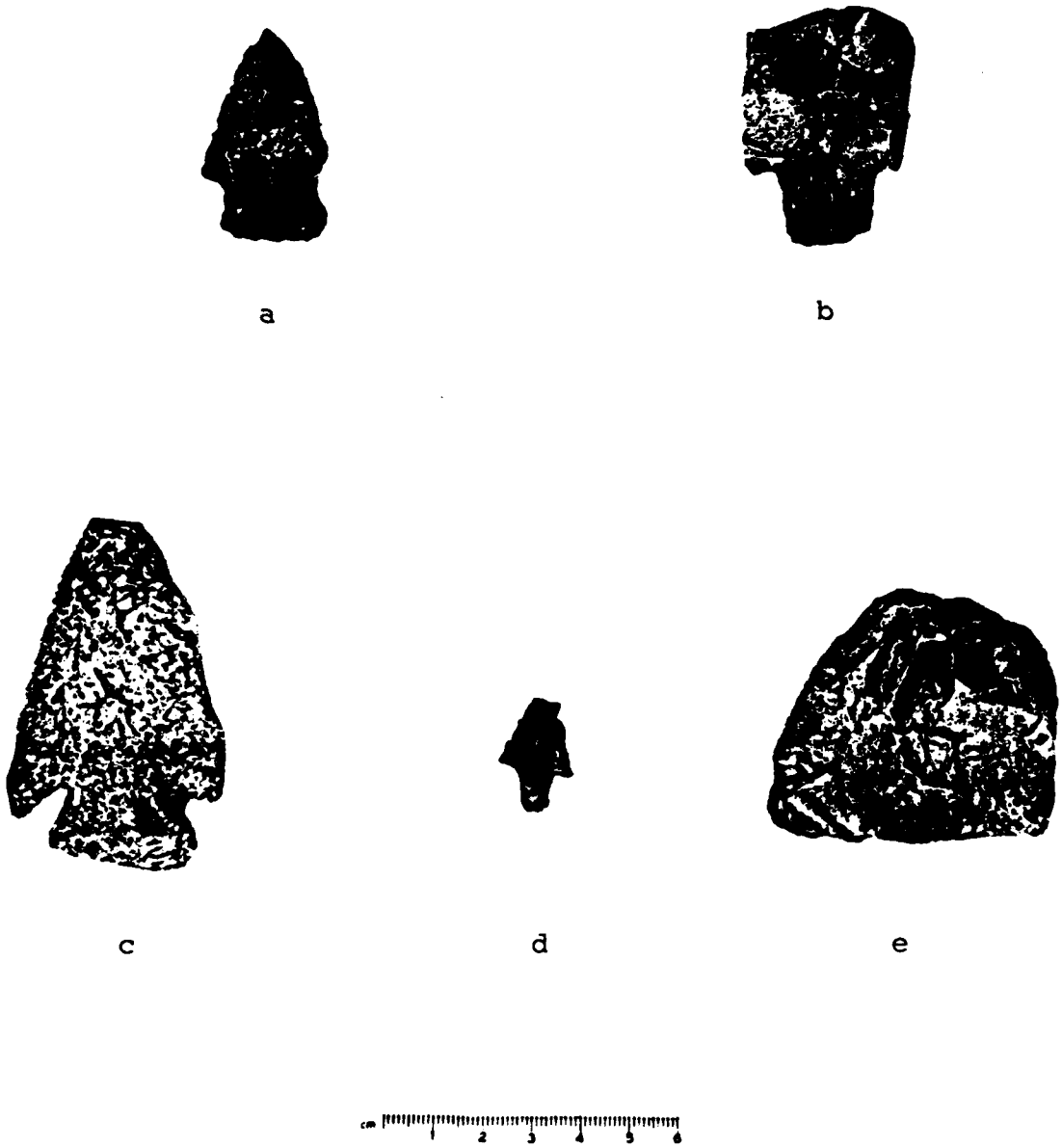


Figure 5-21. Lithic Artifacts. a- Big Sandy Side Notched point; b- Stone Square Stemmed point; c- Stone Corner Notched? point; d- Scallorn Corner Notched point; e- large biface end.

Evaluation and Recommendation

We believe that the evidence for intact deposits at this site is very strong and that it would be possible to isolate discrete cultural deposits. It is our judgment that an appropriate program of data recovery could address significantly a number of important issues regarding the prehistoric use of this portion of the White River Valley. Because of likely stratified deposits, the materials here offer an opportunity to investigate in detail several aspects of the historic lithic technology such as procurement strategies, reduction techniques, and tool use. Further, the recovery of morphologically distinct tool forms would certainly assist in the refinement of chronological sequences elsewhere in the region. For those reasons we believe that, even though the site has been severely damaged by erosion, it should be considered eligible for nomination to the National Register of Historic Places. However, because of its current highly endangered position, we recommend that data recovery efforts begin at the earliest possible time in order to avoid the loss of what is likely to be highly significant information regarding the prehistoric use of this portion of the White River Valley.

Discussion and Description

This site was examined again in 1986 to observe the cutbank along the north side of the site. Water-action has continued to erode the bank here, perhaps as much as 30cm during the last year.

The soil profile in the cutbank indicated that the artifact bearing levels were limited to the upper 50cm of the site which is composed of a light brown silt loam with numerous river cobbles and pebbles.

Local pot hunters are actively collecting artifacts at the site.

Recovered Materials

Collection concentrated on the gathering of chronologically diagnostic materials. One corner-notched point was found eroding from the cutbank at approximately 3cm in depth. A metate was observed at a depth of about 50cm but was not collected.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Reeds Spring	untyped large point fragment	
		untyped large point	
		Lander Corner Notched point	5-22a
		Stone Square Stemmed point	5-22b

Evaluation and Recommendation

While it is clear that the site is still productive for artifacts, we believe it is unlikely that intact deposits remain at the site. Also the materials collected from the site during 1985 have been subjected to a thorough analysis (Chapter 4). We therefore do not believe that this site is eligible for nomination to the National Register of Historic Places. However, if it were possible to set up a program to monitor the nature and extent of the continuing erosion at this site, it might be possible to gain some insight into exact causes and rates of erosion in the area.

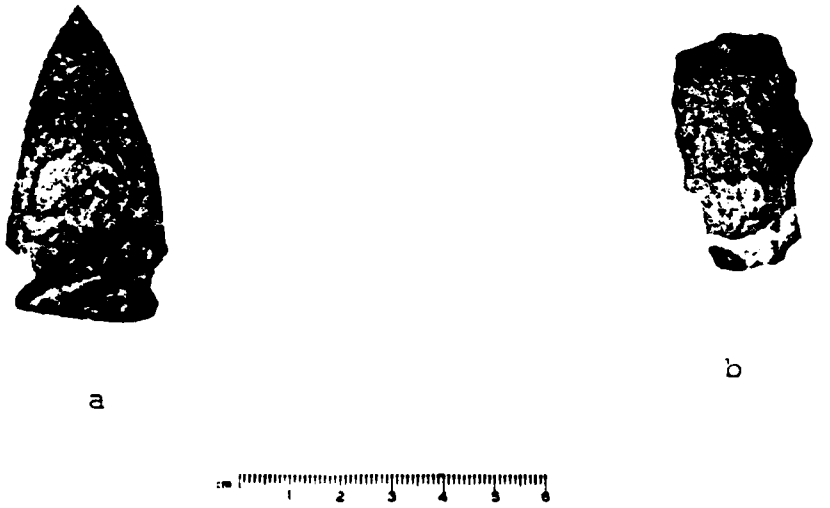


Figure 5-22. Lithic Artifacts. a- Lander Corner Notched point; b- Stone Square Stemmed point.

23SN441

Discussion and Description

This site was visited on October 13 by Jack Ray and Jim Hoelscher in order to document the bank-line profile at the site. At that time considerable portions of the shoreline were exposed and a surface collection was also made. The profile indicated clear stratification within this landform with the remnants of a buried A horizon occurring at approximately 130cm below the present ground surface (Figure 5-23).

Recovered Materials

The surface collection concentrated on the gathering of culturally diagnostic materials and was successful in gathering 10 dart points. Among these was a very rare Turkey-Tail point (Figure 5-24a) made from exotic chert. This type of point, which commonly occurs in Kentucky and Tennessee, is very rarely found in Southwest Missouri.

TOOLS

Provenience	Material	Description	Figure Reference
Surface	Dover?	Turkey Tail point, broken in use	5-24a
Surface	Osagean	untyped large side notched point	5-24b
Surface	Reeds Spring	Table Rock Stemmed point	
		Gary Stemmed point, broken in use	5-24e
		untyped large point	5-24d
		untyped large contracting stemmed point	5-24c
		Langtry Stemmed point	
		untyped large lanceolate point	5-24h
		untyped small corner notched point	5-24i
		Stone Corner Notched point	5-24g
		large biface tip, broken in use	
		small narrow biface, tip broken	
		biface midsection	
		biface midsection	
Surface	Jefferson City chert	irregular large biface, reworked	5-24j
		large point tip, broken in use	5-24f
		irregular biface, broken in use	
		thick biface midsection	

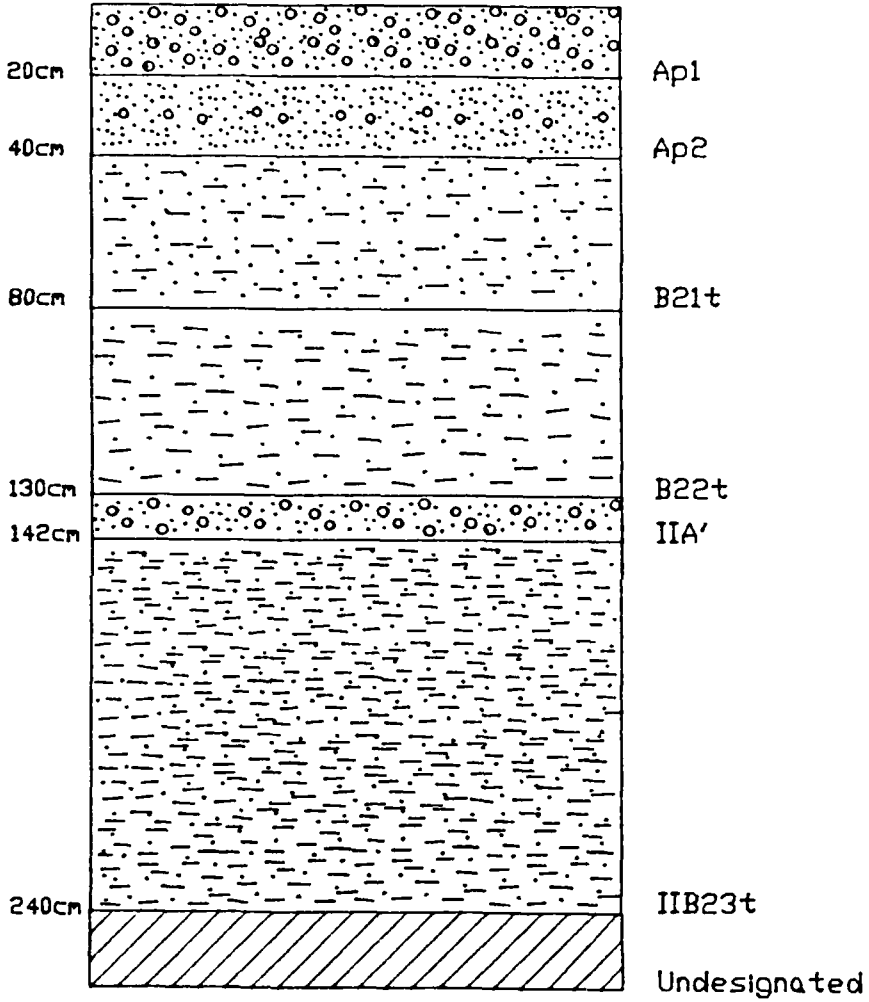


Figure 5-23. Soil Profile Description for 23SN441.

23SN441 Soil Profile Description

Ap1	0-20cm. Dark brown (10YR3/3) silt loam; moderate granular structure; very friable; common medium roots; common medium pores; cultural material present; neutral (pH 6.8); clear smooth boundary.
Ap2	20-40cm. Dark brown (10YR4/3) silt loam; moderate granular structure; very friable; common medium roots; common medium pores; cultural material present; neutral (pH 7.0); clear smooth boundary.
B21t	40-80cm. Brownish yellow (10YR5/6) heavy silt loam; moderate subangular blocky structure; friable; patchy distinct films on peds; few fine and medium roots; common fine and medium pores; slightly acid (pH 6.1); clear smooth boundary.
B22t	80-130cm. Brownish yellow (10YR5/6) heavy silt loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate subangular blocky structure; friable; patchy distinct films on peds; few fine and medium roots; common fine and medium pores; extremely acid (pH 4.4); clear smooth boundary.
IIA'	130-142cm. Dark yellowish brown (10YR4/4) silt loam; common medium distinct light brownish gray (10YR6/2) mottles; weak medium subangular blocky structure; friable; common fine and medium roots; common fine and medium pores; skeletans occur; extremely acid (pH 4.3); clear smooth boundary.
IIB23t	142-240cm. Yellowish brown (10YR5/6) heavy silt loam; common medium distinct light brownish gray (10YR6/2) mottles; moderate medium subangular blocky structure; firm; patchy distinct films on peds; few roots; common fine and medium pores; boundary not observed.

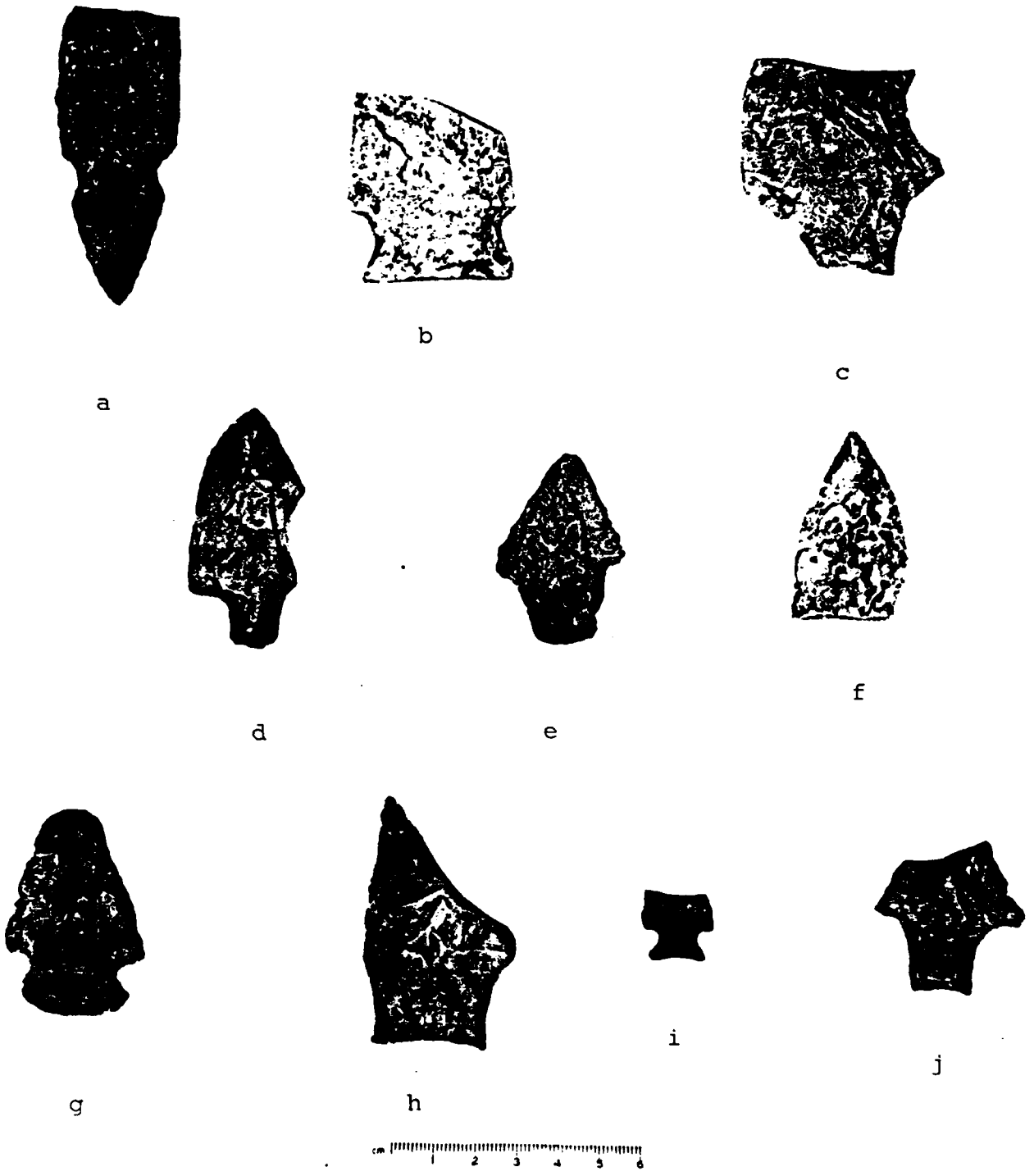


Figure 5-24. Lithic Artifacts. a- Turkey Tail point; b- untyped large side notched point; c- untyped large contracting stemmed point; d- untyped large point; e- Gary Stemmed point; f- large point tip; g- Stone Corner Notched point; h- untyped large lanceolate point; i- untyped small corner notched point; j- Langtry Stemmed point.

Evaluation and Recommendations

Because of the presence of such a large number of culturally diagnostic materials and the presence of a buried soil horizon, it is recommended that further investigations be conducted at this site in order to determine its possible eligibility for nomination to the National Register of Historic Places.

Soil Profiles and Buried Cultural Deposits

The terrace survey was undertaken because it was believed that the prehistoric inhabitants of this region valued these landforms very highly. The high presence of large prehistoric sites yielding artifacts from over 8,000 years of occupation in large numbers seems to bear out this judgment. It is now clear that these landforms were choice locations within the prehistoric settlement patterns of the region. Further, a study of the stratigraphy and soil development in available cutbanks strongly suggests that both prior to and during this early human occupation, this portion of the White River Valley and its tributaries has been subjected to numerous and very dynamic fluvial geomorphic processes which have shaped and reshaped the landscape available for human use and settlement.

Soil profiles at sites in the upper White River (including 3CR249, 3CR236, and 3CR238) as well as on other major tributaries (3CR234 - Long Creek, 23SN441 - the James River, 23BY392 and 23BY368 - Kings River, and the middle White River, 23TA226/291) clearly indicate that humans were using these alluvial landforms during their formation and that portions of the archeological record of this use still exist in the region. These landforms may well hold stratified deposits of human use of the region which were heretofore thought only to exist in dry shelters.

The cultural deposits which make up the bulk of this archeological record often have surficial manifestations but are also buried within these landforms. Many landforms have both surficial and buried deposits. In many places both types of deposits are being threatened by erosion and unauthorized collection activities.

It was our goal in this effort to demonstrate both the presence of these deposits and the present state of their integrity. We believe that a good start has been made in this undertaking. Enough data and insight have been gained to understand that the interaction of humans and the geomorphic processes forming the White River Valley was much more complex than had been previously imagined. Because of the inundation of great portions of these alluvial landforms by Table Rock Lake, it does not seem likely that the full extent of this interaction can ever be investigated. However, because so much of this landscape is presently and will be for the foreseeable future unavailable for investigation, it is crucial that those remaining portions be managed with the utmost care.

In this regard we strongly recommend that a thorough geomorphological study be undertaken on those alluvial landforms which remain. We recommend that this be undertaken not only in the Table Rock Lake area but in the White River Valley as a whole. Such an investigation would focus on identifying the landforming processes and identifying areas for which preservation activities are most crucial. This study would provide an appropriate baseline study for organizing future cultural resource management activities both in terms of site location activities and data recovery efforts. At

present we are faced with a situation in which these landforms and the cultural deposits they contain are under threat from a variety of causes, not the least of which is active erosion. At the moment we can only proceed in a case-by-case mode, attempting to salvage material which is being lost, as such instances are called to our attention. We certainly do not advocate that such activities be stopped. Indeed, we believe that it is very important to recover such data as is possible from 3CR238 before it is destroyed entirely. However, with such an overall study it should be possible to target both areas and questions to be addressed in such a way that the funds and time available for the management of these resources can be expended in a much more efficient manner.

CHAPTER 6: SUMMARY AND CONCLUSIONS

In order to summarize our findings, we have divided this section into 3 segments corresponding to the 3 portions of the study.

Individual Site Evaluation

3BO234 - The cultural deposits at this site are largely scattered by a variety of agents and very few intact deposits exist at the site. It is our judgment that the site is not eligible for nomination to the National Register of Historic Places and that no further systematic investigations should be undertaken at this site.

3BO236 - The prehistoric cultural deposits at this site are restricted to the upper few centimeters of the meander core summit and no intact deposits are present here. The Historic Period component also does not contain intact deposits. The collection procedures undertaken at this site seem to us to have largely exhausted the site's interpretive potential. It is our judgment that the site is not eligible for nomination to the National Register of Historic Places and that no further systematic investigations should be undertaken at this site.

3CR234 - This is an extensive multi-component site which has been heavily impacted by artifact hunting and cultivation. However, investigations indicate that at least some portions of the site contain intact deposits. Therefore, because of the extensive nature of the artifact content of the site and the presence of undisturbed deposits, we believe that the site is suitable for nomination to the National Register of Historic Places. We recommend that appropriate measures be taken to protect this site from further unauthorized digging.

3CR235 - Investigations at this possible prehistoric mound site determined that the mound was of natural origin. It is our judgment that the site is not eligible for nomination to the National Register of Historic Places and that no further systematic investigations should be undertaken at this site.

3CR236 - This site contains buried prehistoric cultural materials although the exact nature and extent of these buried deposits could not be determined, largely because so little of the site exists within the Table Rock Lake area. While we do not recommend at this time that the site be nominated to the National Register of Historic Places, we believe that it is important to continue to monitor this site. If project management activities threaten these deposits, a much more extensive program of data recovery should be undertaken here.

23BY340 - This is a multicomponent site in which the cultural deposits are restricted to the upper few centimeters of the site. No intact deposits are present at those portions of the site investigated during 1986. It is our

judgment that the site is not eligible for nomination to the National Register of Historic Places and that no further systematic investigations should be undertaken at this site, with the possible exception of further attempts to determine inundation effects at those portions of the site presently underwater.

23SN793 - Investigations at this possible prehistoric mound site determined that the mounds were of natural origin. It is our judgment that the site is not eligible for nomination to the National Register of Historic Places and that no further systematic investigations should be undertaken at this site.

23TA226/291 - The surface area of this site has been severely disturbed and no intact deposits are present near surface. However, cultural deposits were shown to be deeply buried within this very complex landform. We believe that intact cultural deposits exist within the landform and that the site is eligible for nomination to the National Register of Historic Places. We recommend that the site be monitored on a regular basis to determine if and to what extent erosion is threatening it.

23TA309 - Investigations at this mound site on a meander-core summit determined that these mounds were of cultural origin. It is recommended that this site be nominated to the National Register of Historic Places and that appropriate steps be taken to protect the site from further adverse impacts from unauthorized excavation and lakeshore erosion.

Analysis of Materials from 23BY441, 23BY591, and 23BY605

A thorough analysis of these materials was undertaken to determine the nature of the lithic reduction practices used at these sites and to determine if it is appropriate to initiate further material collection efforts at these sites. The summary of the lithic reduction sequences is given in Chapter 4 and is believed to be complete for these 3 sites. No further material collection efforts are recommended for these sites.

Terrace Survey

The terrace survey was successful in locating a particularly high number of sites with extensive archeological records. Several of these sites are recommended for further evaluation efforts. These include 23BY317, 23BY165, 3CR243, 3CR244, 3CR247, 3CR249, 23SN302, 23SN848, 23BY392, 23BY368, 3CR242, 23BY514, 3CR246, and 23SN441.

In addition, the terrace survey, coupled with data gained in the site evaluation activities, was successful in documenting several different alluvial deposits containing buried cultural deposits. A program of data recovery is recommended for site 3CR238, which contains such deposits and is in danger of immediate and total destruction from erosion related to the raising and lowering of lake levels. Further, a thorough program of geomorphological study is recommended for the White River drainage in order

to provide a baseline study to guide future site location and data recovery activities in this region.

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APPENDIX I

SURVEY UNITS

SURVEY UNIT: Upper White River - A

QUAD: Golden 7.5'

TERRAIN: Terrace (periodically inundated) - Toeslope

VEGETATION: Grass

SOIL DESCRIPTION(S): Site 23BY317: wind blown sand, 0-2cm; reddish brown silty clay with abundant manganese B horizon, 2-80cm. (A horizon has been stripped away).

SITES RECORDED: TS-3 (23BY317)

ISOLATED FINDS: 0

GROUND VISIBILITY: 10 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Several pot holes have been dug into the site. Three rock features are present (probably historic). A soil horizon has eroded away.

SURVEY STRATEGY: General walkover-surface survey (10 - 40m)

SURVEYOR(S): Ray and Northrip DATE: 9-9-86

SURVEY UNIT: Upper White River - B

QUAD: Golden 7.5'

TERRAIN: High terrace (T3) - Footslope

VEGETATION: Scrub sycamores and brush

SOIL DESCRIPTION(S):

SITES RECORDED: TS-4 (23BY165)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Pot hunting activity (digging and screening); B soil horizon exposed on north end.

SURVEY STRATEGY: Surface survey (10 - 25m)

SURVEYOR(S): Ray and Northrip DATE: 9-9-86

SURVEY UNIT: Upper White River - C

QUAD: Beaver 7.5'

TERRAIN: High terrace inset into end of interfluve (Footslope)

VEGETATION: Briars and weeds

SOIL DESCRIPTION(S): Wave-cut profile: light gray silt loam, 0.33cm; mottled gray and brown silt loam, 33-43cn; reddish brown clayey silt, 43-58cm.

SITES RECORDED: TS-5 (3CR243)

ISOLATED FINDS: 0

GROUND VISIBILITY: 20 - 90% on eroded shoreline; 0 - 5% on terrace summit

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Wave-cut profile (55cm) along east side of terrace

SURVEY STRATEGY: Surface survey on shoreline; 1 shovel test transect with 25m intervals along terrace summit; selective collection of tools and sample of flakes.

SURVEYOR(S): Ray and Northrip DATE: 9-10-86

SURVEY UNIT: Upper White River - D

QUAD: Beaver 7.5'

TERRAIN: Terrace complex at confluence of Leatherwood Creek and the White River (Toeslope)

VEGETATION: Grass

SOIL DESCRIPTION(S): light brown mottled silt loam, 0-21cm; reddish brown mottled silt loam, 21-30cm.

SITES RECORDED: TS-6 (3CR244)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Site has been extensively collected for years, plowed.

SURVEY STRATEGY: Surface survey at 10 - 20m intervals.

SURVEYOR(S): Ray and Northrip DATE: 9-10-86

SURVEY UNIT: Upper White River - E

QUAD: Beaver 7.5'

TERRAIN: Terrace (Toeslope)

VEGETATION: Grass

SOIL DESCRIPTION(S): wind blown (deposited) sand, 0-5cm; mottled light brown silt loam, 5-26cm; mottled reddish brown silt loam, 26-41cm; reddish brown sandy loam, 41-70cm.

SITES RECORDED: TS-7 (3CR245)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Site has been heavily picked over by local collectors - even bifaces.

SURVEY STRATEGY: Surface survey at 10 - 30m intervals.

SURVEYOR(S): Ray and Northrip DATE: 9-10-86

SURVEY UNIT: Upper White River - F

QUAD: Beaver 7.5'

TERRAIN: Terrace (Toeslope)

VEGETATION: Weeds

SOIL DESCRIPTION(S): dark brown very fine sandy loam, 0-58cm; dark yellowish brown sandy clay loam, 58-150m; brown sandy clay loam, 150-210cm.

SITES RECORDED: 3CR238 (TR-136)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 85%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: At least 1m of topsoil has been eroded from this site as evidenced by a narrow relict strip of ground held in place by tree root wads.

SURVEY STRATEGY: Surface survey; selective sample of debitage.

SURVEYOR(S): Ray and Northrip DATE: 9-10-86

SURVEY UNIT: Upper White River - G

QUAD: Beaver 7.5'

TERRAIN: Terrace (T1) (Toeslope)

VEGETATION: Early successional woods/mowed field

SOIL DESCRIPTION(S): Wave-cut profile: medium brown silt loam, 0-15cm; light brown highly mottled silt loam, 15-43cm; reddish brown silt loam, 43-100cm.

SITES RECORDED: TS-14 (3CR247)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Wave-cut exposure along north side of site. A horizon eroded.

SURVEY STRATEGY: Surface survey and profile cut bank

SURVEYOR(S): Ray and Northrip DATE: 9-18-86

SURVEY UNIT: Upper White River - H

QUAD: Beaver 7.5'

TERRAIN: Terrace (T1 and T2) approximately 300m east of Blue Spring (Toeslope)

VEGETATION: Wooded shoreline

SOIL DESCRIPTION(S): Area A: reddish brown silty clay. Area B: light brown silt loam.

SITES RECORDED: TS-16 (3CR249)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 70%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Artifacts eroding from reddish-brown clayey silt horizon in cut bank approximately 7.5m below T2 surface.

SURVEY STRATEGY: *Surface survey*

SURVEYOR(S): Ray and Northrip DATE: 9-19-86

SURVEY UNIT: Upper White River - I

QUAD: Beaver 7.5'

TERRAIN: Floodplain - T1 (Toeslope)

VEGETATION: Wooded area with dense cane thickets

SOIL DESCRIPTION(S): silt loam and sand deposits

SITES RECORDED: none

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 50%

SPECIAL HINDRANCES TO SITE LOCATION: Dense vegetative cover

SPECIAL OBSERVATIONS: Generally low ground

SURVEY STRATEGY: Surface survey and random shovel tests

SURVEYOR(S): Ray and Northrip DATE: 9-19-86

SURVEY UNIT: Upper White River - J

QUAD: Beaver 7.5'

TERRAIN: Floodplain and T1 (Toeslope)

VEGETATION: Wooded area and eroded shoreline

SOIL DESCRIPTION(S): silt loam and sand deposits

SITES RECORDED: none

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 85%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: none

SURVEY STRATEGY: Surface survey

SURVEYOR(S): Ray and Northrip DATE: 9-19-36

SURVEY UNIT: Kings River - A

QUAD: Viola 7.5'

TERRAIN: Alluvial terrace/fan (Toeslope)

VEGETATION: Early successional woods

SOIL DESCRIPTION(S): Wave-cut profile: medium brown silt loam, mottled, 0-53cm; light brown silt loam, mottled, 53-76cm; reddish brown clayey silt, 76-100cm.

SITES RECORDED: TS-12 (23BY392)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 75%

SPECIAL HINDRANCES TO SITE LOCATION: Poor ground visibility on terrace surface.

SPECIAL OBSERVATIONS: Wave-cut profile 100m long on north side of site.

SURVEY STRATEGY: Surface survey and random shovel test.

SURVEYOR(S): Ray and Northrip DATE: 9-17-86

SURVEY UNIT: Kings River - B

QUAD: Viola 7.5'

TERRAIN: Floodplain and possible T1 on left bank of Kings River - NE1/4 Sec. 25, T21N, R25W (Toeslope)

VEGETATION: Pasture

SOIL DESCRIPTION(S): recent deposits of sand, 0-50cm; light brown silt loam, 50-90cm; reddish brown silt loam, 90cm+.

SITES RECORDED: none

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 75%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Appears to be recent sand deposits on a floodplain and a natural levee.

SURVEY STRATEGY: Surface survey and shovel tests at 50m intervals.

SURVEYOR(S): Ray and Northrip DATE: 9-17-86

SURVEY UNIT: Kings River - C

QUAD: Viola 7.5'

TERRAIN: Terrace on left bank of Kings River (Toeslope)

VEGETATION: Pasture

SOIL DESCRIPTION(S): Wave-cut profile: medium brown silt loam with cultural artifacts and charcoal concentrated between 50-80cm, 0-80cm; yellowish brown, compact, silt loam, 80-105cm; reddish brown clayey silt, 105-150cm.

SITES RECORDED: TS-13 (23BY368)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 50%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Wave-cut profile along east side of the site. Found a probable buried Late Archaic component in cut back from approximately 50 - 80cm below surface. Found a Rice Corner notched point *in situ in bank 106cm* below surface (actually probably only 80cm due to levee).

SURVEY STRATEGY: Surface survey of wave-cut bank.

SURVEYOR(S): Ray and Northrip DATE: 9-17-86

SURVEY UNIT: James River - A

QUAD: Cape Fair 7.5'

TERRAIN: Terrace sequence (Toeslope)

VEGETATION: Grasses and shrubs

SOIL DESCRIPTION(S): Shovel test on T1 terrace: sand deposit, 0-10cm; light gray silt loam, 10-19cm; mottled brown silt loam with manganese, 19-55cm.

SITES RECORDED: TS-9 (23SN302)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 90%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Site TS-9 has been picked over by local collectors.

SURVEY STRATEGY: Surface survey; selective collection of tools.

SURVEYOR(S): Ray and Northrip DATE: 9-12-86

SURVEY UNIT: James River - B

QUAD: Cape Fair 7.5'

TERRAIN: Terrace sequence approximately 800m east of confluence of Flat Creek and James River (Footslope).

VEGETATION: Pasture grass

SOIL DESCRIPTION(S): Shovel test on T2 terrace: medium brown silt loam, 0-20cm; light brown silt loam, 20-30cm. Gulley: light brown silt loam, 0-25cm; reddish brown silty clay, gravelly, 25-100cm.

SITES RECORDED: TS-11 (23SN848)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 95%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Main portion of site had been disced and collected by amateurs. A strip of dark soil was located in the disced area.

SURVEY STRATEGY: Surface survey

SURVEYOR(S): Ray and Northrip DATE: 9-12-86

SURVEY UNIT: Long Creek - A

QUAD: Denver 7.5'

TERRAIN: Terrace system (T2 and T3) on a peninsula (inside a meander loop) on right bank of Long Creek (Toeslope and bench).

VEGETATION: Pasture grass and weeds

SOIL DESCRIPTION(S): TS-1 Soil Profile: light brown silt loam, 0-25cm; medium brown mottled silt loam, 24-41cm; reddish brown silty clay, 41-90cm.

SITES RECORDED: TS-1 (3CR242)

ISOLATED FINDS: 0

GROUND VISIBILITY: 10 - 80%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Wave-cut profile (90cm high) on northwest side of peninsula. Peninsula has a bedrock core.

SURVEY STRATEGY: Surface survey at intervals of 5 - 15m.

SURVEYOR(S): Ray and Northrip DATE: 9-8-86

SURVEY UNIT: Long Creek - B

QUAD: Denver 7.5'

TERRAIN: Floodplain (Toeslope)

VEGETATION: Early successional woods and weeds.

SOIL DESCRIPTION(S): sand deposits over 1.5m deep

SITES RECORDED: none

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 20%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: All alluvial sand and gravel deposits. No artifacts observed in cut bank 80m along east side of unit.

SURVEY STRATEGY: Surface survey and shovel test.

SURVEYOR(S): *Ray and Northrip* DATE: 9-11-86

SURVEY UNIT: Side Valleys - Roaring River - A

QUAD: Golden 7.5'

TERRAIN: Alluvial fan/terrace (Footslope)

VEGETATION: Early successional woods

SOIL DESCRIPTION(S): light brown silt loam, 0-4cm; reddish brown, mottled, silt loam, 4-30cm.

SITES RECORDED: TS-2 (23BY514)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 40% on shoreline; 0 - 10% in wooded area.

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Alluvial fan deposits; 60cm high exposure/scarp at northeast end of site.

SURVEY STRATEGY: 10 - 30m surface survey transects and one shovel test transect.

SURVEYOR(S): Ray and Northrip DATE: 9-9-86

SURVEY UNIT: Side Valleys - Leatherwood Creek - A

QUAD: Beaver 7.5'

TERRAIN: Floodplain along left bank of Leatherwood Creek north and south of old train tressel (at Beaver) (Toeslope).

VEGETATION: Early successional woods

SOIL DESCRIPTION(S): Redeposited alluvial gravel

SITES RECORDED: none

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 40%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Old railroad bisects survey unit - approximately 10 acres.

SURVEY STRATEGY: Two surface survey/shovel test transects.

SURVEYOR(S): Ray and Northrip DATE: 9-10-86

SURVEY UNIT: Side Valleys - Yocum Creek - A

QUAD: Denver 7.5'

TERRAIN: Terrace system (Toeslope)

VEGETATION: Pasture grass

SOIL DESCRIPTION(S): Wave-cut profile (truncated): mottled reddish brown silt loam, 0-27cm; light brown silt loam, 27-56cm; reddish brown silt loam, 56-72cm; dark reddish brown silty clay, 72-190cm.

SITES RECORDED: TS-8 (3CR246)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 80%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Buried soil and component in wave-cut profile along northwest side of site. Orville Lippert has over 100 points collected from site which also contains an historic component.

SURVEY STRATEGY: Surface survey; selective collection of diagnostics and tools.

SURVEYOR(S): Ray and Northrip DATE: 9-11-36

SURVEY UNIT: Side Valleys - Flat Creek - A

QUAD: Elsey 7.5'

TERRAIN: Terrace on inside of meander of Flat Creek (Toeslope).

VEGETATION: Weeds and early successional woods

SOIL DESCRIPTION(S): dark brown humic silt loam, 0-5cm; light brown silt loam, 5-25cm; light reddish brown silt loam, 25-30cm.

SITES RECORDED: TS-10 (23SN483)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 75%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: none

SURVEY STRATEGY: Surface survey and one shovel test transect at 50m intervals.

SURVEYOR(S): Ray and Northrip DATE: 9-12-86

SURVEY UNIT: Side Valleys - Butler Creek - A

QUAD: Beaver 7.5'

TERRAIN: Terrace and bench deposits on a peninsula (inside a meander loop) on Butler Creek approximately 400 - 800m north of the confluence of Butler Creek and the White River (Toeslope and bench).

VEGETATION: Partially woods and partially fallow field.

SOIL DESCRIPTION(S): Wave-cut profile: mottled dark brown silt loam with abundant gravel, 0-25cm; reddish brown clayey silt with some gravel, 25-40cm.

SITES RECORDED: TS-15 (3CR248)

ISOLATED FINDS: 0

GROUND VISIBILITY: 0 - 70%

SPECIAL HINDRANCES TO SITE LOCATION: none

SPECIAL OBSERVATIONS: Found an Afton point on eroded shoreline. Gravelly soil.

SURVEY STRATEGY: Surface survey along shoreline and random shovel test along summit.

SURVEYOR(S): Ray and Northrip DATE: 9-18-86

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