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An Analysis of the Morrow Mountain Component at the Icehouse Bottom Site and a Reassessment of the Morrow Mountain Complex

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To the Graduate Council:

I am submitting herewith a thesis written by Patricia A. Cridlebaugh entitled "An Analysis of the Morrow Mountain Component at the Icehouse Bottom Site and a Reassessment of the Morrow Mountain Complex." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Anthropology.

Charles H. Faulkner, Major Professor

We have read this thesis and recommend its acceptance:

Major C. R. McCollough, Jefferson Chapman

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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AN ANALYSIS OF THE MORROW MOUNTAIN COMPONENT AT THE ICEHOUSE BOTTOM SITE AND A REASSESSMENT OF THE MORROW MOUNTAIN COMPLEX

A Thesis

Presented for the

Master of Arts

Degree

The University of Tennessee, Knoxville

Patricia A. Cridlebaugh

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ABSTRACT

Stratified Middle Archaic Stanly and Morrow Mountain components discovered in 1975 at the Icehouse Bottom site (40MR23) in the Little Tennessee River Valley provided data comparable with that reported by Joffre L. Coe (1964) from the North Carolina Piedmont Province. The 1976 excavation of the Howard site (40MR66) in the Little Tennessee River Valley added to that information pertaining to stratified Stanly and Morrow Mountain components in the Ridge and Valley Province of Tennessee.

Analysis of the Morrow Mountain component from Icehouse Bottom is presented in this study; this site is emphasized as a result of the additional and new data it provides regarding the Morrow Mountain Complex in the Southeast. Analysis of the Howard site material is incomplete, but it supplements the study of the Morrow Mountain Complex so extensively that it is treated to a limited extent. The nature of the data from these sites, rather than arbitrary geographical boundaries, limits the emphasis of this study to East Tennessee.

Through the comparison of Morrow Mountain artifacts and sites in the Southeast and the critical analysis of the data from East Tennessee, a reassessment of the Morrow Mountain Complex has been achieved. This reassessment clarifies some of the traits and attributes of the Complex. Results of the analysis of the eastern Tennessee material suggest that:

(1) Variation of Morrow Mountain Stemmed type points within a site or from site to site is due to raw material variations and, possibly, functional variation.

(2) Short straight stemmed points were utilized in conjunction with Morrow Mountain type points. Their distribution in the Stanly component as well as Late Archaic components suggests they were transitional type points to the Late Archaic period.

(3) The lithic assemblages of Morrow Mountain components in the Little Tennessee River Valley are distinguished by Morrow Mountain I and II Stemmed type projectile points, short straight stemmed type points, end and side scrapers, bifacial and unifacial knives, drills, spoke-shaves, atlatl weights, netsinkers, pitted cobbles, and hammerstones.

(4) In the Little Tennessee River Valley, the Morrow Mountain I and II Stemmed type projectile points and a distinctive end scraper type are the only diagnostic lithic artifacts of the Morrow Mountain assemblage.

(5) The Morrow Mountain settlement system included site selection ranging from valley floors to hilltops and rock shelters.

(6) Radiocarbon determinations place the Morrow Mountain Complex from 4500 B.C. to 5305 B.C.

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CHAPTER I

INTRODUCTION

Definition of Problems

The 1975 excavations at the Icehouse Bottom site in the lower Little Tennessee River Valley offer an opportunity to examine the Middle Archaic cultural sequence in eastern Tennessee. The site contained a stratified cultural sequence ranging from an Early Archaic Kirk component through the Middle Archaic Morrow Mountain component (Chapman n.d.).

This thesis will present new data concerning the Morrow Mountain Complex in eastern Tennessee. It will, also, reassess the Morrow Mountain Complex in the Southeastern United States by utilizing data from the Icehouse Bottom site as well as additional information from East Tennessee and the Southeast.

A Morrow Mountain Complex was first defined in the literature by Joffre L. Coe (1964:54,122) on the basis of an assemblage of distinctive projectile points from the Doerschuk site (Mg^v22) in the North Carolina Piedmont. The projectile points were designated Morrow Mountain Stemmed type points and are generally small points with a broad blade and sloping shoulders which curve into a short rounded stem (Coe 1964:37). The Doerschuk site, with sealed Stanly and Morrow Mountain components, has provided the basis for the identification of Morrow Mountain material throughout the Southeast. Unfortunately, available information from the site falls short of providing a

substantive definition of a Morrow Mountain Complex. The artifact inventory from the Stanly and Morrow Mountain components at Doerschuk indicates the projectile points and an oval scraper (Type I) are the only distinctive lithic tools from the Morrow Mountain component (Coe 1964:35-43,50-54). Although a cursory discussion of oval scrapers is provided (Coe 1964:79), Type I is not defined or discussed. Other artifacts associated with the Morrow Mountain Complex are not exclusive to the complex; many scraper and hammerstone types were also present in the earlier Stanly zone (Coe 1964:50-52). This suggests little cultural change, but Coe (1964:54) states that following the Stanly occupation the "Doerschuk Site was reoccupied by people with a different cultural orientation."

Consequently, two problems raised by the Doerschuk site data are:

(1) Can a Morrow Mountain Complex be defined on the basis of a projectile point type alone, or is there a distinct cluster of traits at individual sites or a number of site types which comprise this complex?

(2) To what extent did cultural change occur from the Stanly to Morrow Mountain occupation?

This thesis interprets an archaeological assemblage as comprising all associated material from one site at one period of time (Chard 1975:27); recurrence of that assemblage at several sites represents a complex. Coe's (1964) presentation of Morrow Mountain data from the Doerschuk site conforms, therefore, to that of an assemblage rather than

a complex. That a Morrow Mountain component which is representative of a Morrow Mountain Complex existed at the Doerschuk site is not in question. The major point of criticism regarding this material, as well as that reported from other sites with evidence of a Morrow Mountain occupation, lies in the paucity of well-defined and culturally diagnostic material other than projectile point types. This has not provided adequate data for the definition of a Morrow Mountain complex. Moreover, almost all recoveries of Morrow Mountain material have been surface collections or, at best, excavated from poorly stratified sites. Until the excavation of stratified Middle Archaic components at the Icehouse Bottom site (40MR23) in East Tennessee, Doerschuk was the only stratified and sealed Middle Archaic Stanly and Morrow Mountain site excavated in the Southeast. The Icehouse Bottom site (Figure 1) is discussed extensively in Chapter III, and the Howard site (40MR66) is treated in Chapter IV. The Howard site (Figure 1), excavated in 1976, lies approximately four miles upstream from Icehouse Bottom. Analysis of the Howard site data is incomplete, but the Morrow Mountain component there is of such exceptional importance in a reassessment of the Morrow Mountain Complex that it is imperative this preliminary data be considered.

Data from the above sites and those sites reviewed in the following chapter provide comparative information for a reassessment of the Morrow Mountain Complex in the Southeast. In addition, on-going archaeological research, such as the Howard site excavations, should continue to provide data and generate new hypotheses regarding the Morrow Mountain Complex. In summary, this thesis will address the following problems:

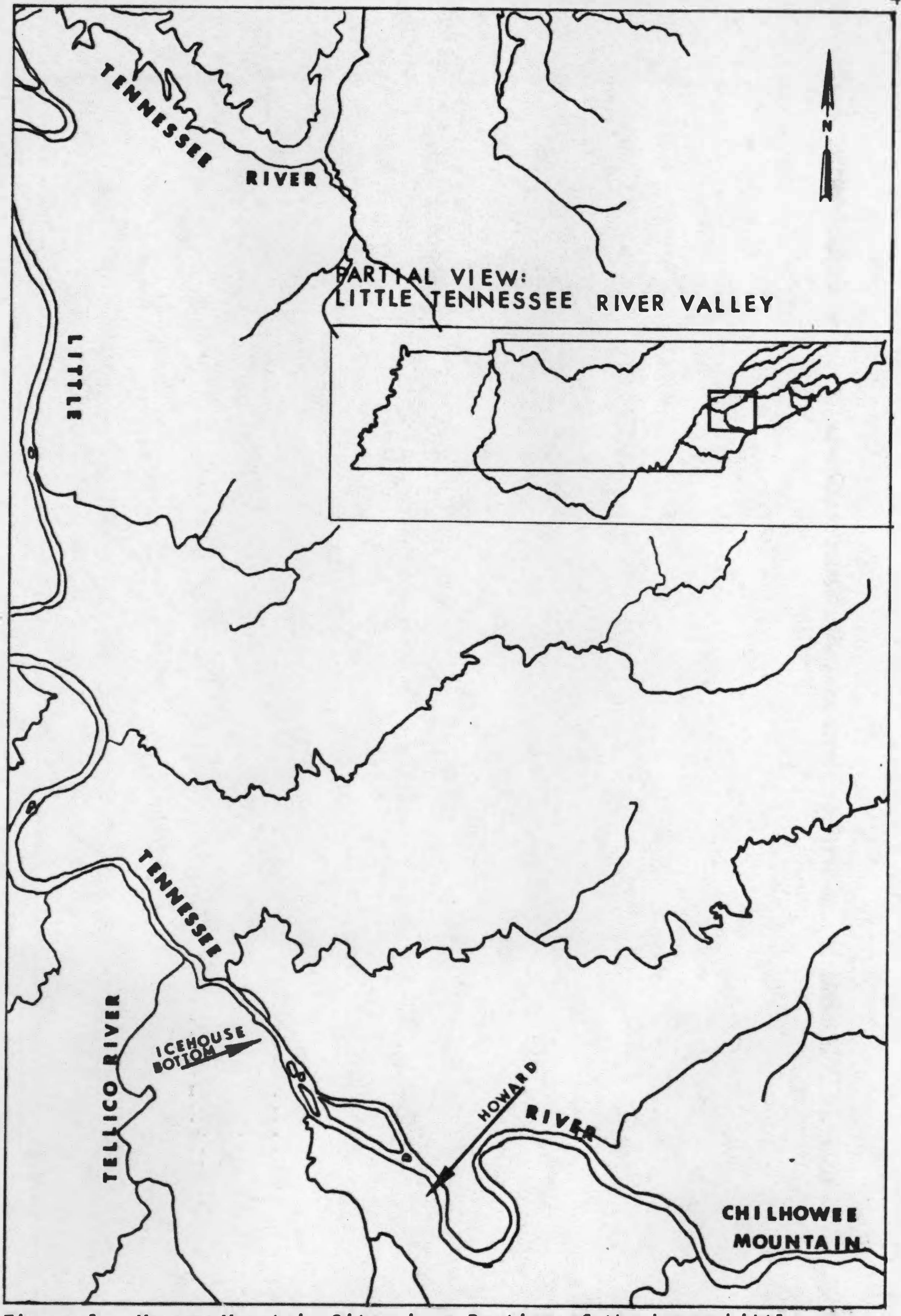

Figure 1. Morrow Mountain Sites in a Portion of the Lower Little Tennessee River Valley.

(1) Can we better define the Morrow Mountain Complex and establish a distinct cluster of traits which comprise that complex?

(2) What is the typological status of the Morrow Mountain point types and variants?

(3) Was more than one "type" of projectile point in use in conjunction with or at the same time as the Morrow Mountain Stemmed type?

(4) How does the Morrow Mountain Complex fit into the sequence of cultural development in the Middle Archaic period?

(5) What information has been obtained regarding Morrow Mountain subsistence patterns?

CHAPTER II

THE MORROW MOUNTAIN COMPLEX: PREVIOUS STUDIES

Morrow Mountain Stemmed type points have been identified throughout the Southeast. Excavation of stratified Morrow Mountain sites has been rare although extensive surface collection of Morrow Mountain type points indicates the widespread occurrence of Morrow Mountain sites. A review of some of the more substantive studies show a distribution in the Piedmont, Blue Ridge, Ridge and Valley, Appalachian, Interior Low Plateau, and Coastal Plain physiographic provinces.

Piedmont: Upland Section (Figure 2)

Illustrated projectile points (Caldwell 1954:38) of the Old Quartz Industry suggest some of the projectile point types may be Morrow Mountain Stemmed type points. The Old Quartz Industry has been identified primarily in Georgia and South Carolina where local non-chert material was utilized and artifactual remains were found on eroded hill-tops and slopes. However, the Lake Springs site in Columbia County, Georgia was located on the floodplain of the Savannah River (Caldwell 1954). The deposit was located under three to four feet of sterile river alluvium which was overlain by a shell midden. Caldwell saw no association of the two deposits and further suggested river bottoms covered by alluvium probably contained many Old Quartz sites (Caldwell 1954:37). Caldwell (1958:8) postulated a date during 4000 B.C. which indicates a complex which would correspond with the hypothesized (Coe 1964:123) and known Morrow Mountain dates of approximately 4500 B.C.

Figure 2. Morrow Mountain Sites Located in the Southeast.

A-Coastal Plain Province

B-Piedmont Province

C-Blue Ridge Province

D-Ridge and Valley Province

E-Appalachian Plateaus Province

F-Interior Low Plateau Province

1-Doerschuk Site

2-Hardaway Site

3-Davidson County, N.C. site

4-Habron and Fifty sites

5-Lake Springs Site

6-Great Smoky Mountains sites

7-Icehouse Bottom Site

8-Howard Site

9-LeCroy Site

10-Westmoreland-Barber Site

11-Russell Cave Site

12-Normandy Reservoir sites (Eoff III Site)

13-Garrett Site

14-Eva Site

15-Mulberry Creek Site

16-Stanfield-Worley Bluff Shelter Site

17-Stucks Bluff Rock Shelter Site

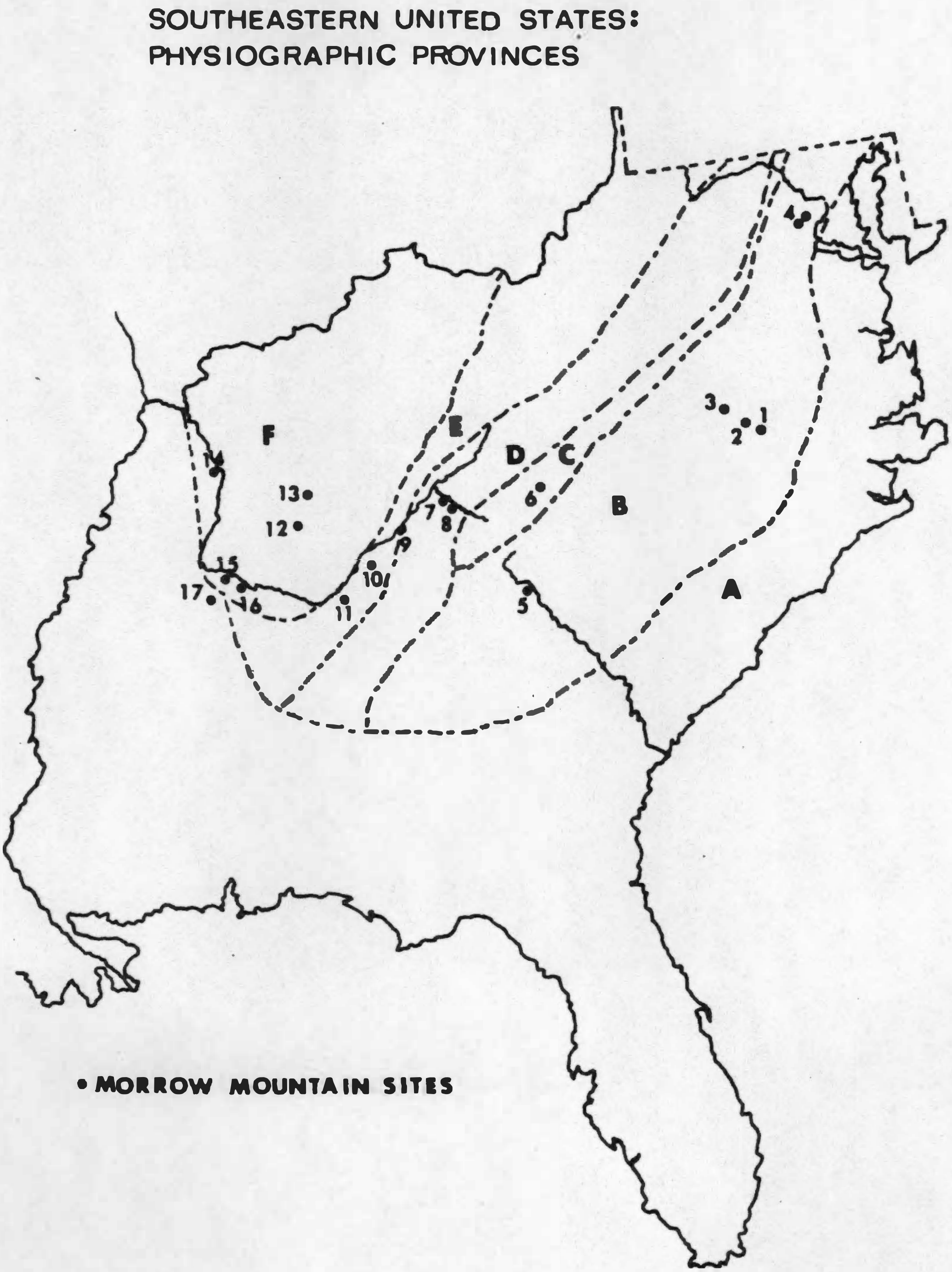

Figure 2. Major Morrow Mountain Sites Located in the Southeast.

There are no radiocarbon determinations from the North Carolina Piedmont for the Morrow Mountain component. However, the Doerschuk site, situated on an alluvial floodplain of the Yadkin River, represents an Archaic cultural sequence from Stanly through Savannah River components. Strata containing Morrow Mountain I and II points were separated by a sterile alluvial deposit. This separation, as well as the dominance of Morrow Mountain II type points in the upper stratum, suggests a temporal separation; other artifact categories, however, show little variation in the two strata. Morrow Mountain component artifacts include quarry blades; end, side, and oval scrapers, hammerstones; quartz abraders; a chipped axe; and engraved slate (Coe 1964: 50-52).

Upstream from Doerschuk, the Hardaway site is situated on a hilltop. The site consisted of a stratified Early Archaic sequence. Morrow Mountain type material was recovered from a disturbed surface context, but a fairly intense Morrow Mountain occupation was apparent (Coe 1964:83).

Another Morrow Mountain site within the Yadkin River Valley is located in Davidson County, North Carolina. Test excavations at this hillside site yielded quartz Morrow Mountain I type points (Joseph Mountjoy, personal communication).

Two sites with evidence of Morrow Mountain material have been excavated in Virginia near the Shenandoah River. The Habron site (44WR1) in Warren County, Virginia is situated on an alluvial floodplain of Punch Run Creek and about 600 feet from the South Fork of the Shenandoah River. This deeply stratified site consisted of Early and

Middle Archaic levels (Rodgers 1968), but definition of some components was impeded by limited excavation and mixing of some levels. Morrow Mountain type points manufactured of local materials were recovered from the site (Harrison 1974:1-19).

The Fifty site, near the Habron site, is located on the South Fork of the Shenandoah River. The site is situated on an old alluvial fan (Carr 1974:119). A Morrow Mountain II type projectile point was recovered from a Middle Archaic zone, but there was no evidence of a Morrow Mountain component (Harrison 1974:17).

Blue Ridge Province: Southern Section (Figure 2)

Numerous Morrow Mountain Stemmed type points have been collected from sites in the Appalachian Summit area (Keel 1976:232; Bass 1977). Seven quartzite Morrow Mountain I type points were recovered from the Warren Wilson site in Buncombe County, North Carolina; however, all of these artifacts occurred in zones mixed with later Savannah River type points (Keel 1976:193). In a surface survey of North Carolina and Tennessee portions of the Great Smoky Mountains, Quentin Bass (1977) identified 74 Middle Archaic sites. Morrow Mountain type points were collected from 57 of these sites. In contrast to Early Archaic upland settlement patterns, Middle Archaic site distribution was almost equally divided between the upland and valleys. Moreover, Early Archaic raw materials utilized were 93.2% cherts and 6.8% quartz. During the Middle Archaic period, vein quartz and quartzite comprised 94.0% and cherts, 6.0% of the raw materials used in the lithic assemblage (Bass 1977:56-57).

Ridge and Valley Province: Southern Section (Figure 2)

Evidence of Morrow Mountain occupation is exhibited in surface collections from several sites in the Ridge and Valley Province. Morrow Mountain type points are included in a surface collection from the Boozer site in Calhoun County, Alabama. This site is situated on a terrace slightly above the Chocelolceo Creek floodplain (Grace 1974: 87-115).

Further north, the LeCroy site (40HA43) in Hamilton County, Tennessee was situated on the Tennessee River floodplain. Well over 50 Morrow Mountain I type projectile points were found in a surface collection from this site.

In Meigs County, Tennessee a possible cache of Morrow Mountain I Stemmed points was exposed along the shore of Hiwassee Island. Identification is tentatively made through examination of a small photograph of this cache (Lewis, ed. 1948:29).

Positive identification of Morrow Mountain Stemmed type points can be made from several Little Tennessee River Valley sites in Monroe County, Tennessee. At the 40MR5 site, located on a second terrace and excavated in 1975, several quartz Morrow Mountain I type points were collected from a surface context.

At the Calloway Island site (40MR41) one Morrow Mountain I point was recovered from a Middle Archaic stratum. Surface collections from the island as well as the hillside and summit north of the island and adjacent to Highway 72 consist of quartz and chert Morrow Mountain I type points (Herman McGhee, personal communication).

However, the major sites in the Ridge and Valley Province with Morrow Mountain components are the Icehouse Bottom and Howard sites. Both Little Tennessee River Valley sites offer some of the most substantive Morrow Mountain Complex data in the Southeast. These stratified sites are discussed more extensively in Chapters III and IV.

Appalachian Plateaus Province: Cumberland Plateau (Figure 2)

Russell Cave, in northeastern Alabama, is one of several rock shelters and caves from which Morrow Mountain materials have been identified. This site, approximately seven miles from the Tennessee River (Griffin 1974:1), consists of occupations spanning the Early Archaic to Mississippian periods. Two strata have been ascribed to the Early and Middle Archaic periods.

The most distinctive aspect of the Middle Archaic zone, Layer F, is the presence of Morrow Mountain type points (Griffin 1974:44), but the projectile point inventory includes only five Morrow Mountain, four Kirk Serrated, and various stemmed and expanded stemmed types (Griffin 1974:Table 8) from a total of 64 points. None of the chipped stone tools in Layer F are exclusive to the Middle Archaic horizon, and with the exception of two pecked and polished bell-shaped limestone mullers, this is also true of ground stone tools (Griffin 1974:48-52).

Griffin (1974:67) suggests five of the six Russell Cave burials are Middle Archaic, but they contained no grave goods. One burial was disturbed by a pit containing a Morrow Mountain point, but a Morrow Mountain association of any of the burials is doubtful.

At best, a Morrow Mountain presence, with no substantial data, can be identified at Russell Cave. Similarly, a Morrow Mountain presence is indicated by surface collections in the Cumberland Plateau section. In Marshall County, Alabama, on the Tennessee River flood-plain, numerous Morrow Mountain I type points were collected above the Wheeler Reservoir (Harris and Roberts 1967). In the Sand Mountain, Alabama excavations (Clayton 1965:3-98), Morrow Mountain I type points were found at eight bluff shelter sites, but there were no isolated zones of Morrow Mountain material. In Madison County, Alabama Morrow Mountain I and II type points were collected from several sites in Jude Hollow (Anonymous 1961).

Finally on the Tennessee River, Morrow Mountain and Sykes type points were associated in the same stratum at the Westmoreland-Barber site (40MI11). This site was situated on a natural level on the bank of the river in Marion County, Tennessee. At this multicomponent site, Zone D was the earliest well-defined occupational stratum. The zone included a Morrow Mountain I type point with six Sykes-White Springs type points. In addition, a mortar and charred walnut and hickory nut shell were recovered from this stratum which was seven to eight feet below the surface (Faulkner and Graham 1966:121, 70-72).

Interior Low Plateau: Highland Rim Section (Figure 2)

The Stanfield-Worley Bluff Shelter in Colbert County, Alabama is located in a cove about seven miles from the Tennessee River. The shelter was occupied by Transitional Paleo-Indian/Early Archaic, Middle

and Late Archaic, Woodland and Mississippian period people. Based on the presence of Morrow Mountain and White Springs type points and bone awls, projectile points, and an atlatl hook with Burials 6, 8, and 11 (DeJarnette _et al._ 1962:80), a Middle Archaic occupation was assumed to correspond with zone B. Unfortunately, the lack of good stratification makes it impossible to consider any material from zones B or A as exclusively representative of a Morrow Mountain component. The strong evidence of a Morrow Mountain occupation at Stanfield-Worley exists in the grave goods associated with the above burials, although the temporal position of the burials cannot be clearly established. Excavation of the graves began in or above stratum B, and all contained caches of Morrow Mountain type points as well as other lithic and bone artifacts. A small number of associated Middle Archaic points such as White Springs and Crawford Creek types were also recovered. Additional associated artifacts included rectangular and triangular end scrapers, a bifacial knife, expanded base drills, bone awls, and a bone atlatl hook (DeJarnette _et al._ 1962:11,14). Even though there is no information regarding the distinctiveness of the tools as a part of a Morrow Mountain Complex, the burials are the most definite Morrow Mountain burials excavated in the Southeast. As reflected at this site, Morrow Mountain burial practices included flexed to partially flexed individuals placed in rock lined pits with caches of lithic and bone grave goods.

Although not identified as such, several artifacts illustrated from the survey of the Pickwick Basin (Webb and DeJarnette 1942:Plates 275, 289[2], 290[1], 291[2]) appear to be Morrow Mountain type projectile points. These points from the lower level of the Mulberry Creek Mound

(CT27) were inclusive or imbedded in the bones of Burials 84 and 88 (Webb and DeJarnette 1942:246). Burial 84 was one of a triple inhumation in a sandy layer resting directly on a six inch layer of shell. Eight points were associated with the burial; two were firmly embedded in the vertebral cavity (DeJarnette n.d.). Two of these points appear to be in the Eva-Morrow Mountain cluster. This now innundated shell mound was located at the confluence of Mulberry Creek and the Tennessee River in Colbert County, Alabama (Webb and DeJarnette 1942:235).

Site surveys in northern Alabama, reported for the most part by amateurs, have provided a substantial amount of evidence regarding Morrow Mountain occupation. The surface collection from the Bonanza Beach site in Limestone County indicates an intensive Early and Middle Archaic occupation; of the point types identified, Morrow Mountain type points occurred in the greatest quantity (Work 1961:59).

Morrow Mountain type points were identified in a survey of four sites in Colbert and Franklin counties (Brock and Clayton 1966), and similar sites were located along Sugar Creek in Limestone County, Georgia and Giles and Lawrence counties, Tennessee (Travis and Lenser 1960:52-64).

Further north, the upper Duck River Valley site survey provides some of the best controlled Middle Archaic survey data available. It has resulted in the location of 18 Middle Archaic sites in the Normandy Reservoir area of Middle Tennessee (Faulkner and McCollough 1973). Possible settlement patterns of Middle Archaic peoples in the Interior Low Plateau Province are presented (Faulkner and McCollough 1973:505) as well as the results of intensive controlled surface collections. Criteria for classification of an occupation included diagnostic

projectile points/knives and other associated cultural material. A variety of point types were collected on these sites, thus suggesting single to multicomponent occupations through time. The Eva-Morrow Mountain and White Springs-Sykes projectile point/knife clusters (Faulkner and McCollough 1973:152-154) were diagnostic of Middle Archaic occupations at these sites. Eight sites produced projectile points/knives in the White Springs-Sykes cluster only. Four sites produced artifacts in the Eva-Morrow Mountain cluster alone. Finally, a combination of Eva-Morrow Mountain and White Springs-Sykes type points/knives was collected from eight sites.

Of these sites, a most productive Middle Archaic site was the Eoff III site (40CF107). Subsequent excavation of this Duck River floodplain site resulted in the recovery of Morrow Mountain type projectile points. In addition, a radiocarbon determination of 4575 ± 165 B.C. (Major McCollough, personal communication; Chapman 1976b:8) was obtained for a Morrow Mountain pit installation on this site.

Finally, in the Western Highland Rim physiographic section, Morrow Mountain type material was recovered in a stratified context from the Eva site (40BN12). Eva, located in Benton County, Tennessee, was in prehistoric times situated on the bank of the Tennessee River. Stratum II, containing the Three Mile Component, consisted of a dense shell midden and had a definite association of Morrow Mountain I, Eva II, and other Middle Archaic type projectile points (Lewis and Lewis 1961:28,31). Eva site artifacts and their implications regarding the Morrow Mountain Complex are discussed more extensively in the following chapters.

Interior Low Plateau: Nashville Basin

(Figure 2, page 7)

Not far from the Normandy Reservoir area, the Garrett site (40BD1) is located in Bedford County on a slight rise near Weakly Creek (Dowd n.d.). Excavation of the site by amateurs was begun in 1968. A controlled excavation was attempted, but the site was only partially excavated and no analysis of the material was completed. Cursory analysis of artifacts indicated a large quantity of chipped and ground stone tools, but the context of the material cannot be determined with certainty. Projectile points/knives from Garrett range from Early Archaic bifurcate to Mississippian Hamilton type points. A high proportion of points falls within the Eva-Morrow Mountain and White Springs-Sykes clusters. The Morrow Mountain type points do provide data for raw material and manufacturing variation comparisons with Morrow Mountain type projectile points from other sites such as Icehouse Bottom. Ground stone tools collected from the Garrett site include limestone bell-shaped mullers and an atlatl weight fragment. These tools are characteristic of the Middle Archaic period; consequently, a Morrow Mountain association is possible for these implements.

At the Mill Creek Overhang site in Davidson County, four Morrow Mountain I type points were recovered in excavations of the deposits (Dowd 1969:9). Morrow Mountain type points were also recovered from surface collections made in Davidson and Rutherford counties as a part of the J. Percy Priest Reservoir survey (Morse and Morse 1964:1-12).

Finally, in the outer Nashville Basin section, Morrow Mountain I projectile points have been reported from surface collections made in

Maury County, Tennessee (Yeatman 1964:62). It may be hypothesized that such a collection is representative of other areas of the Nashville Basin section of the Interior Low Plateau Province, but such information has remained unreported.

Coastal Plains: East Gulf Coast Plain

(Figure 2, page 7)

In the Buttahatchee River Valley of Lamar County, Alabama, Morrow Mountain Stemmed type points were recovered from the Crump site which is situated on a second terrace (DeJarnette et al. 1975a:1-37).

However, much more substantial data were recovered from excavations at the Stucks Bluff Rock Shelter site in the Buttahatchee River project. A probable date for the Morrow Mountain Complex in northern Alabama was obtained from this site. Zone D of the occupational levels contained a Morrow Mountain component consisting of two Morrow Mountain type projectile points (DeJarnette et al. 1975b:116). A hearth filled with charcoal, deer bone, chert flakes, and a Morrow Mountain projectile point yielded a radiocarbon determination of 4500 $\pm$ 120 B.C. (DeJarnette et al. 1975b:113). As in so many of the other known Morrow Mountain recoveries, no additional diagnostic artifacts were clearly associated with the Morrow Mountain projectile points.

Conclusions

The sites reviewed above are a partial representation of Morrow Mountain sites in the Southeast. Any suggestion of a clustering of

Morrow Mountain sites within a particular province is probably a reflection of sampling error and unreported survey results.

These data indicate Morrow Mountain occupation in a variety of natural environments. Sites were on floodplains, in rock shelters and caves, on second terraces and on hills. The predominance of sites situated on floodplains may be due to the nature of salvage archaeology and/or a greater protection from the effects of erosion. However, the best sealed Morrow Mountain components have been reported from floodplain sites where they have been protected by alluvial deposition.

Other than an indication of ramified settlement strategies, the above sites yield little cultural data. Sites such as Doerschuk and Icehouse Bottom have, however, established the cultural sequence from the Early through Middle Archaic periods. Moreover, radiocarbon determinations from the Stucks Bluff, Eoff III Icehouse Bottom and Howard sites are important in placing the Morrow Mountain Complex temporally.

Perhaps the most culturally significant material included in this review of sites are the burial data from the Stanfield-Worley Bluff Shelter site. Not only do Burials 6, 8, and 11 establish a view of burial practices, but the grave goods provide substantive information regarding Morrow Mountain bone tool industries. The following chapters will provide new and important data regarding lithic industries from Morrow Mountain components in East Tennessee.

CHAPTER III

THE ICEHOUSE BOTTOM SITE (40MR23)

In mitigation of the effects of the proposed TVA Tellico Reservoir, salvage excavations were carried out at the Icehouse Bottom site in 1969 (Gleeson 1970), and more extensive excavations were conducted in 1970 and 1971 by Chapman (1973). These earlier excavations resulted in the discovery of Late Archaic, Early and Middle Woodland, and Mississippian occupations at this stie. In 1975 a program of deep testing was initiated resulting in evidence of extensive Early Archaic and Middle Archaic occupation upstream from the previous excavations (Chapman 1976a; n.d.). Extensive excavations were conducted in 1975 to sample these well-stratified early occupation zones. The author served as field assistant in charge of the Middle Archaic excavations.

Site Location

The Icehouse Bottom site is located in Monroe County on the Little Tennessee River at River Mile 21 and two miles upstream from the confluence of the Little Tennessee and Tellico Rivers at 35°35'18" north latitude and 84°11'30" west longitude (Figure 3). The Middle and Early Archaic components excavated in 1975 lie on the left bank of the river downstream from Rock Crusher Bluff and at the head of a larger bottom which extends inland to become part of the Tellico River Valley (Chapman 1973:1).

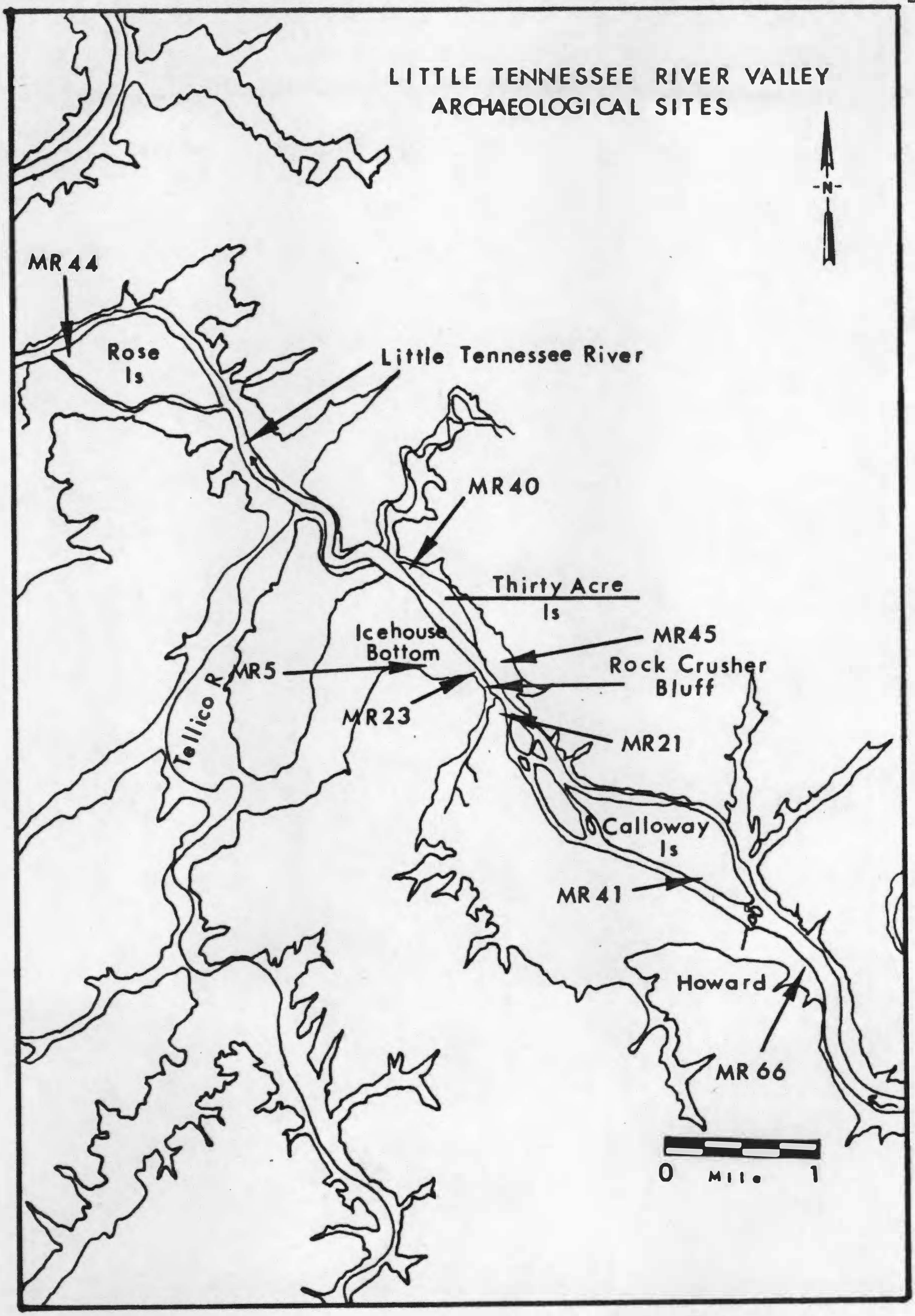

Figure 3. Little Tennessee River Valley Archaeological Sites.

Environment

The Icehouse Bottom site is located in the Ridge and Valley Physiographic Province. This area of the province, or the Great Valley as it is often called, is bordered on the east by the Blue Ridge Province and on the west by the Appalachian Plateaus Province. The southern section of the Ridge and Valley Province extends from above Knoxville into Alabama. It is characterized by lower ridges, knobs, and a greater amount of valley than the northern section which extends to near the Susquehanna River in Pennsylvania (Fenneman 1938:267, 271).

In the Ridge and Valley Province, formations of Cambrian, Ordovician, scattered Silurian-Devonian, Mississippian, and scattered Pennsylvanian rocks which have undergone Paleozoic folding, faulting, and later erosion contribute to the physiography. The characteristic long, narrow ridges of the Southern section are 1,200 to 2,500 feet in elevation, and the elevation of the valleys ranges from 600 to 1,500 feet (Floyd 1965:5). The folded Cambrian sedimentary and metamorphic rock and Ordovician sedimentary formations which tend to lie in a northeast-southwest direction (Floyd 1965:11) have been eroded to form the ridges and valleys.

Lithic Raw Material Resources

The predominant Cambrian-Ordovician formations of the Great Valley would yield such raw materials as limestone, dolomite, shale, and sandstone. Laboratory analysis of specific types and sources of raw materials used in the manufacture of lithic artifacts in the Little Tennessee River Valley must be cursory. No chert survey has been made

in the area and only a few chert outcrops have been observed. Although some Kirk tradition lithic artifacts are of an exotic material, most lithic artifacts from Kirk through Morrow Mountain components are made of local cherts. Beginning with the bifurcate tradition and continuing through the Middle Archaic components in the Little Tennessee River Valley, the raw materials utilized were local cherts of varying quality. The Middle Archaic period use and procurement of local chert of inferior size and quality and non-chert raw material is discussed in greater detail below (pages 49 and 71-74).

Outcrops of chert occur at Rock Crusher Bluff and near the Patrick site (40MR45) (Figure 3). This chert ranges from black to light gray in coloration, but its nodular form and small size are its most notable attributes.

Jasper, chalcedony, and chert nodules occur within the Shady Dolomite formation in the higher elevations of Monroe and Blount counties (Hershey 1963:38,39). The Knox group, found in Monroe and Blount counties, is a sequence of carbonate rocks approximately 3000 feet thick. In most areas this formation is characterized by broken and irregularly shaped chert outcrops (Hershey 1963:44).

Climate

A humid mesothermal climate with abundant moisture throughout the year is characteristic of the Great Valley (Thornthwaite 1931:645 *et al.* 1973:5). Climatic records covering a thirty year period in the Knoxville-Loudon area indicate variations in average annual temperature and precipitation; however, the variations are not appreciable. The annual temperature averages 58.2°F; the average annual maximum temperature

68.1°F; and the average annual minimum temperature, 48.8°F. The average annual precipitation is 50.18 inches (Fribourg et al. 1973:11). Snowfall ranges from four inches at lower elevations to 24 inches at higher elevations (Fribourg et al. 1973:5).

The topography strongly affects local climate and weather. The mountains of the Blue Ridge Province and Cumberland Plateau section act as barriers to protect the Great Valley from climatic extremes. The Cumberland Plateau does not provide protection during severe cold periods, but it does help prevent killing frosts in the spring and fall (Voorhees 1913:4). Nevertheless, killing frosts do occur from late October through April. Thunderstorms are quite frequent in the spring and summer. The Blue Ridge and Great Smoky Mountain ranges serve as barriers to the escape of turbulent weather; it is quite common for thunderstorms to pass through the Little Tennessee Valley heading south-southeast, bounce off the mountains and return to the valley.

Excavation Strategy

In "The Formative Cultures of the Carolina Piedmont," Joffre L. Coe hypothesized that data regarding earlier Archaic cultures could be found in stratified sites on river floodplains. The testing of this theory, however, was not carried out immediately.

This hypothesis was first tested in 1975 in the Ridge and Valley Province of East Tennessee by Jefferson Chapman (1976a). The first indication of stratified early occupations in the Little Tennessee River Valley was found at the Rose Island site (40MR44), situated on the T-0 and T-1 of the Little Tennessee River. Subsequently, a testing

program was conducted at selected floodplain sites along the Little Tennessee River. A backhoe was employed to dig deep test trenches with a minimal amount of labor and disturbance and in a minimal amount of time. Thus, the stratified zones of buried occupation were defined, and this testing method also provided an indication of the vertical and horizontal limits of the various early occupations.

James A. Brown (1975:158) has indicated that numerous interpretive problems are created due to an inadequate model for sampling and excavating unique deep sites. The efficient system employed by Chapman for testing T-0 and T-1 sites in the Little Tennessee River Valley may be considered a partial answer to problems of deep site testing and excavation, although Chapman (n.d.) acknowledges numerous sampling and interpretive variables that still defy adequate treatment. For example, differential overlap of strata cannot be determined or interpreted through random deep test trenches. However, by backhoe trenching, an indication of the horizontal limits of an occupation area can be reasonably well determined. Moreover, backhoe removal of upper layers to the level of the deep occupation reduces time and labor required to reach the zone to be excavated. In addition, the backhoe does relatively little damage to the subject zone, although it must destroy the context of anything overlying it.

Like those at the Rose Island site, the investigations at the Icehouse Bottom site (40MR23) are an example of Chapman's model for location and excavation of deeply stratified sites under salvage circumstances (Chapman n.d.). At approximately every 500 feet a series of backhoe test trenches was cut along the first terrace of Icehouse

Bottom. Evidence of stratified Early Archaic deposits lay 100 feet to the east of the previous excavations, and the 1975 excavations were begun in this area (Figure 4). The horizontal and vertical limits of the site were determined through the examination of deep trenches cut by the backhoe. The estimated total area of the early occupation zones is 3.5 to 4.0 acres which includes stratified horizontal layers of Kirk, St. Albans, LeCroy, Stanly, and Morrow Mountain occupation. The Middle Archaic Morrow Mountain component was located to the grid east of the previously excavated area in units 80L435-80L445; 90L435-90L480; 100L435-100L480; 110L475-110L480; and 70L295 (Figures 4 and 5). A total of fourteen 10 x 10 foot squares or 1400 square feet of the area containing the Morrow Mountain component was excavated.

Method of Excavation

The grid system utilized at the Icehouse Bottom site in 1975 was an extension of that used in prior Icehouse Bottom excavations (Chapman 1973). This consisted of tying into the grid at the permanent zero datum and reading to the left. Elevations were taken from a benchmark which was established with an assumed elevation of 100 feet. All excavation levels were removed by backhoe and/or skim shovel. Excavation units from which surface material was removed by backhoe consisted of disturbed midden or of midden which would have produced a minimal amount of information.

The method of excavation of units containing the Morrow Mountain component basically consisted of skim shovel removal of deposits from 10 x 10 foot units. Vertical cuts varied from natural stratigraphic cuts to 0.2 or 0.3 foot arbitrary cuts with a modification of excavation

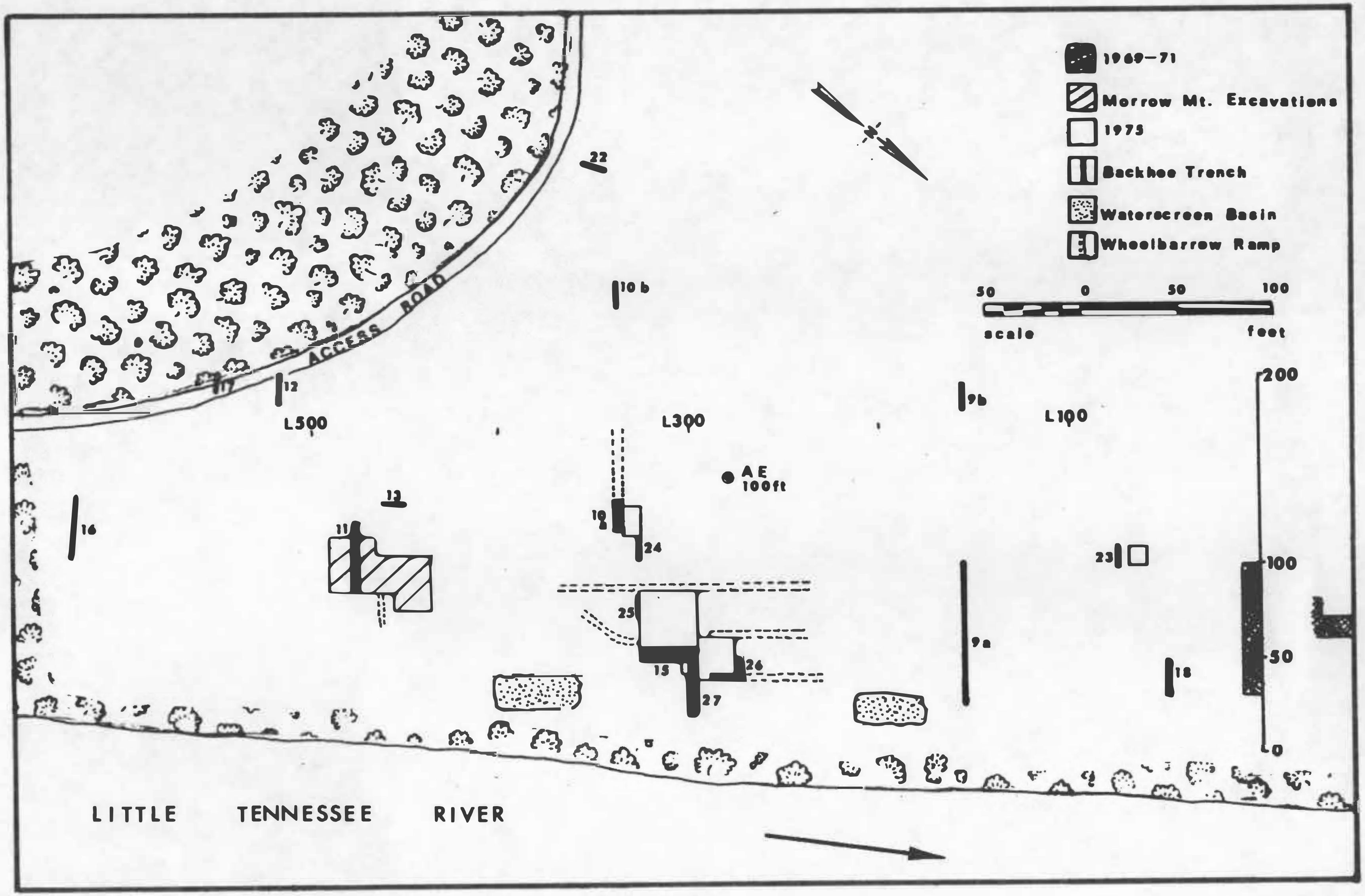

Figure 4. Icehouse Bottom Excavation Units, 1969-1975.

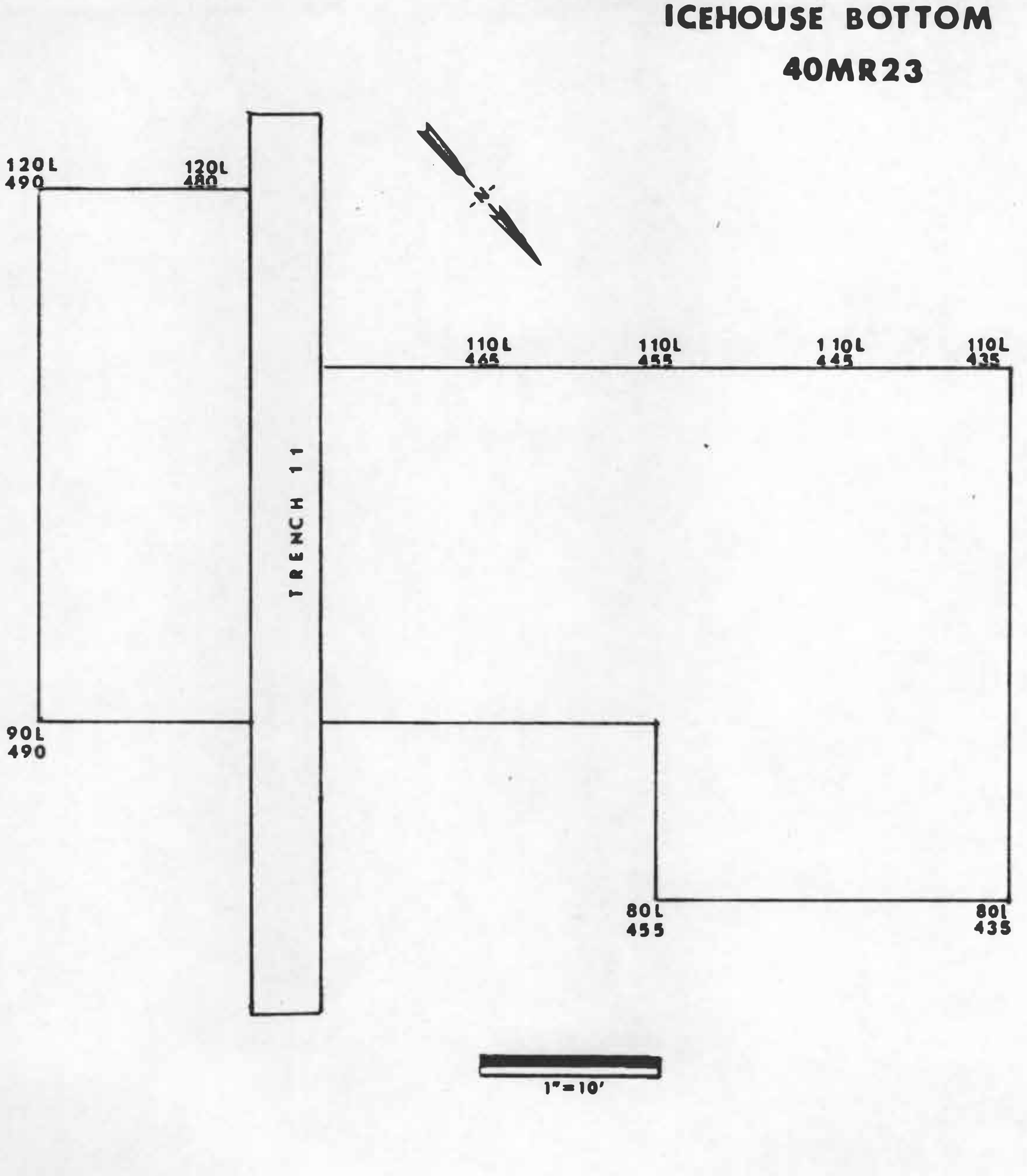

Figure 5. Morrow Mountain Excavation Units, Icehouse Bottom.

technique as features or problems occurred. Provenience of all *in situ* artifacts was recorded. All soil from each level was waterscreened through 1/4 inch mesh and all charcoal, lithic materials, and worked stone were collected. The horizontal area excavated encompassed 1400 square feet. Of this, 1300 square feet of the Morrow Mountain component were excavated in the upstream portion of the site (Figures 4 and 5).

Units yielding the greatest amount of Morrow Mountain data were 90/100L465, 90/100L455, and 110L480 (Figure 5). Although it is possible such unexcavated units as 110L455/465 and 80L455/465 would have produced Morrow Mountain data, it is also quite possible the stratum was eroded there as it was in 90L480; certainly it was not easily discerned in the profile of the 90L grid line.

90 and 100L465:	Following the stratigraphy evident in the profile of Trench 11 along the 465 grid line, excavation levels were removed by a combination of natural stratigraphic and arbitrary cuts.
90 and 100L455:	Based on the stratigraphy of grid line L465 and information acquired from the excavation of the L465 units, removal similar to that described above was undertaken.
80/90/100L445/435:	As a result of the concentration of Morrow Mountain material in units 90/100L465/455, excavation of these units was undertaken. Although the Morrow Mountain zones were evident in the L455 profile, drying of the profile as well as the apparent dissipation of the zone created difficulty

in carrying out a stratigraphic excavation. Stratigraphic cuts based on those in the L455 units and arbitrary cuts were taken. Little diagnostic material was recovered from these units; unit 80L435 produced no pertinent data and was probably eroded.

90/100L480: The plow zone of unit 90L480 cut through Morrow Mountain stratum B. The present terrace sloped toward the river in much of this unit, and the absence of a distinct stratum B may be attributed to erosion and historic plowing. Stratum B was present in 100L480 in varying degrees of vertical thickness; it was most pronounced to the southeast.

110L480: This was the only cut from which the plow zone was removed by backhoe. Stratum B and part of stratum B/C were removed in two 0.3 foot cuts by skim shoveling.

Figure 6 illustrates the stratigraphic profile of some of the above units.

Description of Strata

The stratigraphic columns of Middle through Early Archaic components of the west profile, unit L455 and the west profile, unit L295 are illustrated in Figure 7. The strata related to the Morrow Mountain component are:

Stratum A: Plow zone consisting of disturbed midden.

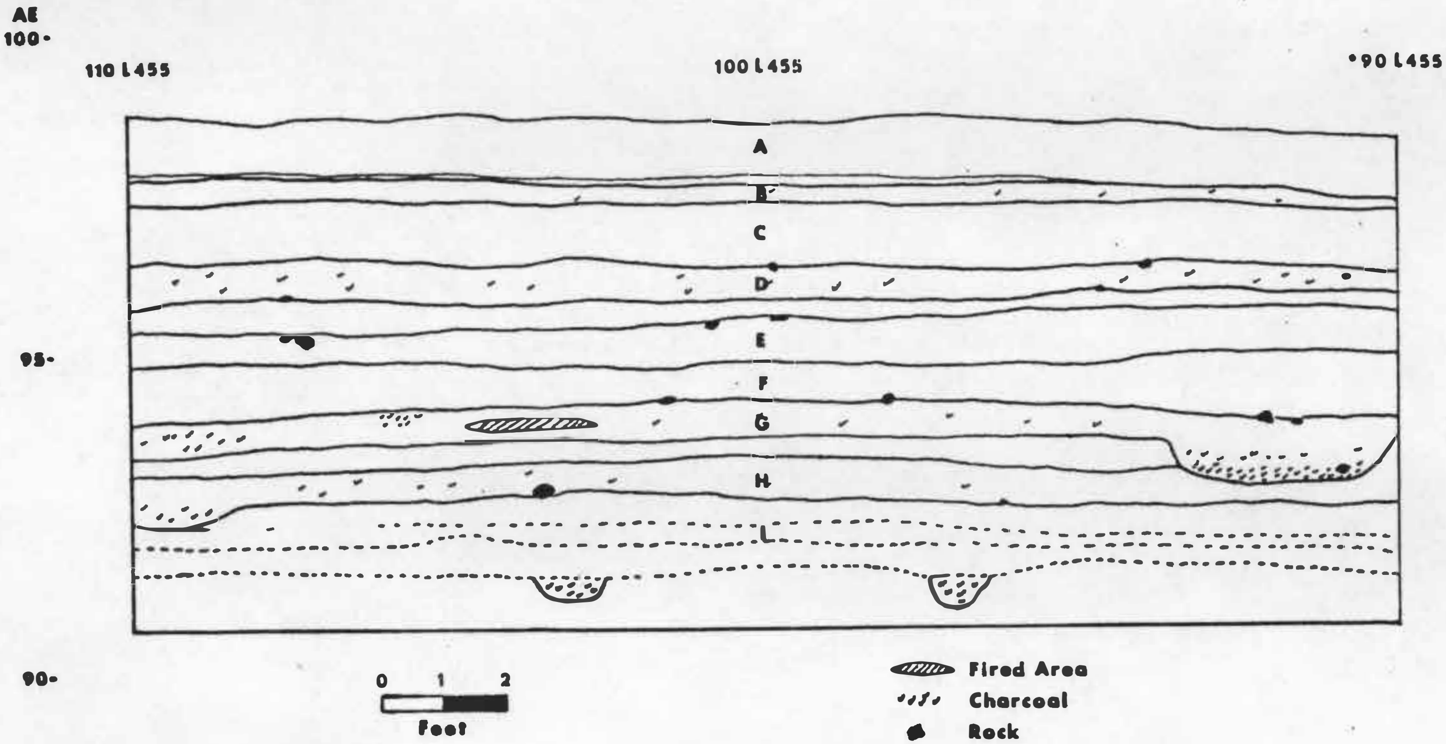

Figure 6. Stratigraphic Profiles, Icehouse Bottom.

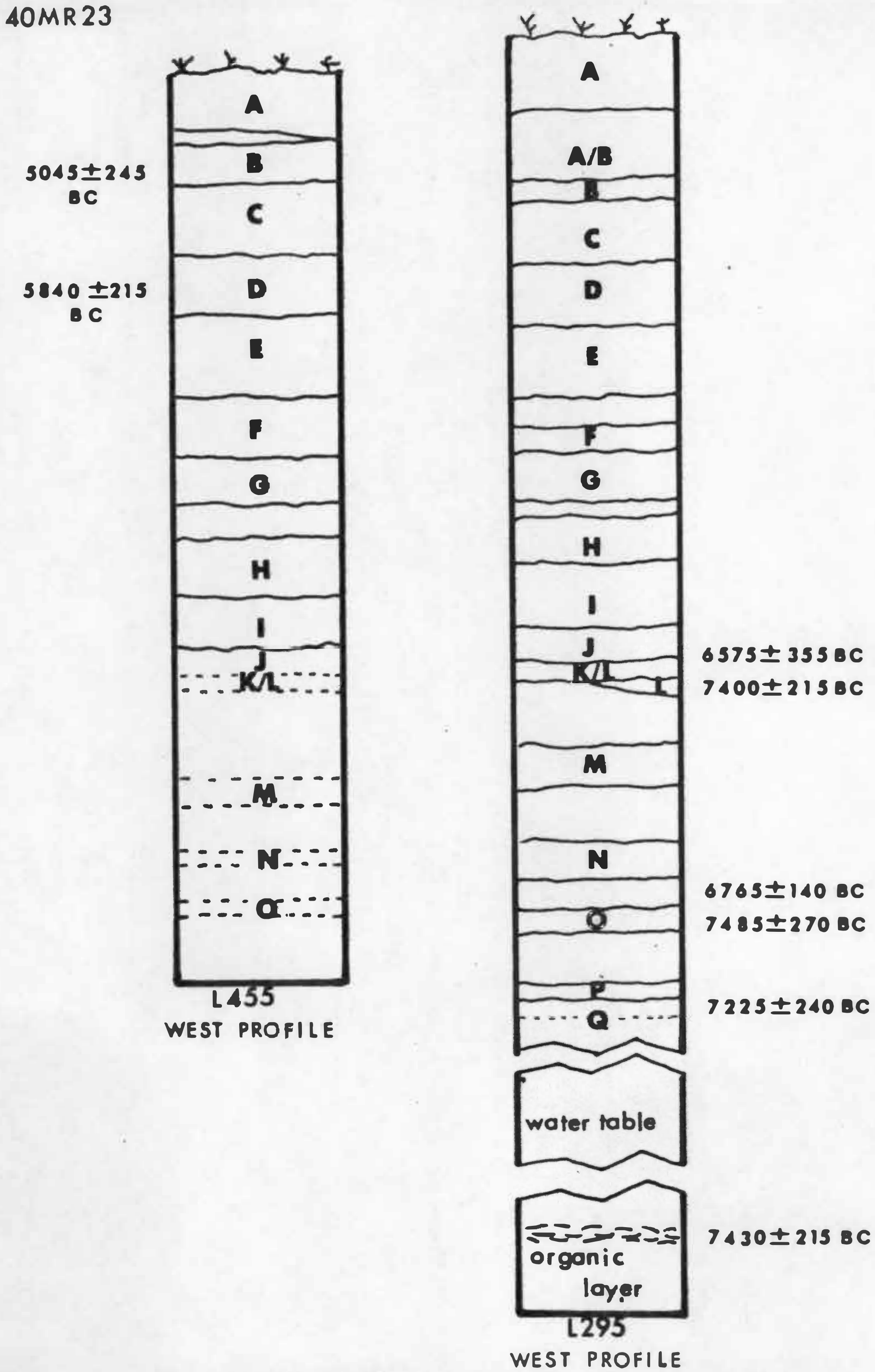

Figure 7. Schematic Diagrams of Stratigraphy, Icehouse Bottom (after Chapman, n.d.).

Stratum A/B: Vertical thickness: 0.7 to 0.3 feet. This stratum underlay A and overlay B. It was not consistently present in all units excavated, but where it existed it was undisturbed and distinct from strata A and B. It contained a mixture of diagnostic Morrow Mountain artifacts and non-diagnostic material which could also be Morrow Mountain. Due to the predominance of Morrow Mountain material, this stratum was designated a mixed Morrow Mountain component.

Stratum B: Vertical thickness: 0.7 to 0.2 feet. Stratum B underlay stratum A/B or A. This distinctive and diagnostic Morrow Mountain zone contained Morrow Mountain Stemmed type points and Morrow Mountain component features such as fired areas and pits. The soil of this stratum, distinct from surrounding zones, contained a greater frequency of charcoal and fired clay fragments.

Stratum B/C: Vertical thickness: 0.5 to 0.1 feet. This stratum immediately underlay stratum B as a distinct zone, but it was not consistently present horizontally. It contained Morrow Mountain type artifacts and less diagnostic Middle Archaic material. Due to vertical position and artifact types, the zone was designated as a mixed Morrow Mountain stratum.

Stratum C: Vertical thickness: 0.9 to 0.5 feet. Stratum C underlay stratum B and/or B/C. It appeared as a distinctive zone in profile but artifacts were a mixture of Morrow Mountain and Stanly types. It was classified as a mixed or transitional zone and was not assigned to either the Morrow Mountain or Stanly component.

Stratum C/D: Vertical thickness: 0.5 to 0.4 feet. This stratum underlay stratum C in some excavation units, but it was not consistently present. It was a distinctive yet elusive zone which contained Stanly and less diagnostic Middle Archaic material. Absence of any diagnostic Morrow Mountain artifacts suggests it was part of the Stanly component.

Stratum D: This stratum consisted of the sediments and diagnostic artifacts which made up the very distinctive Stanly component.

Geomorphology

Soils in the vicinity of Icehouse Bottom are Ultisols (Perkins et al. 1973:73), and they have been mapped by the Soil Conservation Service at the Icehouse Bottom site as Hapludult type soils in the Transylvania soil series.

At the site, alluvium in the loam and silt loam textural classes was deposited by flooding of the Little Tennessee River. Evidence of alluvial deposits can be seen in the stratigraphy of the terrace on which the site is situated.

Geomorphological analysis of the soil build-up of horizons A through P at Icehouse Bottom (Figure 7) was performed by Lucy Foley (n.d.). These plowzone through Kirk horizons were studied in deep backhoe test trenches as well as the excavation trenches. Occupational zones were well sealed by thick, sterile alluvial deposits.

Stratum A was colluvium and plowzone which overlay the terrace edge. Stratum A/B was a mixture of plowzone and the Morrow Mountain deposits.

Stratum B, the Morrow Mountain zone, was well to irregularly defined in the excavated areas between the L435 and L490 grid lines; it was virtually absent between L325 and L275. Units L325 to L435 were unexcavated, but there was no evidence of the stratum in test trenches in that area. Within L435 to L490 units, the areas of disperse midden were on the sloping river side of the terrace. This apparent discontinuity of the evidence of Morrow Mountain occupation may be explained by the occurrence of erosion following the occupation. Two explanations for the absence of stratum B in the L325 to L435 area are:

1) The occupation area was limited to a small portion of the site.

2) Erosional activity removed all but a small portion of stratum B. Three thin but separate layers of charcoal and lithic debitage were observed in stratum B profiles. Consequently, at least three separate living surfaces or discrete occupations are postulated for the Morrow Mountain component. However, these surfaces could not be differentiated during excavation procedures and the stratum was excavated in 0.2 foot cuts.

The geochronology of strata A through the Middle Archaic, D, is shown on Table 1.

Table 1. Geochronology of Icehouse Bottom, Strata A-D

Age (Years B.P.)	Geologic Event	Evidence
0-100 (?)	Plowing of Field	Ap horizon
	Deposition	Sands at terrace edge; colluvium
3000 (?)	Stability and soil development	A1-B-C soil horizons (stratum A contains Late Archaic to historic artifacts)
	Erosion	Unconformity
	Deposition	0.5-0.9 of sediments
Middle Archaic	Alternating deposition and stability	Stratum B (3 living surfaces, 0.5-0.7 ft in thickness
	"	Stratum C (3 living surfaces, 0.4-0.6 ft in thickness
	"	Stratum D (3 living surfaces (Stanly), 0.8-1.0 ft in thickness

Lithic Analysis

The Morrow Mountain projectile point and its cultural context were first described by Coe (1964), and this study has provided a widely accepted definition of the Morrow Mountain Complex in the Southeast. The Middle Archaic cultural sequence he identified at the Doerschuk site began with the Stanly Complex and was succeeded by separate zones designated Morrow Mountain I and Morrow Mountain II. Each cultural zone contained distinctive projectile points and was isolated by zones of sterile deposit. The Morrow Mountain I type projectile point has a short and tapered stem with a broad, triangular blade. Blade edges are usually slgihtly concave. The wide and sloping shoulder curves into the stem "without a noticeable break or angle" (Coe 1964:37). Raw materials utilized in the manufacture of these points were rhyolite, andesite; and rarely, argellite and novaculite. Morrow Mountain II points, made of the same raw materials, are distinguished by a long, narrow blade with straight or slightly rounded sides. The shoulder is wide, straight, and at a right angle to the long tapered stem. The shoulder and stem are more distinct than those of the Morrow Mountain I (Coe 1964:37).

In addition to Coe's Morrow Mountain Stemmed point typology, Cambron and Hulse (1975:90,91) have defined a Morrow Mountain Rounded Base and a Morrow Mountain Straight Base projectile point; both are considered separate point types rather than variants. The Morrow Mountain Rounded Base is morphologically identical to the Morrow Mountain I Stemmed except the base is more rudimentary and rounded (Cambron and Hulse 1975:90). The Straight Base type is identical in morphology to the Morrow Mountain I Stemmed type with the exception of a "greater

frequency" (Cambron and Hulse 1975:91) of shoulder barbs and a straight to flattened basal edge.

A total of 63 identifiable Morrow Mountain I and II stemmed type projectile points/knives was recovered from the Morrow Mountain component at the Icehouse Bottom site. This represents one of the two (see the Howard site, page 98) largest samples of such points excavated from a stratified context from any other Morrow Mountain sites in Eastern North America. The Icehouse Bottom Morrow Mountain type points were examined in comparison with the above types. Table 2 indicates the stratigraphic distribution of the Icehouse Bottom points.

The procedures were as follows. All projectile points/knives from 40MR23 were measured with vernier calipers; measurements were recorded in millimeters. Length consists of measurement from the proximal to distal ends. Width consists of measurement of the widest portion of the whole point; thickness refers to the thickest portion of the point in cross section. Stem length of the Morrow Mountain points is from a point immediately below the shoulders to the most distant point on the stem base. Stem width is the measurement between the two points immediately below the shoulders where the stem first begins to angle inward.

Morrow Mountain Projectile Points/Knives (40MR23)

Morrow Mountain points/knives excavated from strata A/B, B, and B/C at Icehouse Bottom fit the attributes of Coe's typology with slight variations. The application of point/knife terminology refers to projectiles which may have functioned as knives or have blade asymmetry.

Table 2. Distribution of Morrow Mountain Type Projectile Points/Knives by Strata, Icehouse Bottom Site

Strata	A/B	B	B/C	C	C/D	A-D	D	F	Total
Point Type	N	N	N	N	N	N	N	N	N
Morrow Mountain I Point/Knife	3	36	3	3	2	2	-	-	49
Morrow Mountain II Point	-	2	-	-	-	-	-	-	2
Round Base Variant Point	-	1	-	1	-	-	2	1	5
Round Base Variant Knife	1	4	-	-	1	-	1	-	7
Total	4	43	3	4	3	2	3	1	63

Morrow Mountain I Stemmed (Figures 8 and 9)

Blade:	Short and broad with straight or excurvate edges. Broad proximal and medial protions with a more narrow extreme distal section.
Shoulder:	Wide and sloping shoulders curving into a short or rudimentary stem.
Stem:	Short, rounded stem. Varies from a wide short stem to a wide short stem ending in a distinct narrow and somewhat pointed basal portion.
Cross-section:	Plano-convex to biconvex
Raw Material:	Local chert: Black (4) Dark Gray (12) Gray (6) Variegated Gray (16) Gray-Tan(1) Quartz (10)
Sample Size:	49

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	34.5 mm	24.0 mm	7.3 mm	6.0 mm	13.2 mm
Range:	22.5-53.5 mm	18.0-31.5 mm	5.0-10.5 mm	2.0-10.5 mm	10.5-18.5 mm

Comments: In comparison with Morrow Mountain I Stemmed points reported by Coe (1964), Lewis and Lewis (1961), and Faulkner and McCollough (1973), those recovered from the Icehouse Bottom site exhibit a poor quality of manufacture and are crudely finished. Cortex remains are on the ventral and/or dorsal blade surface of twelve points. The basal portion of the stem on fifteen points retains cortex or an unmodified striking platform, thus suggesting an intentionally unfinished base.

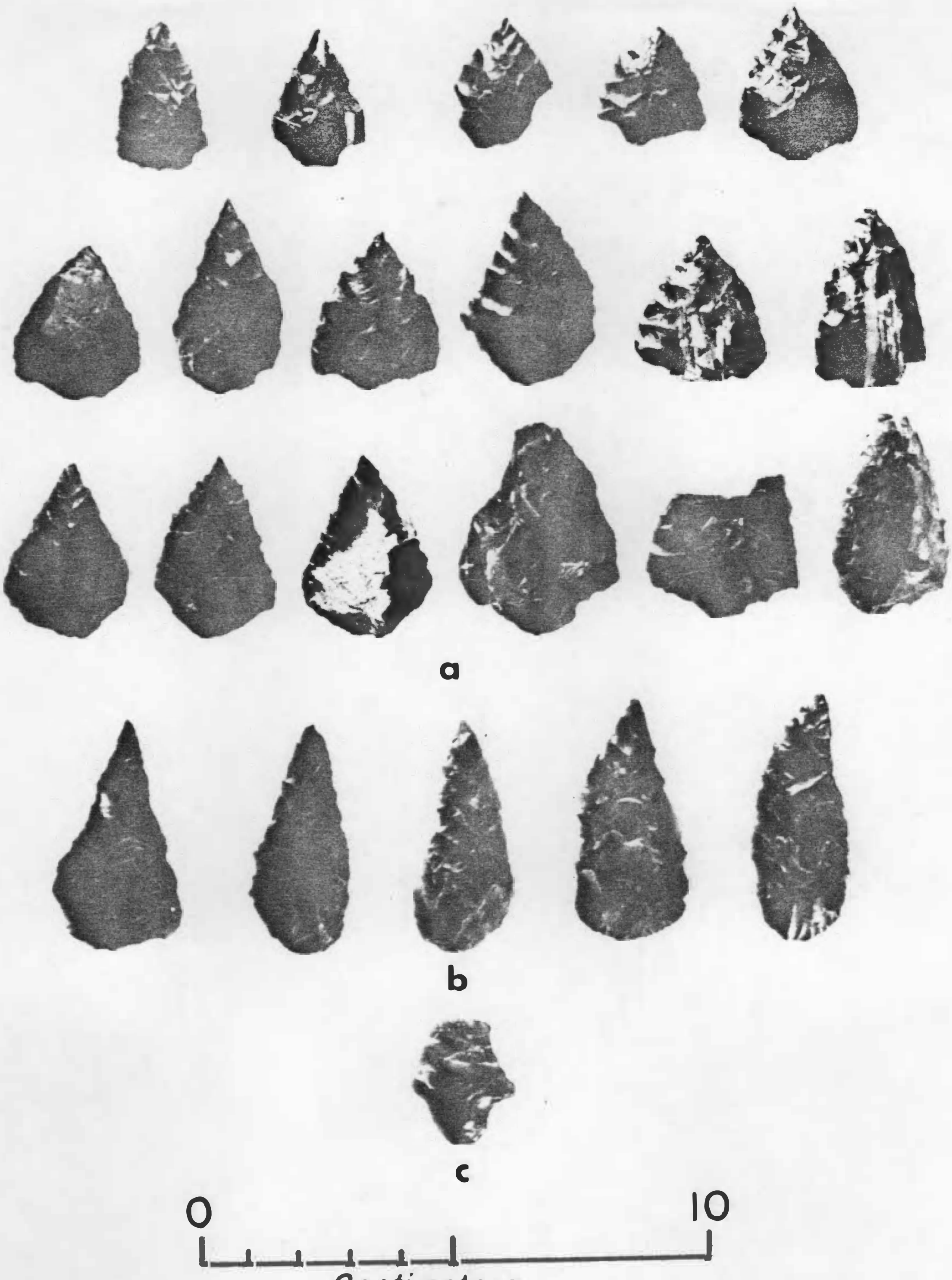

Figure 8. Morrow Mountain Stemmed Projectile Points/Knives, Icehouse Bottom.

a. Morrow Mountain I; b. Variant Round base;
c. Morrow Mountain II.

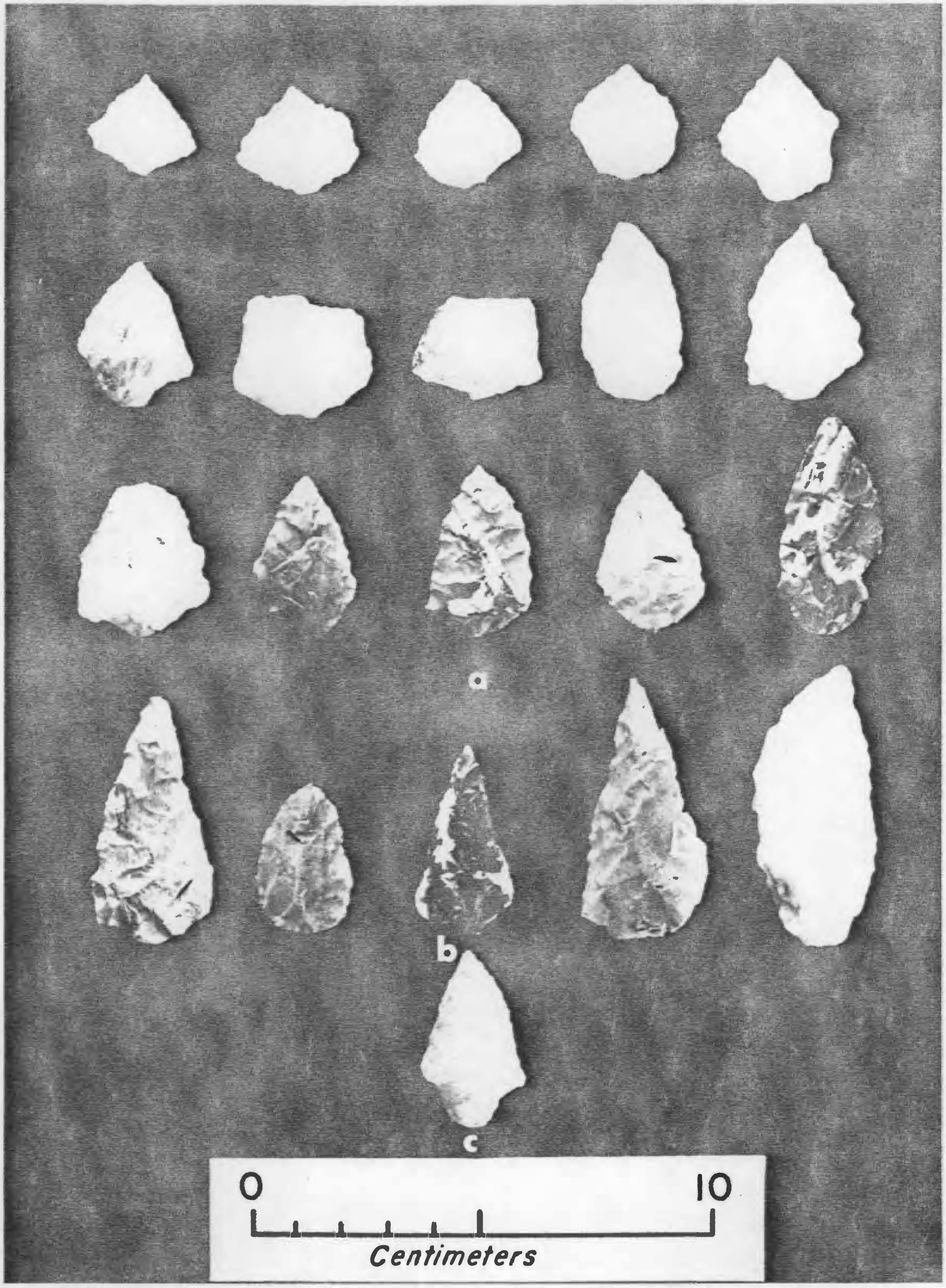

Figure 9. Non-Chert and Light Gray to Gray-Tan Chert Morrow Mountain Stemmed Projectile Points/Knives, Icehouse Bottom.

a. Morrow Mountain I; b. Variant Round Base; c. Morrow Mountain II.

Morrow Mountain II Stemmed (Figures 8 and 9)

Blade:	Broad with straight or excurvate edges. Much more narrow than the Morrow Mountain I blade.
Shoulder:	Narrow shoulders with a distinct angle from the blade to the shoulder and from shoulder to stem.
Stem:	Long, narrow, and distinct rounded to slightly pointed stem.
Cross-section:	Biconvex
Raw Material:	Local Variegated Gray Chert (1), Quartz (1)
Sample Size:	2

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	39.5 mm	21.5 mm	7.0 mm	9.5 mm	13.0 mm
Range:	-----	20.5-22.5 mm	6.0-8.0 mm	9.5 mm	13.0 mm

Comments: The one chert Morrow Mountain II Stemmed point exhibits cortex on the flattened stem base. Although the attributes of these points conform to the type defined by Coe (1964), little information regarding the temporal placement of this point is available from Icehouse Bottom; Coe isolated Morrow Mountain II points in a separate zone overlying the Morrow Mountain I component at Doerschuk. At Icehouse Bottom the chert point was located in the upper portion of stratum B; the quartz specimen was in the lower portion of stratum B and may have actually been associated with upper stratum C. Consequently, the small sample size and scattered placement of these

two points provide no useful data regarding the Morrow Mountain II type point.

Morrow Mountain I Variant Round Base (Figures 8 and 9)

Blade: Short and broad with straight or excurvate edges. Broad proximal and medial sections with a more narrow extreme distal section. Those specimens which may have functioned as knives have asymmetrical blades (Figures 8 and 9).

Shoulder: Wide, sloping, and rounded proximal blade section with no distinct shoulder, curving into a broad rounded base.

Stem: No distinct stem; at best rudimentary. Broad, rounded base.

Cross-section: Biconvex to slightly flattened

Raw Material: Local Chert: Black (3), Dark Gray (3), Gray (3), Gray-Tan (1); Quartz (2)

Sample Size: 12

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	41.7 mm	22.0 mm	8.5 mm	6.0 mm	14.8 mm
Range:	30.5-60.5 mm	17.5-29.0	6.0-13.0 mm	4.0-7.5 mm	8.0-21.5 mm

Comments: The Morrow Mountain Rounded Base type described and illustrated by Cambron and Hulse (1975:90) and DeJarnette et al. (1962:63) appears to be a Morrow Mountain I Stemmed point with gently sloping shoulders which end in a short broad rounded stem.

Those specimens from Icehouse Bottom which have been designated Morrow Mountain I Variant Round Base differ from Morrow Mountain I Stemmed in that the shoulders and stem of the teardrop-shaped point are rudimentary to nonexistent. These points/knives exhibit no relationship to Guilford Lanceolate type points which follow Morrow Mountain II type points in the Doerschuk sequence (Coe 1964:34-35,43). In comparison with other Morrow Mountain type points from Icehouse Bottom these points are more finely manufactured with fine retouch on the blade and stem. A complication arises when the forms which exhibit blade asymmetry and probably functioned as knives are separated from forms exhibiting blade symmetry more suggestive of projectile point function. The points alone cannot be considered diagnostic of the Morrow Mountain component. Only one of the five points or 20% of the total came from stratum B; one from stratum C; two from stratum D; and one from stratum F. However, the seven round base asymmetrical "knives" are distributed with the majority, four or 57%, from stratum B; one from stratum A/B; and one each from strata C/D and D. Consequently, five or 71% fall within the Morrow Mountain horizon.

Conclusions

The most distinctive characteristics of the Morrow Mountain point/knife types recovered from the Icehouse Bottom site are their distinctive small size and the high incidence of cortex and/or striking platform remains on the artifacts. Both of these factors are conditioned to some extent by the nature of the raw material selected. Percentages of raw material utilized in Morrow Mountain Stemmed points/knives are: black and dark gray chert, 35%; gray chert, 14%; gray-tan chert, 3%; variegated gray, 27%; and quartz, 21%.

Table 3 is a comparison of the mean dimensions of Morrow Mountain type points from the sites discussed below. A comparison of available Morrow Mountain I dimensions from the Doerschuk site with those from Icehouse Bottom indicates the mean length of those from 40 MR23 is 10.5 mm less and the mean width, 6.0 mm less. A comparison of the Morrow Mountain II points would be meaningless due to the Icehouse Bottom sample size, but the length of Doerschuk points appears to be much greater.

Comparison of the combined means of Morrow Mountain points from Icehouse Bottom with that of "lumped" Morrow Mountain points collected in the Normandy Reservoir survey (Faulkner and McCollough 1973:130) shows 40MR23 length 3.6 mm less; width, 7.6 mm less; thickness, 4.0 mm less; stem length 2.3 mm greater; and stem width, 3.4 mm less (Table 3). Moreover, a comparison of Icehouse Bottom Morrow Mountain points with collections from the Eva, Garrett, and LeCroy sites indicates Icehouse Bottom points are smaller in all dimensions except stem length (Table 3). Points from all sites listed above are better made than those from Icehouse Bottom. Many of the artifacts exhibit fine

Table 3. Mean Dimensions of Morrow Mountain Type Points/Knives from the Icehouse Bottom, Eva, Garrett, LeCroy, Normandy Reservoir, and Doerschuk Sites

Mean	N	Length	Width	Thickness	Stem Length	Stem Width
<u>Morrow Mountain I</u>						
Icehouse Bottom	49	34.5 mm	24.0 mm	7.3 mm	6.0 mm	13.3 mm
Eva	9	51.5 mm	29.2 mm	8.5 mm	6.7 mm	16.3 mm
Garrett	6	41.3 mm	24.2 mm	7.4 mm	5.5 mm	12.9 mm
LeCroy	31	36.5 mm	24.5 mm	7.9 mm	5.6 mm	18.4 mm
Doerschuk	?	45.0 mm	30.0 mm	--	--	--
<u>Morrow Mountain II</u>						
Icehouse Bottom	2	39.5 mm	21.5 mm	7.0 mm	9.5 mm	13.0 mm
Eva	3	48.7 mm	26.5 mm	8.0 mm	8.3 mm	15.5 mm
Garrett	15	41.2 mm	25.8 mm	7.7 mm	8.3 mm	13.0 mm
LeCroy	--	--	--	--	--	--
Doerschuk	?	60.0 mm	20.0 mm	--	--	--

Table 3. Continued

Mean	N	Length	Width	Thickness	Stem Length	Stem Width
Morrow Mountain I Round Base Variant						
Icehouse Bottom	12	42.1 mm	22.6 mm	8.5 mm	6.0 mm	14.9 mm
Eva	3	53.6 mm	32.5 mm	8.0 mm	4.6 mm	21.0 mm
Garrett	4	50.2 mm	27.1 mm	7.0 mm	4.2 mm	16.7 mm
LeCroy	34	35.9 mm	22.8 mm	7.5 mm	6.0 mm	22.5 mm
Morrow Mountain/Eva Cluster						
Normandy	27	42.2 mm	30.1 mm	8.0 mm	4.9 mm	17.1 mm

flake removal and there is very little incidence of cortex remains. Moreover, a flattened basal area with cortex or striking platform remains to suggest an unfinished base is rare. Raw material used in the manufacture of these points varies from site to site, but the chert is generally of a larger raw size and better quality than that which was available locally to the manufacturers of the Icehouse Bottom Morrow Mountain points. Consequently, it seems most probable that the distinctive attributes of the Icehouse Bottom specimens are largely due to the raw material utilized in their production. The local chert is small tabular and nodular material thus resulting in a small product which is less amenable to fine finishing. There is little evidence of the use of non-local cherts.

Although there is no doubt the Morrow Mountain I and II Stemmed point/knife types are correctly identified as representative of the Morrow Mountain component at Icehouse Bottom, the Variant Round Base point/knife form remains an enigma. The recovery of six examples of these point/knives (five of which manifest blade asymmetry) from stratum B and the remaining six (two with knife characteristics) from strata C, D, and F suggests the specimens may have been a transitional form from Stanly to Morrow Mountain. They are finely made, as are the diagnostic Stanly points of the Stanly component, but the form suggests a Morrow Mountain I variant. A simple flake removal on each side of the base would produce the diagnostic Morrow Mountain I stem. It should be reiterated that this point/knife form is referred to as a Variant Round Base only to distinguish it as a variant of the Morrow Mountain Stemmed type; it is not considered a separate type.

Provisional Type Projectile Points

Several straight to expanding stemmed projectile points were recovered from the Morrow Mountain horizon at Icehouse Bottom in addition to the diagnostic Morrow Mountain Stemmed type specimens. It is beyond question that these provisional stemmed points are firmly associated with the Morrow Mountain component. Of question, however, is their function in the Morrow Mountain Complex. The following types have been given provisional type numbers by Chapman (n.d.). Sample sizes reflect only the examples of those types from the Morrow Mountain strata, although most also occur in the Stanly strata.

<u>Type 4</u>

Form:	Lanceolate blade with wide expanding stem.				
Base:	Expanding stem with concave base.				
Raw Material:	Variegated Gray Chert				
Sample Size:	1				
Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
	24.0 mm	17.0 mm	5.0 mm	5.5 mm	15.5 mm
Comments:	The single sample recovered from Icehouse Bottom was from stratum B. Cultural affiliation is unknown.				

<u>Type 5</u>

Form:	Triangular blade with straight to excurvate edges.
Base:	Straight stem with straight base.
Raw Material:	Slate
Sample Size:	1

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
	52.0 mm	---	---	10.5 mm	14.0 mm

Comments: The single specimen from stratum A/B resembles the Savannah River Stemmed type (Coe 1964:44-45). A Late Archaic period association is suggested.

Type 6 (Figure 10)

Form: Small to medium straight-stemmed points with a triangular to lanceolate blade; blade edges are straight to excurvate.

Base: Elongated to tapered shoulders slope into a straight stem with a straight base.

Cross-section: Flattened; plano-convex or biconvex

Raw Material: Black Chert; Dark Gray Chert; Gray Chert; Variegated Gray Chert

Sample Size: 10

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	31.9 mm	22.0 mm	7.3 mm	7.8 mm	13.5 mm

Comments: Three of these points were from stratum A/B; seven from stratum B; and six additional specimens were in strata below those containing the Morrow Mountain component. Their distribution suggests a straight-stemmed tradition beginning in the Middle Archaic period, but they are not diagnostic of a particular complex. In the Little Tennessee Valley this type of point is also found in Late Archaic and Early Woodland assemblages.

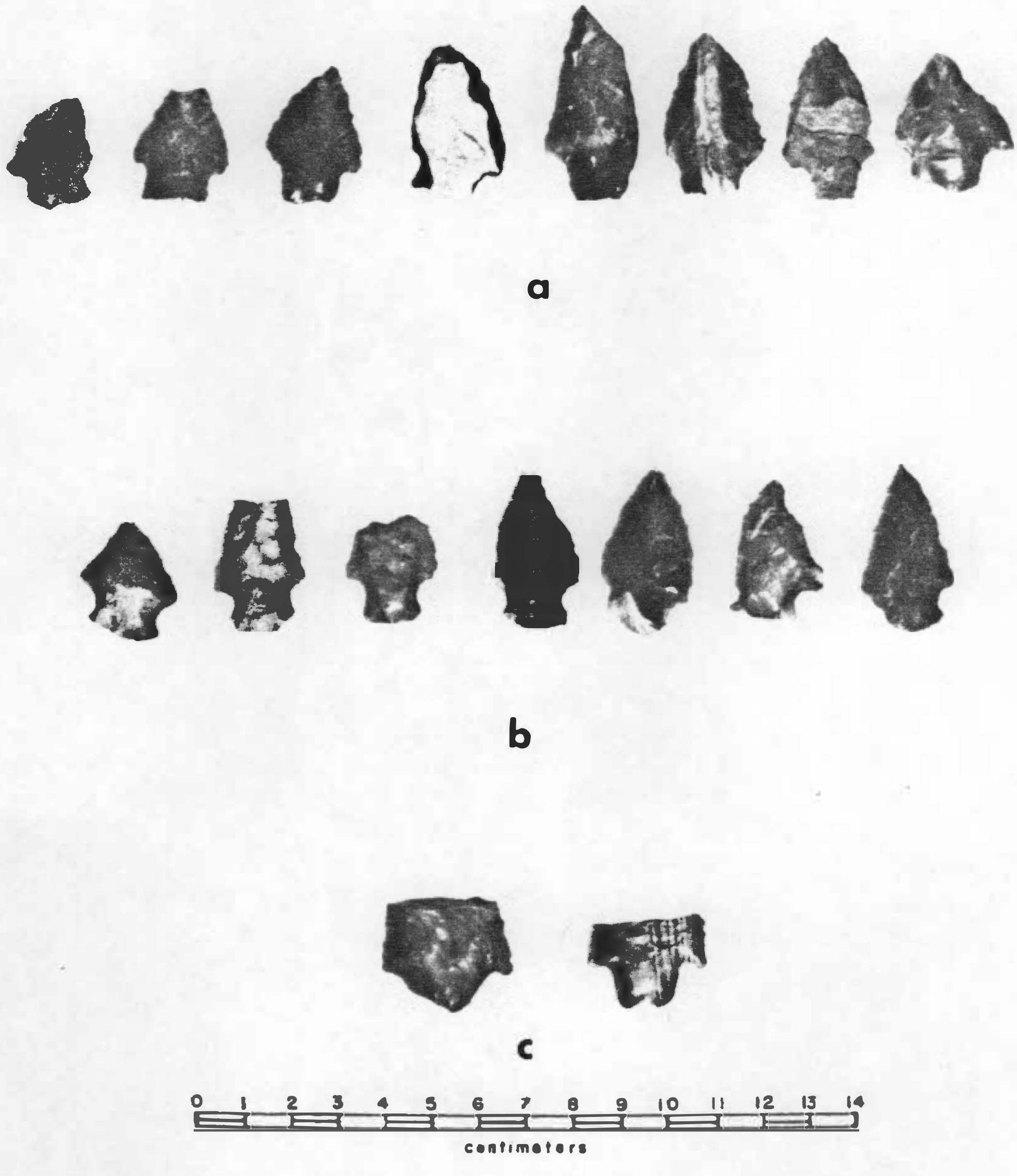

Figure 10. Provisional Short Stemmed Points, Icehouse Bottom.
a. Type 6; b. Type 7; c. Type 11.

<u>Type 7 (Figure 10)</u>

Form:	Corner removed, narrow expanding stemmed points with a triangular to lanceolate blade with excurvate edges.
Base:	Broad corner notches slope into a narrow expanding stem with a slightly excurvate base. A common characteristic is an unfinished base or base with cortex remains.
Raw Material:	Black Chert; Dark Gray Chert; Gray Chert; Variegated Gray Chert
Sample Size	8

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	34.4 mm	20.9 mm	7.2 mm	7.7 mm	14.2 mm

Comments:	Three of the specimens were recovered from stratum A/B, and five from stratum B. An additional six points were associated with strata below the Morrow Mountain horizon. These points are quite similar to Type 6 and may be assigned to a Middle Archaic period stemmed tradition.

<u>Type 11 (Figure 10)</u>

Form:	Short tapered stemmed points with a broad to lanceolate blade with excurvate edges.
Base:	Horizontal shoulders; a short stem with an unfinished base.
Raw Material:	Gray Chert; Variegated Gray Chert; Gray-Tan Chert
Sample Size:	3

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
Mean:	---	25.3 mm	6.2 mm	7.0 mm	15.3 mm

Comments: One point was associated with stratum A/B; two, from stratum B. An additional five specimens were recovered from underlying Middle Archaic Stanly strata. Their distribution may suggest a transitional form, first made during the Stanly occupation and persisting through the Morrow Mountain occupation.

Type 12

Form: Asymmetrical blade with one edge excurvate and the other incurvate.

Base: Short to rudimentary stem suggesting an unfinished base.

Raw Material: Black Chert

Sample Size: 1

Dimensions:	Length	Width	Thickness	Stem Length	Stem Width
	31.0 mm	20.5 mm	6.5 mm	7.0 mm	8.5 mm

Comments: This specimen was recovered from stratum B; three points of this type were associated with the Stanly horizon.

Type 13

Form: Consists of a short stemmed point with a broad blade and notched base. Broad blade exhibits excurvate edges.

Base: Horizontal shoulders. Short and broad stem with an incurvate or slightly notched base.

Raw Material: Variegated Gray Chert

Sample Size: 1

Dimensions:

Length	Width	Thickness	Stem Length	Stem Width
31.5 mm	23.0 mm	5.5 mm	8.0 mm	14.5 mm

Comments: This specimen was recovered from stratum B. An additional eighteen were from strata C, C/D, and D. Sixteen, or 84%, were associated with stratum D; consequently, these points are included in the Stanly cluster.

Type 35

Form: Triangular blade with straight or incurvate edges; corner notched.

Base: Short stem; flattened burinated basal edge.

Raw Material: Dark Gray Chert

Sample Size: 1

Dimensions:

Length	Width	Thickness	Stem Length	Stem Width
35.7 mm	29.0 mm	7.5 mm	12.0 mm	26.0 mm

Comments: The single point recovered from stratum B is considered to be displaced. It is a Decatur type point (Cambron and Hulse 1975:41) and is of Early Archaic, rather than Middle Archaic, manufacture.

Conclusions

Of the projectile point types described above, only Types 6 and 7 are well enough represented to suggest a direct affiliation with the

Morrow Mountain complex. These points may represent a continuation of production of straight stemmed point types from the Middle Archaic into the Late Archaic period.

Other Chipped Stone Artifacts

Besides the projectile points and point fragments recovered, the Morrow Mountain component contained few chipped stone implements. Explanations for this paucity lie in conjecture. This may be (1) an indication that the function of the site was merely as a temporary camp with little use of processing tools, (2) a reflection of a trend toward the use of bone tools, or (3) a reflection of sampling error. Due to the acidity of the soil, no bone was preserved at the site; consequently, no bone tools were recovered. As discussed in the preceding chapters, the only comparable stratified Morrow Mountain site, other than the Howard site, is Doerschuk from which the tool inventory is extremely small. The Howard site (Chapters IV and V) yielded a much larger tool inventory than Icehouse Bottom or Doeschuk. Preliminary analysis of data from the Howard site indicates that it was the locus of much more intensive and varied activities than was the Icehouse Bottom site.

At Icehouse Bottom few scrapers or other tools were recovered from either the Morrow Mountain or Stanly strata. Based on this site, no meaningful number of specimens is available to make any comparisons regarding cultural continuity or discontinuity in the Middle Archaic period.

Kimball's (n.d.) analysis of the chipped stone tools from the Icehouse Bottom site established a typology which will be utilized in the study of such industries from Early and Middle Archaic sites in the

Little Tennessee River Valley project analysis. Those elements of the typology established by Kimball and Chapman (n.d.) which apply to the Morrow Mountain and Stanly component tools are utilized in this thesis. Table 4 is a distributional chart of these chipped stone tool types from the Icehouse Bottom Site.

<u>End Scraper Type B (See page 63)</u>

Form:	Thin, unifacial end scraper on a flake or blade-like flake; exhibits steep, regular retouch at the distal end.		
Raw Material:	Black Chert		
Sample Size:	3		
Dimensions:	Length	Width	Thickness
Mean:	25.5 mm	26.3 mm	7.5 mm
Range:	25.0-33.0 mm	22.0-32.0 mm	7.0-8.0 mm
Comments:	Kimball (n.d.) suggests this scraper was utilized on soft mediums and is probably a poorly manufactured version of scraper Type A, a triangular "teardrop" form with fine unifacial retouch on the dorsal surface. Two additional specimens of end scraper, Type B, were recovered from the Stanly component.		

<u>End Scraper Type C</u>

Form:	A thick unifacial scraper manufactured on a flake; the distal end is steeply retouched.
Raw Material:	Black Chert; Gray Chert

Table 4. Distribution of Chipped Stone Tool Types from Morrow Mountain and Stanly Components, Icehouse Bottom

Type Component	End Scraper							Knife			Biface					Total
	B Number	C	D	F	G	H	Broken	C	D	E	A	B	D	D	E	
Morrow Mountain	3	0	0	1	5	0	2	0	0	1	0	2	24	1	1	40
Stanly	2	2	1	0	0	5	0	2	1	1	5	7	22	0	1	49
Total	5	2	1	1	5	5	2	2	1	2	5	9	46	1	2	89

Comments: No specimens were recovered from the Morrow Mountain component. Two of the 11 specimens were associated with the Stanly stratum, and the type description is included here for comparative purposes.

<u>End Scraper Type D</u>

Form: An end and side scraper with unifacial retouch.

Raw Material: Gray-tan Chert

Comments: The single specimen was associated with the Stanly component; the type description is included here for comparison of variation in Morrow Mountain and Stanly tools recovered from the Icehouse Bottom site.

<u>End Scraper Type F</u> <u>(See page 63)</u>

Form: This form is a projectile point reworked as an end scraper with steep regular retouch at the distal end.

Raw Material: Black Chert

Sample Size: 1

Dimensions:

Length	Width	Thickness
18.5 mm	26.0 mm	9.0 mm

Comments: Of six specimens from Icehouse Bottom strata A, A/B, C, G, and I/J, this single specimen was associated with stratum A/B.

<u>End Scraper Type G</u> <u>(See page 63)</u>

Form: Type G is an end scraper with a rudimentary stem or an intentionally rounded base on a flake with bifacial retouch. Regularized, convex working end

	along the longer distal edge of a retouched flake; incipient stemming of the proximal end.		
Raw Material:	Black; Variegated Gray Chert		
Sample Size:	5		
Dimensions:	Length	Width	Thickness
Mean:	19.0 mm	19.5 mm	6.2 mm
Range:	16.0-27.0 mm	12.0-31.0 mm	5.0-8.0 mm
Comments:	The rudimentary to incipient stemming technique indicates a similarity to the hafting element of Morrow Mountain I Stemmed type points. Some, but not all, of these specimens suggest a reworked projectile point. All specimens were recovered from the Morrow Mountain stratum at Icehouse Bottom. The recovery of this type from the Howard site (40MR66) from clearly defined Morrow Mountain zones suggests the Type G end scraper is diagnostic of the Morrow Mountain complex.		

<u>End Scraper Type H</u>

Form:	Bifacially flaked end scraper with a convex hafting element; the convex working end is opposite the hafting element.
Raw Material:	Black Chert; Gray Chert
Comments:	Six of the seven specimens were recovered from the Stanly horizon and one was associated with the LeCroy strata. The type description is included

here for comparison of tool variation from the Stanly to Morrow Mountain component.

Knives

The knife types consist of those artifacts which apparently functioned only as knives; the projectile point/knife category is excluded. Knives are those thinned bifaces and bifacially worked flakes which exhibit blade asymmetry or a single bifacially flaked, sinuous lateral cutting edge.

Knife Type C.

Form:	A small bifacial knife; the blade is set at an angle of 45° to the stem axis (Kimball n.d.:34).
Raw Material:	Black Chert; Gray Chert
Comments:	Two of the four specimens were from the Stanly horizon; the other two were associated with Upper Kirk strata. The type description is included here for comparative purposes.

Knife Type D.

Form:	Blade-like flake exhibiting regular retouch along at least one lateral edge.
Raw Material:	Black, Gray, and Tan Chert
Comments:	The single Middle Archaic specimen was from the Stanly stratum; the other ten examples were associated with Early Archaic strata.

Knife Type E (Figure 11)

Form: A flake exhibiting regularized retouch on one edge.

Raw Material: Gray Chert

Sample Size: 1

Dimensions:

Length	Width	Thickness
31.0 mm	22.5 mm	5.0 mm

Comments: The total sample size of this knife was 30. One specimen each was recovered from the Morrow Mountain and Stanly strata; the remainder were associated with Early Archaic strata.

Bifaces

Biface specimens represent processes and stages of manufacture rather than finished tools. Types are classified according to stage and type of manufacture.

Biface Type A.

Form: A thinned, well-finished, and asymmetrical ovate or triangular biface. A preform which cannot be considered a projectile point due to the absence of any identifiable preparation for hafting.

Raw Material: Black, Gray, and Variegated Gray Chert

Comments: No specimens were recovered from the Morrow Mountain stratum; five were from the Stanly zone and six were scattered throughout the Early Archaic strata.

Biface Type B (Figure 12).

Form: Thick, ovate or triangular bifaces; completely flaked on both faces, but not preforms.

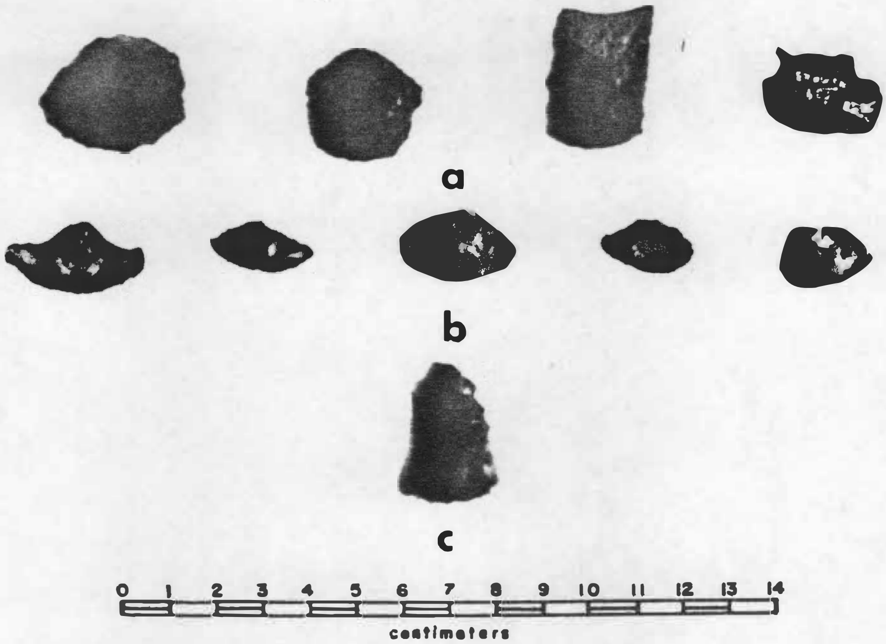

Figure 11. Chipped Stone Artifacts, Icehouse Bottom.

a. End Scraper Type B; b. End Scraper Type F; c. End Scraper Type G; d. Knife Type E.

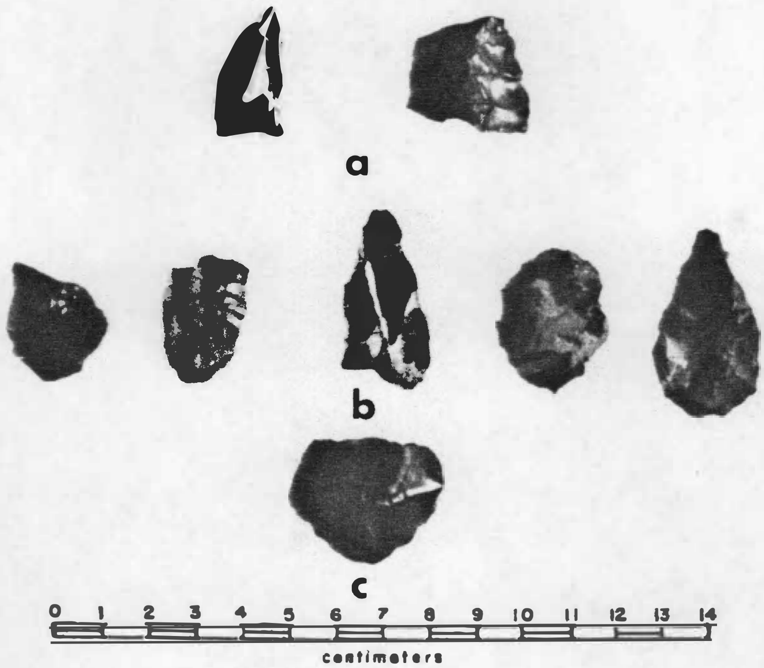

Figure 12. Morrow Mountain Biface Types, Icehouse Bottom.

a. Biface Type B; b. Biface Type C; c. Biface Type D.

Raw Material:	Black and Gray Chert		
Sample Size:	2		
Dimensions:	Length	Width	Thickness
Mean:	27.7 mm	20.7 mm	11.5 mm
Range:	26.0-29.5 mm	15.0-26.5 mm	7.0-16.0 mm

Comments: These bifaces were broken in the knapping process or were too thick for shaping removals as stage 2 blanks. In addition to the two specimens from the Morrow Mountain component, seven specimens were associated with the Stanly zones.

<u>Biface Type C (Figure 12).</u>

Form: Broken or whole, bifacially flaked specimens which represent stage 1 blanks, the first series of bifacial thinning processes.

Raw Material:	Black, Gray, Gray-tan, and Variegated Gray Chert; Quartz		
Sample Size:	24		
Dimensions:	Length	Width	Thickness
Mean:	38.0 mm	25.3 mm	10.1 mm
Range:	24.0-54.0 mm	16.0-36.0 mm	6.0-17.0 mm

Comments: Twenty-four specimens were associated with the Morrow Mountain component; 22 were recovered from

the Stanly horizon, and 87 specimens were distributed throughout Early Archaic strata.

<u>Biface Type D (Figure 12)</u>

Form:	A bipolar flake with bifacial and edge retouch to create an oval form.		
Raw Material:	Black Chert		
Sample Size:	1		
Dimensions:	Length	Width	Thickness
	31.0 mm	30.0 mm	10.0 mm
Comments:	One specimen was associated with the Morrow Mountain stratum; six specimens were associated with Early Archaic strata.		

<u>Biface Type E</u>

Form:	Totally flaked oval biface; retouched into an oval or circular form.		
Raw Material:	Black Chert		
Sample Size:	1		
Dimensions:	Length	Width	Thickness
	23.0 mm	21.0 mm	5.0 mm
Comments:	This biface may represent a preform or a finished tool. One specimen was recovered from the Morrow Mountain stratum. Of an additional 10 specimens, one was from the Stanly horizon and the remainder were from Early Archaic strata.		

Pièce Esquillée (Bardon and Bouyssonie 1906:31)

The *pièce esquillée,* first reported in North American anthropological literature in 1963 (Binford and Quimby 1963), is a small rectangular, thin flake with two and, more rarely, four parallel battered edges produced by the bipolar technique. These tools are often referred to as splintered wedges (McCollough and Faulkner 1973:107) or strike-a-lights (Winters 1969:85,86). The function of the *pièce esquillée* is uncertain, but it has been suggested it was used as a chisel or gouge for working bone and wood (Semenov 1964:149) or as a wedge to groove and/or split longitudinally grooved bones (MacDonald 1968:89; Morse 1973:28). Jacques Tixier (1963:147) suggests the edge battering on the tools was created by use, but it is probable battering was a product of both manufacture and use.

Form: A small rectangular, thin flake with two to four parallel battered edges usually produced by the bipolar technique. Artifacts may occasionally be retouched on one or both faces.

Raw Material: Black and Gray Tabular Chert

Sample Size: 6

Comments: In addition to six specimens from the Morrow Mountain component, 12 were associated with the Stanly component. Incidence of this tool at the Howard site was also rare and suggests the *pièce esquillée* was not used in the Valley during Middle Archaic times as extensively as it was in the Early Archaic and Woodland periods. For example,

450 *pièces esquillées* were recovered from the Early Archaic strata at Icehouse Bottom. At the nearby Rose Island site 555 specimens (Chapman 1975:143) were associated with Early Archaic components and over 100 with a small Early Woodland occupation. There were numerous specimens associated with Early Woodland components at the Harrison Branch (40MR21) and Thirty Acre Island sites (Gerald Schroedl, personal communication), and over 300 were recovered from the Middle Woodland component at Icehouse Bottom (Chapman 1973).

Conclusions

Regardless of possible explanations for the size of the Morrow Mountain chipped stone tool assemblage from Icehouse Bottom, the finished implement assemblage above should not be accepted as a complete inventory of Morrow Mountain Complex tools. Table 4 (page 58) suggests a continuity of tool categories from the Stanly to Morrow Mountain complexes. The most significant chipped stone tool is end scraper Type G. Recovery of this type from both the Icehouse Bottom and Howard sites fixes this artifact in an unquestionable Morrow Mountain context as a diagnostic Morrow Mountain Complex tool in the Little Tennessee River Valley.

Aside from end scraper Type G, the most notable aspect of the tool inventory from the Icehouse Bottom site is the absence of tools such as side scrapers, knives, and drills. At best, the Morrow Mountain lithic industry as represented at Icehouse Bottom provides comparative

data to be studied in conjunction with assemblages and settlement/subsistence data from other Morrow Mountain sites.

Primary Lithics

Primary lithics from twelve 10 x 10 square foot units with varying volumes of Morrow Mountain occupational deposit were examined. Table 5 provides the stratigraphic distribution and material type of the categories analyzed.

Decortication Flake

Any flake exhibiting cortex with no further alteration.

Bifacial Thinning Flake

A flake exhibiting bifacial removal scars on the dorsal surface with platform evidence of removal from a bifacial blank (Faulkner and McCollough 1973:80).

Utilized Flake

Any flake showing small irregular edge removals with evidence of edge wear or utilization.

Retouched Flake

A flake which exhibits intentional edge retouch with or without evidence of subsequent utilization. Some of these flakes could have been altered during excavation/analysis procedures although care was taken to eliminate any specimens which showed fresh or questionable scars.

Table 5. Material Type and Stratigraphic Distribution of Primary Lithics, Morrow Mountain Strata, Icehouse Bottom

Stratum	Quartz	Slate	Black Chert	Gray Chert	Gray-Tan Chert	Gray Variegated	Tan Variegated	Other Chert	Total
A/B (Seven 10 x 10 ft^2 units)									
Decortication	--	1	495	137	--	36	1	16	686
Bifacial Thinning	3	--	194	70	1	2	--	2	272
Utilized Flake	--	--	8	3	--	--	--	--	11
Blade-like Flake	--	--	31	--	--	--	--	--	31
Raw Material (undifferentiated)	--	--	--	--	--	--	--	--	274
Total	3	1	728	210	1	38	1	18	
B (Twelve 10 x 10 ft^2 units)									
Decortication	4	6	1764	405	47	150	3	27	2406
Bifacial Thinning	27	1	821	243	1	79	1	3	1176

Table 5. Continued

Stratum	Quartz	Slate	Black Chert	Gray Chert	Gray-Tan Chert	Gray Variegated	Tan Variegated	Other Chert	Total
Utilized Flake	--	--	62	7	1	2	--	--	72
Blade-like Flake	--	--	34	8	--	2	--	--	44
Raw Material (undifferentiated)	--	--	--	--	--	--	--	--	1965
Total	31	7	2681	663	49	233	4	30	
B/C (Two 10 x 10 ft^2 units)									
Decortication	--	1	118	17	5	5	--	3	149
Bifacial Thinning	--	--	53	8	--	--	--	--	61
Utilized Flake	--	--	6	1	--	--	--	--	7
Blade-like Flake	--	--	7	1	--	--	--	--	8
Raw Material (undifferentiated)	--	--	--	--	--	--	--	--	94
Total	--	1	184	27	5	5	--	3	

Table 5. Continued

Stratum	Quartz	Slate	Black Chert	Gray Chert	Gray Tan Chert	Gray Variegated	Tan Variegated	Other Chert	Total
Complete Sample Total (Excludes undifferentiated raw material)	34	9	3593	900	55	276	5	51	4923
Percentage	0.7	0.2	73.0	18.0	1.0	6.0	0.1	1.0	100%

Blade-like Flake

Flakes twice as long as they are wide with blade-like attributes but not true blades.

Cores

Chert or quartz nucleus from which large flakes have been struck. This count was included with the raw material count, below.

Raw Material

Raw material consisted of all lumps, blocks, and shatter debris of quartz, chert, coarse grained and brecciated chert, and slate.

Conclusions

A major purpose for the analysis of primary lithics is to determine raw material types utilized and stages and intensity of manufacturing activity in the occupation area. The presence of core and flake debitage, a concentration of debitage (Feature 345, page 88), and bifacial blanks qualitatively documents the occurrence of tool manufacturing activities at the site. A comparison of primary lithic material type percentages with those of finished tools (Table 6) further indicates a degree of on-site manufacturing activity. Finally, the ratio of finished tools to primary flakes provides evidence of flint knapping activities at the Icehouse Bottom site. Chipped artifacts used in this comparison include Morrow Mountain type and Provisional Types 6, 7, and 11 points/knives, scrapers, knives, and bifaces from the Morrow Mountain horizon. These ratios are: quartz, 1:2; black and dark gray chert, 1:73; gray chert, 1:35; variegated gray chert, 1:11; and gray-tan chert, 1:11. The ratio for quartz may reflect

Table 6. Percentages of Raw Material Types in Primary Lithics, Morrow Mountain Type Projectile Points/Knives; Provisional Stemmed Projectile Types 6, 7, and 11; Scraper and Knife Types, and Biface Types from the Morrow Mountain Strata, Icehouse Bottom

	N	Quartz	Slate	Black/Dark Gray Chert	Gray Chert	Gray-Tan Chert	Gray Variegated	Tan Variegated	Other Chert
Primary Lithics	4923	0.7%	0.2%	73.0%	18.0%	1.0%	6.0%	0.1%	1.0%
Morrow Mountain Type Points	63	21.0%	--	35.0%	14.0%	3.0%	27.0%	--	--
Provisional Points 6, 7, 11	21	--	--	33.0%	43.0%	5.0%	19.0%	--	--
Scraper and Knife Types	10	--	--	80.0%	10.0%	--	10.0%	--	--
Biface Types B, C, D, and E	28	11.0%	--	43.0%	25.0%	7.0%	14.0%	--	--
Total Percentage of Point, Knife, Scraper, and Biface Types	122	13.0%	--	41.0%	21.0%	4.0%	21.0%	--	--

(1) failure to correctly identify and collect quartz debitage in the field, or (2) the utilization of non-local quartz procurement sites where tools were manufactured. Approximately seven river miles to the east of the Icehouse Bottom and Howard sites, quartz and quartzite occurs in: the Cochran formation, the Hess and Nebo quartzite formations in Chilhowee Mountain; the Great Smoky Mountains; and in the Bays formation and areas northwest of Little Mountain (Neuman and Wilson 1960) (Figure 1, page 4). One or more of these may have been the primary quartz procurement areas for populations in the Little Tennessee River Valley. The Little Tennessee River or Tellico River gravels, closer to sites like Icehouse Bottom, are other possible sources of quartz raw material.

Ground Stone Implements

The ground stone implements recovered from Icehouse Bottom and discussed below indicate a small inventory of tools compared to that of the Morrow Mountain Complex as represented at other sites. Additional ground stone artifacts were recovered from the Howard site, and they are discussed briefly in Chapters IV and V. Ground stone tools from the Morrow Mountain horizon at the Icehouse Bottom site included:

Atlatl Weight

Form:	Tubular or barrel-shaped specimen drilled along the long axis.
Material:	Slate
Sample Size:	2 (1 finished fragment; 1 undrilled preform)

Dimensions:	Length	Width	Thickness	Hole Diameter
Undrilled Preform:	105.0 mm	49.0 mm	37.5 mm	---
Fragment:	---	---	---	12.0 mm

Comments: The unfinished, undrilled specimen suggests the manufacturing procedure consisted of shaping the surface by pecking all faces, followed by grinding, polishing, and drilling.

Conclusions

This atlatl weight is similar in form to tubular atlatl weights from the Eva and Three Mile components at the Eva site (Lewis and Lewis 1961:66). A tubular or barrel-shaped limestone fragment from the Garrett site was probably associated with a Morrow Mountain component and is similar to the Icehouse Bottom and Eva forms. In the Garrett specimen, the hole diameter is 13.0 mm.

Although no atlatl weights were found in association with the Morrow Mountain component at the Doerschuk site, semilunar or pick-shaped specimens were associated with the Stanly components at the Doerschuk and Hardaway sites (Coe 1964:52-53, 80-81). Three semilunar and bi-pointed specimens were associated with the Eva component at the Eva site. Consequently, a cultural and temporal separation in forms may be suggested with the tubular form being a later product. The recovery of two tubular atlatl weights from the Morrow Mountain stratum at the Howard site further corroborates this conclusion.

Gorget

One fragment of a ground slate gorget was recovered between strata A and B. The specimen was of a highly fragmentary nature.

Netsinker

Form: A flat water-worn cobble with single notches on two opposing sides.

Material: Igneous cobblestone

Sample Size: 1

Dimensions:

Length	Width	Thickness	Gram Weight
66.5 mm	39.5 mm	17.0 mm	64.5 g

Comments: Netsinkers commonly occur in the Little Tennessee River Valley in association with Middle Archaic Stanly, Late Archaic, and Early Woodland components. The earliest evidence of these artifacts may be with Early Archaic Kanawha components, ca. 6200 B.C. (Jefferson Chapman, personal communication). Further discussion of netsinkers in association with Middle Archaic Morrow Mountain components at the Howard site is presented in Chapter V.

Pitted Cobbles

Form: Water-worn cobbles which exhibit pecked depressions on or near the center of one or both faces.

Material: Sandstone, Quartzite, and Conglomerate cobbles

Sample Size: 5

Dimensions:	Length	Width	Thickness	Gram Weight
Mean:	98.7 mm	80.2 mm	44.3 mm	538.4 g

Comments: Five or 4.0% of the total of 125 specimens recovered from the Early and Middle Archaic strata at Icehouse Bottom were from stratum B. Of the Morrow Mountain cobbles, two were associated with Feature 121. Two specimens were bi-pitted with abrasion on the edge of the cobble; one was bi-pitted with abrasion on the edges and face; one was bi-pitted with percussion damage on the edge; and one exhibited a single pit. The combined evidence of pitting, abrasion, and edge damage suggests the specimens served as multipurpose tools.

<u>Hammerstones</u>

Form: Water-worn cobbles exhibiting heavy edge abrasion, battering, pecking, or abrasion on one or multiple surfaces.

Material: Sandstone, Quartzite, and Quartz cobbles

Sample Size: 5

Dimensions:	Length	Width	Thickness	Gram Weight
	---	---	---	213.9 g

Comments: The shape and multiple surfaces prohibit length, width, and thickness determinations. Two of the five specimens exhibited abrasion on all edges and numerous surfaces. The primary function of the specimens appears to have been utilization as pounding/grinding implements.

Worked Hematite

Form: Worked or ground fragments of hematite.

Sample Size: 2

Comments: The function of this material is uncertain, but use as a pigment may be assumed.

Features

Twenty-nine features were excavated in Morrow Mountain stratum B at Icehouse Bottom. Feature types consisted of pits, rock-filled basins, depressions, rock concentrations, fired areas, fired areas and rock concentrations, and debitage concentrations.

Method of Excavation

Excavation of features consisted of delimiting the horizontal diameter of the feature. The feature was cross-sectioned, thus leaving a profile; all fill was eventually removed. A polyethylene bag of approximately two and one half gallons of fill was reserved for flotation; all remaining fill was waterscreened through 1/16 inch mesh. All material recovered from the fine waterscreening was stored in plastic bags, dried, and stored for laboratory examination of the charcoal and chert fractions.

Pits

Pits were basically circular to oval in shape with straight or sloping sides. Fill consisted of dark charcoal enriched soil containing chipping debris and occasional fire-cracked rock.

Sample Size: 10

Dimensions:	Length	Width	Depth
Mean:	2.81 ft	2.11 ft	0.54 ft
Range:	1.60-3.70 ft	1.00-3.00 ft	0.30-0.93 ft

Basins

Basins are distinguished from pits in that they are shallower and more irregular than pits with gently sloping sides.

Sample Size: 2

Dimensions:	Length	Width	Depth
Mean:	1.40 ft	1.13 ft	0.26 ft
Range:	1.30-1.50 ft	1.00-1.25 ft	0.23-0.29 ft

Depressions

Depressions are larger and shallower than pits and basins with irregular shapes. Fill consisted of dark soil and chert debitage. Feature 125 was a sub-category, being a depression filled with fire-cracked cobbles and closely associated with a fired area.

Sample Size: 2

Dimensions:	Length	Width	Depth
Mean:	2.53 ft	1.68 ft	0.54 ft
Range:	2.06-3.00 ft	1.00-2.35 ft	0.32-0.75 ft

Rock Concentrations

Rock concentrations consisted of surface clusters of river cobbles, fire-cracked rocks, and large chunks of brecciated chert with no discernible pit or basin. One rock concentration, exclusive of an associated fired area, was excavated.

Sample Size:	1		
Dimensions:	Length	Width	Depth
	2.65 ft	1.90 ft	---

Fired Areas

Fired areas or informal hearths consisted of lightly fired to hard fired red-orange clay. Fired areas fall into two categories: (1) unprepared, and (2) prepared clay. Unprepared fired areas consist of the fine sandy loams and silt loams which compose the alluvial soils of the site. Prepared fired areas consist of clay with gravel or crushed chert imported to the site from adjacent areas.

Sample Size:	13		
Dimensions:	Length	Width	Thickness
Mean:	1.50 ft	1.15 ft	0.18 ft
Range:	0.95-2.50 ft	0.60-1.70 ft	0.05-0.37 ft

Of the 13 fired areas, five or 38% could not be identified as unprepared or prepared. It is possible a greater number would have been identified had many of the hearths not been excavated prior to the recognition of the importance of their clay content. However, four or 31% were identified as unprepared and four or 31% were prepared.

Unprepared fired areas. These were lightly to hard fired areas which were apparently the result of firing directly upon the sandy silt loam of the living surface.

Sample Size:	4		
Dimensions:	Length	Width	Thickness
Mean:	2.08 ft	1.78 ft	0.19 ft
Range:	1.60-2.50 ft	1.55-2.16 ft	0.15-0.26 ft

Prepared fired areas. Prepared fired areas were lightly to hard fired areas of clay mixed with crushed chert and/or gravel which were probably natural inclusions in the clay. This clay material had apparently been transported from a nearby hillside (Chapman n.d.). The clay was placed on the occupation floor and fired. Prepared fired areas in the Morrow Mountain component tend to be more formal and oval to rectangular in shape than the unprepared type. This, too, is a characteristic of such fired areas in Early Archaic components at the Icehouse Bottom site.

Sample Size: 4

Dimensions:	Length	Width	Thickness
Mean:	2.21 ft	1.16 ft	0.12 ft
Range:	1.42-3.70 ft	0.60-1.80 ft	0.05-0.20 ft

Fired area and rock concentration. This sub-category of fired area consisted of one prepared and two unprepared fired areas which were immediately adjacent to heavy or scattered rock concentrations.

Sample Size: 3

Dimensions:	Length	Width	Thickness
Mean:	2.64 ft	1.88 ft	0.21 ft
Range:	1.75-3.70 ft	1.70-2.16 ft	0.17-0.26 ft

Debitage Concentration

A reflection of localized flint knapping activity, this single thick concentration of flakes and cores was in no discernible pit, but its thickness and horizontal definition suggest the material was discarded into a small pit or depression.

Sample Size:	1		
Dimensions:	Length	Width	Thickness
	1.80 ft	1.45 ft	0.16 ft

Discussion of Features

Complete data on the features occurring in the Morrow Mountain zone, Stratum B, are presented in Table 7, and the outstanding characteristics of these features are discussed below. The attributes of features excavated in strata C and C/D, which constitute a transitional zone between the Morrow Mountain and Stanly components, are also enumerated in Table 7; no diagnostic artifacts were recovered from these latter features, but diagnostic Morrow Mountain and Stanly artifacts occurred in the matrices of both strata C and C/D.

Morrow Mountain Component Features (Stratum B)

The greatest concentration of artifacts recovered from a single feature in the Morrow Mountain stratum was from Feature 121. This feature consisted of a pit and an associated fired area (Figure 13). The seven artifacts collected from this cobble-filled pit included: three Morrow Mountain I Stemmed points/knives, two pitted cobbles, one hammerstone, and one utilized flake.

Two Type G end scrapers were recovered from Feature 124 (Figure 13). This multiple feature consisted of a pit, two adjoining fired areas, and a depression. Pit and depression fill, from which the end scrapers were excavated, consisted of chunks and fragments of coarse grained and brecciated chert, flakes, burned clay fragments, and a small amount of charcoal.

Table 7. Feature Data--Morrow Mountain Strata, Icehouse Bottom

Feature	Category	Square	Stratum	Level	Cultural Association	Dimensions (ft.) L x W	Depth or Thickness (ft.)	Preparation
124	Depression	100L465	B	3	Morrow Mountain	2.06 x 1.00	0.32	
125	Depression	90L465	B	2/3	Morrow Mountain	3.00 x 2.35	0.75	
121	Pit--Rock Filled	100L465	B	2/3	Morrow Mountain	3.90 x 2.10	0.77	
124	Pit	100L465	B	3	Morrow Mountain	2.86 x 2.40	0.63	
126	Pit	90L465	B	2	Morrow Mountain	1.60 x 1.00	0.45	
186	Pit	90L455	B	3	Morrow Mountain	3.70 x 3.00	0.41	
187	Pit	90L455	B	3	Morrow Mountain	2.39 x 2.14	0.70	
188	Pit	90L455	B	4	Morrow Mountain	2.30 x Int.	0.33	
190	Pit	90L455	B	4	Morrow Mountain	Int. x Int.	0.56	
352	Pit	90L435	B	4	Morrow Mountain	2.50 x 2.10	0.30	
353	Pit	100L435	B	5	Morrow Mountain	3.00 x 2.00	0.34	
543	Pit	110L480	B	3	Morrow Mountain	3.00 x Int.	0.93	
351	Basin	100L435	B	4	Morrow Mountain	1.50 x 1.00	0.23	

Table 7. Continued

Feature	Category	Square	Stratum	Level	Cultural Association	Dimensions (ft.) L x W	Depth or Thickness (ft.)	Preparation
513	Basin	100L455	B	5	Morrow Mountain	1.30 x 1.25	0.29	
125	Rock Concentration	90L465	B	2/3	Morrow Mountain	2.65 x 1.90	--	
120	Rock Concentration and Fired Area	90L465	B	2	Morrow Mountain	1.75 x 1.70	0.70	Unprepared
183	Rock Concentration and Fired Area	90L455	B	3	Morrow Mountain	2.70 x 1.80	0.20	Prepared
184	Rock Concentration and Fired Area	90L455	B	3	Morrow Mountain	2.47 x 2.16	0.26	Unprepared
121	Fired Area	100L465	B	2	Morrow Mountain	1.35 x 1.30	0.26	Unknown
122	Fired Area	90L465	B	2	Morrow Mountain	1.60 x 1.55	0.15	Unprepared
123	Fired Area	100L465	B	2	Morrow Mountain	0.95 x 0.95	0.10	Unknown
124(1)	Fired Area	100L465	B	3	Morrow Mountain	1.08 x 0.90	0.37	Unknown
124(2)	Fired Area	100L465	B	3	Morrow Mountain	1.55 x 1.20	--	Unknown

Table 7. Continued

Feature	Category	Square	Stratum	Level	Cultural Association	Dimensions (ft.) L x W	Depth or Thickness (ft.)	Preparation
125	Fired Area	90L465	B	2	Morrow Mountain	1.30 x 0.74	0.32	Unknown
185	Fired Area	90L455	B	3	Morrow Mountain	1.42 x 1.10	0.05	Prepared
187	Fired Area	90L455	B	3	Morrow Mountain	1.50 x 0.60	--	Prepared
355	Fired Area	90L435	B	4	Morrow Mountain	2.50 x 1.70	--	Unprepared
435	Fired Area	110L480	B	3	Morrow Mountain	1.80 x Int.	0.05	Prepared
345	Debitage Concentration	100L455	B	4	Morrow Mountain	1.80 x 1.45	0.16	
129	Pit	100L465	C	2/3	Morrow Mountain/ Stanly	1.85 x Int.	0.54	
182	Rock Concentration	70L295	C	5	Morrow Mountain/ Stanly	6.00 x 6.00	--	
201	Rock Concentration	100L455	C/D	5	Morrow Mountain/ Stanly	1.10 x 0.65	--	
202	Rock Concentration and Fired Area	90L455	C/D	5	Morrow Mountain/ Stanly	2.05 x Int.	0.23	Unprepared

Table 7. Continued

Feature	Category	Square	Stratum	Level	Cultural Association	Dimensions (ft.) L x W	Depth or Thickness (ft.)	Preparation
208	Rock Concentration and Fired Area	90L455	C/D	5	Morrow Mountain/ Stanly	1.00 x 0.68	0.17	Prepared
209	Rock Concentration	90L455	C/D	5	Morrow Mountain/ Stanly	2.70 x 1.80	0.29	Unknown
314	Fired Area	100L480	C	3	Morrow Mountain/ Stanly	1.25 x 0.90	0.21	Unknown
346	Depression	90L445	C/D	5	Morrow Mountain/ Stanly	5.70 x 3.90	0.30	

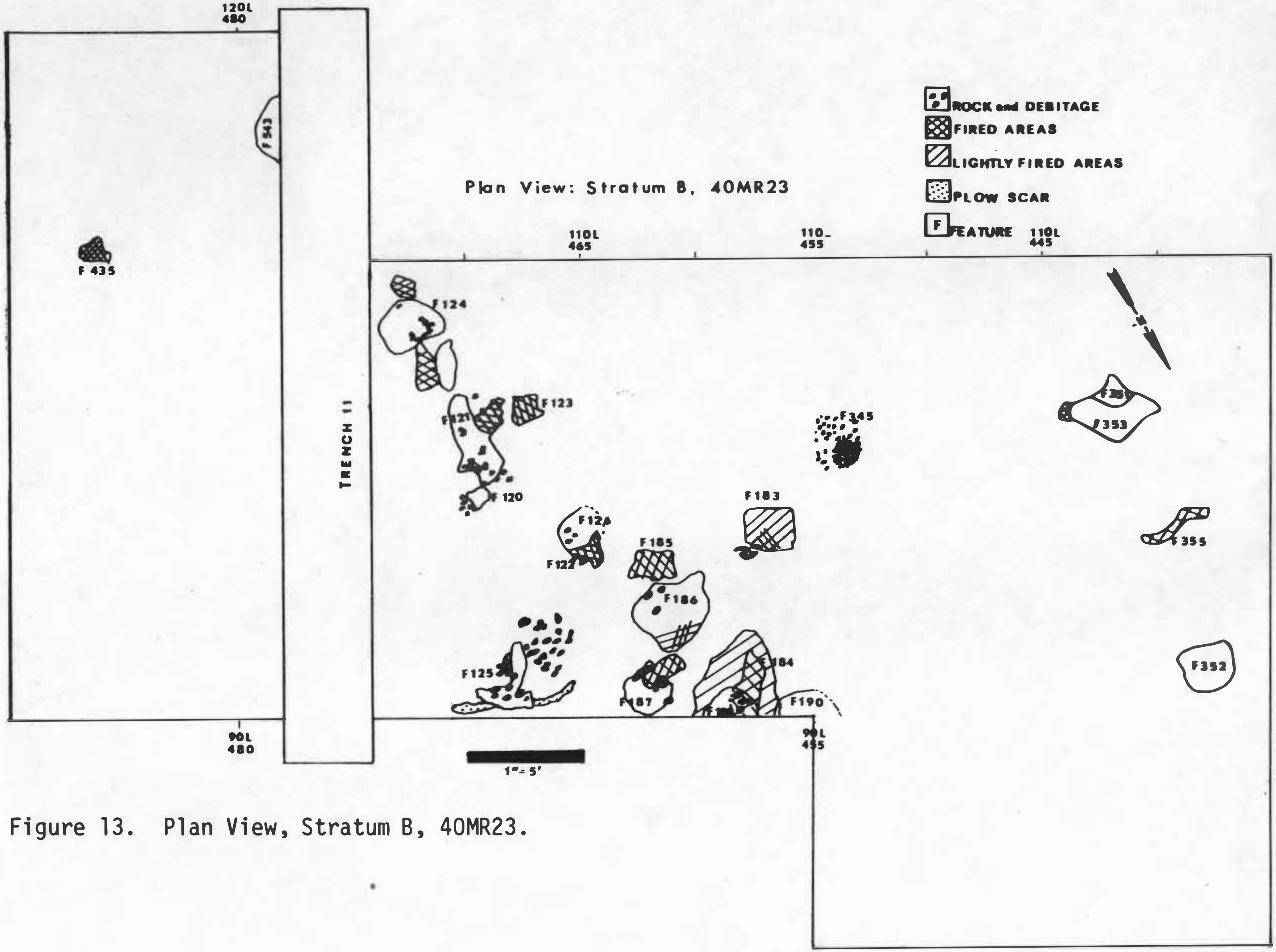

Figure 13. Plan View, Stratum B, 40MR23.

A quartz Morrow Mountain I Stemmed type point was associated with Feature 184 (Figure 13), a rock concentration and fired area. This mixture of fired clay and cobbles was surrounded by a reddish stain which probably represented the outer perimeter of the fire. The fired area overlay a charcoal darkened area, a fairly typical characteristic of other fired areas.

Feature 345 (Figure 13) was the debitage concentration. The debitage consisted of four cores, 90 pieces of raw chert material, 144 decortication flakes, five bifacial thinning flakes, and 89 grams of small flakes and minute chippage. The only tool was one utilized flake.

The point of origin of features varied, but all which are attributed to the Morrow Mountain component originated at some point in that horizon. At least three separate occupation levels were visible in Morrow Mountain stratum B (pages 35 and 36), but it was impossible to determine to which of the substrata any one feature might be attributed. Figure 13 is a plot of features from stratum B, depicted on the same plane. Any patterning of stratum B features cannot be determined due to the varying points of origin of the features and the limited excavation of total Morrow Mountain occupation area.

Although artifacts were dispersed throughout most of the stratum B units excavated, the greatest concentration was in the area of the concentration of features (Figure 14). There appears to be a correlation between stratum B artifact and feature distribution (Figure 14); thus we may postulate that the areas of most intensive activity were in units 90L465, 100L455, 100L465, and 110L475/480.

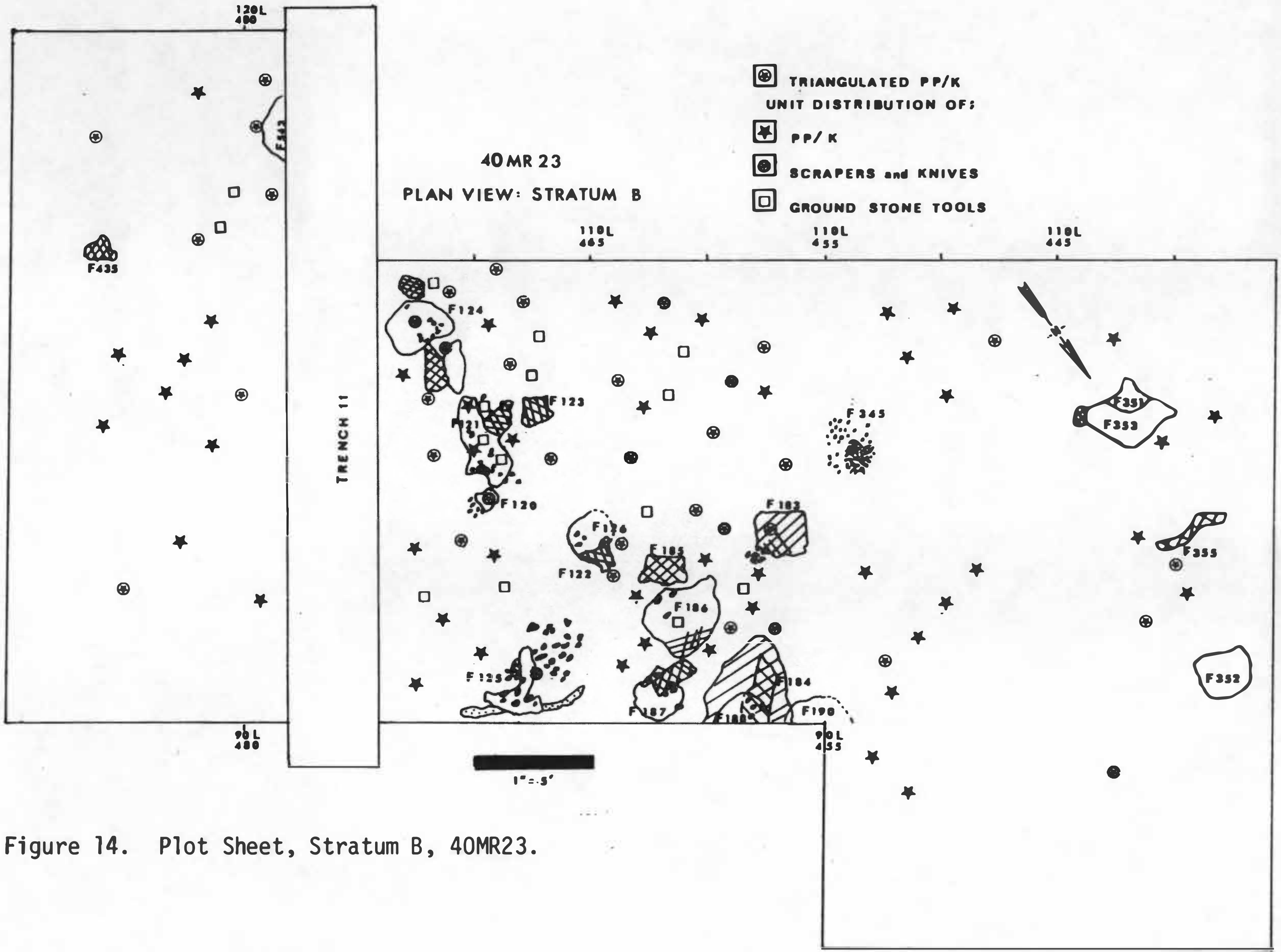

Figure 14. Plot Sheet, Stratum B, 40MR23.

Radiocarbon Determinations

The earliest dates known for the Morrow Mountain Complex (Table 8) were obtained from the two Little Tennessee River Valley sites. The earliest date, 5305 ± 165 B.C. (Jefferson Chapman, personal communication), was determined from a sample collected from the Howard site. This sample consisted of carbonized hickory nut shell and wood collected from within stratum V, a well-defined Morrow Mountain occupational zone. From the Icehouse Bottom site, a date of 5045 ± 245 B.C. (Chapman 1976b:8) was determined from a sample of carbonized hickory nut shell and wood from Feature 186. This pit, firmly situated in the Morrow Mountain zone, was filled with fragments of charcoal, burned clay, chert, and a quartzite hammerstone. The radiocarbon sample was obtained from the fill which included a lens of charcoal-stained sand.

A third Morrow Mountain Complex date has been obtained from the Eoff III site in Middle Tennessee. The Eoff III site (40CF107) is situated in the upper Duck River Valley of the Interior Low Plateau Province. Preliminary excavations at this site resulted in the recovery of a Morrow Mountain point fragment and charcoal from a circular basin; this charcoal yielded a radiocarbon determination of 4575 ± 165 B.C. (Major McCollough, personal communication; Chapman 1976b:8).

A date similar to that from Eoff III was obtained from the Stucks Bluff Rock Shelter site in Lamar County, Alabama. This northern Alabama site, located in the Coastal Plain Province, is situated along the Buttahatchee River near the southern limits of the Interior Low Plateau and Appalachian Plateaus provinces. At this site, Zone D of the occupational levels contained a Morrow Mountain component marked by two diagnostic Morrow Mountain type projectile points (DeJarnette *et al.*

Table 8. Radiocarbon Determinations Relative to the Morrow Mountain Complex[a]

Date	Site	Reference
4030 ± 200 B.C.	Russell Cave, Alabama	Griffin 1974:13,14
4300 ± 190 B.C.		
4360 ± 140 B.C.		
4500 ± 120 B.C.	Stucks Bluff, Alabama	DeJarnette *et al.* 1957b:113
4575 ± 165 B.C.	Eoff III, Tennessee	Major McCollough, Personal Communication; Chapman 1976b:8
5045 ± 245 B.C.	Icehouse Bottom, Tennessee	Chapman 1976b:8
5305 ± 165 B.C.	Howard, Tennessee	Jefferson Chapman, Personal Communication

[a]Uncorrected and referenced to A.D. 1950.

1975b:116). Feature 13, a hearth filled with charcoal, deer bone, chert flakes, a pebble chopper, and a Morrow Mountain projectile point yielded a radiocarbon determination of 4500 ± 210 B.C. (DeJarnette et al. 1975b:113).

Radiocarbon determinations from the Russell Cave site may be discussed, but the attribution of determinations of 4030 ± 200 B.C., 4300 ± 190 B.C., and 4360 ± 140 B.C. (Griffin 1974:13,14) from Layer F to the Morrow Mountain Complex (Griffin 1974:44) is tenuous. The dates may be applicable to Middle Archaic period material, but the nature of Layer F as discussed in Chapter II (page 12) suggests they do not necessarily date Morrow Mountain material.

The radiocarbon samples from the Howard and Icehouse Bottom sites were obtained from positively identified Morrow Mountain strata. The sample from the Howard site was obtained from a sealed, charcoal and lithic filled zone from which approximately 90 Morrow Mountain I Stemmed projectile points/knives were recovered. The sample from the Icehouse Bottom site came from the sealed stratum B with 43 (page 39) associated Morrow Mountain Stemmed type points. In contrast, the Eoff III and Stucks Bluff radiocarbon samples were obtained from unstratified zones and associated with no more than three Morrow Mountain type projectile points. It is noteworthy that at the 2 sigma range radiocarbon determinations overlap from the Stucks Bluff, Eoff III, and Icehouse Bottom sites; and Icehouse Bottom and Howard site determinations overlap.

Paleobotanical Remains

The strong acidity of the soils at Icehouse Bottom prevented the preservation of faunal and uncharred paleobotanical remains. The

only evidence of subsistence from the Morrow Mountain component is that provided by charred plant remains recovered from the excavation.

Method

Paleobotanical material was obtained from feature fill and from a stratigraphic column of a general excavation unit. Prior to flotation, samples were stored in polyethylene bags. The flotation process was carried out in the Little Tennessee River. All charred material from each sample was placed in newspaper, carefully folded, and tagged for transport to the laboratory. This method (Watson 1976:77-100) facilitated the safe transport of the botanical material to the field laboratory where it was opened and allowed to dry. The samples were then stored in plastic vials until the material could be analyzed.

The stratigraphic column of paleobotanical material consisted of charred material which had withstood skim shovel excavation and waterscreening from the general level waterscreening process through 1/4 inch mesh. This charcoal was picked from the screen and stored in plastic bags, labeled and dried in the laboratory.

Analysis

Analysis followed the procedure used by Yarnell (1974) and that used by Chapman at Icehouse Bottom (1973) and Rose Island (1975). The procedure consisted of recording the total gram weight of each sample, separation of the sample using five graduated screens ranging in size from 4.0 mm to 0.0074 mm, and recording the weight of each fraction. All fractions were examined at 7x to 20x magnifications. Wood charcoal, nut shell, and seed remains were separated and weighed from the three

largest fractions. The two smaller fractions were examined for seed remains and weighed. All material except wood charcoal was identified.

Discussion

The samples of paleobotanical remains from the Morrow Mountain and Stanly components at Icehouse Bottom were small. The total gram weight of Morrow Mountain paleobotanical remains was 12.07, and that from Stanly component features was 9.05 grams. The breakdown of Morrow Mountain botanical remains consisted of: wood charcoal, 92.1%; hickory nut shell (*Carya sp.*), 6.0%; acorn shell (*Quercus sp.*), 1.6%; and black walnut shell (*Juglans nigra*), 0.3%. No fruits or herbaceous seeds were recovered. In comparison, the Stanly component percentages were: wood charcoal, 51.5%; hickory nut shell, 47.1%; acorn shell, 0.1%; and black walnut shell, 1.6%. One unidentified seed and one grape (*Vitis sp.*) seed were recovered.

Paleobotanical data for the Middle Archaic components at Icehouse Bottom are provided on Table 9. Although this sample is small, it provides the only analytical data on paleobotanical remains from stratified Middle Archaic contexts in the Southeast. Moreover, these data provide the basis for preliminary statements regarding plant utilization in the Little Tennessee River Valley.

At Icehouse Bottom, the first appearance of walnut in paleobotanical samples is in the Stanly component. Similarly, at the Rose Island Early Archaic site no walnut was recovered from flotation fractions and only a few large fragments were observed in waterscreen fractions (Chapman 1975:228). In an analysis of the percentage of wood type frequencies from Early Archaic and Early Woodland period samples from Rose Island,

Table 9. Paleobotanical Data, Middle Archaic Features, Icehouse Bottom[a]

Feature	Stratum	Component	TGW	Wood Charcoal	Hickory Nut Shell	Acorn	Walnut Shell	Seeds
121	B	Morrow Mountain	13.77	13.02	0.43	0.32	--	--
124	B		20.40	19.46	0.78	0.16	--	--
126	B		1.38	1.16	0.22	--	--	--
543	B		12.75	10.85	1.46	0.28	0.16	--
Total			48.30	44.49	2.89	0.76	0.16	--
Percentage				92.1%	6.0%	1.6%	0.3%	--
144	D	Stanly	17.83	3.29	14.54	--	--	--
146	D		10.76	2.67	7.05	--	1.04	1 *Vitis sp.* 0.01
147	D		3.13	2.34	0.73	0.06	--	--
195	D		3.02	1.57	1.45	--	--	--
220	D		4.71	3.27	1.44	--	--	--
333	D		2.40	1.30	1.10	--	--	1 Unid. 0.01
359	D		21.54	17.98	3.56	--	--	--

Table 9. Continued

Feature	Stratum	Component	TGW	Wood Charcoal	Hickory Nut Shell	Acorn	Walnut Shell		Seeds
Total			63.39	32.42	29.87	0.06	1.04	(2)	0.02
Percentage				51.1%	47.1%	0.1%	1.6%		--

[a]Weight in grams (Chapman and Cridlebaugh 1976).

the increase in walnut in Early Woodland samples is inconsequential, and the percentage during either period is less than 5% (Chapman 1975:223). Today, species of walnut are much less numerous than species of hickory and oak in the Little Tennessee River Valley area. However, the black walnut (*Juglans nigra*), which produces highly nutritious nuts, grows in rich bottomlands and on moist fertile hillsides. The butternut (*Juglans cinerea*) occurs in both the highlands and bottomlands (Maddox 1922:13). Therefore, paleobotanical evidence suggests walnut was locally available to and exploited by the Middle Archaic Stanly and Morrow Mountain people at Icehouse Bottom, but primary procurement was of hickory nut and acorn.

CHAPTER IV

THE HOWARD SITE (40MR66)

The Howard site is located on the left (south) bank of the Little Tennessee River at approximately River Mile 25 at 35°33'40" north latitude and 84°9'15" west longitude. Howard lies approximately four miles upstream from the Icehouse Bottom site (Figure 1, page 4). The site, quite similar to the Icehouse Bottom site, lies on the first terrace at the head of a large bottom.

Background

Testing his model for the location of deeply buried Archaic sites, Chapman (1976a) located deeply buried Middle Archaic occupation zones at the Howard site. Diagnostic artifacts from one of these zones indicated a sealed Morrow Mountain component buried by approximately six feet of alluvial sediments. This evidence of intensive Morrow Mountain occupation, underlain by a Stanly component, precipitated excavations during the summer 1976 field season. The author served as field assistant in charge of the Howard site excavations.

Preliminary Data

Although the Howard site research is on-going, preliminary analysis indicates the Morrow Mountain component is extremely important and provides unique data not available from the Icehouse Bottom component. It is essential that additional and/or new information from this component

be considered in an analysis of the Morrow Mountain Complex even though it may be in a cursory manner.

Through a series of backhoe trenches, the limits of the zones of most intensive Morrow Mountain occupation were determined, and subsequent excavation of this area exposed 2200 square feet. The Morrow Mountain stratum averaged 0.60-0.70 feet in thickness and was easily distinguished from surrounding sediments due to heavily organically stained moist sandy loam (Munsell, 7.5 YR 3/4 to 10 YR 4/3) (Figure 15).

The Howard site Morrow Mountain component appears to be quite similar to that at Icehouse Bottom. Feature types such as basins, rock concentrations, fired areas, and pits are identical. Field observations indicate large quantities of wood charcoal, hickory nut shell, acorn shell, and walnut/butternut shell. Moreover, raw materials utilized in tool manufacture are like those at Icehouse Bottom.

However, the Howard site has some distinct differences. The area and the apparent intensity of the occupation suggest a larger component than at the Icehouse Bottom site. More importantly, the lithic assemblage differs. In addition to at least 90 Morrow Mountain I Stemmed type points, one Eva II type point, and stemmed points such as Types 6, 7, and 11 (pages 51,53), other chipped stone artifacts included: end and side scrapers, at least five Type G end scrapers, eight perforators/drills, three spokeshaves, numerous bifacial and unifacial knives, utilized flakes, bifaces, and a few pièces esquillées. Worked stone artifacts included two tubular atlatl weights, at least 15 netsinkers, approximately 15 pitted cobbles, hammerstones, and worked slate. A sample of this tool inventory is pictured in Figures 16 and 17.

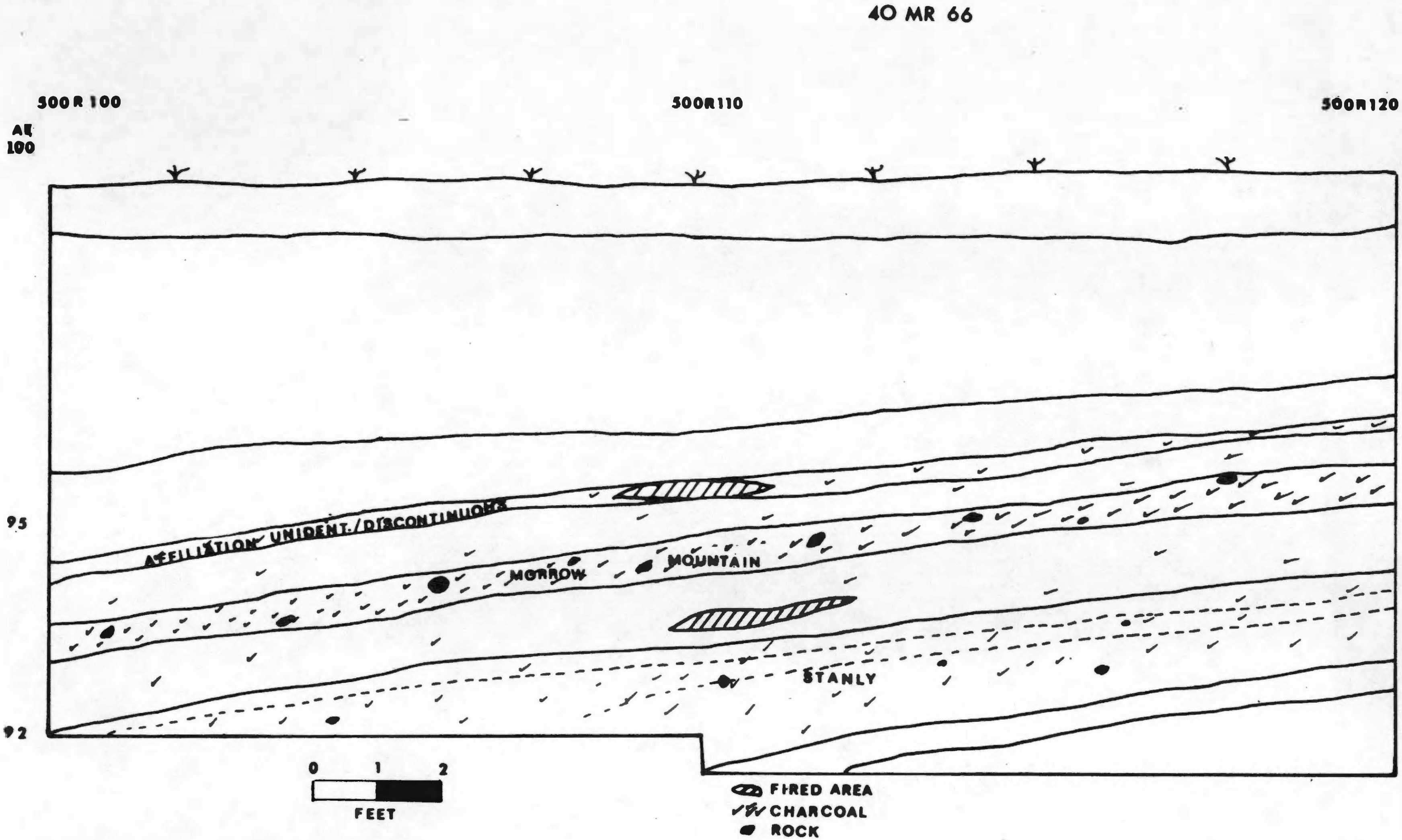

Figure 15. Stratigraphic Profiles, Howard Site.

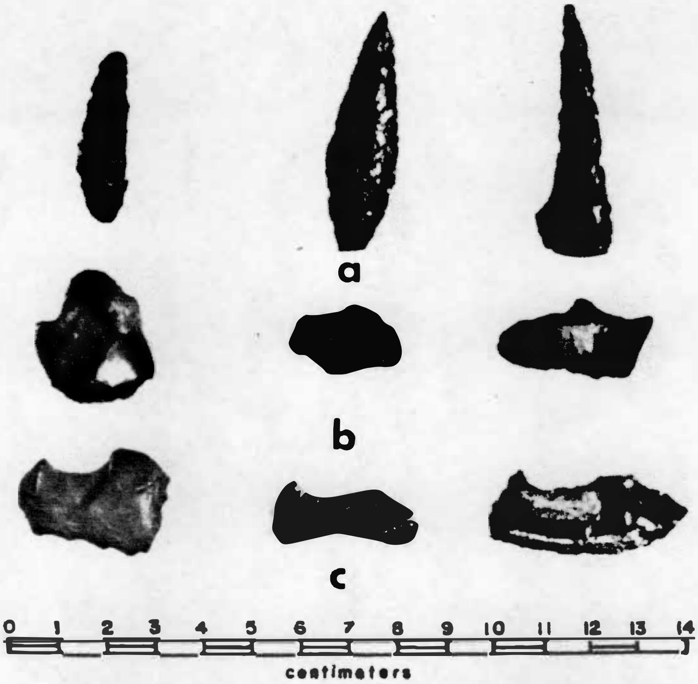

Figure 16. Howard Site Morrow Mountain Chipped Stone Artifacts.

a. Drill/Perforator; b. End Scraper Type G;
c. Spokeshaves.

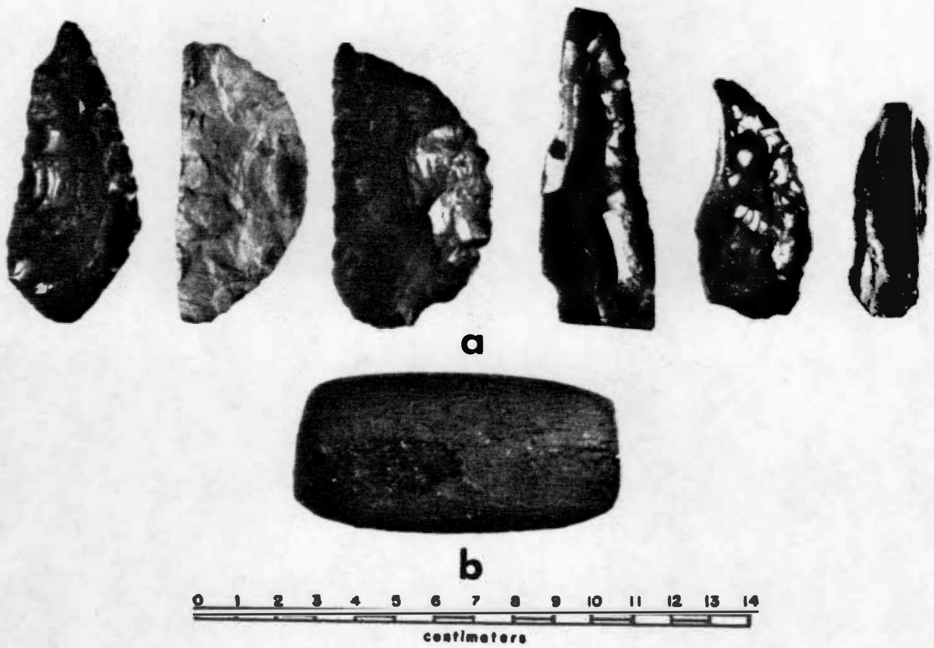

Figure 17. Howard Site Morrow Mountain Chipped and Ground Stone Artifacts.

a. Bifacial Knives; b. Tubular Atlatl Weight.

The Howard site is discussed in somewhat more detail in comparison with the Icehouse Bottom site in Chapter V. Radiocarbon determinations for the two sites differ by approximately 300 years (page 90), the Howard site being the earlier of the two. The precise similarities and dissimilarities of the two sites may be determined by the formal analysis of the Howard site, but it is obvious that settlement and activities at the Howard site were more intensive than at the Icehouse Bottom site.

CHAPTER V

THE MORROW MOUNTAIN COMPLEX: CONCLUSIONS

The preceding chapters have provided a survey of Morrow Mountain assemblages from the Southeast and the descriptive analysis of that complex as represented in eastern Tennessee. Although the geographic scope of this thesis is limited to a relatively small area, Morrow Mountain type projectile points or morphologically similar points are widely distributed throughout North America. In addition to many of the sites discussed in Chapter II, David Phelps (1964:70-74) provided a synopsis of numerous sites with Morrow Mountain Stemmed type points or morphologically similar points in the United States and Mexico. According to Phelps, Almagre and Desmuke type points from Poverty Point and the Garcia site in Louisiana correspond to the Morrow Mountain type (Phelps 1964:70). Outside the Southeast, Phelps identifies "points of the general type" (1964:73) from Gypsum Cave, Nevada; Ventana Cave, Arizona; Manzano and Bat Caves, New Mexico; and from west Texas and Tamaulipas, Mexico (Phelps 1964:73). Almagre Contracting-stemmed type points exhibit very rough percussion flaking with edge retouch (MacNeish 1958:65). At best, the earliest date for this type point is 4450 B.P. (MacNeish 1958:199) and examination of photographs (MacNeish 1958:66) of these points does not suggest that they are of the Morrow Mountain Stemmed type.

More recent surveys and excavations evince a widespread distribution of Morrow Mountain Stemmed type points in eastern North America. Stark Stemmed points are distributed from Connecticut to

New Hampshire. These points appear morphologically identical to Morrow Mountain II type points. At the Neville site, situated on the bank of the Merrimack River in New Hampshire (Figure 18), a sequence of Neville Stemmed (Stanly-like points), Stark Stemmed, and later Merrimack type points stratigraphically overlap (Dincauze 1976). Furthermore, Dincauze (1976) equates the Neville Stemmed type with Stanly Stemmed; Stark Stemmed are equated with the Morrow Mountain II type points from the Doerschuk sequence. At the Neville site, Stark type points of rhyolite, siltstone, and quartz are associated with scrapers, knives, perforators, spokeshaves, winged (semi-lunar or pick-like, similar to those of the Stanly component) atlatl weights, and fully grooved axes. Most of these tools were associated with mixed Middle Archaic strata. However, the Stark assemblage differed from the Neville assemblage in "small ways" (Dincauze 1976:121). Thick end and high-edge-angle flake scraper types were associated with Stark strata only (Dincauze 1976:56). Spokeshaves on flakes first appeared in the Stark component, and perforators have Stark type bases. Although ground stone tools were associated with the Stark component, winged atlatl weight fragments were associated with Neville, Stark, and Merrimack type points. Fully-grooved axes, dated at 5210 $\pm$ 140 B.P. (Dincauze 1976:73), appear to have their earliest appearance in the Northeast with the Stark component; they are in association with Stark and Merrimack points.

Tool types from the Neville site with a probable Stark association, which are comparable to those from the Icheouse Bottom and Howard site Morrow Mountain components, are scrapers, knives, perforators, and spokeshaves. An estimated date for the Stark complex is 7000 B.P. (Dincauze 1976:37).

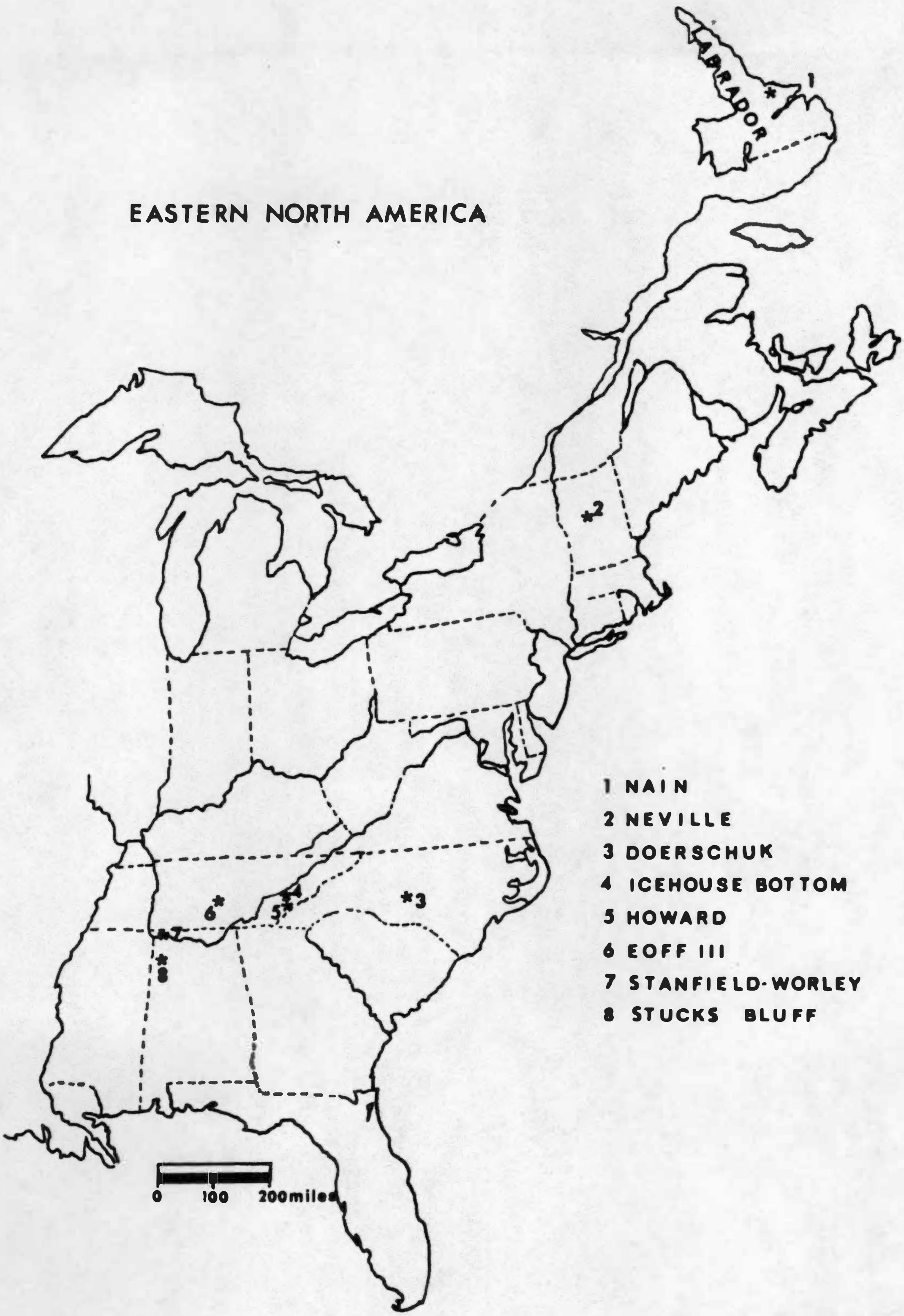

Figure 18. Map of Major Morrow Mountain Sites in Eastern North America.

On the central coast of Labrador (Figure 18) "nipple-based" points, associated with the Maritime Archaic culture, are similar to other specimens from that area which are dated at 7500-6500 B.P. (Fitzhugh 1976:133). An examination of photographs of these quartz points (Fitzhugh 1976:134) indicates they appear morphologically identical to the Morrow Mountain I Stemmed type. Maritime Archaic period tools possibly associated with this type point, which are primarily from open terrace sties, are quartz pièces esquillées, biface fragments, stemmed points, ground slate points, knives, and celts (Fitzhugh 1976:133).

This evidence of Morrow Mountain-like material in Northeastern Middle Archaic sequences similar to those at the Doerschuk and Icehouse Bottom sites, connotes a widespread eastern distribution of a Morrow Mountain Complex with little temporal separation. A similar broad spatial/narrow temporal distribution, with somewhat different geographical/physiographic boundaries, is documented for the Kirk and Bifurcate traditions of the Early Archaic (Kirk, St. Albans, LeCroy, and Kanawha phases). Recent research, much of it concentrated in the Little Tennessee River Valley (Chapman 1975; n.d.), has provided greatly increased control in the dimensions of exact chronology and assemblage content of the Early and Middle Archaic periods. It seems that current data can be manipulated meaningfully in terms of tradition and horizon, as conceptualized by Willey and Phillips (1958:33-40), and in terms of real social, cultural and adoptational systems. The even more rapid acceleration of meaningful research into the Early and Middle Archaic

awaits only breaking the intellectual/mechanical barrier of identifying the deeply buried, well-stratified early sites which exist throughout eastern North America and solving some of the unusual problems of sampling and analysis which they present. Joffre Coe suggested Morrow Mountain type projectile points reflected occupation of the Doerschuk site by people with a cultural orientation different from that of the preceding Stanly Complex (Coe 1964:54), and David Phelps (1964:68) interpreted the Morrow Mountain Complex as the beginning of a Western Intrusive Horizon. Several factors do not support these hypotheses and give a greater suggestion of cultural continuity than of abrupt change.

(1) The Western Intrustion hypothesis depends on the Gypsum Cave type point, for which the most reliable date is 3000 B.P. (Jennings 1974:170), as a prototype. Radiocarbon determinations indicate dates for the Morrow Mountain Complex in the Southeast and eastern North America at around 5300 B.C. to 4500 B.C.

(2) Cultural continuity is suggested by the following observations:

(a) Sites such as Icehouse Bottom, Howard, Doerschuk, Neville, Stanfield-Worley, and Russell Cave have similar Early and Middle Archaic sequences.

(b) Assemblages from Stanly and Morrow Mountain components suggest cultural continuity rather than abrupt change. Feature types remain the same, and tool types change very little. For example, in the Stanly and Morrow Mountain components at the Icehouse Bottom and Howard sites, short

stemmed point Types 6 and 7 are found in both contexts. Also, atlatl weights occur in both, with the indication they are the winged or bi-pointed type in the Stanly component and the tubular type in the Morrow Mountain component.

(c) At the Neville site, Neville Variants are morphologically similar to the Stark Stemmed type point and might be viewed as transitional forms. These variants have attributes which relate them to both Neville Stemmed and Stark Stemmed type points. The variants exhibit manufacturing techniques which relate them to Neville and place them in contrast to Stark Stemmed type points. At the Neville site most of these points were coeval with Stark points, but they are associated with both Neville and Stark types at a number of sites (Dincauze 1976:29).

Although the quantity of Morrow Mountain or Morrow Mountain-like sites continues to increase as archaeological survey occurs in eastern North America, the amount of definitive cultural data is not extensive. The two Morrow Mountain components from the Little Tennessee River Valley provide the best data currently available. Even so, positive statements regarding Morrow Mountain patterns of subsistence and settlement cannot be made until more sites with clearly defined Morrow Mountain components are carefully excavated and analyzed. Presently, consideration of the data from eastern Tennessee in conjunction with additional data from the Southeast is the basis from which hypotheses regarding the Morrow Mountain Complex may be made.

The Possible Relationship of Climate and Middle Archaic Subsistence Strategy

Any evidence of culture change between the Early and Middle Archaic periods in the Southeast is often explained by theories of climatic change. Lewis and Kneberg hypothesized that climatic change from an Early Archaic period Anathermal, 8000-5000 B.C., to a Middle Archaic period Altithermal, about 5000-2500 B.C., helped explain Middle Archaic cultural differences. This fluctuation in climate from wet to much warmer and drier conditions had minor influence on cultures, they reasoned, but "certain features of the landscape were modified" (Lewis and Kneberg 1959:169). As a result of these modifications, they interpreted changes occurring in subsistence patterns, particularly in the western Tennessee valley. They suggested that the Tennessee River was reduced in size and water level thus creating the accessibility and/or availability of a previously less utilized shellfish food source. The main change in subsistence patterns was the extensive exploitation of mussels, fish, and birds with a reduction in white-tailed deer consumption. Although white-tailed deer were exploited, the environmental changes associated with the Altithermal created a greater scarcity of deer than had been the case in earlier times (Lewis and Lewis 1961:19,20). Consequently, Lewis and Lewis interpreted the Altithermal as affecting the subsistence pattern of the occupants during the Three Mile component at the Eva site.

The argument, disregarding climatological data, is poor. Shellfish probably would have been available in abundance prior to the Middle Archaic period (Emanuel Breitburg, personal communication).

Also, Lewis and Lewis (1961:23) recognize the possibility of differences in deer hunting and/or butchering patterns, reflected in differences of the dominance of particular deer elements from one component to another. Even so, they insist this is a reflection of a decline in the deer population (1961:20, 23).

Partially as a result of the influence of Lewis and Lewis, there has been a tendency to accept the interpretation of the Altithermal having an influence on Middle Archaic cultures in the Southeast. Moreover, evidence for climatic changes in the central United States and Plains area, which are documented and fairly well-accepted, has reinforced this interpretation in the Southeast. The most conclusive evidence of a hypsithermal is in the upper Midwest, primarily Minnesota (Donald R. Whitehead, personal communication). In the Plains area where the Altithermal is recognized, the environmental change it created was very gradual (Bryson 1970:53-74), and archaeologists are unable to agree on the effect of the Altithermal on prehistoric culture (Reeves 1973: 1221-1253).

In the lower Illinois River Valley at the Koster site, a mid-Holocene (5000 B.P.) warm-dry period, characterized by environmental change, is documented by palynological, malacological, and paleobotanical evidence (Brown *et al.* n.d.). Most significantly, however, exploitative strategies and the culture were virtually unaffected by environmental change during this period due to adaptations by Archaic hunter-gatherers in a region of diverse habitats (Brown *et al.* n.d.:31, 35).

In the Southeast evidence of a warmer and drier Altithermal climate is poorly documented or not even recognized by climatologists. Donald R. Whitehead states that there is "no unequivocal evidence to indicate that conditions may have been warmer or drier (or both) during this (hypsithermal/Altithermal) interval" (1972:313). Recent analysis of deeply buried organic deposits from Hamilton County, Tennessee has been completed on deposits consisting of leaves, fruits, seeds, nuts, and wood from which dates of 10,270 B.P., 9515 B.P., and 4475 B.P. were obtained. The deposits indicate a floral community identical to today's, thus implying the climate was also the same as today's climate (DeSelm n.d.). Additional recent research in the Southeast has yielded little new information; "Thus, although we cannot rule out the possibility of significant climatic changes, the evidence to date is certainly not compelling" (Donald R. Whitehead, personal communication, 1976).

To the contrary, according to H. E. Wright, warmer, drier conditions prevailed in the Southeast during the Middle Archaic period, but not simultaneously in other areas of the United States.

> With the present meager coverage of post-glacial pollen diagrams in the central and eastern United States, it appears that the driest time in the Southeast occurred 10,000-6,000 years ago, in the upper Midwest 8,000-4,000 years ago, and in the New England area 4,000-1,500 years ago (Wright 1971:452).

Due to conflicting evidence of a warmer and drier period, it would seem that tacit acceptance of the Altithermal hypothesis to explain Middle Archaic climate as well as changes in cultural patterns is unwise. If and when such a climatic change did occur, the first problems for resolution would be exactly how extensively the climate changed and its consequent effect on the biosphere, physiography, and culture.

Paleoenvironment of the Little Tennessee River Valley

The Icehouse Bottom and Howard sites are located in the Carolina Biotic Province (Dice 1943:16) in the Oak-Chestnut forest region. It is probable that prehistoric humans and animals had access to numerous fruit-bearing trees which provided highly efficient nutrients. An analysis of wood charcoals from Early Archaic strata at the Rose Island site (Chapman 1975:223) suggests a hardwood forest with nut and fruit-bearing trees such as oak, hickory, walnut, honey locust, and mulberry during Archaic times in the valley. As discussed in Chapter III, paleobotanical evidence of utilization of this fall nut harvest during the Morrow Mountain occupation included hickory nut, acorn, and walnut.

A detailed discussion of vegetal and animal food resources available in historic times in the Great Valley has been covered amply by McCollough and Faulkner (1973). No direct evidence of subsistence in the East Tennessee Morrow Mountain Complex, other than the charred nut remains, is available. No faunal remains were recovered, probably due to soil acidity, but a small amount of calcined deer bone was identified from a lower Kirk stratum at Icehouse Bottom. This, as well as additional archaeological (McCollough and Faulkner 1973; Chapman 1973; Schroedl 1975) and ethnographic (Timberlake [Williams, ed. 1927]) evidence, suggests the presence of white-tailed deer in the Valley from Early Archaic to present times. No Morrow Mountain faunal data are available from a well-stratified context in the Southeast. However, bone recovered from <u>possible</u> Morrow Mountain zones suggests Middle Archaic Morrow Mountain exploitation of white-tailed deer, gray squirrel,

turtle, and turkey (Lewis and Lewis 1961; DeJarnette et al. 1962; 1975b; Griffin 1974).

New Data on Morrow Mountain Subsistence and Settlement Strategies

The tool inventory from the Icehouse Bottom site suggests a brief occupation with a limited number of activities. Through limited application (Table 10) of Winters' model of settlement systems (Winters 1969:131-137) and Faulkner and McCollough's tool function and activity model (1973:69-71), some hypotheses may be offered regarding the human activities at the Icehouse Bottom and Howard sites. The data presented in Table 10 represents numerous variables such as intensity of settlement, sample size, and density of artifacts relative to volume of deposit excavated.

In the application of any settlement hypothesis, the Icehouse Bottom site provides an exiguous view of a Morrow Mountain assemblage due to the nature of that particular occupation and/or sampling error. The artifact sample size and content (Table 10) at Icehouse Bottom indicate the possibility of varied activities and the probability of hunting and some butchering during a limited occupation of the site. Comparison of the Icehouse Bottom and Howard site assemblages may suggest different settlement types although the ratio of armaments to all other tools indicates hunting was the predominant activity at both sites.

At the Howard site, hunting and possibly more intensive butchering activities are evidenced by the projectile points, atlatl weights, and a large sample of bifacial knives not present at the Icehouse Bottom site.

Table 10. Tool Function and Activity Model of Morrow Mountain Strata, Icehouse Bottom and Howard Sites[a]

Site Activity	H	B	HW	WW	BW	TM	PFP	G	Sample
				Icehouse Bottom					
Morrow Mountain Point/Knives	X	X							63
Stemmed Points	X								22
Knives		X							1
End Scrapers			X						11
Retouched Flakes		X?					X?		16
Pièces Esquillées				X	X				6
Pitted Cobbles						X	X		5
Hammerstones						X	X		5
Netsinkers								X	1
Atlatl Weights	X								1 fragment
Primary Lithics						X			4923
Undifferentiated Raw Material						X			2333

Table 10. Continued

Site Activity	H	B	HW	WW	BW	TM	PFP	G	Sample
				Howard					
Morrow Mountain Point/Knives	X	X							90
Stemmed Points	X								7+
Knives		X							10+
End/Side Scrapers			X						Present
Spokeshaves				X	X				3
Drills				X					8
Retouched Flakes		X					X		Present
Pièces Esquillées				X	X				Present
Pitted Cobbles						X	X		Present
Hammerstones						X	X		Present
Netsinkers								X	Present
Atlatl Weights	X								2
Primary Lithics						X			Present

Table 10. Continued

Site Activity	H	B	HW	WW	BW	TM	PFP	G	Sample
Undifferentiated Raw Material						X			Present

[a]H = hunting; B = butchering; HW = hide working; WW = wood working; BW = bone working; TM = tool manufacture; PFP = plant food preparation; G = gathering.

These large bifacial knives were manufactured from relatively large nodular and tabular local chert on a thick blade with pressure flaking on one or both edges. They range in length from 83.0 mm to 45.5 mm; width, 40.5 mm to 25.0 mm; and thickness, 13.5 mm to 7.5 mm (Figure 16, page 101). Additional tools such as scrapers, spokeshaves, perforators and/or drills indicate a greater intensity of hide, wood, or bone working activities than at the Icehouse Bottom site; or at the least, they signify some activities conducted at the Howard site were unrepresented in the excavated portions of the Morrow Mountain strata at Icehouse Bottom.

Netsinkers were encountered in high frequency in the Stanly component at Icehouse Bottom, but only one was recovered from the Morrow Mountain zone. At the Howard site, however, numerous netsinkers were associated with the Morrow Mountain component. These notched cobbles have been assigned various functions from fishing net and bolas weights to boiling stones. Regardless of specific function, these objects were of importance at the Howard site and lend credence to the hypothesis that the site was not a temporary hunting camp.

At the Icehouse Bottom site the concentration of lithic debitage and features may suggest a specific settlement system or activities. Typical features such as pits, depressions, and fired areas were relatively few in number. Pits, basins, and depressions were typically filled with varying amounts of charred hickory nuts, acorn, and walnut shell. Archaeological and ethnographic data and experimental replication (Coles 1973) suggest that various plant foods may be successfully stored. Hickory and walnut can be stored over a period of time; acorn can be stored, but it does not preserve well (USDA 1948:301). The

possibility of storage by Morrow Mountain horizon occupants was unlikely because the pits were not deep enough for effective storage and there is no evidence of formal storage pits occurring as early as the Middle Archaic period. Consequently, no evidence of storage, no structural evidence, and a limited tool inventory at the Icehouse Bottom site indicate activity of a limited duration or intensity.

Due to the improbability of storage and the necessity of gathering acorns before they were spoiled by wet weather, germinated, or consumed by animals, the paleobotanical evidence may point to a fall occupation of the Icehouse Bottom site during Morrow Mountain times. Another indication of seasonality of occupation may be obtained through examination of above bank flooding of the Little Tennessee River. The build-up of alluvium suggests flooding was fairly intensive during Archaic times. Also, historic records of flooding on the Little Tennessee River in Monroe County indicate primary months for above bank flooding were November through April (TVA 1972). Consequently, it is postulated winter and early spring were not optimal times for the river bank Morrow Mountain occupation represented at the Icehouse Bottom and Howard sites. If Morrow Mountain settlement patterns were affected by seasonal variations, possible higher terrace, upland, or rock shelter sites have not been identified in East Tennessee. Surface surveys have documented contrasting floodplain and extreme upland and shelter sites, Middle Tennessee (Normandy Project, unpublished data) and on the Cumberland Plateau in Franklin County, Tennessee (Major McCollough, personal communication). The identification of varied Morrow Mountain settlement patterns in the Southeast may be a reflection of seasonality.

Based on the evidence from the East Tennessee sites, there simply is not adequate data to indicate whether these sites were hunting, gathering, or base camps. Moreover, during the three occupations at Icehouse Bottom, the use of the site may have varied from occupation to occupation. Similarly, to propose a particular Morrow Mountain settlement pattern is impossible. Sites have been identified on ridges, in rock shelters and caves, and on floodplains. In the Little Tennessee River Valley, Morrow Mountain sites have been identified only on alluvial terraces; however, the only systematic survey carried out there has been deep testing on the alluvial floodplain.

Summary

Current data suggest multi-element Morrow Mountain settlement patterns near major water sources in the Southeast with an economy based on the exploitation of the deciduous forest. Although little more substantive information may be provided regarding subsistence and settlement strategies, more conclusive data may be provided as a result of the examination of Morrow Mountain tool assemblages from East Tennessee.

The Morrow Mountain assemblages from East Tennessee indicate short stemmed points were used simultaneously with the Morrow Mountain Stemmed type point in that complex. At Icehouse Bottom 62% of the Type 6 points occurred in the Morrow Mountain stratum and 37%, in the Stanly strata. Fifty-seven percent of Type 7 points occurred in the Morrow Mountain zones and 43% occurred in Stanly. Of Type 11, 37.5% were from the Morrow Mountain component and 62.5% were from Stanly.

No White Springs/Sykes type points have been identified from the Icehouse Bottom or Howard Morrow Mountain components, but stemmed points of the Stanly component at Icehouse Bottom are somewhat similar to White Springs/Sykes. These types have been found in association at other Southeastern sites. At the Westmoreland-Barber site in southeastern Tennessee, a Morrow Mountain type point was associated with White Springs/Sykes type points in an occupational stratum (Faulkner and Graham 1966:72, 121). In the Normandy Reservoir survey area, eight out of 20 sites with Middle Archaic association yielded a combination of Eva-Morrow Mountain and White Springs-Sykes points. Finally, one White Springs variant, one Crawford Creek and seven Morrow Mountain Stemmed points were associated in Stanfield-Worley Burial 8. The distribution as well as the form of the short stemmed points suggest they may have been transitional forms from the Stanly component into the Late Archaic period. Nonetheless, their firm placement in stratified Morrow Mountain strata indicates they were a part of the Morrow Mountain Complex, but because they occur before and after Morrow Mountain times, they are not considered diagnostic artifacts.

The relationship of Morrow Mountain Stemmed type points to the Eva types is not one of the problems covered in this study, but it is recognized as a valid problem. At the Eva site Morrow Mountain and Sykes type points were associated in Strata I, II, and IV; moreover, Morrow Mountain I and Eva II types commonly occurred in the Three Mile component in stratum II. One Eva II point was excavated from the Morrow Mountain stratum at the Howard site, and the association of the two types at the Garrett site is apparent. It seems unquestionable that

typologically and temporally the two types were closely related. Socio-cultural, geographical, and raw material differences may explain morphological variations and differences in the two point types.

Although short stemmed points do occur in the Morrow Mountain Complex, the predominant and diagnostic type is the Morrow Mountain Stemmed point. Morphologically, there are variants of the Morrow Mountain I type, but the typology should not be confused and complicated by separate Rounded Base and Straight Base types (Cambron and Hulse 1975:90, 91). It is sufficient to acknowledge that variations occur due to geographical and local raw material variations.

Stratified Morrow Mountain components in the Little Tennessee River Valley provide better data for a reassessment and definition of the Morrow Mountain Complex than those of any other excavated site. A distinct cluster of traits for the complex consists of the diagnostic Morrow Mountain Stemmed type points, Type G end scrapers, and tubular atlatl weights. Other chipped and ground stone artifacts within the complex but not diagnostic of it are: bifacial knives, spokeshaves, drills, scrapers, pitted cobbles, hammerstones, and netsinkers. Radiocarbon determinations and firm contextual evidence of the Morrow Mountain Complex following the Stanly Complex at the Icehouse Bottom, Howard, and Doerschuk sites indicate a cultural continuity in the Middle Archaic period. A similar sequence at the Neville site in the Northeastern United States suggests this continuity is manifest throughout Eastern North America.

Although Early through Middle Archaic period continuity is suggested by the above evidence, existing definitions of the Middle

Archaic period suggest substantial if not abrupt change. James B. Griffin (1967:178) defines the Middle Archaic period as a cultural stage in eastern North America marked by the innovation and/or increase in ground and polished stone tools, bone artifacts such as fishhooks, and an increase in the occurrence of shell middens. In addition, there is a formalization of human and dog burials. Arbitrary dates for this stage are 6000 B.C. to 4000 B.C. Middle Archaic components at the stratified Doerschuk, Stanfield-Worley, and Eva sites constituted the small body of primary data which were available as the basis for such a definition.

The only Morrow Mountain components which have produced data that correspond with the above Middle Archaic period definition are the Three Mile component at the Eva site and the Morrow Mountain component at the Stanfield-Worley site. The Icehouse Bottom and Howard sites, with no faunal preservation, are biased tests of the definition, but the only coincidence between the definition and the content of the East Tennessee sites is in the presence of ground and polished stone tools. Moreover, as Early Archaic period sites continue to be excavated, there is increasing evidence of the use of local raw materials and ground stone tools (Fowler 1959; Chapman 1975, and n.d.)

The stratified sequences at the Icehouse Bottom, Howard, and Doerschuk sites provide evidence of cultural continuity from the Early through Middle Archaic periods. The attributes in Griffin's (1967:178) definition are not singularly definitive of the Middle Archaic period. It is apparent the distinction between Early and Middle Archaic components is not as ostensive as the above definition implies. Moreover,

Middle Archaic innovations may be a reflection of local geographical variations resulting in varying and gradual culture change. Regardless of what factors may be involved, concepts of the Middle Archaic period should be re-examined.

This thesis does not presume to suggest the concept of the Morrow Mountain Complex is complete. Numerous questions remain unanswered. These problems can only be solved by the successful excavation of additional well-stratified Morrow Mountain sites with adequate cultural material and faunal preservation as well as the identification and sampling of other elements in the Morrow Mountain settlement patterns. Further analysis of the Howard site will contribute considerably to an understanding of the Morrow Mountain Complex. The major assets of this study are that, on the basis of the East Tennessee Morrow Mountain components, questions regarding traits, typology, cultural continuity, and paleobotany have been addressed with firm data upon which a better definition of the Morrow Mountain Complex can be built.

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