LOWE SITE REPORT

A Contribution to Archaeology of the Georgia Coastal Plain

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PREFACE

Bridges form one of the most important and tangible features of the highway transportation system. The combined road systems of Georgia accommodate over 14,500 bridges. While many of these span other roads and railways, most are used to traverse water courses such as rivers, creeks, marshes, swamps, lakes, and intertidal waterways. Bridges are designed and constructed to have a functional life span of fifty years before extensive maintenance, widening, or replacement is required. Of course many structures far outlive this expectation. Because of the finite life span of bridges and the need for them to accommodate the roads of which they are an integral part, the Georgia Department of Transportation has a continuing program of bridge evaluation, maintenance, widening and replacement. In any one year the Department conducts environmental evaluations of approximately 150 proposed bridge projects with some 100 projects being let to construction annually.

This extensive bridge program is extremely important in the environmental process due to the potential effects these projects might have on natural as well as cultural resources. In fact, a bridge by itself might qualify as an historically significant resource (eg. covered structures, truss bridges, concrete arch facilities, etc.) or be closely related to others (eg. mill sites, depots, etc.). Bridge replacements might also affect ecologically significant features such as wetlands, water quality and water dependent wildlife. Because of the natural setting of most bridges (i.e. spanning rivers and creeks), many projects affect what would be considered high site

probability areas for archaeology. Put another way, bridges span streams in locations which were also highly favored for prehistoric occupation (i.e., elevated areas adjacent to water courses). For this reason, the Department conducts archaeological surveys of all proposed bridge projects with a site location ratio of about five to ten percent.

The present study concerns the excavation of one site of four discovered during environmental surveys for the Jacksonville Ferry bridge replacement project over the Ocmulgee River in Coffee and Telfair Counties. Departmental testing of the Lowe site was conducted with the aid of personnel from the preconstruction and surveying sections of the GDOT district office in Tifton (particularly Randall Carr and Don Gaskins) and Jimmy Rodgers, a volunteer and amateur archaeologist from Fayetteville. The Department is pleased to publish Dr. Crook's report of the Lowe site as the third in its Occasional Papers in Cultural Resource Management series.

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INTRODUCTION

PROJECT BACKGROUND

The Lowe Site (9Tf139) is located on the floodplain of the Ocmulgee River in southern Telfair County, Georgia (Figures 1 and 2). The site was initially located during an archaeological survey of the area to be impacted by construction involved with replacement of the Jacksonville Ferry Bridge over the Ocmulgee River on U.S. 441 (Bowen 1984). The total site area was estimated by Bowen to cover about 4ha, forming an irregular crescent along the curving edge of the floodplain and extending within agricultural fields along both sides of U.S. 441. The area of the site to be impacted by construction was restricted within the DOT right of way (100ft) west of U.S. 441.

The results of surface collections and test excavation of seven 2m squares at the Lowe Site by Bowen indicated that significant archaeological remains were present (Bowen 1984:7-26). The test excavation revealed two cultural strata at the site: a sandy plow zone extending approximately 25cm beneath the ground surface and a relatively undisturbed sandy clay midden that extended from the base of the plow zone to about 40cm beneath the surface, where a sterile clay strata was present. Cultural materials recovered from the plow zone and midden suggested a broad range of occupation at the site, as indicated by artifacts associated with the Paleo-Indian/Early Archaic, Late Archaic/Early Woodland, Middle to Late Woodland, and Mississippi Periods. Ceramics recovered from the Lowe Site suggested that occupation was most intensive during Late Archaic/Early Woodland

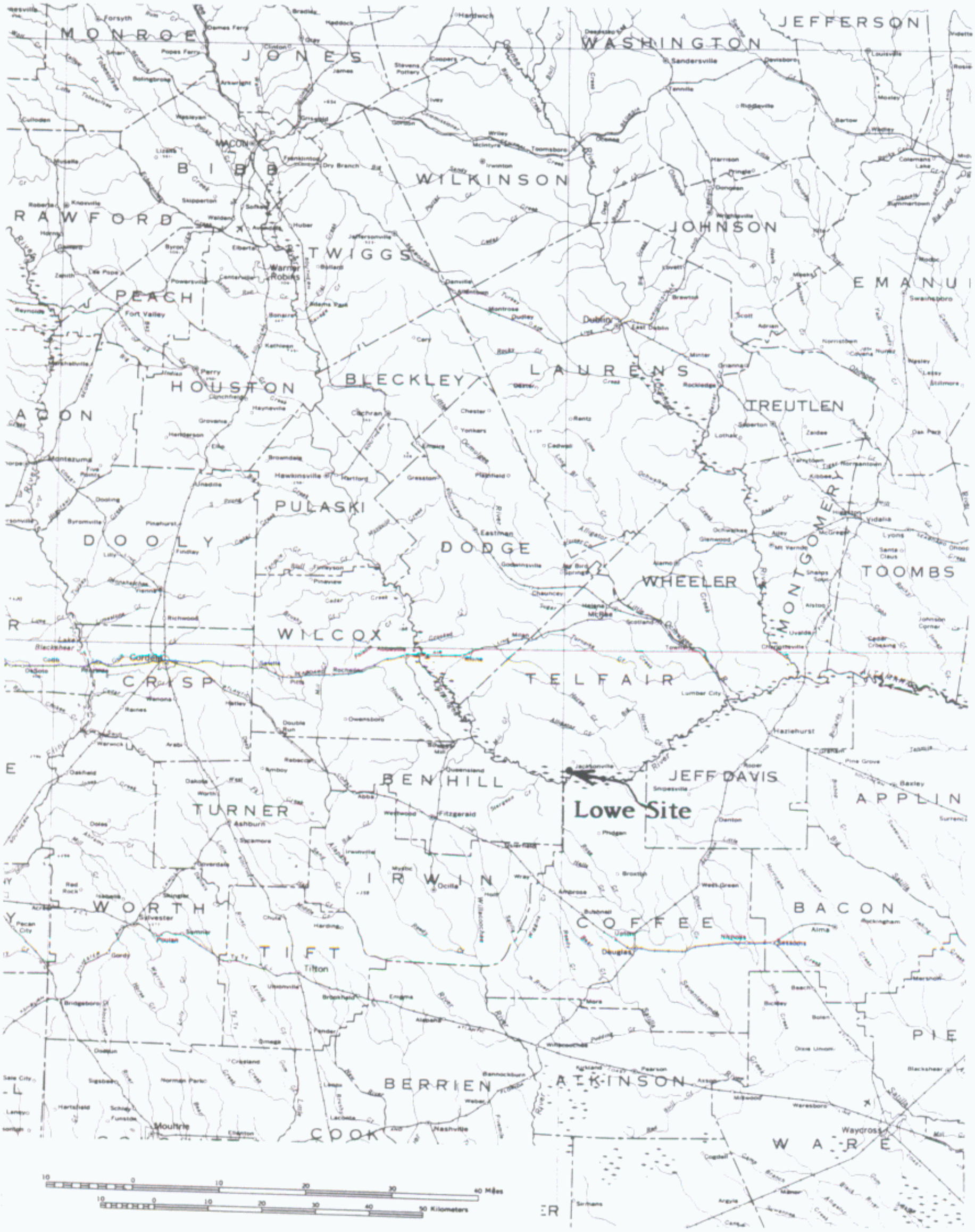


Figure 1
Drainage and County Map Showing Location of the Lowe Site

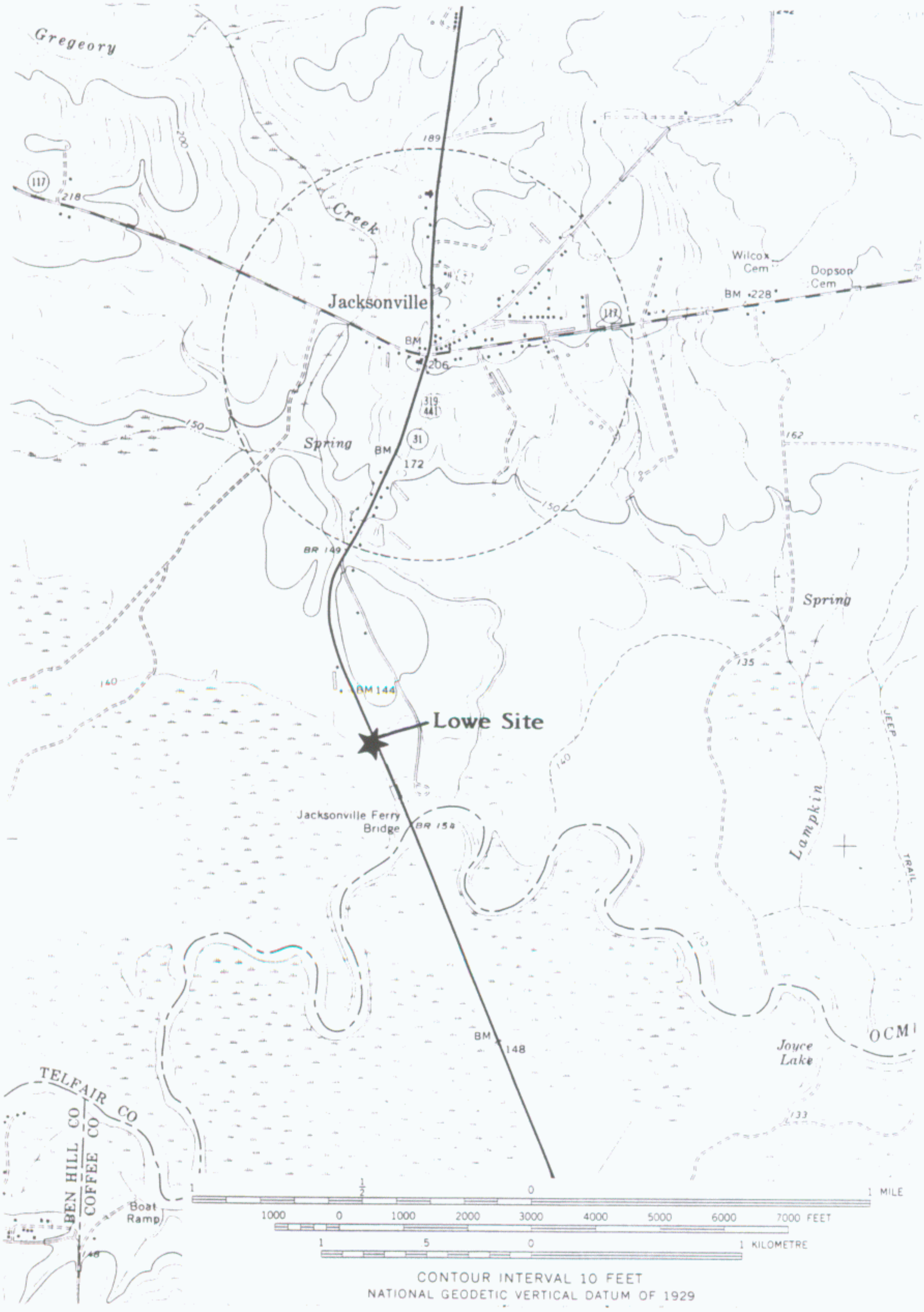


Figure 2
Topographic Setting of the Lowe Site
(from USGS Jacksonville Quadrangle, 1972)

and Middle to Late Woodland Periods, as indicated by large percentages of fiber-tempered (24%) and cord-marked (64%) pottery sherds. Bowen was able to separate "semi-fiber" tempered pottery from other fiber-tempered pottery, and suggested that it might be possible to segregate relationships among the two fiber-tempered wares and the cord-marked pottery within the undisturbed midden. Bowen also recorded a curving alignment of five postholes, suggesting that structural remains, and perhaps other subsurface features, were present at the site. Floral and faunal remains were poorly represented, probably due to acidic soil conditions. However, their preservation was thought to be likely in any subsurface features that existed at the site.

Based upon the potential of the Lowe Site to contribute significant information concerning cultural chronology, structural forms, and perhaps subsistence within a poorly known and understood portion of the Georgia Coastal Plain, the site was determined eligible for inclusion in the National Register of Historic Places at a local level of significance. As significant information about Coastal Plain prehistory would be lost by construction within the Lowe Site, mitigation of this effect was sought through archaeological data recovery.

An agreement, therefore, was executed between the Georgia Department of Transportation and West Georgia College for mitigative excavation at the Lowe Site. Fieldwork at the site was initiated on July 17, 1985 and continued for four weeks with a crew of from four to seven people. Laboratory analysis of the recovered materials,

along with curation of the materials and records, took place in the West Georgia College Archaeological Laboratory (W.G.C. Accession Number 36).

THE ENVIRONMENTAL SETTING

The Lowe Site is located in the Tifton Upland division of the Georgia Coastal Plain along the northern side of the Ocmulgee River, in an area known as the Ocmulgee Big Bend Region. The Ocmulgee River originates in northern Piedmont Province, flows across the Fall Line at Macon, traverses the Coastal Plain where it joins with the Oconee River to form the Altamaha River, then continues its course to the coast where it meets estuarine waters just south of Darien. As with many other major rivers within the Coastal Plain, the Ocmulgee Big Bend Region is characterized by a meandering river channel bordered by broad swamps and floodplains. Gently rolling uplands with broad sandy hills define the landscape beyond the floodplain. The uplands are drained by numerous small streams that ultimately flow into the Ocmulgee River (see Cooke 1925).

Mineral resources common to the Tifton Upland include materials of potential and actual importance to aboriginal occupation of the area. Sandy and gritty clays, underlying surficial sands and exposed in stream channels, are present and were presumably suitable for pottery making. Hard, brittle, silicified clays that break with a conchoidal fracture also occur (e.g. in the bluffs of the Ocmulgee and Altamaha Rivers) and these could have been used in the manufacture of stone tools. Vitreous quartzite occurs at restricted

locales and outcrops of chert appear to be fairly common. Each, particularly the chert, provided an important raw material for making projectile points and other chipped-stone tools (see McCallie 1925:7; Veatch and Stephenson 1911:344-345, 357-358).

Biotic communities in the Tifton Uplands and elsewhere in the Coastal Plain have been greatly altered since European contact. The original vegetation has been removed from the landscape by extensive historic activities, including most importantly agricultural development and the silviculture of slashpine. The native and early historic upland forest was dominated by an extensive area of longleaf pine (Pinus palustris Miller) that developed throughout the sandy soils of the Coastal Plain. The pine forest was subclimax and would have been replaced by oak-hickory forest if succession had not been interrupted by periodic fires. Longleaf pine is able to tolerate a variety of differing habitats, from well-drained soils with low moisture to wet soils along the edges of water. It is unable, however, to withstand flooding over long periods of time. Other trees and shrubs in the uplands of the longleaf pine region, occurring particularly in restricted open spaces in the forest, include black jack oak, blue jack oak, post oak, live oak, hickory, dogwood, persimmon, haw, and gopher apple (see Braun 1950; Croker 1969; Larson 1980; Pessin 1933).

In marked contrast to the primarily evergreen uplands, the Coastal Plain river swamps and floodplain bottomlands are associated with a diverse deciduous forest. Swampy areas bordering rivers and streams contain stands of bald and pond cypress, tupelo, willow oak,

swamp white oak, water hickory, black-gum, water gum, and pond pine, along with several kinds of grapes and vines, pitcher plants, lycopods, and sedges. The oaks and hickories of the swamp appear to extend into the adjacent floodplain, where they are accompanied by scattered longleaf pines, slash pine, sweetbay, black gum, red maple, wax myrtle, gall berry, cane, yaupon, blueberries and huckleberries (see Braun 1967; Larson 1980; Pessin 1933).

The animal communities of the Coastal Plain varied with the differences in vegetation. The upland pine forest apparently was associated with a low diversity and number of animals because of the restricted food supply offered by this habitat. Small open areas within the forest that contained hardwoods and shrubs may have provided patchy feeding areas for a few animals of aboriginal importance such as white-tailed deer, rabbits, squirrels and turkeys. However the river swamps and floodplain bottoms, with their diverse vegetation, were the homes of a variety of animals and would have been of critical importance to aboriginal subsistence in the Coastal Plain. It was here, particularly in the unflooded bottom lands, that populations of white-tailed deer, bear, squirrel, raccoon, oppossum, rabbit, turkey, and wood duck occurred for exploitation. Flooded areas of the river swamp, as well as the streams, supported several species of fish, including varieties of catfish, buffalo fish, and sucker. Anadromous fish, such as shad and herring, also occasionally migrate well upstream from the coast to spawn in the spring, and may have been seasonally important food resources (see Larson 1980; Smith 1968).

In summary, the general Coastal Plain environmental location of the Lowe Site is characterized by three distinctive habitats. The longleaf pine forest appears to have offered the aboriginal inhabitants few subsistence opportunities. The river swamp and floodplain bottom lands were the locations of diverse plant and animal communities of potential economic importance. It was here, along the border of swamp and bottom land, that the Lowe Site was located. This location maximized access to the most naturally productive and diverse habitats found in the area.

ARCHAEOLOGICAL BACKGROUND

Our understanding of Georgia Coastal Plain prehistory is based on precious little information (see e.g. Schnell 1975a). Few investigations have been conducted south of the Fall Line, away from the Coastal Zone, or out of the Chattahoochee River Valley. It does appear, however, that the Coastal Plain in Georgia can be divided into two major sections, each with its own distinctive archaeological complex. The Gulf section, defined by the drainage systems of the Chattahoochee, Flint, Ochlochonee, and Suwannee Rivers, covers the southwestern half of the Coastal Plain. The Atlantic section of the Coastal Plain is drained by the southeastern-flowing Satilla, Ocmulgee, Oconee, Altamaha, Ogeechee, and Savannah Rivers.

Cultural history of the Gulf Coastal section of the Georgia Coastal Plain includes early Formative, Adena-Hopewell "influenced" manifestations such as those represented at the Mandeville Site (Kellar, Kelly, and McMichael 1962) and Kolomoki (Sears 1956). The

Mandeville Site seems to represent a cultural fusion of North Georgia and Gulf Early Woodland characteristics, while Kolomoki may have developed later from Swift Creek roots and strong Weeden Island influences (and perhaps Mississippian influences as well). Mississippian occupation within the Gulf drainage again seems to have developed under the influence of contemporary cultures to the south and north. Ceremonial and residential centers appear to have been located primarily along the Chattahoochee and Flint Rivers (see Hally 1975; Schnell, Knight and Schnell 1981; Scary and Payne 1986). Certainly, the cultural dynamics that were involved in Woodland and Mississippian settlement along the Gulf drainage are not well understood and the whole situation is far from clear.

Of importance at the moment is simply that these complex Gulf and Piedmont "influences" do not seem to have been equally prevalent in the Atlantic drainage of the Georgia Coastal Plain. Major Mississippian occupations appear to have been concentrated at the Fall Line (e.g. Macon Plateau, Lamar) and on the Georgia coast (e.g. Irene). While Mississippian and Weeden Island sites are known in the interior of the Atlantic section of the Coastal Plain, they seem to be rare.

The Atlantic section appears was dominated during post-archaic times by two other archaeological traditions, one associated with a distinctive assemblage of cord-marked pottery and the other with more or less typical Late Swift Creek ceramics. The group associated with the cord-marked pottery appears to have been conservatively adapted to their Coastal Plain environment without being significantly

affected by neighboring Gulf, Piedmont, or Georgia Coastal populations. This is not to argue that they lived in total isolation or without outside contact. In fact, it has been suggested (Milanich 1976) that a segment of this interior population eventually moved into north-central Florida (i.e. the Alachua Tradition). Populations producing very similar ceramics also appear to have occupied some immediately adjacent areas of the Gulf section, as indicated by numerous sites with cord-marked pottery along a segment of the Flint River (now Lake Blackshear) located about 60km west of the Ocmulgee River. Carbon from a multiple-interment tomb at one of these sites returned a C-14 date of A.D. 1225 +/- 65 (see Schnell 1975b:121). Other than in the Lake Blackshear area, cord-marked ceramics are either absent or represent a rare minority type at reported sites within the Gulf section. The Late Swift Creek groups of the Coastal Plain, including those of the Atlantic section, appear to have been much less isolated and to have maintained some measure of stylistic, if not social and political, integrity. Swift Creek occupation in the Atlantic section may represent one part of a widespread population expansion that included colonization from the Fall Line, through the interior, to the Georgia Coast.

Turning now specifically to the Atlantic section, the first extensive archaeological survey in the region was carried out in 1965 by Lewis Larson and Jerry Neilsen (Neilsen 1966). The survey covered a nine-county area upstream from the Altamaha River extending roughly from the Ocmulgee River to the Oconee River. Seventy archaeological sites were recorded by the survey and limited test excavations were

conducted at three of the sites.

The survey documented occupation over a considerable period of time. The sites usually had multiple components, with artifacts representing the Early, Middle, and Late Archaic Periods, the Early, Middle, and Late Woodland Periods, the Mississippi Period, and the Historic Indian Period. The Early Archaic Period was marked by rare Dalton projectile points. Occupation in the area appears to have become more widespread during the Middle and Late Archaic Periods, as indicated by the rather frequent Morrow Mountain and Savannah River Stemmed projectile points found at the sites. Some contact between the Coastal Plain groups and the Piedmont was suggested by a steatite "net sinker." The occurrence of fiber-tempered pottery at ten of the sites also indicated there was some relationship with the Georgia Coast during the Late Archaic Period. Woodland Period occupations in the area were marked at sites containing Dunlap, Deptford, Mossy Oak, and Swift Creek pottery types, and more rarely Wilmington, Napier, and Weeden Island types. The Mississippi Period occupation was marked by ceramics classified as Savannah Cord-Marked and Check-Stamped, along with rare occurrences of Woodstock and Lamar pottery types. Pottery classified as Savannah Cord-Marked wares numerically dominated the ceramic assemblages at most of the recorded sites. Historic Indian occupation in the area was indicated by the presence of Alachua Cob-Marked and Brushed pottery.

Larson and Neilsen concluded from the survey results that the area appeared culturally conservative; that it had been subject to "less profound cultural change than several contiguous areas"

(Neilsen 1966:29). They also concluded that the source of much of the ceramic influence in the area was the Georgia Coast, based on the presence of the fiber-tempered, Deptford, Wilmington, and Savannah wares. Limited influences from the Macon area of the Fall Line was inferred because of the presence of Mossy Oak, Swift Creek, and Napier pottery types. Another limited source of influence appeared to come from the Gulf Coast, as indicated by the Weeden Island Pottery.

In 1973 Ronald Wallace excavated two test pits at the Fitzgerald site, located along the Ocmulgee River in Ben Hill County (reported in Milanich 1976:49-52). The assemblage here appeared to represent a single component occupation characterized by cord-marked (51%) and plain (42%) pottery, with fabric-marked, cob-marked, and rectilinear complicated-stamped pottery occurring as minority types. Lithic artifacts included local chert debitage and bifaces along with a quartzite hammerstone. All projectile points were small triangular forms typed as "Pinnelas." Food remains were rare in the acidic midden soils, but freshwater clam, white-tailed deer, turtle, and raccoon were represented. Milanich (1976), in his discussion of the site, identifies the assembage as "Inland Wilmington" and argues for temporal and cultural similarities among Coastal Wilmington, Inland Wilmington, and north Florida's Alachua Tradition.

More recent investigations in the Atlantic Coastal Plain indicate that Larson and Neilsen's, and Milanich's, typological assignment of the Coastal Plain cord-marked wares as either "Wilmington" or "Savannah" was inaccurate and, at least for the

Woodland and Mississippi Periods, that the coastal connection may have been much weaker than they thought.

An extensive survey effort between 1968 and 1977 by Frankie Snow of South Georgia College recorded over 320 sites within the Ocmulgee Big Bend Region and south along the upper Satilla River (see Snow 1977). Snow's survey substantiated the broad range of occupation previously documented by Larson and Neilsen, and also added four Paleo-Indian sites to the inventory. The large number of sites and larger artifact samples (mainly from surface collections) available to Snow allowed him to discern several ceramic complexes, some of which appeared to be distinctive to the Atlantic Coastal Plain. The major occupations in the area were marked by numerous sites associated with fiber-tempered, cord-marked, Deptford, and Swift Creek pottery. Significantly less intensive earlier occupation appeared to be reflected by sparse Paleo-Indian, Early Archaic, and Middle Archaic remains. Late prehistoric and early Historic Indian sites also occurred in the area, but without the intensity seen in adjacent regions.

Late Archaic sites distinguished by fiber-tempered pottery were present throughout the surveyed area. Thirty-eight percent of the recorded sites contained fiber-tempered pottery (Snow 1977:8). Snow was able to identify two different fiber-tempered pottery series in his sample. Fiber-tempered pottery similar, if not identical, to the Georgia coastal St. Simon's type occurred at sites within the Ocmulgee River drainage system. Snow (1977:9-11) noted that plain fiber-tempered pottery appeared at sites located on river-bottom

lands and on interfluvial sand ridges, while the decorated (incised or punctated) variant usually was restricted to river-bottom sites. The second fiber-tempered pottery series was observed to the south along the drainage of the Satilla River. The pottery here was consistently thinner and exhibited simple-stamped, check-stamped, and plain surface treatments. In addition, coil fractures were observed on some of the Satilla pottery and sand was a frequent inclusion in the paste. Snow suggested that the Satilla fiber-tempered ceramics were related to the Norwood series in Florida rather than the Georgia Coast and that the pottery perhaps represented the transition between the Late Archaic and the following Deptford Phase in the Satilla River drainage (Snow 1977:12-14; see also Blanton 1979).

Deptford Phase occupations were represented at 31% of the sites recorded in Snow's survey. The interior Coastal Plain pottery complex appears to differ from Deptford as manifested on the Georgia Coast. While the same surface finishes are present in each area, their relative frequencies seem different. Simple-stamped surface treatments appear to be most common in the Deptford complex in the interior, while check stamping occurs most prominently on coastal Deptford pottery. This distinction leads Snow to question an earlier hypothesis (Milanich 1973) that coastal Deptford Phase populations migrated into the interior on seasonal collecting forays, suggesting instead that the Deptford Phase in the interior may have been associated with a separate population (Snow 1977:15-18).

Late Swift Creek occupations were well represented (40% of the recorded sites) in the Ocmulgee Big Bend survey area, particularly

along the Ocmulgee River and to the south within the Satilla River drainage system. The Oconee River appears to have excluded major Swift Creek occupations. Late Swift Creek Complicated Stamped, Plain Smoothed, and plain pottery define majority wares at the sites, with Weeden Island Incised, Weeden Island Red Filmed, Carrabelle Punctated, West Florida Cord Marked and Napier Complicated Stamped pottery occurring infrequently. Snow suggests that the distribution of Late Swift Creek sites may represent semi-permanent base camps surrounded by temporary collecting stations (Snow 1977:21-31).

Sites containing abundant cord-marked pottery dominate the Ocmulgee Big Bend region (58% of the recorded sites). Snow (1977:31-40) divides the cord-marked pottery complex into three geographic areas, each exhibiting a separate set of ceramic traits. Ocmulgee I is characteristic of the northern portion of the survey area along the Ocmulgee River. Ocmulgee I Cord-Marked pottery is described as having a temperless paste, a high incidence (74%) of folded rims, and a high incidence (80%) of parallel cord impressions extending vertically on the vessel walls. Snow also notes that cord impressions of Ocmulgee I pottery are spaced further apart, exhibit larger diameters, and are more deeply imprinted than those found on Ocmulgee II or III pottery. Ocmulgee II Cord-Marked pottery is associated with the central portion of the survey area along the Ocmulgee River. Here the cord-marked pottery is described as having a sandy paste, a lower incidence (45%) of folded rims, and a prevalence of crossed (65%) rather than parallel cord marking. Ocmulgee III is associated with the eastern portion of the survey

area along the lower Ocmulgee and upper Altamaha Rivers. The cord-marked pottery in this area has a grit-tempered paste, shows a high incidence (72%) of plain rims, and usually (84%) exhibits crossed cord marking. Based primarily upon the rim morphology of the Ocmulgee pottery, Snow (1977:42-43) argues that the ceramic complex is distinctive from coastal Wilmington and Savannah cord-marked pottery types, although he notes that some similarities exist between Ocmulgee III and the Savannah pottery types.

Recent test excavations at the Telfair Mound (9Tf2) and the Hickory Ridge site (9Tf73) provides needed information about the cord-marked ceramic complex and its associations within the Ocmulgee I segment of the Ocmulgee River (see Bracken, et al. 1986). The Telfair Mound, marked by a natural river levee in the floodplain, is located about 16km upstream from the Lowe Site. The Hickory Ridge site is located on the floodplain about 1km downstream from the Telfair Mound. Limited stratigraphic testing at these sites was undertaken in 1985 in an effort to determine if the sites conformed to Snow's Ocmulgee I classification, to document subsistence remains, to define a cultural chronology, and to generally determine the nature of the occupations represented at the sites.

Combining excavation and surface collection samples, cord-marked ceramics accounted for 41% of the pottery recovered from the Telfair Mound and 50% of the pottery from the Hickory Ridge site. Smoothed and Roughened Plain pottery defined the remaining ceramics at both sites, with the exception of low frequencies of fiber-tempered, Deptford, and Swift Creek pottery that occurred at the Telfair Mound.

Small triangular projectile points, classified as "Hamilton," were primarily associated with both sites. A few Late Archaic stemmed types also were recovered at the Telfair Mound.

To test the reliability of Snow's Ocmulgee I "areal type," the thickness of cord impressions and spacing between parallel cord impressions were measured on pottery recovered from each 10cm level excavated at the Telfair Mound. Specifically, it was hypothesized that cord widths and spacing would not significantly vary through the excavation levels if a single-component Ocmulgee I occupation was represented (Bracken, et al. 1986:87). Standardized statistical tests (ANOVA) were employed to analyze the variance in cord marking represented within the site. The results showed no statistically significant difference between excavation levels of either cord width or spacing, indicating a rather homogenous stratigraphic distribution of the measured variables and suggesting to the authors that a single cord-marked complex (Ocmulgee I) was represented at the Telfair Mound.

Statistical comparison (t-test) of mean cord width and spacing at the Telfair Mound with the means of these cord measurements at the Hickory Ridge site did, however, indicate a statistically significant difference between the two samples. The authors conclude that the two sites "appear to have different cord-marked ceramics by this last analysis. Even though they seem to be contemporaneous occupations and very culturally similar, perhaps this is the variation one might expect from group to group within the Late Woodland" (Bracken, et al. 1986:88).

However, other evidence reported but not discussed by Bracken et al. (1986:see Table 2) indicates some stratigraphic variation of ceramics at the Telfair Mound. The plain and cord-marked pottery types covary inversely through the excavation levels. The relative frequency of plain pottery is greatest in the lower levels, where it is accompanied by relatively less cord-marked pottery. The cord-marked pottery becomes relatively more common, and the plain pottery less common, in the upper excavation levels. It seems clear from this stratigraphic evidence that occupation at the Telfair Mound was marked by the gradually increasing popularity of cord-marked pottery, and the gradually declining popularity of plain pottery.

Subsistence remains recovered from excavation levels and a few features (refuse pits?) at the Telfair Mound suggest that a generalized hunting-gathering economy, focusing on resources of the local deciduous forest bottomlands, characterized occupation at the site. Animal resources included white-tailed deer, cottontail rabbit, and fox squirrel. Plant resources were represented by hickory and acorn shell fragments, occasional acorn-meat fragments, unidentified fruit fragments, blackberry, and a possible chiquipin chestnut, along with numerous small pieces of pine and hardwood (see Bracken, et al. 1986:Tables 4 and 5). Neither domesticated plants nor animals were identified in the excavated remains.

Samples of the cord-marked ceramics and their associated soils from the Telfair Mound and Hickory Ridge site were submitted for thermoluminescence (TL) dating. The results suggest a late 14th century A.D. date for Ocmulgee I at the Telfair Mound (Alpha-2866:

590+/-60 B.P.; Alpha-2867: 550+/-50 B. P.) and a comparable date for the Hickory Ridge site (Alpha-2868: 460+?B.P.; signal fading). As the authors note (Bracken, et al. 1986:79), these dates are more recent than expected for a Late Woodland occupation. The discrepency may be due to the effects of abnormally high background radiation represented in the soils at the site. If this represents a recent change in the soil minerology, then the dates would be wrong. On the other hand, the high background radiation could be characteristic of Coastal Plain minerology through time. In this event, the TL dates would be accurate and it would appear that the Late Woodland cultures extended well into the Mississippi time period.

LOWE SITE RESEARCH GOALS

Much of the importance of the Lowe Site rests in the fact that so little formal excavation has been carried out at sites within the Atlantic drainage of the interior Georgia Coastal Plain. Prior survey and testing efforts clearly indicate, however, a long period of aboriginal occupation in the area. It also shows the potential for future research to contribute to our understanding of Georgia Coastal Plain prehistory in particular and of the general processes involved in prehistoric adaptation within a marginal environment. However, a great many basic archaeological questions require answers before questions of adaptation and process may be successfully approached.

Investigation at the Lowe Site, therefore, was designed to recover basic information about the archaeological components

represented at the site. Specifically, four research goals were defined:

1. Definition of the artifact assemblages associated with each cultural component represented at the site.
2. Definition of the temporal associations of the primary cultural components represented at the site.
3. Definition of productive activities associated with each cultural component, especially those activities suggested by the lithic remains.
4. Definition of micro-settlement features, especially house forms and activity areas, associated with major cultural components.

INVESTIGATION METHODS

FIELD METHODS

The Lowe site was divided into two areas for investigation. The primary area (North Area) was in an agricultural field that had been planted in soybeans. The second area of investigation was in woods to the south of the field, along the inner edge of the flood plain and adjacent to the backwater swamp of the Ocmulgee River (refer to Figure 3).

Field work was initiated with topographic mapping of the site area within and adjacent to the D.O.T. right-of-way. This mapping was accomplished using an engineer's transit and metric stadia rod to record surface contours and other important landscape features. A metric grid system for the investigation also was established, with its origin point situated outside the work area and with an orientation of 20 degrees west of magnetic north. The grid system was set so that the North Area of investigation would be within Northing and Westing grid coordinates, while the South Area would be within Southing and Westing grid coordinates. Vertical datum was set arbitrarily at 10.00 meters.

Investigation in the North Area consisted of manual excavation of twelve 2m squares, along with mechanical stripping of the plow zone within a 1m-wide transect and a large rectangular block area. Nine of the 2m squares were excavated from the base of the plow zone within the stripped block area and three were excavated outside the stripped area. The placement of the test pits and stripped areas was judgemental.

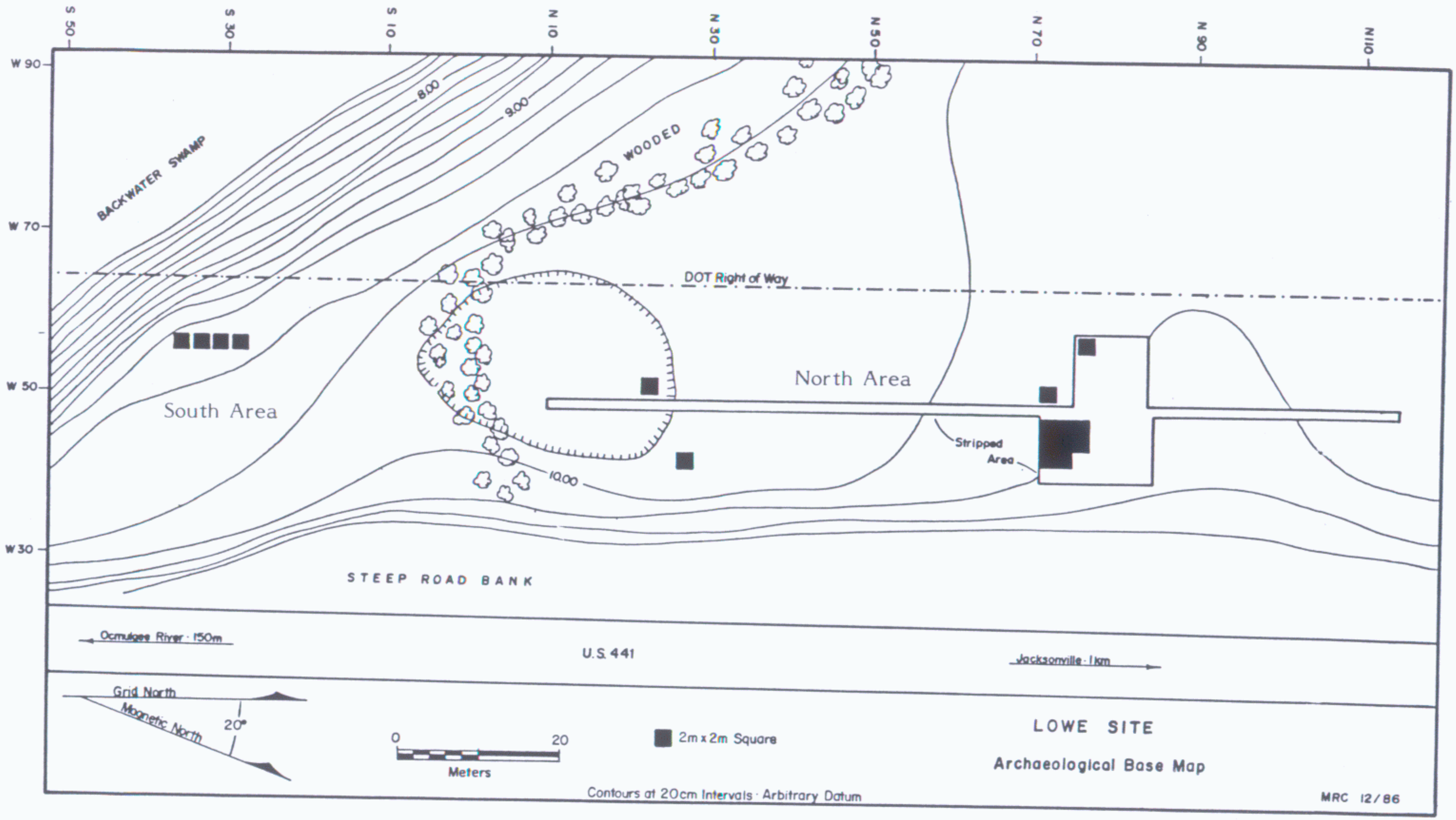

S 50
S 30
S 10
N 10
N 30
N 50
N 70
N 90
N110
W 90
W 70
W 50
W 30
8.00
9.00
10.00
BACKWATER SWAMP
WOODED
DOT Right of Way
South Area
North Area
Stripped Area
STEEP ROAD BANK
Ocmulgee River · 150m
U.S. 441
Jacksonville · 1km
Grid North
Magnetic North
20°
0
20
Meters
2m x 2m Square
LOWE SITE
Archaeological Base Map
Contours at 20cm Intervals · Arbitrary Datum
MRC 12/86

Figure 3

Excavation of eleven of the 2m squares followed a standardized field procedure. The brown sandy plow zone (approximately 25cm thick) first was removed as a single unit. In squares outside the stripped block area, the plow zone was screened through 1/4" mesh hardware cloth. Excavation of the underlying yellow sandy clay midden (approximately 20cm thick) proceeded in 5cm levels, as measured from a level-line set 15cm below the ground surface of the northeast corner of the excavation unit. Each level was screened through 1/4" mesh and a 10-liter soil sample was taken and sifted through 1/16" screen (water assisted). Upon completion of each level, the freshly exposed surface was examined for intrusive features. Excavation continued to the upper surface of the underlying sterile orange clay and sand subsoil. The simple soil profile exposed in the walls of each square then was recorded by scale drawings and photographs.

The twelfth 2m square (N73 W50) was excavated in another way, with the goal of recording any subtle horizontal or vertical patterns in the distribution of the artifacts within both the plow zone and undisturbed midden (see Figure 4). Excavation here was initiated at the top of the existing ground surface and thin layers of soil were removed with trowels, leaving artifacts in place as they were encountered. The horizontal and vertical positions of each artifact or small cluster of artifacts were recorded and each was given a distinctive field specimen number.

The horizontal provenience of each artifact was determined by recording the distance and angle to its position from a fixed point

Figure 4
Artifact Plotting Technique at N73 W50

outside the square. This was accomplished by using a mounted protractor (360 degrees) with a wire leader attached at its center and a fiberglass metric tape connected to the leader slightly beyond the protractor board. The mechanism was set at known grid coordinates and aligned with grid north. The tape was stretched tightly to intersect with a plumb line held over the artifact. The distance to the plotted artifact then was recorded to the nearest centimeter and its declination was determined by reading the angle on the protractor as crossed by the wire leader (to the nearest 20 minute mark). The vertical position of each plotted artifact was recorded by measuring down from a level line of known elevation within the grid system. Aside from the provenience data, it was also noted whether the artifact occurred in the plow zone or the underlying midden.

Using the above technique, the locations of all bifacial lithics and larger potsherds were plotted by calculating grid coordinates (using trigonometric formulas) and depth below datum. Potsherds with dimensions less than 2cm and unifacial chert flakes were not plotted. These were recovered as plotting progressed, noting whether they were from plow zone or undisturbed midden contexts. The plotting technique provided detailed provenience data, but proved to be labor- and time-intensive. A total of 91 man-hours were expended in the excavation, plotting, and recovery of 357 artifacts and small clusters within the 2m square.

Mechanical stripping at the Lowe Site was accomplished with a backhoe. Stripping first proceeded along a grid north-south line

through the middle of the D.O.T. right-of-way, extending from station N10 W50 to station N115 W50. Following mechanical removal of most of the plow zone within the 1m-wide transect along this line, the remaining plow zone in the base of the trench was skimmed off with shovels, exposing the upper surface of the undisturbed midden (Figure 5). The freshly exposed surface was inspected for intrusive features, with the expectation that excavation would be expanded to completely define any activity areas indicated by post holes, pits, or hearths located within the transect. All artifacts from the plow zone that were encountered on the back dirt beside the trench, from shovel-skimming, and from the exposed underlying midden were recovered and their proveniences were recorded.

Artifact densities along the transect showed a clear distributional pattern. Artifacts from the plow zone and the upper surface of the midden were sparse in the southern portion of the transect from station N10 to station N65, where they were recovered at a rate of slightly more than one per square meter. Artifacts were concentrated in the trench from station N65 to station N85, where they were recovered at a rate of about six per square meter. Artifact density again was sparse (approximately one per square meter) between station N85 to station N105, and areas further north were sterile.

Features were rare and restricted to the zone where artifacts were concentrated. Two post holes were recognized in this area of the trench, along with the wall outlines of the eastern portion of four contiguous 2m squares that had been excavated earlier by Rowe

Figure 5
Shovel Skimming Base of the Plow Zone
within the Mechanical Transect in the North Area

Bowen for the Georgia D.O.T. It was in these test pits that Bowen had recorded the curving alignment of post holes.

The plow zone beyond the post holes, within the artifact-concentration area, was removed with the backhoe in an effort to expose complete structural outlines and their associations (Figure 6). As with the transect excavation, mechanical removal of the plow zone within this block area was followed by manual skimming with shovels to the top surface of the underlying midden. Three additional post holes were encountered within the 212 square meters exposed in the stripped-block area. No apparent alignment pattern for the post holes was recognized, and no additional features were recognized (see Figure 7).

Standardized excavation, as previously described, resumed in the southeastern corner of the stripped-block area, where eight contiguous 2m squares were excavated to the base of the undisturbed midden. Another 2m square was placed in the southwest corner of the stripped block. The upper surface of an old stream bed was observed beginning at the base of the undisturbed midden within these areas. Excavation proceeded into the fill of the stream bed within one of the 2m squares (N77.5 W56), to a depth of 1.45m below the surface. After the alluvial sand and silt fill was removed from stream channel, exposed profiles were recorded and samples of the fill were collected for pollen analysis (see Figures 8 and 9).

Investigation in the South Area consisted of stratigraphic excavation of four 2m squares arranged in a line extending north from the inner edge of the floodplain (see Figures 3 and 10). Unlike

Figure 6
Mechanical Removal and Shovel Skimming of the Plow Zone within the Stripped Block Area

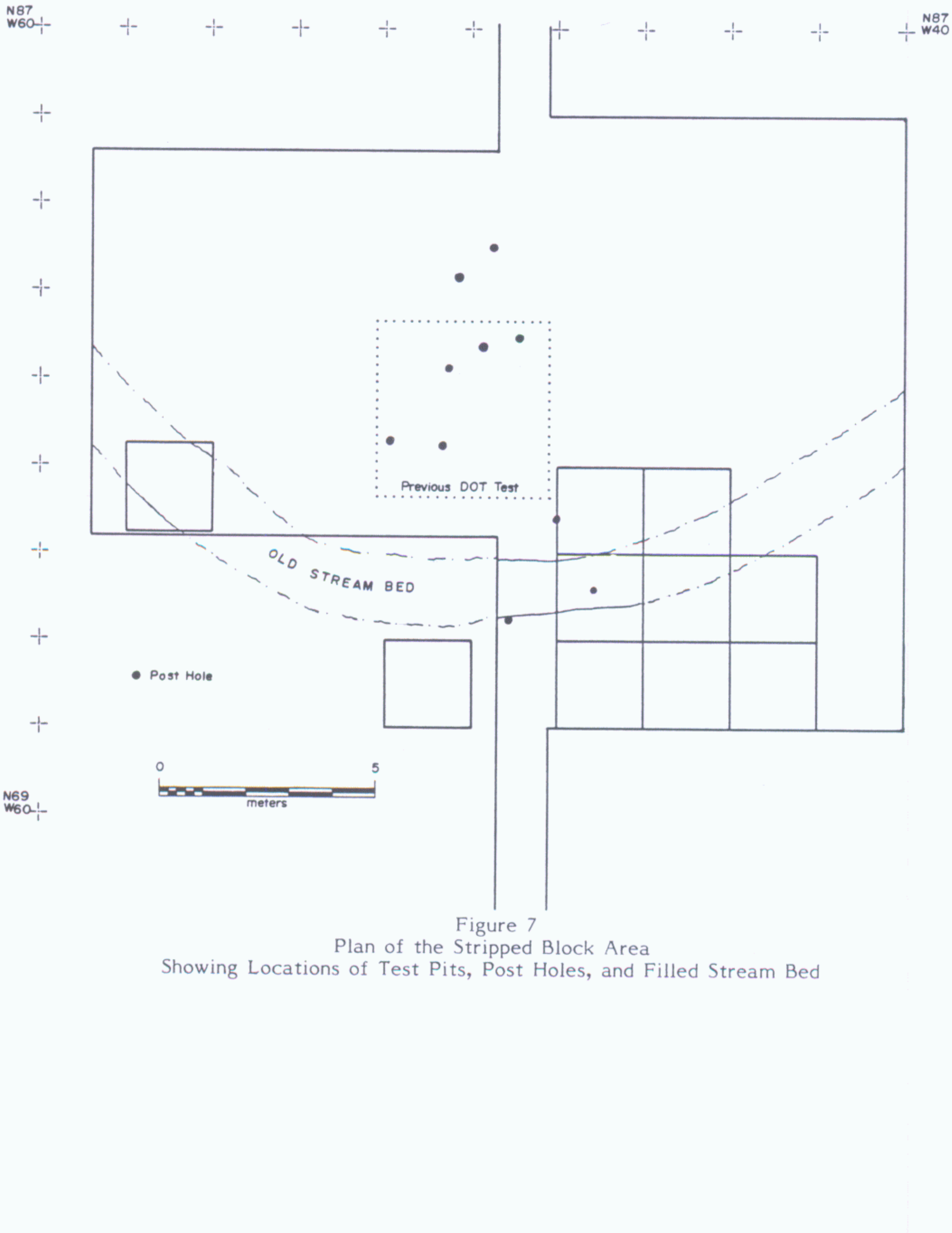
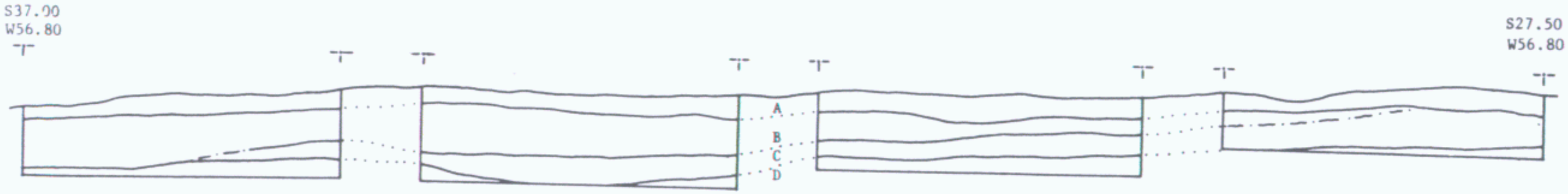
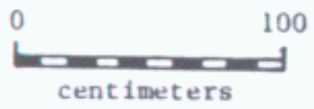


Figure 7
Plan of the Stripped Block Area
Showing Locations of Test Pits, Post Holes, and Filled Stream Bed

Figure 8
Excavated Section of the Filled Stream Bed
(view to the Northeast)



SOUTH AREA EXCAVATION



KEY

A - Dark Brown Sandy Humus

A' - Brown Sandy Plow Zone

B - Brown Sandy Midden

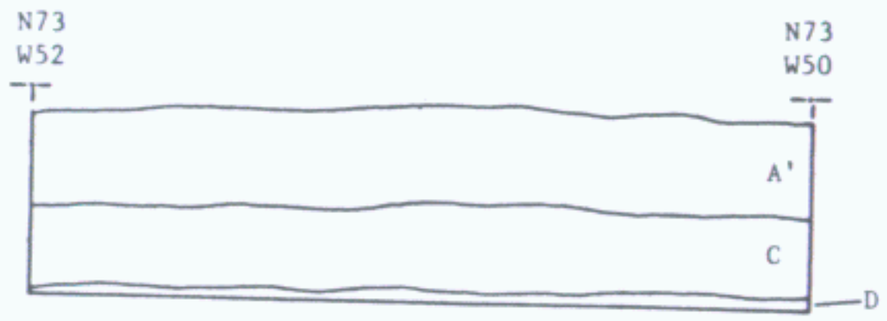
C - Yellow/Tan Sandy Clay Midden

D - Orange Clay & Sand Subsoil

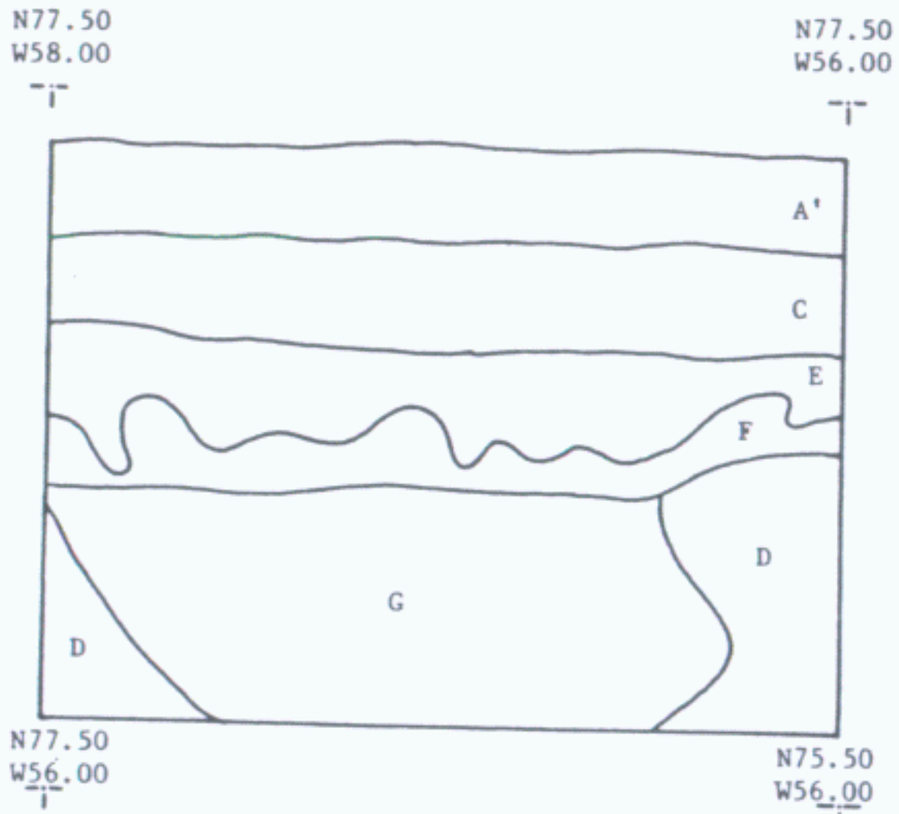
E - Mottled White Sand

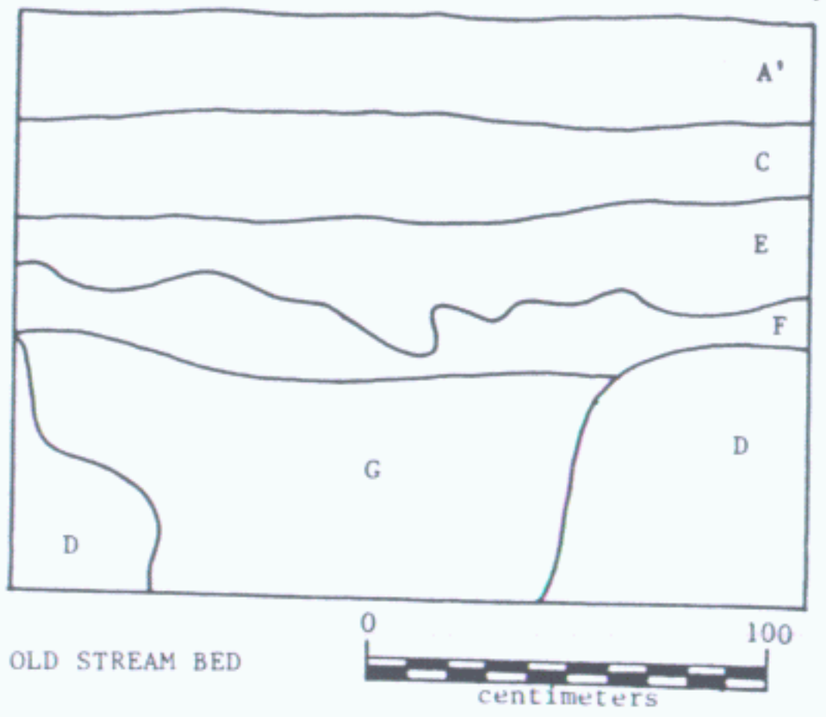
F - Mottled Tan Sand

G - Silt Laminae in White Sand



PLOTTED TEST PIT





OLD STREAM BED

Figure 9
Lowe Site Soil Profiles

Figure 10
Excavation in the South Area

excavation in the North Area, 50cm-wide baulks were left between each of the 2m squares. Also unlike the North Area, soils in the South Area were undisturbed by plowing and excavation revealed a more complex stratigraphy. Four distinctive soil strata were recognized, and the upper three were associated with artifacts (see Figure 9). Stratum A was a rich brown sandy humus zone, containing a dense mat of roots at its surface, that extended approximately 20cm beneath the ground surface. Stratum B was an underlying zone of brown sand, extending approximately 25cm beneath the base of Stratum A. Stratum C was a layer of light tan sand, extending about 15cm beneath the base of Stratum B. The base of Stratum C was defined by the upper surface of dense orange clay, the sterile subsoil zone referred to as Stratum D.

Excavation in the South Area proceeded as follows. The dense root mat along the surface, varying in thickness from 5cm to 10cm, first was removed from each square. The irregular exposed surface of Stratum A then was excavated to a uniform depth of 20cm beneath the ground surface, as measured from the northeast corner of each square. A level-line then was set in each of the four walls of each square, at a depth of 15cm below the surface of its northeast corner. Excavation with shovels and trowels then continued in 5cm intervals, with reference to the established level-line. The 5cm excavation levels were interrupted as the base of each stratum was encountered. The fill of each excavation level was sifted through 1/4" mesh hardware cloth and a 10-liter soil sample of each level was sifted through 1/16" mesh screen (water assisted). The base of each

excavation level was inspected for intrusive features and soil profiles were recorded upon completion of each square.

Field procedures in both the North and South Areas included collection and recording of certain special samples. Carbonized wood suitable for C-14 dating was collected as it occurred in all excavated areas. The charred-wood fragments were recovered with a clean trowel and placed in a foil envelope. A field catalog number then was assigned to the sample, with appropriate notes regarding its provenience and associations. Diagnostic artifacts encountered in-situ also were assigned field catalog numbers and their proveniences were recorded.

Samples for thermoluminescence (TL) dating were recovered from both general excavation levels and from in-situ contexts. To determine background radiation for TL dating, a 25cc soil sample was saved from each 5cm excavation level and additional samples were collected directly from strata as exposed in profiles of the excavation units. Associated soils immediately around diagnostic potsherds recovered in-situ also were collected. A special effort was made to recover charred wood, pottery, and soil that appeared to be closely associated, in order to compare the resulting C-14 and TL ages.

Soil samples for pollen analysis were collected only from the 2m square excavated in the filled stream bed in the North Area. When excavation was completed here and the soil profiles were recorded, a total of eight 50cc samples were recovered from specific points in the wall of the unit. The samples were obtained by first troweling

each collection point to expose fresh soil, and then by pushing a glass vial horizontally into the wall to remove a clean core of soil. The samples were kept refrigerated until analysis.

ANALYSIS METHODS

Cultural materials at the Lowe Site were limited to pottery, lithics, occasional charred-wood fragments, and a few post holes. Neither bone nor botanical remains other that the charred wood were present, evidently having perished in the acidic soils. Soil samples from the excavated stream bed were carefully examined by a palynologist, but no pollen was detected. Analysis efforts, therefore, were concentrated on pottery and lithics.

Ceramic analysis began on a descriptive level, focusing upon tempering, surface treatment, and rim characteristics. Pottery from each excavated context (e.g. each 5cm level) first was sorted into residual and identifiable groups. The residual group consisted of tiny sherds (dimensions less than 2cm) and those which were badly eroded. These were considered unidentifiable and were merely counted per context. Each sherd within the identifiable group then was examined and its tempering, surface treatment, and rim (if present) attributes were recorded.

The tempering (aplastic inclusions) categories initially used in classification were Fiber (e.g. casts of vegetative inclusions such as Spanish Moss), Sand and Fiber, Sand, and Grit. Following several days of analysis, it became apparent that these categories were neither totally discrete nor reliable. The paste of Fiber-Tempered

pottery always contained sand, and Sand-Tempered pottery contained large sand grains or grit. Upon reanalysis of several contexts, it was realized that the pottery was being inconsistently classified into the tempering categories because of the overlapping attributes.

The tempering categories, therefore, were revised so that classification would be more reliable. Fiber-Tempered was revised to refer to sherds exhibiting dense fiber casts within a sandy paste. Sand and Fiber-Tempered was revised to refer to sherds exhibiting sparse fiber casts within a sandy paste. Grit-Tempering was abandoned as a category, with Sand-Tempered pottery now referring to sherds with pastes that include variable amounts of both fine and coarse sand. Although greater variability is present than is accounted for in the revised categories, a detailed technological analysis of the pottery would be required to discern the significant variation. It is suspected that such an analysis would indicate that much of the aplastic variability is a consequence of aboriginal exploitation of physically different clay sources in the area.

The surface treatment categories used in classification proved to be less of a problem than those of temper. Eight categories were employed. Sherds classified as Plain lacked decoration or other distinctive surface treatment. All those classified as Incised-Punctated were examples of the "Stab and Drag" decorative technique; this surface treatment occurred exclusively on Fiber-Tempered pottery. Cord-Marked pottery was divided into two categories, defined as Linear and Crossed. Linear Cord Marked sherds exhibited parallel cord impressions orientated more or less

vertically along the vessel wall. Oblique crossing of the impressions occasionally occurred as a result of slight over-stamping. Crossed Cord Marked sherds exhibited extensive crossing of cord impressions, both obliquely and at right angles. It was not determined whether this was a result of intentional overstamping with a linear wrapped paddle, the potter's paddle being cross-wrapped with cordage, or both. The Check Stamped surface treatment consisted of a grill of raised lines that intersected to form small squares or checks. Most of the pottery in this category showed checks about 3mm wide, with checks as large as 7mm occurring only rarely. Simple Stamped designs were characterized by parallel, linear impressions that appear to have been applied obliquely to the vessel surface. Some overlapping occurred, presumably as a result of overstamping. The widths of the lands and grooves varied considerably in the collection, with 2mm grooves and 1mm lands appearing to be most common. Complicated Stamped surface treatments were rare at the Lowe Site. Classification of these consisted of description of the design motif and attempts to match particular motifs with those of known pottery types.

Rim sherds of pottery next were classified according to their form. Variations in rim form were sorted into four classes: Rounded, Flattened, Folded, and Indeterminate. Rims classified as Rounded or Flattened exhibited lips that had round or flat top surfaces, respectively. Those classified as Folded exhibited a thin fold of clay that extended as much as 2cm down the exterior from the lip. The folds appear to have been formed after the pot was coiled

and shaped but prior to final stamping. Because of surface erosion, the form of some rims could not be discerned. These rims were sorted into the Indeterminate class.

Analysis of stone artifacts was undertaken on descriptive, functional, and typological levels. Descriptive classification included identification of raw materials and their colors, determining whether flaking scars were unifacial or bifacial, and determining if the object exhibited evidence of use. Raw materials consisted of chert, quartz, and rarely sandstone, silicified clay, steatite and petrified wood. When the raw material was chert, surfaces retaining parent cortex were recorded as they occurred. As would be expected, most of the chert appeared to be Coastal Plain in origin. These exhibit a variety of colors and are distinctive from the more uniform-colored chert of the Georgia Valley and Ridge Province. It appears that a study of the distribution and attributes of chert outcrops in the Coastal Plain never has been undertaken. Such a study could prove to be invaluable in attempts to determine the specific sources of aboriginal exploitation. As color categories may prove to be instructive when we know more about Coastal Plain cherts, materials from the Lowe Site were sorted into three basic groups: White, Brown (including tan), and Red (including pink). A fourth category -Black- refers to chert ranging in color from grey to black; this appears to be an exotic raw material from the Valley and Ridge Province.

Analysis efforts next focused upon sorting utilized unifacial and bifacial artifacts into functional categories. This consisted

largely of a conventional analysis of form. Utilized unifacial flakes showed wear on one or more edges and presumably were used as small, expedient cutting implements. Five kinds of bifacial tools were recognized. Projectile points were the most common bifacial tool and were defined by a variety of symetrical forms. Blades were defined by either crude asymetrical forms or symetrical forms that commonly had obtuse distal ends. Forms identified as Scrapers were symetrical and ovate or lunate in shape with steeply chipped working edges. The remaining two functional categories, Drills and Choppers, were very rare. The single drill had an expanded excurvate base and a narrow blade with parallel edges. The single chopper was a small, crudely chipped, ovate form.

The projectile points then were examined in reference to a formal set of attributes, concentrating upon the shoulder and hafting areas. Recognized base shapes consisted of indented or incurvate, stemmed, corner notched, basal notched, and auriculate. Blade edge features, such as serration or beveling, were noted as they occurred. Finally, measurements were made to record maximum length, width, and thickness of each projectile point.

Typological classification of projectile points consisted of matching, as closely as possible, the observed attributes of form and size with published type descriptions and type collections. The type collections that were consulted are housed in the Archaeological Laboratories at West Georgia College and Georgia State University. These collections are composed primarily of typed specimens from the Georgia Coast, Georgia Piedmont, and North Carolina Piedmont.

Published descriptions of projectile point types from Florida (Bullen 1975) and Alabama (Cambron and Hulse 1964) were consulted. The type names used to refer to the Lowe Site materials employ synonymous Florida and Alabama type names.

There were, at each level of analysis, individual artifacts that could not be accurately identified because they were fragmentary. These were sorted into an Intermediate class.

Chronometric analysis of carbonized wood was undertaken by Beta Analytic, Inc., under the supervision of Murray Tamers. TL dating of sherd and soil samples were carried out by Alpha Analytic, Inc., under the supervision of Jerry Stipp. Analysis of soil samples for their pollen content was carried out by William H. Gillespie of the United States Department of the Interior Geological Survey in Reston, Virginia. However, as previously stated, the pollen-analysis results were negative.

INVESTIGATION RESULTS

The results of archaeological investigation at the Lowe Site are presented in five parts. The first four parts are separate discussions of ceramics, lithics, features and chronometric dates relative to their contexts in the North and South Areas. The fifth part consists of discussion of the plotted test pit and its associations.

CERAMICS

Considering ceramics as a whole, the Lowe Site assemblage is dominated by Sand-Tempered Plain (50%) and Fiber-Tempered Plain (24%) pottery. Sand and Fiber Tempered pottery is rare, accounting for slightly more than 1% of the assemblage. Cord-Marked pottery is the most common decorated ware, comprising about 14% of the total assemblage and 60% of all decorated sherds. Simple-Stamped pottery accounts for 26% of the decorated wares, while Check Stamping occurs on 11% of the decorated sherds. The remaining 4% of the decorated wares are defined by Incised-Punctated Fiber-Tempered sherds and Complicated-Stamped Sand-Tempered sherds (see Figures 11 and 12).

The results of the ceramic analysis by excavation area are shown in Table 1. The North and South areas are associated with very similar assemblages. The slight differences in percentages of various ceramic classes on each area are probably due to the different sample sizes represented.

There seem to be three basic patterns represented in the

Figure 11
Pottery from the Lowe Site
(Crossed Cord Marked - A, B, C; Linear Cord Marked - D, E, F;
Simple Stamped - G, H, I)

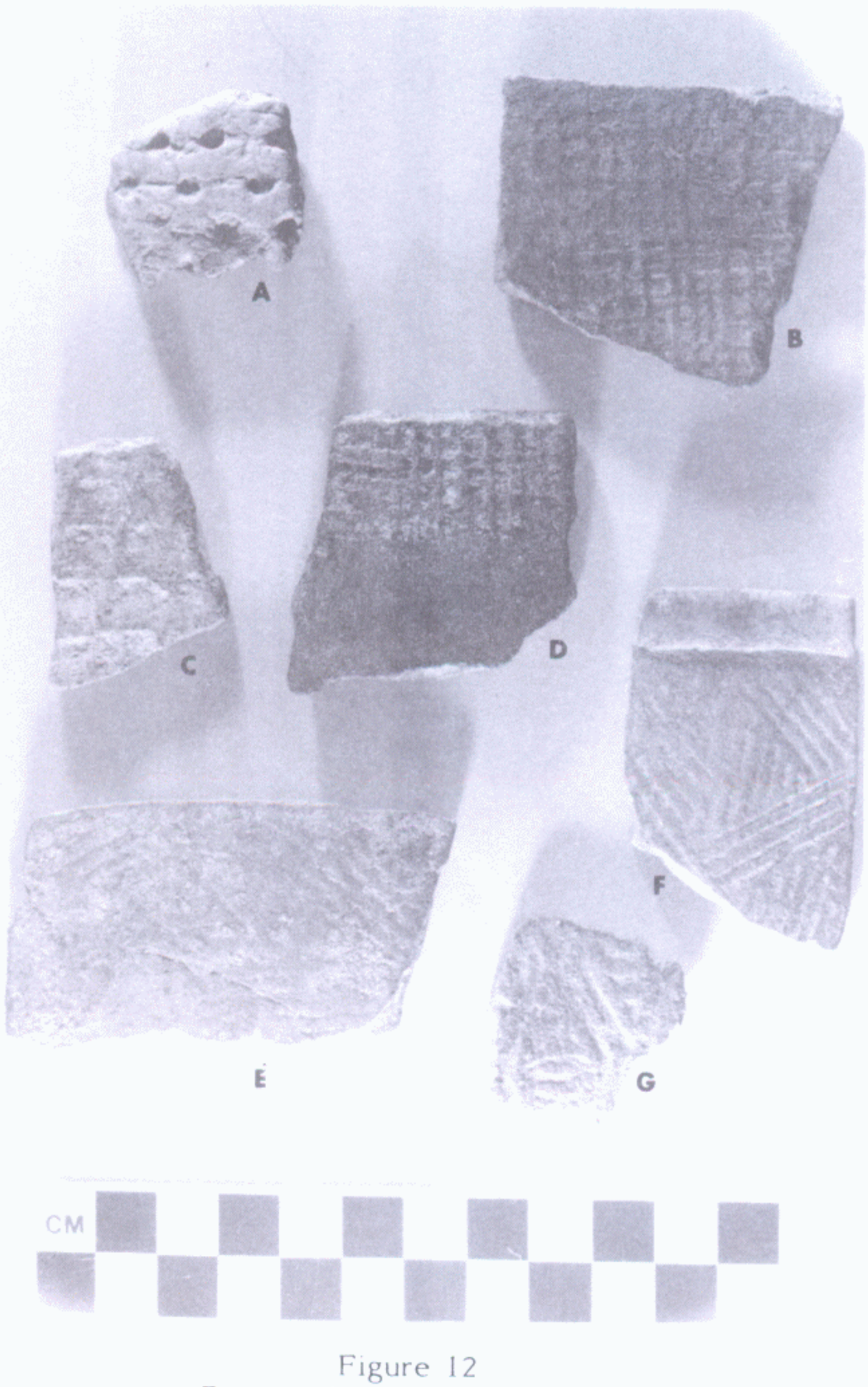


Figure 12
Pottery from the Lowe Site
(Fiber Tempered with Stab and Drag Punctates - A; Check Stamped - B, C, D;
Complicated Stamped - E [Unidentified Rectilinear], F [Napier], G [Swift Creek])

Table 1
Ceramics by Area and Strata

	Fiber-Tempered Plain	Fiber-Tempered Incised/Punctated	Sand & Fiber Tempered Plain	SAND TEMPERED						Total Identified	Residual Unid.
				Plain	Crossed Cord Marked	Linear Cord Marked	Check Stamped	Simple Stamped	Complicated Stamped		
NORTH AREA											
Plow Zone	46 (14%)	2 (0.6%)	7 (2%)	166 (51%)	42 (13%)	36 (11%)	5 (2%)	15 (5%)	6 (2%)	325	53
Midden											
x-30cm*	189 (27%)	4 (0.6%)	7 (0.9%)	367 (52%)	36 (5%)	28 (4%)	20 (3%)	53 (7%)	4 (0.6%)	708	110
30-35cm	33 (22%)	0	1 (0.7%)	80 (52%)	20 (13%)	6 (4%)	2 (1%)	10 (7%)	1 (0.7%)	153	23
35-40cm	40 (37%)	1 (0.9%)	1 (0.9%)	48 (44%)	4 (4%)	6 (6%)	3 (3%)	6 (6%)	0	109	5
40-45cm	3 (20%)	0	0	7 (47%)	2 (13%)	1 (7%)	0	2 (13%)	0	15	0
45-50cm**	6 (46%)	3 (23%)	0	2 (15%)	1 (8%)	1 (8%)	0	0	0	13	0
50-55cm**	4 (80%)	0	0	1 (20%)	0	0	0	0	0	5	0
55-60cm**	1 (33%)	0	0	2 (66%)	0	0	0	0	0	3	0
Total	322 (24%)	10 (0.7%)	16 (1.2%)	673 (51%)	105 (8%)	78 (6%)	30 (2%)	86 (6%)	11 (0.8%)	1331	191
SOUTH AREA											
Stratum A	5 (16%)	1 (3%)	0	15 (47%)	8 (25%)	3 (9%)	0	0	0	32	36
Stratum B	20 (35%)	0	1 (2%)	24 (42%)	5 (9%)	1 (2%)	4 (7%)	2 (4%)	0	57	32
Stratum C	11 (24%)	2 (4%)	1 (2%)	23 (51%)	2 (4%)	2 (4%)	3 (7%)	0	1 (2%)	45	26
Total	36 (27%)	3 (2%)	2 (1%)	62 (46%)	15 (11%)	6 (4%)	7 (5%)	2 (1%)	1 (1%)	134	124
TOTAL	358 (24%)	13 (0.8%)	18 (1.2%)	735 (50%)	120 (8%)	84 (6%)	37 (3%)	88 (6%)	12 (0.8%)	1465	315

* Base of Plow Zone to 30cm beneath surface

** Unit N77.5 W56 Only

stratigraphic sequence. Within the 5cm levels shown in Table 1 for the North Area, similar percentages of each ceramic class occur throughout the levels. There does, however, appear to be a general reduction in the occurrence of Fiber-Tempered pottery in the plow zone, accompanied by a decrease in the relative frequency of Check-Stamped and Simple-Stamped pottery and increases in the occurrences of Cord-Marked and Complicated-Stamped sherds.

The absence of a more distinctive stratigraphic pattern in the North Area is not understood, as the underlying midden appeared to be undisturbed. Post-holes present at the base of the plowzone also would seem to indicate that the underlying midden was basically intact.

The discrete soil strata present in the South Area were associated with only a slightly more distinctive ceramic pattern. Although present in each of the three strata, Fiber-Tempered wares are most common in the lower two strata, while Cord-Marked sherds are most common in the upper-most stratum. Check-Stamped pottery is absent in the upper-most stratum, while Simple-Stamped pottery occurs only in the lowest stratum.

The results of the rim-form analysis are shown in Table 2. Because of the small number of rims encountered, those from the South Area are shown without division by stratum. Similarily, the excavation levels of the North Area are collapsed to the plow zone, upper midden (base of the plow zone to 30cm below surface), and lower midden (30cm to base of midden).

Although much clearer stratigraphic associations would be

Table 2
Pottery Rim Forms

PROVENIENCE	FIBER TEMPERED				SAND & FIBER TEMPERED				PLAIN				CROSSED CORD MARKED				LINEAR CORD MARKED				CHECK STAMPED				SIMPLE STAMPED				COMPLICATED STAMPED			
	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter	Rounded	Flattened	Folded	Indeter
South Area	2	0	0	0	0	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
North Area																																
Plow Zone	4	2	0	1	2	0	0	0	11	4	0	1	1	0	0	0	2	2	0	1	0	0	0	0	2	0	0	0	0	0	0	0
Upper Midden	11	1	0	0	0	0	0	0	18	2	1	4	0	0	1	0	1	1	0	0	0	0	0	1	2	2	0	0	0	0	1	0
Lower Midden	7	0	0	0	1	0	0	0	19	4	0	1	6	0	3	0	3	0	0	0	0	0	0	0	7	1	0	0	0	0	1	0
Totals	24	3	0	1	3	0	0	1	50	10	1	8	7	0	4	0	6	3	0	1	0	0	0	2	11	3	0	1	0	0	2	0
% / Category	86%	11%		4%	75%			25%	72%	14%	1%	12%	64%		36%		60%	30%		10%				100%	73%	20%		7%			100%	

desirable, it seems possible to outline a tentative temporal sequence defined by the ceramic components. To distinguish the sequence from those of adjacent regions, the names Early Ocmulgee, Middle Ocmulgee, and Late Ocmulgee are used to designate the archaeological phases associated with the pottery sequence. It is likely that future research in the area will allow revision or refinement of these Atlantic Coastal Plain phases and their associations.

Ceramics of the Early Ocmulgee Phase are defined by Fiber-Tempered Plain pottery, with Fiber-Tempered Incised-Punctated and Sand and Fiber Tempered pottery occurring infrequently. The ceramics appear to be directly related to Late Archaic phases in adjacent regions. Middle Ocmulgee ceramics are distinguished by Crossed and Linear Cord-Marked pottery, along with Simple-Stamped and Check Stamped wares and occasional Swift Creek Complicated Stamped sherds. Plain pottery accounts for more than half of the assemblage and all pottery is sand tempered. There appears to be significant continuity in ceramics of the Late Ocmulgee Phase. Plain pottery continues to be common in the assemblage, but Crossed and Linear Cord-Marked pottery becomes relatively more frequent while the Check-Stamped and Simple-Stamped wares become less frequent. Complicated-Stamped pottery remains rare, but is more common than in the Middle Ocmulgee Phase and now includes Rectilinear (e.g. Napier) as well as Curvilinear Swift Creek designs.

LITHICS

The lithic debitage and tools encountered at the Lowe Site were

manufactured almost exclusively from Coastal Plain chert. Local quartz is represented in the collection, usually in the form of debitage. Extremely rare exotic materials are represented by a single worked steatite fragment from the upper midden of the North Area, three hafted scrapers of black chert from the plow zone in the North Area, and occasional unutilized black chert flakes from both the North and South Areas. These exotic materials indicate contact, however slight, with the Piedmont and the Ridge and Valley geological provinces to the north where steatite and black chert occurs, respectively.

Within the North Area at the Lowe Site, the lithic assemblage was dominated by unutilized debitage of Coastal Plain chert (see Table 3). Brown chert and Pink chert flakes were most common, increasing in popularity from lower to upper strata. There was a corresponding decrease in White chert flakes. These stratigraphic changes may reflect changing local chert sources over time. Relatively few of the chert flakes exhibited cortical surfaces of the parent material, suggesting that the exploited chert sources may have been located some distance from the Lowe Site; that the site occupants were importing blanks for further processing.

Bifacial tools in the North Area indicate an emphasis on hunting and butchering activities, as they consist primarily of projectile points and, secondarily, scrapers. Blades, drills, and choppers were present, but rare (see Table 4; Figures 13 and 14).

Little stratigraphic meaning can be gleaned from the excavated levels in the North Area. The Late Archaic Period Savannah River

Table 3
Lithic Analysis Summary for the North Area

PROVENIENCE RAW MATERIAL	Unifacial Flake, Unutilized	Unifacial Flake, Utilized	Bifacial Tool or Fragment	Exhibiting Cortex	Indeterminate	ROW TOTAL (minus cortex)
North Area-Surface						
White Chert	13 (6%)	2 (22%)	0	1 (3%)	0	15 (6%)
Brown Chert	112 (51%)	5 (56%)	6 (50%)	26 (74%)	3	126 (51%)
Pink Chert	93 (43%)	2 (22%)	6 (50%)	8 (23%)	2	103 (42%)
Black Chert	0	0	0	0	0	0
Quartz	0	0	0	0	4	4 (2%)
Other	0	0	0	0	0	0
Total	218 /88%/	9 /4%/	12 /5%/	35 /14%/	9 /4%/	248
North Area-Plow Zone						
White Chert	87 (9%)	3 (21%)	5 (12%)	4 (9%)	0	95 (9%)
Brown Chert	514 (53%)	3 (21%)	22 (54%)	28 (61%)	2	541 (52%)
Pink Chert	316 (33%)	8 (57%)	11 (27%)	14 (30%)	1	336 (33%)
Black Chert	10 (1%)	0	3 (7%)	0	0	11 (1%)
Quartz	35 (4%)	0	0	0	11	46 (4%)
Other	1 (.1%)	0	0	0	2	3 (.3%)
Total	963 /93%/	14 /1%/	41 /4%/	46 /4%/	16 /2%/	1034
North Area-Upper Midden						
White Chert	88 (11%)	4 (21%)	6 (15%)	5 (6%)	1	99 (11%)
Brown Chert	342 (42%)	11 (58%)	26 (65%)	52 (67%)	15	394 (42%)
Pink Chert	204 (25%)	2 (11%)	7 (18%)	21 (27%)	11	224 (24%)
Black Chert	6 (.7%)	0	0	0	0	6 (.6%)
Quartz	167 (21%)	1 (5%)	0	0	23	191 (20%)
Other	2 (.2%)	1 (5%)	1* (3%)	0	14	18 (2%)
Total	809 /87%/	19 /2%/	40 /4%/	78 /8%/	64 /7%/	932
North Area-Lower Midden						
White Chert	122 (21%)	1 (17%)	3 (19%)	2 (8%)	2	128 (19%)
Brown Chert	156 (27%)	4 (67%)	8 (50%)	16 (67%)	17	185 (28%)
Pink Chert	101 (17%)	1 (17%)	5 (31%)	6 (25%)	5	112 (17%)
Black Chert	4 (.7%)	0	0	0	1	5 (.7%)
Quartz	190 (33%)	0	0	0	23	213 (32%)
Other	8 (1%)	0	0	0	16	24 (4%)
Total	581 /87%/	6 /.9%/	16 /2%/	24 /4%/	64 /10%/	667

*Steatite Fragment
(%) Column Percentages
/%/ Row Percentages

Table 4
Bifacial Analysis Summary for the North and South Areas

PROVENIENCE	# Blade	# Scraper	# Drill	# Chopper	# Indented-Base Triangular	# Savannah River Stemmed	# Hernando/Eva Basal Notched	# Bolen/Kirk Corner Notched	# Tallahassee/Dalton	# Suwannee/Unfluted Clovis	# Indeterminate Fragments
North Area											
Plow Zone	4	7	0	1	2	5	2	1	0	0	19
Midden											
x-30 cm	0	2	1	0	0	10	0	5	0	2	17
30-35 cm	0	0	0	0	1	1	0	0	0	0	6
35-40 cm	0	1	0	0	0	2	0	0	0	0	5
40-45 cm	0	0	0	0	0	2	0	0	0	0	6
93 cm	0	0	0	0	0	0	0	0	1	0	0
Totals	4	10	1	1	3	20	2	6	1	2	53
South Area											
Stratum A	1	0	0	0	0	0	0	0	0	0	8
Stratum B	1	0	1	0	2	2	1	0	0	0	0
Stratum C	4	2	0	0	0	1	0	0	0	0	1
Totals	6	2	1	0	2	3	1	0	0	0	9

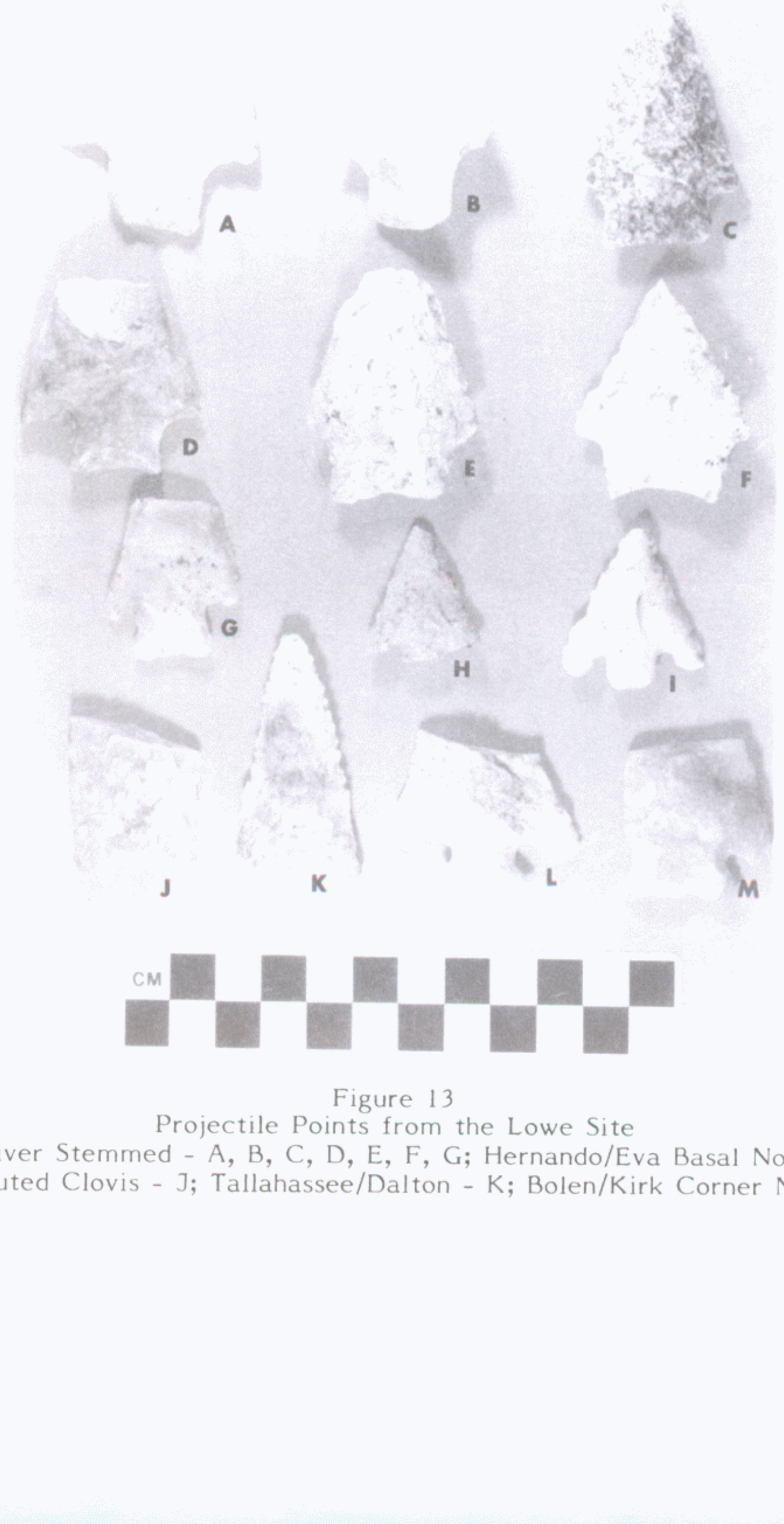


Figure 13
Projectile Points from the Lowe Site
(Savannah River Stemmed - A, B, C, D, E, F, G; Hernando/Eva Basal Notched - H, I;
Suwannee/Unfluted Clovis - J; Tallahassee/Dalton - K; Bolen/Kirk Corner Notched - L, M)

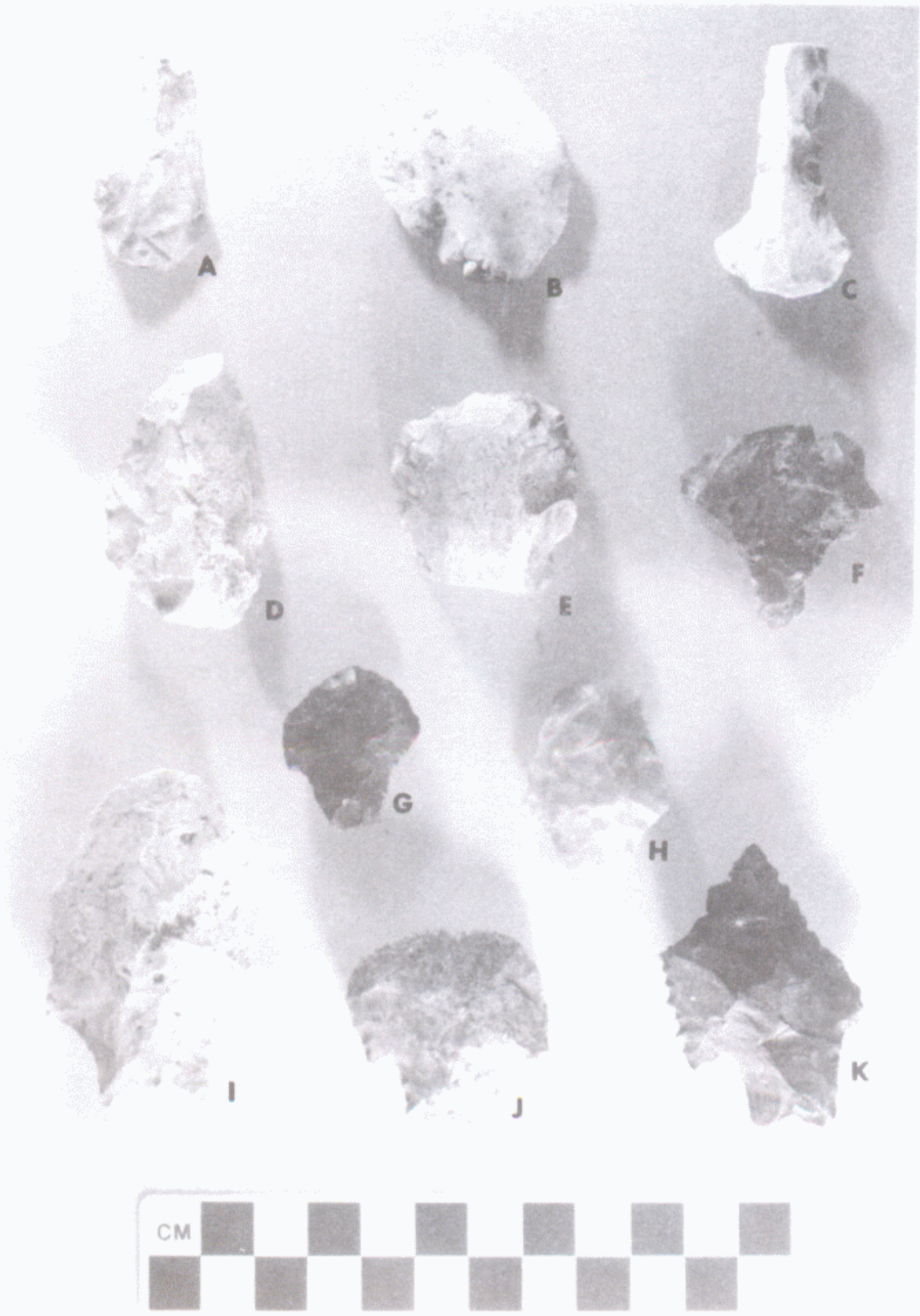


Figure 14
Other Bifacial Tools from the Lowe Site
(Blades - A, B, D, H, I, K; Drill - C; Scrapers E, F, G, J)

Stemmed type is the most common form represented, with later Woodland Period and earlier Archaic Period forms occuring less frequently. Basal portions of two Paleo-Indian unfluted forms occurred in the upper midden, but an actual Paleo-Indian association for these at the Lowe Site is questionable. A Dalton projectile point was encountered in-situ (93cm beneath the ground surface; Stratum G) within the upper portion of the filled stream bed (see Figures 13k and 15), indicating a transitional Paleo-Indian presence at the Lowe Site during a time when active modification of the landscape was occurring. This presence may have been associated with a transitional Paleo-Indian occupation area (Feronia Site) located about 5km to the south (see Snow 1984).

The lithic assemblage of the South Area of he Lowe Site was similar to that of the North Area, minus the Paleo-Indian forms. The ratio of bifacial tools to flakes was significantly lower in the South Area, indicating that while intensive tool manufacturing occurred here, the range of activities tending to exclude the loss or discard of the tools themselves. Too few diagnostic forms were present to indicate any clear stratigraphic pattern (see Tables 4 and 5).

In reference to the tenative phase definitions discussed earlier in the ceramic section, clear correlations with lithic forms are illusive. The general impression, however, is that Late Archaic projectile point forms persisted in time at the Lowe Site. It may be suggested that the Early Ocmulgee Phase was associated with traditional Late Archaic stemmed forms, particularily Savannah River

Figure 15
Dalton Projectile Point In-Situ within Top of Filled Stream Bed

Table 5
Lithic Analysis Summary for the South Area

PROVENIENCE RAW MATERIAL	Unifacial Flake, Unutilized	Unifacial Flake, Utilized	Bifacial Tool or Fragment	Exhibiting Cortex	Indeterminate	ROW TOTAL (minus cortex)
Stratum A						
White Chert	57 (15%)	0	1 (11%)	2 (10%)	1	59 (14%)
Brown Chert	134 (35%)	0	4 (44%)	17 (81%)	8	146 (36%)
Pink Chert	116 (30%)	1 (100%)	4 (44%)	2 (10%)	3	124 (30%)
Black Chert	1 (.3%)	0	0	0	0	1 (.2%)
Quartz	74 (19%)	0	0	0	0	74 (18%)
Other	4 (1%)	0	0	0	0	4 (1%)
Total	386 /95%/	1 /.2%/	9 /2%/	21 /5%/	12 /3%/	408
Stratum B						
White Chert	139 (19%)	1 (20%)	3 (43%)	4 (16%)	2	145 (19%)
Brown Chert	246 (34%)	3 (60%)	2 (29%)	16 (64%)	2	253 (34%)
Pink Chert	161 (22%)	1 (20%)	1 (14%)	5 (20%)	1	164 (22%)
Black Chert	4 (.5%)	0	0	0	0	4 (.5%)
Quartz	182 (25%)	0	1 (14%)	0	1	184 (24%)
Other	1* (.1%)	0	0	0	3	4 (.5%)
Total	733 /97%/	5 /.7%/	7 /1%/	25 /3%/	9 /1%/	754
Stratum C						
White Chert	120 (27%)	0	1 (13%)	1 (6%)	1	122 (26%)
Brown Chert	119 (27%)	0	3 (38%)	9 (50%)	3	125 (27%)
Pink Chert	108 (24%)	0	4 (50%)	8 (44%)	2	114 (25%)
Black Chert	2 (.4%)	0	0	0	0	2 (.4%)
Quartz	99 (22%)	0	0	0	1	100 (22%)
Other	1 (.2%)	0	0	0	0	1 (.2%)
Total	449 /97%/	0	8 /2%/	18 /4%/	7 /2%/	464

*Petrified Wood
(%) Column Percentages
/%/ Row Percentages

Stemmed projectile points. Beginning with the Middle Ocmulgee Phase, it seems probable that indented-base triangular and basal-notched forms were added to a complex that continued to include morphologically earlier stemmed projectile points. The indented-base triangular forms probably became gradually more common during the Late Ocmulgee Phase.

FEATURES

Cultural features at the Lowe Site were restricted to the North Area and consisted of post holes. The five post holes encountered during the field investigation were adjacant to five others discovered earlier by Bowen for the Georgia DOT. No pattern to the arrangement of the post holes could be discerned (see Figure 7). Their presence indicates structural construction activity, perhaps composed of several events in the same general area. All the post holes were encountered at the base of the plow zone, upon the upper surface of the underlying midden, indicating that they originated in midden now obscured by plow disturbance.

The post holes ranged in size from 18cm to 25cm in diameter, had rather straight sides, and rounded bases that extended from 10cm to 40cm beneath the base of the plow zone. Cultural material was absent in all but two of the post holes. One of these contained a cord-marked sherd, a sand and fiber tempered sherd, and an eroded complicated-stamped sherd; the other contained only an eroded sherd (see Bowen 1984:25). The meager associations suggest construction in the area after the site had been occupied for some considerable time,

but they do not provide a firm date or a cultural association for the construction event.

CHRONOMETRIC DATES

Seven ceramic sherd samples and two charred-wood samples from the Lowe Site were submitted for chronometric analysis (see Figure 16). The seven sherds, each with an associated soil sample, were dated by thermoluminscence analysis. Analysis was terminated on one sherd (Figure 16e) because anomalous fading was present in its mineralogy. The two carbon samples, each collected from a location immediately adjacant to one of the sherd samples, were dated by radiocarbon analysis.

Two Sand and Fiber Tempered sherds, one from the midden in the North Area and the other from Stratum C in the South Area, were analyzed with resulting TL dates of A.D. 430+/-80 and 750+/-260 B.C., respectively. Two Crossed-Cord Marked sherds and one Linear Cord-Marked sherd provided ages ranging from A.D. 200+/-150 to A.D. 1570+/-30. A carbon sample physically associated with the Linear Cord-Marked sherd was dated to A.D. 1050+/-100, an age approximately 400 years earlier than the associated TL date. A carbon sample physically associated with one of the Crossed Cord-Marked sherds was dated to A.D. 870+/-90, an age approximately 700 years earlier than the associated TL date. TL analysis of the Simple-Stamped sherd provided a date of A.D. 500+/-160.

Considered uncritically, the chronometric dates indicate that Sand and Fiber Tempered pottery was manufactured, or continued to be

Photo Reference	Laboratory Number	Provenience	Material Dated	Association	C-14 or TL Years	Calendar Years
d	Beta-16013	N74.4 W45.7 27-30 cm b/s	charred wood	crossed cord marked pottery	1080+/-90	AD 870+/-90
d	Alpha-3003	N74.4 W45.7 27-30 cm b/s	pottery & soil	crossed cord marked pottery	380+/-30	AD 1570+/-30
b	Beta-16014	N76.5 W45.5 20-25 cm b/s	charred wood	linear cord marked pottery	900+/-100	AD 1050+/-100
b	Alpha-3000	N76.5 W45.5 20-25 cm b/s	pottery & soil	linear cord marked pottery	490+/-50	AD 1460+/-50
c	Alpha-3001	N72.5 W49.0 30-35 cm b/s	pottery & soil	crossed cord marked pottery	1750+/-150	AD 200+/-150
f	Alpha-2997	N75.0 W49.0 35-40 cm b/s	pottery & soil	simple stamped pottery	1450+/-160	AD 500+/-160
g	Alpha-2998	N75.0 W49.0 35-40 cm b/s	pottery & soil	sand & fiber tempered pottery	1520+/80	AD 430+/-80
a	Alpha-3003	S 30.9 W55.7 36 cm b/s	pottery & soil	sand & fiber tempered pottery	2700+/-260	750+/-260 BC

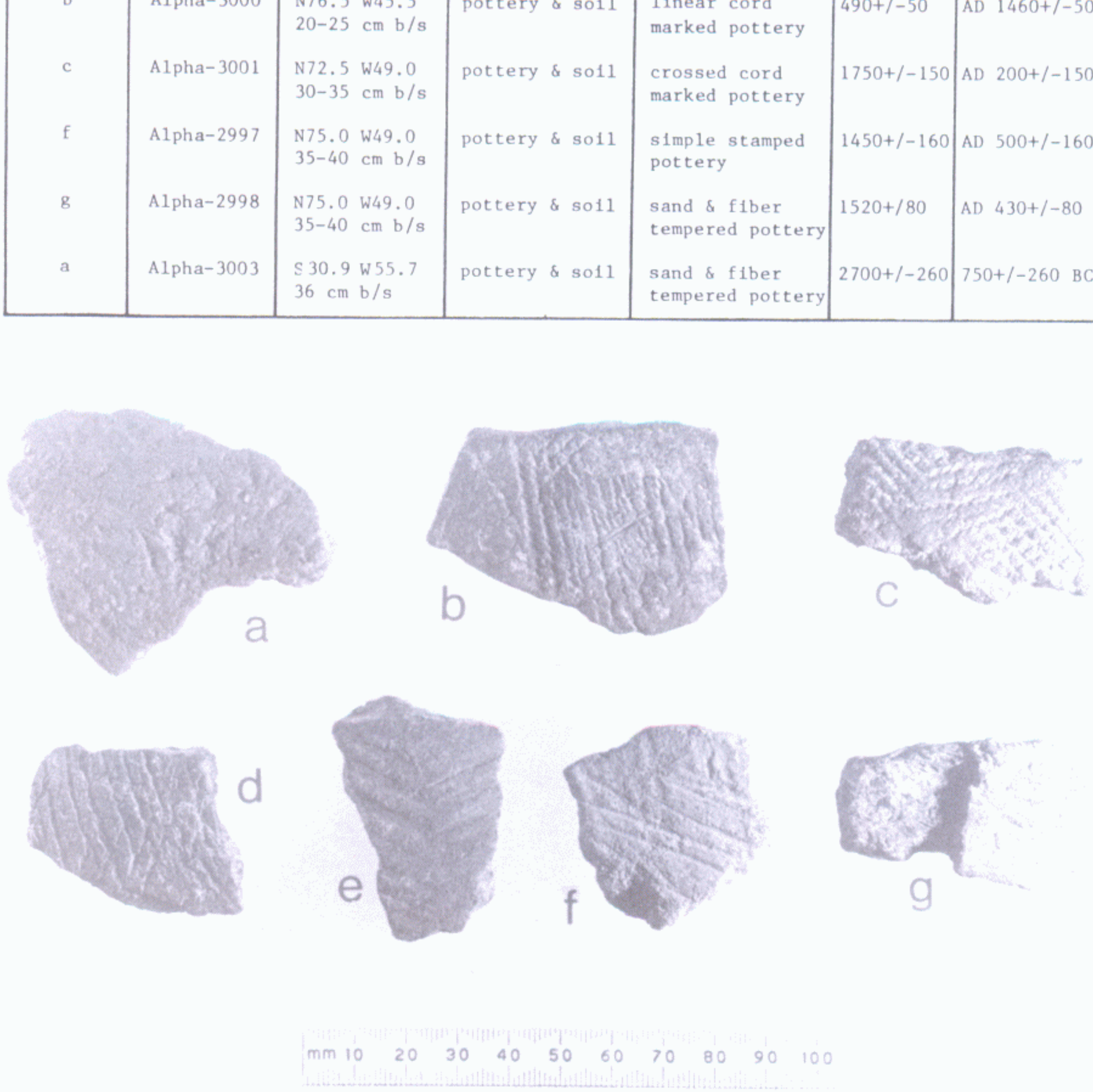


Figure 16
Results of Chronometric Dating

used, at the Lowe Site beginning during the first millennium B.C. and continuing until the fifth century A.D. Production of Cord-Marked pottery began as early a A.D. 200 and persisted into the 16th century A.D. The one TL date for Simple-Stamped pottery places this ware as an early contemporary of the Cord-Marked pottery.

However, the lack of agreement between the C-14 and TL dates requires explanation. Two possibilities are evident. Either the two dating techniques do not provide analogous results or the dating techniques are accurate but the physically associated carbon and sherd samples lack an actual temporal association. Johnson et al. (1986), in a comparison of TL and C-14 dates, found general agreement between the two techniques and suggest that discrepencies often may be due to collection and provenience problems. The Lowe Site samples could support their argument. The carbon and sherds were directly associated physically, but they were not associated within a secure, closed context such as a refuse pit or other feature. Generalized post-depositional disturbance could make specific carbon and ceramic associations spurious in such open contexts. On the other hand, an erratic history of background radiation in the soil mineralogy of the Coastal Plain could cause anomolous TL dates.

While it is impossible to conclude with confidence which of these two possibilities accounts for the dating discrepencies at the Lowe Site, that of spurious association between the carbon and sherd samples appears to be the most likely. Comparison of TL and C-14 dates from secure, closed contexts at other sites in the Coastal Plain are required to resolve the problem. If future comparison of

such dates demonstrates significant age differences, then historically variant background radiation should be investigated as an explanation.

PLOTTED TEST PIT N73 W50

Following the methods previously described, the horizonal and vertical locations of artifacts were plotted within the 2m square designated N73 W50 with the goal of recording any subtle distributional patterns. The resulting horizonal (see Figures 17 and 18) and vertical (see Figure 19) plots show evident differences in the distribution of artifacts in the plow zone and underlying midden. As would be expected, artifacts within the plow zone are widely dispersed. Those within the underlying midden exhibit greater clustering, but do so with few apparent associational patterns. Fiber Tempered pottery sometimes occurs with Sand and Fiber Tempered pottery in small discrete clusters, suggesting their contemporaneity. However, both fiber-tempered varieties generally exhibit a dispersed distribution within the test pit. Linear Cord-Marked pottery tends to be associated with Plain pottery, unlike the Crossed Cord-Marked pottery which occurs sporadically throughout the test pit. Plain Sand-Tempered pottery shows the greatest clustering within the underlying midden, especially when viewed from a horizonal perspective.

It is difficult to arrive at clear conclusions from these plotted data. There appears to be clustering of certain ceramic types, but no distinctive superposition is apparent among the types.

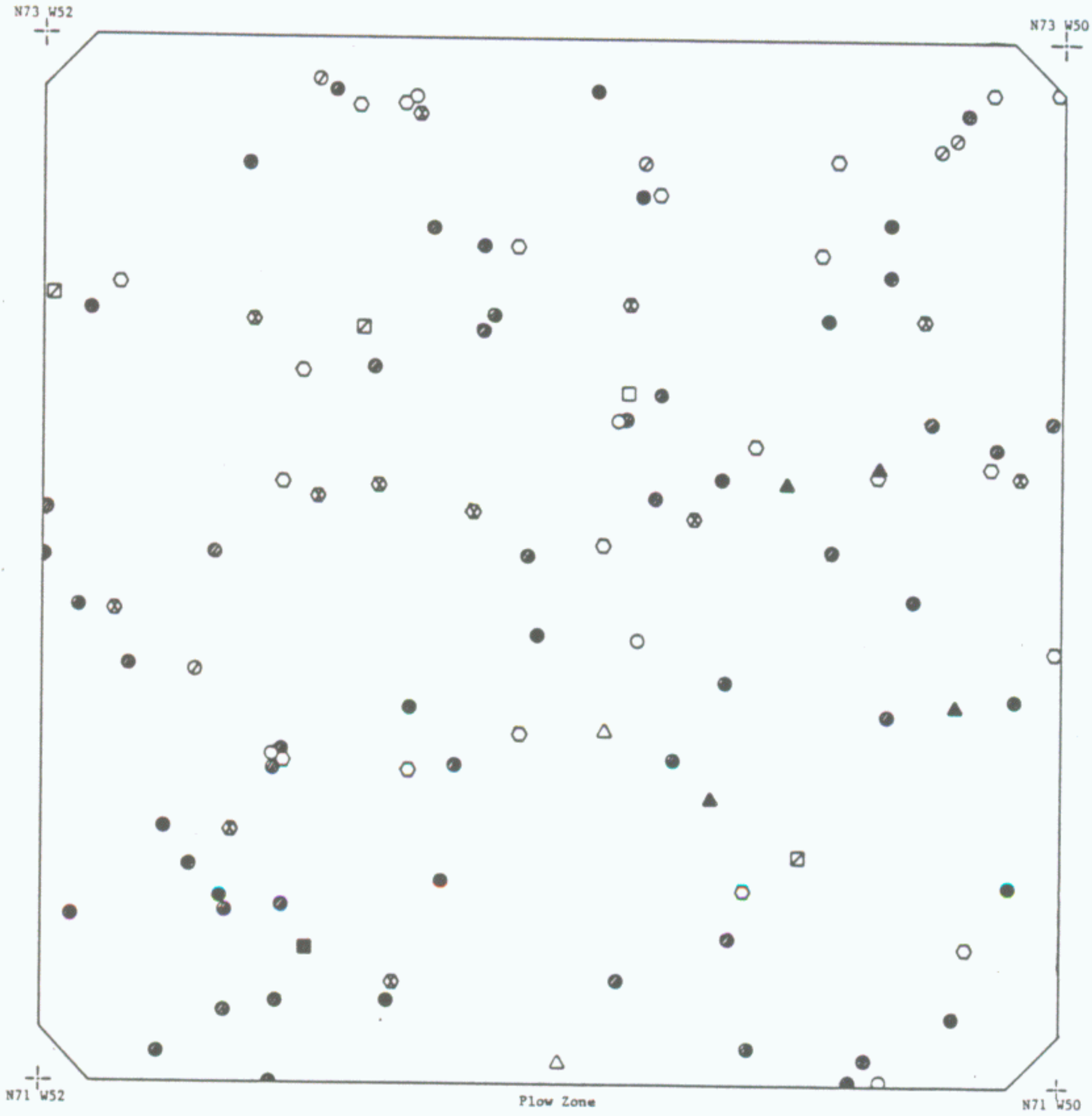


Figure 17
Plan View of Plotted Artifacts within the Plow Zone

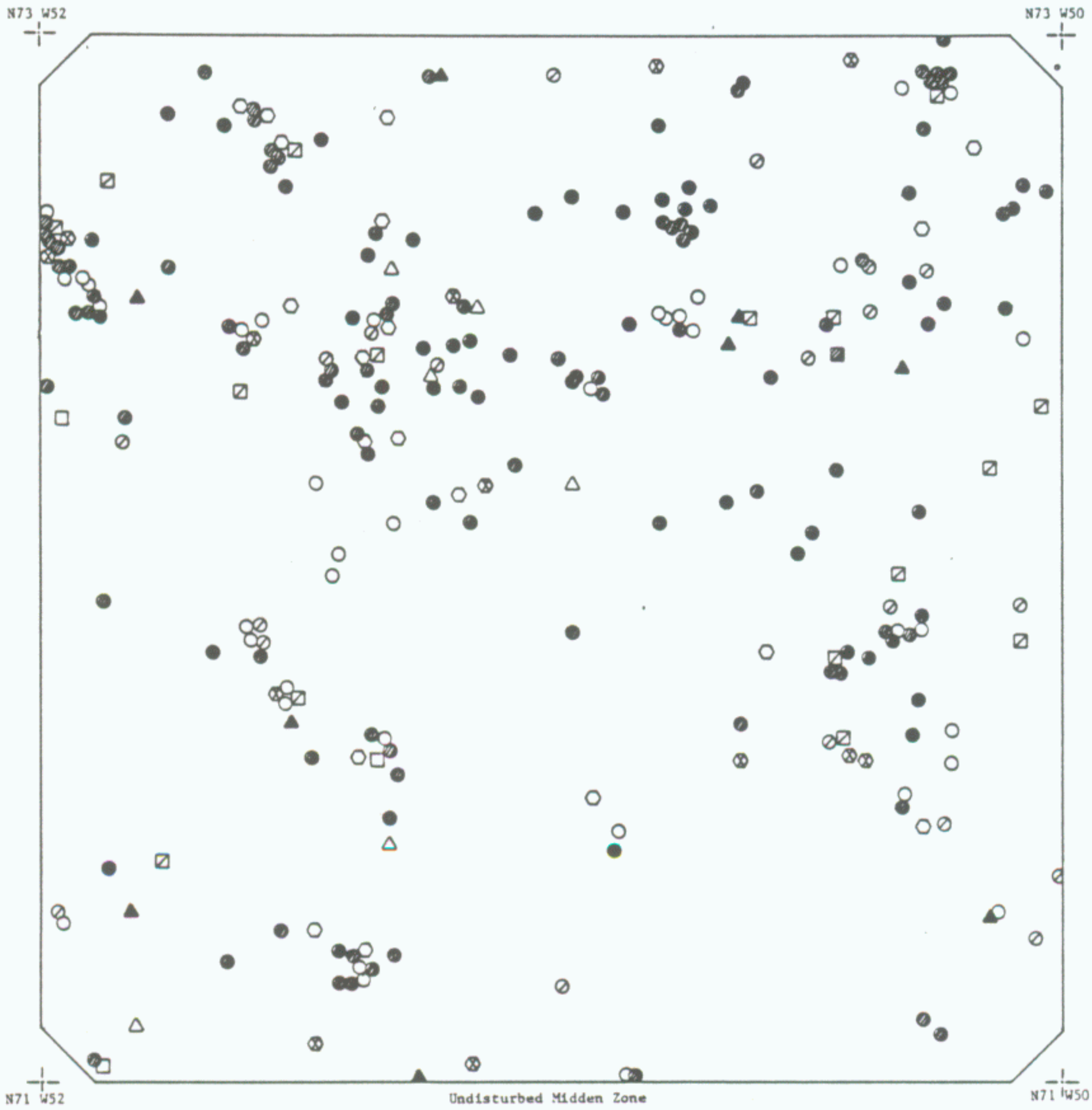


Figure 18
Plan View of Plotted Artifacts within the Undisturbed Midden

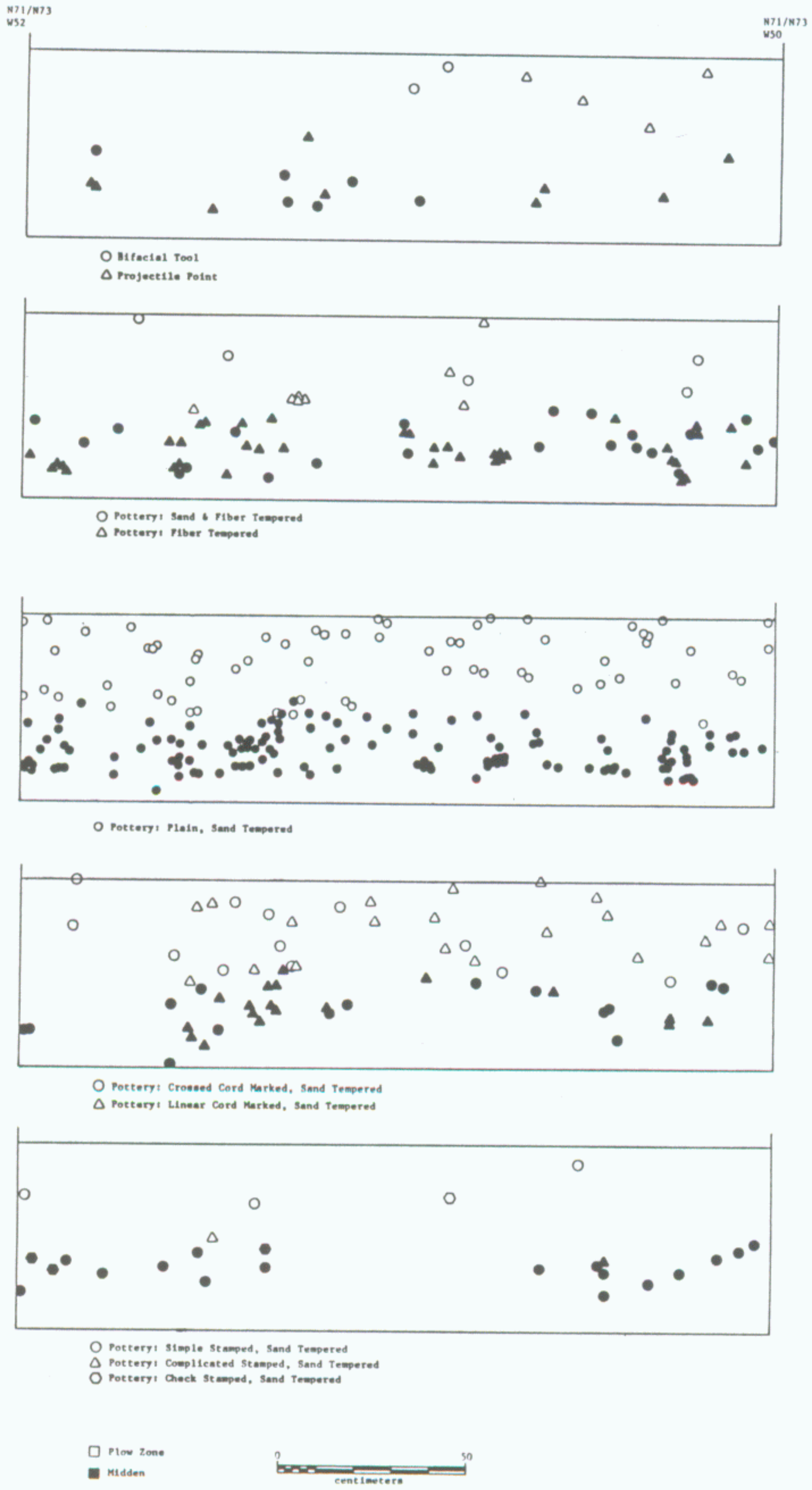


Figure 19
Vertical Distribution of Plotted Artifacts

The clustering would seem to argue for little post-depositional disturbance within the underlying midden; however, the lack of expected superposition suggests otherwise. Three alternative explanations are offered to account for the distributional pattern, with the third possibly being the most adequate one.

1. The underlying midden is, in fact, intact. The vertical mixed distribution of pottery types reflects the continued use of several ceramic forms throughout the depositional history of the midden.

2. The underlying midden was subjected to recurrent episodes of localized post-depositional disturbance, obscuring overall stratigraphic relationships but leaving isolated areas intact.

3. Occupations during the Middle and Late Ocmulgee Phases, represented by similar ceramic assemblages, disturbed the Early Ocmulgee Phase component. The result was scattered Fiber-Tempered pottery within an otherwise basically intact depositional matrix. The absence of further ceramic superposition simply reflects little change in the ceramic assemblage during the Middle and Late Ocmulgee Phases.

DISCUSSION

Archaeological data recovery at the Lowe Site has succeeded in producing new information concerning prehistory of the Georgia Coastal Plain. Perhaps more importantly, it also has raised interesting questions about the archaeological record to be answered by future research efforts.

A primary difficulty with interpretation at the Lowe Site revolves around the unresolved question of contextual integrity. The available data provide conflicting indications. The presence of post holes, the clustering shown in plotted artifacts, and the superpositioned chert changes through the excavated levels suggest overall integrity. However, the general absence of distinctive vertical distribution among the artifacts and, perhaps, the lack of agreement between TL and C-14 dates suggest post-depositional disturbance at the site. It would be imprudent to advance conclusive arguments in the absence of contextual certainty. Therefore, the concluding statements presented here must be considered provisional.

In reference to the specific goals (see page 20) defined for research at the Lowe Site, the investigation results indicate the following:

1. Five successive archaeological components are represented at the Lowe Site:

a. Transitional Paleo-Indian (minor component); represented by a

single Dalton projectile point encountered wihin the upper portion of a filled stream bed.

b. Early Archaic (minor component); represented by Kirk Corner-Notched projectile points.

c. Late Archaic (Early Ocmulgee Phase); represented by Savannah River Stemmed projectile points along with Fiber-Tempered pottery.

d. Middle Ocmulgee Phase; represented by basal-notched, indented-base triangular, and Savannah River Stemmed projectile points along with sand-tempered Plain, Cord-Marked, Simple-Stamped, and Check-Stamped pottery.

e. Late Ocmulgee Phase; represented by the same assemblage as the Middle Ocmulgee Phase but with increased frequencies of indented-base triangular projectile points and Cord-Marked pottery.

2. The following temporal associations are estimated for the archaeological components represented at the Lowe Site:

a. Transitional Paleo-Indian: ca. 8,000 B.C. (based upon cross-dating).

b. Early Archaic: ca. 5,000 B.C. (based upon crossing-dating).

c. Late Archaic (Early Ocmulgee Phase): ca. 2,500 B.C. - A.D. 200 (based upon seriation and chronometric dates).

d. Middle Ocmulgee Phase: ca. A.D. 200 - ?900 (based upon seriation and chronometric dates).

e. Late Ocmulgee Phase: ca. A.D. ?900 - 1600 (based upon seriation and chronometric dates).

3. Few data were recovered concerning productive activities associated with each component. The lithic artifacts indicate a generalized hunting technology, but the relative importance of hunting within the productive system of each component is unknown.

4. Micro-settlement features are poorly represented at the Lowe Site. Indications of construction activity, evidenced by post holes lacking a distinctive pattern, are restricted to a time late in the occupation of the site.

In addition to these specific statements, the results of research at the Lowe Site and of other prior research in the area are beginning to produce an unexpected picture of prehistoric cultural adaptation and evolution within the Georgia Coastal Plain. The accumulating data remain equivocal, but two major indications are unavoidable and deserve comment.

First, the prehistory of the Atlantic drainage of the Georgia Coastal Plain exhibits an archaeological sequence that is distinctive from adjacent areas. The details of this sequence, including its variation through time and space, remain a critical problem for future research.

Second, as others have noted previously, occupation of the area appears to have been associated with a "conservative" cultural adaptation; one that was probably based upon hunting and gathering within the marginal Coastal Plain environment and which exhibited little material change over long periods of time. This suggests,

from an ecological perspective, that the resident cultural system developed a particular, successful niche within the ecosystem (see Love 1977). The net result appears to have been development of a distinctive Coastal Plain cultural tradition that persisted while neighboring cultural systems experienced substantial change.

This Coastal Plain cultural tradition, defined archaeologically by the Middle and Late Ocmulgee Phases, may prove to be an important example of a phenomenon that Willey and Phillips (1958:74) define as "belated" cultural lag. A limited analog for the Coastal Plain cultural tradition may be found in the Desert Culture of the Great Basin, a conservative adaptation to another marginal environment that persisted with little substantial change for about 10,000 years.

As the Georgia Coastal Plain has been long neglected by archaeologists, many areal and chronological issues remain unresolved. Data from stratified sites and from closed contexts are sorely needed to answer basic archaeological questions in the area. As our understanding of time and space in the Coastal Plain matures, archaeology very likely will be able to contribute significantly to an understanding of the general processes of cultural adaptation in marginal environments.

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