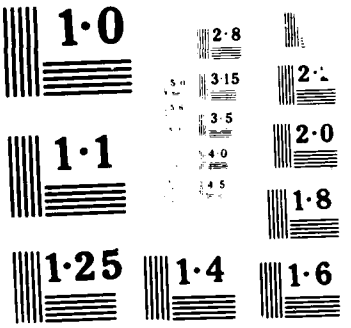
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AN ARCHEOLOGICAL SURVEY OF TWO PROPOSED RESERVOIR AREAS, ROCKY RIVER BASIN, NORTH CAROLINA

By

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FOREWORD

In the pages following are described the historic and prehistoric remains discovered in sectors of two adjacent North Carolina counties, Stanly and Union. The Corps of Engineers was studying these areas as possible reservoir locations, one in western Stanly County on Big Bear Creek (Lambert Reservoir); another in southeastern Union County on Lanes Creek, at the Anson-Union county line (Marshville Reservoir); and a third -- cancelled while our work was in progress and reported here only in Chapter 7 and Appendix A -- in northeastern Cabarrus County on Dutch Buffalo Creek (Mt. Pleasant Reservoir). Only portions of each reservoir area were examined by our survey, and the non-contiguous locations of the three surveyed locales make generalizations difficult. For that reason the discussions that follow, especially the overviews of Chapters 1 and 2, may speak of the "study area," which refers to the triangular region created by connecting the three reservoir locations. This study area is little known archeologically. The surveyed areas are removed from the rivers of the region where archeologists have concentrated their efforts, e.g. the Yadkin and even the Rocky River. Rather this report deals with the upper reaches of tributaries feeding the Rocky River, a little-studied inter-riverine setting.

The Rocky River is short; it forms in Iredell County (just north of the Cabarrus County northern boundary) and flows to the southeast as far as the mouth of Dutch Buffalo Creek. At that point it is deflected sharply to the south-southwest by the Gold Hill Fault, the western boundary of the Carolina Slate Belt. The river turns sharply again at its juncture with Goose Creek (in the southwest corner of Stanly County) and flows east to empty into the Pee Dee (Yadkin) River, covering a total straight-line distance of only 85 kilometers. A system of ridges extending to the northeast from southern Union County deflects the Rocky River to its easterly course, and those same ridges produce the northeast and south-flowing creeks that feed the Rocky in its final 40 kilometers. It is portions of those creeks and their tributaries that were the focus of the survey reported here.

The lower half of the Rocky River is in the Slate Belt, and except for upper Dutch Buffalo all the surveyed areas drain Slate Belt formations. The Slate Belt looms large in North Carolina archeology because of its abundance of knappable stone, especially rhyolite, andesite and argillite. These materials were acquired by prehistoric peoples for production of a wide variety of stone tools; these artifacts, made of Slate Belt deposits, are found from the mountains to the coast. For groups outside the Slate Belt this raw material had to be obtained either by direct procurement or trade (including various patterns of reciprocity imbedded in social relationships or ritual). In the absence of these materials it is assumed that local lithics would be used; in the Piedmont this usually was white quartz, nearly ubiquitous in its occurrance as veins in the red clay

uplands. In archeological sites outside the Slate Belt, projectile points, knives and other tools made relatively thin and symmetrical usually are of Slate Belt materials. Other tools, e.g. choppers, denticulates or scrapers often are made of local quartz. This has led to the view that such prehistoric groups were conserving their available supply of exotic Slate Belt stone for the production of items requiring highly predictable flake removal, while local stone served for more expedient tools. It is known that during certain periods of prehistory (e.g. the Middle Archaic) the use of local quartz increases, but it has been assumed that this was a consequence of a disruption of trade or territorial constriction, or both. All explanatory frameworks involved the assumption that the rhyolites/andesites/argillites of the Slate Belt, if available, would be selected over the local quartz. One anticipated result (reflected in item 2.b. of our research design -- see Appendix D) was that sites in the Slate Belt would yield a preponderance of Slate Belt materials, i.e. white quartz would be largely or entirely eschewed. As will be seen in chapters following this is not what was found, and it is clear some or all of our comfortable assumptions were misguided.

A few kilometers east of the study area, in southern Montgomery County, is the famous Town Creek Site. This is one of two sites on the east side of the Pee Dee which exhibit a suite of traits linking them to the South Appalachian Mississippian sites in South Carolina and Georgia. Joffre Coe and his students have argued that Town Creek represents a site unit intrusion from the south, cultural interlopers in an otherwise Siouan-dominated Piedmont. Migrating populations, a popular mode of explanation in decades past, provokes a knee-jerk negative reaction in most American archeologists today, and we sought to demonstrate that the Pee Dee ceramics associated with Town Creek were being generated by otherwise Siouan groups of the southern Piedmont. This pattern, we believed, would argue for a transformation of resident cultures rather than an invasion. In this we were totally unsuccessful, perhaps because we recovered a total of only 153 potsherds from the three reservoir areas.

The dearth of ceramic sites continues a pattern seen elsewhere in the Piedmont, where ceramic (Woodland) sites occur nearly exclusively on the flood plains of rivers. The interriverine uplands and small streams seemingly are abandoned or used only sporadically by special task groups. Certainly the same situation obtains in the study area, where over 90 percent of the prehistoric sites are Archaic. Completely absent from our collections are Paleo-Indian materials.

The Archaic sites produced the full panoply of point types, from Early Archaic Kirk through Late Archaic Savannah River. Considerable variability in site size and contents is present, allowing us to differentiate between large, multiple-activity "base camps," and smaller temporary extraction stations and bivouacs. No major changes in land-use patterns are discernable

during this stage. This suggests that those processes generating very large and semi-sedentary sites during the Late Archaic elsewhere in the Carolinas, Georgia, Kentucky and Tennessee were not operative in the southeastern North Carolina piedmont.

Historic sites consist exclusively of residences, cemeteries and structures related to agriculture. The surveyed areas apparently were settled in the early to mid nineteenth century. Architectural features, mortuary art and even available historical records indicate a rather stable cultural system, largely unreflective of the technological and social changes impacting the state from 1800 to 1930. No historic site earlier than 1800 was identified.

In a very general way the prehistoric and historic cultures exhibit similarities, in that neither appear to have experienced periods of rapid culture change. One factor in this pattern must involve the location of the surveyed areas. All are on the middle or upper reaches of creeks, creeks which flow into a river navigable only by expertly handled canoes. In that sense the project areas represent cultural cul-de-sacs which, once occupied by cultures applying a certain economic strategy, would be largely immune to external change agents or processes. Internal processses -- population growth, culturally induced environmental changes -- might have been at work but we found little data from the prehistoric remains to suggest it. Rather, it appears that stasis was achieved in the Early Archaic and maintained until Late Woodland groups began to intrude, sporadically, from the Rocky River proper. It is possible that the Woodland occupation, sparse as it was, was stimulated by the Town Creek phenomenon. If Town Creek and its attendant economic system created a measure of social disruption for the indigenous Woodland systems, this may have encouraged more extensive use of hinterlands such as the upper portions of the Rocky River's tributaries. We recovered only the scantiest indication of a Pee Dee presence in the region, namely the four complicated stamped sherds from site 31Un92. Any cultural changes resulting from the Pee Dee occupation likely would be first experienced by groups near the interface of the Triassic Basin (where the Town Creek occupations occur) and the more ancient Slate Belt deposits bordering it on the west (where the surveyed areas occur). Clearly however additional work is necessary to give any meaning to speculations formulated on 153 eroded potsherds.

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August 1987

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The following report and the research it documents is very much a communal product, many students and professionals contributing to its completion. The fieldwork was carried out by John Davis, Kevin Lanning, Jackson Marshall, Melanie Meyers, Erica Sanborn, Michele Vacca, and Jean Watson, ably directed by Lawrence Abbott. Assisting in the fieldwork for short periods were students enrolled in the 1986 Wake Forest-Appalachian State field school. The laboratory processing was done by Louise Brown, Kelly Collis, Joelle Crum, Steve Hissam, Van McKay, and Lyle Torp.

During the fieldwork and afterwards we received valuable information on local history and sites from Mr. J. A. Foil of Mt. Pleasant. Mr. Alan Hayes provided information on the geology of the project area, and the staff of the Office of State Archaeology, Division of Archives and History, allowed easy access to their library and gave freely of their knowledge of the study area. Dr. David S. Weaver assisted in the application and computation of the statistics used in Chapter 6.

While each chapter in the report is in part at least a team result, certain individuals had primary responsibility for analysis and write-up. Chapter 1 was written by Abbott, Sanborn and Woodall; Chapter 2 was written by Woodall and Marshall; Chapters 3 and 4 by Abbott and Sanborn; Chapter 5 by Dull; Chapter 6 by Sanborn; Chapter 7 by Vacca; Chapter 8 by Abbott; and Chapter 9 by Abbott and Woodall.

The computer work during analysis and write-up was done or directed by John Davis, who also carried out the darkroom work. Lawrence Abbott drafted most of the graphics, and Rhea Marshall designed the cover. At the Corps of Engineers Office in Wilmington, Richard Lewis and Coleman Long were constant help in advising us at various stages of the project.

For their spirit of cooperation and enthusiasm, their dedication to the project goals and attitude of professionalism, I offer my sincerest thanks to all these individuals.

J. Ned Woodall
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ABSTRACT/MANAGEMENT SUMMARY

Beginning in October of 1985 the Archeology Laboratories of Wake Forest University undertook a survey of two potential reservoir areas in Stanly and Union counties, North Carolina. For each reservoir area a 100% pedestrian survey was conducted in the sector to be disturbed by dam construction, with the floodpool area sampled by means of a stratified cluster sampling design. In the Lambert reservoir area (Stanly County) a total of 169 hectares was surveyed, 81 in the dam site and 88 in the flood pool area. In the Marshville reservoir area another 81 hectare dam site survey was conducted, and an additional 124 hectares studied from the floodpool. Seventy-one archeological sites were found as a result of these efforts, along with nine standing structures, several historic cemeteries and various field-clearing sites (rock piles, walls).

The prehistoric resources are almost exclusively lithic sites, most assignable to the Archaic stage. No Paleo-Indian sites were located. Woodland sites, or more precisely ceramic-bearing sites, are very scarce, comprising only six components of the total. It seems likely that the upper reaches of the Rocky River tributaries, in this case Big Bear Creek and Lanes Creek, were lightly occupied during the Archaic and visited only sporadically during the Woodland. One exception may be a rather large Woodland site found on Lick Creek, a minor stream in Cabarrus County (an area partially surveyed but not included in this report), where salt extraction may have been significant. Several Archaic base camps were found, but these reflect a broad range of activities only in comparison with the very small ephemeral sites that represent the norm in the area. There is no evidence of significant changes in land-use patterns during the Archaic, and no evidence of population growth.

Lithic raw material procurement efficiency, as measured by the ratio of argillites and felsites to quartz, varies during the Archaic. These different ratios may be indexing fluctuations in the catchments available to particular bands, or local exchange networks, or seasonal differences in land use habits. Also the Woodland sites, scarce as they are, reveal a surprisingly high incidence of quartz usage, higher than many Late Woodland sites located well away from the Slate Belt sources for felsites and argillites. This too may well be a result of short-term use of the Lanes Creek/Big Bear Creek valleys during the Woodland, with visitors penetrating from more permanent villages elsewhere.

Historic structures are very rare, and those present date from the mid-nineteenth century. Both Irish and German settlers are likely represented by these remains, but the recency of the built environment prevents detection of any meaningful ethnic differences as reflected in the architecture. The nine structures found represent only two sites, not a meaningful sample of the region's potential architectural variability.

Of the 71 archeological sites recorded only one prehistoric site, 31Un65, appears eligible for listing on the National Register of Historic Places. The remainder are deflated, removed from context by erosion and otherwise disturbed, or else contain so few artifacts and no subsurface features that it is unlikely they would yield information important to history or prehistory. The standing structures include a mill and a farmstead of the post-Civil War period, both apparently eligible for the National Register of Historic Places.

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CHAPTER 1: INTRODUCTION

Geology

The project areas lie within the Carolina Slate Belt (Figure 1-1), a geological zone which extends southwest from central Virginia approximately 640 km into central Georgia. The geological components within this zone are a group of generally fine-grained volcanic and sedimentary rocks probably formed during the Cambrian Period of the Lower Paleozoic age (Sundelius 1970; Jones 1977).

In North Carolina the Slate Belt is divided into two regions, east and west, by an area of medium to high-grade metamorphic rocks. The belt is further differentiated by a large zone of intrusive granite in the north and the Deep River Triassic Basin to the south. Slate Belt rocks run beneath the Cretaceous and Tertiary sediments of the coastal plain to the east, while to the west the Slate Belt is bordered by the Charlotte Belt, a region of highly metamorphosed gneisses, schists and granites. The Gold Hill fault, from Union to Davidson counties (North Carolina) marks the western boundary of the Slate Belt. Further west lie the rocks of the Kings Mountain and Inner Piedmont belts.

According to Sundelius (1970) and Jones (1977) the name Carolina Slate Belt is a traditional geological term that is somewhat misleading. The rocks within the area encompassed by the term are confined neither to the Carolinas nor are composed largely of slate. The deposits in reality are volcanic and sedimentary formations which contain mainly slates, breccias, tuffs and flows (Stuckey and Conrad 1958). According to Stuckey and Conrad, "the flows are interbedded with the breccias and tuffs, while the tuffs pass gradationally into slates. The rocks vary from acid or rhyolitic to basic or andesitic in composition and generally have a well developed cleavage, which gives them a slaty appearance" (1958:26).

The volcanic and sedimentary rocks of the Slate Belt have been exposed to low-grade regional metamorphism over time. The dominant sedimentary rocks that contain volcanic material include volcanic slate, shale, mudstone, argillite and siltstone. More coarse-grained sedimentary rocks located in the area include graywacke, conglomerate, siltstone, sandy siltstone and fine sandstone. Quartzite, arkose, novaculite and limestone are less abundant in the Slate Belt. Interbedded with and intruding into the sedimentary rocks are extensive alluvial and aerial deposits, argillites and tuffs, of volcanic rocks that range from felsic (rhyolite) to mafic (basalt) in composition. Rocks resulting from volcanic flows, in addition to breccias, are also found within the Slate Belt (Wilson et al. 1976).

The Slate Belt is subdivided into several stratigraphic units. Conley and Bain (1965) reported the stratigraphic sequence to

consist of a series of geological formations which they labeled the Uwharrie Formation (oldest), the Albemarle Group, and the Tillery and Yadkin formations. Stromquist and Sundelius (1969) redefined the stratigraphic nomenclature of Conley and Bain to the Uwharrie, Tillery, Cid and Millingport formations with the Cid Formation divided into the Mudstone and Flat Swamp members and the Millingport Formation divided into the Floyd Church and Yadkin members (1969:3; Figure 1-2).

The Lambert Survey Area. The Lambert area lies, for the most part, within the Yadkin member of the Millingport Formation with the upper reaches of the floodpool on Big and Little Bear creeks extending into the Floyd Church member. The Millingport Formation lies at the top of the stratigraphic sequence defined for the Slate Belt, and is characterized by intermediate volcanic sandstone and siltstone and by felsic and mafic pyroclastic rocks (Stromquist and Sundelius 1969). According to Stromquist and Sundelius, the Floyd Church member

> "consists mainly of a gray to greenish-gray argillite composed chiefly of quartz, feldspar, sericite, some chlorite, and minor amounts of biotite, epidote, clinozoisite, pyrite and sphene-leucoxene. The lower part of the member has moderately distinct beds that are graded in part; the upper part of the member is less obviously bedded. Locally, the lower part of the member contains lenses and persistent beds of argillaceous tuff-breccia. In places, the member contains small lenses and interbeds of poorly sorted volcanic sandstone and siltstone (graywacke) similar to that composing the bulk of the overlying Yadkin member, as well as thin lenses of calcareous siltstone. Thus, the Floyd Church member seems to be transitional from the waning felsic volcanic activity of the underlying Flat Swamp member of the Cid Formation to the more mafic volcanic sediments of the overlying Yadkin member of the Millingport Formation. Locally, the member also contains felsic and andesitic basalt volcaniclastic rocks. The Floyd Church member typically weathers olive, gray, or brown" (1969:16).

Stromquist and Sundelius also describe the Yadkin member as consisting of

> "interbedded poorly sorted dark greenish-gray to greenish-black volcanic sandstone and siltstone. These rocks are composed of quartz, plagioclase, and silt to fine sand-sized rock fragments in a fine-grained matrix of sericitic muscovite, chlorite, quartz, and plagioclase. Epidote, clinozoisite, magnetite, ilmenite, and apatite are also present. In places, the unit also contains some interbed andesitic basalt flows, crystal lithic tuff breccia, and tuff" (1969:17).

In order to document the naturally occurring lithic resources present within the Lambert survey area, raw materials from four

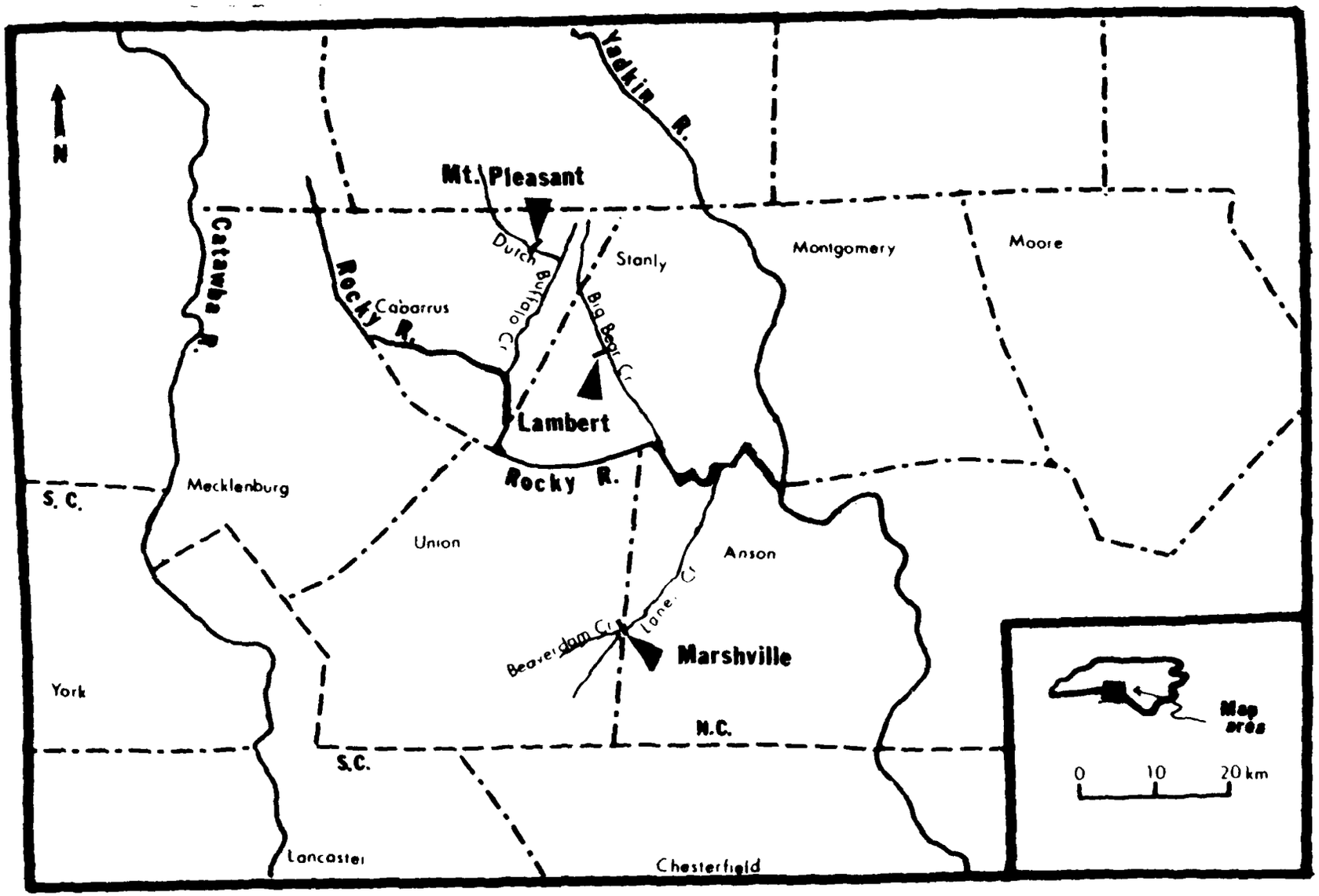


Figure 1-1. Dam Sites, Rocky River Project

outcrop locations were sampled (Figure 1-3). The areas studied for their geological resources were as follow:

1) Cluster 1, sample unit 17 of the uplands: A transect was placed 100 m up the bed of an unnamed drainage to sample individual nodules and materials outcropping in tabular form within the stream bed. Two-meter dogleash collections were made at 20 m intervals, with the transect beginning at UTM Northing 3909410 m and Easting 559895 m (Zone 17).

2) Cluster 1, sample unit 10 of the confluences: This sample was made on a small outcrop of three boulders on the slope of a ridgetoe overlooking the confluence of Big and Little Bear creeks, UTM Northing 3910540 m and Easting 560400 m (Zone 17). The outcrop was oriented on a southwest to northeast axis and measured 27.4 m in length , 14.1 m in width. The area of the outcrop was too small and the boulders too homogeneous to warrant a transect, therefore a sample simply was taken at two points.

3) Cluster 2, sample unit 14 of confluences: This sample was taken within the stream bed of Big Bear Creek, UTM Northing 3912570 m, Easting 558840 m (Zone 17). Here again the area of outcrop was too small and the rocks too homogeneous to justify a controlled transect, so a single sample was obtained.

4) Cluster 3, sample units 8 and 9 of the terraces: This sample was made at the junction of sample units 8 and 9 of terraces along Big Bear Creek, UTM Northing 3914080 m, Easting 559130 m (Zone 17). The outcrop was small and homogeneous, and a single sample was collected.

Thirty-eight lithic groups were identified visually with the aid of 20x magnification from the four Lambert sample areas listed above. Each individual sample within the 38 groups was cataloged according to a set of macroscopic variables and coded on a macroscopic analysis sheet designed by Alan Snavely (examples on file, Archeology Laboratories, Wake Forest University). The definitions for the variables used are discussed in detail in Chapter 8 (Lithic Analysis). These groups were sorted according to groundmass, luster, texture, fracture properties and inclusions (Table 1.1). A total of 22 lithic groups representing the range of variation within the samples collected was compiled from the 38 groups identified visually, and consists of the following:

Group A: Composed of devitrified tuffaceous argillite that has weathered to pale yellowish brown, 10YR6/2. Some quartz and feldspar crystals are noticeable; however, the groundmass is generally cryptocrystalline in nature (Stromquist and Conley 1959).

CONLEY AND BAIN 1965

TATER TOP GROUP	MORROW MOUNTAIN RHYOLITE	RHYOLITIC TUFFS AND FLOWS
	BADIN GREENSTONE	ANDESITIC AND BASALTIC TUFFS AND FLOWS
	ANGULAR UNCONFORMITY	
ALBEMARLE GROUP	YADKIN GRAYWACKE	GRAYWACKE
	McMANUS FORMATION	TUFFACEOUS ARGILLITES "VITRIC" & MAFIC TUFFS
	TILLERY FORMATION	ARGILLITES
UWHARRIE FORMATION		FELSIC-LITHIC CRYSTAL TUFFS SOME FLOWS RARE ARGILLITE BEDS

STROMQUIST AND SUNDELIUS 1969

ALBEMARLE GROUP	MILLINGPORT FORMATION	YADKIN MEMBER
		FLOYD CHURCH MEMBER
	CID FORMATION	FLAT SWAMP MEMBER
		MUDSTONE MEMBER
	TILLERY FORMATION	
UWHARRIE FORMATION		

FIGURE 1-2: THE MAJOR STRATIGRAPHIC UNITS OF THE CAROLINA SLATE BELT ADAPTED FROM JONES 1977 AFTER BUTLER AND DANIEL 1971

Group B: Composed of varved argillite which grades upward from a coarser greenish gray (5BG5/1) silt layer to a yellowish gray (5Y7/2) clay layer.

Group C: Composed of varved argillite which grades upward from a coarser dark greenish gray (5BG4/1) silt layer to a greenish gray (5GY6/1) clay layer. Some quartz and feldspar crystals are noticeable.

Group D: Composed of a coarse-grained greenish gray (5BG6/1) argillite. This group weathers lighter gray with age.

Group E: Composed of a coarse-grained greenish gray (5G5/1) argillite. Some quartz crystals are apparent under magnification.

Group F: Composed of a coarse-grained bluish gray (5B5/1) argillite. The material occurs in thin, tabular forms approximately 20 cm in thickness. Quartz, feldspar and some form of pyrite are apparent under magnification. This group weathers greenish-gray to yellowish-brown with age.

Group G: Composed of a coarse-grained greenish gray (5BG4/1) argillite. The specimens cleave along distinct planes. Quartz, feldspar, and some form of pyrite are apparent under magnification. This group weathers yellowish-brown with age.

Group H: Composed of greenish-gray (5BG5/1) argillite. This group exhibits fair knappable qualities but fractures along well-defined parallel planes. Some form of pyrites are apparent under magnification. This group weathers light brown with age.

Group I: Composed of greenish gray (5GY5/1) crystal tuff. Some pyrites are apparent under magnification; however the surrounding groundmass is cryptocrystalline. This group weathers a dark golden brown with age.

Group J: Composed of a coarse-grained, greenish-gray (5GY6/1) argillite. Quartz, feldspar and iron pyrites are apparent under magnification. The specimens cleave along distinct parallel planes and weather a rust color with age.

Group K: Composed of a clayey-grained, light gray (5Y6/1) argillite. Some form of pyrite is apparent under magnification. This material apparently formed from very fine-grained particles that are reflected in the distinctively cryptocrystalline groundmass. This group weathers to a light yellowish brown.

Group L: Composed of a coarse-grained gray (5Y 6/1) argillite. Quartz and feldspar particles are easily visible under magnification. No pyrites are visible. This group

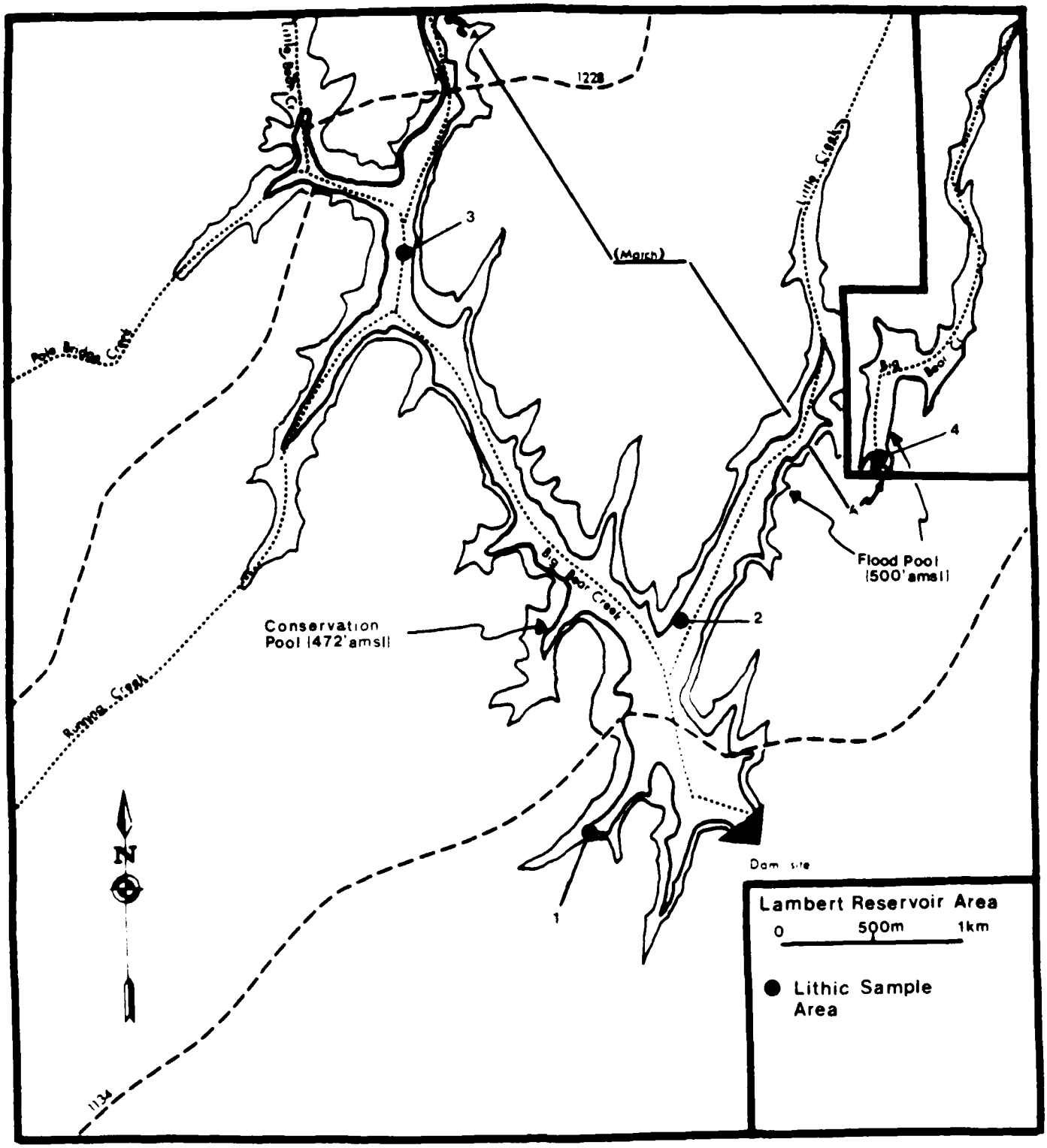


Figure 1-3. Lithic Sample Areas, Lambert

weathers between a gray to dark gray with age. This group is also listed under Group C for the Marshville study area.

Group M: Composed of a coarse-grained, greenish gray (5GY5/1) argillite. Quartz and feldspar are apparent under magnification. This group weathers to a light greenish gray with age.

Group N: Composed of a coarse-grained, gray (5Y5/1) argillite which exhibits a heavily oxidized internal matrix and exterior surface. Numerous large, angular crystals of feldspar are visible under magnification along with a less frequent occurrance of quartz. The heavy oxidation suggests a high incidence of iron pyrite within the matrix. This group weathers a distinct rust-red with age.

Group O: Composed of a coarse-grained, dark greenish-gray (5BG4/1) argillite. Quartz and some form of pyrite are apparent under magnification. This group weathers gray with age.

Group P: Composed of a coarse-grained, greenish gray (5GY5/1) argillite. Quartz, feldspar and iron pyrites are apparent under magnification. The specimens cleave along distinct parallel planes and exhibit a fissile nature when fracturing. This group weathers light greenish-gray with age.

Group Q: Composed of a coarse-grained, light brownish-gray (5YR6/1) tuffaceous argillite. Silt-sized, 1/16-1/256 mm, angular particles of quartz and feldspar are apparent under magnification. This group weathers to a dark brown over brilliant yellow with age.

Group R: Composed of a coarse-grained, light olive gray (5Y5/2) argillite. Large angular particles of feldspar and patches of iron pyrite are apparent under magnification. This group weathers to a mottled dark brown with a light gray cortex with age.

Group S: Composed of a coarse-grained, greenish gray (5G5/1) argillite. Angular particles of feldspar and chlorite are apparent under magnification, with quartz particles present but rare. Patches of iron pyrites are visible without magnification. The specimens cleave along distinct parallel planes and exhibit a fissile nature when fracturing. This group weathers light brownish gray with age.

Group T: Composed of a coarse-grained, greenish gray (5G5/1) argillite. Very small particles of quartz and some form of pyrite are apparent under magnification. This group weathers to a dark greenish gray with age.

Group U: Composed of a coarse-grained, dark blue-gray (5BG4/1) argillite. Quartz, feldspar and some form of pyrite are apparent under magnification. This group weathers to a dark olive-gray with age.

Group V: Composed of a coarse-grained, dusky yellow (5Y6/4) tuffaceous argillite. Large, angular, silt-sized particles of quartz and feldspar are readily apparent under magnification. Some oxidation is apparent within the matrix and on the exterior of the specimens. This group weathers to a yellowish rust color with age.

The majority of the lithics sampled within the Lambert survey area conform to those described by Stromquist and Sundelius (1969) for the Millingport formation. The samples consist mainly of greenish gray, coarse-grained argillites with some tuffaceous argillites and tuffs. The analysis of the materials collected suggests a preponderance of generally low-quality knappable lithic raw material within the Lambert survey area. This observation is supported by the high frequency of coarse-grained specimens and the poor fracturing quality in the great majority of the individual pieces sampled. Seven of the 38 specimens that comprise the 22 lithic groups (A-V) have either hackly or fissile fracture properties and the majority of the balance are so coarse-grained that much secondary and tertiary flaking would be ineffective. Lithic Groups H and I have the best knapping qualities. These two groups held edges when subjected to direct percussion using a wooden billet and pressure flaking using a metal blade. The edges of the remaining groups crumbled under the stress of direct percussion and pressure flaking.

Group I has the highest frequency of specimens, containing eight of the 38 specimens that comprise the 22 lithic groups. All but one of these occurred as a nodule within the drainage described in Sample 1. This suggests that while large outcrops of highly siliceous raw material are not readily available within the Lambert area, some individual nodules and cobbles of knappable tuffs and argillites may occasionally be found. These resouces likely provided a small amount of suitable raw material for use by aboriginal populations.

The Marshville Survey Area. A generalized geological map traces Beaverdam and Lanes creeks through bedded argillites which contain lenses of acid and basic fragmental and flow material (Stuckey 1958). Stromquist and Sundelius describe these as Paleozoic chlorite-biotite grade rocks of the Carolina Slate Belt (1969 Pl.1).

Although no specific geological maps are in print for this area, work is in progress at the University of North Carolina-Chapel Hill regarding geological surveys in the vicinity of Beaverdam and Lanes creeks. These studies show the presence of argillites, siltstones and tuffs within the survey area, with some vitric tuffs located nearby. These rocks appear to be

generally fine sand-size, grained microcrystalline rocks, with some cryptocrystalline representatives among the vitric tuffs. The rocks surrounding the survey area appear to be extensions of the Millingport Formation interspersed with elements of the Flat Swamp member of the Cid Formation (J. Robert Butler, personal communication 1986).

According to Stromquist and Sundelius,

> "the Flat Swamp member contains felsic volcanic rocks and andesitic basalt like those in other units of the Albemarle Group, but it is composed chiefly of vitric crystal lithic tuff, breccia, vitric tuff, stratified tuff, and tuffaceous breccia, all of felsic composition. The bedded fine-grained rocks of the Flat Swamp member are felsic volcaniclastic rocks rather than siltstones, claystones, or shales as in the other units. The felsic volcanic rocks of the Flat Swamp member are largely tuffs rather than porphyries. In brief, the rocks of the Flat Swamp member largely represent the fragmental material and volcanic ash resulting from explosive action about centers of eruption." (1969:12).

The raw materials outcropping in three locations within the Marshville survey area were sampled to document the range of variation among the naturally occurring lithic resources (Figure 1-4). The areas sampled were as follow:

1) Cluster 1, sample unit 19 of uplands: This sample was made on a small outcrop of nodules on a slope overlooking Beaverdam Creek, UTM Northing 3868880m, Easting 562200m. The area of the outcrop was too small and the nodules too homogeneous to warrant a transect and a single sample was collected.

2) Cluster 2, sample unit 46 and 47 of uplands: A transect was extended 76.8 m through an outcrop of boulders parallel to the slope between sample units 46 and 47 of the uplands overlooking Lanes Creek. Four 2-meter dogleash samples were collected along this line.

3) Adjacent to Cluster 3, sample unit 16 of terraces: A transect was extended through an outcrop of quartz nodules for 90 m perpendicular to the slope of a ridgetoe overlooking Lanes Creek. Four 2-meter dogleash sample units were collected along this line.

Five lithic groups were identified visually with the aid of 20x magnification from the first two Marshville sample units. These groups were sorted according to the same six variables used to assess the lithic material from the Lambert survey area (Table 1.2).

Four subsequent lithic groups comprising the range of variation within the samples collected were compiled from the

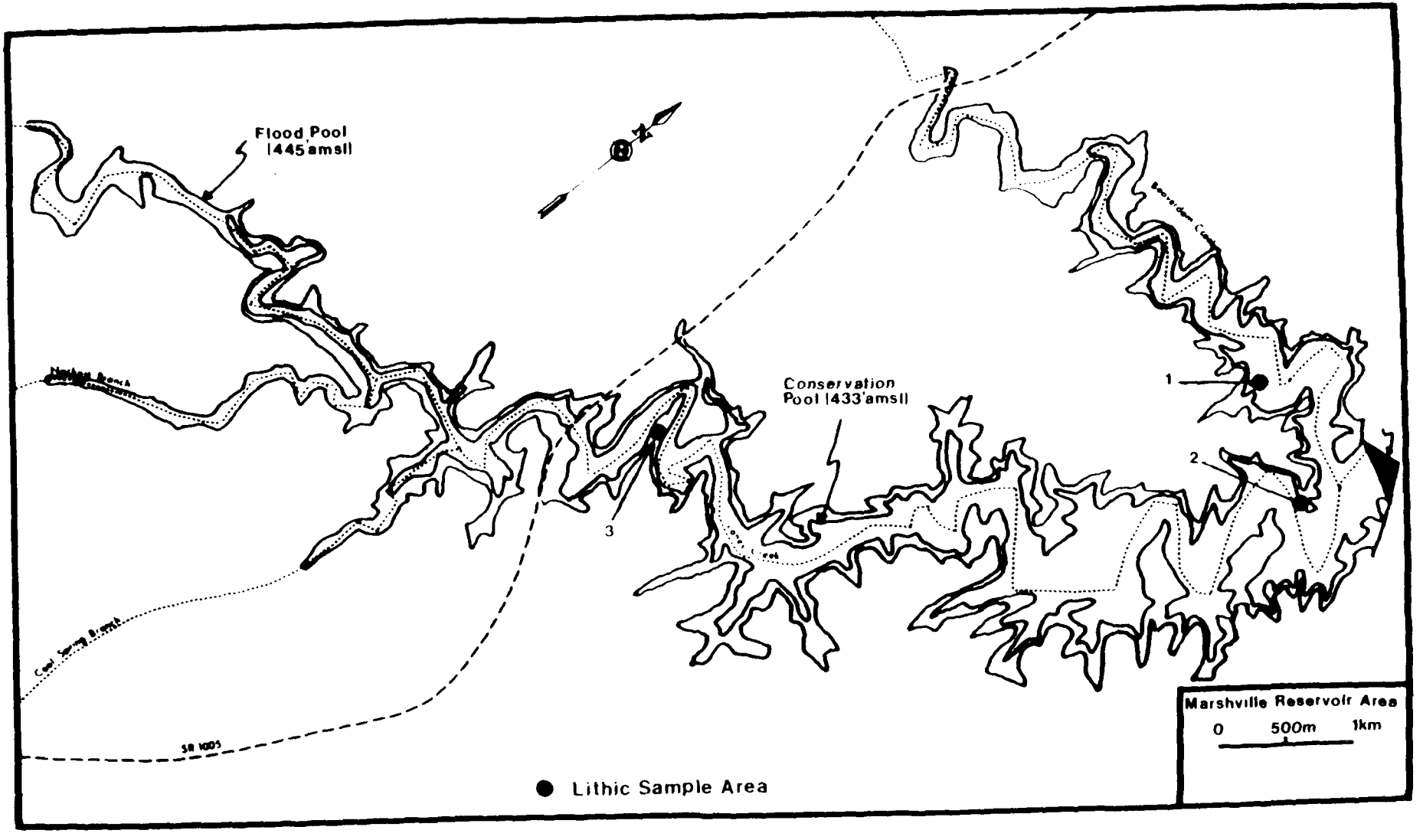


Figure 1-4. Lithic Sample Areas, Marshville

five original groups identified by visual means. This range of variation among the naturally occurring lithic materials for Marshville was categorized as follow:

Group A: Composed of greenish-gray (5BG5/1) argillite. This group exhibits fair knappable qualities, but fractures along well-defined parallel planes. Some form of pyrites are apparent under magnification. This group weathers light to medium brown with age and conforms to that described for Group H of the Lambert survey area.

Group B: Composed of a clayey-grained, light gray (5Y6/1) argillite. Some form of pyrite is apparent under magnification. This material apparently formed from very fine-grained particles that are evident in the relatively distinctive cryptocrystalline groundmass. This group weathers to a light yellowish-brown and conforms to that described for Group K of the Lambert survey area.

Group C: Composed of a coarse-grained gray (5Y6/1) argillite. Quartz and feldspar particles are easily visible under magnification. No pyrites are visible. This group weathers between a gray to dark gray with age and was listed as Group L in the Lambert survey area.

Group D: Composed of a coarsed-grained, greenish-gray (5BL6/1) argillite. Some iron pyrites are apparent without magnification. This group weathers dark gray with age and conforms to that described for Group D of the Lambert survey area.

The majority of the lithics sampled within the Marshville area fall within the range of variation of those sampled from Lambert with both consisting of light gray to greenish gray argillites. This is also evident in Group C from Marshville which has a general coarse-grained nature similar to that described for Lambert Group L. As was also noted for Lambert, the analysis of the collected materials suggests a preponderance of generally low-quality knappable non-quartz raw material within the Marshville survey area.

One large outcrop of vein quartz is known to occur within and adjacent to the Marshville survey area. It is located across a ridgetoe adjacent to sample unit 16 of terraces within Cluster 3, and strikes northwest across Lanes Creek and resurfaces at Bethel Church on State Road 1005 (Alan Hayes, personal communication 1986). The quartz specimens collected by the survey transect were visually sorted using criteria established by Alan N. Snavely for quartz materials from the upper Smith River valley in southwestern Virginia (Abbott et. al 1986). A total of nine groups were identified from the specimens collected in Marshville.

Group A: Quartz -- Smokey. Composed of dark gray to black opaque quartz. The specimens that comprise this group exhibit multiple internal structural flaws and subconchoidal to blocky fractures.

Group B: Quartz -- Milky, medium-high quality. Composed of fragmented single quartz crystals which are white or milky in color. This group exhibits few internal structural flaws and a generally flat luster. Fractures are subconchoidal in nature.

Group C: Quartz -- Fine-grained aggregate. Composed of coarse-grained, opaque macroscopic crystals. This group exhibits numerous internal structural flaws and blocky fracture.

Group D: Quartz -- Moderate quality. Composed of opaque milky quartz with parallel cleavage planes and oriented inclusions of hematite. Numerous internal structural flaws are present in addition to the parallel cleavage. The inclusions of hematite give these specimens a red-streaked appearance. Fracture is blocky to subconchoidal.

Group E: Quartz -- Weathered. Composed of opaque macrocrystalline quartz which has weathered to a crusty texture. These pieces are generally thin, 10 cm or less in thickness, and are dark reddish-brown to purple in color.

Group F: Quartz -- Milky, high quality. Composed of fragmented single crystals of solid white or milky quartz which exhibits few or no internal structural flaws. The specimens have a shiny luster and fracture conchoidally.

Group G: Quartz -- Moderate quality. Composed of opaque milky quartz with multiple blocky cleavage planes and oriented inclusions of hematite. The type of cleavage indicates numerous internal structural flaws, with specimens breaking into blocky chunks. Hematite inclusions produce a red-streaked appearance.

Group H: Quartz -- Low quality. Composed of opaque milky to pale yellowish orange (10YR 8/6) quartz with multiple parallel cleavage planes. Fracture is extremely blocky.

Group I: Quartz -- Milky aventurine. Composed of opaque milky quartz with random inclusions of hematite. This group has a shiny luster with numerous internal structural flaws. Fracture is subconchoidal.

The range of quartz documented within the area sampled in Marshville indicates the availability of some high-quality knappable quartz, most notably Groups B and F. Groups A, D and G could be used on an expedient or "ad hoc" basis with marginal success, while the remaining groups are not suitable for

knapping. By nature's mischief, however, groups B and F are among the scarcest quartz types in the area sampled (Table 1.3). Judging by our sample high quality quartz was available in limited quantities, and would have required an investment of time and energy to locate and acquire the material on the surface. Needless to say, this inference is made on the basis of a limited areal sample, and a greater abundance of Groups B and F may be present elsewhere along the vein.

Table 1.1: Macroscopic Sort of Lambert Lithic Raw Material

Provenience	Unit	Lithic Group	Apanitic	Matrix	Luster	Texture	Fracture	Inclusion	Var. Group
LC1SU17	TRP2	7	Crypto	Hetero	Dull	240	Subconch	Tuffaceous Argillite	A
LC1SU17	TRP2	6	Crypto	Hetero	Dull	440	Subconch	Argillite	B
LC1SU17	TRP3	3	Crypto	Hetero	Flat	440	Subconch	Argillite	C
LC1SU17	TRP5	3	Crypto	Homo	Dull	440	Hackly	Argillite	D
LC1SU17	TRP5	4	Crypto	Homo	Dull	440	Hackly	Argillite	D
LC1SU17	TRP5	10	Crypto	Homo	Dull	440	Subconch	Argillite	E
LC1SU17	TRP3	4	Crypto	Homo	Dull	440	Subconch	Argillite	F
LC1SU17	TRP2	2	Crypto	Homo	Flat	240	Subconch	Argillite	G
LC1SU17	TRP5	7	Crypto	Homo	Flat	240	Subconch	Argillite	G
LC1SU17	TRP5	8	Crypto	Homo	Flat	440	Fissile	Argillite	H
LC2SU14	Samp.	1	Crypto	Homo	Flat	440	Fissile	Argillite	H
LC3SU8,SU9	Samp.	1	Crypto	Homo	Flat	440	Fissile	Argillite	H
LC1SU17	TRP2	8	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU10	TRP1	1	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP2	1	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP2	4	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP2	5	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP3	5	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP4	4	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP5	9	Crypto	Homo	Flat	440	Subconch	Cry. Tuff	I
LC1SU17	TRP3	2	Crypto	Homo	Flat	440	Subconch	Argillite	J
LC1SU17	TRP5	6	Crypto	Homo	Flat	600	Subconch	Argillite	K
LC1SU17	TRP4	5	Micro	Hetero	Dull	240	Subconch	Argillite	M
LC1SU17	TRP4	7	Micro	Hetero	Dull	440	Subconch	Argillite	N
LC1SU17	TRP3	7	Micro	Hetero	Flat	240	Subconch	Argillite	O
LC1SU17	TRP4	6	Micro	Homo	Dull	240	Fissile	Argillite	P
LC1SU17	TRP5	2	Micro	Homo	Dull	240	Subconch	Argillite	Q
LC1SU17	TRP5	5	Micro	Homo	Dull	240	Subconch	Argillite	Q
LC1SU17	TRP3	1	Micro	Homo	Dull	440	Subconch	Argillite	R
LC1SU17	TRP4	1	Micro	Homo	Dull	440	Subconch	Argillite	R
LC1SU17	TRP1	1	Micro	Homo	Dull	440	Subconch	Argillite	R
LC1SU17	TRP1	3	Micro	Homo	Flat	240	Fissile	Argillite	S
LC1SU17	TRP2	3	Micro	Homo	Flat	240	Subconch	Argillite	T
LC1SU17	TRP3	6	Micro	Homo	Flat	240	Subconch	Argillite	T
LC1SU17	TRP4	2	Micro	Homo	Flat	240	Subconch	Argillite	T
LC1SU17	TRP1	2	Micro	Homo	Flat	440	Subconch	Argillite	U
LC1SU17	TRP4	3	Micro	Homo	Flat	440	Subconch	Argillite	U
LC1SU17	TRP5	1	Micro	Homo	Dull	440	Subconch	Tuffaceous Argillite	V

Table 1.2: Macroscopic Sort of Marshville Lithic Raw Material

Provenience	Unit	Lithic Group	Apanitic	Matrix	Luster	Texture	Fracture	Inclusion	Var. Group
MC1SU19	Samp.	1	Crypto	Homo	Flat	440	Fissle	Argillite	A
MC2SU467	TRP2	1	Crypto	Homo	Flat	440	Fissle	Argillite	A
MC2SU467	TRP1	1	Crypto	Homo	Flat	600	Fissle	Argillite	B
MC2SU467	TRP4	1	Micro	Hetero	Dull	240	Subconch	Argillite	C
MC2SU467	TRP3	1	Micro	Hetero	Dull	240	Subconch	Argillite	D

Table 1.3: Frequencies of Identified Quartz Groups, Marshville.

Group (Quartz)	Frequency (# of specimens/group)	%
A	56	16.76
B	20	5.99
C	6	1.80
D	20	5.99
E	3	.90
F	3	.90
G	214	64.07
H	2	.60
I	10	2.99
	334	100.00

Ecology

Over the last 40,000 years the North Carolina Piedmont experienced changes in the forest stand structure as a result of glacial and interstadial fluctuations in the Upper Pleistocene and Holocene and, with the advent of human populations in the area, as a result of human disruption in the form of clearing, timbering and cultivation. Though no deposits which contain preserved Late Pleistocene or Holocene pollen and/or vegetation have been found in the North Carolina Piedmont, paleoecologists have been able to interpolate the broad vegetational sequences found in the North Carolina Piedmont on the basis of such deposits found in the North Carolina coast and mountains and the South Carolina and Georgia Piedmont areas. By interpolation then, the project areas were covered with a mixed-conifer-northern hardwood type forest from about 38,000 to 16,000 BC, a result of the warming trend during the Late Altonian and Farmdalian Substages (Delcourt and Delcourt 1981; Watts 1980; Whitehead 1973; Wright 1981). With the onset of the Woodfordian Substage and the resultant movement of glaciers and cold-weather vegetation southward, boreal jack pine-spruce stands existed in the project areas at approximately 16,000 BC.

No preserved faunal remains of the late Pleistocene have been found in the North Carolina Piedmont. In northern Virginia, however, the glacial faunal assemblage of long-armed sloth, woolly mammoth, bison and musk ox seems to be associated with the boreal and mixed-conifer-northern hardwood forest, remaining in northern Virginia until 9,300± 1,000 BC (Guilday 1962). Though the relationship is unclear, the replacement of the glacial faunal assemblage with modern temperate fauna seems to coincide with the replacement of the mixed-conifer-northern hardwood forest by a mixed temperate deciduous forest. This seems to suggest that the glacial faunal assemblage may have existed in the North Carolina Piedmont until sometime between 16,000 and 8,000 BC, during which time the mixed-conifer-northern hardwood forest was replaced by the mixed deciduous forest. By 8,000 BC a fully developed mixed deciduous forest existed in the Piedmont as far north as Virginia.

The present-day southeastern evergreen forest occurred in the area by 3,000 BC. At that time, the composition of the southeastern evergreen forest seems to have changed from one dominated by the xeric species of oak and hickory to one dominated by southern pine (Delcourt and Delcourt 1981, 1985). This may be the result of an increased occurrence of forest fires in the area, because southern pines are a fire-tolerant species while oak and hickory are not. Again, this assumes that the North Carolina Piedmont would have been similar to the North Carolina coast and the Piedmont further to the south. It may be that then, as now, those areas, as a result of soil conditions, climate, and forest stand structure were dominated by southern pine, while the North Carolina Piedmont contained a forest dominated by oak and hickory. The increased presence of southern

pines in the southeastern evergreen forest may also be the result of fires set by prehistoric peoples in an attempt either to clear the forest floors, increasing the resources available to local fauna (P. Delcourt 1980), or possibly by the use of animal drives. If this is the case, this would suggest that the "climax" forest found by European explorers was, in fact, induced by the food procurement processes of the contact-period Native Americans.

Over the last 5,000 years there would be many discrete environmental niches present within the general area called the "southeastern evergreen forest." The occurrance of these niches is dependent on many attributes -- soil type and texture, amount of moisture available (during the dry season especially), permeability of the subsoil, depth of the subsoil (depth to bedrock), pH, type of landform, and the slope and exposure of the landform (Beckerman 1985). Soil maps for Stanly County (USDA A n.d.) and Union County (USDA B n.d.) were used to obtain the information necessary to reconstruct the type of forest stand structure in the Lambert and Marshville project areas based on soil types.

In Lambert, Chewacla and Oakboro silt loams were the primary soils located in the floodplains and terraces, while Badin and Tatum channery silt loams and Goldston very channery silt loam characterize the upland areas. In Marshville, the predominant soil types were Chewacla silt loam in the floodplains and terraces, and Badin channery silt loam and Goldston very channery silt loam in the uplands. The Badin and Goldston soils in Marshville were so intermixed that in some cases the individual soil types could not be separately mapped and were called the Goldston-Badin complex (Kent Clary, personal communication).

The soils information provided by the soil maps is presented in Tables 1.4 and 1.5. The forest community category in Table 1.6 is based on a subjective analysis of all data provided by the USDA publications. As can be seen, the soils in Lambert provide for a patchwork of ecological communities, from mesic to xeric with a resultant diversity of vegetation and fauna and with good woodland habitat on the whole, and fair wetland habitat in the floodplain and terrace areas. Marshville, on the other hand, has only three primary soil types, limiting variability. The predominant one is the Goldston soil type, an all-round poor soil. It is shallow and droughty with a low (acidic) pH. Though this soil would not be overly wet during the rainy season, the Goldston soils would retain little moisture for use in the dry season, making the vegetation extremely susceptible to droughts.

The soil types present in the two project areas suggest that the Chewacla and Oakboro soil types supported a mesic vegetational community of wet, bottomland dwelling oaks, beeches, river birch, Eastern hophornbeam (ironwood), and yellow-poplar, with the better drained Oakboro soils containing more of the

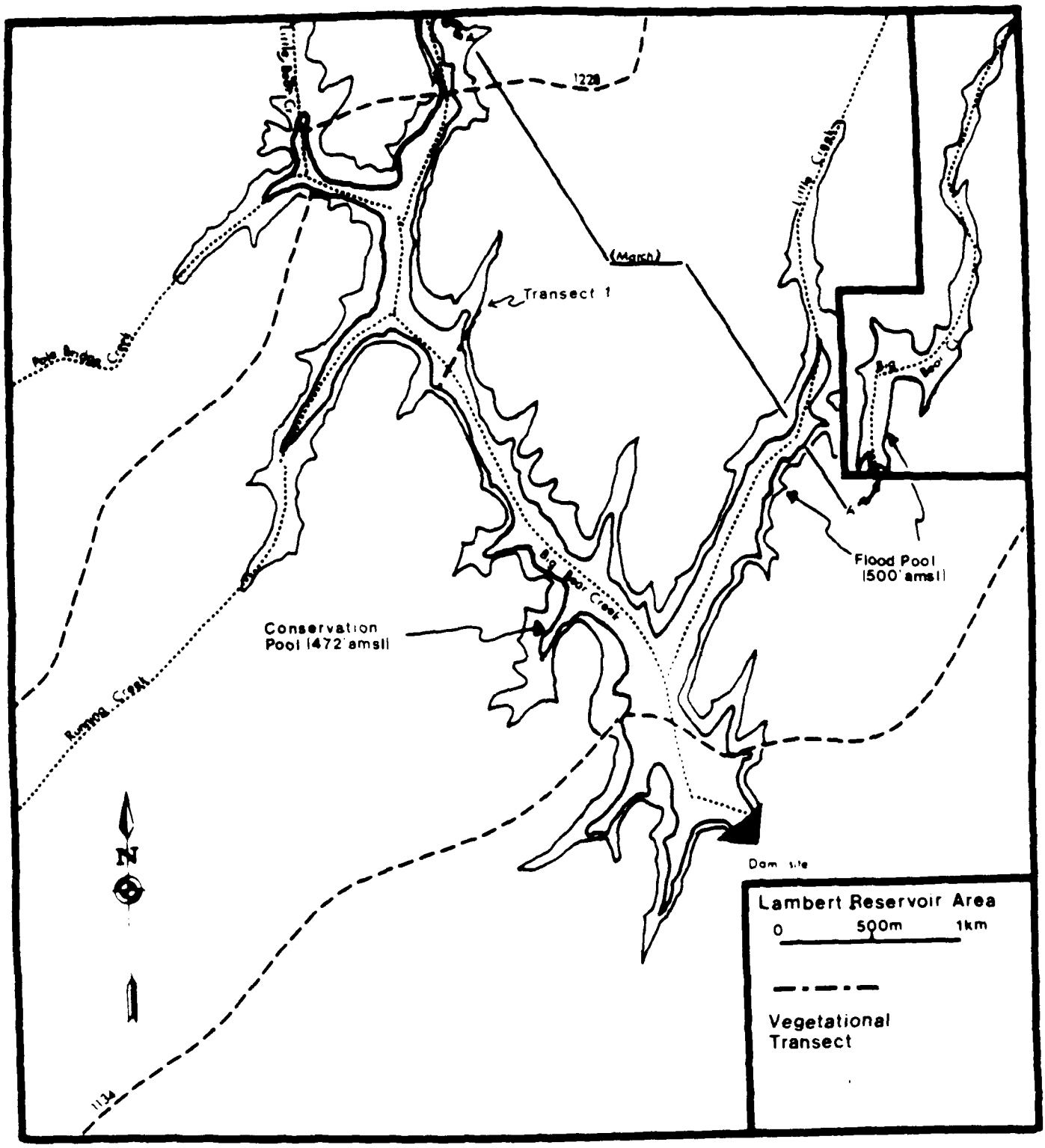


Figure 1-5. Vegetational Transects, Lambert

oaks. The Badin and Tatum soils likely had an oak-hickory forest stand, containing less drought-tolerant species than those found in the xeric Goldston soils. An oak-hickory forest would also have been found on the Goldston soils, but oaks would have been more prevalent than the hickories, as they were more suited for poor, shallow, droughty soils.

With the advent of European settlers in the area, vegetational and faunal changes occurred as a result of hunting, land clearing and agricultural practices. The early attitude of the settlers that the land, and animals, of North America were infinitely renewable resulted in the extinctions of some animals, e.g. passenger pigeons, and the displacement of others, such as bear. Large scale cultivation resulted in an increase of habitat diversity (fields , old fields, secondary forests, and pristine forests). Today, the only forested areas occur in places too steep to cultivate or in areas which are often flooded. Thus the areas immediately adjacent to the streams and small rivers which contain small, narrow floodplains provide a corridor for animal habitation and movement. The cropland areas, especially those comprised of grain, and pastures on the flatter areas provide easily available food resources. For example, though there is no evidence of migratory animals in the prehistoric faunal material in the North Carolina Piedmont, some migratory birds such as Canadian geese are now presently using the area as a flyway. It has been suggested that the presence of the grain fields and the addition of modern lakes in the area may have resulted in this change in flight patterns (Gregory A. Mikell, personal communication). On the other hand, large-scale cultivation can cause heavy erosion and major disruption of the local ecology of the area, in some cases causing whole ecological niches to disappear.

In an attempt to determine if such niches were so profoundly affected two vegetational transects, one in each damsite, were investigated. It was expected that the remnant forest sampled would give insight into the forest stand structure before human disturbance, testing our suggestion that soil types can determine forest structure, and/or the land use patterns after these disturbances. Each transect contained a series of 10 x 10 m sample units 60 m apart along the line of the transect. The trees in each 10 x 10 m area were counted by number and species. Any tree with a radius of eight centimeters or greater was recorded. In the southwest corner of each sample unit, a 2 x 2 m square was sampled for shrubs and saplings. Any herbs of possible use to native Americans or settlers also were noted (McEvoy et al 1980; Oosting 1942; Whittaker 1952).

The transects were selected so that they would include all of the niches which might contain clearly different forest stands, if undisturbed, and would also be applicable to the stratification techniques used in choosing samples for archeological testing. In selecting these transects, areas which were cultivated were avoided. This removed all relatively flat

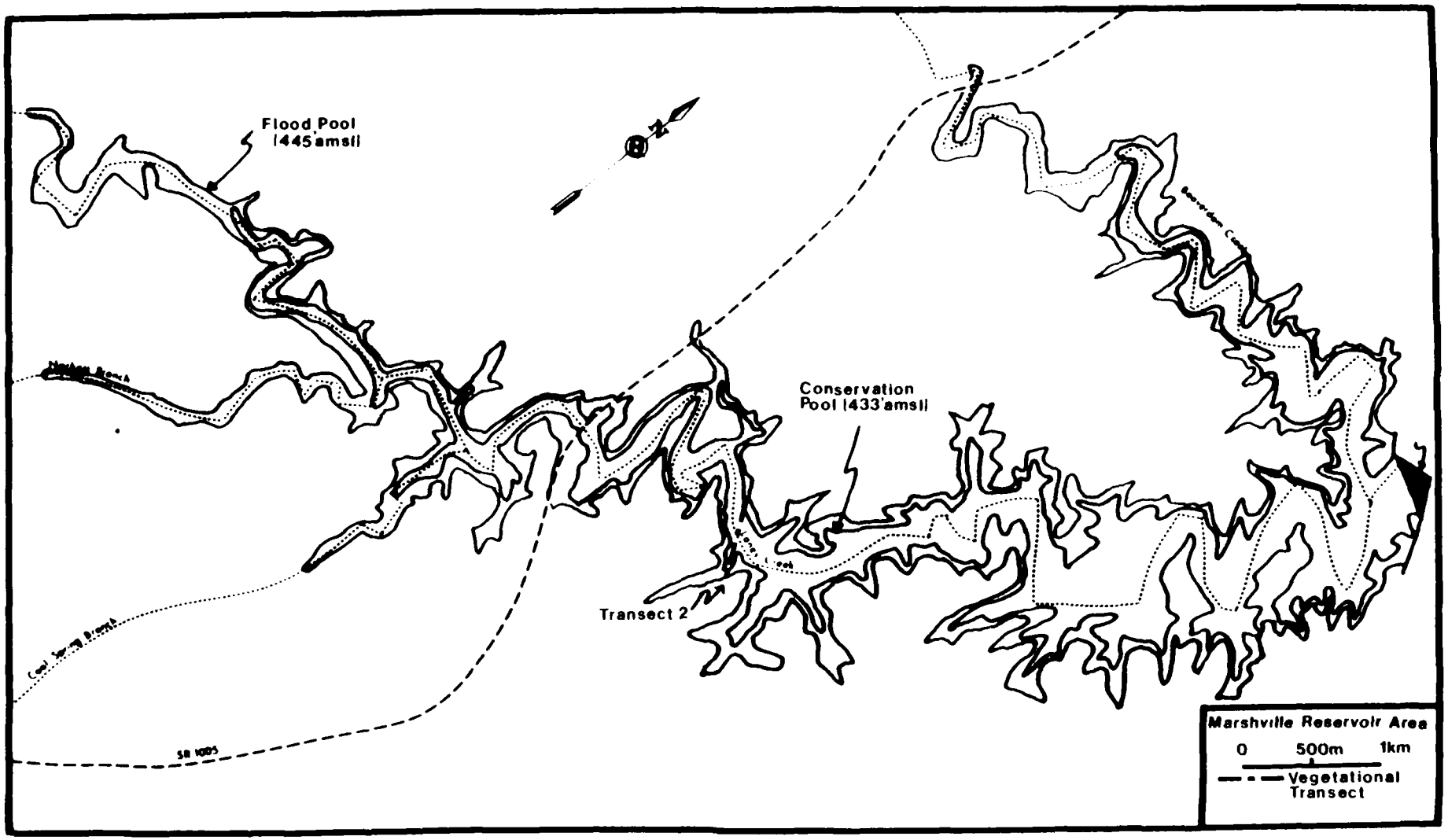


Figure 1-6. Vegetational Transects, Marshville

upland areas from the sample, as these areas are intensively farmed. Also, Lanes Creek in Marshville is a heavily channelized stream, and has no active floodplain at present. Areas of low relief bordering the creek (appearing to be T1 or T2 terraces when seen on a USGS topographic map) actually are the pre-channelization T0 terraces. No active floodplains were sampled in Marshville as a result of this, but transects did contain the terrace and slope units (including the relict T0 terrace).

Transect One was located in Lambert (Figure 1-5). It lay across Big Bear Creek running N54°E and S54°W of a point 410 m down Big Bear Creek from its confluence with Running Creek. The transect ended at the 500 ft contour line, and included floodplain, terrace and upland units, with the floodplain and terrace formed by Chewacla silt loam and the upland units by Goldston very channery silt loam. Five sample units, two on the northeast side and three on the southwest side of Big Bear Creek were placed along the transect. The area 90 m above the 500 ft contour on the southwest end of the transect was cultivated in corn, and erosion in the sample units to the southwest of Big Bear Creek may, in part, be due to run-off from this field. The terrace sampled is at the confluence of an unnamed feeder creek and Big Bear Creek. (The results of the Lambert transect study area are presented in Table 1.6).

Transect Two was located in Marshville (Figure 1-6). It lay N47°W and S47°W of a point in Lanes Creek 315 m down Lanes Creek from its confluence with Barkers Branch. The transect ended at the 440 ft contour line, and included terrace and upland units. The soil map for Marshville was incomplete and, though the overall character of the soil units was known, important particulars were not available and a conclusion about the relationship between soils and vegetation could not be drawn.

Seven sample units, four on the northwest, and three on the southeast sides of Lanes Creek, were placed along the transect. The area just above the southeast end of the transect was in pasture. Two old road beds cut across the transect, one near sample unit 6 and one through sample unit 7. The terrace on the northwest side of Lanes Creek has experienced some scouring as a result of floodwater from Lanes Creek. (The results of the Marshville transect study area is presented in Table 1.7).

Forest succession has been fairly well established in the North Carolina Piedmont, and seems representative for the Piedmont from Pennsylvania to Alabama (Oosting 1942). A plowed field will be taken over by crabgrass in the first year of abandonment. By the first summer, horseweed and ragweed will dominate the area. Aster follows in the second summer with broomsedge establishing itself in the third and remaining until shaded out by pine, usually shortleaf or loblolly, generally by the fifth year. By 10 to 15 years, the pine has formed a closed stand. Forty years after initial colonization by crabgrass, the pine forest contains an understory of subordinate hardwoods such

as red gum, black gum, dogwood, and sourwood with seedlings of oaks and hickories. Seventy or eighty years after abandonment, the pine forest reaches old age and begins thinning out, with oaks and hickories replacing them. By 150-200 years, a near climax oak-hickory forest will be visible with only a few pine trees remaining. Of note, however, is the fact that a pine forest will not colonize an area which has been clearcut. Apparently the red gum, red maple, and other subordinate species are able to grow up faster than the pine because the humus layer stays intact. This shades out the pine seedlings, speeding up the recolonization of the hardwoods by cutting out competition with the pine. This removes about 20-30 years of succession in reaching a climax oak-hickory forest. This type of succession, slightly modified, would also describe the process of replacement in the tree gaps produced in a climax forest by tree falls, at least in medium to large gaps. When a tree in a forest falls, it will allow extra sunlight in under the tree canopy, resulting in the rapid growth of the seedlings and small trees underneath. This process of replacement does not include pine because pine seeds need much more light than hardwoods to germinate. The hardwood seedlings are already in the understory before the tree falls, giving them a head start over any pines which might germinate after the light appears.

The upland forest in Transect One on the far northeast side of Big Bear Creek shows the secondary pine forest typical of a 60 year abandoned old field. The floodplain area just to the northeast of the creek, while it has not experienced cultivation, has been badly disturbed by the flooding of Big Bear Creek. This sample unit has an overall low number of trees and saplings (n=14). This implies that the saplings are not able to take root because of flooding during the rainy season. This is also the case on the terrace immediately adjacent to the creek on the southwest side of the transect. The terrace further away from the creek was probably cultivated 90 years ago, as can be seen from the amount of pine and subordinate species present in the forest stand with hickory starting to appear in the area. The only area of the transect which has developed enough to make a statement about the soils-tree niche relationship would have been in sample unit 5 on a concave lower slope on the far southwestern end of the transect. While it was expected that the Goldston very channery silt loam would contain only xeric species of trees (e.g.post and blackjack oaks), the predominant species are, in fact, those found in moderately xeric environments. Soils, then, while having an effect on the type of vegetation in an area, clearly are not the only factor affecting vegetational colonization. The topographic feature on which the vegetation is located and the exposure it receives also affect the amount of moisture an area receives and retains. Northern exposure will provide the most mesic-type environment with southern exposure being the most xeric. The range of topographic features, from most mesic to most xeric is floodplain-lower concave slopes and coves-summits-backslopes-upper convex slopes.(McEvoy, et al 1980). In this case, the sample unit was located on a lower

concave slope near its interface with the terrace and received northern exposure. The combination of northern exposure and a lower concave slope would probably supplement the moisture in the soil such that the Goldston very channery silt loam produced a forest structure very similar to what would be expected on a Badin silt loam.

The vegetation along Transect Two was that of an old forest, approaching climax. The northwest side of the transect in the area of the terrace showed a generally well-developed forest with areas of tree gaps resulting in the growth of saplings and understory species (e.g. sample unit 2). The area just northwest of the terrace was not as fully developed as that on the terrace, probably as a result of the erosional disturbance exhibited in the area, but was probably only 10-20 years behind that of the terrace. The forest stand structure on this side of Lanes Creek was well enough developed to show a gradual trend from a more mesic to a more xeric environment as the distance from the creek increases. The species of trees found went from river birch (high frequency), to gaining hickory, to river birch being replaced by oaks. The southeastern side of Transect Two showed a similar trend, with the terrace just to the southeast of Lanes Creek being a little drier (it contains oaks). With movement into the uplands, the resultant tree species suggested a poorer, drier soil. This transect showed that in as small an area as that covered by this transect, having only three primary soil types in the area, there was still available to the animal populations (humans included) a wide range of resources created by the interplay of soils, topography, and exposure.

As can be seen, while there has been some disturbance in Marshville, the forests present now can give some idea of the nature of the climax forest in the area. Lambert's vegetation suggests the area was even more intensively cultivated 90 years ago than present. Because of the more recent disturbance in the Lambert area only the pockets too steep for cultivation, as seen in sample unit 5, could be used in testing a soils-vegetation type relationship. From the scant evidence that was found, soils cannot be considered alone in determining the type of forest stand in an area. The combination of slope, exposure and topographic feature must be given as much consideration as the soils.

Table 1.4: Characteristics of Major Soil Types
Lambert and Marshville Areas

Soil type	pH	Avail. H_2O/ Bedrock Depth	Drainage	Topsoil
Chewacla Silt Loam	4.5-6.5	12/64*	poor	poor,wet
Oakboro Silt Loam	4.5-6.5	7.3/46	moderately well	good
Tatum Channery. Silt Loam	4.5-6.5	6.53/44	well	poor, clayey
Badin Channery Silt Loam	3.6-6.5	4.25/25	moderately well	poor
Goldstan Very Channery Silt Loam	3.6-6.5	2.08/16	well to excessive	poor,

*In inches.

Table 1.5: Potential For Wildlife Habitat

Soil Type	Woodland	Wetland	Forest
Chewacla Silt Loam	Good	Fair	Mesic
Oakboro Silt Loam	Good	Fair	Moderately Mesic
Tatum Channery Silt Loam	Good	V. Poor	Slightly Xeric
Badin Channery Silt Loam	Good	V. Poor	Moderately Xeric
Goldston Very Channery Silt Loam	Poor	V. Poor	Xeric

Table 1.6: Environmental Transect Results -- Lambert Area

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
1 Soil type-Oakboro silt loam, frequently flooded	30m, north 33° east from center of Big Bear Creek	Floodplain	Heavily scoured by creeK	57.1% ironwood, 14.3% hackberry 14.3% red maple 14.3% sweet gum	1 sweet gum, 1 eastern hophorn-beam	Moderate amount present	85.7% black-cherry, 14.3% american holly	Wild Straw-berry, musca-dine grape
			Of total	35.7%	14.3%		50%	

Table 1.6: Environmental Transect Results -- Lambert Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
2 Soil type-Goldstone very channery silt loam 15-45% slopes	90m, north 33° east from center of Big Bear Creek	Slope	Moderately eroded, many dead pine trees had been over turned	56.3% sweetgum, 20.3% virginia pine, 10.9% sourwood, other: dogwood, red maple	6 virginia pine, 1 sweetgum	Moderate amount present	33% sweetgum 31.3% willow-oak, 10.4% red maple, other: black-jack oak dogwood, hack-berry, sourwood ironwood hickory, american holly	Wild strawberry, pipsissewa, muscadine grape
			Of total	50.9%	6.3%		42.9%	

Table 1.6: Environmental Transect Results -- Lambert Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
3	30m, south 33° west from center of creek	Terrace	Heavily scoured and gulleyed by the stream	66.7% red maple 11.1% eastern hophornbeam, 11.1% slippery elm, % 11.1% eastern red cedar	1 eastern hophornbeam, 1 eastern red cedar	American boxwood, large amount present	40.0% black cherry, 30.0% hickory, 20.0% red maple, other: sourwood	Muscadine grape
			Of total	33.3%	9.5%		57.1%	

Table 1.6: Environmental Transect Results -- Lambert Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
4	90m, south 33° from center of Big Bear Creek	Terrace	Moist, mild erosion, a few small gulleys	54.3% sweetgum 11.4% virginia pine other: dogwood, hickory, red maple sourwood, sycamore, tulip poplar	2sweet-gum, 3 virginia pine	Moderate amount present	50.0% dogwood, 14.3% black cherry, 14.3% red maple, other: eastern hophorn-beam, sycamore tulip poplar	Honey-suckle, muscadine grape
			Of total	61.2%	10.2%		28.6%	

Table 1.6: Environmental Transect Results -- Lambert Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
5	150m south 33° west from center of Big Bear Creek	Slope	Mild erosion, some tree fall depressions present	25.0% sourwood, 21.4% sweetgum, 10.7% red maple 10.7% tulip popular, other: eastern red cedar dogwood, american holly, hickory, southern red oak, tulip poplar, white oak	1 tulip poplar, 1 red oak 1 white oak	Moderate amount present	23.8% red maple 23.8% willow oak, 19.0% dogwood, 14.3% sourwood other: black cherry, black-jack oak southern red oak	Pipsis-sewa, huckle-berry
			Of total	51.0%	6.1%		42.9%	

Table 1.7: Environmental Transect Results -- Marshville Area

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
1	30m north 47° west from center of Lanes Creek	Terrace	Moderately scoured had gulleyed evidence of old tree falls	25.0% dogwood, 25.0% tulip popular, 12.5% river birch, 12.5% sweetgum, other: eastern hophornbeam, beech, hickory, sourwood	2 river birch, 3 sweetgum, 3 tulip popular	very little present	None	Blackberry, honeysuckle
			Of total	66.6%	33.3%			

Table 1.7: Environmental Transect Results -- Marshville Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
2	90m north 47° west from center of Lanes Creek	Terrace	Moderately scoured, Treefalls noted in area	46.1% hickory, 15.4% dogwood, 15.4% tulip poplar other: eastern hophornbeam, red maple sweetgum	1 tulip poplar	Moderate amount present	46.7% american holly, 33.3% hickory, 20.0% red maple	Honeysuckle, blackberry
			Of total	42.9%	3.6%		53.6%	

Table 1.7: Environmental Transect Results -- Marshvill Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
3	150m north 47° west from center of Lanes Creek	Terrace at base of slope	Numerous treefalls less scoured and gulleyed than SU1 or SU2	43.8% eastern hophornbeam, 18.8% slippery elm, 12.5% hickory, 12.5% red maple other: black oak beech	1 black oak, 1 beech	Moderate amount present	83.3% hickory, 16.7% american holly	Honeysuckle, muscadine
			Of total	63.6%	9.1%		27.3%	

Table 1.7: Environmental Transect Results -- Marshville Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
4	210m north 47° west from center of Lanes Creek	Gentle slope	Some tree fall, mild erosion in the form of gulleying	25.0% eastern hophorn-beam, 21.9% hickory, 15.6% sweetgum, 12.5% dogwood other: frosted hawthorne post oak, red maple slippery elm, tulip poplar, white oak willow oak	2 sweet-gum, 1 post oak, 1 willow oak	Moderate amount present	31.6% black cherry, 21.1% hickory, 21.1% dogwood, 15.8% red maple, other: american holly, eastern red cedar	Wild straw-berry, black-berry, honey-suckle, pippsis-sewa, musca-dine grape
			Of total	54.9%	7.8%		37.3%	

Table 1.7: Environmental Transect Results -- Marshville Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
5	30m south 47° east from center of Lanes Creek	Terrace northern edge lies adjacent to creek bank	Very slight scouring	31.3% eastern hophornbeam, 25.0% red maple 18.8% winged elm other: dogwood, post oak, river birch, willow oak	41 post oak, 1 river birch, 1 willow oak	Large amount present	77.8% red maple, 22.2% dogwood	Honeysuckle
			Of total	52.0%	12.0%		36.0%	

Table 1.7: Environmental Transect Results -- Marshville Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
6	90m south 47° east from the center of Lanes Creek	Slope near crest of a hill	Very eroded with gulleys, road runs to south of unit	34.8% red maple 21.7% hickory other: dogwood, black oak overcup oak, persimmon red oak, sourwood, white oak	2 red oak 1 black oak, 1 hickory	Little present	28.6% black oak, 28.6% hickory other: red maple, sourwood willow oak	Muscadine grape, blackberry
			Of total	63.3%	13.3%		23.3%	

Table 1.7: Environmental Transect Results -- Marshville Area (cont.)

TRANSECT #/ SAMPLE #	LOCATION	TOPOGRAPHY	CONDITION	TREES	TREES > 8 cm rad.	UNDERSTORY	SAPLINGS	HERBS
7	150m south 47° from center of Lanes Creek	Slope with southern exposure	Old road bed dominates the center of the unit	35/3% red maple 23.5% sweetgum, 17.6% white oak 11.8% hickory, other: black oak hackberry	2 white oak, 1 black oak	Little present	72.2% red maple, 11.1% blackberry, other: hickory, black oak, willow oak	All inedible
			Of Total	40.0%	8.6%		51.4%	

Previous Work

The southwestern section of North Carolina's Piedmont has received the attention of professional archeologists for over 50 years. Although the specific study area reported in this volume was little known, previous work in the general region created both an interpretive framework and the research questions which helped guide the Wake Forest project.

As early as 1903 W.H. Holmes noted the variety of ceramics obtained from North Carolina, particularly the stamped wares of his South Appalachian group and the textile (net, cord, fabric) impressed wares of the Northern Atlantic Slope group (Holmes 1903:144). Despite the 80-odd years since, that relationship still creates active research efforts (as detailed below and in the following chapter). Archeological excavations in the region were initiated by Joffre Coe in 1936 at a protohistoric and historic site in Randolph County, believed to be John Lawson's 1701 town of Keyauwee, followed in 1937 by the first professional investigations at the Town Creek site on the Little River of Montgomery County. While the Keyauwee site lies about 70 km northeast of the Lambert Reservoir area, and Town Creek about 50 km southeast, both were instrumental in establishing certain basic classificatory units used in the study area, e.g. the ceramic types Uwharrie, Caraway, and Pee Dee (Ward 1983:57). The Town Creek site also yielded a number of architectural and artifactual traits which encouraged its classification as a component of the South Appalachian Mississippian, and was (and is) viewed by Coe and others as a site-unit intrusion from the south. More distant from the project area, but still in the North Carolina Piedmont, other late prehistoric sites on the Eno, Dan, Yadkin and Roanoke rivers were partially excavated by Coe from 1938 to 1942 (Coe 1964:6).

Work in neighboring South Carolina prior to World War II was very restricted. Research began in the 1820's when William Blanding, a physician, conducted excavations in several small mounds near Camden, ca. 75 km south of the Marshville Reservoir area (Blanding 1847). There are several mounds in this vicinity all strongly representative of the South Appalachian Mississippian tradition, and they attracted archeological attention through the 19th century to the present (Thomas 1894; Ferguson 1974; DePratter personal communication 1986). Despite the early attention given to the Camden area, and some small-scale (but very important -- e.g. the Stallings Island Site) work in the southeastern part of the state early in the twentieth century, South Carolina remained until the middle 1960's "an archeological terra incognita" (Stephenson 1975:48). At least one contributing factor was the failure of the state to participate in archeological work undertaken by the Works Progress Administration, which was instrumental in the excavations at Town Creek to the north.

On the eve of World War II archeology had produced considerable information on the late prehistoric remains of the southern North Carolina/northern South Carolina Piedmont. The southwestern North Carolina Piedmont was dominated by sites yielding net-impressed, cord-marked or fabric-impressed wares, small triangular projectile points and other traits recognized as part of a general Siouan pattern of the Woodland period, with Town Creek representing an intrusion of South Appalachian Mississippian traits via Irene (on the Savannah River) and the Camden mounds on the Wateree, up the fall line. Most of the cultural remains were considered very recent in those years before radiocarbon dating, and errors were made in creating classificatory units (e.g. Coe 1952), but the basic interpretive framework for the Formative stage had been created. Of the preceding Archaic and Paleo-Indian stages virtually nothing was clearly understood, however.

Beginning in 1948 the problem of defining the relative age of the multitudinous Archaic sites in the Piedmont (and over much of the Southeast) was attacked by Coe. Excavations at the Doerschuk Site in Montgomery County, North Carolina, and later at the Hardaway Site in adjacent Stanly County revealed deep, stratified deposits from terminal Paleo-Indian to Woodland. More recent excavations in North Carolina, Tennessee, South Carolina and other southeastern states have provided radiocarbon dates for the several artifact complexes discovered by Coe. But in the late 40's and 50's the Doerschuk and Hardaway sites (they are within a few miles on the Yadkin River, some 25 km northeast of the Lambert Reservoir area) introduced a measure of order, for the first time, to the vast array of Archaic materials of the Carolinas and beyond through the relative dating of preceramic artifact styles from the terminal Paleo-Indian Hardaway through the terminal Archaic Savannah River phase.

During the 1960's some work continued at the Town Creek site, but the University of North Carolina-Chapel Hill, at the time the sole professional research organization in the state, shifted attention to the western part of North Carolina; the southeastern Piedmont was largely ignored during that decade. In South Carolina the newly organized Department of Archeology focused its research efforts on the Savannah River and the coastal plain, with practically no new data issuing from the environs of the Rocky River study area.

It was during that same decade and into the early '70's that several pieces of Federal legislation were enacted that dramatically affected the scale and scope of archeological research in the Piedmont and, for that matter, the entire country. The National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969 and the Archeological and Historic Preservation Act of 1974, with attendant amendments, Executive Orders and implementing regulations, mandate archeological investigations prior to land-disturbing activities undertaken by Federal agencies. These laws, coupled with similar

new state statutes, fostered most of the archeological work carried out to date in the study area and adjacent counties. With few exceptions it is these cultural resource management (CRM) projects that provide the data set for previous work within the study area. Despite the increased rate of work, however, by January 1985 only one-half of one percent of Cabarrus, Stanly and Union counties had received even a cursory archeological study (Claggett 1985:31).

Cultural resource management projects have discovered 198 archeological sites in Cabarrus, Stanly and Union counties. Of these the great majority are small, eroded or plow-disturbed sites yielding few or no diagnostic artifacts (e.g. Fischer and Fischer 1984:5; 1975:15-16). All of the CRM projects were small of scale (average project size for Cabarrus, Stanly and Union counties <20 hectares) and none attempt to integrate results into a regional model of prehistoric culture change. The projects do demonstrate however that Archaic and Woodland sites are well-represented in the study area, with materials ranging from Early Archaic through Late Woodland. At least seven Paleo-Indian points have been found in Cabarrus and Stanly counties, all on the surface (Perkinson 1973; Peck 1982). Because of the small amount of survey work conducted in the three-county study area it has been impossible to establish such "base-line" data as site density or site location probabilities (Claggett 1985:35). The only excavated sites in the study area are the Reed Gold Mine, a state historic site ca. 14 km southwest of the Lambert Reservoir area (Sacchi 1980), and, in the northeast corner of Union County about 25 km south of the Lambert Reservoir area, a deeply stratified site on the Rocky River (Peck and Painter 1984). Buried in alluvium of the Rocky River, the Baucom Site reportedly contains intact deposits from Hardaway through protohistoric Woodland remains, along with organic material suitable for radiocarbon dating. The available report cites three of these dates, with a sample from the Hardaway level providing an uncorrected date of 11,150 B.P. The site is situated on the fall line in a topographic setting similar to the Hardaway type site, i.e. a floodplain immediately above a constriction in the river valley which likely promoted alluvial deposition and hence burial of cultural materials.

Outside the study area, but in the circumscribing environs, there have been several archeological projects which provide useful information for interpreting the Lambert-Marshville remains. In South Carolina House and Ballenger (1976) sampled 85 km of highway corridor in Richland, Fairfield, Chester and York counties, a north-south transect extending, roughly, from Columbia, South Carolina to Charlotte, North Carolina. The resultant data allowed some cautious statements regarding settlement pattern shifts during the Archaic, Archaic subsistence patterns and Archaic vs. Woodland/Mississippian use of inter-riverine uplands (House and Ballenger 1976:115-133). Also in South Carolina, the Laurens-Anderson project, another highway transect of 50 km and oriented east-west in the northwest South

Carolina Piedmont, located 165 sites. The prehistoric materials indicate again an intensive use of interriverine areas during the Archaic and during the Early Woodland. That study also suggests more dense occupation of the survey route during the Middle Archaic than Early Archaic (no surprise there), but then a duality of site types appearing for the Late Archaic, with both riverine and upland sites disclosing distinct artifact patterns (Goodyear, House and Ackerly 1979).

In Gaston County, just west of Charlotte, May (1985) surveyed 328 non-contiguous hectares in transects and recorded 30 sites, half of them containing an Archaic component and half containing Woodland ceramics or projectile points. May's ability to position his transects along or across floodplains probably contributed to the unusually high incidence of Woodland components discovered; most occurred on terraces or ridges adjacent to streams or floodplains.

Northeast of the study area, in Montgomery and Randolph counties, Cooper conducted a survey of the Uwharrie National Forest. Covering a total of nearly 4000 hectares, that survey recorded 441 sites (Cooper and Hanchette 1977; Norville and Cooper 1978). Perhaps because most of the survey was carried out in the uplands Middle Archaic sites were most abundant, followed by Late Archaic, Early Archaic, historic aboriginal sites and lastly prehistoric Woodland sites. Cooper (and others) commonly attribute Woodland sites to floodplain settings, rare in the Uwharrie survey area (Cooper and Hanchette 1977:14). Cooper also conducted excavations at the Talbert Site, a deep stratified site near Badin Lake dam in Montgomery County, and at the Trestle Site, a large Yadkin phase Woodland site in Anson County. Unfortunately neither site has been reported. In Anson and Richmond counties, on the Pee Dee River a few miles below the Rocky River confluence, the Pee Dee Wildlife Refuge has seen several small-scale surveys (Cooper 1976; Garrow and Watson 1979).

A review of previous work in the study area and the region indicates the full array of prehistoric remains is represented. From fluted points of the Paleo-Indian stage (rare) through the Early Archaic Palmer-Kirk-LeCroy series, Middle Archaic Stanly-Morrow Mountain-Guilford types, Late Archaic Savannah River materials, and through the Woodland and Mississippian phases, North Carolina's southeastern Piedmont presents evidence of lengthy occupation and exploitation. The South Carolina data, particularly that derived by House and Ballenger (1976), Goodyear et.al (1979), and Michie (1979) were collected so as to allow tentative statements concerning culture change, statements which this study attempts to test. The North Carolina work with few exceptions has not been conducted within an explicitly designed research framework and is consequently less useful, although in fairness it must be recognized that the scale of those CRM projects was not conducive to meaningful hypothesis formation or testing. Previous investigations of ceramic sites has revealed

some tantalizing bits of information but little useful for unraveling the relationship between the several wares and (perhaps) the several aboriginal cultural systems of the Christian era. All previous work shows the presence of the typical Woodland ceramic sequence of the Piedmont, beginning with the coarse, predominately fabric or cord-marked Yadkin series and continuing through net-impressed, crushed quartz-tempered Uwharrie wares, and late prehistoric local variants of the sand-tempered Dan River and Caraway ceramics. South Appalachian Mississippian wares also are present in the region however, most obviously at Town Creek and the nearby Leake Site but also in North Carolina's Gaston County at 31Gs77 (May 1985:48-50), in Moore County at 31Mr15, in Richmond County (Garrow and Watson 1979) and at several sites in the upper South Carolina Piedmont: 38Yk24 (House and Ballenger 1977:74), 38Gr43-63 and 38Gr38 (Goodyear, House and Ackerly 1979: Appendix C, 219), and of course the Camden mounds and, on the inner coastal plain of South Carolina, the newly discovered site 38Su83 (Blanton, Espenshade and Brockington 1986). A distinctive ware that many North Carolina archeologists attribute to the Catawba also is known from Gaston County (Keel 1967; Levy 1986 personal communication). That ware is characterized by a plain, burnished surface and shouldered vessels, some with applique decoration on the rim (Keeler 1971; Wilson 1983:315).

Archeological investigations of few historic period sites have been carried out in the study area. Already mentioned are the excavations at Reed Gold Mine; some limited work also was conducted at the Robinson Stone House in Charlotte (Levy 1982), a late eighteenth century structure, and at the Hezekiah Alexander house built in 1774. On the Rocky River in northwestern Cabarrus County Fischer (1984) recorded remains of a grist mill and highway bridge, both of undetermined age. All three counties of the study area, Cabarrus, Stanly and Union, have been at least partially inventoried for historic standing structures (Lewis 1985:13). No structures built prior to A.D. 1800 are known from the study area, although vernacular nineteenth and twentieth century buildings are common (Hood 1985).

CHAPTER 2: THE CULTURAL BACKGROUND

Prehistory

Two hundred years of archeological study in the eastern United States have generated a plethora of data and organizational models for those data. The previous chapter cited some of that work done in and near the Rocky River study area; this section provides the conceptual framework or time-space taxons, along with their criteria and justifications, which serve as an organizational device for those data and the new data from our Rocky River project. The time-space units described below are not pan-eastern in their application, but they do represent a conventional approach.

"Pre-Clovis" Occupation in the Eastern United States. Although the distinctive fluted, lanceolate Clovis projectile point is the oldest undisputed tool form in the United States (Alaska and Hawaii excepted), more ancient cultural materials have been reported from several archeological sites. Clovis points have been recovered from many sites in the West, where radiocarbon dates place the occupation between 9,000 and 10,000 B.C. Few dates are available from the East, but the close formal similarity with the western tools prompts the extension of the dates to the eastern materials as well. Pre-Clovis sites, following this reasoning, would extend from ca. 10,000 B.C. to an unknown date in the more remote past.

The presence of a pre-Clovis occupation in the United States is highly controversial, and very few sites have withstood close scrutiny by scholars. Perhaps the best documented is the Meadowcroft Rock Shelter in southwestern Pennsylvania (Adavasio, Gunn, Donahue and Stuckenrath 1978), but even this site has its detractors (Haynes 1980). No data obtained from the Rocky River project bears on the problem of dating the earliest human presence in the East, which likely will remain a lively research question for decades to come.

The Paleo-Indian Stage. While the question of a pre-Clovis occupation remains undecided, there is no doubt about Clovis itself, with hundreds of specimens known from North and South Carolina (Perkinson 1973; AENA 1982). With very few exceptions these have been found on the surface or in an otherwise isolated context, and thus practically no radiocarbon dates are available on these materials from a stratified context. As stated above, however, it is believed that the specimens fall within the 9,000 to 10,000 B.C. range by extrapolation from well-dated sites in the Plains and American Southwest, an inference supported by those few radiocarbon dates from the Northeast (Lathrop and Gramley 1982; Funk, Walters and Ehlers 1969). Almost all of the North and South Carolina specimens are from non-systematic surveys usually by amateur collectors, and thus it is impossible to estimate with any confidence the varying frequencies of land-use during this time.

Clovis points, along with other attendant artifacts including delicate gravers and small "thumbnail" scrapers, represent the Paleo-Indian stage of aboriginal cultures in North Carolina. This stage usually is characterized as having an economy oriented toward the exploitation of a late Pleistocene biome, including but not limited to now-extinct megafauna. In fact, that economic pattern is inferred from archeological remains in the West, where Clovis frequently is found associated with Pleistocene animals, especially mammoth. In the East there is little evidence of reliance on big game by Paleo-Indians, with only a handful of known associations, mostly from Florida (Webb, Milanich, Alexon and Dunbar 1984; Palmer and Stoltman 1976). There are a few additional sites producing remains of caribou (Cleland 1965; Funk, Walters, Ehlers, Guilday and Connally 1969; MacDonald 1968), but all told there is little to support the notion that the economy of the eastern Paleo-Indians focused on Pleistocene megafauna. Ritchie (1956) has suggested a foraging economy, combining large and small game, fish and wild plant resources. Whatever the subsistence base, the population seems to have been low and the social organization at the band level. Occasional, perhaps seasonal multi-band encampments likely occurred (Curran 1984) as in the West (Wilmsen 1974). In addition to base camps (single or multi-band), quarry sites and processing stations have been recognized (Gardner 1974; Dragoo 1973). In its most generalized form this model has small bands of hunters and occasional gatherers moving within large but defined territories, returning periodically to quarry sites and encamping with neighboring bands when possible for information exchange, raw material and/or product exchange, marriage and other ceremonial and social activities. In particular it is necessary to posit an emphasis on hunting, because this creates the need for a low population density as suggested by the site distribution (widely dispersed) and site size (most eastern Paleo-Indian sites consist of a single specimen).

In the Southeast the Clovis point is followed by a series of projectiles that, in their form, presage the specimens of the Early Archaic which follows. Those tools are sometimes classified as Paleo-Indian, sometimes as Early Archaic. Included here are points of the Dalton-Quad-Hardaway types. These are similar in the retention of at least vestigial fluting and weakly defined stems, usually with lateral and basal grinding, traits which provide a formal technological link to the preceding Clovis tradition. Also like Clovis are the other tool forms often found in association, particularly endscrapers, gravers and other tools made on large prismatic blades. They also, however, are generally smaller, seemingly less carefully crafted, and usually are made on local rather than exotic raw materials. Various sites in the Southeast have yielded dates indicating a placement of the Dalton-Quad-Hardaway types between 8500 and 7900 B.C. (Goodyear 1982). This creates an occupational hiatus in the East between 9000 and 8500 B.C. (Fitting 1968) and indirectly suggests that Clovis continued longer in the East than the West. This

position is supported by various dated Clovis or Clovisoid sites in the northeastern states and southeastern Canada (Haynes, Donahue, Jull and Zabel 1984; Funk and Wellman 1984:87; MacDonald 1968; Curran 1984; Byers 1959) and in northwestern Virginia (Gardner 1974:5). It is most probable that Hardaway and related types were time-transgressive on Clovis from south to north, probably in response to a south-to-north establishment of the modern biotic conditions in the early Holocene.

Hardaway points are well-represented in Stanly County with the type site present in the northeastern part of the county (Coe 1964). The Baucom Site, another stratified deposit containing a Hardaway component, is found in northeastern Union County (Peck and Painter 1984). As is the case for Clovis, however, the scarcity of Hardaway materials from systematic surveys disallow statements concerning land use patterns in the Piedmont.

The Archaic. The Archaic stage traditionally is defined in terms of a subsistence pattern dependant upon modern species of wild plants and animals. As discussed previously, however, this contrast with the Paleo-Indian stage may be more apparent than real, particularly east of the Mississippi. Yet it is clear that around 8000 B.C. most stone tool forms underwent a degree of formal change; whether that change is indexing a dramatic shift in subsistence modes as in the West, or is attributable to other cultural processes awaits additional research. Regardless of the systematic inaccuracies, the Archaic is characterized archaeologically by a variety of side-notched, corner-notched and stemmed dart points, an increasing variety of other chipped and ground stone implements, and a settlement pattern marked by varying degrees of mobility. It is the longest of the cultural stages in eastern U.S. prehistory, traditionally (and arbitrarily) divided into three periods each characterized by a set of projectile point forms and, sometimes, other tool classes.

Early Archaic, 8000-6000 B.C. In North and South Carolina the Early Archaic is distinguished by the presence of a series of corner-notched, side-notched and bifurcate based projectile points. The earliest manifestations are the Kirk and Palmer points (the distinction is not always made), a corner-notched, basally ground (in Palmer) projectile point or knife (Coe 1964; Gardner 1974:16; Broyles 1971) and the latest is the distinctive bifurcate based point of the MacCorkle-St. Albans-LeCroy series at 6000 B.C. (Chapman 1975; Claggett and Cable 1982:34; House and Ballenger 1976:30). Chapman, and Claggett and Cable, view the Early Archaic as a set of cultural systems exploiting both plant and animal resources, but particularly white-tailed deer, hickory nuts and acorns. Probably related to the subsistence pattern is a settlement system utilizing both floodplains and interriverine uplands (Gardner 1974:24; Goodyear, House and Ackerly 1979:28; Chapman 1975). Using quite different data sets and theoretical concepts, various investigators have concluded that the Early Archaic was a period wherein only a small portion of the potential food resources of the southeastern biome were utilized

(Cleland 1976:69; Caldwell 1958; Claggett and Cable 1982:687). As in the preceding stage, social organization seems to have been at the band level; there are no indicators, however, of short-term multi-band encampments, possibly an indicator of more rigorously defined band territories encouraged or allowed by increased dependance on fixed resources of nuts and deer (Smith 1980:11). Both social and economic changes likely are related to a population increase at this time (House and Ballenger 1976:31). Also, the Early Archaic saw an increased use of, and occupation of, the interriverine Piedmont uplands (Goodyear, House and Ackerly 1979:105), again perhaps due to a population increase.

Middle Archaic, 6000-2500 B.C. This period of the Archaic begins with the appearance of the Stanly type projectile point, and ends with the spread of the Savannah River type. Additional point forms considered of Middle Archaic age include Halifax, Morrow Mountain and Guilford (Coe 1964). The date of 2500 B.C. seems to approximate a climatic shift to cooler, moister conditions following the Climatic Optimum, Hypsithermal or Altithermal of the middle Holocene (Carbone 1977; Claggett and Cable 1982:206, 217; Fitting 1968:14; Smith 1985), the beginning of plant cultivation here and there in the East (Chapman et al. 1982:118), and the earliest appearance of ceramics in the East. During the Middle Archaic there is increased diversity noted in the tool kit likely reflecting a broad-spectrum hunting and collecting subsistence pattern (Claggett and Cable 1982:687), with a wider variety of site locations (Word et al. 1981:II-9). Ground stone tools such as atl-atl weights and axes appear at this time. For the Southeast generally Ford (1974) views the less specialized economy as permitting a degree of population growth, creating smaller band territories (which in turn encouraged or reinforced the eclectic diet). House, Ballenger and Ackerly (1979:111) have reviewed the evidence for increased sedentism during the Middle Archaic, a phenomenon again theoretically linked to increased population size, smaller band territories and the adoption of a logistical (as opposed to "mapping on") settlement strategy (Binford 1980; Tippitt and Marquardt 1984:9-3). Restricted territories may have played a role in another Middle Archaic characteristic, namely the use of local and/or poor quality raw material for fashioning stone tools. Quartz especially was commonly used for producing Morrow Mountain points (Goodyear, House and Ackerly 1979:111; Chapman 1977:24-25; Blanton 1983). This phenomenon prompted one of the hypotheses to be tested in our Rocky River project area (Appendix D).

Late Archaic, 2500-500 B.C. The main diagnostic tool of this period is the broad, square-stemmed Savannah River biface. These points appear to follow a time-transgressive distributional cline from south to north (Tuck 1978:38; Oliver 1983); i.e., the earliest examples are farthest to the south and make their appearance progressively later as one moves north. Soapstone vessels, grooved axes, elaborate ground stone tools and ornaments, the use of native copper, and cultivated cucurbits and

sunflower are also present (Chapman and Shea 1981). Trends initiated during the Middle Archaic continued to influence cultural patterns of the Late Archaic, especially the broad-spectrum collecting and hunting, now coupled with the cultigens. The accompanying population growth produced still smaller band territories, a higher degree of sedentism (especially marked along certain rivers and the coast by extensive shell middens), and an increase in the exchange of non-utilitarian objects, likely trade regulators facilitating exchange between culturally circumscribed groups (Ford 1974). The relatively high population density, low mobility and regionally specialized technoeconomic systems generated a diverse archeological record for the Late Archaic, too diverse to be summarized here. In consideration, the remainder of this discussion will focus on the North Carolina-South Carolina Piedmont.

At the Stallings Island site, on the fall line of the Savannah River on the South Carolina-Georgia boundary, radiocarbon dates of 2500 B.C. and 2750 B.C. were obtained on a Savannah River component (Bullen and Green 1970), while Coe (1964:98) reports a date of 1944 B.C. on a Savannah River hearth at the Gaston Site, on the fall line in northern North Carolina. These two sites are not representative of Late Archaic components inland from the fall line in the Carolinas, however. At Stallings Island the Late Archaic occupation is marked by abundant fish and shellfish remains, thousands of steatite net-sinkers, ground stone tools, steatite vessel fragments, atl-atl weights and fire-cracked rock (Claflin 1931; Stoltman 1972). At the Gaston Site Coe reports stone-lined hearths, steatite vessel fragments and full-grooved axes, although faunal remains were absent. Away from the fall line, however, in the interior of the Piedmont, it is rare that such extensive assemblages and indicators of sedentism are found. Here, rather, Savannah River sites occupy slopes and terraces above watercourses and less frequently occur on higher elevations of slopes and ridgetops. The artifacts typically consist of projectile points or fragments, an occasional piece of worked steatite and various amounts of debitage. Thus to characterize the Late Archaic of the Piedmont in terms of the rich, complex riverine sites well-known on the Savannah, Little Tennessee, Green or Roanoke rivers is misleading. It may well be the case that large base camp sites of the Late Archaic are present along the streams of the interior Piedmont, but lie buried under alluvium rapidly deposited over the last few hundred years (Trimble 1974). Alternatively the Piedmont interior's Late Archaic may never have been as sedentary and complex -- in terms of material culture -- as its contemporary manifestations elsewhere (White and Goodyear n.d.). More research on this critical period is badly needed.

The Late Archaic is "critical" because it spawns the highly visible and distinctive Woodland cultures that follow, described below. The large riverine sites such as Stallings Island, Eva, Indian Knoll or even Gaston have been seen as a consequence of population growth, increased sedentism and more intensive

utilization of certain habitat zones (Goodyear, House and Ackerly 1979:115). The advent of cultigens during this period almost certainly is related to these same processes, as is the increased ceremonialism, trade and status differentiation marked by mound construction and expensive non-utilitarian artifacts often interred with burials (Ford 1974). As mentioned above, however, there is practically no sign of these changes in such interior Piedmont counties as Cabarrus, Stanly or Union, our study area. A major research domain then can be summarized as "If not, why not?" and "how does the impoverishment (for want of a less tendentious term) of the Piedmont's Late Archaic affect the content and chronology of the Early Woodland?"

The Woodland. The Woodland is defined in terms of a ceramic tradition, not a subsistence pattern, but despite this taxonomic impurity it has proved a useful construct in eastern prehistory. Beginning before 1000 B.C., and widespread by 500 B.C., its cord, fabric and (later) net-impressed pottery had spread across much of the eastern U.S. In most areas ceramic production was attended by sedentary settlement patterns, increased use of cultigens and domesticates, and sometimes increased mortuary ceremonialism most prominently indicated by mound construction. The degree of regional diversity and tempo of cultural change is greater than in the preceding Late Archaic, and no attempt is made here to provide a pan-eastern overview of the period. Rather, the following discussion is focused on the Piedmont of North and South Carolina.

While the Carolina Piedmont is dominated by the Woodland tradition it is slightly preceded by still earlier ceramics, a fiber-tempered ware originating on the lower Savannah River perhaps as early as 2000 B.C. and spreading north to the Carolina coast, south to Florida and up the Savannah River to the fall line (Stoltman 1974). This early ware is associated almost exclusively with coastal or riverine sites containing evidence of a reliance on shellfish and fish. The fiber-tempered wares never penetrate the Piedmont and thus have no bearing on the study area even though they provide a good example of parallel cultural evolution, i.e. the correspondence between ceramic production and sedentism.

In the Piedmont, Woodland ceramics tend to co-occur with small triangular or small stemmed projectile points, very different from the Late Archaic Savannah River specimens and interpreted as marking the appearance of the bow and arrow. Settlement patterns also change, with most Woodland sites found along major watercourses in active floodplains; sites are larger, with internal architectural features including storage and trash pits, circular houses, and human burials. Cultigens and domesticates clearly are in use, and include maize by at least A.D. 1000 (Newkirk 1978). The Woodland is divided into the three periods described below.

Early Woodland, 300 B.C.(?)-A.D. 800. This period is characterized by cord and fabric-impressed pottery of the poorly known Badin ware or the slightly better known Yadkin ware. A Yadkin component on the inner coastal plain of east-central South Carolina has yielded dates of 630 B.C.±220 B.C. (Blanton, Espenshade and Brockington 1986), while the Haw River (North Carolina) site 31Ch8 has an (uncorrected) date of 240 B.C. on fabric and cord-impressed vessels (Claggett and Cable 1982:248). Coe's Vincent series (1964) from the northeastern North Carolina Piedmont is likely part of this same tradition. Nearer the study area in Anson County a large Yadkin Phase site has been extensively tested by Catawba College, but unfortunately these data have not been reported.

Apart from the scanty information regarding its ceramic attributes the Early Woodland of the North Carolina Piedmont remains an enigma. While known sites are located mainly in river valleys at least one upland component is known (Abbott, Marshall and Dull 1986:25;Davis 1987), and the overall settlement pattern cannot be inferred from the limited number of sites recorded. Likewise little is known concerning diet and subsistence, site architecture or physical anthropology of the Early Woodland (Blanton, Espenshade and Brockington 1986:16).

Middle Woodland, A.D. 800-1200. In the southern part of North Carolina's Piedmont the Middle Woodland is indicated by a shift in ceramic styles. The fabric, cord-marked and occasionally check-stamped Yadkin wares are supplanted by the Uwharrie ware (Coe 1952:308). These are similar in several respects, particularly the use of coarse sand or crushed quartz as a tempering medium, and very likely are part of a single developmental sequence. Middle Woodland sites are more numerous than Early Woodland, they are larger, and contain evidence of permanent houses, trash pits, human burials (flexed, seldom with grave goods or ornaments) and abundant wild animal bone, shellfish and fish remains. There is some evidence of maize cultivation, but little indication that it was a significant part of the diet (Ward 1983). Nearly all Uwharrie villages were located adjacent to rivers, on relatively large expanses of floodplain. One characteristic of the Middle Woodland settlement pattern is the absence or near-absence of small hamlets located near the larger sites.

Late Woodland, A.D. 1200-Contact. During the Late Woodland there is a continuation of the Yadkin-Uwharrie ceramic tradition; the use of large quartz fragments as tempering material declines, with finer sand used instead. The ceramics are thinner, smoothed on the interior and surfaces usually are net-impressed or plain, with plain ware gradually increasing in frequency up to the contact period. The dominant ceramic series is Dan River, while a very late ware, hard and usually smoothed or burnished, is sometimes called Caraway (Coe 1964). Thus from the Early Woodland Yadkin wares, through Middle Woodland Uwharrie and Late Woodland Dan River and Caraway the pottery of the North Carolina

Piedmont presents a single ceramic tradition, one generally ascribed to the several Siouan-speaking groups occupying the region in historic times.

In areas of the southeastern portion of North Carolina's Piedmont, this rather homogenous ceramic pattern is broken by the appearance of South Appalachian Mississippian wares. The best known of the sites is Town Creek in Montgomery County, where the complicated-stamped Pee Dee pottery is associated with a substructure mound. This cultural complex is decidedly non-Siouan in several regards, and has been viewed as an example of site-unit intrusion from the south (Coe 1952; Reid 1967:84-5; Ferguson 1971:247). Despite the theoretical weaknesses and data deficiencies of this model (Smith 1984) it remains a popular explanation in North Carolina archeology. If Town Creek(on Little River) and the Leake Site (on Pee Dee River), Gs30 and Mr15 represent an intrusion of South Appalachian Mississippian into North Carolina's Piedmont, the ceramics on those sites suggest a particularly close cultural relationship with the occupants of the Irene and Hollywood sites on the Savannah River of Georgia, and the mound sites previously mentioned near Camden, South Carolina (Ferguson 1971:205-6). While these sites share many traits in common it also is noted that complicated-stamped pottery is found at many sites otherwise decidedly Siouan in their material culture, suggesting a measure of information flow between the Pee Dee sites and their neighbors. Examples include 31Dv133 in Davidson County, the Donnaha Site in Yadkin County (where complicated stamped pottery comprises 1%-2% of the total); the Hardy Site in Surry County (Marshall 1987); the Cornett Site in Wythe County, Virginia (Evans 1955:75); and at several sites in the South Carolina Piedmont (House and Ballenger 1976:74; Goodyear, House and Ackerly 1979:121; House and Wogoman 1978).

A third ceramic tradition also becomes clearly defined in the archeological record if not in the literature during Late Woodland times. This is the so-called Catawba ware or Burke Series (Keeler 1971), a burnished plain ware often formed as carinated bowls tempered with steatite or sand (Wilson 1983:297) and occurring mainly along the Catawba River from about Gaston County northwest to the Blue Ridge front. This ware is ascribed to the Catawba because that group occupied most of the Catawba basin in historic times, and the longevity of that cultural system (at least compared to other Piedmont Siouan groups) allowed observation of a similar ware being produced into the late nineteenth century (Mooney 1894:74). The emergence of a distinctive Catawba ware may be a consequence of the same set of cultural processes, albeit poorly understood, that generated the Pee Dee wares of Town Creek and sister sites (Baker 1975; Pace 1986).

Historic period aboriginal sites have not been discovered in the study area, and very few are known from the surrounding region. 31Gs30, a site some 13 km north of Gastonia, has been viewed as a possible location of de Pardo's sixteenth century

town of Issa (May personal communication 1986). An historic component was present at Town Creek, but the cultural affiliation is uncertain. Observations by Lederer in the late seventeenth century, and by Lawson in the early eighteenth century, suggest the study area was occupied by Waxhaw, Sugeree, Saura, Wateree and/or Catawba (Mooney 1894; Wetmore 1975). Most researchers agree that the Trading Path from Occaneechi Town to the Catawba, Waxhaw and points south led through Cabarrus County (Mooney 1894:41; Myer 1928:778; Rights 1947:Pl. 29). Most or all of these Indian groups had been destroyed or displaced by Euroamericans by 1750. The exception was the Catawba, who maintained a degree of cultural autonomy and survive to the present, many living on a reservation near Rock Hill, South Carolina.

History

The historical investigation of the Rocky River Basin and the three study area counties -- Cabarrus, Stanly, and Union -- may be approached from several perspectives, including agricultural, industrial, social, economic, or educational foci, (just to name several possibilities). As indicated in the proposal, however (Appendix D), and in agreement with the initial RP3 study (Lewis:1986), the settlement, agricultural growth, and economic transformation of the survey area will be the emphasis of this analysis. Because of limited time and resources many aspects could not be fully explored, but are mentioned nevertheless as possible avenues for further research.

Early Settlement Period. Prior to the mid-1740s there were virtually no settlers in the western Carolina Piedmont frontier. Several explorers had traversed the backcountry in previous years, but for the most part the region remained one of Indians, wild animals and expansive forest. In 1753 Matthew Rowan wrote that on his journey through the area in 1746 "there were not then one hundred fighting men" settled in Anson, Orange, and Rowan counties, but that since his first visit the number of men (for the militia) had grown to some 3000 total (Colonial Records V:24). During the same time period Governor Johnston wrote that people were "flocking in daily" to the western parts of the Carolina colony, to the extent that he believed their numbers reached into the thousands by 1751 (CR IV:xxi). The question arises as to the reason(s) for this initial migration into North Carolina, the ethnic background of the newcomers, and causes of particular settlement patterns which soon proved evident across the backcountry region.

Identification of these pioneers in general terms has been discussed at length in many writings on the colonial background of the state. Four distinct ethnic groups include the majority of settlers of the region: the Scotch-Irish, Germans, English, and Highland Scots. Certainly the French and Swiss could also be mentioned but the French were very few in number and the Swiss are usually grouped with the German descriptions in the Colonial

records. The Highland Scots can also be omitted in this study, for their migration up the Cape Fear River from the coastal region of the colony did not reach beyond present-day Montgomery and Anson counties, and did not play a significant role in the study area. Of the three major ethnic groups, the English migrated into the region from the Virginia and Carolina coastal areas, while the Scotch-Irish and Germans came largely from Pennsylvania, Maryland, and the Shenandoah Valley in Virginia. Generally speaking, the Carolina Piedmont was settled more thoroughly by the Scotch-Irish than any other group, followed in number by the English and Germans.

The *reasons for* the initial immigrations of the Scotch-Irish and Germans to the English colonies of America were closely similar, if not identical. In the Ulster settlements of northern Ireland "annual shiploads of families poured themselves from Belfast and Londonderry", (some 20,000 in the early 1700's) following the destruction of the woolen industry by English tariff laws and passage of the "Test Act of 1703," which deprived the Scotch-Irish Protestants of their civil rights and religious freedom (Leyburn 1962:175). The first Germans to immigrate to America left their country "out of the fearful results of the Thirty Years War (1618-1638) that had desolated their native land and made existance there intolerable" (CR VIII:728). Following the years of warfare, which had decimated southwestern Germany, came a succession of crop failures and famine, resulting finally in the economic bankruptcy of the entire region. At the same time, and well into the eighteenth century,

> "the persecution of Protestants, the Lutheran and Reformed, was carried on systematically, their church property being confiscated to a very large extent, and the worshipers in many cases expelled from the country." (Faust 1909:58).

At the end of the seventeenth and beginning of the eighteenth centuries such was the flight of the Scotch-Irish and Germans from their respective countries that by 1775 there numbered some 250,000 Scotch-Irish and 225,000 German immigrants in America (Faust 1909:285; Leyburn 1962:183).

Few of these immigrants, however, arrived directly on North Carolina soil from Europe. Beginning in the late 1600's both Scotch-Irish and Germans disembarked from ships in the harbors of Pennsylvania and New York, and settled on the first land available in the middle Atlantic colonies. The history of the first settlements of that region has been written and will not be discussed here, except to observe that most of the pioneers who finally did migrate to the Carolina Piedmont came from this area, especially Pennsylvania and Maryland. The inducement to leave those colonies after several years of settlement was largely because "desirable land had become scarce in Pennsylvania [and Maryland] and the cost of farm land rose prohibitively" during the mid-1700s (Ramsey 1964:147). Many of the Scotch-Irish and Germans had, by the mid-eighteenth century, already advanced as

far west in Pennsylvania as the Indians would allow (and no doubt further than the Indians wished) and had proceeded to migrate southward in search of land, through the Shenandoah Valley of Virginia. Migration into North Carolina, therefore, was a next step in the great settlement movement previously established far to the north. In addition to this, there were several incentives to move to North Carolina including "the fertility of the soil, the healthfulness of the climate, and abundance of cheap and unappropriated lands" (Gehreke 1934:358). These positive attributes were being continually advertised at the time by governors Johnston and Dobbs, and Councilman Rowan, all of whom were of Scotch or Scotch-Irish heritage, one important aspect which made the Ulstermen feel all the more secure about a decision to move into the southern colony.

As mentioned above, when Matthew Rowan made his first trip into the interior of the Carolina colony in 1746 he found few settlers. In 1753 he knew of several thousand having settled in the same area. Most of the pioneers he referenced were probably living in the eastern and northern sections of the Piedmont; by 1753 relatively few had penetrated into the southwestern section. In 1755 Governor Dobbs made a journey into the frontier section, the area of the Yadkin and Rocky rivers, and noted that some seventy-five families, of five to ten children each, were settled within the boundaries of his property. Of the number, some thirty to forty were "from Ireland removed from Pennsylvania, of what we call Scotch-Irish Presbyterians." In addition to these, Dobbs also made note of "twenty-two families of Germans or Swiss, who are all an industrious people" (CR V:355-356). Salisbury, by 1755, had been established as the county seat of Rowan, and from that date on it became the center of increased activity. In 1764 Governor Tryon wrote that he knew of "over a thousand immigrant wagons" having passed through that town and on into the Carolina frontiers (Dunaway 1944:108). Two years later the population of the colony had grown to 130,000, including about 40,000 Scotch-Irish and 15,000 Germans (Connor 1919:178).

Settlement patterns established far to the north also became evident in North Carolina. In Pennsylvania, Maryland and the valleys of Virginia there arose the distinctive tendency for the two ethnic groups, Scotch-Irish and Germans, to settle apart from one another. In the Pennsylvania colony the "Scotch-Irish went to one part of a river valley, Germans to another," a migratory process which continued to the west and south, and into the Carolina backcountry. According to one description,

> "a map in any given year might show a preponderance of Scotch-Irish in one section of the county, and Germans in another, or a whole county with one people or the other predominant." (Leyburn 1962: 190).

In North Carolina

"the first fringe of German settlement [mostly Moravian] was overleaped by the Scotch-Irish who pressed to the frontier, but they were again passed by the Germans who settled in the extreme western counties...thus the different European nationalities from which these settlers originated, occupied strips of land across the state mostly in a southwesterly direction." (Bittinger 1901:150).

This "leap-frog" settlement tendency across the North Carolina Piedmont can be seen in more detail when observed on a modern county-by-county basis. The northeast Piedmont -- Granville, Person, Caswell, Orange, and Durham counties -- appears to have been settled mostly by the Scotch-Irish, while the counties of the middle Piedmont -- Rockingham, Stokes, Forsyth, Davidson, Davie, Stanly, and parts of the westernmost sections of Alamance, Guilford, and Randolph counties -- were settled largely by Germans. Iredell, Rowan, and Cabarrus counties were split with Germans to the east, Scotch-Irish to the west. Further to the southwest Mecklenburg was settled almost entirely by Ulstermen, but Gaston, Lincoln, and Catawba counties were divided with Scots to the east, Germans to the west. This pattern continued on to the west and south, Scotch-Irish followed by Germans followed by Scotch-Irish. A still closer study of the pattern indicates that the two ethnic groups often split the frontier areas along natural barriers such as rivers or major creeks. In (old) Orange County the Germans settled on the west side of the Haw River, the Scotch-Irish on the east side, while further to the west the Germans claimed both sides of the Yadkin River and the Scotch-Irish both sides of the Catawba. The valley between the Yadkin and Catawba was settled in almost equal numbers by the two groups. These general patterns aside, however, it must be noted that for the Carolina colony as a whole the Scotch-Irish outnumbered the Germans by two or three to one, that the Highland Scots settled the southeastern Piedmont, and that the English actually entered into many, if not all, of the above mentioned counties. The English also tended to settle near people of the same ethnic background, apart from either Scotch-Irish or Germans.

The reasoning for this ethnic segregation was far from coincidental. It appears from the general settlement patterns that each of the groups chose, quite deliberately, to disassociate themselves from one another. The Scotch-Irish brought with them an historical disliking of the English, who they found to be an arrogant and interfering people. On the other hand, the Scotch-Irish were regarded by the English and Germans as tempermental, opinionated and dangerous as neighbors because of their repeated tendency to inflame hostilities with the Indians. The Germans almost always isolated themselves from the other Europeans and were noted for being quiet, unassuming farmers, an understandable inclination for a people who understood little and spoke even less English in an English colony. Partly because of the language barrier the Germans rarely involved themselves in political or governmental matters,

and were seen by the Scotch-Irish in particular as dull-witted and hesitant in times of crisis.

Religious diversity also had much to do with the segregation of the ethnic groups, and tended to intensify the division of the nationalities during the settlement era. In the main English settlers were Anglicans, the Scotch-Irish were Presbyterians, and the Germans were Lutherans, Reformed, or Moravians. Children were educated in the respective churches, which tended to perpetuate strict family traditions, a strong sense of ethnic identity, and thereby inculcate a degree of prejudice in the young. Also, the ministers often preached against association with or marriage to anyone outside the church denomination. Examples of this distrust can be found in church records for the settlement era. In 1789 a Reverend Arnold Roschen warned his Lutheran congregation that intermarriage with the English would lead to "homicide... because the English in these regions belong to no religious denomination and do not permit their children to be baptised nor send them to school...." (Sink 1972:20). Similar misconceptions between the ethnic groups continued into the early nineteenth century, only to ease after the Germans began to learn the English language, the second or third generation children intermarried, and the original communities began to lose their ethnic insularity.

None of the three counties included in this survey were settled exclusively by Germans or Scotch-Irish. Generally, Cabarrus was split between the Scotch-Irish and Germans, Stanly was a German county, while Union was divided between Scotch-Irish, German and English settlers. Stanly and Union counties were at one time part of the frontier county of Anson, and were created following the early settlement period, i.e. immediately before and following the American Revolution. Cabarrus County, formed in 1792, was originally part of Mecklenburg County. Mecklenburg was settled almost exclusively by Scotch-Irish except for the northeastern corner, which was occupied largely by Germans. This German corner was the area finally split away to become Cabarrus County (Bernheim 1872:246). The Great Wagon Road, which traversed south from Salisbury, divided (present) Cabarrus County and may be used generally as an ethnic boundary line between the original German and Scotch-Irish settlement locations. The Mt. Pleasant community and the land north and eastward into Rowan and Stanly counties was the "most German" area within the three-county study area. Stanly County (established in 1841), once part of Anson, then Montgomery County before the Revolution, was seen as a German locale though parts of the county were settled by both English and Scotch-Irish. The English claimed the land along the Yadkin/Pee Dee River, having migrated to the river initially from the east (Bernheim 1872:151). Those settlers were followed by the Germans and Scotch-Irish from the north, with the Germans occupying the northwest section of the county, the Scotch-Irish only a small area to the southwest. The Germans, therefore, and not the English or Scotch-Irish, made up the majority of the settlers in

Stanly County. In Union County (established in 1842), the eastern portion was settled largely by English pioneers from the east while the Scotch-Irish, descending the Great Wagon Road from the north, settled the "Waxhaw" section in the southwest; the Germans tended to settle in the northwest and south-central areas of the county (McNeely 1912:7; Waldon 1964:12).

One research question involving the Euroamerican settlement of the region may be: "Was the settlement sequencing and location merely following the "leap-frog" pattern, i.e. did a particular family or group simply locate on the first open land, or did any one ethnic group prefer one type of land or soil over others?" One means of measuring or at least observing the ethnic dispersal and initial segregation across the colonial frontier is a study of the geographic and geological features of the region. The German population in every northern colony -- Pennsylvania, Maryland, and western Virginia -- sought, settled, and farmed land high in limestone content, while the Scotch-Irish chose, almost always, predominately slate-based soils (Faust 1909:132). During the colonial era the limestone regions were the more potentially productive lands, but "were not at first held in high esteem by the Ulstermen [who] did not always choose the best agricultural lands available to them" (Leyburn 1962:220). In addition to the soil preferences, the two groups also typically chose land with differing topographical features. The Germans usually preferred wooded riverine lands where they believed the soil would be productive and open meadows for pasturage, while the Scotch-Irish occupied the hills and rolling countryside, where there was an abundance of water nearby, preferably a river or large stream (Faust 1909:132).

When the German pioneers arrived in the Carolina Slate Belt, which includes the counties of Cabarrus, Davidson, Rowan, Stanly and Union, they found the region entirely lacking in the soils or features they sought. To the north along the Yadkin River and its tributaries Forsyth, Davie, Davidson, and eastern Rowan offered the broad fertile bottom lands and open meadows which the Germans seemed to prefer, and in those areas they settled in great numbers. On the whole, however, the soils in much of the study area had, in fact, just the opposite characteristics and were highly acidic, thus having a "sour" tendency. The Scotch-Irish, on the other hand, who had preceded the Germans in much of the region, found the slate-based soils just to their liking. Topographical considerations for the Slate Belt also tended to support a Scotch-Irish occupation. If the reasoning of previous northern colony settlement patterns are strictly adhered to, then the Germans found neither the soils nor land features they desired, and yet many remained in the region. In the Slate Belt counties the land is rolling to very steep in nature with narrow bottom lands along the rivers and streams. In Stanly County the Germans found the rich bottom land of the Yadkin/Pee Dee River already occupied by the English pioneers. The Germans, therefore, turned westward and settled on the often steep and

rocky land in western Stanly and eastern Cabarrus, quite atypical of past preferences for home sites.

A detailed study of soil types in the region also shows that the Germans generally tended to settle on land different in make-up than that chosen by the Scotch-Irish. For example, in western Rowan and Cabarrus counties (settled by the Scotch-Irish) the predominant soil type is the Cecil and Iredell sandy and clay series, while in the eastern sections of both counties, where the Germans settled, the Georgeville and Alamance silty soils are dominant. In Union County and the Scotch-Irish Waxhaw settlement to the southwest the dominant soil type is of the Cecil and Iredell clay series again, and in the German occupied sections in the northwest and south-central parts of the county are soils once more of the Georgeville and Alamance silts. Other soil patterns are evident between the German occupied land of eastern Cabarrus and most of Stanly County. Each of the soil types are suitable to any variety of crops, but by far the Cecil clay series was held in greater esteem by the pioneers regardless of ethnic background. The soils of Rowan, Cabarrus, and Stanly counties which made up the land of German occupied sections were far less fertile than that which the Scotch-Irish claimed before the Germans settled in the region (Ramsey 1964:151; Smith 1890:318; U.S.D.A. 1976, 1916). It appears, therefore, that lacking the limestone soil and general topographical features previously desired, many Germans merely settled on the most fertile unoccupied land they could find near a good source of water -- or moved on westward toward the Catawba River valley. The Scotch-Irish, on the other hand, arrived before the Germans and found the soil and land characteristics they desired in the Carolina backcountry. This good fortune on their part may help to explain their 3:1 dominance in population over the Germans in the Piedmont. Certainly, further consideration should be given to the study of a soil/topographic relationship to ethnic settlement patterns during the colonial era. It is safe to say at this point that each pioneer chose his home site on what he believed to be the best land available to him at the time, based on past farming experience and previously established sociocultural prejudices.

After the suitable farm site was chosen by the pioneer, homes were constructed and land was cleared for cultivation. The first houses constructed were almost always built of log. These structures were usually one story, with few rooms, a dirt floor, and chimney attached to the one end or the other. Depending on how well this house was built, and how long the family remained in it before constructing a better house, told the neighbors much about the social status of the family. Larger log homes, or occasionally ones built with stone usually followed within a year or two after the pioneer family became firmly rooted to the land. Almost none of these first homes exist today, and only a scattered few of the stone houses survived the road construction crews and their rock crushers of the 1920s (McKelway 1905:15; Davidson 1979:1-3).

Agriculture during the pioneer period was primarily a self-sufficient operation. Govenor Dobbs wrote of his observations of the pioneers in the Carolina Piedmont that "they raise horses, cows, and hogs, with a few sheep; they raise Indian corn, wheat, barley, rye, and oats, make good butter and tolerable cheese..." (CR V:356). Small grains were by far the chief crops grown during this era, and were used for the family and livestock. The raising of cattle and hogs and, in some areas, tobacco was also undertaken both for domestic needs and market ventures. The livestock and tobacco were taken to trading centers in Charleston, Salisbury, or Cross Creek (Fayetteville), but such efforts on a wide scale were uncommon among the majority of the pioneers. Agriculture in this region, until the 1800s, was based on the immediate needs of the individual family, not on a market economy (Thompson 1906:20; Hawk 1934; Leyburn 1962:222).

The only industry within the Piedmont during the early settlement and colonial era was that of the water grist mill. As early as 1715, and again in 1758, the North Carolina General Assembly enacted laws to encourage the construction and regulate the operation of all grist mills (CR II:XII; CR XXIII:485-487). Within the three county study area, numerous water mills were built by 1750, if not sooner, on those creeks which are classified today as at least class two or three streams. In Cabarrus County the major mill streams included Rocky River, Dutch Buffalo, Irish Buffalo, and Coddle creeks, and several of their larger tributaries. In Stanly County the mills were built on the Yadkin/Pee Dee and Rocky rivers and Bear and Long creeks, among others. There is no available documentation of mill locations for Union County. It is generally believed, however, that there were fewer mills in Union than the two other counties above, and that those were established on Rocky River, Lanes and Richardson creeks.

It has been hypothesized that the location of the early grist mills may reflect initial settlement locations within any given county, and may be used therefore to retrodict settlement concentrations. For this study area, however, because of the lack of mill documentation and precise location, such a theory cannot be tested. Also, a 1758 law made it illegal to build a mill "within two miles above, and two miles below, or so as to overflow any other mill erected on the same run" (CR XXIII:486). The enforcement of this law , of course, imposed an "artificial restriction" on the settlement concentration theory. It cannot be demonstrated, therefore, that the existence of a grist mill helped to determine settlement concentration. It is safe to assume, however, that the location of grist mills reflected a good source of swift water, a community large enough to need its services, and the location of a pioneer settlement by the date of its construction and operation.

Ante-Bellum Period. In 1793 the cotton gin created new opportunities for increased cotton production and processing.

Though North Carolina did not produce cotton to the extent of the Deep South states, it did, nonetheless, grow its share of the crop. Certainly, throughout much of the history of cotton in North Carolina, the coastal region of the state grew the largest amount of the crop, but the counties of the southern Piedmont also invested much land and effort toward cotton production. The plant was grown in the Carolina Piedmont for individual household use prior to 1800. By 1800, however, it was grown in much of Mecklenberg County on land that would become Union county in 1842. Following the early 1800's, cotton was grown in each of the southern Piedmont counties, to such an extent that by 1850 this section of the state was nearly matching the production of the Coastal Plain (Sitterson 1939:45).

The new interest in cotton in the southern Piedmont, and its increased production before the War Between the States, brought a marked rise in the number of slaves in the region. In 1766 there were an estimated 30,000 black slaves in the Carolina colony, the vast majority of whom were in the English settled coastal plain (Connor 1919:178). Prior to the cotton gin invention, few of the Piedmont frontier families found owning slaves economically feasible, having neither the land, nor the crop necessary to justify the alternate work force. Slave population figures for the three survey counties, however, (and for their neighboring counties) indicate the accelerated growth of the slave institution in the sixty years marking the ante-bellum period in North Carolina. As an example, in 1800 Cabarrus County had only 703 slave inhabitants, but by 1850 the slave population numbered some 2,685. Stanly and Union counties were not formed until after 1840 -- the 1850 census shows that in these two counties, there were about 1,436 and 1,982 slave inhabitants respectively. To accompany this increase in laborers, pre-war annual cotton production rose to over 4,731 bales for Cabarrus, 3,054 bales for Union, and 473 bales for Stanly, while production of tobacco, another slave supported crop at the time, amounted to 6,250 lbs. for Stanly, 4,088 lbs. for Union, and 935 lbs. for Cabarrus (Federal Census Returns 1800, 1850, 1860).

One observation, on these data, is a seemingly consistent trend in the Carolina Piedmont counties of a lower percentage of slaves within areas settled previously by Germans as compared to areas occupied by English or Scotch-Irish. In 1800 figures show that on the average at least 20 percent of English or Scotch-Irish descendents owned at least one slave, but no more than about 12 percent of the German descendents were slave-owning families (Gehreke 1937:308). Slavery had been seen as a repulsive system by the German population in early American history, as illustrated in the 1688 Lutheran Church protest of the institution in Pennsylvania, though at the time slavery was openly accepted in the Quaker colony (Faust 1909:45). The German descendents brought with them to North Carolina this same moral opposition to the institution, a feeling not shared by the English, who introduced slavery to the Carolina colony, nor the Scotch-Irish, who adopted the system of bondage with few

reservations. Following 1800, English and Scotch-Irish families invested an increased amount of capital and slave energy toward the production of cotton. After they began to show that ownership of slaves could indeed be a profitable venture, many of the second and third generation Germans lost their moral objections to the system, and joined the ranks of the slave owners. Because this transition to slave ownership was delayed, however, the German communities in the 1860s continued to show a smaller number of overall slave inhabitants than those of the neighboring English and Scotch-Irish descendants (Gehreke 1937:308).

In the counties of Cabarrus, Stanly, and Union, a study of slave populations shows a significant difference in numbers from areas occupied by Germans to non-Germans. After 1865 the old militia districts were replaced by township divisions in each county across the state. The 1870 census figures may be used to study demographic patterns in each of the three counties with some degree of accuracy. In Cabarrus County, in all of the western townships known to have been occupied by the Scotch-Irish descendants, the number of black former slaves falls between 400 and 700. The eastern part of the county, known to have been settled by Germans, had only between 60 and 200 blacks. For Stanly County, the eastern townships initially settled by the English number some 200 to 350 black ex-slaves each; for former German townships in the west between 20 and 80. Union County shows the same pattern. In the Waxhaw settlement area of the Scotch-Irish, the number of blacks ranged from 380 to 500; in the eastern townships settled by the English some 350 to 570; while in the south central township of Buford, settled almost exclusively by Germans, the number of blacks was only 134 (Federal Census Returns 1870). In 1870 the size and general quality of the soil of the individual townships in each county was nowhere significantly superior. It may be assumed, therefore, that the ethnic background of white farmers had much to do with the number of slave laborers in any given area.

It is generally accepted today that the slave plantation system was largely responsible for the exhaustion of the agricultural land across the southern Piedmont. During the ante-bellum period, planters found it cheaper to cultivate a farm until it was worn out, abandon it to scrub pine, and purchase and clear new land, than to exercise conservation methods. As a result, much of the once productive agricultural land in the Piedmont was ruined by erosion or robbed of its fertility well before the mid-nineteenth century. Partly because of this land abuse, beginning no later than 1830 and until 1850, North Carolina lost large numbers of farmers through migration to the deep South in search of new land. The smaller farmers who remained in the state continued to cultivate worn out fields left abandoned by the planters. These small independent farmers, however, could do little to improve the exhausted soils. Few farmers, large or small, practiced prudent soil conservation methods during the mid 1800s, and the land suffered in

consequence (Lemert 1935:308-309; Sitterson 1939:43; Trimble 1974).

Because most of the capital of the planters and merchants went towards the support of the cotton cash crop system, little investment was made for the development of industry prior to the War Between the States. Cotton, certainly the chief cash crop of the southwest Piedmont, was shipped each year to one of several locations, but usually by way of Fayetteville, then to Wilmington or Charleston for export to the textile mills in Europe or New England. There was always an interest among some in North Carolina during these same pre-war years to manufacture the cotton crop within the State, but as long as it was more profitable for the slave owners to invest in the cultivation of the cash crop, little capital was gathered for textile mill construction. When cotton prices fell from time to time, however, and the likelihood of profit-making seemed in doubt, these same agrarians, men of commerce, and some professionals, became more open to the textile manufacturing concept. In those times of agricultural depression the men did, in fact, risk some money towards the development of the industry (Hearden 1982:14).

From 1820-1860 a distinct pattern arose which indicates the relationship between the profit made in raw cotton and interest in textile manufacturing in North Carolina. During this time period there were three different occasions when the price paid for raw cotton fell significantly, marking the same period in which mill construction was initiated somewhere in the State. Conversely, when cotton profits were high during the same sixty year span, interest in textile development fell off, resulting in delayed or cancelled construction, or even in the closings of some mills (Hearden 1982:13). The economic embargo beginning in 1808 and the War of 1812 marked the first occasion of depressed cotton prices and increased interest in American textile independence from England. In 1813 North Carolina's first successful textile mill was built in Lincoln County, followed in 1820 by the Rocky Mount Cotton Mill in Edgecombe County. In the 1820s, however, there came increased profits for cotton, which in turn slowed the textile mill development. Prices fell again by 1830, and in that year at least two additional mills were built and operated -- one in Alamance and one in Guilford County (Thompson 1906:45-49). The mid to late 1830s brought agricultural profits for cash crop farmers, averaging over 18 cents a pound for cotton, so textile interest fell again, not to be re-introduced until the price per pound dropped to 8 cents in 1840, then down to 5 cents in 1845. From 1840 to 1850 there were some twenty-five new cotton mills built in North Carolina, including one in Rowan (1840), one in Cabarrus (1840), two in Gaston (1845), and two in Mecklenburg (1848). The addition of mill establishments for this decade of outstanding industrial growth brought the total to some forty textile mills (Griffin 1960:468; Thompson 1906:50). The 1850s, however, brought King Cotton again, profits doubled per pound from the 1845 price, and

once more the local capital was re-invested into agricultural and not industrial pursuits.

The sporadic growth of the textile industry in North Carolina did not significantly impact the economic or social patterns of the State before the war in 1861. During the decade prior to the war the average white farmer owned between 300 and 400 acres of land, perhaps a slave laborer, and devoted all time, energy, and capital to agriculture. The small planter class in the southwest Piedmont was interested in capital profit best achieved by the cultivation of cotton or tobacco, not in a high risk venture of industrial development. The much larger middle to lower class of North Carolinians desired only to attain the wealth and status of the planters; few would sacrifice their own agricultural ambition and independence to toil in any local mill (Hearden 1982:13). In fact, many of the mill workers before the war were the wives and daughters of local farmers, most from well-respected families. Slaves were not utilized in mill work in the State with the single exception of the Rocky Mount Cotton Mill in Edgecombe County, which used slaves from 1820-1851 and then only because sufficient numbers of white laborers could not be coaxed off their farms until after 1850 (Thompson 1906:48-52).

There were very few people employed in mill activities in any of the three counties of Cabarrus, Stanly, or Union. Neither Stanly nor Union counties had a single textile mill within their boundaries until the 1890s, well after the war. Cabarrus County had one cotton mill -- the Concord Manufacturing Company, built in 1840, which employed in 1860 about 20 men and 55 women -- a mere fraction of those engaged in agriculture in the area (Federal census 1860). The other mills in nearby counties, including a few in Salisbury and Charlotte, were much too far away to have impacted economic or social movements of any of the three counties under study. In short, these factories served only a small role in the respective counties in which they were located, providing a local outlet where farmers might sell cotton, but not as any major source of employment.

Post-War Era. Beginning around 1840, feelings between North and South continued to grow hostile, resulting in 1861 in the war which did much to alter the economic and social fabric of North Carolina. Certainly the moralistic opinions in the North concerning the slave institution and the maneuverings of the New England textile manufacturers to impose tariffs on cotton in support of their own industry did much to drive the South into a decision to dissolve the Union. North Carolina, after hesitating longer than any other Southern state, finally passed a secession ordinance on May 20, 1861. During the years of the conflict, some 125,000 North Carolinians went into the Confederate armies, leaving behind their families and productive farms. The loss of these men to military service, a Confederate embargo on cotton export, and the increased demand by the Confederate government for wheat, corn, and other foodstuffs, all resulted in the rapid decline in cotton production throughout the South. While in 1861

the Southern cotton crop amounted to some four and a half million bales, by 1864 the crops totaled only about 229,372 bales (Owsley 1929:392-395). The small amount of cotton grown in North Carolina often found its way to the textile manufacturing plants within the state. Early on in the war, the North Carolina Government decided to clothe its own soldiers, and passed legislation to encourage the textile industry to provide uniforms, blankets, and other articles for the military effort. The Confederate Government also introduced laws to secure a strong textile effort, including in April 1862 the exemption of mill workers from the military draft. Throughout the war the State's mills worked at full capacity in an effort to provide for both soldiers and civilians. North Carolina soldiers, in fact, were the best clothed of any Southern state, and by the close of the conflict the state alone had supplied almost all of the clothing needs of the Confederacy (Webb 1932:123-127).

The conclusion of The War Between the States in 1865 left the Southern states in economic ruin, and in political and social upheaval. North Carolina sacrificed some 40,000 troops for the Confederate cause, more than any of her sister states. The survivors returned to farms abandoned to neglect, homes in disrepair, and to hungry families. Livestock, once plentiful on the farms, was almost non-existent due to military impressment, and the slaves had been freed. Every bank in the State was forced into liquidation by the Federal government,and all cotton found in storage and any personal property worth over two hundred thousand dollars was seized by the occupying forces (Hamilton 1919:161). The textile industry in North Carolina also suffered. All of the cotton mills in Salisbury and Fayetteville -- four and five factories respectively -- were burned by Union troops in 1865, and at least three other mills across the state were destroyed (Hamilton 1919:37; Thompson 1906:58). The factories which survived the invading Federal armies contained mostly worn out and broken down equipment, and there was no capital to rebuild. For the time immediately following the war, the majority of these industries remained closed (Griffin 1960:471).

As a result of the military defeat and harsh consequences which followed during the Reconstruction Era the State was ruined economically. Former planters and middle class farmers faced bankruptcy due to the loss of slave labor, loss of capital and increased taxation. The State was devoid of a banking system and cash was almost nonexistant. Under such conditions, a "crop lien" system developed by which a farmer could take out a loan (usually with a high interest rate) from a merchant in the community for seed, tools, clothing and other supplies. In return, at the end of the year, the same farmer was obligated to surrender a portion of his crop (one quarter to one third) to the merchant as payment on the loan (Hawk 1934:458). Certainly the best way to maximize a profit through agriculture was to produce a cash crop -- cotton or tobacco -- in which to pay the merchant. In fact, the merchant preferred the cash crops not only because they were the most marketable in the South, but also because they

were resistant to spoilage, so they could be stored away for long periods of time, if need be, to insure a profit. Of course, the farmer was required to turn over to the merchant his lien portion of the annual crop as soon as possible. This crop lien system resulted in making the South tightly bound to a one crop economy. In turn, those areas which grew dependent on cotton or tobacco became more susceptible to the fluctuation of a fickle market (Hearden 1982:71).

The use of the crop lien system did offer a means by which the Southern economy could attempt a recovery, but it also created many adverse circumstances. The merchant and some planters made annual profits on the cotton crops but because of the general depression of the economy, the gradual decline in the price for cotton, and high interest rates of the merchants, many of the smaller independent landowners lost their property (Thompson 1906:103). Those bankrupted white farmers and the majority of the former slaves became sharecroppers or tenants. Under the tenant system, the landowner would provide the acreage and home for the farmer in return for a "share" or portion of the annual crop. Black ex-slaves were usually also provided tools, seeds, clothing, and other supply needs by the landowner, often former planters (Trimble 1974:69). White tenants, on the other hand, received their seed and supplies from a local merchant, on loan, with the expected payment of a portion of the cash crop (Prunty 1955). The storekeeper, interested only in obtaining the cash crop for market profit, discouraged the production of foodstuffs and demanded greater production of the commercial crop, cotton. The continuation of excessive interest rates and drop in the price for cotton after the late 1870s forced these tenants into perpetual debt (Hammon 1919:345; Hearden 1982:72).

The accepted historical assumption holds that tenancy and sharecropping was strongest in those areas where cash crop (cotton) production was highest (Connor 1919:587; Hawk 1934:458). Presumably the tenant/sharecropping system enabled cotton production to resume after the War Between the States, thereby replacing the institution of slavery by employing the increasing number of landless whites. In this way, cotton production in the South could continue by the use of the large supply of landless laborers. Within the three county study area, historical maps also tend to support the theory that where cotton was grown in large amounts there was also a large number of tenant farms. C. M. Miller completed a series of maps of various counties across North Carolina after 1900, including one each for Union (1907), Stanly (1908), and Cabarrus (1911). From a study of these maps the number of tenant farms as indicated by Miller is actually fewer than the census figures for 1910. Nevertheless, from the division of his number of tenants by township boundaries a general pattern is shown, namely a concentration of tenants in those areas of each county where cotton production was also concentrated. This tenant concentration is shown by Miller specifically to be in the southwestern portion of Cabarrus, along

the Yadkin-Pee Dee and Rocky River areas of Stanly, and across Union County towards the southwest and central sections.

If the premise that cotton farming could continue after the war only if accompanied by a rise in tenancy/sharecropping is true, there should be a positive relationship between those two factors. In other words, the number of tenants should increase as cotton production increases. Using a Pearson correlation -- all three counties are shown to exhibit a positive correlation: the Union County correlation of tenants to bales produced between 1880-1940 was significant ($r = .95$, $t(9) = 8.94$; $p<.05$), thus rejecting the null hypothesis that no relationship existed. By calculating the regression equation and slope, the trend is proven to be positive. The same is found for Stanly and Cabarrus counties, where $r = .86$, $t(9) = 5.01$, $p<.05$ (for Stanly); $r = .88$, $t(9) = 5.59$; $p<.05$ (for Cabarrus).

The positive correlation also supports the view that as cotton production grew, prices continued to fall, thereby decreasing the likelihood that a tenant could earn a profit for his labors. Only on three occasions did the price for cotton rise high enough to allow some tenants to escape their debt (1903-1905, 1917-1919, 1922-1923); but on the whole, after 1880 the price per pound remained so low as to disallow escape from the tenant system. This theory of tenant debtor bondage is further supported by the fact that the widespread tenant system came to a sharp decline only after the collapse in the cotton market in the 1930s. Tenant farmers, already faced with debt, found it virtually impossible to make a living following 1923 when prices for cotton dropped from 29.25 cents a pound to only 5.97 cents per pound in 1931. Throughout the Depression, the price per pound averaged only 9.72 cents. At such a price the cotton farmers profited only a few pennies per pound; this loss forced many to cease production, and a great number left the farms. It was only then that the tenant/sharecropping system in that region rapidly declined.

Because tenant farming supported high levels of cotton production, we postulate that the onset of the Depression marked a new era of steady decline. Production figures for the three counties were grouped into pre- and post-Depression eras. In order to compare time periods it must first be determined that a given time spans actually passes a logical coherence. Through repeated measures comparisons, years with similar mean values of cotton production can be grouped. These groups may then be compared to each other to determine whether and where fluctuation (i.e. decline) occurred. A repeated measures analysis of variance is used to show that pre- and post-eras respectively represent periods of little change. The null hypothesis is that the means for each year's cotton production are similiar. The alternative hypothesis holds that at least one treatment (i.e. one year) will have a different mean, thus indicating that pre- and post-Depression groupings are not valid.

Results for the 1900-1930 group were not significant ($F=3.34$, $df(3,6)$, $p>.05$), supporting the null hypothesis that the era was fairly stable in terms of cotton output. Results for the 1940-1980 group were also non-significant ($F=2.48$, $df(4,8)$, $p>.05$), suggesting again that this period was similar (statistically) in cotton production. In order to confirm that the time periods did indeed have different levels of production, that is, that a marked period of decline following the Depression, a comparison was made of the group's means. This was done by combining county scores for each year into one score; a mean was calculated for each time period (grand total). The two means were then compared by a t-test, the null hypothesis being that the two means would be similar ($H_0: x_1 = x_2$). In other words, non-significance would indicate that cotton production was similar throughout the 80-year span. The alternative hypothesis states that the two means would be different, indicating that the pre-Depression era did in fact see different (higher) cotton production than the post-Depression period, when cotton farming declined. The result of the t-test was significant ($t_3=5.36$; $p<.05$). Thus the hypothesis of difference is supported; cotton production was greater prior to the outbreak of the Great Depression.

The tenant/sharecropper system served as a rather poor solution to the economic plight of farmers in North Carolina. During its sixty-odd year reign following the War Between the States the tenant labor system was responsible for the increased cotton production thereby creating a base for economic recovery in the State, but this accomplishment did little to assist the small farmer in regaining his pre-war independence and wealth. The tenant system, like the old plantation system before the war, had disasterous effects on the land. In large, the tenant farmer was only interested in his crop and was wasteful in his methods of cultivation, thereby robbing the soil of its fertility across the Piedmont. Because of this careless disregard for the land, many of the once productive agricultural areas were lost to erosion, or left worn out and overgrown in pine thickets (Hammond 1897:191; Trimble 1974).

The deterioration of much of the farm land and declining prices for cotton caused a general dissolution of many agricultural communities which had grown dependent on the cash crop. Before the post war economic collapse, the people were bound to their respective communities by the mere ownership of land, if for no other reason. After the war many of the smaller farmers lost everything, including their land and thus their bond to the community. Dr. J. G. Hamilton, a North Carolina historian at the time, wrote that "the tenants in our farm regions are sojourners, strangers, and pilgrims of the earth...upon an average a little more than half of our farm tenants move every year" (1919:414). These landless farmers moved in search of land which they hoped would be productive enough to rid them of debt -- and provide the extra income to purchase a farm of their own. For most, this dream was an impossibility. As a result of the declining price for cotton following 1880, many of the white

tenants and sharecroppers in the Piedmont abandoned the farm communities altogether and flocked into the cotton mill towns which were springing up across the region. Once they left the bankrupt farms, few would return from the factories (Thompson 1906:64; Lemert 1933:49; Hearden 1982:60).

Several factors, including the increasingly large pool of unemployed laborers directly off bankrupt farms, encouraged the rebuilding of the textile industry in North Carolina. During the same years which ruined many of the smaller farmers, a large number of planters and merchants profited through cotton speculation. These same men eventually gathered together the capital to invest in new industrial ventures. The move towards increased investment into the cotton mill industry came during the period of declining agricultural profits, the same pattern of industrial investment trends seen prior to the War Between the States. Also, beginning around 1890, additional railroads were built across the southwestern Piedmont linking many of the small towns to the larger commercial centers in the State. In 1876, the last year of Reconstruction in the South, there were 31 cotton mills in North Carolina (about the same number as in 1865); four years later, in 1880, there were 49 established mills. By 1895, total mills neared 184, in 1905, some 245, and by 1916, about 306, the largest number of textile mills in any state (Hamilton 1919:387; Griffin 1960:472).

The three counties in the survey area reflected the growth of the textile industry after 1880. In Cabarrus County the pre-war McDonald Factory (est. 1840) was sold to J. M. Odell, who re-opened the mill with new equipment in 1882. J. W. Cannon opened the first of his many mills in 1887, also in Concord. By 1910, there were 13 cotton mills in Cabarrus County, 10 in Concord, two in Mt. Pleasant, and one in the newly founded town of Kannapolis. In Union County the first mill was opened in 1890 in Monroe; by 1910 the same town boasted three new mills and Waxhaw one. In 1896 the Efird Manufacturing Co. was established in Albemarle, Stanly County's first cotton mill, and two years later two additional factories opened, one in Albemarle (the Wiscassett Mill), and one in Norwood. For the next twenty years -- until 1930 -- the number of mills remained about the same for each of the three counties, with the only addition being one mill each for Kannapolis in Cabarrus and Oakboro in Stanly County (Branson 1896:139-140; Shipman 1910:162,176-178; Yearbook 1930:77-89).

During the same thirty year period (1880-1910) in which the region experienced the textile mill boom, there was a great population drift from the surrounding farming areas into the mill towns. Almost all of the cotton mills were built in small towns through which a railroad passed, where there was at least a better than average source of water. In all of the towns within the study region (with the single exception of Mt. Pleasant) a railroad line was established prior to the construction of any cotton mill. Conversely, few cotton mills appeared in a town which did not have a railway at the time or soon thereafter

(Thompson 1906:77; Lemert 1933:132). Though it is impossible to tell exactly from which farming communities the people departed, a study of population growth in mill towns and decline in the countryside can be made. It may be observed from census records that each of the mill towns grew in great proportion from 1880 to 1910, followed by a less significant increase from 1910 to 1930. Of the larger textile centers in the immediate region population increased in Charlotte from 7,000 to 34,000; in Gastonia from 2,260 to 5,760; in Salisbury from 2,700 to 7,150; and in Concord from 1,260 to 8,700. By 1930, these mill centers grew even more: Charlotte to 82,000; Gastonia to 17,000; Salisbury to 16,950; and Concord to 11,820. In the smaller mill towns within the survey area, Kannapolis, established by 1907, rose to over 10,000 by 1930. Albemarle went from 250 in 1880 to 2,100 in 1910 to 3,500 in 1930; and Monroe from 1,500 in 1880 to 4,000 in 1910 to 6,100 by 1930. In the three counties under investigation an examination of the population figures was made by township division. This significant increase in the mill town populations firmly indicates the first of several patterns of the time period. Specifically, each of the textile towns experienced unprecedented growth, as opposed to those townships within the same counties without this industrial development (Federal Census Returns 1880-1930).

The second distinct pattern shows a decline or leveling off in population in those townships less entrenched in cotton production and more removed from the mill centers. In those county areas known to have had better soils to support a strong production of the cash crop, there continued to be a slow but steady increase in population. Conversely, in the areas in each county with poorer soils there was a loss or insignificant gain in population. A detailed examination of the three counties on a township basis shows that the northern and eastern portions of Cabarrus, and western section of Stanly County grew only by a few hundred people in each of the townships from 1880 to 1930. Elsewhere, where agricultural lands are known to have been more productive, such as in southern and western Cabarrus, Stanly, and Union Counties, population figures steadily rose to an average of over 1,000 people per township during the same period. From these observations it may be concluded that the farmers abandoned much of the poorer land in favor of the better cotton soils elsewhere in the counties, or for a move into one of the local textile mill towns (Federal Census Returns 1880-1930).

After World War II the economic transformation which began with the re-emergence of the textile industry became more complete. The abandonment of the farms was actually accelerated by the dispersal of the textile industry into many of the surrounding farm communities, a much improved road system between cities, and the more widespread use of the automobile. The increased industrialization of the textile cities provided more jobs; the improved roads and the automobile increased the distance a textile worker could live from the mill and still commute each day for work.

While the size of the average farm has increased since 1945, the number of farms has actually decreased. Tenant farming is almost non-existent in the study area today. Cotton, the cash crop which the tenant system supported, has also disappeared from the fields. Today those who still farm utilize highly mechanized equipment and cultivate primarily soybeans, milo, and corn. Those three crops, in turn, support the dairy and beef cows, and chicken and turkey farms. Generally speaking, within the three counties of Cabarrus, Stanly, and Union, agriculture is now secondary to the dominant textile industry.

CHAPTER 3: METHODS

Introduction

The Rocky River survey project sampled 1091.73 hectares, 452.19 hectares and 639.54 hectares for Lambert and Marshville respectively. Testing was required on those sites found in either area which were thought to be eligible for the National Register of Historic Places. Project and site specific impact statements and data recovery recommendations also were required for the project. Finally, research questions designed to guide future study in the survey areas were to be provided.

Set-up Procedure

In order to accomplish the tasks required by the COE, a specific set of methods was implemented. Prior to entry into the field, a literature search was carried out in order to familiarize personnel with the previous work in the project areas. A review of literature, site files and ceramic collections was undertaken at the Office of State Archaeology, Division of Archives and History in Raleigh, North Carolina. In addition, wills, deeds and various archival data on file in local and state repositories were researched.

Scholars from other institutions with research interests in the Rocky River basin were consulted, and comments or suggestions concerning the project were requested. Local collectors were contacted for information regarding site locations, artifact types, and private collections from the survey areas.

The Sampling Design

A dual stage sampling design was implemented for this project in both survey areas in order to provide samples of the proposed impoundment areas in addition to intensive coverage of the two damsites. Two superstrata were defined for both areas and approached using separate strategies.

The Lambert Survey Area

Superstratum I: The 371.22 Hectare Impoundment Area.

Superstratum I encompassed all of the Lambert survey area not defined as the damsite, 371.22 hectares of a total 452.19 hectares. This superstratum encompassed all areas upstream of the damsite below 152 meters AMSL. This impoundment area was sampled by collecting data from clusters of topographic features, a stratified cluster sampling strategy. Each cluster was defined so as to include as complete an occurrence of the various land form features as possible. These features included:

1. Floodplain -- Any plain or level expanse of land that may be flooded during high water levels and/or the first contour above the major drainage within the survey area.

This feature included levees, swamps, backswamps, and the stream itself.

2. Alluvial Terraces -- Any level or nearly level strip of land with more or less abrupt descent along the margin of a river or stream floodplain, composed of older alluvial deposits of sand, silt or mud. These areas have been deposited within Pleistocene or post-Pleistocene times.

3. Confluence of Streams -- Any area within a radius of 305 meters surrounding any confluence of Big Bear Creek and its major tributaries.

4. Uplands -- Any of the higher elevations within the survey area. This feature included the slopes, ridgetoes, hilltops, and saddles.

Superstratum I of Lambert was divided into three units (clusters) of topographic features (Figure 3-1). These clusters were defined as follow:

1. Cluster I -- Little Creek Cluster -- This cluster unit began along the line defined as the northwest boundary of the damsite area on Big Bear Creek and proceeded upstream on both sides of the creek below the 152 meter contour line. The cluster unit ended at a point where road #1238 crossed Big Bear Creek, UTM Northing 391078m, Easting 559920m (Zone 17). This cluster included both sides of Little Creek below the 152 meter contour line to a point 3.5 kilometers upstream of its confluence with Big Bear Creek, UTM Northing 3913420m, Easting 561380m (Zone 17). A total of 153.43 hectares was contained in this cluster.

2. Cluster II -- Running Creek Cluster -- This cluster unit began along the line defined as the upstream boundary of Cluster 1 (Little Creek Cluster). The unit proceeded on both sides of Big Bear Creek below the 152 meter contour line to a point 2.2 kilometers upstream, UTM Northing 3912620m, Easting 558620m (Zone 17). The cluster also included both sides of Running Creek below the 152 meter contour line to a point 2 kilometers upstream from its confluence with Big Bear Creek, UTM Northing 3910700m, Easting 557920m (Zone 17). A total of 106.27 hectares was included in this cluster.

3. Cluster III -- Pole Bridge and Little Bear Creek Cluster -- This cluster unit began along the line defined at the upstream boundary of Cluster 2 (Running Creek Cluster). The unit proceeded on both sides of Big Bear Creek below the 152 meter contour line to a point 4.7 kilometers upstream, UTM Northing 3916620m, Easting 559960m (Zone 17). The unit also included both sides of Pole Bridge and Little Bear Creeks below the 152 meter contour line to points 1.5 kilometers and 2.3 kilometers upstream at UTM Northings

3912510m and 3914660m, Eastings 557600m and 557760m (Zone 17) respectively. A total of 111.52 hectares was contained in this unit.

Superstratum II: The 80.97 Hectare Damsite Area. The damsite area proposed for the Lambert reservoir comprised Superstratum II and included 40.485 hectares on either side of the proposed damsite (Figure 3-1). The northern boundaries of this area extended from UTM Northing 3909750m, Easting 560270m to Northing 3910020m, Easting 560990m (Zone 17). The southern boundaries were located between UTM Northing 3908800m, Easting 560630m and UTM Northing 3909080m, Easting 561360m (Zone 17). Superstratum II was assessed by a 100% pedestrian survey.

The Marshville Survey Area

Superstratum I: The 558.57 Hectare Impoundment Area. Superstratum I, as in Lambert, encompassed all of the Marshville survey area not defined as the damsite, Superstratum I being 558.57 hectares out of a total 639.54. This stratum encompassed all areas upstream from the damsite under 134 meters AMSL. This impoundment area was sampled using the same strategy and topographic features defined for Lambert. Superstratum I was divided into five units (clusters) of topographic features (Figure 3-2). The clusters defined for the Marshville survey area were as follow:

1. Cluster I -- Beaverdam Creek Cluster -- This cluster unit began along the line defined by the southwestern boundary of the 80.97 hectare damsite on Beaverdam Creek and proceeded upstream on both sides of the creek to the 134 meter contour line. The unit ended at a point 488 meters upstream from the intersection of Beaverdam Creek and road #1005, UTM Northing 3867850m, Easting 558890m (Zone 17). A total of 110.91 hectares was contained within this cluster.

2. Cluster II -- Road #1903 Cluster -- This cluster unit began along the line defined by the 80.97 hectare damsite area on Lanes Creek and proceeded upstream on both sides of the creek to the 134 meter contour line. The unit ended at a point defined by the intersection of road #1903 and Lanes Creek, UTM Northing 3867010m, Easting 561950m (Zone 17). A total of 208.22 hectares was contained within this cluster.

3. Cluster III -- Barkers Branch Cluster -- This cluster unit began along the line defined as the upstream boundary of Cluster 2 (Road #1903 Cluster) and proceeded upstream on both sides of Lanes Creek to the 134 meter contour line. The unit ended at a point defined by the intersection of road #1005 and Lanes Creek, UTM Northing 3864520m, Easting 560090m (Zone 17). This cluster included both sides of Barkers Branch to a point 1.5 kilometers upstream from its confluence with Lanes Creek, UTM Northing 3865530m, Easting

559530m (Zone 17). A total of 149.76 hectares was contained within this cluster.

4. Cluster IV -- Cool Springs and Norkett Branch Cluster -- This cluster unit began along the line defined by the upstream boundary of Cluster 3 (Barkers Branch) and proceeded upstream on both sides of Lanes Creek to the 134 meter contour line. The unit ended at a point defined by the intersection of road #1929 and Lanes Creek, UTM Northing 3863260m, Easting 558170 (Zone 17). This cluster included both sides of Cool Springs and Norkett Branch to points 2.2 kilometers and 2.8 kilometers upstream from their confluence with Lanes Creek respectively, UTM Northings 3861840m and 3861400m, Eastings 560040m and 558060m respectively (Zone 17). A total of 71.68 hectares was contained within this cluster.

5. Cluster V -- Waxhaw Branch Cluster -- This cluster unit began along the line defined by the upstream boundary of Cluster 4 (Cool Springs and Norkett Branch Cluster) and proceeded upstream on both sides of Lanes Creek to the 134 meter contour line. The unit ended at a point 5.8 kilometers upstream on Lanes Creek, UTM Northing 3859980m, Easting 555580m (Zone 17). This cluster included both sides of Waxhaw Branch to the 134 meter contour line to a point 644 meters upstream from the confluence with Lanes Creek, UTM Northing 3860480m, Easting 555110m (Zone 17). A total of 18 hectares was contained within this cluster.

Superstratum II: The 80.97 Hectare Damsite Area. Superstratum II was the damsite area proposed for the Marshville survey (Figure 3-2). The northern boundaries of this area extended from UTM Northing 3870040m, Easting 562660m to Northing 3870000m, Easting 563440m (Zone 17). The southern boundaries were located between UTM Northing 3869040m, Easting 562620m and Northing 3869000m, Easting 563400m (Zone 17). Superstratum II, as in Lambert, was assessed by a 100% pedestrian survey.

The Sample Unit

Each cluster was divided according to the topographic features (strata) present. These strata were determined through the use of topographic (USGS) maps (Figures 3-3 through 3-10), aerial photographs, project maps, and soil survey (USDA) maps. Each individual topographic feature (stratum) within each cluster was divided into one hectare sampling units. A fraction of these units was drawn (using a table of random numbers) for survey from each stratum in proportion to the total area of the particular stratum within the cluster. The sample units selected were surveyed for prehistoric and historic sites using methods outlined in the "survey methods" section of this chapter.

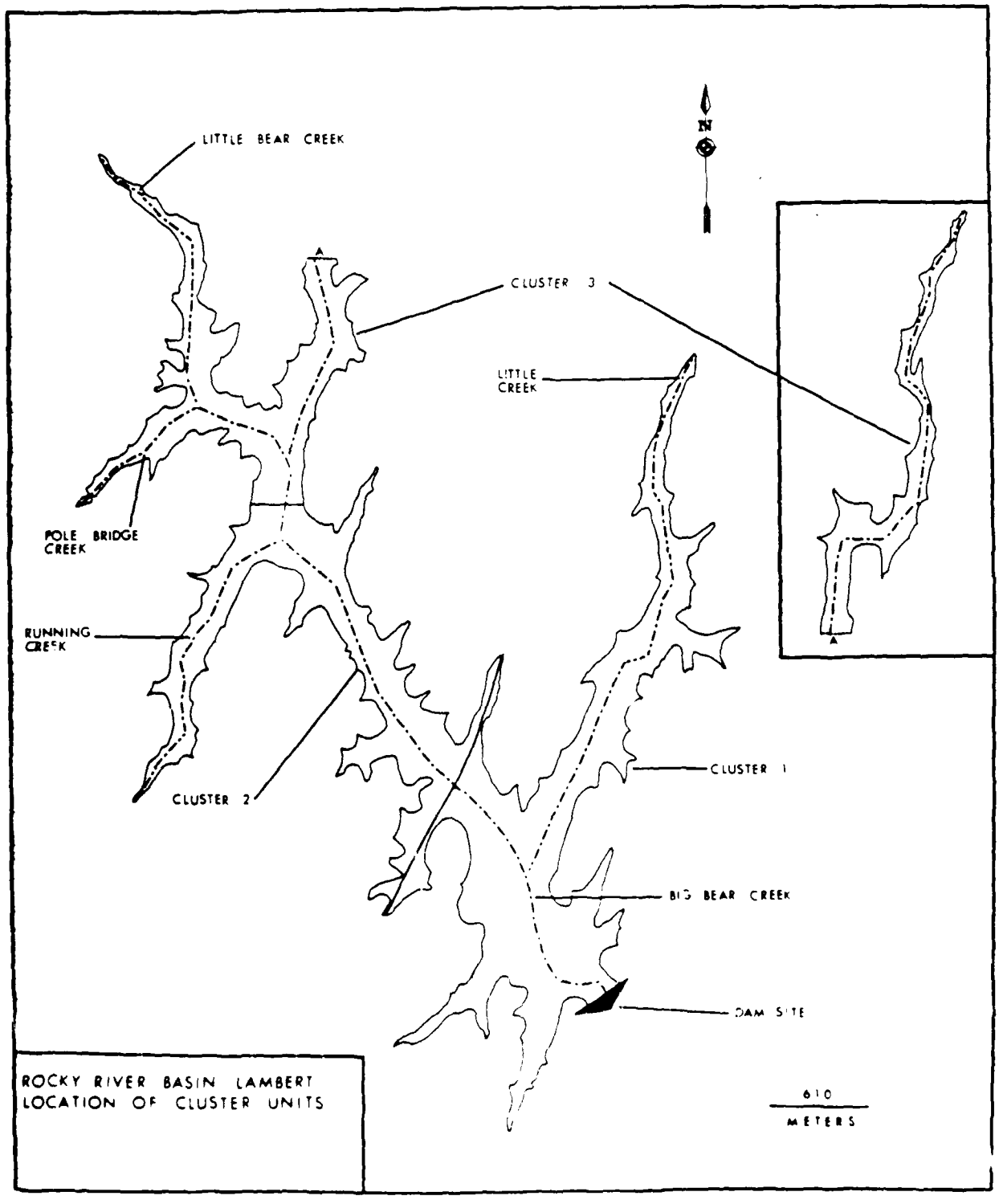


Figure 3-1: Location of Cluster Units -- Lambert Reservoir

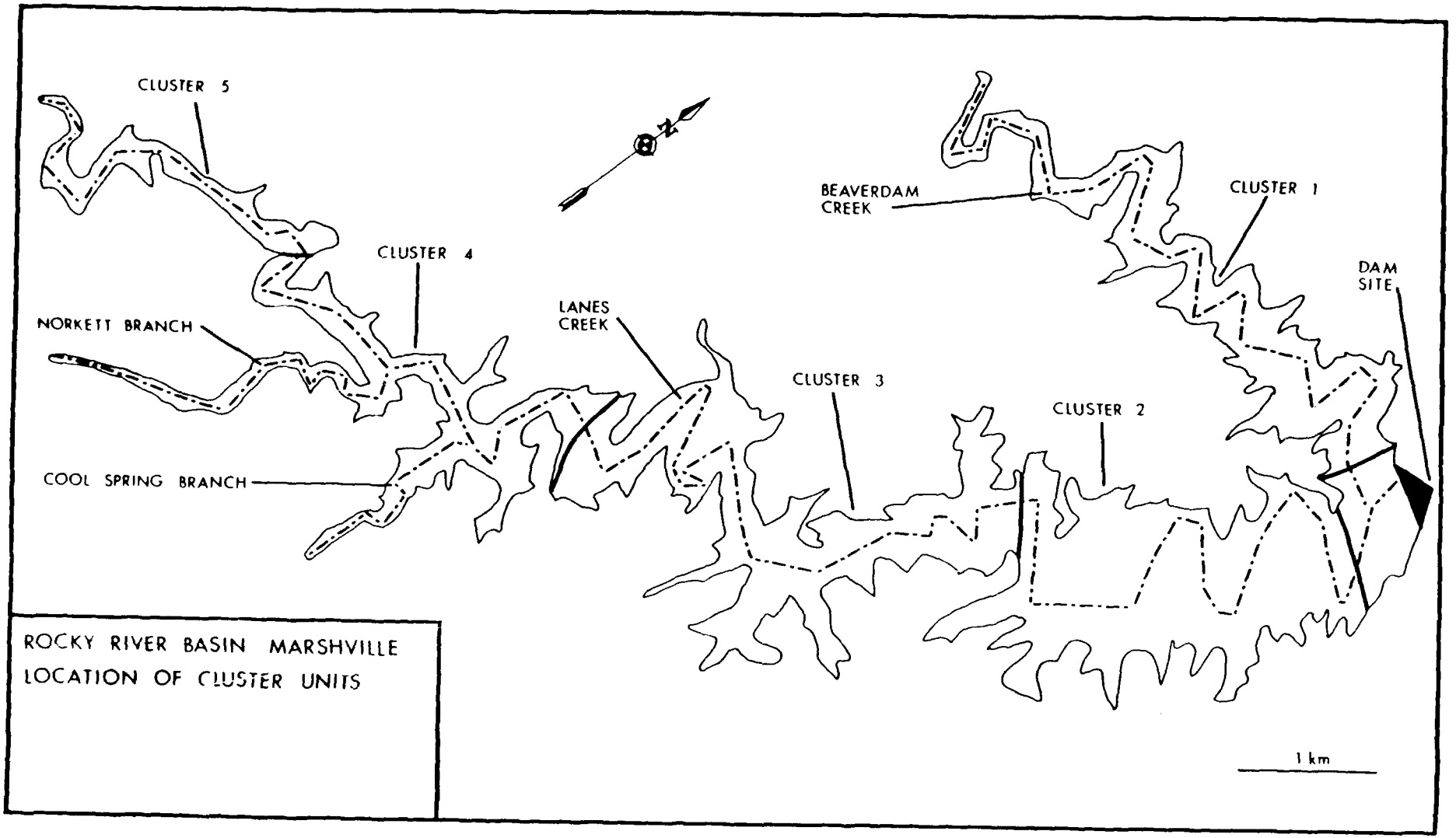


Figure 3-2: Location of Cluster Units -- Marshville Reservoir

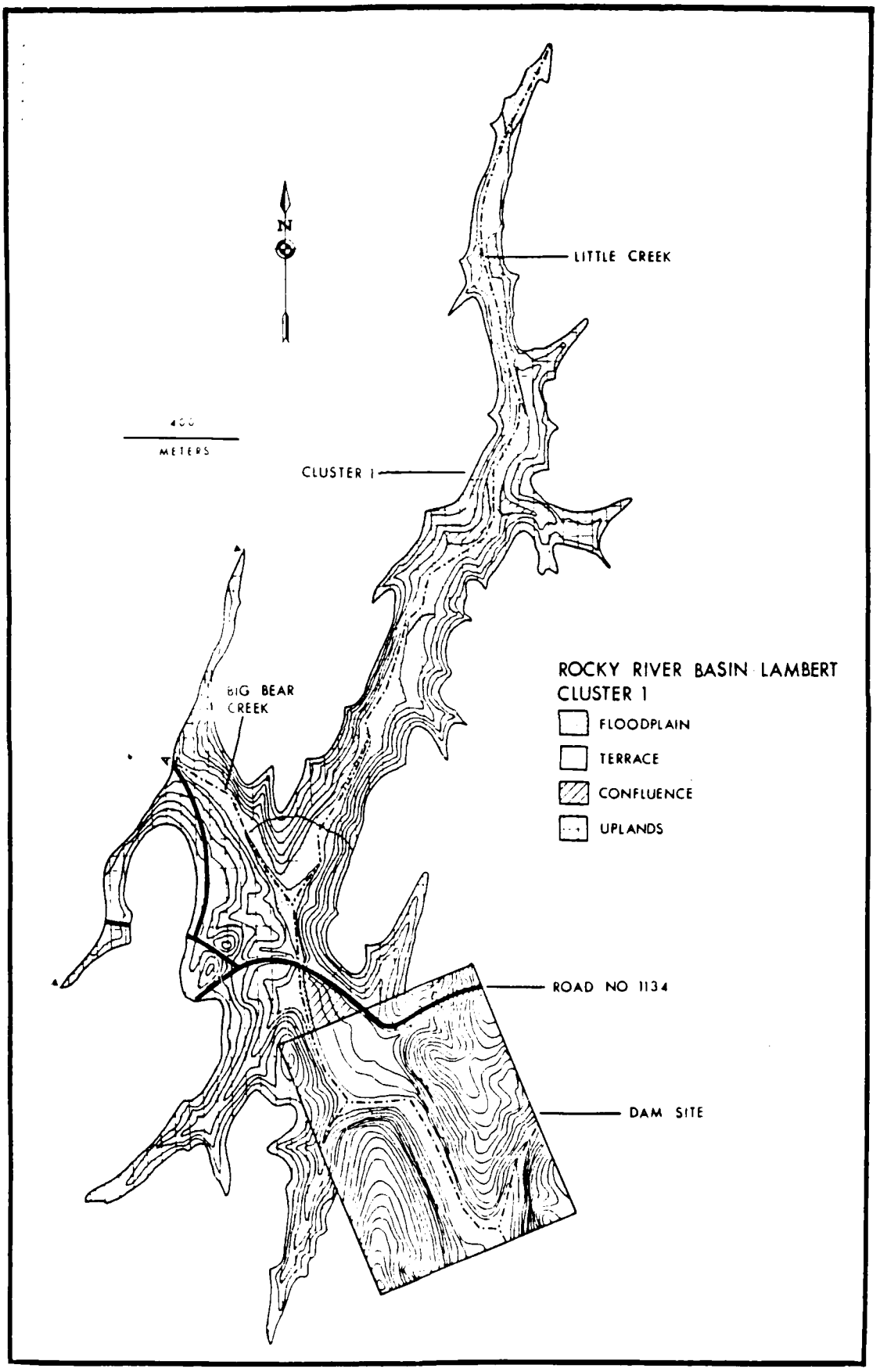


Figure 3-3: Topographic Units -- Lambert Cluster 1

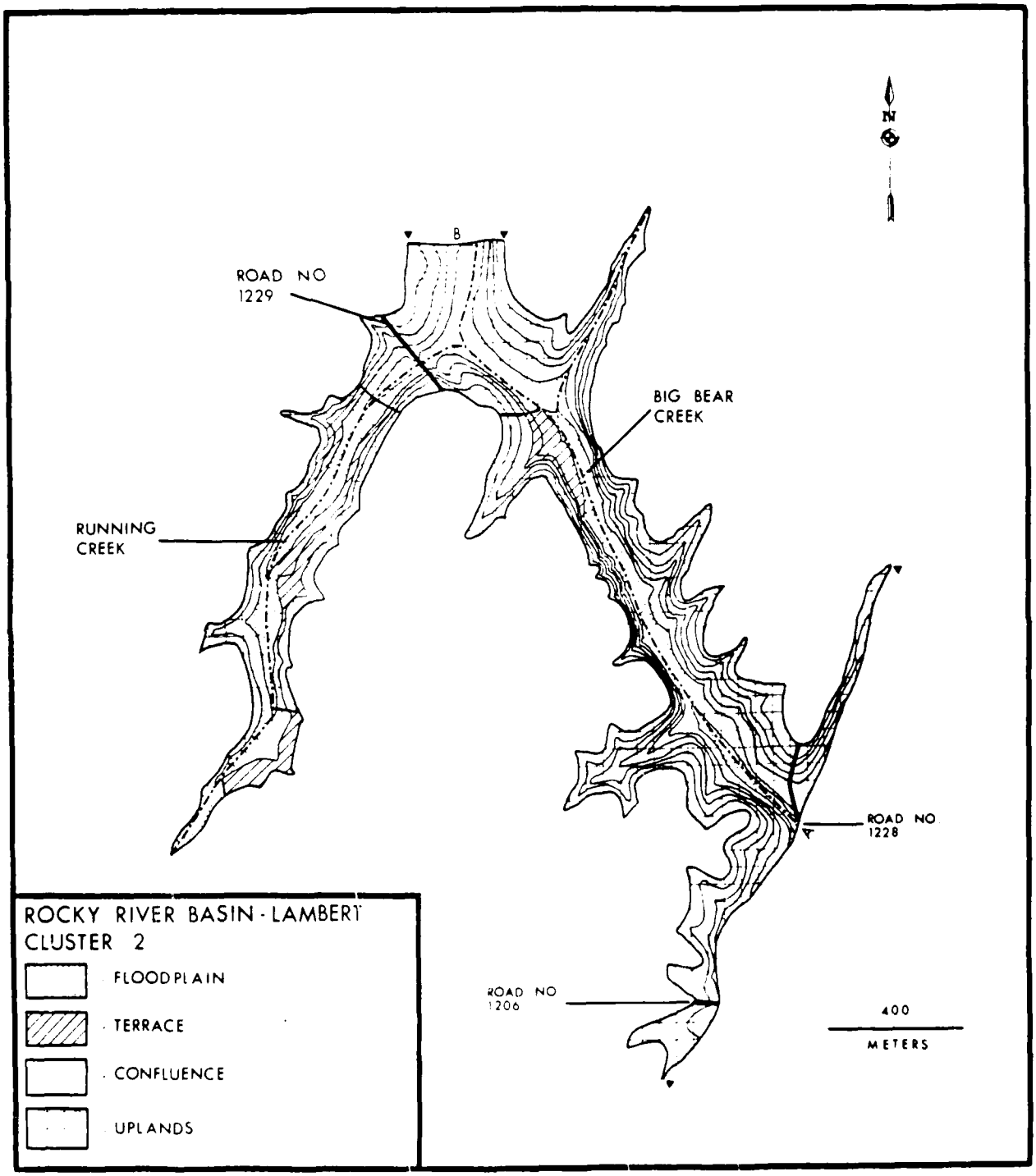


Figure 3-4: Topographic Units -- Lambert Cluster 2

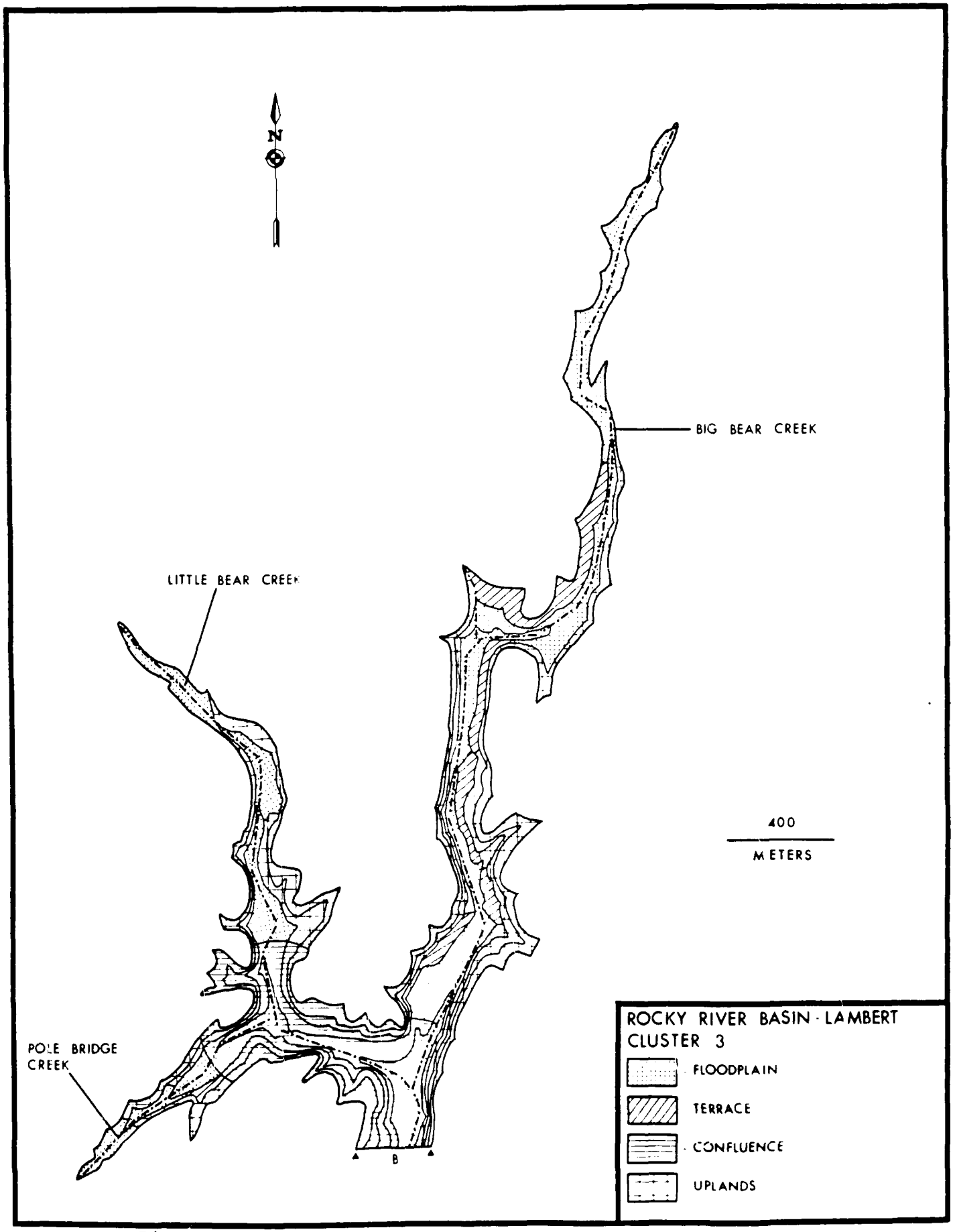


Figure 3-5: Topographic Units -- Lambert Cluster 3

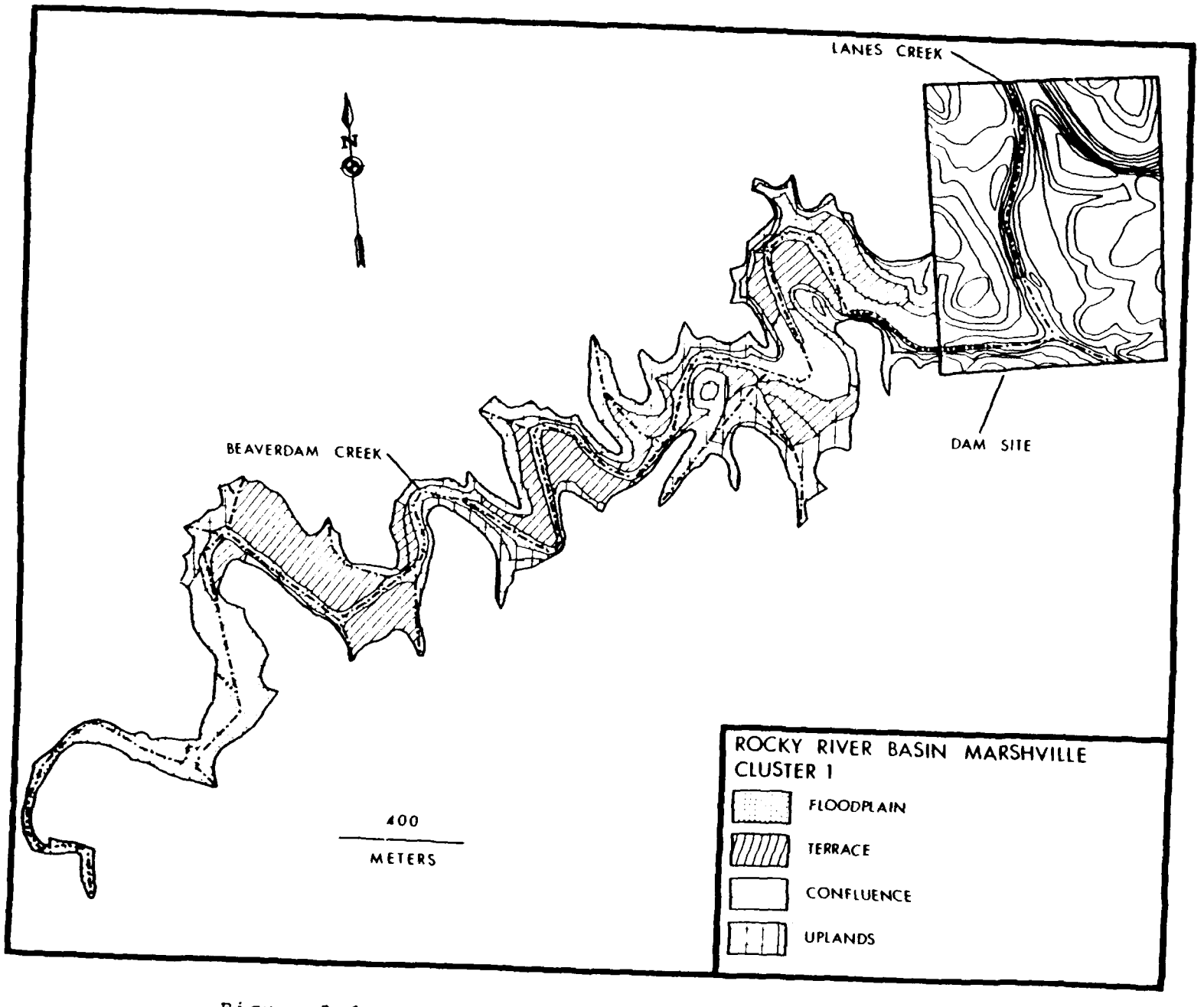


Figure 3-6: Topographic Units -- Marshville Cluster 1

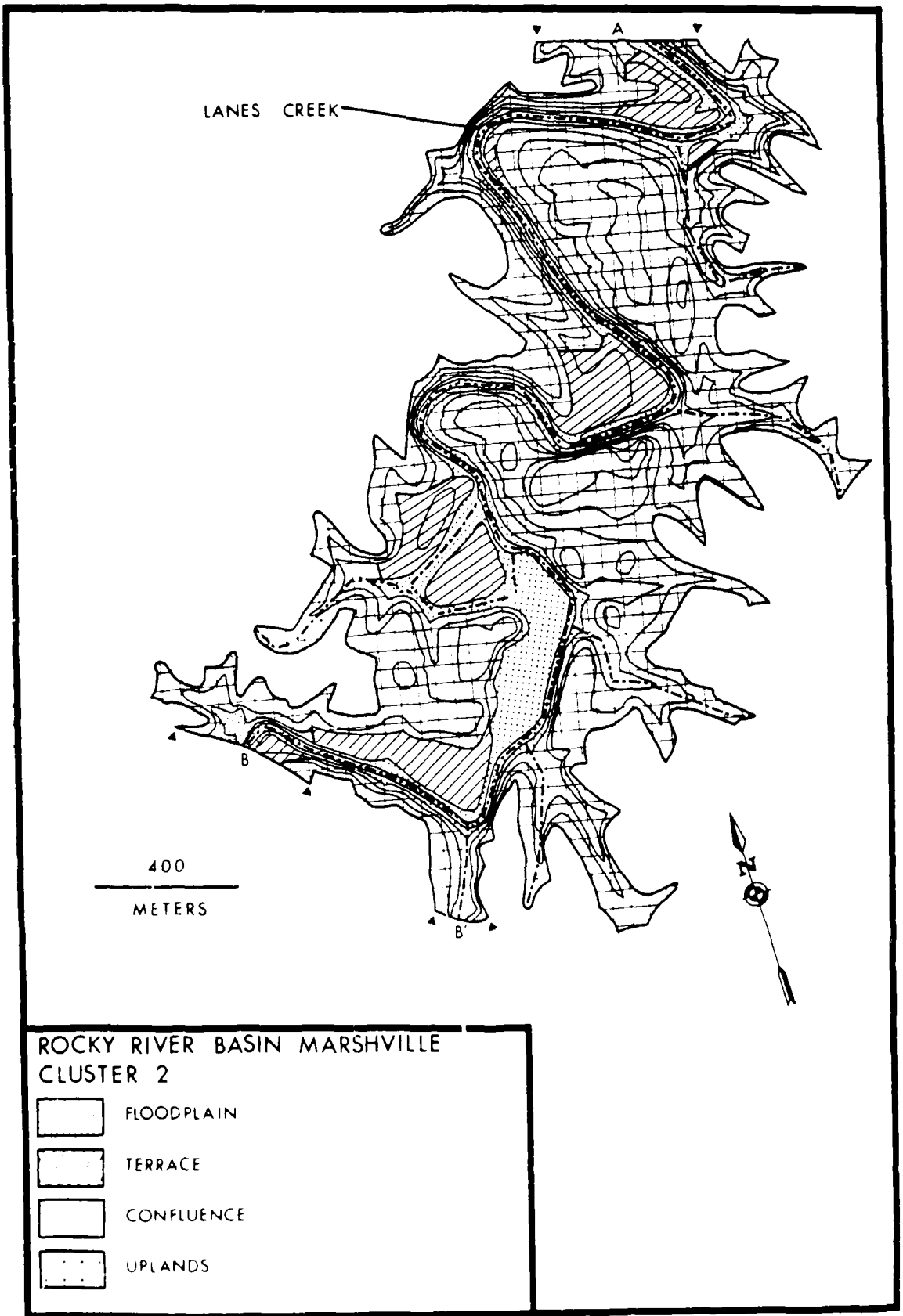


Figure 3-7: Topographic Units -- Marshville Cluster 2

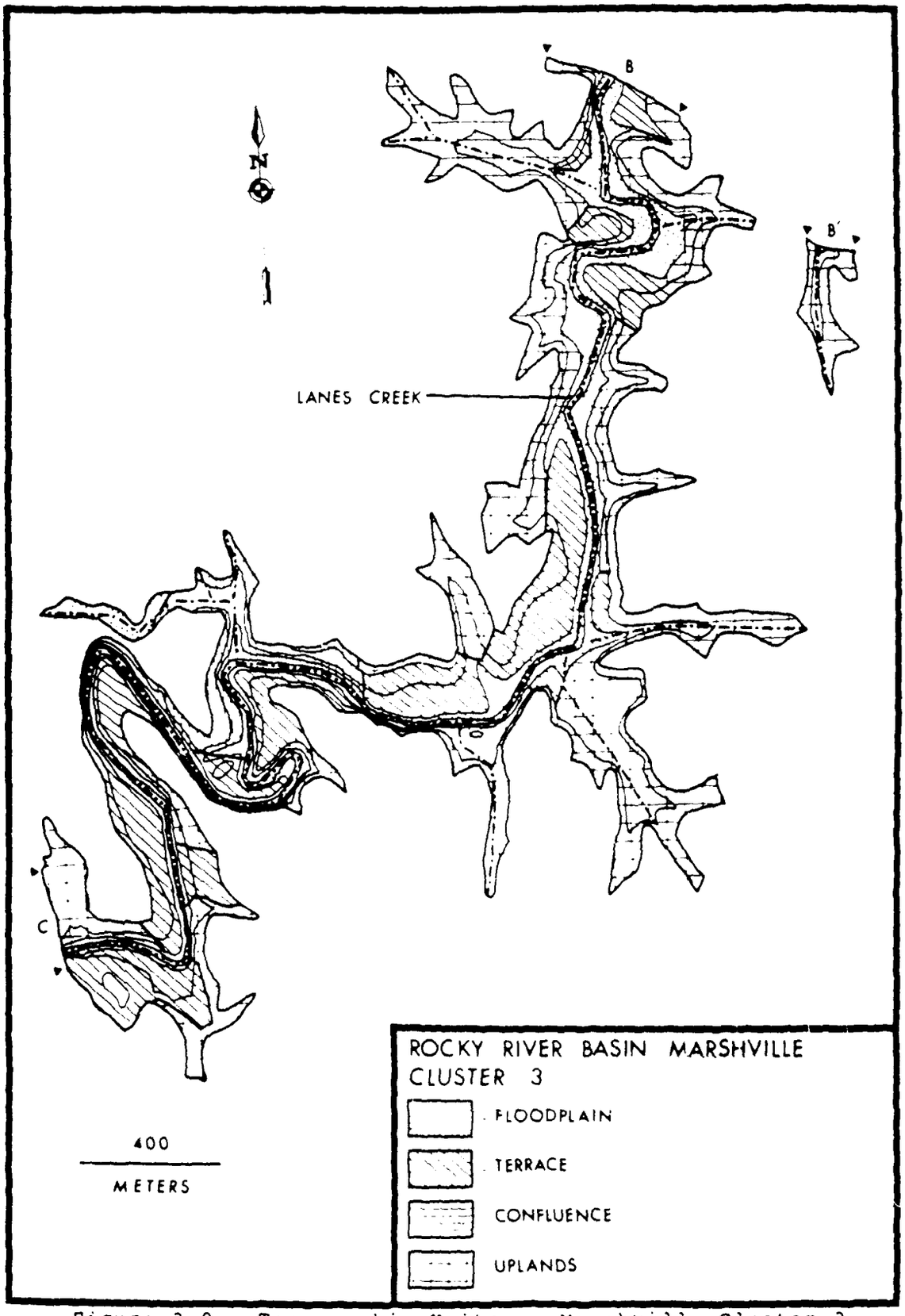
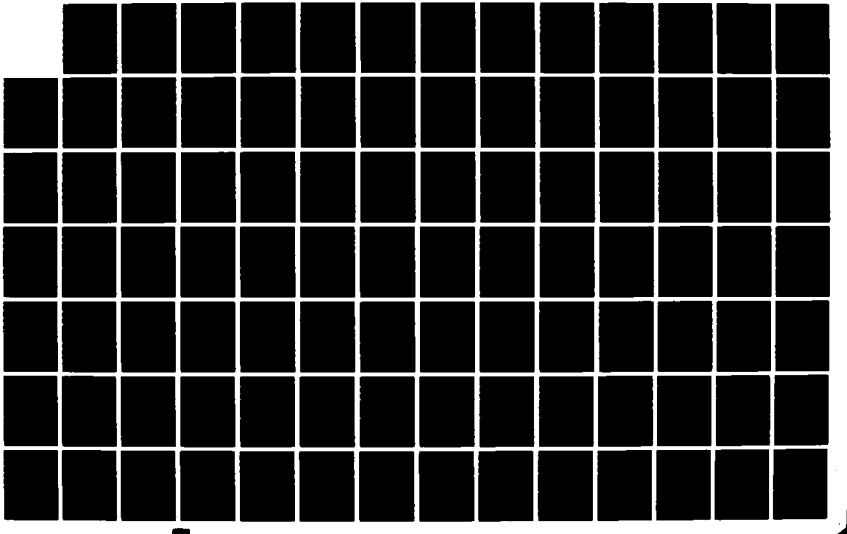
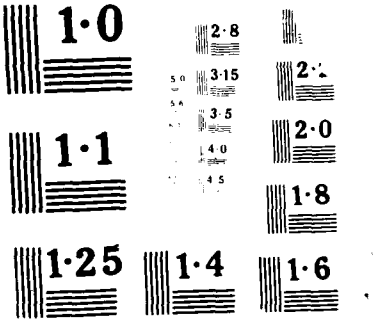


Figure 3-8: Topographic Units -- Marshville Cluster 3

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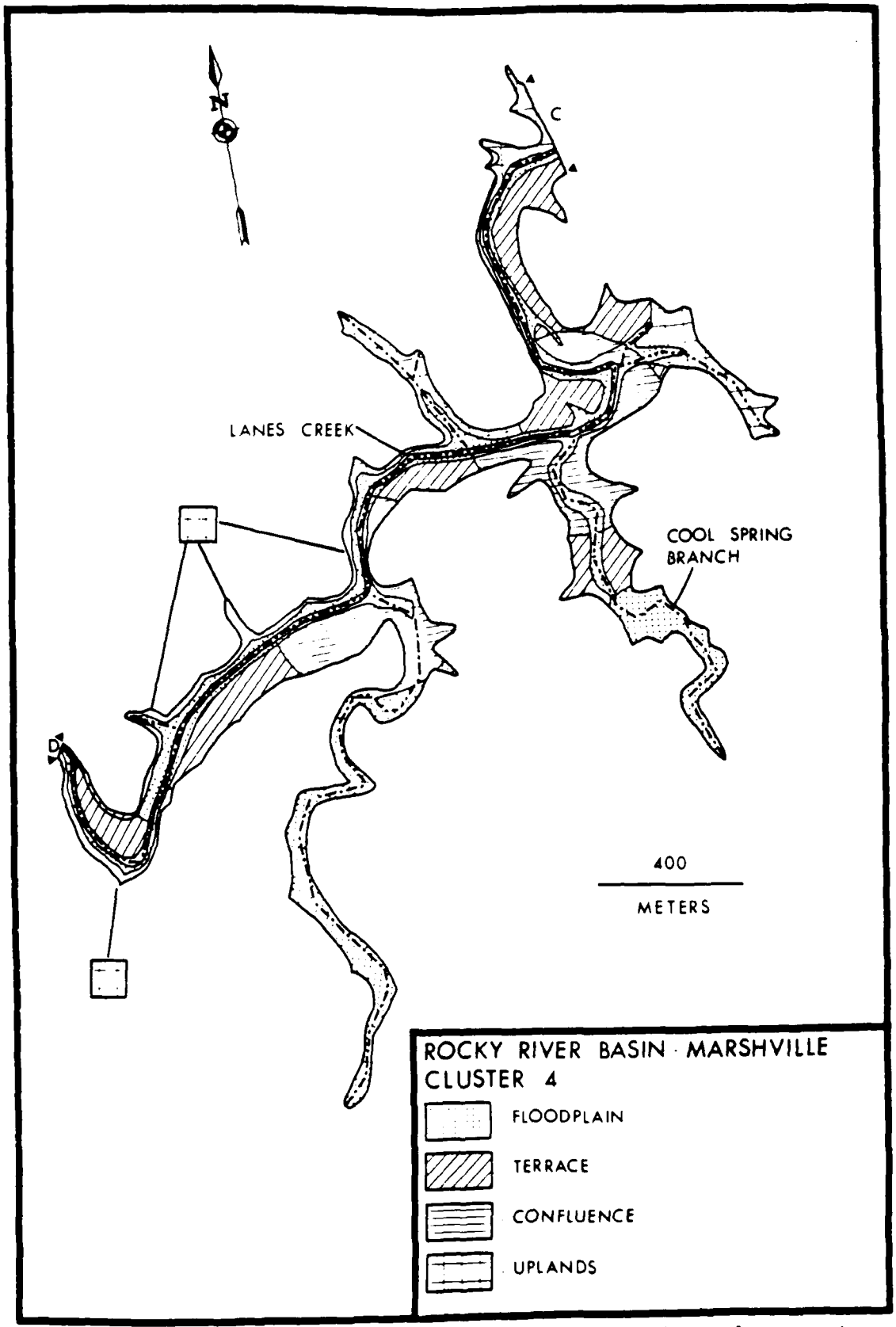


Figure 3-9: Topographic Units -- Marshville Cluster 4

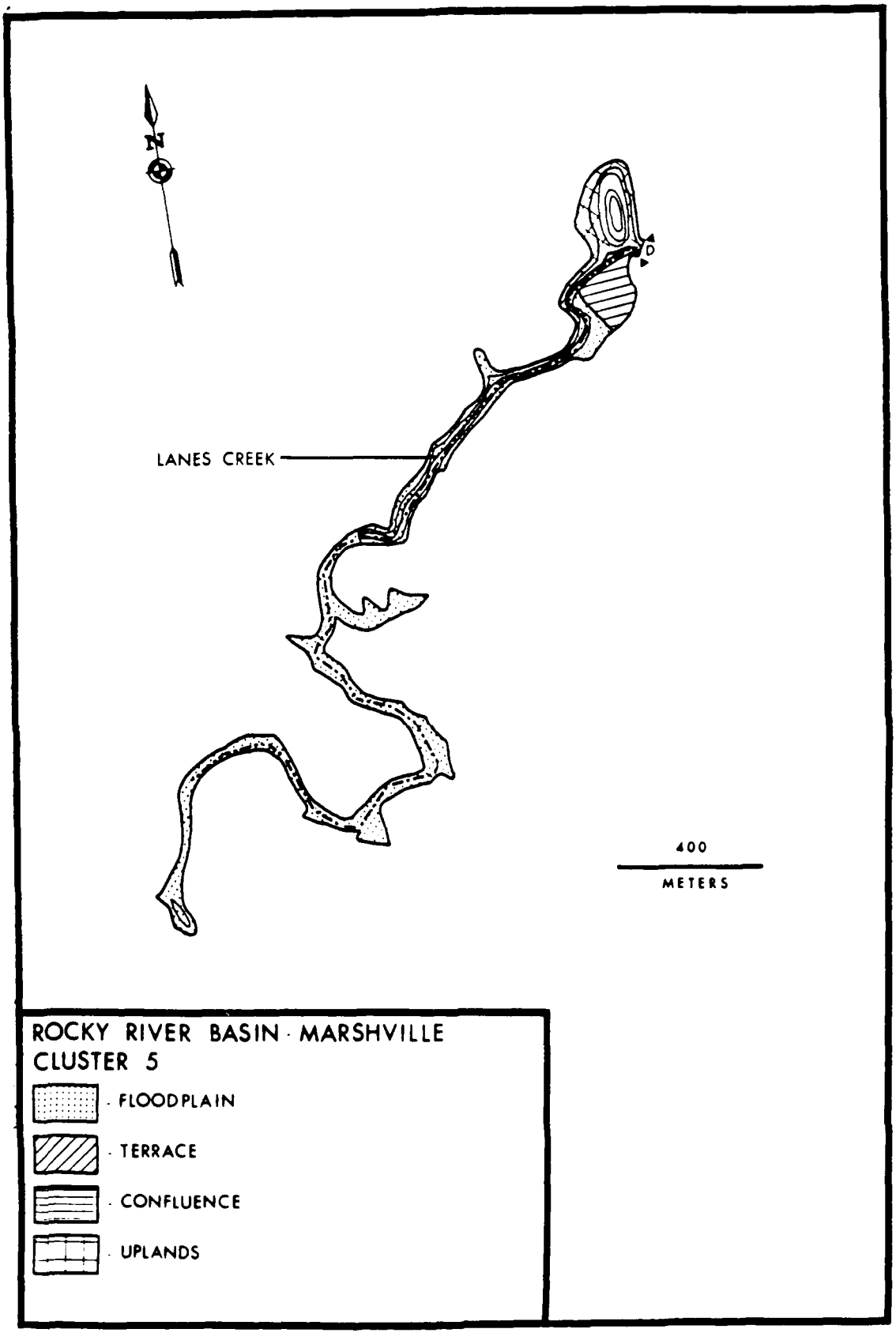


Figure 3-10: Topographic Units -- Marshville Cluster 5

Because of the variable topography of the North Carolina Piedmont, the strata (floodplains, terraces, confluences, and uplands) within the individual clusters were patchy in their occurrence. Therefore, these areas were sampled in units of varying shapes. The area of the sample unit, one hectare, remained constant for as many whole sample units as possible within a stratum. In those cases where the area of a certain stratum yielded fractions of sample units, these fractional areas were counted as whole units for statistical purposes. Despite the occurrence of some fractional sample units within certain strata, care was maintained to insure that at least 20% of the total area of each stratum in each cluster was sampled. One exception to this was discovered within the terraces of Cluster 3 at Marshville. An error in the random selection process caused only 16.51% of the stratum to be surveyed; however, 21.65% of the entire cluster was surveyed to maintain the sampling strategy (Table 3.1). In the event that a sample unit of less than one hectare was chosen, an additional hectare unit was randomly selected to maintain the sample fraction.

The Sample Fraction

The total number of surveyable hectares within the two project areas was equal to 1091.73 hectares. This total was broken down into the following components:

A. Lambert, Superstratum I (371.22 ha)
   Cluster 1- 153.43 ha = 41.33%
   Cluster 2- 106.27 ha = 28.63%
   Cluster 3- 111.52 ha = 30.04%

B. Lambert, Superstratum II (80.97 ha)

C. Marshville, Superstratum I (558.57 ha)

   Cluster 1- 110.91 ha = 19.86%
   Cluster 2- 208.22 ha = 37.28%
   Cluster 3- 149.76 ha = 26.81%
   Cluster 4- 71.68 ha = 12.83%
   Cluster 5- 18.00 ha = 3.22%

D. Marshville, Superstratum II (80.97)

At least 20% was sampled from each cluster in the Superstrata I of both study areas. The percentage of hectares sampled from each cluster was weighted according to the percentage of area encompassed within each cluster (Table 3.1).

From the information given above, the following area was sampled within each cluster:

A. Lambert Superstratum I -- (88.34 hectares total)
   1. Cluster #1 -- 36.60 hectares = 41.43%

2. Cluster #2 --	25.75 hectares	=	29.15%
3. Cluster #3 --	25.99 hectares	=	29.42%
Total	88.34 hectares	=	100.00%

B. Marshville Superstratum I -- (124.03 hectares total)

1. Cluster #1 --	24.88 hectares	=	20.06%
2. Cluster #2 --	43.75 hectares	=	35.27%
3. Cluster #3 --	32.43 hectares	=	26.15%
4. Cluster #4 --	17.97 hectares	=	14.49%
5. Cluster #5 --	5.00 hectares	=	4.03%
Total	124.03 hectares	=	100.00%

The data collected as a result of the sampling design were subjected to statistical analysis similar to that discussed by Woodall et al. (1977) and Abbott et al. (1986). The details of this analysis have been incorporated into Chapter 6 of this document.

Survey Methods

Rights of entry and permission to perform subsurface testing were acquired from private landowners before initiating work in any area. The randomly selected units within the impoundment areas and the 161.94 hectares containing the dam sites were examined by pedestrian survey. Swamps in the project area were inspected for elevations of land, hammocks, terraces, etc. that may have been utilized culturally in the past. Under normal conditions (i.e. no standing water) selected areas were surveyed along one or more transects with a crew of two to four persons advancing abreast at 30-70m intervals dependant on the level of intensity. Areas selected for survey were located in the field using compass bearings from known points on a USGS topographic map. Distances to the survey units were computed along these headings and paced off in the field. Once in a selected unit the ground surface was visually inspected for signs of cultural activity in places where visibility was estimated greater than 60% and ground slope was less than about 15%. Where surface visibility was more restricted .5m shovel tests were made at 30-40m intervals along the transect except in areas of standing water, gullied areas, or other sectors disturbed by severe erosion and/or recent construction. In these situations the test pits were more widely spaced, up to 70m apart. Each .5m shovel test was dug to a depth sufficient to expose the sub-humus soil, and all soil was screened through .25" mesh. Profiles and floors of each test were troweled and inspected for stratigraphy and features. The rates of coverage for each cluster were recorded for Superstratum I of both survey areas (Table 3.2).

Those sites discovered by shovel tests in areas with surface visibility less than 60% were assessed using additional .5m test squares. Site boundaries were determined by shovel tests which extended along transects approximating the cardinal axes of the land. Subsurface tests were made to a point 30-40m beyond the placement of the last subsurface test which revealed artifacts,

and the boundaries were marked with red pin flags to facilitate mapping and areal measurements.

In certain areas, particularly floodplains and other settings suggestive of complex stratigraphic conditions, a 3" bucket auger was used to augment the test pits. At least one auger test was made at 40m intervals in the above areas, and was extended to the maximum depths allowed by the water table, bedrock or the auger itself (2.15m). Each stratigraphic change was recorded in terms of soil color (using the Munsell color code), texture, compaction, presence/absence of cultural material, and depths of horizons. Auger tests were not made on the sides of slopes or in wet, swampy areas.

No previously recorded sites were found within the project areas. Sites located by the survey party were systematically collected using one or more methods dependant on the size of the site and the degree of surface visibility. Site boundaries were determined either by the use of red pin flags to mark the location of individual artifacts on the surface or by .5m test pits to track the subsurface dispersal of material. Those sites with greater than 60% surface visibility then were collected using point plots of individual artifacts, wherein the exact location of each specimen was recorded in terms of distance and azimuth from a known point. Some larger sites, greater than 225m sq. in area, were collected by either of two methods. One involved the use of a grid of 10m or 15m squares set across the site, with a subsequent 100% collection of each recorded grid square. A second used the point plot method which established the precise provenience of each specimen. This approach was also a 100% collection strategy. A datum was established and a sketch map made for each recorded site, and the following information was collected: soil type(s); distances to local resources, especially water; cultural affiliation; stratigraphic condition; state of preservation; areal extent; elevation; slope; exposure; UTM coordinates; and presence of, or condition of features. At least one .5m x .75m test pit was excavated in those sites producing more than 10 artifacts on the surface. Those pits were dug and evaluated in the same manner as the .5m shovel tests. Photographs were made of pits that revealed any stratigraphic information of cultural or geomorphic nature pertinent to the survey objectives.

All sites were evaluated according to presently recognized regional research goals and the guidelines established by the National Register of Historic Places (36CFR60.4). The significance of the archeological sites was assessed within the context of the several "problem domains" listed in Appendix D and the specific research objectives described and discussed in the appropriate chapter of this report.

The project-specific significance criteria were devised prior to the field work and were intended to guide our preliminary field evaluations (and thus our site testing efforts) of

individual sites. (These guidelines do not necessarily apply to groups of sites which individually may be relatively undistinguished but which, as a group, might warrant National Register status as a thematic unit or as an historic district.) In the field, sites considered potentially significant were tested to obtain the level of information required by 36CFR63. Testing methods consisted of at least one 1m x 1m test pit excavated into sterile soil. (None of such test pits dug as part of this project revealed any subsurface features, middens, or culturally derived stratigraphy.) Standing structures considered older than 50 years were recorded, photographed and mapped. All data generated by the survey were returned to the Archeology Laboratories of Wake Forest University for analysis and temporary curation. Current North Carolina state site forms were completed following the guidelines set forth by the North Carolina Division of Archives and History.

Table 3.1a: Superstratum I -- Lambert
Area Surveyed

Cluster	*Stratum	Num. Units	# Hectares Represented	% of Cluster	# Units Selected	Hectares Surveyed	% Samp.
1	1	12	11.79	7.68	3	3.00	25.44
1	2	22	21.27	13.86	5	5.00	23.50
1	3	11	8.37	5.46	4	2.60	31.06
1	4	116	112.00	73.00	26	26.00	23.21
Totals		161	153.43	100.00	38	36.60	23.85
2	1	14	13.76	12.95	4	3.75	27.25
2	2	19	18.12	17.05	4	4.00	22.06
2	3	10	9.28	8.73	4	4.00	43.10
2	4	69	65.11	61.27	14	14.00	21.50
Totals		112	106.27	100.00	26	25.75	24.23
3	1	30	29.27	26.25	6	6.00	20.50
3	2	45	42.02	37.67	10	9.16	21.80
3	3	11	9.80	8.79	4	3.83	39.08
3	4	35	30.43	27.29	7	7.00	23.00
Totals		121	111.52	100.00	27	25.99	23.31

* Stratum: 1 confluence, 2 floodplain, 3 terrace, & 4 upland

Table 3.1b: Superstratum I -- Marshville Area Surveyed

Cluster	*Stratum	Num. Units	# Hectares Represented	% of Cluster	# Units Selected	Hectares Surveyed	% Samp.
1	1	0	0.00	0.00	0	0.00	0.00
1	2	38	37.64	33.94	8	8.00	21.25
1	3	37	35.77	32.25	9	8.88	24.83
1	4	39	37.50	33.81	8	8.00	21.33
Totals		114	110.91	100.00	25	24.88	22.43
2	1	0	0.00	0.00	0	0.00	0.00
2	2	34	33.16	15.93	7	7.00	21.11
2	3	27	24.50	11.77	7	6.19	25.27
2	4	150	150.56	72.30	31	30.56	20.30
Totals		211	208.22	100.00	45	43.75	21.01
3	1	9	8.21	5.48	2	2.00	24.36
3	2	30	29.70	19.83	6	6.00	20.20
3	3	48	42.40	28.31	7	7.00	16.51
3	4	76	6 .45	46.38	18	17.43	25.10
Totals		163	149.76	100.00	33	32.43	21.65
4	1	20	19.53	27.25	5	4.88	24.99
4	2	24	22.65	31.60	5	5.00	22.08
4	3	23	18.26	25.47	6	5.09	27.88
4	4	14	11.24	15.68	3	3.00	26.69
Totals		81	71.68	100.00	19	17.97	25.07
5	1	0	0.00	0.00	0	0.00	0.00
5	2	14	14.00	77.78	3	3.00	21.43
5	3	2	2.00	11.11	1	1.00	50.00
5	4	2	2.00	11.11	1	1.00	50.00
Totals		18	18.00	100.00	5	5.00	27.78

* Stratum: 1 confluence, 2 floodplain, 3 terrace, & 4 uplands

Table 3.2a: Superstratum I -- Lambert
Rate of Coverage

Cluster	*Stratum	Subsurf. Test./ha.	Disturb. ha.	Too Steep/ha.	Low, Wet/ha.	60% Vis./ha.
1	1	1.80	0.00	1.05	.15	0.00
1	2	3.58	.88	0.00	.54	0.00
1	3	1.77	.29	0.00	0.00	.54
1	4	3.93	2.37	16.99	.98	1.73
Totals		11.08	3.54	18.04	1.67	2.27
2	1	1.06	0.00	.93	.24	1.52
2	2	.02	2.85	.49	.64	0.00
2	3	.41	1.59	.71	0.00	1.29
2	4	2.15	0.00	6.89	.46	4.50
Totals		3.64	4.44	9.02	1.34	7.31
3	1	.15	2.88	2.14	.34	.49
3	2	3.11	2.00	.05	1.00	3.00
3	3	.72	0.00	0.00	.23	2.88
3	4	1.02	.42	3.80	.31	1.45
Totals		5.00	5.30	5.99	1.88	7.82

* Stratum: 1 confluence, 2 floodplain, 3 terrace, & 4 upland

Table 3.2b: Superstratum I -- Marshville
Rate of Coverage

Cluster	*Stratum	Subsurf. Test./ha.	Disturb. ha.	Too Steep/ha.	Low, Wet/ha.	60% Vis./ha.
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.78	.24	.59	4.39	0.00
1	3	5.20	.44	.10	2.95	.19
1	4	3.00	0.00	4.61	.39	0.00
Totals		10.98	.68	5.30	7.73	.19
2	1	0.00	0.00	0.00	0.00	0.00
2	2	3.37	.29	.39	2.95	0.00
2	3	5.34	0.00	0.00	.85	0.00
2	4	13.00	.34	9.71	4.10	3.41
Totals		21.71	.63	10.10	7.90	3.41
3	1	1.10	.90	0.00	0.00	0.00
3	2	0.00	1.66	1.51	2.83	0.00
3	3	3.56	0.00	.29	.15	3.00
3	4	2.93	2.23	4.04	8.13	.10
Totals		7.59	4.79	5.84	11.11	3.10
4	1	1.27	0.00	.29	1.71	1.61
4	2	.05	0.00	3.22	1.73	0.00
4	3	1.72	0.00	.29	0.00	3.08
4	4	1.43	.39	.98	.20	0.00
Totals		4.47	.39	4.78	3.64	4.69
5	1	0.00	0.00	0.00	0.00	0.00
5	2	0.00	0.00	0.00	3.00	0.00
5	3	.24	0.00	0.00	0.00	.76
5	4	0.00	0.00	0.00	1.00	0.00
Totals		.24	0.00	0.00	4.00	.76

* Stratum: 1 confluence, 2 floodplain, 3 terrace, & 4 upland

CHAPTER 4: PREHISTORIC SITE DESCRIPTIONS

A total of 71 sites was recorded as a result of this project. Sixty-five percent, 47, of these produced prehistoric artifacts, all open sites. Forty-one of the prehistoric sites yielded only lithics, while six contained lithic and ceramic specimens.

Twenty-three of the total number of prehistoric sites recorded were located within the Lambert impoundment area. Only one of these sites, 31St67 (AL16), produced both lithic and ceramic specimens; the balance contained only lithics. The remaining twenty-four sites were located within the Marshville impoundment area. Five of these, 31Un59 (AL26), 31Un63 (AL30), 31UN72 (AL41), 31Un82 (AL45), and 31Un92 (AL68), produced both lithic and ceramic specimens, while the remaining 19 sites yielded only lithics.

The various prehistoric cultural resources recorded by the survey are described in this section of the report. These descriptions provide a brief summary of the sites located, a statement of project impact, and an inventory of artifacts recovered. A more detailed discussion of certain individual sites and artifacts is presented within the analyses and summary section of this report. The artifact inventories are listed according to the provenience of the specimens and the proveniences used consisted of the following categories:

A. Excavation Unit: A subsurface testpit of varying dimensions, usually either .5 x .5m, .5 x .75m or 1 x 1m.

B. Field Specimen Number: Provenience within an excavation unit, usually a 5, 10, or 15cm level. The designation 5-2 would mean Excavation Unit 5, Field Specimen 2.

C. General Surface Collection: A non-systematic collection from the ground surface of a site.

D. General Range Collection Unit: A controlled, systematic collection unit e.g. 10m or 15m square.

E. Dogleash: A circular unit measuring 4m in diameter within which all artifacts on the surface within the unit were collected.

F. Point Plot: A controlled, systematic collection procedure by which the azimuth and distance to each individual artifact is measured from a known or established point in the field. The exact location of each artifact is then plotted graphically to show its position relative to other artifacts on the site. These artifacts would be numbered in sequence.

Finally, for areas with both historic and prehistoric components different site numbers have been assigned and discussed within the appropriate chapters of this report.

Lambert Reservoir Area

31St67
Archeology Laboratories Site: AL16

31St67 is located within a plowed field on a terrace formed by alluvium from Little and Big Bear Creeks. The site extends northwest to southeast along the terrace and adjacent floodplain at the base of two hills. The core area of the site is located along the riverine edge of the terrace.

Prehistoric lithics, ceramics, and historic ceramics were recovered from the ground surface. The artifacts were marked and point plotted. A total of seven .5 x .5m testpits were dug in areas of artifact concentration to test for the presence of subsurface features. No midden, subsurface features, or complex culturally-derived stratigraphy were encountered as a result of these efforts.

The site contained no fire-cracked rock and few ceramics which suggests that 31St67 functioned as a short-term habitation site occupied during the Early Archaic and the Woodland periods. The historic ceramics were deposited less than 50 years ago.

The site has been plowed each year for an estimated 85 years, and moderate sheet erosion has washed some cultural debris into the floodplain. Subsequent auger tests on the floodplain revealed the water table within 1 m of the ground surface. Should the Lambert reservoir be constructed, 31St67 will be impacted by the floodpool and the physical construction of the dam.

The state of preservation and lack of any evidence of intact subsurface cultural phenomena at 31St67 preclude its inclusion on the National Register of Historic Places. No further work is recommend.

Soil Type: Chewacla silt loam
Distance to Water: 46m
Cultural Affiliation: Early Archaic, Middle Woodland, Late Woodland, historic.
State of Preservation: An estimated 1-25% of the site has been destroyed due to sheet erosion, cultivation and excavation for assessment purposes. The balance has been altered as a result of recent flooding, cultivation and private collectors.
Areal Extent: N-S 370m; E-W 111m
Exposure: Southwest
Elevation: 440ft AMSL
Slope: 8%

Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 1 Core: exhausted
- 8 Decortication flakes
- 91 Thinning flakes
- 15 Retouch flakes
- 3 Blades
- 85 Spalls
- 3 Utilized thinning flakes
- 1 Preform, aborted (broken)
- 1 Retouched secondary flake
- 3 Retouched thinning flakes
- 9 Projectile points
  - 1 Pee Dee pentagonal
  - 3 Caraway triangular
  - 1 Nondescript triangular
  - 1 Nondescript base
  - 2 Kirk
  - 1 Randolph
- 1 Bifacial drill
- 2 Nondescript bifaces
- 68 Nondescript pieces, broken flakes

Prehistoric Ceramics:
- 5 Sherds: net-impressed
- 1 Sherd: cord-marked
- 1 Sherd: eroded
- 2 Sherds: nondescript

Historic Ceramics:
- 2 Sherds: earthenware, undecorated whiteware
- 2 Sherds: stoneware, salt-glazed

Total: 305

Excavation Unit 1, Field Specimen 1
- 1 Nondescript piece, broken flake

Total: 1

Excavation Unit 2, Field Specimen 1
- 1 Retouch flake
- 1 Thinning flake
- 2 Nondescript pieces, broken flakes

Total: 4

Excavation Unit 3, Field Specimen 1
- 1 Thinning flake

Total: 1

Excavation Unit 6, Field Specimen 1
- 1 Decortication flake
- 4 Spalls

1 Nondescript piece, broken flake
Total: 6

Total Artifacts: 318

31St68
Archeology Laboratories Site: AL21

31St68 is located in a plowed field on a hilltop and adjacent ridgetoe overlooking Big Bear Creek. The site extends in a teardrop shape southwest from the hilltop down the slope of the ridgetoe and adjacent slopes toward Big Bear Creek. No subsurface testpits were deemed necessary due to 100% surface visibility. The small number of artifacts recovered were marked and point plotted.

One possible preform resembling a Morrow Mountain projectile point abort was recovered, but a phase designation based solely on one incomplete artifact is tenuous. Of the other artifacts collected, 6 utilized and retouched flakes were present along with an exhausted core. This suggests that 31St68 may have functioned as a special-activity site possibly during the Middle Archaic.

The site has been cultivated extensively resulting in moderate erosion. Should the Lambert reservoir be constructed, 31St68 will be impacted by the floodpool and the physical construction of the dam.

The state of preservation, superficial nature, and lack of any firm diagnostic designation at 31St68 do not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 215m
Cultural Affiliation: Possibly Middle Archaic
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 26-50% of the site has been destroyed due to moderate erosion and cultivation. The balance remains as a surface scatter.
Areal Extent: N-S 180m; E-W 100m
Exposure: Southwest
Elevation: 550ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Core, exhausted secondary
2 Thinning flakes

6 Utilized flakes
1 Preform, aborted (broken) possible Morrow Mtn I point
1 Retouched spall
1 Biface, nondescript tool, probably aborted, lateral snap
1 Nondescript piece, broken flake

Total Artifacts: 13

31St69
Archeology Laboratories Site: AL22

31St69 is located at the base of a ridgetoe on a terrace overlooking the confluence of Big Bear Creek and an unnamed drainage. The area surrounding the site is presently a cow pasture.

Seven .5m x .5m testpits were dug to determine site boundaries. These pits revealed a brown sandy clayey loam over a mottled light brownish gray, clayey loam over a yellow mottled clay. Quartz and felsite debris were recovered between 5-15cm below surface within two of these testpits. No midden, subsurface features or complex, culturally derived stratigraphy were encountered.

31St69 lies in recent alluvium in an area that receives periodic overflow from Big Bear Creek and an adjacent feeder stream. These factors, in addition to the small number of artifacts present at the site (four), suggest that the artifacts may have been redeposited.

The disturbed nature of 31St69 prohibits its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Chewacla silt loam
Distance to Water: 28m
Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited.
Areal Extent: N-S 15m; E-W 5m
Exposure: Southwest
Elevation: 450ft AMSL
Slope: 8%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 3, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 4, Field Specimen 1
2 Thinning flakes

1 Retouched spall
Total: 3

Total Artifacts: 4

31St70
Archeology Laboratories Site AL23

31St70 is located on a terraced area at the confluence of an unnamed feeder creek and Big Bear Creek within a conifer forest. The terrace is covered with soils recently deposited by washing from the ridgetoe to the west and/or deposited by the feeder creek lying to the southwest.

Because no surface visibility was available, eight .5m x .5m testpits were dug to determine site boundaries. These tests revealed a reddish brown loamy clay over red clay, and felsite retouched flakes and debris were recovered. No midden, subsurface features or complex, culturally derived stratigraphy were encountered as a result of these pits. Because the artifacts occur in recent deposits, in a location frequently flooded, it is likely that they have been redeposited.

The lack of diagnostics, the low density of artifacts and the recent alluvial conditions at 31St70 do not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil type: Chewacla silt loam
Distance to Water: 31m
Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: In recent alluvium
Areal Extent: N-S 4.2m; E-W 3.5m
Exposure: East
Elevation: 440ft AMSL
Slope: 13%
Condition of features: None noted

Artifacts Collected:

Excavation Unit 2, Field Specimen 1
2 Thinning flakes, heavily weathered
Total: 2

Excavation Unit 3, Field Specimen 1
1 Retouched secondary flake
Total: 1

Excavation Unit 7, Field Specimen 1
1 Retouched flake, broken
Total: 1

Total Artifacts: 4

31St73
Archeology Laboratories Site AL58

This site is located on a ridgetoe overlooking the confluence of two unnamed drainages and Big Bear Creek within a modern cow pasture. The soil has been severely eroded and surface visibility was very limited. As a result, 20 .5m x .5m testpits were excavated to determine site boundaries with eight recovering artifacts. One artifact was found on the surface and was plotted in relation to the testpits. These subsurface tests revealed a reddish brown clay over orange hardpacked clay.

Artifacts were limited to the reddish brown clay and consisted of one projectile point and several unmodified flakes. This, in combination with the lack of fire-cracked rock, would suggest a short-term hunting camp or perhaps a kill site.

This site will be partially covered by the floodpool and will erode as a result of wave action should the Lambert reservoir be constructed.

The stratigraphic condition and lack of any intact subsurface cultural phenomena preclude the inclusion of 31St73 on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 108m
Cultural Affiliation: Middle Archaic (Morrow Mountain)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 10-20% of the site has been destroyed by erosion.
Areal Extent: N-S 69m; E-W 154m
Exposure: North
Elevation: 505ft AMSL
Slope: 5%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 2, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 4, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 5, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 6, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 9, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 15, Field Specimen 1
1 Projectile point, Morrow Mountain I (Fig. 8.1p)
Total: 1

Excavation Unit 19, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 20, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Total Artifacts: 8

31St74
Archeology Laboratories Site AL73

This site is located on a ridgetoe near the confluence of Big Bear and Little creeks in a modern corn field where the soil has been moderately eroded. Aerial photographs for the recent Stanly County soil survey show two buildings standing in this area in 1978 which may have produced additional disturbances. The core area of the site is on the top of the ridgetoe before its ascension to the adjacent ridge crest. Prehistoric lithics on the ground surface were flagged and point-plotted. One .5m x .75m testpit was dug in the core area of the site to check for subsurface features, midden and/or culturally derived stratigraphy, but none were observed.

The site contained neither fire-cracked rock nor ceramics. Only two diagnostic specimens were recovered, both Kirk projectile points. The absence of fire-cracked rock would suggest a short-term habitation site rather than a base camp, despite the large number of artifacts recovered. The majority of the specimens (69% were unmodified flakes) suggest that secondary and biface reduction were the main activities, possibly including butchering as a minor activity.

The state of preservation at 31St74 precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil type: Tatum channery silt loam
Distance to water: 92m
Cultural affiliation: Early Archaic
Stratigraphic condition: Eroded upland
State of preservation: There is no depth left in this site as a result of erosion. No artifacts present in the testpit.
Areal extent: NW-SE 154m, NE-SW 92m
Exposure: Southeast
Elevation: 470ft AMSL
Slope: 6%
Conditions of features: None noted

Artifacts Collected:

Point Plot:

2	Cores, exhausted
1	Primary flake
5	Decortification flakes
3	Secondary flakes
142	Thinning flakes
3	Retouch flakes
1	Blade
106	Spalls
9	Utilized flakes
1	Preform, aborted (broken)
2	Projectile points, Kirk (Fig. 8.2dd)
3	Projectile point fragments, unidentified (Fig. 8.2cc)
2	Bifaces, "wedge-like" tools
93	Nondescript pieces, broken flakes

Total Artifacts: 373

31St75
Archeology Laboratories Site AL74

31St75 is located on a small ridgetoe oriented east-west near Big Bear Creek. When discovered the area had been planted in soybeans and cultivation had induced some erosion, moving artifacts down the ridgetoe into an area of recent alluvium at the base of the slope.

The site contained scattered areas of surface visibility, with testing required in other portions. Thirteen .5m x .5m testpits were dug to determine the site's boundaries, four of which contained artifacts. Those testpits were located in the area of alluvium showing a soil profile of loose sandy brown loam overlying hardpacked light brown sandy clay mottled with hematite. With the exception of one blank and one utilized flake, all the specimens were felsite debitage. No midden,

subsurface features, or culturally derived stratigraphy were encountered in any of the tests.

The stratigraphic context and lack of evidence for intact subsurface cultural phenomena at 31St75 preclude its inclusion on the National Register of Historic Places. No further work is recommended.

Soil type: Tatum channery silt loam
Distance to water: 46m
Cultural affiliation: No diagnostic artifacts recovered.
Stratigraphic condition: Eroded upland
State of preservation: Moderate sheet erosion has destroyed an estimated 1-20% of the site.
Areal extent: NW-SE 123m; NE-SW 46m
Exposure: Northeast
Elevation: 45[illegible]t AMSL
Slope: 5%
Condition of features: None noted

Artifacts Collected:

Point Plot:
1 Decortication flake
48 Thinning flakes
1 Retouch flake
1 Blade
29 Spalls
1 Blank, aborted (broken)
33 Nondescript pieces, broken flakes
Total: 114

Excavation Unit 1, Field Specimen 1
4 Thinning flakes
1 Spall
Total: 5

Excavation Unit 2, Field Specimen 1
1 Thinning flake
1 Utilized flake
Total: 2

Excavation Unit 3, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 9, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Total Artifacts: 124

31St76
Archeology Laboratories Site AL 77

This site is located on a terrace at the base of a ridgetoe on the east side of the confluence of Big Bear and Little creeks. The terrace contains some recent alluvium deposited by Little Creek, and at the time of survey was planted in dense grass for pasture. The site had no surface visibility so .5m x .5m testpits and auger tests were used to test for buried soil horizons or cultural stratigraphy. (The site was found initially by an auger test placed in the bottom of a test pit.) Six testpits were dug, two of which contained artifacts, but no midden, features or cultural stratigraphy was discovered. These tests indicated that the artifacts have probably been downwashed and redeposited.

The stratigraphic condition and state of preservation at 31St76 indicate little research potential remains for this site. These conditions preclude its inclusion on the National Register of Historic Places. No further work is recommended.

Soil type: Chewacla silt loam
Distance to water: 12m
Cultural Affiliation: Unknown
Stratigraphic condition: None, artifacts are in recent alluvium.
State of preservation: Poor, site is redeposited.
Areal extent: NE-SW 15m; NW-SE 7m
Exposure: Northwest
Elevation: 338ft AMSL
Slope: 4%
Condition of features: None noted

Artifacts Collected:

Excavation Unit 4, Field Specimen 1
1 Projectile point, stemmed Early Woodland variant
Total: 1

Excavation Unit 5, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 2

31St77
Archeology Laboratories Site AL78

This site is located at the base of a ridgetoe north of the confluence of Big Bear and Little creeks in a modern pasture. Because of low visibility, .5m x .5m testpits were used to establish site boundaries, with auger tests to check for possible buried soil horizons and/or culturally derived stratigraphy.

Artifacts were recovered in recent alluvium deposited by Little Creek, which here extends to at least 2m below surface. It is possible that the site has been redeposited or at least disturbed by slow water action in this elevated portion of the floodplain, because artifacts were found at variable depths in the alluvium.

The stratigraphic condition and state of preservation at 31St77 indicate little research potential. These conditions preclude inclusion of this site on the National Register of Historic Places. No further work is recommended.

Soil type: Chewacla silt loam
Distance to water: 8m
Cultural affiliation: Unknown, site disturbed
Stratigraphic condition: Undifferentiated alluvium
State of preservation: Poor, site likely redeposited
Areal extent: NE-SW 185m, NW-SE 46m
Exposure: Southwest
Elevation: 432ft AMSL
Slope: 3%
Condition of features: None present

Artifacts Collected:

General Range Collection
1 Retouch flake
Total: 1

Excavation Unit 2, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 7, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 8, Field Specimen 1
1 Decortication flake
3 Thinning flakes
1 Spall
1 Nondescript piece, broken flake
Total: 6

Excavation Unit 10, Field Specimen 1
1 Decortication flake
1 Thinning flake
1 Retouch flake
Total: 3

Excavation Unit 13, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 14, Field Specimen 1
1 Thinning flake
2 Spalls
Total: 3

Excavation Unit 15, Field Specimen 1
1 Spall
Total: 1

Total Artifacts: 20

31St78
Archeology Larboratories Site: AL79

31St78 is located on a ridgetoe to the north of the confluence of Big Bear and Little creeks. The area is presently in mixed hardwood forest and has experienced little erosion.

Areas of visibility around the base of trees were inspected for artifacts while other areas were tested with 12 testpits. These subsurface tests revealed a yellow-brown clay loam overlying a mottled yellow-brown sandy clay. Artifacts were located in five testpits within the yellow-brown clay loam. One artifact was located on the surface.

One Woodland projectile point tip and one chipped axe were the only tools recovered from this site. All the other artifacts were unmodified flakes. This site appears to be the remnant of a small ephemeral camp where undetermined specific activities were performed. The types of tools found would suggest a Woodland occupation.

Because of its elevation this site will be entirely covered by the floodpool if the Lambert reservoir is constructed,.

The low density of artifacts and lack of documented subsurface cultural phenomena preclude the inclusion of 31St78 on the National Register of Historic Places. No further work is recommended.

Soil type: Tatum channery silt loam
Distance to Water: 46m
Cultural Affiliation: Woodland
Stratigraphic Condition: Slightly eroded upland
State of Preservation: An estimated 5-10% of the site has been impacted by erosion and root disturbance.
Areal Extent: N-S 92m; E-W 31m
Exposure: South
Elevation: 470ft AMSL
Slope: 7%
Condition of features: None noted

Artifacts Collected:

Point Plot:
1 Chipped axe

Excavation Unit 1, Field Specimen 1
1 Decortication flake
2 Thinning flakes
4 Spalls
3 Nondescript pieces, broken flakes
Total: 10

Excavation Unit 2, Field Specimen 1
2 Thinning flakes
2 Spalls
1 Projectile point tip, Woodland
Total: 5

Excavation Unit 7, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 8, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 11, Field Specimen 1
1 Spall
Total: 1

Total Artifacts: 19

31St79
Archeology Laboratories Site: AL83

31St79 is located at the base of a ridgetoe in a corn field which has experienced heavy sheet erosion as a result of cultivation. All artifacts were located in an arc around the base of the ridgetoe suggesting redeposition from higher elevations, also a result of sheet erosion. This was further indicated by the eroded red-orange clay visible on the ground surface.

Artifacts on the surface were flagged and point plotted before collection. As a result of low artifact density and the eroded nature of the site, no subsurface tests were deemed necessary.

The stratigraphic condition and state of preservation of 31St79 provide little research potential. These conditions do not suggest that the site is eligible for inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 77m
Cultural Affiliation: No diagnostics were recovered.
Stratigraphic Condition: Recent colluvium.
State of Preservation: Site is redeposited.
Areal Extent: NW-SE 93m; NE-SW 15m
Exposure: Southwest
Elevation: 455ft AMSL
Slope: 10%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Decortication flake
2 Spalls
1 Utilized flake
2 Nondescript pieces, broken flakes
Total: 6

Total Artifacts: 6

31St80
Archeology Laboratories Site: AL84

31St80 is located on a terraced area at the base of a ridgetoe at the confluence of an unnamed drainage and Big Bear Creek. The terrace at one time was probably a pasture which has now become overgrown.

Because there was no surface visibility, the site and its dimensions were found by subsurface testing. Nine testpits were excavated, three of which contained artifacts. These subsurface tests showed the soil profile to be a dark yellowish brown sandy clay which extended to 15-25cm over a reddish orange silty clay. Artifacts were located in the dark yellowish brown sandy clay, which is recent alluvium. According to the soil maps for Stanly County, this site is located in an area which experiences frequent flooding.

The location, context, and low artifact density of the site would suggest that it has been redeposited as a result of wash from the unnamed drainage or from the ridgetoe above. One result of this situation is that 31St80 may be a portion of 31St82 situated on the ridgetoe above.

The stratigraphic condition and state of preservation of 31St80 provide little research potential. These conditions do not suggest that the site is eligible for inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Oakboro silt loam

Distance to Water: 40m
Cultural Affiliation: No diagnostics recovered.
Stratigraphic Condition: Recent alluvium
State of Preservation: This site is apparently redeposited.
Areal Extent: N-S 10m; E-W 3m
Exposure: East
Elevation: 460ft AMSL
Slope: 7%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 2, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 4, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 6, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Total Artifacts: 3

31St81
Archeology Laboratories Site: AL85

31St81 is located on a ridgetoe and has eroded onto a small terrace at the confluence of an unnamed drainage and Big Bear Creek. The site was in a fallow rye field at the time of survey. Most of the artifacts are located in an area below where the site probably originated, a result of cultivation and sheet erosion.

While the ridgetoe offered 60% visibility, only 25% was available on the terraced area below. Ten testpits were excavated in order to determine the site boundaries with five recovering artifacts. The testpits revealed a soil profile of yellow-brown sandy clay over a reddish brown sandy clay with heavy concentrations of rock. Artifacts were all located within the yellow-brown sandy clay. The site is slowly moving down the ridgetoe onto the adjacent terrace. All of the artifacts are now out of context, and the site integrity has been destroyed .

The stratigraphic condition and state of preservation at 31St81 indicate that little research potential remains. These conditions suggest that the site is not eligible for inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 62m

Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: Recent colluvium
State of Preservation: Site is in the process of being redeposited on the terrace below original location.
Areal Extent: NE-SW 184m; NW-SE 62m
Exposure: Southwest
Elevation: 475ft AMSL
Slope: 7%
Condition of features: None noted

Artifacts Collected:

Point Plot:
1 Thinning flake
1 Blade
1 Spall
2 Utilized flakes
1 Bifacial knife
1 Nondescript piece, broken flake
Total: 6

Excavation Unit 1, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 2, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 4, Field Specimen 1
2 Thinning flakes
Total: 2

Excavation Unit 5, Field Specimen 1
1 Retouch flake
Total: 1

Excavation Unit 8, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 12

31St82
Archeology Laboratories Site: AL86

31St82 is located on a ridgetoe in a cultivated field that had been planted in rye and corn at the time of survey. The available visibility in the corn field allowed artifacts to be marked and point plotted. The area of the rye field was also scanned for surface artifacts, but reduced visibility required subsurface testing. These tests revealed a soil profile of a deep brown silty sandy clay over orange-red sandy clay. None of

the three testpits excavated within the site recovered artifacts. Also, no midden, features, or culturally derived stratigraphy was located.

This site seems to be moderately eroded with all artifacts limited to the surface. Two projectile points, one Kirk and one Guilford , were recovered; all other artifacts were unmodified flakes.

If the Lambert reservoir should be built, the floodpool would partially cover this site and would probably affect it by erosion as a result of wave action and change in water levels.

The stratigraphic condition and lack of any documented subsurface cultural phenomena at 31St82 greatly limits its research potential and precludes its inclusion an the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 123m
Cultural Affiliation: Early Archaic (Kirk) and Middle Archaic (Guilford)
Stratigraphic Condition: Eroded upland
State of Preservation: The artifacts are limited to the surface.
Areal Extent: NW-SE 123m; NE-SW 108m
Exposure: Northeast
Elevation: 507ft AMSL
Slope: 5%
Condition of features: None noted

Artifacts collected:

Point Plot:
25 Thinning flakes
2 Retouch flakes
1 Blade
22 Spalls
2 Projectile points
1 Guilford
1 Kirk
11 Nondescript pieces, broken flakes
Total: 63

Total Artifacts: 63

31St83
Archeology Laboratories Site: AL87

31St83 is located in a small floodplain adjacent to an unnamed drainage of Big Bear Creek. The floodplain was once a pasture which has become overgrown.

As a result of low visibility, five testpits were excavated to locate the site and define its boundaries. These tests revealed a soil profile of a brown silty sandy loam over a light yellow-brown silty sand mottled with hematite. Three of the five testpits recovered artifacts between 0-25cm below surface in recent alluvium.

It should be noted that the site is located in an area of frequent flooding as indicated by the Stanly County soil survey. This would suggest that the site is the result of wash from the ridgetoe above and is a portion of 31St82.

The stratigraphic condition and state of preservation at 31St83 indicate that little reserach potential remains. These conditions suggest that 31St83 is not eligible for inclusion on the National Register of Historic Places and no further work is recommended.

Soil Type: Oakboro silt loam
Distance to Water: 6m
Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited
Areal Extent: NE-SW 20m; NW-SE 5m
Exposure: Southeast
Elevation: 460ft AMSL
Slope: 13%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 1, Field Specimen 1
5 Thinning flakes
3 Spalls
Total: 8

Excavation Unit 2, Field Specimen 1
2 Nondescript pieces, broken flakes
Total: 2

Excavation Unit 3, Field Specimen 1
1 Thinning flakes
2 Spalls
1 Nondescript piece, broken flake
Total: 4

Total Artifacts: 14

31St84
Archeology Laboratories Site: AL88

31St84 is located on the tip of a ridgetoe in a rye field. The site was defined by two artifacts which were located on the

surface. One testpit was excavated in the area because of scattered visibility, but no artifacts were recovered. The testpit revealed a dark reddish brown sandy clay mottled with hematite over a deep red sandy clay, suggesting the ridgetoe has experienced moderate erosion.

The stratigraphic condition and state of preservation of 31St84 suggest little research potential for this site. These conditions preclude its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 62m
Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: Eroded upland
State of Preservation: Poor; site context has been destroyed by sheet erosion.
Areal Extent: N-S 10m; E-W 3m
Exposure: Southeast
Elevation: 583ft AMSL
Slope: 7%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Thinning flake
1 Spall
Total: 2

Total Artifacts: 2

31St85
Archeology Laboratories Site: AL89

31St85 is located on the tip of a ridgetoe overlooking Big Bear Creek within a fallow rye field. The site was initially recognized by pedestrian survey and surface artifacts, but because of the limited visibility subsurface testing was required. These tests revealed a dark reddish brown sandy loam mottled with red clay over a dark red sandy clay.

Three of the four testpits excavated recovered artifacts within the dark reddish brown sandy loam. These artifacts probably originated further upslope. Little, if any, context is left as a result of sheet erosion.

The stratigraphic condition and state of preservation indicate that no context remains at 31St85. These factors suggest that the site is not eligible for inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam

Distance to Water: 40m
Cultural Affiliation: No diagnostic artifacts recovered.
Stratigraphic Condition: Eroded upland
State of Preservation: Site has probably eroded downslope from its original location.
Areal Extent: NE-SW 69m; NW-SE 38m
Exposure: Northeast
Elevation: 450ft AMSL
Slope: 13%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Thinning flake
1 Spall
1 Nondescript piece, broken flake
Total: 3

Excavation Unit 1, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 2, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 3, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Total Artifacts: 6

31St86
Archeology Laboratories Site: AL90

31St86 is located on a ridgetoe overlooking the confluence of Running and Big Bear creeks in a corn field which has been moderately eroded. The ridgetoe was visually inspected for artifacts and all artifacts found were marked and point plotted. Because of the low density of artifacts no subsurface tests were made.

The artifacts recovered from this site consist of unmodified flakes and one projectile point. This site is probably a single component bivouac, with the debitage resulting from tool maintenance. The lack of fire-cracked rock would indicate a very short-term occupation. All the surface artifacts were found on the ridgetoe itself with none eroding downslope or onto the terraced area below. This would suggest that the site has only been slightly to moderately affected by sheet erosion.

31St86 would be totally inundated by the floodpool of the Lambert reservoir. Also, the site's elevation would possibly make it susceptible to additional erosion resulting from changing floodpool levels.

The lack of intact subsurface cultural phenomena and low density of artifacts limit the research potential of 31St86 indicating that it is not eligible for the National Register of Historic Places. No further work is recommended.

Soil type: Badin channery silt loam
Distance to Water: 77m
Cultural Affiliation: Middle Archaic (Stanly)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 1-25% of the site has probably been destroyed due to sheet erosion and cultivation.
Areal Extent: NW-SE 93m; NE-SW 38m
Exposure: Northwest
Elevation: 490 ft AMSL
Slope: 7%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Secondary flake
3 Thinning flakes
1 Spall
1 Projectile point:
1 Stanly
2 Nondescript pieces, broken flakes
Total: 8

Total Artifacts: 8

31St87
Archeology Laboratories Site: AL91

31St87 is located on a ridgetoe opposite the confluence of Running and Big Bear creeks. The site area was a cultivated corn field at the time of survey.

The site was defined by surface artifacts which were marked and point plotted before collection. Three testpits were excavated in areas of artifact concentration to check for possible subsurface features, complex cultural stratigraphy, or midden deposits. These tests revealed a soil profile of light orange-red sandy clay over red clay showing that the soil has been moderately affected by sheet erosion. All subsurface tests were sterile of cultural material indicating the shallow depth of this site, which may be a result of erosion due to cultivation.

The majority of artifacts recovered from 31St87 were unmodified flakes, but six projectile points and two utilized flakes also were recovered. A few of these tools were made on more heavily weathered flakes, a result of later occupations utilizing flakes made during the earlier occupations. The lack of fire-cracked rock or ceramics would suggest that this site is a series of small ephemeral hunting camps.

Two-thirds of this site will lie under the floodpool of the Lambert reservoir, should it be built. This will result in erosion of the site caused by wave action and fluctuations in water level.

The research potential of 31St87 is severely limited by its lack of intact subsurface features. This precludes it from being eligible for the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 138m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Morrow Mountain and Guilford), and Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 20-40% of the site has been destroyed by sheet erosion.
Areal Extent: NW-SE 277m; NE-SW 100m
Exposure: Southwest
Elevation: 485ft AMSL
Slope: 13%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 1 Decortication flake
- 2 Secondary flakes
- 91 Thinning flakes
- 6 Retouch flakes
- 4 Blades
- 70 Spalls
- 2 Utilized flakes
- 3 Retouched flakes
- 6 Projectile points:
  - 1 Kirk
  - 1 Morrow Mountain
  - 1 Guilford
  - 2 Caraway
  - 1 unidentified
- 1 Biface, possible projectile point
- 63 Nondescript pieces, broken flakes

Total: 249

Total Artifacts: 249

31St88
Archeology Laboratories Site: AL92

31St88 is located in a floodplain at the confluence of Big Bear and Little Bear creeks. The site was found in a fallow but recently plowed field.

All artifacts located on the surface were marked and point plotted. Two testpits were placed in areas of concentration to test for subsurface features, midden deposits, or complex cultural stratigraphy. These tests revealed a yellowish-brown sandy clay overlying a mottled yellowish brown and orange-brown hard packed sandy clay with pieces of recent charcoal. These two soil zones appear to be recent alluvium. All subsurface artifacts were recovered between 0-20cm within the yellowish-brown sandy clay.

The Stanly County soil survey describes this area as frequently flooded. This, in addition to the context of the artifacts in recent alluvium, would suggest that this site has been redeposited from a site upstream along either Little Bear or Big Bear Creek.

The redeposited nature of 31St88 greatly inhibits any effective research potential that the site might have offered. This precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Oakboro silt loam
Distance to Water: 30m
Cultural Affiliation: The Late Woodland period is represented in the artifact inventory, but the original location of these artifacts is in question.
Stratigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited.
Areal Extent: N-S 185m; E-W 34m
Exposure: Southeast
Elevation: 457ft AMSL
Slope: 1%
Condition of Features: None noted

Artifacts collected:

Point Plot:
1 Decortication flake
18 Thinning flake
1 Retouch flake
13 Spalls
2 Utilized flakes
2 Retouched flakes
1 Projectile point
1 Caraway
11 Nondescript pieces, broken flakes

Total: 49

Excavation Unit 1, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 2, Field Specimen 1
3 Thinning flakes
1 Spall
1 Nondescript piece, broken flake
Total: 5

Total Artifacts: 55

31St89
Archeology Laboratories Site: AL93

31St89 is located in a floodplain to the west of Big Bear Creek, a corn field at the time of survey. All surface artifacts were marked and point plotted before collection. Four testpits were placed along the edge of the field to determine the site boundaries. These tests revealed a soil profile of heavily mottled, recent alluvium. No artifacts, features, midden, or complex cultural stratigraphy were found in the subsurface tests. This area has been designated as frequently flooded by the Stanly County soil survey.

The artifacts recovered included three projectile points and three bifaces as well as other lithic debris.
A Kirk projectile point was located on the slope adjacent to the floodplain. This, in addition to the depositional nature of the floodplain, would suggest that the artifacts have eroded down from the overlooking ridgetoe.

The redeposited nature of 31St89 greatly inhibits any effective research potential that this site might have had to offer. This condition precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Oakboro silt loam
Distance to Water: 46m
Cultural Affiliation: Early Archaic (Kirk) but original location is in question.
Stratigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited.
Areal Extent: N-S 92m; E-W 108m
Exposure: Southeast
Elevation: 466ft AMSL
Slope: 5%
Condition of features: None noted

Artifacts Collected:

Point Plot:
3 Secondary flakes
18 Thinning flakes
1 Blade
9 Spall
3 Projectile points
1 Kirk
2 Unidentified tips
3 Bifaces
7 Nondescript pieces, broken flakes
Total: 44

Total Artifacts: 44

31St90
Archeology Laboratories Site: AL95

31St90 is located on a narrow terrace to the west of Big Bear Creek. At the time of survey the area was a fallow field with good surface visibility. The site was identified by pedestrian survey and all surface artifacts were marked and point plotted before collection. One testpit was placed in an area of artifact concentration to test for subsurface features, midden, and complex cultural stratigraphy. This test revealed a soil profile of yellow-brown heavily mottled recent alluvium. No artifacts were located in the subsurface testpit. This, in combination with the low artifact density, would suggest that the artifacts have been redeposited.

The redeposited nature of 31St90 greatly inhibits its research potential and precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Oakboro silt loam
Distance to Water: 15m
Cultural Affiliation: No diagnostics recovered.
Stratigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited
Areal Extent: N-S 107m; E-W 31m
Exposure: West
Elevation: 480ft AMSL
Slope: 5%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Secondary flake
8 Thinning flakes
1 Retouch flake
4 Spalls
1 Retouched flake
1 Blank, aborted, unbroken

3 Nondescript pieces, broken flakes
Total: 19

Total Artifacts: 19

31St91
Archeology Laboratories Site: AL96

31St91 is located on a levee which when surveyed was a cultivated corn field with good visibility. All surface artifacts were marked and point plotted for collection. One testpit was excavated in an area of artifact concentration and revealed a pale orange-red sandy clay which became darker with depth. No artifacts were recovered. This test suggests that erosion has deflated the site, but the artifacts have been little moved laterally by erosion.

The artifacts consist of cores, unmodified, utilized, and retouched flakes, preforms, projectile points, and other bifaces. The wide range of tools found, in combination with the lack of fire-cracked rock or ceramics, would suggest a short-term hunting camp with tool production being a major activity.

This site will be located on the edge of the Lambert reservoir floodpool which will cause erosion of the site as a result of wave action.

The lack of intact subsurface features limits the research potential of 31St91 and precludes its eligibility for inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 108m
Cultural Affiliation: Late Woodland
Stratigraphic Condition: Eroded levee
State of Preservation: Most of the site is on the surface. An estimated 15-30% of the site has been destroyed by erosion and cultivation.
Areal Extent: N-S 308m; E-W 77m
Exposure: East
Elevation: 500ft AMSL
Slope: 4%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
2 Exhausted cores
1 Primary flake
21 Thinning flakes
1 Blade
10 Spalls

1 Utilized flake
1 Retouched flake
2 Preforms
1 Aborted, unbroken
1 Aborted, broken
4 Projectile points
4 Caraway
1 Biface
11 Nondescript pieces, broken flakes
Total: 55

Total Artifacts: 55

Marshville Reservoir Area

31Un57
Archeology Laboratories Site: AL24

This site is located on a hill, with artifacts eroding down the slope on all sides. At the time of survey the area was a fallow field with good visibility, and artifacts on the surface were marked and point plotted. One testpit was placed in the area of artifact concentration and revealed a soil profile of dark brown slightly clayey loam over a tan-grey clay loam over brownish-orange loamy clay. The dark topsoil was the result of intensive fertilizing with turkey manure, rather than evidence of past cultural activity.

No artifacts were recovered from the testpit, suggesting that the site is limited to the surface or to the plowzone. The dispersion of the artifacts suggests that moderate erosion has disturbed this site. A core, unmodified flakes, preforms, blanks, and projectile points characterize the artifact inventory, indicating tool production as the major activity. The lack of fire-cracked rock would also suggest a short-term occupation of the area, perhaps as a hunting stand.

If construction of the Marshville reservoir occurs, the construction of the dam and its resulting floodpool will severely impact the site.

The stratigraphic condition of 31Un57 and its lack of subsurface features preclude its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston-Badin complex
Distance to Water: 192 m
Cultural Affiliation: Late Archaic (Savannah River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 20-30% of the site has probably been destroyed as a result of cultivation and resultant erosion.
Areal Extent: NW-SE 246m; NE-SW 100m
Exposure: Southeast
Elevation: 440ft AMSL
Slope: 1%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Exhausted core
1 Primary flake
1 Thinning flake
1 Spall
2 Preforms
2 Aborted, broken

4 Blanks
1 Aborted, unbroken
3 Aborted, broken
3 Projectile points
1 Savannah River (Fig. 8.1 a)
1 Nondescript ovate
1 Unidentified fragment
4 Nondescript pieces, broken flakes
Total: 17

Total Artifacts: 17

31Un59
Archeology Laboratories Site: AL26

31Un59 is located on a low hill adjacent to the floodplain of Lanes Creek within its confluence area at Lick Branch. At the time of survey the area was a fallow field which provided good ground surface visibility, and all surface artifacts were marked and point plotted. Testpits were excavated along the eastern side of the site and in areas of artifact concentration, or in areas which suggested the possibility of subsurface features, midden, or complex cultural stratigraphy. These subsurface tests revealed a soil profile of dense, red-brown loamy clay over a dense, friable red clay. In addition to prehistoric artifacts, excavation unit 9 uncovered an historic feature (31Un61).

All subsurface artifacts were located in the dense, red-brown loamy clay. The artifacts recovered include ceramics, cores, unmodified, utilized, and retouched flakes, preforms, blanks, unifaces, projectile points, and other bifaces. The presence of this wide ranging artifact inventory in combination with ceramics suggests that this site was a small base camp during the Woodland period. The low number of weathered lithic artifacts would also suggest an ephemeral Early Archaic occupation at this site, perhaps a hunting camp.

Construction of the Marshville reservoir, should it be built, will destroy this site.

Although 31Un59 has a relatively high artifact density, the lack of documented subsurface features greatly reduces its research potential and precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 3m
Cultural Affiliation: Early Archaic (Palmer), Early Woodland (Badin, Gypsy (Oliver 1981)), Middle Woodland (Yadkin, late Uwharrie), Late Woodland (Caraway, Dan River).
Stratigraphic Condition: eroded upland
State of Preservation: An estimated 15-25% of this site has been destroyed by erosion, cultivation, and collection.

Areal Extent: NE-SW 246m; NW-SE 62m
Exposure: Southeast
Elevation: 415 ft AMSL
Slope: <1%
Condition of Features: None noted
Artifacts Collected:

Point Plot:
- 10 Potsherds (Dan River)
- 1 Primary core
- 2 Secondary cores
- 8 Exhausted cores
- 1 Utilized core
- 1 Primary flake
- 22 Decortication flakes
- 7 Secondary flakes
- 297 Thinning flakes
- 60 Retouch flakes
- 7 Blades
- 162 Spalls
- 1 Utilized decortication flakes
- 4 Utilized secondary flakes
- 6 Utilized thinning flakes
- 1 Utilized blade
- 1 Utilized broken flake
- 2 Retouched decortication flakes
- 6 Retouched secondary flakes
- 7 Retouched thinning flakes
- 5 Retouched spalls
- 2 Retouched broken flakes
- 9 Preforms
  - 3 Aborted, unbroken
  - 6 Aborted, broken
- 4 Blanks
  - 1 Aborted, unbroken
  - 3 Aborted, broken
- 1 Side scraper
- 29 Projectile points
  - 2 Palmer
  - 2 Badin (Fig. 8-1 d)
  - 1 Yadkin
  - 1 Uwharrie (Fig. 8-1 h)
  - 8 Caraway (Fig. 8-1 e-g)
  - 1 Gypsy (Fig. 8-1 c)
  - 19 Unidentified fragments
- 3 Gravers
- 32 Nondescript pieces, broken flakes

Total: 694

Excavation Unit 1, Field Specimen 1
- 1 Decortication flake
- 14 Thinning flakes
- 2 Retouch flakes
- 8 Spalls

1 Nondescript piece, broken flake
Total: 26

Excavation Unit 2, Field Specimen 1
10 Thinning flakes
1 Retouch flake
9 Spalls
Total: 20

Excavation Unit 3, Field Specimen 1
2 Retouch flakes
2 Spalls
1 Projectile point, unidentified fragment
Total: 5

Excavation Unit 6, Field Specimen 1
1 Thinning flake
5 Spalls
Total: 6

Excavation Unit 7, Field Specimen 1
4 Thinning flakes
1 Projectile point, unidentified fragment
Total: 5

Excavation Unit 9, Field Specimen 1
4 Decortication flake
60 Thinning flakes
14 Retouch flakes
2 Blades
24 Spalls
2 Blanks
2 Aborted, unbroken
3 Projectile points
1 Kirk
2 Unidentified fragments
2 Bifaces
Total: 112

Total Artifacts: 868

31Un60
Archeology Laboratories Site: AL27

31Un60 is located on the tip of a ridgetoe overlooking 31Un59 in a fallow field which provided good surface visibility. The site consisted of three artifacts and because of this low artifact density no subsurface tests were made. The construction of SR 1900 and a telephone/electric line have affected the preservation of 31Un60 as indicated by the eroded, red clay soils in the site area. The three artifacts collected, all reduction debitage, may indicate the remnant of a small special activity area perhaps associated with 31Un59.

31Un60 will be completely destroyed by the construction of Marshville reservoir dam.

The stratigraphic condition, state of preservation, and low artifact density with no diagnostics at 31Un60 indicate little research potential. This situation precludes the inclusion of this site on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 123m
Cultural Affiliation: No diagnostic artifacts were recovered.
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 75-85% of this site has probably been destroyed by road and telephone construction, cultivation, and erosion.
Areal Extent: NW-SE 24m; NE-SW 7m
Exposure: Northeast
Elevation: 420ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Thinning flake
1 Retouched secondary flake
1 Retouched spall
Total: 3

Total Artifacts: 3

31Un62
Archeology Laboratories Site: AL29

31Un62 is located on a long ridgetoe with the site situated linearly on its crest. At the time of survey the majority of the site was in a fallow field, providing good surface visibility. The southeastern area was in grass and prior construction of a barn had caused minor damage to the site. Additional impacts may have resulted from the construction of SR 1900 which cuts through the site's eastern edge.

Artifacts were limited to the top of the ridgetoe with little downslope erosion. Seven testpits were placed in areas of little visibility to determine site boundaries and to test for subsurface features, midden or complex stratigraphy. The soil profile was shown to be a brownish red clayey loam over a red clay.

Only one of the testpits contained artifacts suggesting that most of the site is limited to the surface. The artifact

inventory contained cores, unmodified, utilized and retouched flakes, preforms, blanks, unifaces and bifaces. This range of artifacts would suggest a small base camp.

This site will be affected by the dam construction for the Marshville reservior.

The lack of any intact subsurface features at 31Un62 limits the research potential of this site. Any additional work is unlikely to yield significant information necessary to justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston-Badin complex
Distance to Water: 173m
Cultural Affiliation: Middle Archaic (Morrow Mountain I)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 10-30% of the site has been destroyed due to cultivation, erosion, and the construction of SR 1900 and a barn.
Areal Extent: NW-SE 144m; NE-SW 74m
Exposure: Southwest
Elevation: 435ft AMSL
Slope: <1%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 1 Secondary core
- 2 Exhausted cores
- 1 Primary flake
- 1 Decortication flake
- 24 Thinning flakes
- 1 Retouch flake
- 3 Blades
- 8 Spalls
- 1 Utilized secondary flake
- 1 Utilized thinning flakes
- 2 Preforms
- 2 Aborted, unbroken
- 2 Retouched secondary flakes
- 4 Blanks
- 4 Aborted, broken
- 2 Unifaces
- 2 Projectile points
  - 1 Morrow Mountain I (Fig. 8.1 i)
  - 1 Medial section
- 1 Burin
- 1 Drill
- 3 Bifaces
- 5 Nondescript pieces, broken flakes

Total: 65

Excavation Unit 4, Field Specimen 1
1 Spall
Total: 1

Total Artifacts: 66

31Un63
Archeology Laboratories Site: AL30

31Un63 is located on a hilltop overlooking an oxbow in Lanes Creek, in an area that has been clearcut in the past 10 years. A road runs across the top of the hill, providing some visibility. Artifacts found on the ground surface were marked and point plotted. Subsurface tests were excavated in the areas adjacent to the road to determine site boundaries and to test for subsurface features and complex stratigraphy. The soil profile discovered was an artifact bearing layer of reddish brown loamy clay over an orange clay.

Erosion seems to have affected this site only slightly with the distribution of the artifacts indicating mild downslope displacement. The artifact inventory consists of unmodified, utilized and retouched flakes, a modified blank, a scraper, projectile points and a biface. This assemblage would suggest that the site functioned as a short-term camp.

This site will be affected by the construction of the Marshville reservoir dam.

Testpits at 31Un63 failed to reveal any features or culturally derived stratigraphy. This greatly reduces the research potential of this site and does not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 62m
Cultural Affiliation: Early Archaic (Kirk), Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 20-30% of this site has been destroyed by erosion and clearcutting.
Areal Extent: NE-SW 77m; NW-SE 127m
Exposure: West
Elevation: 400ft AMSL
Slope: <1%
Condition of Feature: None noted

Artifacts Collected:

Point Plot:
4 Decortication flakes
5 Secondary flakes

83 Thinning flakes
13 Retouch flakes
32 Spalls
1 Utilized secondary flake
1 Utilized thinning flake
1 Utilized spall
1 Retouched primary flake
1 Retouched secondary flake
4 Retouched thinning flakes
1 Blank, modified
1 End scraper
6 Projectile points
1 Kirk, fragment
1 Caraway, fragment
4 Unidentified, fragments
1 Biface
12 Nondescript pieces, broken flakes
Total: 165

Excavation Unit 1, Field Specimen 1
1 Prehistoric potsherd, net impressed
Total: 1

Excavation Unit 5, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 8, Field Specimen 1
1 Retouch flake
Total: 1

Excavation Unit 31, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 33, Field Specimen 1
1 Spall
1 Retouched flake, broken
Total: 2

Excavation Unit 36, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 38, Field Specimen 1
1 Thinning flake
Total: 1

31Un65
Archeology Laboratories Site: AL32

This site is located on a broad, flat ridgetoe across from the confluence of Beaverdam and Lanes creeks within a hardwood

forest. The forest appeared to be about 50-70 years in age; evidence was present for timbering in the last 100 years and fire in the last 50 years. The entire site was defined by the excavation of 87 testpits: surface visibility was zero. One of these tests was expanded to a 1m x 1m square to test for midden deposits, subsurface features or complex stratigraphy. These subsurface tests revealed a soil profile of grey-brown clayey loam overlying grey or orange clay.

Forty-five of the excavated testpits contained artifacts which were limited to the grey-brown clayey loam to 23cm below surface. The soils were very homogenous, with each soil type grading into the other, suggesting that the grey-brown clayey loam is an uneroded "A" horizon and not a midden. Little, if any, erosion has occurred on this site and the only disturbance noted in the area was tree roots and tree falls.

The artifact inventory contained a core, unmodified and utilized flakes, drills and a biface similar to that found in Kirk levels at Haw River (Claggett and Cable 1982:399). These data would suggest that this site was a short-term campsite with possible activities including tool production, butchering, woodworking and food processing.

This site will be affected by both the Marshville reservoir dam construction and its floodpool.

Recommendation. The presence of subsurface artifacts in an intact "A" horizon suggests that undisturbed features may exist at this site. The potential to find valuable information relating to the function of upland short-term camps is very good at 31Un65 because of the presence of this intact horizon. One biface was recovered which resembled bifaces found in a Kirk-phase occupation floor at 31Ch29, Block A, Lamella 7/6 (Clagget and Cable 1982). This suggests that 31Un65 my be a Kirk-phase site, but further work would be necessary to substantiate this claim. No evidence was found of plowing or other disturbances except for that due to tree roots. 31Un65 is one of only two sites located during the Rocky River Basin Survey at the Marshville damsite which was found with original soil horizons intact. This in general is a rare phenomenon in the Piedmont, but particularly so in the Marshville damsite area. In addition, very little is known about the functions and activities of upland short-term camps in the Piedmont, and further work here could potentially expand our knowledge in this area.

It is concluded that 31Un65 is significant and eligible for inclusion on the National Register of Historic Places. This recommendation is based upon the potential this site holds for yielding information pertinent to the local and regional prehistory of North Carolina. These conclusions are made with consideration to the guidelines established by the National Historic Preservation Act of 1966, Section 106, 36CFR60, and 36CFR800. The potential information referred to above includes

data concerning the function and activities of short-term camps. Specific research questions that could be addressed include:

1. Do short-term camps function primarily as habitation sites with a few special activities practiced, or are they simply extended special activity sites?

2. Is one or more activity (other than habitation) better represented than others, suggesting an economic bias in addition to environmental reasons for site location?

3. Do short-term camps show more evidence of economically adaptive behavior, i.e. curated or more multipurpose tools, or greater use of local lithic raw materials, than at basecamps?

4. Do short-term camps show evidence of a generalized flake technology in which one core with its resultant flakes could serve as an entire tool kit, instead of individual, more formal tools, each with its own function?

5. What diagnostic projectile points occur at this site?

6. Do the activites and function of this site change over time?

The answers to these questions would provide important insights concerning changes through time in the function and activities of small, upland sites located far up the tributaries of major rivers. This information is extremely rare in North Carolina because the majority of upland sites are deflated and without context. 31Un65 remains undisturbed with its context intact and we recommend data recovery for this site.

Soil Type: Goldston-Badin complex
Distance to Water: 92m
Cultural Affiliation: No diagnostics recovered.
Stratigraphic Condition: Uneroded upland
State of Preservation: An estimated 1-5% of the site has probably been disturbed by root action. The balance of the disturbance is a result of timbering and excavation for assessment purposes.
Areal Extent: NE-SW 108m; NW-SE 92m
Exposure: Southwest
Elevation: 440ft AMSL
Slope: <1%
Condition of Feature: None noted

Artifacts Collected:

Excavation Unit 5, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 6, Field Specimen 1

1 Thinning flake
Total: 1

Excavation Unit 8, Field Specimen 1
1 Thinning flake
1 Utilized decortication flake
Total: 2

Excavation Unit 10, Field Specimen 1
1 Secondary flake
2 Spalls
1 Utilized thinning flake
2 Nondescript pieces, broken flakes
Total: 6

Excavation Unit 11, Field Specimen 1
7 Thinning flakes
1 Nondescript piece, broken flake
Total: 8

Excavation Unit 12, Field Specimen 1
1 Exhausted core
2 Thinning flakes
1 Retouch flake
1 Nondescript piece, broken flake
Total: 5

Excavation Unit 14, Field Specimen 1
2 Thinning flakes
1 Nondescript piece, broken flake
Total: 3

Excavation Unit 15, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 17, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 18, Field Specimen 1
4 Thinning flakes
Total: 4

Excavation Unit 19, Field Specimen 1
3 Thinning flakes
2 Nondescript pieces, broken flakes
Total: 5

Excavation Unit 20, Field Specimen 1
6 Thinning flakes
1 Retouch flake

2 Spalls
Total: 9

Excavation Unit 21, Field Specimen 1
3 Spalls
1 Nondescript piece, broken flake
Total: 4

Excavation Unit 22, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 23, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 25, Field Specimen 1
1 Blade
1 Utilized primary flake
Total: 2

Excavation Unit 27, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 30, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 32, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 34, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 36, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 38, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 40, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 41, Field Specimen 1
1 Drill
1 Nondescript piece, broken flake

Total: 2

Excavation Unit 42, Field Specimen 1
2 Retouch flakes
Total: 2

Excavation Unit 43, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 45, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 46, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 48, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 53, Field Specimen 1
3 Thinning flakes
2 Spalls
Total: 5

Excavation Unit 55, Field Specimen 1
1 Thinning flake
1 Drill
Total: 2

Excavation Unit 57, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 58, Field Specimen 1
1 Retouch flake
Total: 1

Excavation Unit 60, Field Specimen 1
1 Biface (Kirk?)
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 61, Field Specimen 1
1 Secondary flake
1 Thinning flake
1 Spall
1 Nondescript piece, broken flake
Total: 5

Excavation Unit 62, Field Specimen 1
1 Thinning flake

1 Spall
1 Utilized thinning flake
Total: 3

Excavation Unit 63, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Excavation Unit 65, Field Specimen 1
1 Thinning flake
2 Spalls
1 Nondescript pieces, broken flake
Total: 4

Excavation Unit 66, Field Specimen 1
1 Retouch flake
Total: 1

Excavation Unit 70, Field Specimen 1
2 Thinning flake
1 Retouch flake
1 Utilized thinning flake
Total: 4

Excavation Unit 74, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 79, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 83, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 84, Field Specimen 1
1 Spall
Total: 1

Total Artifacts: 107

31Un66
Archeology Laboratories Site: AL33

31Un66 is located on a saddle between a hilltop and a ridgetoe in an area of hardwood forest. Four testpits were used to locate the site and define the site boundaries. These tests revealed a soil profile of brown-grey clayey loam grading into an orange clay suggesting that the area is uneroded.

Only two of the four testpits contained artifacts, both in low density. The preservation and uneroded nature of the site area would indicate that the artifacts were in a relatively undisturbed context, but because of its small size most of the site was removed during assessment. The artifacts recovered suggest that the site was a special activity area (hunting lookout), perhaps associated with 31Un65.

This site will be affected by both dam construction and the floodpool of the Marshville reservoir.

Although this site appears relatively uneroded, its state of preservation after testing, low artifact density, and lack of diagnostics have compromised the research potential. It is doubtful that any additional work would produce data to justify the inclusion of 31Un66 on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 31m
Cultural Affiliation: No diagnostics were recovered.
Stratigraphic Condition: Uneroded upland
State of Preservation: An estimated 80-90% of the site may have been removed for assessment purposes.
Areal Extent: E-W 5m; N-S 7m
Exposure: North
Elevation: 430ft AMSL
Slope: 1%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 1, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 4, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 2

31Un69
Archeology Laboratories Site: AL37

31Un69 is located on a small rise in the floodplain to the north of the confluence of Lanes Creek and Lick Branch. The site was in a fallow field with good visibility at the time of survey . Artifacts on the surface were marked and point plotted and one testpit was placed on the center of the rise to test for subsurface features, midden and stratigraphy. This test revealed a reddish brown sandy clayey loam over red clay.

No artifacts were recovered in the single subsurface test suggesting the site is mostly limited to the surface. Artifacts on the northern sides of the site have eroded or been moved by cultivation into the floodplain. Cores, unmodified and utilized flakes, a preform and blank, projectile points and a knife make up the artifact inventory at this site. The large number of thinning and broken flakes would seem to suggest that this is a short-term camp with tool production and maintenance as major activities.

This site will be severely affected by construction for the Marshville reservoir.

The lack of subsurface features and eroded conditions at 31Un69 indicated little remaining research potential. The major portion of the site is on the ground surface and has been heavily collected. These data suggest that this site is not eligible for the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston-Badin complex
Distance to Water: 77m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Guilford, Morrow Mountain II), Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland knoll in floodplain
State of Preservation: An estimated 10-25% of this site has been disturbed as a result of cultivation and resultant erosion.
Areal Extent: Core area: N-S 55m; E-W 23m. Entire site: N-S 244m; E-W 80m
Exposure: Southeast
Elevation: 405ft AMSL
Slope: 9%
Condition of features: None noted

Artifacts Collected:

Point Plot:
- 2 Utilized cores
- 1 Secondary flake
- 32 Thinning flakes
- 1 Retouch flake
- 3 Spalls
- 3 Thinning flakes
- 1 Utilized broken flake
- 1 Preform, utilized
- 1 Blank
  - 1 Aborted, broken
- 5 Projectile points
  - 1 Kirk corner-notched (Fig. 8-2 b)
  - 1 Guilford (Fig. 8-1 k)
  - 1 Morrow Mountain II (Fig. 8-1 j)
  - 1 Caraway
  - 1 Unidentified tip

1 Denticulate
1 Knife
10 Nondescript pieces, broken flakes
Total: 62

Total Artifacts: 62

31Un72
Archeology Laboratories Site: AL41

31Un72 is located on a ridgetoe in a fallow field with good visibility. All artifacts located on the surface were marked and point plotted. One testpit was placed in the area of highest artifact concentration and revealed a soil profile of light brown/orange clayey loam over bright orange sterile clay. This would suggest that this area has been moderately eroded.

The testpit contained artifacts in the light brown/orange clayey loam (plow zone) and the distribution of artifacts showed erosion down the west slope of the ridgetoe. Cores, unmodified, utilized and retouched flakes, preforms, blanks, projectile points, burins, bifaces, and one piece of prehistoric pottery comprise the artifact inventory for this site.

These artifacts suggest that this site is a short-term camp with the main activities being tool preparation and maintenance, woodworking and skin processing. This site will be partially covered by the Marshville reservoir floodpool, and would experience additional erosion as a result of wave action and fluctuations in water levels.

This site lacks subsurface features and the majority of artifacts lie disturbed within the plowzone without context. These conditions preclude the inclusion of 31Un72 on the National Register of Historic Places. No further work is recommended.

Soil type: No soil maps available
Distance to Water: 77m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Guilford, Halifax), Late Woodland (Dan River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 15-30% of the site has been destroyed by cultivation and resultant erosion.
Areal Extent: N-S 53m; E-W 56m
Exposure: North
Elevation: 450ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
1 Plain potsherd, Dan River

1 Secondary core
1 Utilized core
1 Decortication flake
25 Thinning flakes
3 Retouch flakes
1 Blade
12 Spalls
2 Utilized broken flakes
3 Preforms
1 Aborted, unbroken
2 Aborted, broken
2 Retouched thinning flakes
2 Blanks
1 Aborted, unbroken
1 Aborted, broken
3 Projectile points
1 Guilford (Fig. 8.1m)
1 Kirk (Fig. 8.1l)
1 Unidentified tip
2 Burins
2 Bifaces
14 Nondescript pieces, broken flakes
Total: 75

Excavation Unit 1, Field Specimen 1
2 Thinning flakes
1 Spalls
1 Projectile point
1 Guilford
Total: 4

Total Artifacts: 78

31Un73
Archeology Laboratories Site: AL42

31Un73 is located downslope on a ridgetoe overlooking an oxbow in Lanes Creek, in an area which has been bulldozed. All artifacts located on the surface were marked and point plotted for collection. No subsurface tests were made because of the highly disturbed nature of this site, which probably originated on the ridgetop above.

This site will be eroded by wave action from the floodpool of the Marshville reservoir.

The highly disturbed nature of this site precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 123m
Cultural Affiliation: No diagnostics recovered

Stratigraphic Condition: Ridgetop has been bulldozed
State of Preservation: 100% of this site has been destroyed.
Areal Extent: N-S 92m; E-W 62m
Exposure: Northwest
Elevation: 440ft AMSL
Slope: <1%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
6 Thinning flakes
1 Retouch flake
4 Spalls
3 Nondescript pieces, broken flakes
Total: 14

Total Artifacts: 14

31Un81
Archeology Laboratories Site: AL44

31Un81 is located on a ridgeslope and terrace overlooking an unnamed drainage of Lanes Creek. The site area was planted as a pine plantation at the time of survey, but according to the owner it had previously been cultivated in corn. Because of the lack of surface visibility, the site was located and defined by 34 testpits which revealed a brown, rocky, clayey loam over orange clay.

Specimens were recovered in 18 testpits with only one artifact recovered from the surface in a general range collection. The wide dispersion of artifacts in the testpits would suggest that the site originated on the ridgetoe above and had eroded downslope during cultivation onto the terraced area.

31Un81 will be inundated by the Marshville reservoir floodpool.

The redeposited nature and stratigraphic condition of this site precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps were available.
Distance to Water: 4 m
Cultural Affiliation: Middle Archaic (Guilford) and Late Archaic (Savannah River) phases were represented, but probably are displaced from the ridgetoe above.
Stratigraphic Condition: Recent colluvium
State of Preservation: Site is apparently redeposited.
Areal Extent: N-S 62m; E-W 200m
Exposure: Southeast

Elevation: 425ft AMSL
Slope: 3%
Condition of Features: None noted

Artifacts Collected:

General Range Collection:
1 Projectile point
1 Guilford
Total: 1

Excavation Unit 2, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 3, Field Specimen 1
2 Thinning flakes
Total: 2

Excavation Unit 4, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 5, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 8, Field Specimen 1
2 Thinning flakes
Total: 2

Excavation Unit 11, Field Specimen 1
1 Secondary flake
Total: 1

Excavation Unit 12, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 13, Field Specimen 1
1 Nondescript piece, broken flake
Total: 1

Excavation Unit 14, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 17, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 20, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 29, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 30, Field Specimen 1
1 Retouched flake
Total: 1

Excavation Unit 31, Field Specimen 1
1 Projectile point
1 Unidentified tip
Total: 1

Excavation Unit 32, Field Specimen 1
1 Thinning flake
1 Retouch flake
Total: 2

Excavation Unit 33, Field Specimen 1
4 Thinning flakes
Total: 4

Excavation Unit 34, Field Specimen 1
1 Thinning flake
1 Preform
1 Aborted, broken
Total: 2

Total Artifacts: 25

31Un82
Archeology Laboratories Site: AL45

31Un82 is located on an alluvial terrace at an oxbow in Lanes Creek, on the bank of a dry stream bed. Little surface visibility was available at the time of survey because the area was a pine plantation. The site was located and its dimensions determined by nine testpits. The soil profile revealed in these tests was a reddish brown mottled clayey, silty loam over an orange mottled sandy clay.

Artifacts, including one sherdlet (.5cm x 1cm), were recovered in three testpits. Their low density and random dispersion indicate that the site has been redeposited from somewhere upstream of the findspot.

31Un82 will be inundated by the Marshville reservoir floodpool.

The redeposited nature and stratigraphic condition of this site precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 92m
Cultural Affiliation: Late Woodland (Dan River); site is out of context
Statigraphic Condition: Recent alluvium
State of Preservation: Site is apparently redeposited
Areal Extent: N-S 15m; E-W 7m
Exposure: East
Elevation: 415ft AMSL
Slope: <1%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 2, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 3, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 5. Field Specimen 1
1 Prehistoric potsherd, eroded (Dan River)
Total: 1

Total Artifacts: 3

31Un83
Archeology Laboratories Site: AL46

31Un83 is located on a broad hill overlooking Lanes Creek in a pine plantation. Because of low visibility in the area, 17 testpits were excavated which revealed a brownish-orange sandy loam overlying orange or pale tan clay, with the sandy loam extending to 21cm below surface.

Ten of the testpits contained artifacts in the brownish-orange sandy loam. The distribution of artifacts recovered would indicate that the site has been only slightly disturbed. Specimens recovered consist of unmodified flakes and a single scraper. This would suggest either a special or a limited activity site such as a short-term hunting camp.

This site will be completely inundated by the floodpool of the Marshville reservoir.

The lack of intact subsurface features and diagnostic artifacts greatly reduces the research potential of 31Un83. These factors do not justify the inclusion of this site on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps were available.
Distance to Water: 92m
Cultural Affiliation: No diagnostics were recovered.
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 15-30% of the site has been disturbed as a result of cultivation and floralturbation.
Areal Extent: N-S 61m; E-W 35m
Exposure: North
Elevation: 433ft AMSL
Slope: <1%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 1, Field Specimen 1
1 Nondescript piece, broken flake
Total:1

Excavation Unit 2, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 5, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Excavation Unit 8, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 9, Field Specimen 1
2 Thinning flakes
Total: 2

Excavation Unit 10, Field Specimen 1
1 Retouch flake
1 Side scraper
Total: 2

Excavation Unit 12, Field Specimen 1
2 Thinning flakes
1 Spall
Total: 3

Excavation Unit 14, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Excavation Unit 16, Field Specimen 1
5 Thinning flakes

2 Spalls
Total: 7

Excavation Unit 17, Field Specimen 1
4 Thinning flakes
1 Retouch flake
1 Spall
Total: 6

Total Artifacts: 26

31Un84
Archeology Laboratories Site: AL47

31Un84 is located on a hilltop overlooking Lanes Creek in a hardwood forest where no visibility was available. Eleven testpits were excavated to locate and define the boundaries of the site and these revealed a soil profile of orange-brown sandy clayey loam overlying an orange-red sandy clay, suggesting only moderate erosion.

Artifacts were found in three of the testpits on the hilltop within the orange-brown sandy clayey loam with their distribution indicating little erosion downslope. The artifact inventory consisted of one projectile point and a few unmodified flakes. This would suggest that this is a special activity site, perhaps a short-term hunting camp or kill site.

This site will be completely inundated by the Marshville reservoir floodpool.

The lack of intact subsurface features at 31Un84 has greatly reduced its research potential, precludes its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 92m
Cultural Affiliation: Early Archaic (Kirk)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 15-30% of the site has been disturbed by erosion and cultivation.
Areal Extent: N-S 5m; E-W 5m
Exposure: East
Elevation: 462ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 3, Field Specimen 1
1 Projectile point
1 Kirk (Fig. 8.1 n)

Total: 1

Excavation Unit 10, Field Specimen 1
1 Thinning flake
Total: 1

Excavation Unit 11, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 3

31Un85
Archeology Laboratories Site: AL49

31Un85 is located in a pasture on the tip of a ridgetoe overlooking an oxbow if Lanes Creek. Due to lack of visibility eight testpits were excavated to locate the site boundaries. These tests revealed reddish brown clayey loam over and orange-red sandy clay over red clay indicating severe erosion in this area.

The distribution of the six testpits containing artifacts show that the site is eroding off the ridgetoe onto the slope to the north. The entire artifact inventory consists of unmodified flakes, suggesting a short-term bivouac with very limited tool maintenance activities.

This site will be completely inundated by the floodpool of the Marshville reservoir.

The lack of diagnostic artifacts, stratigraphy, and subsurface features reduces the potential of 31Un85. The data already collected do not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Badin channery silt loam
Distance to Water: 46m
Cultural Affiliation: No diagnostics were recovered.
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 20-40% of this site has been impacted by erosion.
Areal Extent: NW-SE 77m; NE-SW 3m
Exposure: North
Elevation: 435ft AMSL
Slope: 10%
Condition of Features: None noted

Artifacts Collected:

Excavation Unit 1, Field Specimen 1
1 Thinning flake
1 Retouch flake

1 Spall
Total: 3

Excavation Unit 2, Field Specimen 1
3 Thinning flakes
Total: 3

Excavation Unit 3, Field Specimen 1
1 Spall
Total: 1

Excavation Unit 4, Field Specimen 1
1 Thinning flake
1 Retouch flake
2 Spalls
Total: 4

Excavation Unit 5, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Excavation Unit 8, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 14

31Un86
Archeology Laboratories Site: AL59

31Un86 is located on a long ridgetoe and ridgetop overlooking the confluence of Cool Springs Branch and Lanes Creek. The area was an extensive corn field with good visibility at the time of survey . All surface artifacts were marked and point plotted and nine testpits excavated in areas of artifact concentration to test for subsurface features, midden, or stratigraphy. These tests revealed a brown clayey loam over a hardpacked red clay mottled with grey clay and decaying bedrock, indicating that this area has eroded as a result of intensive cultivation.

Only one of the tests contained subsurface artifacts and those were limited to the plow zone. The distribution of the surface artifacts seems to show most of the erosion of this site occurring to the west, into Cool Springs Branch. The site seems to be a large base camp, used throughout the Archaic, with the Early Archaic components being more ephemeral than those of the Middle and Late Archaic. The presence of fire-cracked rock indicates at least an extended habitation, and possibly a seasonal pattern of rehabitation. The major activity seems to have been lithic reduction which made extensive use of vein quartz and ad hoc cores located in proximity to the site. The

variety of other tool types indicate numerous other activities ranging from woodworking to food and hide processing.

This site will be partially inundated by the floodpool of the Marshville reservoir. This will make this site susceptible to erosion as a result of wave action and fluctuations in the floodpool level.

Subsurface tests at 31Un86 indicate that the artifacts occur mainly on the ground surface and do not suggest the presence of intact subsurface features. These factors reduce the research potential of this site and do not justify its inclusion on the National Register of Historic Places. In addition, as a result of the intensive collection methods employed at 31Un86, it is doubtful that additional work would produce any more information than has already been collected at this site. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 62m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Guilford, Morrow Mountain, and Halifax), and Late Archaic (Savannah River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 30-50% of this site has been destroyed by cultivation and subsequent erosion.
Areal Extent: N-S 93m; E-W 462m
Exposure: North
Elevation: 465ft AMSL
Slope: 4%
Condition of Features: None noted

Artifacts Collected:

Point Plot:

6	Primary cores
5	Secondary cores
66	Exhausted cores
4	Utilized cores
2	Retouched cores
3	Primary flakes
11	Decortifaication flakes
6	Secondary flakes
483	Thinning flakes
75	Retouch flakes
9	Blades
341	Spalls
1	Utilized secondary flake
31	Utilized thinning flakes
1	Utilized blade
2	Utilized spalls
3	Utilized broken flakes
1	Retouched, primary flake
1	Retouched decortication flake

14 Retouched thinning flakes
1 Retouched blade
3 Retouched spalls
4 Retouched broken flakes
32 Preforms
8 Aborted, unbroken
24 Aborted, broken
9 Blanks
3 Aborted, unbroken
6 Aborted, broken
4 End scrapers
2 Side scrapers
28 Projectile points
3 Kirk
2 Morrow Mountain
4 Guilford
1 Halifax
1 Savannah River
1 Nondescript lanceolate
16 Unidentified fragments
6 Denticulates
8 Knives
1 Probable hafted tool
1 Wedge-like tool
12 Bifaces
71 Nondescript pieces, broken flakes
4 Hammerstones
2 Heat-treated rocks
4 Fire-cracked rocks
1 Groundstone
3 Cracked cobbles
Total: 1251

Excavation Unit 1, Field Specimen 1
1 Exhausted core
6 Thinning flakes
2 Retouch flakes
2 Spalls
1 Fire-cracked rock
Total: 12

Total Artifacts: 1263

31Un87
Archeology Laboratories Site: AL60

31Un87 is located on a ridgetoe at the confluence of Cool Springs Branch and Lanes Creek. The area was cultivated in corn at the time of survey which provided good visibility. All surface artifacts were marked and point plotted. Testpits were placed along the edge of the field to determine the site boundaries and in an artifact concentration to check for subsurface features, midden, and stratigraphy. These tests

revealed a reddish brown clayey loam over red clay indicating moderate erosion on the ridgetoe.

None of the testpits recovered artifacts, indicating that the site is limited to the surface. The artifacts recovered suggest a base camp with major occupations during the Middle and Late Archaic periods. Hearths and extended occupations are indicated by the presence of fire-cracked rock. Probable activities include tool production through the use of *ad hoc cores and vein* quartz for expedient purposes. Hide and vegetal food processing are also indicated, and the large number of projectile point tips may be the result of butchering locales within the site.

This site will be partially inundated by the floodpool of the Marshville reservoir,. This will result in increased erosion as a result of wave action and fluctuations in water level.

Subsurface tests at this site suggest conditions identical to those discussed for 31Un86. The artifacts appear to be confined to the ground surface with no intact subsurface features present. These factors indicate a low research potential for the this site and do not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 31m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Morrow Mountain, Guilford, and Halifax), and Late Archaic (Savannah River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 30-50% of this site has been destroyed by erosion and cultivation.
Areal Extent: N-S 185m; E-W 108m
Exposure: East
Elevation: 460ft AMSL
Slope: 7%
Condition of Features: None noted

Artifacts Collected:

Point Plot:

1	Primary core
16	Exhausted cores
2	Utilized cores
1	Primary flake
2	Decortication flakes
5	Secondary flakes
195	Thinning flakes
58	Retouch flakes
2	Blades
132	Spalls
7	Utilized thinning flakes
2	Utilized spalls
3	Utilized broken flakes

1 Retouched thinning flake
1 Retouched spall
7 Retouched broken flakes
11 Preforms
3 Aborted, unbroken
6 Aborted, broken
2 Utilized
4 Blanks
1 Aborted, unbroken
3 Aborted, broken
1 End scraper
30 Projectile points
2 Kirk (Fig. 8.1 r)
4 Morrow Mountain (Fig. 8.1 s-v)
1 Guilford (Fig. 8.1 w)
1 Halifax (Fig. 8.1 y)
5 Savannah River (Fig. 8-1 x, z-bb, 8.2 a)
17 Unidentified fragments
2 Burins
1 Denticulate
2 Knives
3 Wedge-like tools
1 Chopper
7 Bifaces
78 Nondescript pieces, broken flakes
Total: 575

Total Artifacts: 575

31Un88
Archeology Laboratories Site: AL61

31Un88 is located on a hill just downstream of 31Un86 near the confluence of Cool Springs Branch and Lanes Creek. This area was also in cultivation which provided good visibility. All surface artifacts were marked and point plotted, and one testpit was placed in the area of artifacts concentration to test for subsurface features, midden, or cultural stratigraphy. This test revealed a soil profile of a brown sandy clay over orange clay mottled with hematite, indicating moderately eroded soils.

No artifacts were recovered within the testpit indicating little subsurface depth. The distribution of the artifacts revealed that the heaviest erosion is occurring on the western side of the site with few artifacts eroding into the floodplain. The artifacts present indicate that this is probably a short term, possible hunting camp. The major activity appears to have been biface reduction and tool manufacture, with the exhausted cores representing ad hoc usage of quartz.

This site will be partially inundated by the floodpool of the Marshville reservoir.

Subsurface tests at this site suggest conditions similar to those discussed for 31Un86 and 31Un87. The artifacts appear to be confined to the ground surface and plowzone with no intact features present. These factors reduce the research potential of the site and do not justify its inclusion on the National Register of Historic Places. As with 31Un86 and 31Un87, little additional information would be gained from further testing. No further work is recommended.

Soil Type: No soil maps available.
Distance to Water: 70m
Cultural Affiliation: Middle Archaic (Guilford), and Late Archaic (Savannah River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 15-35% of this site has been destroyed by cultivation and resultant erosion.
Areal Extent: N-S 123m; E-W 138m
Exposure: West
Elevation: 455ft AMSL
Slope: 3%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 11 Exhausted cores
- 53 Thinning flakes
- 17 Retouch flakes
- 4 Blades
- 49 Spalls
- 2 Utilized thinning flakes
- 2 Utilized broken flakes
- 5 Preforms
  - 5 Aborted, broken
- 3 Blanks
  - 3 Aborted, broken
- 7 Projectile points
  - 1 Guilford (Fig. 8.2 e)
  - 2 Savannah River (Fig. 8.2 c, d)
  - 4 Unidentified fragments
- 1 Savannah River knife
- 1 Biface
- 1 Smooth river pebble
- 26 Nondescript pieces, broken flakes

Total: 181

Total Artifacts: 181

31Un89
Archeology Laboratories Site: AL64

31Un89 is located on a ridgetoe overlooking the floodplain of Cool Springs Branch. The site was found in a corn field with good visiblity and all surface artifacts were marked and point plotted. Four testpits were excavated in areas of artifact concentration revealing a soil profile of dark brown slightly clayey sandy loam (plowzone) over an orange sandy clay with bedrock. The dark color of the plowzone has resulted from the use of turkey manure as fertilizer.

Only one of the testpits located in the area of highest artifact concentration contained artifacts, recovered in the plowzone. The distribution of the surface artifacts indicates that a moderate amount of sheet erosion has washed artifacts down the slopes of the ridgetoe and into the floodplain. The artifacts suggest that this site is a small base camp, with tool production and maintenance being the major activities. Other activities indicated are food and hide processing.

Most of the site will be inundated by the floodpool of the Marshville reservoir. This will result in erosion due to fluctuations in the water level and wave action.

Subsurface tests indicate that the artifacts are confined to the ground surface and plowzone with no intact features present. This suggests a low research potential and does not justify the inclusion of this site on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 62m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Morrow Mountain, Guilford), Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimate 25-40% of this site has been destroyed by cultivation and resultant erosion.
Areal Extent: N-S 92m; E-W 150m
Exposure: Southwest
Elevation: 445ft AMSL
Slope: 3%
Condition of Features: None noted

Artifacts Collected:

Point Plot:

1	Primary core
1	Secondary core
10	Exhausted cores
2	Utilized cores
1	Primary flake
2	Decortication flakes
12	Secondary flakes
109	Thinning flakes
5	Retouch flakes
2	Blades

38 Spalls
1 Utilized decortication flake
2 Utilized secondary flakes
3 Utilized thinning flakes
2 Utilized broken flakes
1 Retouched primary flake
2 Retouched thinning flakes
1 Retouched broken flake
6 Preforms
1 Aborted, unbroken
5 Aborted, broken
4 Blanks
1 Aborted, unbroken
3 Aborted, broken
1 Side scraper
5 Projectile points
2 Kirk (Fig. 8.2 f)
1 Morrow Mountain (Fig. 8.2 g)
1 Guilford (Fig. 8.1 q)
1 Caraway (Fig. 8.2 i)
1 Burin
2 Knives
1 Savannah River (Fig. 8.2 h)
1 Wedge-like tool
2 Bifaces
1 Fire-cracked rock
2 Cobbles
1 Fractured cobble
28 Nondescript pieces, broken flakes
Total: 245

Excavation Unit 4, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Total Artifacts: 247

31Un90
Archeology Laboratories Site: AL66

31Un90 is located on a small ridgetoe downstream of Cool Springs Branch from 31Un87. The area had been cultivated in corn which provided good visibility. All surface artifacts were marked and point plotted and one testpit was placed in the area of artifact concentration to test for subsurface features, midden and complex stratigraphy. The soil profile was a brown rocky sandy loam over a brownish orange sandy clay and siltstone bedrock. As with the other sites in the area, the brown color of the plowzone is probably the result of fertilization with turkey manure. Bedrock was appearing in some areas of the site indicating either severe erosion or the natural occurrence of bedrock unusually close to the surface.

The distribution of surface artifacts indicated little downslope erosion; subsurface artifacts were limited to the brown rocky sandy loam plowzone. A functional determination based upon the recovered artifacts would indicate that this site was a base camp. The major activities appear to have been tool production and maintenance. Hearths are indicated by fire-cracked rock and vegetal processing is indicated by nutting/grinding stones while other tools suggest possible hide processing.

This site will be impounded by the floodpool of the Marshville reservoir, and will be affected by erosion as a result of fluctuations in the water level.

The subsurface tests suggest that artifacts are confined to the ground surface and plowzone. Little additional information would be gained from further testing and the present data do not justify the inclusion of 31Un90 on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available.
Distance to Water: 77m
Cultural Affiliation: Early Archaic (Kirk), Middle Archaic (Morrow Mountain, Guilford), Late Archaic (Savannah River), Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 20-40% of this site has been destroyed due to cultivation and erosion.
Areal Extent: NE-SW 185m; NW-SE 85m
Exposure: East
Elevation: 445ft AMSL
Slope: 5%
Condition of Features: None noted

Artifacts Collected:

Point Plot:

2	Primary cores
2	Secondary cores
5	Exhausted cores
2	Utilized cores
1	Primary flake
2	Decortication flakes
4	Secondary flakes
112	Thinning flakes
22	Retouch flakes
75	Spalls
1	Utilized thinning flake
1	Utilized spall
1	Utilized broken flake
3	Retouched thinning flakes
7	Preforms
7	Aborted, broken
1	Blank

1 Aborted, broken
10 Projectile points
2 Kirk (Fig. 8.2 l,n)
1 Morrow Mountain (Fig. 8.2 j)
1 Guilford
2 Savannah River (Fig. 8.2 k,m)
1 Caraway (Fig. 8.2 o)
3 Unidentified fragments
1 Wedge-like tool
32 Nondescript pieces, broken flakes
1 Nutting stone
1 Hammerstone/grinding stone
1 Fire-cracked rock
Total:284

Excavation Unit 1, Field Specimen 1
1 Thinning flake
1 Spall
1 Nondescript piece, broken flake
Total: 3

Total Artifacts: 287

31Un91
Archeology Laboratories Site: AL67

31Un91 is located on a slope and adjacent floodplain south of Lanes Creek. The area of the floodplain was fallow, and the slope was in use as a pig sty. Most of the artifacts are located in the floodplain, with only two recovered from the slope. Additional pedestrian survey of the entire slope and the ridgetop above revealed no artifacts and the area had been badly disturbed by hogs and erosion. A testpit placed in the floodplain revealed a mottled yellowish brown clayey sandy silt over an mottled grey clayey silty sand.

The single subsurface test produced no artifacts suggesting that specimens had been recently deposited on the floodplain from the ridge above. None of the original context of the site appears to remain intact.

31Un91 will be inundated by the Marshville reservoir floodpool.

The redeposited nature and stratigraphic condition of 31Un91 preclude its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available
Distance to Water: 38m
Cultural Affiliation: No diagnostics recovered.
Stratigraphic Condition: Recent colluvium
State of Preservation: This site is apparently redeposited.

Areal Extent: N-S 92m; E-W 92m
Exposure: Northwest
Elevation: 435ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 4 Thinning flakes
- 1 Spall
- 1 Utilized thinning flake
- 1 Preform
  - 1 Aborted, broken
- 1 Blank
  - 1 Aborted, broken
- 1 Nondescript piece, broken flake

Total: 9

Total Artifacts: 9

31Un92
Archeology Laboratories Site: AL68

31Un92 is located on a ridgetoe overlooking a bend of Lanes Creek. The area was in cultivation for corn which provided good visibility. Artifacts on the surface, which appeared to have eroded onto the adjacent floodplain, were marked and point plotted. Three subsurface tests were placed in areas of artifact concentration to check for subsurface features, midden, or complex cultural stratigraphy. These tests revealed a brown sandy clay over red clay; the brown soil probably is a result of turkey manure being used as fertilizer.

One testpit contained artifacts, limited to the brown sandy clay plowzone suggesting that most of the site has been disturbed by plowing. This site seems to have functioned as a base camp during the Woodland period, perhaps because of quartz in the area available from an outcrop located in the oxbow across Lanes Creek from 31Un92. The major activity seems to have been lithic reduction of quartz bifaces and possible utilization of the nearby tabular quartz. The presence of ceramics and fire-cracked rock also suggest periods of long-term occupation at the site.

This site will be completely inundated by the Marshville reservoir.

Subsurface tests do not indicate any intact features or stratigraphy. These factors preclude the inclusion of this site on the National Register of Historic Places. No further work is recommended.

Soil Type: No soil maps available

Distance to Water: 46m
Cultural Affiliation: Middle Archaic (Guilford), Late Archaic (Savannah River), Early Woodland (Badin), Middle Woodland (Uwharrie), Late Woodland (Pee Dee, Dan River)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 10-20% of this site has been destroyed as a result of cultivation and erosion.
Areal Extent: N-S 431m; E-W 62m
Exposure: East
Elevation: 440ft AMSL
Slope: 5%
Condition of Features: None noted

Artifacts Collected:

Point Plot:

- 7 Primary cores
- 3 Secondary cores
- 32 Exhausted cores
- 1 Utilized core
- 8 Decortication flakes
- 226 Thinning flakes
- 145 Retouch flakes
- 2 Blades
- 152 Spalls
- 8 Utilized thinning flakes
- 2 Utilized spalls
- 3 Utilized broken flakes
- 1 Retouched decortication flake
- 3 Retouched thinning flakes
- 1 Retouched spalls
- 6 Retouched broken flakes
- 9 Preforms
  - 2 Aborted, unbroken
  - 6 Aborted, broken
  - 1 Utilized
- 1 Blank
  - 1 Aborted, unbroken
- 2 End scrapers
- 1 Side scrapers
- 30 Projectile points
  - 1 Guilford (Fig. 8.2 p)
  - 2 Savannah River (Fig. 8.2 q, r)
  - 1 Badin
  - 11 Caraway (Fig. 8.2 s-aa)
  - 15 Unidentified fragments
- 2 Denticulates
- 1 Drill
- 1 Wedge-like tool
- 8 Bifaces
- 1 Fire-cracked rock
- 8 Cracked cobbles
- 1 Piece of groundstone, possible adze
- 53 Nondescript pieces, broken flakes

Prehistoric Ceramics:
31 Sherds: net-impressed
4 Sherds: cord-marked
40 Sherds: smoothed
5 Sherds: curvilinear stamped
4 Sherds: simple stamped
1 Sherd: fabric-impressed
5 Sherds: eroded
2 Sherd: unidentified surface treatment
Total: 800

Excavation Unit 2, Field Specimen 1
1 Retouch flake
1 Spall
1 Utilized thinnning flake
Total: 3

Total Artifacts: 803

31Un97
Archeology Laboratories Site: AL71

This site is located on a hilltop adjacent to the location of 31Un63. The area was a fallow field with moderate visibility. Those artifacts located on the surface were marked and point plotted and one testpit was placed in the area of artifact concentration. This test revealed a tannish brown, rocky, loose loamy clay over an orange clay. The dark color of the soil probably is the result of turkey manure used as fertilizer.

Artifacts were recovered from the testpit within the loamy clay plowzone. The distribution of the surface artifacts indicated that the site is eroding down the slope to the southwest. This site is probably a small, ephemeral campsite with the high number of utilized and retouched pieces and flake tools suggesting a kill site, food processing or butchering station.

This site will be affected by dam construction for the Marshville reservoir.

The stratigraphic condition and lack of intact features reduces the research potential of 31Un97. These factors do not justify its inclusion on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 54m
Cultural Affiliation: Late Woodland (Caraway)
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 30-60% of this site has been destroyed by erosion and cultivation.

Areal Extent: N-S 92m; E-W 92m
Exposure: West
Elevation: 380ft AMSL
Slope: 3%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
- 1 Secondary core
- 2 Exhausted cores
- 1 Decortication flake
- 15 Thinning flakes
- 1 Retouch flake
- 7 Spalls
- 3 Utilized thinning flakes
- 1 Retouched secondary flake
- 1 Retouched retouch flake
- 2 Retouched broken flakes
- 2 Projectile points
  - 1 Caraway (Fig. 8.2 bb)
  - 1 Unidentifed fragment
- 1 Burin
- 3 Bifaces
- 11 Nondescript pieces, broken flakes

Total: 51

Excavation Unit 1, Field Specimen 1
- 1 Thinning flake

Total: 1

Total Artifacts: 52

31An53
Archeology Laboratories Site: AL38

31An53 is located on a small ridgetoe overlooking Lanes Creek. Part of this site was in a fallow field with the rest in a hardwood forest along the edges of the field. Surface artifacts were marked and point plotted and six testpits were placed around the edge of the field and in an area of artifact concentration. The testpits in the forest showed a black sandy loam grading into grey-black sandy loam grading into orange clay. The testpit in the field revealed an orange sandy clay over red clay suggesting severe erosion.

Four testpits located in the wooded area contained artifacts. The artifact inventory indicates that this is a small short-term possible hunting camp. The major activity at this site was probably tool production indicated by both biface reduction and flake tool manufacture.

This site will be completely inundated by the floodpool of the Marshville reservoir.

Subsurface tests at this site failed to produce any evidence of intact subsurface features or stratigraphy. These factors and the state of preservation do not justify the inclusion of 31An53 on the National Register of Historic Places. No further work is recommended.

Soil Type: Goldston very channery silt loam
Distance to Water: 62m
Stratigraphic Condition: Eroded upland
State of Preservation: An estimated 50-65% of the site has been destroyed by cultivation and erosion.
Areal Extent: N-S 23m; E-W 18.5m
Exposure: West
Elevation: 445ft AMSL
Slope: 2%
Condition of Features: None noted

Artifacts Collected:

Point Plot:
2 Exhausted cores
1 Decortication flake
14 Thinning flakes
2 Retouch flakes
12 Spalls
1 Utilized thinning flake
1 Blanks
1 Aborted, broken
11 Nondescript pieces, broken flakes
Total: 44

Excavation Unit 1, Field Specimen 1
2 Thinning flakes
1 Spall
1 Nondescript piece, broken flake
Total: 4

Excavation Unit 2, Field Specimen 1
1 Thinning flake
1 Spall
Total: 2

Excavation Unit 4, Field Specimen 1
1 Thinning flake
1 Nondescript piece, broken flake
Total: 2

Excavation Unit 6, Field Specimen 1
1 Thinning flake
Total: 1

Total Artifacts: 53

CHAPTER 5: HISTORIC SITE DESCRIPTIONS

This chapter provides a site-by-site description of historic sites encountered in the Lambert (Stanly County) and Marshville (Union County) reservoir areas. The presentation is divided between these two counties and then according to site type, beginning with standing structures.

Lambert Reservoir Area

Standing Structures

31St5
Archeology Laboratories Site AL19

This site is a derelict mill, previously known as Whitley Mill, currently owned by Mr. Douglas Branch (Fig. C1 a-d). The structure consists of a main building containing the milling apparatus and a two-story addition which served as a woodshop. The main mill building is of platform frame construction with a mixture of handhewn platform beams with mortise and tenon joints and sawn cut boards. The addition is also platform frame construction. Both sections of the structure are weatherboarded and tin roofed. Weatherboards are of random length and are a mixture of hand-hewn and sawn boards, containing both cut and wire nails. The main structure is two-story with a three-story central gallery to accommodate the milling machinery. The dimensions of the main structure are 15.3m x 11m. The remainder of the mill building is two-story with rows of sash windows symmetrically placed. The dimensions of the addition are 9.64 m x 11 m. The mortise and tenor construction, and the absence of wrought nails, suggests a construction date in the first half of the nineteenth century.

The main structure rests on a variety of supports. The support wall of the original structure is a wall of fieldstone which is intact behind the turbine gear housing. One corner of the structure sits on a metal pole and the other corner on concrete cinderblocks. Along that same wall are three beams, two of which rest on fieldstone. The south end is raised above grade and rests on stone pilings or cut timbers. The east side of the addition is supported by the concrete gear housing, at the base of which are four openings still containing evidence of wooden gates. The metal turbine wheels remain in the housing, although they are partially silted over. The remainder of the addition is supported by both metal poles and cut timbers which sit on fieldstone.

The 1927 addition is two-story, but owing to the slope of the land the attic story rises above the roof ridge of the older section. A one-story shed roof porch with a tin roof and supported by corner brackets extends the width of the addition.

Oral communication between Douglas Branch and Melanie Meyers of the Wake Forest survey party (11/9/85) indicated that the original structure predates the War Between the States. Mr. Branch further indicated that his grandfather purchased the mill in 1927 and moved the structure eight m back from the creek bank. At that time the original wooden pitch-back wheel and flume were removed and replaced with a turbine wheel enclosed in a concrete housing. This mechanism is still intact as are the sluice gates and retaining wall forming the dam. Also it was stated that Douglas Branch's grandfather built the frame, two-story addition and operated a saw mill. All aspects of the operation ceased following World War II.

The interior of the main building contains the milling apparatus as it had been functioning when the mill ceased operation. All of the grain bins and grain shafts are intact. The mill was a multi-grain operation with three sets of grain bins. Most of the gears remain in place and those which have been dismantled are within the mill. Several of the gears are wooden, an unusual feature of this early industrial site.

A concrete dam was constructed in 1927 (Douglas Branch, personal communication, 11/9/85). The concrete retaining mass extends from 3.35m northwest of the northwest corner of the main structure across Bear Creek. In areas where the concrete has worn away a wall of fieldstone is visible, but it is not known if the fieldstone wall is part of the original dam or was constructed in 1927. The wall contains a wooden sluice gate, still intact although extremely bowed in the center with the wood beginning to crack. Just beyond that sluice gate is an area let into the concrete for another gate placement.

Machinery Inventory:
Grinders:

1) Completely intact with no visible patent number or manufacturer's name; wooden housing for grinding stones; tin grain loader; base shaft for the exit of grain.

2) Completely intact, but with no manufacturer's name; "11822 No. 1 capacity -- 20 to 30 bushels per hour", almost entirely metal.

3) Metal grinder, "Papec. Reg. in USA, Feed mill, Mfg by Papec Machine Co., Shortsville, NY."

4) "John Deere, No. 1B, USA PA., 1 323522 OTHERS PEND."

5) "HART PARR, Charles City, Iowa, #11372, speed min.2000rpm 1 max.2400rpm style B27 size 10 serial no. 100979."

There are two outbuildings adjacent to, but not in direct association with the mill. Structure A is a shed currently used as storage. It is a simple frame building measuring 4.7m x 3.25m

with weatherboard siding and a tin roof. The roof has an overhang supported by wooden brackets. The front has double doors opening to the side. Structure B is a four-room domestic structure 7.15m x 7.14m. It is side-gabled with an extended roof line, covered with lapboard siding, and rests on corner stone supports. The front door is off-center and windows are sash, randomly placed. The interior has electric wiring, linoleum floors and corkboard ceiling.

This site will be severely affected by the construction of the dam for the Lambert reservoir.

Given the superior state of preservation as well as the fact that this mill is one of the few remaining in this state it is highly recommend for inclusion on the National Register of Historic Places. The mill is of significance for these specific reasons:

1. It is one of the few mills remaining in a region which depended on water power in the nineteenth century.

2. It is representative of a type of commercial structure that is no longer used.

3. It is in a remarkable state of preservation.

Should the Lambert reservoir dam be built upstream from this mill it is recommended that the site by protected by reinforcement structures to safeguard the mill from the destructive effects of wave action or runoff from discharged water. The site should also be monitored to ensure that discharged water is being properly diverted from the structure. Also it is recommended that this site be protected from the secondary impacts of construction such as access easements, equipment storage, the general movement of machinery and personnel, and from public access. In the event that the Lambert reservoir dam is built in the immediate vicinity or downstream from this mill it is recommended that the structures that comprise this site be relocated in a manner which retains the original state of preservation at the time of relocation.

Soil type: Chewacla silt loam
Distance to water: 1m
Areal extend: N-S 30m; E-W 76m
Elevation: 410ft AMSL
Slope: 6%

Artifacts Collected:

Stonewares and earthwares:
6 Blue/white glazed
27 Ironstone
Total: 38

Glass:
6 Window
1 Yellow
5 Aqua blue
3 Porcelain
14 Milk glass
1 Milk glass cream jar with metal top
13 Clear
Total: 43

Metal:
1 Atlas mason jar cap with milk glass insert
7 Small fragments
Total: 8

Other:
4 Mussel shell fragments
1 Concrete fragment
Total: 5

Total artifacts: 94

31St6
Archeology Laboratories Site AL20

This complex of buildings, known as the Furr farmstead, includes the main domestic structure, a smaller, adjacent domestic building, a well house and three outbuildings (Fig. C1 e-g; Fig. C2). According to M.H. Furr (personal communication), the larger house was built when Mr. Furr was a boy. When contacted Mr. Furr was 86 years old, placing construction of Structure A between about 1900 and 1910.

Structure A is a quarter Georgian-plan house, an especially common plan in the late nineteenth and early twentieth centuries. These retained the formality of the central hall I-house, but reduced it to its simplest elements. The structure is frame with weatherboard siding and a tin roof. The front porch has a dropped tin roof which runs the full length of the front, and is carried on three champhered posts (a fourth is missing). Two plain posts flank the central doorway, and windows are simple sash. An ell addition containing a porch on the southeast extends 6.96m from the rear of the building. Such porches and additional rooms were a common means of extending the limited space of the quarter-Georgian plan; such porches were usually oriented to the south and functioned as a living space in mild weather. Structure A is raised on stone piers placed at the corners and by timbers randomly located. The house has an interior fireplace and chimney located at the rear of the room to the right of the hallway. A second chimney is present on the exterior of the house on its northwest side. These are laid in common bond with a clay pipe extending from the upper edge.

Structure B is located adjacent to the main structure. It appears to be a hall-and-parlor plan house with a portion of the front porch enclosed. The building is frame with lapboard siding and a tin roof. A mixture of cut and wire nails was used throughout. The interior is divided into three rooms. Overall length is 7.5m, including the porch; width is 5m. A construction date of 1875-1900 is indicated.

Structure C is a well house and well situated between structures A and B. The well house is a wooden pagoda style with a tin roof, and rests on wooden posts. It measures 2.4m on a side and is 2.15m from ground to eave. The exterior housing of the well proper is above-ground brick construction set on concrete. There are two well shafts, one of which is dry. The older shaft has a concrete cap.

Structures D and E are storage sheds. D is a rectangular frame building measuring 10.14m x 6.15m. It is covered with flush vertical boards and has a tin roof. The front gable extends beyond the exterior wall and is supported by wooden brackets. The eaves extend from the sides of the structure, forming sheds to the left and right of the main entrance. Double doors on butterfly hinges open out from the central section of the structure. E measures 4.3 m x 5.57 m, and is nearly identical in construction type and materials. The roof is corrugated tin.

Structure F is a barn measuring 14.63m x 17.74m. It is a two-story, platform-frame, front-gable building with a tin roof and a combination of flush weatherboard and board and batten exterior siding. The main pile has an opening 4.18m wide extending through the barn, northwest to southeast. There are projecting sheds on three sides; the sheds on the front and back are 7.12m and 7.6m respectively, while the shed on the southwest runs the full length of the building. Interior space contains an enclosure constructed from logs with half dovetail joints and chinking.

This site will be severely affected by the construction of the Lambert Reservoir dam.

The Furr homstead, 31St6, is recommended for inclusion on the National Register of Historic Places. This complex of buildings is important because it represents a typical nineteenth century small Piedmont farm. The buildings individually are important because they typify the vernacular tradition in the rural South. Buildings of this sort are becoming increasingly rare as farms are abandoned or the buildings replaced by successful farmers with contemporary outbuildings and residences. Should the Lambert reservoir dam be built it is recommended that the area of the Furr homestead be protected by retaining structures to prevent damage associated with the dam construction. It is also recommended that this site be protected from the secondary impacts of construction such as access easement, equipment

storage, the general movement of machinery and personnel, and from public access. If the site can not be protected from these factors, it is recommended that 31St6 be relocated in a manner which retains the original state of the property at the time of relocation.

Soil type: Badin slaty silt loam
Distance to water: 255m
Elevation: 570ft AMSL
Slope: 13%

Artifacts Collected:

Earthenwares:
16 Undecorated whitewares
2 Over-glaze transfer prints
Total: 18

Stoneware:
3 Undecorated white
2 Salt-glazed
4 Redware
Total: 9

Glass:
7 Milk glass (mason jar insert fragments)
1 Porcelain
Total: 8

Metal:
1 Mule shoe
2 Fragments:
Total: 3

Leather:
1 Piece of shoe
Total: 1

Total artifacts: 39

Historic Cemeteries

31St93
Archeology Laboratories Site AL75

This historic cemetery is found in a barbed wire enclosure in a pasture, located on a ridgetoe slope. The cemetery supports a moderate amount of undergrowth but appears to be occasionally cleaned. All the stone markers are either standing or have fallen in place. A total of 30 stones is present, only six of which bear inscriptions. All the unmarked stones are of local fieldstone, and indicate graves oriented east-west in three north-south rows, with the head stone placed at the west end of

the grave. Of the marked stones, nos. 1 and 2 and their foot stones are of white sandstone; nos. 3 and 4 are of polished argillite.

1)

SARAH
Wife of
K. ALMOND
Died
Dec. 1872

(A foot stone is present marked S.A.)

2)

KILLES ALMOND
Died
Dec. 1857

(The foot stone is in place, marked K.A.)

3)

ViNSA. FURR. DECEA
OCTOBER..8 1854
BORN. MAY.29, 1851

4)

LOVINA..ALMAN
WAS..BORN..DECEMBER
THE..13..DAY..1832
DECEASE..MARCH 1858
THE..26..DAY..

No test pits were dug and no artifacts were collected. Construction of the Lambert Reservoir would flood this site occasionally during exceptionally high water periods.

Should the Lambert reservoir be built, it would be necessary to relocate this cemetery.

Soil type: Badin channery silt soam
Distance to water: 555m
Areal extent: 20m by 30m
Elevation: 500ft AMSL
Slope: 24%

31St95
Archeology Laboratories Site AL97

This is a historic cemetery situated on a hilltop above Big Bear Creek in the Lambert Dam Site area. On its east side the cemetery is bounded by a 50cm high rock wall, and the area is covered with periwinkle, cedar trees and brush. There are 58 stones present only 10 of which are inscribed, including seven

head stones and three foot stones. Except for stones 4, 5 and 6 and the associated footstones, which are of white sandstone, all other markers are of native fieldstone.

1)

RUFUS T. HARWOOD
WAS BORND FEB 13
1854 AND DEC.
JULY 14 1857

(Footstone reads AGED 3y 5M 1D)

2)

SARY BURLESON
DiED OCT: THE
1855

(This stone is broken and a portion of the inscription is missing)

3)

CALViN
FURR: DC
FEB: 12 DAY
1839

(A small abstract floral motif is inscribed in a circular cartouche below the lettering)

4)

SUSAN HARWOOD
Born 1812
Died
July 31, 1899
Aged 87 years

(The name of the deceased is enclosed in a bent or arced rectangle above the dates, and a footstone bears the initials S.A.)

5)

SEALY ANN
HARWOOD
Born 1824
Died July 9 1886
Aged 62 yrs. 2 mos
20 days

(A footstone is engraved S.A.H.)

6)

JULIA A.
Wife of
EMSLEY B.

HARWOOD
Born 1831
Died
June 29, 1914
"Faithful to her trust,
Even Unto Death"

7)

E.B. HARWOOD
Died
Dec 4, 1892
Aged 20 Years
"Blessed are the dead
Who die in the Lord."

This site was not tested and no artifacts were recovered. It would be inundated by the Lambert Reservoir.

Should the Lambert reservoir be constructed, it would be necessary to relocate this cemetery.

Soil type: Badin channery silt loam
Distance to water: 600m
Areal extent: 40m by 25m
Elevation: 520ft AMSL
Slope: 15%

Rock Piles and Rock Walls

31St71
Archeology Laboratories Site AL72

Consisting of a well-preserved rock wall 8.5m in length, this site probably represents a combination of field clearing and erosion control efforts of the historic period. The wall is 1.8m wide and .70m high, and extends perpendicular to a minor drainage channel within a small floodplain. The wall is built of local fieldstones, and local farmers stated that such walls are built even at the present time to control run-off and rid the fields of unwanted rock. No test pits were dug and no artifacts were collected. Dam construction will flood the site. Because it is impossible to date this structure and the similar ones following, none of the rock piles or rock walls are recommended for inclusion on the National Register of Historic Places. No further work is recommended.

Soil type: Badin channery silt loam
Distance to water: 750m
Areal extent: 10m by 2m
Elevation: 445ft AMSL
Slope: 12%

31St94
Archeology Laboratories Site AL76

Located at the confluence of Little and Big Bear creeks, this historic site contains three rock piers that once supported a bridge. The piers are of local stone and concrete mortar and have been heavily damaged by water action, with only the lower courses remaining in two cases. On the west bank of the creek is a ramp of rock set in a natural soil matrix which allowed traffic from the low bridge to regain the high ground beyond. No additional evidence of a road can be seen.

No test pits were dug at this site, and no artifacts were collected The piers will be flooded if the Lambert Reservoir is constructed. No further work is recommended.

Soil type: Chewacla silt loam
Distance to water: 0m
Areal extent: 40m by 20m
Elevation: 420ft AMSL
Slope: 10%

31St96
Archeology Laboratories Site AL80

This site is a rock pile and rock wall located in a floodplain on the eastern side of Big Bear Creek, at the juncture of the T0 terrace and the hill forming the side of the valley. The wall lies parallel to the slope of the hill, some 300 m upstream of the mouth of Little Creek. The wall is 13m long, .7m high (approximate average) and in places up to 1.8m wide, composed of locally occurring boulders of argillite. There is little indication of stacking, and this "wall" could easily be viewed as a linear rock pile. Seven meters from the north end of the wall is a pile of felsite boulders 40cm high and 2.8m in diameter. These features likely represent field clearing activities, with the rock dumped so as to retard runoff from the adjacent slope. No test pits were dug and no artifacts were collected. No further work is recommended.

Soil type: Chewacla silt loam
Distance to water: 6m
Areal extent: N-S 23m; E-W 3m
Elevation: 435ft AMSL
Slope: 10%

31St78
Archeology Laboratories Site AL81

This rock pile measures 3.1m by 5.9m and 1.2m high, and is present just below the crest of the ridge at the confluence of Big Bear and Little creeks. The rocks are locally occurring

felsites, probably accumulated to clear an adjacent cultivated field. No test pits were dug and no artifacts were collected. No further work is recommended.

Soil type: Goldston very channery silt loam
Distance to water: 75m
Areal extent: N-S 6m; E-W 3.1m
Elevation: 450ft AMSL
Slope: 20%

Marshville Reservoir Area

Historic Cemeteries

31Un64
Archeology Laboratories Site AL31

This cemetery was used by the Hasty family during the nineteenth century. It is located in the midst of a plowed field on a ridge top and, while not plowed, it is in a stage of neglect. Brambles and brush obscure the graves, and there are evident intrusive holes probably dug by grave robbers in some of the grave pits. Periwinkle, a popular ground cover plant for cemeteries of the period, covers the area around the 15 marked graves. All burials have the head to the west, the feet to the east, and all but one have both a head and a foot stone.

Both head and foot stones are cut from local field stone and have been shaped only on the sides, the faces left in the natural state. Information is carved on the headstone only, on its outer face (i.e. on the face away from the grave), in a hand script. There are no decorative carvings whatsoever, but in most cases the carved information is underlined, probably to guide the carver. In a few cases information provided on the face of the headstone is repeated in part on the top of the stone. Although the stones were locally obtained and likely locally carved, they were executed with a sense of style and with care. Despite the rock used most of the carving remains clearly legible. Individual stones were inscribed as follow:

1)

Griffin Hasty Wm 5th
Born July 19 1811
Died Oct. 21 1881 Aged 70
Years 3 Mo + 6(?) Days

(2.5m between head and foot stone)

2)

M J Hasty
Died Dec. 21(?) 1887
Age

(2.4m between head and foot stone)

3)

W.P. Hasty
Died Dec. the 31st 1858
Aged 21 years
+ 6 Months

(W.P. Hasty written on top of head stone; foot stone displaced).

4)

P.T. Hasty
Died April
the 9th 1862
Age 27 years

(Written on top of head stone P.T. Hasty April the 9th 1862; 2.1m to foot stone).

5)

J.T. Swaner

(1.9m between head and foot stones).

6)

J.T. (Orf) Jacobson

(1.4m between head and foot stones).

7)

Nancy
Hasty
Wife of Lemuel
Dyed June the

(Next line underlined but blank; distance to foot stone not recorded).

8)

(No name or marking on this stone; possibly a child, because only .74m separate the head and foot stones)

9)

H.A. Hasty
Died Aug 20th
1886

(The headstone is broken; 2.3m between the head and foot stones)

10)

N.W. Hasty
Died March
21st 1880

(2.3m between head and foot stones)

11)

El??i?d Hasty
Died
March the 14th 1863

(1.6m between head and foot stones)

12)

Jane E. Hasty
Died May 1st 1867
Age 35

(No foot stone present)

13)

Ma
Died
the 28
Age

(This stone broken on either side of the extant inscription; distance to foot stone not recorded)

The remaining two head stones bore no inscriptions or markings. No test pits were dug or artifacts collected at this site, which will be inundated if the Marshville reservoir dam is built. If this occurs it will be necessary to relocate this cemetery.

Soil type: Not available
Distance to water: 450m
Areal extent: N-S 2m; E-W 7.6m
Elevation: 443ft AMSL
Slope: 2%

31Un67
Archeology Laboratories Site AL35

This is a more recent cemetery of the Hasty family. It contains four graves complete with head and foot stones, and is located in a plowed field on a ridge overlooking Lanes Creek. All stones are well preserved and have not been damaged or disturbed by the surrounding cultivation. The head stones are of polished granite and are machine carved, each with a floral design near the top containing an H (for Hasty; note exception on grave 4). The graves are oriented east-west, with the head to the west.

1)

W.R. Hasty Nov. 12 1825 July 28, 1902
"When the roll is called I'll be there"

2)

Dau. of J.C. & M.J. Hasty,
Born Feb. 18, 1895 Died Feb. 19, 1895

(This stone was broken, lying between graves 1) and 3).

3)

Eliza Ann Curlee
Wife of W.R. Hasty Apr. 2, 1835 Dec. 20, 1913
"Sweet is thy rest"

4)

F.M. Hasty Aug. 25, 1853 Sept. 27, 1928
"Gone but not Forgotten"

(A photograph of F.M. appears where "H" occurs in the decorative mark on other stones. This appears to have been a daguerrotype, hand painted and transferred onto porcelain then set into the stone.)

No test pits were dug nor artifacts collected at this site. If the Marshville reservoir dam is built the area may be affected by high water levels and it will be necessary to relocate this cemetery.

Soil type: Not available
Distance to water: 300m
Areal extent: 4.2m by 2.1m
Elevation: 425ft AMSL
Slope: 0%

31Un70
Archeology Laboratories Site AL39

This site is a cemetery located on a ridgetop above Lanes Creek, in the midst of a plowed field. Four marked graves are present, surrounded by an iron fence which marks the cemetery perimeter. The head stones and foot stones are all of local uncut fieldstone, bearing hand-carved inscriptions and badly weathered. The graves are oriented east-west, with the head stone at the west end.

1) and 2) No markings are preserved; in both cases 1.34m separates the head and foot stones.

3)

Oct 28, 1863 S. Marsh Died

(2.14m between head and foot stone)

4)

E. Marsh Died Feb. 8, 1885

(2.8m between head and foot stone)

No test pits were dug, and no artifacts were collected. If the Marshville reservoir is constructed the cemetery would be affected during high water conditions and relocation would be necessary.

Soil type: Not available
Distance to water: 300m
Areal extent: N-S 4.3m; E-W 3.5m
Elevation: 420ft AMSL
Slope: 2%

31Un79
Archeology Laboratories Site AL63

This historic cemetery occurs on a gently sloping ridgetoe above the confluence of Lanes Creek and Cool Spring Branch. The cemetery is less than 100 meters from 31Un78, a historic artifact scatter. Most of the burials belong to the Ashcraft family. The grave markers are of local fieldstone, and the adult head stones are in good condition considering the age and material. These are of a simple design, rectangular with the upper corners rounded, bearing a mixture of block and cursive lettering with no decorative elements or epitaphs. It is characteristic of the infants' head stones that the lettering is "run-on", with names or words filling a line completely and continued to the next. Most of these are badly worn, and appear to have been made of a softer stone than that used for adults. The graves are oriented east-west but, unlike most cemeteries of the period, the head stone occurs at the east end, rather than west end, of the grave.

1)

John Ashcraft Born July 1, 1805, Died May 11, 1863
Ag'ed 57 Y'rs. 10 Mo's + 6 days

(Foot stone bears inscription J.A.)

2)

Martha, Wife of John Ashcraft, Born Aug. 10, 18[illegible]1, Died July 27, 1884 Aged 77 Y'rs 11 Mo's 17 days

(Foot stone bears inscription M.A. Both head stones 1 and 2 were found lying across a deep depression, apparently the robbed grave of the couple)

3)

Wm Ashcraft
Born Nov. 17, 1772
Died May 26, 1854
Aged 81 y's, 6 M's, 9 D's

4)

Francis Ashcraft
Born May 9, 1846 Died Dec. 25, 1903

5)

Nov. 14, 18
Aged 66 y's, 1 M'o, 6 D's

(This head stone was broken and a portion missing. A broken foot stone was lying nearby)

6)

T H
WiLLi
AMS Bo
rnSEP
15 1881 Ag
e 5 Mon
ths

(This and the following two stones mark infant burials. Letters were often separated by scribe marks or dots)

7)

L S WILLi A
MS BOR
N OCT 4
1879 Di
ED 1881 AG
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8)

In Memory of
W.C. Son of J.D. & M.A.
Rodgers, Born Oct 30, 1886
Died May 14, 1888
Parents meet me above
where all is
peace and love

(This inscription also included a cross carved immediately above the word "memory")

Additional elements in this cemetery, all unmarked, include seven standing fieldstone foot stones, five fieldstone foot stones lying on the surface, one unmarked fieldstone head stone lying well away from the other stones, a large boulder of fieldstone and a depression, probably a robbed grave, 1m long and .5m wide.

No test pits were dug at this site and no artifacts were collected. The site is located above the level of the floodpool

and will not be affected by the construction of the Marshville reservoir. No further work is recommended.

Soil type: Not available
Distance to water: 440m
Areal extent: 20m by 20m
Elevation: 470ft AMSL
Slope: 8%

Rock Piles and Rock Walls

31Un66
Archeology Laboratories Site AL34

This site is a set of rock piles located on the crest and slope of a ridge, extending over an area 80m east-west and 45m north-south. Dimensions of the individual piles area:

	Width	Length	Height
1)	2.43 m	2.74 m	.50 m
2)	2.48 m	2.51 m	.70 m
3)	3.60 m	2.23 m	.50 m
4)	1.75 m	1.80 m	.35 m
5)	2.10 m	2.00 m	.68 m
6)	2.00 m	1.80 m	.38 m
7)	3.20 m	3.00 m	.50 m
8)	2.64 m	3.35 m	.56 m
9)	2.00 m	1.50 m	.48 m
10)	1.60 m	1.50 m	.56 m
11)	1.94 m	1.90 m	.76 m

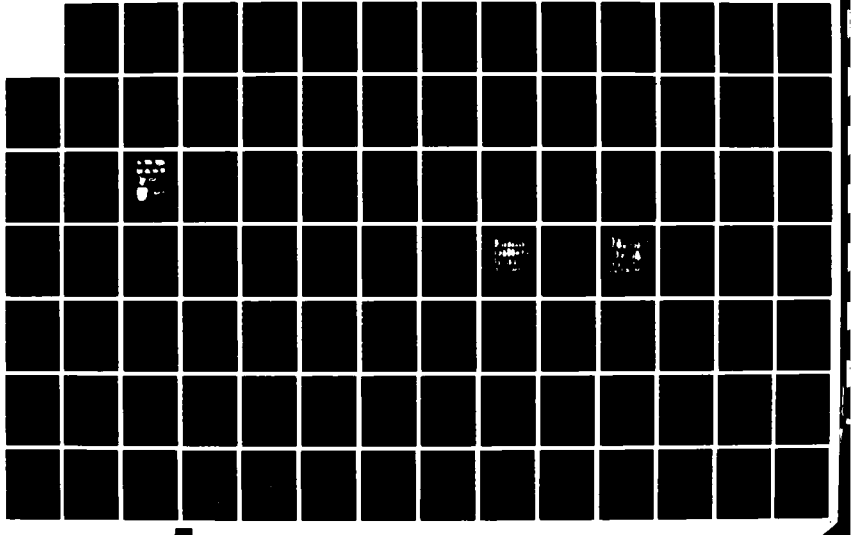
Each pile is approximately circular in flat plan, and all are of approximately the same size. These likely result from field clearing, each pile representing a single wagon load collected from adjacent farm land. No test pits were excavated, and no artifacts were collected. This site will be inundated if the Marshville reservoir is constructed.

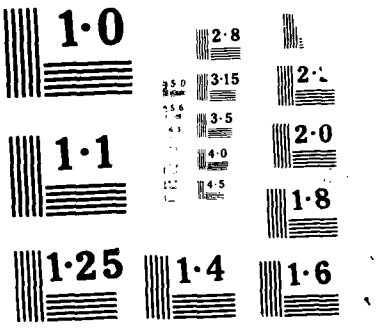
Like the rock piles and rock walls located in the Lambert area, these sites are impossible to date and are not recommended for inclusion in the National Register of Historic Places. No further work is recommended.

Soil type: Not available
Distance to water: 49m
Areal extent: N-S 45m; E-W 80m
Elevation: 430ft
Slope: 40%

31Un71
Archeology Laboratories Site AL40

AD-A191 340 AN ARCHEOLOGICAL SURVEY OF TWO PROPOSED RESERVOIR AREAS 3/3
ROCKY RIVER BASIN..(U) WAKE FOREST UNIV WINSTON-SALEM
NC ARCHEOLOGICAL LAB L E ABBOTT ET AL. AUG 87
UNCLASSIFIED DACW54-85-R-0034 F/G 5/6 NL




1·0
1·1
1·25
1·4
1·6
1·8
2·0
2·8
3·15
3·5
4·0
4·5

Six rockpiles comprised this site, located along the broad end of a ridgetoe. The piles are round or slightly oval in shape and consist of large fieldstones of approximately the same shape and size. The piles are adjacent to two fields still in cultivation, and probably represent field clearing activity of the historic period. Individual pile dimensions are:

	Width	Length	Height
1)	2.3 m	3.0 m	Not recorded
2)	1.6 m	1.6 m	Not recorded
3)	1.8 m	1.6 m	Not recorded
4)	3.0 m	3.2 m	Not recorded
5)	3.9 m	3.4 m	Not recorded
6)	4.5 m	4.6 m	Not recorded

These structures will be flooded should dam construction occur. No test pits were dug. No further work is recommended.

Soil type: Not available
Distance to water: 150m
Areal extent: N-S 175m; E-W 40m
Elevation: 435ft AMSL
Slope: 4%

Artifacts collected:
1 brick fragment
1 large piece of salt-glazed stoneware
1 piece of purple jar glass with bubbles
Total: 3

31Un74
Archeology Laboratories Site AL43

This site is a set of seven rock piles on the top and slope of a ridge near Lanes Creek. Spaced over an area 60m by 35m, they are undisturbed and evenly distributed. Dimensions of the piles are:

	Width	Length	Height
1)	2.1 m	1.93 m	.40 m
2)	2.1 m	4.0 m	.65 m
3)	2.2 m	2.2 m	.65 m
4)	2.2 m	2.1 m	.65 m
5)	1.6 m	1.6 m	.45 m
6)	2.1 m	2.5 m	.55 m
7)	4.3 m	3.0 m	.70 m

Although these piles are not near any land currently or recently in cultivation, the consistent size of the piles and the fieldstones comprising them strongly suggest they are a product of field clearing activities of the historic period. They will be flooded by the planned impoundment. No test pits were

excavated, and no artifacts were collected. No further work is recommended.

Soil type: Not available
Distance to water: 64m
Areal extent: 60m by 35.5m
Elevation: 420ft AMSL
Slope: 5%

31Un75
Archeology Laboratories Site AL48

Located in an ephemeral drainage at the base of a ridge, this site consists of a single rock pile (2.0m in diameter and .15m high) with a low wall, mainly buried by alluvium, extending outward. The wall is 30cm wide and 35cm high and is slightly curved, partially blocking the natural flow through the shallow gully. The rock pile is scattered by erosion and by a pine tree now growing at its edge. It appears likely that the stones were placed here in historic times, gathered from a cultivated field and situated to retard erosion. No test pits were dug, and no artifacts were collected. The area will be flooded by the proposed dam project. No further work is recommended.

Soil type: Not available
Distance to water: 62m
Areal extent: N-S 14m; E-W 40m
Elevation: 440ft AMSL
Slope: 0%

31Un76
Archeology Laboratories Site AL50

Located on either side of Beaverdam Creek, this site consists of two substantial segments of a stone wall that at one time probably dammed the creek. When surveyed the wall was broken by the creek, here eight meters wide. On the south side of the creek the wall is 63m long, 2m wide and 1m high; on the north side the remining portion is 9.5m long, 2.0m wide and 1.5m high. The wall is substantial enough to have pooled water if it extended across Beaverdam Creek, acting as a low-water dam. If so, any related industrial or agricultural works were not visible to the survey team. No test pits were dug, and no artifacts were collected. The wall will be inundated by dam construction. No further work is recommended.

Soil type: Not available
Distance to water: 1m
Areal extent: N-S 74m; E-W 2m
Elevation: 435ft
Slope: 3%

31Un77
Archeology Laboratories Site AL53

This site contains two rock piles located on a ridge slope above Lanes Creek. They have been little disturbed, although some minor scattering has been caused by intrusive tree growth. Dimensions are:

	Width	Length	Height
1)	3.0 m	3.0 m	.85 m
2)	4.5 m	3.6 m	.85 m

Again it appears likely these piles are a result of field clearing in historic times. No test pits were dug, and no artifacts were collected. The piles will be flooded if the proposed Marshville Reservoir dam is constructed. No further work is recommended.

Soil type: Not available
Distance to water: 62m
Areal extent: 40m sq.
Elevation: 420ft AMSL
Slope: 12%

Historic Artifact Scatters

31Un58
Archeology Laboratories Site AL25

This artifact scatter was found on the slope of a ridge system on the west side of Lanes Creek, in the yard of a presently occupied dwelling. No subsurface pits were dug, but materials on the surface were collected by means of six 10m square units. The majority of artifacts collected indicate an occupation dating from around 1880-1890 to the 1950s. More recent specimens of plastic, glass, and clay were not collected.

If the Marshville Reservoir dam is constructed the site is unlikely to be affected because it is situated well above the floodpool contour. There are no historical data likely to be aquired at this site due to its surficial and disturbed conditions, and thus it does not appear eligible for National Register listing. No further work is recommended.

Soil type: Not available
Distance to water: 150m
Areal extent: 30m by 30m
Elevation: 435ft AMSL
Slope: 5%

Artifacts collected:

Earthenwares :
92 Undecorated whiteware sherds
6 Underglaze painted sherds
7 Underglaze stenciled sherds
3 Overglaze stenciled sherds
3 Transfer print sherds
1 Overglaze painted sherd
Total: 112

Stonewares:
4 Salt-glazed sherds
5 Underglaze painted sherds
3 Undecorated white sherds
Total: 12

Porcelain:
5 Undecorated sherds
Total: 5

Glass:
3 Royal blue bottle fragments
1 Blue bottle fragment
2 Clear bottle fragments
1 Milk glass fragment
1 Burned
Total: 8

Other:
1 Blue glass marble
1 Marblized plastic piece
Total: 2

Total Artifacts: 139

31Un68
Archeology Laboratories Site AL36

Located on a ridgetoe overlooking Lanes Creek, this artifact scatter is adjacent to the Hasty Cemetery (31Un67). The artifacts, primarily ceramics and glass, were scattered over a large area. A small (50cm square) test pit dug near the center of the concentration yielded two nails, one cut and one wire, and evidence of sheet erosion indicating that most specimens are on the surface or in the plowzone. Local informants indicated that a structure once was present here. The collection of several types of early pearlware supports an occupation beginning around 1800-1810. The lack of artifacts from the late nineteenth century indicates that the site was abandoned prior to the War Between the States.

The site is on the edge of the project area, and would be affected only during extremely high water levels. Because of its plow-disturbed and eroded condition it is unlikely to yield

important historical information, and thus does not appear eligible for the National Register of Historic Places. No further work is recommended.

Soil type: Not available
Distance to water: 190m
Areal extent: N-S 125m; E-W 170m
Elevation: 422ft AMSL
Slope: 5%

Artifacts collected:

Earthenware:
58 Undecorated whiteware sherds
30 Undecorated pearlware sherds
5 Underglaze banded ware sherds
7 Transfer print pearlware sherds
8 Blue shelledge pearlware sherds
1 Feather edge pearlware sherd
1 Green shelledge pearlware sherd
1 Sponge ware sherd
2 Yellow ware sherds
12 Underglaze stencil sherds
Total: 125

Stoneware:
12 Salt-glazed sherds
25 Undecorated white sherds
Total: 37

Glass:
6 Window fragments
8 Green bottle fragments
1 Clear fragment
1 Aqua green fragment
Total: 16

Metal:
1 Cut nail
1 Brass button, soldered eye
Total: 2

Fanual:
1 Tooth, Sus scrofa
1 Unidentified animal tooth fragment
Total: 2

Other:
3 Brick fragments
Total: 3

Total artifacts: 185

31Un78
Archeology Laboratories Site AL62

This artifact scatter was located on a ridgetop above the confluence of Lanes Creek and Cool Spring Branch, in close proximity to the Ashcraft cemetery, 31Un79. Although no structural remains such as brick, nails or other hardware were found, the refuse recovered suggests that a domestic activity set is represented. The land containing the site is under cultivation, and some of the artifacts have been displaced by continual plowing. A 50cm square testpit within the artifact scatter revealed a stratum of yellow-brown sandy clay 12 cm thick overlying a clay subsoil; no artifacts were found within this pit. The surface specimens were individually plotted and all were collected. The majority of the artifacts support an occupation centered around the mid-nineteenth century, begining about 1820 (from the sample of pearlwares) and ending no later than 1920. No further work is recommended.

The disturbed condition suggests the site is unlikely to yield information important to any historical study, and it does not seem eligible for listing under National Register criteria.

Soil type: Not available
Distance to water: 430m
Areal extent: 100m sq.
Elevation: 470ft AMSL
Slope: 22%

Artifacts collected:

Earthenwares:
98 Undecorated whiteware sherds
6 Underglaze hand painted sherds
6 Plain whiteware sherds with raised decoration
13 Undecorated pearlware sherds
10 Decalcomania sherds
6 Transfer print sherds
1 Yellow ware sherd
1 Sponge ware sherd
3 Ironstone sherds
2 Plain "porcellaneous" sherds

Total: 146

Stonewares:
1 Rockingham glaze
59 Salt-glazed
2 Non salt-glazed
Total: 62

Glass:
1 Chimney fragment
1 Window fragment

1 Milk fragment
5 Aqua blue fragments
4 Aqua green fragments
9 Purple manganese fragments
13 Clear fragments
2 Green fragments
1 Burned fragment
Total: 37

Other:
2 Porcelain buttons with 4 holes
1 Roofing slate fragment with nail hole
4 Brick fragments
1 Whiteware insulator
1 Round flat metal top to bottle (milk?)
2 Iron rim fragments, probably cooking pots
Total: 11

Total artifacts: 256

31Un80
Archeology Laboratory Site AL65

This site is an historic scatter existing on a smaller ridge above Cool Spring Branch at its confluence with Lanes Creek in the Marshville impoundment area in cluster 4. The site is in a plowed field.

The artifacts collected were found on a ridgetop and slope and may have been redistributed by annual cultivation. This artifact scatter was collected by individually point plotting each artifact. Specimens found here were similar in type and quantity to those of 31Un78, Including stonewares, earthenwares of various types, a variety of glass ware including several bottle fragments, and bricks. The point plot yielded some 326 artifacts.

In addition to the point plotting, one .5m x .5m test pit was placed in the center of a concentration of brick fragments to determine the existence of a structure. The pit yielded a yellow-brown sandy clay loam 20cmbs to subsoil, brick fragments, one whiteware sherd, one square nail, one window glass fragment, and one glass bottle fragment. The concentration of brick indicated the location of a chimney fall. Burned glass, ceramics, and brick support the theory that the structure was burned.

Three pieces of ironstone were identified dating from 1892 to 1911. These artifacts and the remainder of the collection support an occupation ranging from around 1890 to no later than 1920. This site will be inundated by the floodpool of the Marshville reservoir and erosion from wave action will affect the site.

No further field work is recommended. The site is thoroughly disturbed and is not eligible for the National Register of *Historic Places*.

Soil type: Not available
Distance to water: 184m
Areal extent: 100m
Elevation: 445ft AMSL.
Slope: 6%

Artifacts collected:

Earthenwares:
124 Undecorated whiteware sherds
9 Plain whiteware sherds with raised decoration
7 Decalcomania sherds
3 Ironstone sherds
Total: 143

Stonewares:
29 Salt-glazed sherds
22 Non salt-glazed sherds
Total: 51

Glass:
2 Window fragments
4 Aqua green fragments
8 Purple manganese fragments
4 Clear fragments
4 Burned glass fragments
Total: 29

Other:
2 Mortar fragments
1 Broken plow blade
1 White porcelain button
74 Redware brick fragments with hematite
2 Redware brick fragments with glaze
29 Orange colored brick fragments with pebbles and quartz
Total: 109

Total artifacts: 332

31Un155
Archeology Laboratories Site AL70

This historic artifact scatter was located on a ridgetoe overlooking Lanes Creek. The site lies within a partially fallow field with patches of rye scattered over the general area. According to a local informant, the site held an antebellum structure until the last decade when the building was destroyed and bulldozed to clear the land for cultivation. At the time of the survey only a scatter of glass, ceramics and bricks was observed -- these specimens were flagged and point-plotted. One

.5m x .75m test pit revealed loose silty sand with a large quantity of rock fragments along with metal, ceramics and glass artifacts, and one (probably prehistoric) quartz flake. This pit was carried to 41 cm below surface and no features were encountered. The collection of artifacts indicates a site occupation dating from 1820 (from the sample of pearlwares) to around 1910-1920 (from the type of ironstones). This site will be affected by the construction of the Marshville reservoir dam. No indication was obtained that this site is likely to yield important historical information, and thus National Register listing is not recommended. No further work is necessary.

Soil type: Not available
Distance to water: 250 m
Elevation: 440ft AMSL

Artifacts collected:

Earthenwares:
98 Undecorated whiteware sherds
11 Undecorated pearlware sherds
1 Blue shelledge pearlware sherd
1 Transfer print sherd
3 Hand painted underglaze sherds
3 Banded underglaze sherds
1 Decalcomania sherd
2 Yellow ware sherds
2 Ironstone sherds
Total: 121

Stonewares:
5 Non salt-glaze sherds
3 Salt-glazed sherds
Total: 8

Porcelain:
1 Undecorated sherd
Total:1

Glass:
1 Yellow fragment
6 Clear fragments
3 Aqua blue fragments
1 Aqua green fragment
1 Brown fragment
6 Purple manganese fragments
1 Frosted fragment
Total: 19

Metal:
1 Horseshoe, 1/2
1 Flat metal band with rivets
1 Unidentified flat metal fragment
Total: 3

Other:
32 Redware brick fragments with hematite
1 Burned redware brick fragment with hematite
7 Pinkish-orange brick fragments with hematite
5 Orange-colored brick fragments with pebbles and crushed quartz
Total: 45

Total artifacts: 197

Historic Feature

31Un61
Archeology Laboratories Site AL28

This site was on the first terrace above Lanes Creek, in a plowed field at the edge of the tree line. Despite its occurrance near the surface no damage from plowing was apparent. The feature consists of an oval stain under a light scatter of brick fragments and pieces of window glass. Troweling the edges of the stain revealed a thin clay lining around the inner edge with charcoal flecks present inside the clay; the central part of the stain contains a mixture of red clay and topsoil with charcoal flecks. This seems to be a filled pit measuring .5m by 1.5m, possibly a destroyed privy. Numerous brick fragments found in the vicinity suggest a structure, likely a residence, once stood nearby. No test pits were dug and no diagnostic artifacts were recovered. No significant information to local, state or regional problems likely could be obtained at this site, and thus it is not eligible for the National Register of Historic Places.

This site would be flooded if dam construction is completed. No further work is recommended.

Soil type: Not available
Distance to water: 29m
Areal extent: .5m by 1.5m
Elevation: 405ft AMSL
Slope: 1%

Artifacts collected:

Glass:
2 Brown bottle fragments
Total: 2

Other:
6 Brick fragments
Total: 6

Total Artifacts: 8

CHAPTER 6: SITE DENSITY ESTIMATES

One of the objectives of the Rocky River basin survey was to estimate the total number of sites in the floodpool of the Marshville and Lambert project areas based on the actual number of sites found in the sampled areas. In this exercise, the prehistoric and historic sites in both floodpool areas were estimated separately. This will presumably give a more accurate estimate of the number of sites present in the floodpool areas, as historic and prehistoric peoples may have utilized the same topography for different purposes, thereby producing differing site distributions for the two types of sites (prehistoric and historic).

Each floodpool area was sampled using a stratified cluster sampling technique. The floodpool area for Marshville was divided into five clusters and for Lambert was divided into three clusters with each cluster being further divided into four strata (confluence, floodplain, terrace, and upland). Each of these strata were sampled with a 20% sample. (See Chapter 3, Methods, for a further explanation of the sampling strategy.) In determining the site estimates for the entire floodpool area, estimates for each cluster were first made. These cluster estimates were then used to calculate the floodpool estimates. This was done using the equation:

$$t = N\bar{y}_{st} = N_1\bar{y}_1 + N_2\bar{y}_2 + \cdots\cdots\cdots\cdots N_L\bar{y}_L = \sum_{i=1}^{L} N_i\bar{y}_i$$

where: t= estimator of a population total

N= number of sampling units in the population

$\bar{y}_{st}$= unbiased estimator of the population mean

L= number of strata

N_i= number of sampling units in stratum i

$\bar{y}_i$= unbiased estimator of the population mean in stratum i
(Mendenhall, et al. 1071:59)

The corresponding equation for the standard error of this estimate is represented by the equation:

$$\sqrt{V(Ny_{st})} = \sqrt{\sum_{i=1}^{L} N_i^2 \left(\frac{(N_i - n_i)}{N_i}\right) \frac{s_i^2}{n_i}}$$

where: $\hat{V}(N\bar{y}_{st})$= estimated variance of the population total

s_i^2 = sample variance of stratum i

n = number of elements in a simple random sample with all other symbols as defined in the previous equation. (Mendenhall, et al. 1971:59)

The historic site estimates and standard errors for each cluster in Marshville and Lambert were as follows:

	Marshville	Lambert
Cluster 1	4.94 ±11.16	21.28 ±10.20
Cluster 2	18.38 ±56.78	0.00 ±0
Cluster 3	0.00 ±0	0.00 ±0
Cluster 4	11.83 ±10.23	
Cluster 5	0.00 ±0	

The total number of historic sites estimated to be in the floodpool of Marshville is 35.15±88.22 and in Lambert is 21.28±57.49. The raw data for these computations are located in Tables 6.1 and 6.2.

The prehistoric site estimates and standard errors for each cluster in Marshville and Lambert were found likewise. They were as follows:

	Marshville	Lambert
Cluster 1	0.00 ±0	21.28 ±27.88
Cluster 2	36.74 ±53.82	38.00 ±38.07
Cluster 3	6.85 ±6.34	13.75 ±15.99
Cluster 4	23.33 ±11.72	
Cluster 5	0.00 ±0	

The total number of prehistoric sites estimated to be in the floodpool of Marshville is 66.92±85.69 and in Lambert is 92.89±86.54. The raw data used in these computations are located in Tables 6.3 and 6.4.

Bartlett's Test of the Homogeneity of Variance was performed on the total site estimates for both Marshville and Lambert, prehistoric and historic sites, to see how heterogenous the populations were. The null hypothesis for each test run was that the variability in each cluster was homogenous ($o: o_1^2 = o_2^2 = \cdots\cdots\cdots o_n^2$). Bartlett's equation is:

$$X^2 = \left[\sum^{a} (n_i - 1)\right] \ln s^2 - \sum^{a} (n_i - 1) \ln s_i^2$$

where: n_i = number of sampling units in stratum i

s^2 = weighted variance

s_i^2 = variance in stratum i
(Sokal and Rohlf, 1981: 404-5)

Suprisingly, the null hypothesis was accepted for Marshville prehistoric and historic sites and Lambert prehistoric sites, while being rejected for the Lambert historic sites (see below).

	Historic	Prehistoric
Marshville	$.975 \geq a \geq .900$	$a > .995$
Lambert	$a < .001$	$.900 \geq a \geq .500$

This simply implies that in all but the Lambert prehistoric site variances, the variances are so great that an ANOVA test is useless in these instances. The strong heterogeneity found in the Lambert historic sites is a result of only one cluster in the entire floodpool containing historic sites. See Tables 6.5 and 6.6 for the data sets used in the Bartlett's tests for the floodpool.

As can be seen, the site estimates contain much variability, both at the individual cluster level and the entire floodpool level. The variability found within each cluster may be, in part, a result of the variability of strata size within each cluster (see Table 6.7).

Apparently, the clusters within each floodpool area did not sample the same topography equally. Clusters 1 and 2 in both floodpools are very heavily weighted toward Str4 (uplands), while those further upstream (clusters 4 and 5 in Marshville and cluster 3 in Lambert) stress Strl (floodplain). This occurs because the floodpool is much deeper at the far downstream end of the floodpool than at the upper end. This results in the hills on the downstream end being flooded further upslope, sometimes flooding even the hilltops. Not only would this difference in sampled topography affect the variability within clusters, but also in the floodpool areas as a whole. Because the nature of Str4 changes from including hilltops, as well as slopes, in the clusters furthest downstream to including only slopes in the clusters furthest upstream, there is a difference in the potential for numbers and types of sites in those clusters, adding to the variability within the floodpools as a whole. Within the Marshville floodpool area, the lack of Strl (confluence) in three of five clusters adds further to the variability within that floodpool. In addition, the clusters themselves are of variable size. The clusters were defined by landmarks which were easily found in the field, e.g. roads and drainages. As these landmarks crossed the floodpool at unequal intervals and the floodpool becomes shallower further upstream, the resultant clusters are of differential size. While this problem is not beyond the scope of the statistics used, it may have increased the variability found slightly. Last, but not least, the absence of sites in certain strata and even whole clusters further compounds the problem of variability in both the

cluster and total site estimates. (See Table 6.8 for the location of sites by strata and cluster.)

Unfortunately, very little can be done about the problem of the presence or absence of sites in particular strata or clusters. The lack of sites in clusters 1 and 5 of Marshville and the general lack of sites in strata 2 and 3 of both Lambert and Marshville is probably the result of these areas being low and wet and experiencing much wash. While this says something about the site settlement patterns in the area, this still adds to the variance found in the site estimates. Because of the nature of these type of projects (sampling a floodpool), there is really no way to provide a means to sample the areas so that clusters downstream and upstream sample the same topographic units (hilltops and slopes within strata 4) and so that the strata within clusters are approximately equal, as the floodpool will be flooding differing amounts and types of terrain in different areas of the floodpool. The only aspect of the variability which may be controllable may be that which was related to the absolute size of the clusters themselves. The variability due to this particular problem was probably small, but keeping cluster size approximately the same should minimize some portion of the variability.

Table 6.1: Data Elements, Historic Site Frequency Estimation, Marshville

	N_i	$\bar{y}_i$	t_i	s_i^2	n_i
Cluster 1	114	0.040	4.56	0.9602	25
Str1	--	--	--	--	--
Str2	38	0.125	4.94	0.8748	8
Str3	37	0.000	0.00	0.0000	9
Str4	39	0.000	0.00	0.0000	8
Cluster 2	211	0.110	23.21	6.4450	45
Str1	--	--	--	--	--
Str2	34	0.000	0.00	0.0000	7
Str3	27	0.143	3.86	0.8568	7
Str4	150	0.129	19.35	5.4838	31
Cluster 3	163	0.000	0.00	0.0000	33
Str1	9	0.000	0.00	0.0000	2
Str2	30	0.000	0.00	0.0000	6
Str3	48	0.000	0.00	0.0000	7
Str4	76	0.000	0.00	0.0000	18
Cluster 4	81	0.146	11.83	4.5074	19
Str1	20	0.400	8.00	0.8400	5
Str2	24	0.000	0.00	0.0000	5
Str3	23	0.167	3.83	0.8333	6
Str4	14	0.000	0.00	0.0000	3
Cluster 5	18	0.000	0.00	0.0000	5
Str1	--	--	--	--	--
Str2	14	0.000	0.00	0.0000	3
Str3	2	0.000	0.00	0.0000	1
Str4	2	0.000	0.00	0.0000	1

Table 6.2: Data Elements, Historic Site Frequency Estimation, Lambert

	N_i	$\bar{y}_i$	t_i	s_i^2	n_i
Cluster 1	161	0.132	21.28	6.3420	38
Str1	12	1.000	12.00	2.0000	3
Str2	22	0.000	0.00	0.0000	5
Str3	11	0.000	0.00	0.0000	4
Str4	116	0.080	9.28	1.8464	26
Cluster 2	112	0.000	0.00	0.0000	26
Str1	14	0.000	0.00	0.0000	4
Str2	19	0.000	0.00	0.0000	4
Str3	10	0.000	0.00	0.0000	4
Str4	69	0.000	0.00	0.0000	14
Cluster 3	121	0.000	0.00	0.0000	27
Str1	30	0.000	0.00	0.0000	6
Str2	45	0.000	0.00	0.0000	10
Str3	11	0.000	0.00	0.0000	4
Str4	35	0.000	0.00	0.0000	7

Table 6.3: Data Elements, Prehistoric Site Frequency Estimation, Lambert

	N_i	$\bar{y}_i$	t_i	s_i^2	n_i
Cluster 1	161	0.339	21.28	6.3247	38
Str1	12	1.000	12.00	1.0000	3
Str2	22	0.000	0.00	0.0000	5
Str3	11	0.000	0.00	0.0000	4
Str4	116	0.080	9.28	1.8464	26
Cluster 2	112	0.339	38.00	7.7710	26
Str1	14	0.250	3.50	0.7500	4
Str2	19	0.000	0.00	0.0000	4
Str3	10	0.000	0.00	0.0000	4
Str4	69	0.500	34.50	5.2500	14
Cluster 3	121	0.148	17.91	3.4000	27
Str1	30	0.166	4.98	0.8281	6
Str2	45	0.100	4.50	0.9000	10
Str3	11	0.500	5.50	0.7500	4
Str4	35	0.000	0.00	0.0000	7

Table 6.4: Data Elements, Prehistoric Site Frequency Estimation, Marshville

	N_i	$\bar{y}_i$	t_i	s_i^2	n_i
Cluster 1	114	0.000	0.00	0.0000	25
Str1	--	--	--	--	--
Str2	38	0.000	0.00	0.0000	8
Str3	37	0.000	0.00	0.0000	9
Str4	39	0.000	0.00	0.0000	8
Cluster 2	2	0.174	36.74	6.5794	45
Str1	--	--	--	--	--
Str2	34	0.000	0.00	0.0000	7
Str3	27	0.286	7.71	1.4286	7
Str4	150	0.194	29.03	4.8387	31
Cluster 3	163	0.042	6.85	0.9742	33
Str1	9	0.000	0.00	0.0000	2
Str2	30	0.000	0.00	0.0000	6
Str3	48	0.143	6.85	0.8568	7
Str4	76	0.000	0.00	0.0000	18
Cluster 4	81	0.288	23.33	6.0730	19
Str1	20	0.400	8.00	0.8400	5
Str2	24	0.000	0.00	0.0000	5
Str3	23	0.667	15.33	1.3334	6
Str4	14	0.000	0.00	0.0000	3
Cluster 5	18	0.000	0.00	0.0000	5
Str1	--	--	--	--	--
Str2	14	0.000	0.00	0.0000	3
Str3	2	0.000	0.00	0.0000	1
Str4	2	0.000	0.00	0.0000	1

Table 6.5: Data Elements, Bartlett's Test of Homogeneity of Variance, Marshville

a=17	n	df=n-1	Historic s_i^2	Historic ln s_i^2	Prehistoric s_i^2	Prehistoric ln s_i^2
Cluster 1						
Str2	8	7	0.875	-0.1338	0.000	
Str3	9	8	0.000		0.000	
Str4	8	7	0.000		0.000	
Cluster 2						
Str2	7	6	0.000		0.000	
Str3	7	6	0.857	-0.1546	1.429	0.3567
Str4	31	30	5.484	1.7018	4.839	1.5766
Cluster 3						
Str1	2	1	0.000		0.000	
Str2	6	5	0.000		0.000	
Str3	7	6	0.000		0.857	-0.1546
Str4	18	17	0.000		0.000	
Cluster 4						
Str1	5	4	0.840	-0.1744	0.840	-0.1744
Str2	5	4	0.000		0.000	
Str3	6	5	0.833	-0.1824	1.333	0.2877
Str4	3	2	0.000		0.000	
Cluster 5						
Str2	3	2	0.000		0.000	
Str3	1	0	0.000		0.000	
Str4	1	0	0.000		0.000	

Table 6.6: Data Elements, Bartlett's Test of Homogeneity of Variance, Lambert

a=17	n	df=n-1	Historic s_i^2	Historic $\ln s_i^2$	Prehistoric s_i^2	Prehistoric $\ln s_i^2$
Cluster 1						
Str1	3	2	2.000	0.6931	1.000	0.0000
Str2	5	4	0.000		0.000	
Str3	4	3	0.000		0.000	
Str4	26	25	1.846	0.6132	1.846	0.1632
Cluster 2						
Str1	4	3	0.000		0.750	-0.2877
Str2	4	3	0.000		0.000	
Str3	4	3	0.000		0.000	
Str4	14	13	0.000		5.250	1.6582
Cluster 3						
Str1	8	7	0.000		0.859	-0.1516
Str2	10	9	0.000		0.900	-0.1054
Str3	4	3	0.000		0.750	-0.2877
Str4	7	6	0.000		0.000	

Table 6.7: Individual % Area of Each Stratum Within Each Cluster, Marshville and Lambert

	Str1	Str2	Str3	Str4
Marshville				
Cluster 1	--	33	33	34
Cluster 2	--	16	13	71
Cluster 3	6	18	29	47
Cluster 4	25	30	28	17
Cluster 5	--	78	11	11
Lambert				
Cluster 1	7	14	7	72
Cluster 2	12	17	9	62
Cluster 3	25	37	9	29

Table 6.8: Locational Data of Sites by Stratum and Cluster

	Marshville		Lambert	
	Historic	Prehistoric	Historic	Prehistoric
Cluster 1	1	0	5	6
Str1	-	-	3	3
Str2	1	0	0	0
Str3	0	0	0	0
Str4	0	0	2	3
Cluster 2	5	8	0	9
Str1	-	-	0	1
Str2	0	0	0	0
Str3	1	2	0	0
Str4	4	6	0	8
Cluster 3	0	1	0	4
Str1	0	0	0	1
Str2	0	0	0	2
Str3	0	0	0	1
Str4	0	1	0	0
Cluster 4	3	6		
Str1	2	2		
Str2	0	0		
Str3	1	4		
Str4	0	0		
Cluster 5	0	0		
Str1	-	-		
Str2	0	0		
Str3	0	0		
Str4	0	0		

CHAPTER 7: CERAMIC ANALYSIS

The Rocky River Project ceramic assemblage consists of 153 sherds representing 10 sites. The ceramics comprised such a meager portion of the total artifact assemblage that we have included the Mt. Pleasant Reservoir data (i.e. the Cabarrus County sites) in this chapter; a necessity if we are to have any ceramics to discuss.

Research questions initially were formulated to address specific problems. Foremost were questions dealing with the range of variability both typologically and technologically for the survey area; the identification of ceramic series; the density and relationship of recovered materials within sites; relationships between sites the and relationship of the survey area's ceramic assemblage as a whole with adjacent areas (see Appendix D).

From previous research in the study area (c.f. Chapter 1) two views of the ceramics emerged, one typological and another technological, each geared to describing ceramic change through time. The typological view provided descriptive categories for identifying ceramic series while the technological view focused on attributes for identifying trends in ceramic technology.

Typological attributes were established from existing type descriptions in the literature. It was felt that these established attribute categories would most closely relate the Rocky River materials to existing typological data for that area. Typological attributes for which data were collected included kind of temper, exterior surface treatment, interior surface treatment, sherd color, sherd thickness, temper size and temper amount. In addition sherd decoration; rim presence, morphology, and decoration; and presence/absence of vessel bases were noted.

The following analytical criteria were based on typological and technological attributes. The total range of attributes noted in the sherd analysis was as follows:

Typological Attributes:
- Kind of temper present
- Exterior surface treatment
- Interior surface treatment
- Decorative attributes
- Presence of rims/bases

Technological Attributes:
- Clay matrix condition
- Temper size
- Temper amount
- Sherd thickness

For each sherd in the study collection the kind of temper inclusions was noted. An initial survey of the total sherd

collection was conducted to assess the range of variability within the sample. All sherds were considered without regard for their size, and three inclusion categories were identified -- river sand, crushed quartz, and feldspar. Later analyses refined these categories to include fine sand.

Exterior surface treatments were recorded as "net impressed," "cordmarked," "smoothed," "complicated stamped," "simple stamped," "corn cob," "fabric," and "eroded." Surfaces that were eroded but with discernable treatment were also recorded, e.g. "net impressed, eroded" and included in the count for the main category. A category called "NA" or "not available" was included where data could not be analyzed due to the small size of a sherd or sherd damage. Interior surface treatments were recorded as "smoothed," "smoothed/burnished," "eroded," "smoothed/striations," "smoothed/floated," and "floated." Eroded surfaces where present were noted.

Sherd color was categorized as "O"=orange, "BF"=buff, "BL"=black, "BR"=brown, "T"=tan, and "R"=red. Color descriptions were listed as combinations of these colors. However, due to the extreme variability within this category, i.e. multiple sherds rarely exhibited duplicate color combinations, these data were not included in the final analysis.

Decorative attributes were recorded and described where present, i.e. punctations or incising. Rims were noted by number present, lip shape ("rounded," "flat"), lip finish ("smoothed"), angle of rim ("straight," "everted"), and decorative elements on rims were listed where present ("punctations," "incising").

Technological attributes were recorded as "clay matrix," "temper size," "amounts of temper" and "sherd thickness." "Clay matrix" was listed as "compact," "compact with laminations," "compact with fine laminations," "chunky," and "blocky." Temper size was measured and listed (e.g. <1mm, 1-3mm). Amounts of temper were estimated as "abundant," "frequent," and "represented." Sherd thickness was measured and recorded for each sherd.

Typological Attributes

Kind of Temper. For this study, temper will be defined as inclusions and paste constituencies. Most of the ceramics from the Rocky River Project could be placed in two categories: a sand tempered ware and a crushed quartz ware. These categories were cross-cut by the natural inclusion of feldspar particles. However, to designate all sherds as either sand or crushed quartz tempered would mask the variability present within the collection and consequently sherds were viewed in terms of temper themes. As noted, this variability was greater than anticipated, and several permutations of the initial themes were found during analysis.

Generally the larger the sherd collection recovered from a site, the more temper variability (i.e. temper themes) was present in the assemblage. As noted above, general trends were evident as crushed quartz and sand temper. Within the crushed quartz category, crushed quartz was described as "crushed quartz, silty," "crushed quartz, feldspar," and "crushed quartz, quartz sand." Sand tempered sherds were subdivided into "fine sand," "fine sand, feldspar," "quartz sand," "quartz sand, silty," "quartz sand, feldspar," and "quartz sand, silty, feldspar." A brief description of each of the temper themes and its representation in the total sherd assemblage is presented below.

Fine Sand, (FSand). Sherds in this category are very compact (n=9, 6%). Temper is uniformly sized and the clay base is homogeneous for sand inclusions. Sherd thickness ranges from 6.5mm to 9.5mm. The clay matrix of these sherds is compact (n=4), compact with laminations (n=1) and compact with fine laminations (n=4). Temper size ranges from <1mm in 8 sherds to 1-<1mm in one sherd and is frequent to represented. Exterior surface treatment is variable with cordmarked (n=1), net impressed (n=2), smoothed (n=1), fabric (n=4), and eroded (n=1). Interior surface treatment displays three smoothed, five smoothed with some striations visible and one eroded sherd. No decorated sherds were recovered and only one rim sherd (from 31Un92) was collected.

Fine Sand, Feldspar (FS,fel). Sherds containing fine sand with feldspar inclusions comprise 4% (n=6) of the sherd sample. These sherds are identical to the fine sand above with the only difference being the feldspar inclusions. Exterior surface treatment is cordmarked (n=5) and net impressed (n=1). However, the cordmarked designation may in fact be a widely spaced net impression on small sherds with the absence of net impressed knots due to the sherd's small size. Interiors are smoothed (n=3) or smoothed with visible striations (n=3). Sherd thickness ranges from 6mm to 8mm with a compact matrix. Temper size is less than 1mm and frequent to represented. No decorated sherds, rims, or bases were recovered in this group.

Quartz Sand (QSand; QS). Five sherds were recovered within this grouping; all are compact with laminations in the matrix. Temper inclusions range from <1mm (n=4) to one sherd containing 2-<1mm particles and temper is abundant. Exterior surface treatment is net impressed or smoothed with one sherd being very eroded. Interiors are smoothed (n=4) or smooth/burnished (n=1). Sherd thickness is 6.5 to 7mm.

Quartz Sand, Feldspar (QSand,fel). These sherds (n=59, 36%) appear to represent a variation of the "quartz sand" temper theme with the addition, probably as a natural inclusion, of feldspar particles. Sherds are generally net impressed

(n=35, 59%) with cordmarked (n=4), smoothed (n=6), complicated stamped (n=3), simple stamped (n=2), corn cob (n=2), and fabric (n=1) represented. Five sherds were eroded and one sherd was broken with the exterior surface missing. Interiors are smoothed (n=40, 68%) with smoothed/burnished (n=2), smoothed with striations (n=5), smoothed/floated (n=2) and floated (n=2). Nine sherds were too eroded for interior analyses. Matrix is compact with laminations (n=41, 70%) with compact (n=14, 24%) and compact with fine laminations (n=4). Temper size ranges from <1mm (n=27, 46%) to 1-<1mm (n=18, 31%) with 11 sherds having 2-<1mm; temper is abundant in 81% of the sherds (n=48) and frequent in 11 sherds (19%). Sherds range in thickness from 6mm to 9mm (n=56) with one sherd 11mm thick and two sherds 5mm thick.

Quartz Sand, Silty (QSand,sil; QS,sil). These sherds comprise 14% (n=21) of the Rocky River sample. Quartz sand particles are distributed throughout a compact, laminated, silty clay matrix (n=19, 90%). Two sherds exhibited a chunky matrix. Exterior surface treatments are generally smoothed (n=10, 48%) with cordmarked (n=2), net impressed (n=5), or eroded (n=3) surfaces with one broken sherd. Interior surfaces are smoothed (n=17, 81%) with three sherds appearing floated and smoothed and one sherd eroded. Temper size ranges from 1-<1mm in 10 sherds, 2-<1mm in 4 sherds, <1mm in 6 sherds and one sherd has <.5mm particles. Temper amount is abundant (n=20, 95%) with one sherd containing a frequent amount. Sherd thickness spans from 5mm to 9mm (n=20) with one sherd 3mm thick.

Quartz Sand, Silty, Feldspar (QSand,sil,fel; QS,s,f). Eighteen sherds (12%) have a compact, silty matrix with feldspar inclusions and quartz sand. Laminations were present in cross-section. Exterior surface treatment is cordmarked (n=1), net impressed (n=10), smoothed (n=5), complicated stamped (n=1), and simple stamped (n=1). Interior surface treatments are 18 smoothed. Temper size was generally 1-<1mm (n=9, 50%) with 7 sherds containing <1mm particles and 2 sherds with 2-<1mm and 4-<1mm fragments respectively. Temper amount was abundant in all but one sherd where it was frequent. Sherd thickness was from 7 to 9mm (n=14) with one sherd 5mm and 3 sherds 6mm thick.

Crushed Quartz, Silty (CrQ,sil). These sherds comprise 4% of the sample (n=6). Variously prepared quartz fragments are lodged in a compact, silty clay matrix. Laminations are present and in cross-section some sherds exhibit a chunky, blocky and angular appearance while others are compact with laminations. Exterior surface treatments represented are cordmarked (n=2), net impressed (n=1), smoothed (n=2), with one sherd too damaged for analysis. Interior treatments include 3 smoothed, one smoothed/floated and 2 floated. Temper size is 1-<1mm (n=2), 2-<1mm (n=1), 3-<1mm (n=2) and

4-<1mm (n=1). Temper amount is abundant (n=5) and frequent (n=1). Thickness of sherds is 6.5mm to 8mm.

Crushed Quartz, Feldspar (CrQ,fel). Crushed quartz temper theme sherds also containing feldspar make up 80% (n=28) of the crushed quartz wares (n=35). These sherds are compact with laminations (n=22, 79%) with 4 compact sherds, one compact with fine laminations, and one chunky. Exterior surface treatment is net impressed (n=15, 54%) with 9 smoothed, one simple stamped, and three eroded. Interior surface treatments are mostly smoothed (n=20, 71%) with four smoothed with striations, two smoothed/floated, one smoothed/burnished and one eroded. Temper size ranges from <1mm to 5mm particles and is abundant (n=22, 79%) with two sherds containing frequent temper and four represented amounts.

Crushed Quartz, Quartz Sand (CrQ,QS). Only one sherd is contained in this category, and it exhibits attributes of both crushed quartz and quartz sand temper themes; the quartz particles disallow inclusion in a quartz sand category. The sherd's matrix is compact with laminations. Exterior surface treatment is net impressed while the interior is smoothed. Temper size ranges from 5.5mm to <1mm and is frequent. Sherd thickness is 8.5mm.

Table 7.1 below summarizes temper theme descriptions.

Table 7.1: Temper Theme Attribute Summary, Rocky River Project

			Exterior					Interior				
Temper Theme	n	Matrix	Cord	Net	Sm	Other	Sm	Sm/ Br	Sm/ St	Sm/ Fl	E	Fl
FSand	9	50% Com	11%	22%	11%	56%*	33%		56%		11%	
FS,fel	6	100% C	83%	17%			50%		50%			
QSand	5	100% C/L		40%	20%	40%*	80%	20%				
QS,fel	59	70% C/L	7%	59%	10%	24%*	68%	3%	8%	2%	15%	3%
QS,sil	21	91% C/L	10%	24%	48%	19%*	81%			14%	5%	
QS,s,f	18	100% C/L	6%	56%	28%	11%*	100%					
CrQ,s	6	50% Ch	33%	17%	33%	17%*	50%			17%		33%
CrQ,f	28	79% C/L		54%	32%	14%*	71%	4%	14%	7%	4%	
CrQ,QS	1	100% C/L		100%			100%					

*56%= 4 fabric, 1 eroded
40%= 1 simple stamped, 1 eroded
24%= 3 complicated stamped, 2 simple stamped, 2 corn cob, 1 fabric,
5 eroded, 1 NA
19%= 3 eroded, 1 NA
16%= 1 complicated stamped, 1 simple stamped, 1 NA
17%= 1 NA
14%= 1 simple stamped, 3 eroded

Exterior Surface Treatment. As noted earlier, temper theme was only one attribute used in the analysis of the Rocky River sample. Also included were the exterior and interior surface treatments. These attributes were compared within temper themes to detect patterning of data and are listed in Table 7.2 and 7.3.

Quartz sand sherds comprise the majority of the sherd collection (n=103). Although some sherds are eroded, enough surface remains to place them in a surface treatment group. Eroded surfaces presumably are most useful in considering site environmental processes and may reflect repeated flooding and consequent abrasion of materials at some sites. Only 13 sherds are too eroded for identification of exterior surface treatment. Fifteen sherds can be classed in a cordmarked category and 24 are grouped in an "other" category containing fabric impressed (n=5), eroded (n=13), corncob impressed (n=2), and NA sherds (n=4). Forty-seven percent of all sherds collected from the project area were net impressed (n=72). Figure 7.1 displays two complicated stamped sherds (b,c), one simple stamped (h) and the two corncob impressed (i,j).

Table 7.2: Exterior Surface Treatment, Rocky River Project

Temper Theme	n	cord	net	comp sm	comp stamp	simp. stamp	ccob	Other fabric	eroded	NA
FSand	9	1	2	1				4	1	
FS,fel	6	5	1							
QSand	5		2	1		1			1	
QS,fel	59	4	35	6	3	2	2	1	5	1
QS,sil	21	2	5	10					3	1
QS,s,f	18	1	10	5	1	1				1
CrQ,s	6	2	1	2						1
CrQ,f	28		15	9		1			3	
CrQ,QS	1		1							

Interior Surface Treatment. Interior surface treatment of the Rocky River sample was generally smoothed (n=109, 71%) with the remainder of the collection a combination of smoothed/burnished (n=4), smoothed/striated (n=17), smoothed/floated (n=7), floated and eroded (n=12). Table 7.3 below displays the distribution of interior surface by temper theme.

Sherd Decoration. There are five decorated sherds in the Rocky River collection divided between two sites: 31St67 (n=1) and 31Un92 (n=4). Decorative elements include elongated rectangular punctations, n=2, (Figure 7.1 a,d); triangular punctations, n=1, (Figure 7.1 e); and incised lines, n=2, (Figure 7.1 f,g). Three temper theme categories are represented: "quartz sand, silty"; "quartz sand, feldspar"; and "quartz sand, silty, feldspar." Figure 7.1 displays 11 sherds. One of the sherds pictured (k) was not a portion of the ceramic collection but was

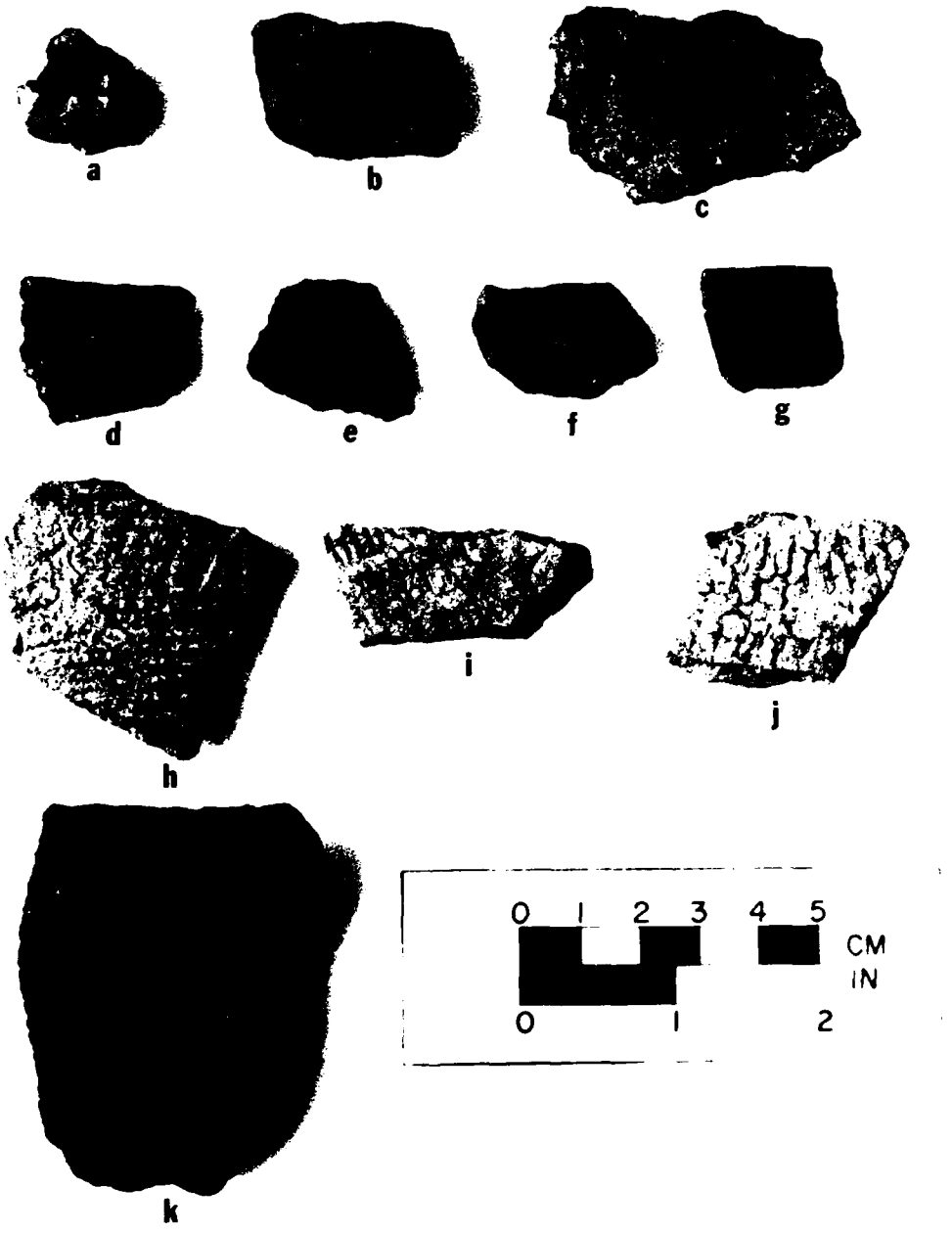


Figure 7-1. Potsherds, Rocky River Project. a, 31St67; b-g 31Un92; h-j, 31Cal01; k, Harkey's Bottom (Cabarrus County).

donated by a local collector. However, it has been included to illustrate the range of surface decoration for the general area of this study. Table 7.4 below lists sherd decoration and temper themes.

Table 7.3: Interior Surface Treatment, Rocky River Project

Temper Theme	n	Sm	Sm/ Burnished	Eroded	Sm/ Striations	Sm/ Floated	Floated
FSand	9	3		1	5		
FS,f	6	3			3		
QSand	5	4	1				
QSand,f	59	40	2	9	5	1	2
QSand,s	21	17		1		3	
QS,s,f	18	18					
CrQtz,s	6	3				1	2
CrQ,f	28	20	1	1	4	2	
CrQ,QS	1	1					

Table 7.4: Sherd Decoration by Site and Temper Theme, Rocky River Project

Site Number	Temper Theme	Prov. (Pt. Plot)	Decoration
31St67	QSand,sil	253	elong.rec.punctations
31Un92	QSand,sil	249	incised line
	QS,s,f	595	elong.rec.punctations
	QS,sil	657	triangular punctations
	QSand,fel	713	incised line

Sherd Rims. Eight rim sherds were collected within the survey area. Table 7.5 lists rim sherd characteristics and provenience. Of the 8 rims, one is represented within the "fine sand" category while "quartz sand, silty"=2; "quartz sand, feldspar"=3; and "quartz sand, silty, feldspar"=2. All rims are smoothed with six straight and one everted, one slightly everted. Lip shapes are one rounded, two rounded to pointed, two rounded to flat, two flattened and one obliquely flattened. No decorative elements such as notching or incising are present.

Basal Sherds. Six sherds were recovered which may represent basal portions of vessels. In most cases these fragments display some interior scraping from their initial formation and this helped to identify their possible basal position. Although these specimens are too small for inferring a specific vessel shape, generally all are almost flattened which suggests bowls rather than jars. Three temper themes are represented: 31Un92, "quartz sand, silty, feldspar" (n=3: pt. plot # 211, 460, 590);

"quartz sand, silty" (n=2: pt. plot #650, 782; 31Cal01: "crushed quartz,feldspar" (n=1; sort group 18).

Table 7.5: Rim Sherds by Temper Theme, Rocky River Project

Site Number	Temper Theme	n	Prov. (Pt.Plot)	Lip Shape	Finish	Angle
31Un92	FSand	1	956	Flat	Smoothed	Straight
	QS,fel	1	442	Oblique	Smoothed	Straight
	QS,fel	1	713	R to Pt	Smoothed	*Straight
	QS,sil	1	127	R to Pt	Smoothed	Straight
	QS,s,f	1	595	R to Flat	Smoothed	*Sl evert
	QS,s,f	1	1167	Flattened	Smoothed	Straight
31Cal01	QS,sil	1	surface	R to Flat	Smoothed	Straight
	QS,fel	1	surface	Rounded	Smoothed	Everted

* #713: *incised line below rim, exterior*
#595: elongated rectangular punctations just below rim,exterior

Technological Attributes

Technological attributes are divided into four classes: clay matrix, range of temper (size and amount), trends in surface treatment finish (exterior and interior), and sherd thickness. The patterning of these attributes may indicate the techniques and processes used in making ceramics.

Clay Matrix. "Clay matrix" describes the appearance of a sherd's cross-section. Categories established to describe the collection were "compact", "compact with laminations", "compact with fine laminations", "chunky", "blocky", and combinations of these attributes.

Compact (Com; C). This attribute describes a tight, well-mixed matrix which may be related to two factors: 1) the degree of mixing of the clay, and 2) selection of clay sources. The appearance of a more compact clay matrix in cross-section is considered an indication of selection of finer clays for a more compact and harder finished product (Claggett and Cable 1982). Snavely and Raber (in Claggett and Cable 1982) describe technological patterns of changes in clay sourcing and utilization of local clays in their statistical analysis of ceramics from the Haw River drainage. Analysis of the Haw River pottery has suggested a general temporal trend of increased sophistication in the selection and use of available clay resources.

Compact with Laminations (ComLam; C/L). This attribute describes a compact, tight matrix which in cross-section displays visible parallel "lines" of clay layers. Lines may be parallel to interior/exterior surfaces or at oblique

angles to these surfaces. Frequently these laminations may appear somewhat wavy. This attribute may be related to mixing/malleation of clay in forming a finished product. A category of "compact with fine laminations" was also noted during analysis and is discussed below.

Compact with Fine Laminations (C/FLam; C/FL). This attribute is related to the attribute described above. However, division was made during analysis to distinguish between the laminations of the sherds above and still finer laminations found in other sherds.

Chunky (Chunky; Ch). These sherds present a blocky or chunky aspect in cross-section. The "lumpiness" may be attended by angular temper inclusions, clumping temper fragments, and laminations.

A general summary of matrix by temper theme is listed below.

Table 7.6: Matrix by Temper Theme, Rocky River Project

Temper Theme	n	Compact	Com/Lam	Com/FLam	Chunky
FSand	9	4	1	4	
FSand,fel	6	6			
QSand	5		5		
QSand,fel	59	14	41	4	
QSand,sil	21		19		2
QSand,s,f	18		18		
CrQtz,sil	6	1	2		3
CrQtz,fel	28	4	22	1	1
CrQtz,QS	1		1		

Temper Size and Amount. Temper size varies between temper theme groups: the sand temper themes (n=118,77%) range in particle size from less than 1mm (n=63, 53%) to 2-<1mm (n=55, 47%). Crushed quartz themes contain a range of prepared quartz fragments from less than 1mm to 5.5mm. Table 7.7 displays the temper size and amount distribution for the Rocky River Project sample.

Sherd Thickness. The sherds in the Rocky River sample maintain a similar range for sherd thickness. No one temper theme appears to correspond to any particular range. Sherd thickness was viewed in individual sherds rather than as a range for sherd groups to test the notion that sherd thickness may be related to temper theme. However, sherd thickness for each theme covered the entire size range with some outliers appearing in some groups (i.e. very thin, 3mm to very thick, 11mm, sherds). Clearly in this study no specific thickness can be used as a definitive attribute, although any directional variability easily could be masked by the small sample size given the

appreciable range of thickness often encountered in the same vessel.

Table 7.7: Temper Size and Temper Amount, Rocky River Project

Temper Amount Theme	n	Temper Size Range <.5	<1	1-<1	2-<1	3-<1	4-<1	5-<1	Temper A	F	R
FSand	9		8	1						1	8
FSand,fel	6	1	5							5	1
QSand	5		4		1				5		
QSand,sil	59	3	27	18	11				48	11	
QSand,fel	21	1	6	10	4				20	1	
QSand,s,f	18		7	9	1		1		17	1	
CrQtz,sil	6			2	1	2	1		5	1	
CrQtz,fel	28		10	7	4	3	2	2	22	2	4
CrQtz,QS	1							1*		1	

* 5.5-<1

Table 7.8: Sherd Thickness, Rocky River Project

Temper Theme	n	Size Range (mm) 5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	NA
FSand	9				2	1		2	1	1	1				
FSand,fel	6			2		1	2	1							
QSand	5				1	2			1	1					
QSand,fel	59	2		8	3	14	5	15	1	10				1	
QSand,sil	21	2	1	2	2	4	3	3	1	1					2*
QSand,s,f	18	1		3		5	2	4	1	2					
CrQtz,sil	6				3	2		1							
CrQtz,fel	28		1	5	2	8	2	3	3	3				1	
CrQtz,QS	1									1					

Variability of the Rocky River Assemblage

Typological Identification. Before a typological identification can be made, these points must be reiterated: 1.) The Rocky River ceramic collection represents a very small number of artifacts (n=153). 2.) The distinguishing attributes usually noted in Southeastern ceramics are temper and surface treatment. In this sherd collection, only one of these, temper, is readily apparent. Consequently only very general statements can be made about the assemblage.

The Rocky River sherds can be classified within a general ceramic tradition of grit or quartz sand tempered wares. These wares are usually assigned to the latter half of the Woodland period. Typologically, for the geographic area covered by this proposed project, it was expected that ceramics would conform to

the Yadkin-Uwharrie-Caraway tradition. This was true, but with the addition of Dan River-like ware (Gardner 1982; Coe 1952, 1964).

The technological analysis outlined two main categories of ceramics from the project area: a crushed quartz ware and a quartz sand ware. Within these classifications there was some variability. The crushed quartz ware (n=35) was compact with laminations, cord and net impressed with some smoothed sherds. Interiors were smoothed and tempering particles ranged from <1 to 5mm in size. Sherd thickness varied from 5.5mm to 9mm with one sherd of 11mm thickness. These sherds would be categorized generally within the Yadkin-Uwharrie range of ceramics, but more closely allied with the Uwharrie given their sandy paste.

The quartz sand wares were a major portion of the collection (n=118, 77%). These sherds were compact and compact with laminations. Surface treatments were cordmarked, net impressed, and smoothed with both simple and complicated stamped surfaces included. Interior surfaces were generally smoothed; in some sherds the smoothing was almost burnishing while in others small striations were visible. All decorated sherds appeared in the quartz sand ware although these sherds were few (n=5). Decorations included rectangular punctations, triangular punctations, simple incising, and an interior horizontal cord mark below the lip. Temper size ranged from <.5mm to 2mm and was abundant. Sherd thickness varied from 5 to 9mm. These sherds most closely resemble the Dan River series.

The attributes listed above follow the descriptions of the Yadkin-Uwharrie-Dan River-Caraway sequence; it should be noted here that the description "Dan River" has not been applied, until now, to ceramics of this geographic range. The "Dan River" type describes a Late Woodland ware containing varying amounts of quartz sand. This description overlaps a similar category of ceramics, the Pee Dee series (Reid 1965). Pee Dee ceramics are categorized by Reid (1965:1) on the basis of temper and surface treatment. Pee Dee is described as having a quartz river sand temper and a plain or complicated stamped surface treatment. Reid also notes the addition (probably natural) of a "talc schist" within the matrix of the sherds recovered from the Town Creek Site in Montgomery County.

The general geographic distribution of Pee Dee ceramics is thought to extend south and east of the Rocky River project area into South Carolina. However, Pee Dee-like artifacts have been reported as far north as Yadkin County at 31Yd9, the Donnaha Site(Woodall 1982) and even into Virginia (Chapter 2). This Pee Dee identification in the northern Piedmont is made on the basis of the curvilinear stamped surface treatment, but this seems most likely a cultural overlay, i.e. a new surface treatment adopted into an existing ceramic tradition, the Dan River. While this may not be the case for the ceramics from the Town Creek mound itself, which may represent the influx of a ceramic tradition

from an area to the south, the utilization of the "Pee Dee curvilinear stamp" design could easily have been grafted onto ongoing ceramic traditions farther north.

Because of the limited size of the Rocky River collection the addressing of specific cultural questions is problematical. Distribution of sherds is listed in Table 7.9. Only one site in the project area contained a collection of appreciable size, 31Un92 (n=92), located on Lanes Creek. The artifacts from this site were point plotted during collection and the ceramic distribution could be mapped by temper theme. The sherds covered an area of over 210 meters by 90 meters north to south. However, no one area appeared to be the locus of any particular temper theme or ceramic type. Sherd distribution may represent surface disturbance (plowing activity) rather than any particular cultural pattern. Sherds from this site were somewhat eroded. This eroded condition of the ceramics and the sparse distribution along the feeder creeks indicate a considerable amount of site disturbance along the creeks leading into the Rocky River. This disturbance may be related to land-use practices as well as natural processes. However, limited as the "sherd presence" may be, the presence of ceramics argues for the utilization of these feeder stream areas during the Woodland. The limited occurrance of ceramics, especially when compared with the lithics recovered, suggests the use of these areas as small food processing stations on a part-time or seasonal basis. Residence loci may well

Table 7.9: Distribution of Ceramic Artifacts by Site, Rocky River Project

Site Number	n	Temper Themes FS	Fs,f	QS	Qs,s	QS,f	QS,s,f	CrQ,s	CrQ,f	CrQ,QS
31Ca89	3	1						1	2	
31Ca90	1					1				
31St67	9				1	5		2		1
31Un59	10			2		6		1	1	
31Un63	1								1	
31Un72	1					1				
31Un82	1	1								
31Ca100	1					1				
31Un92	92	1		3	18	32	18	2	18	
31Ca101	34	7	6		2	13			6	
Total	153	9	6	5	21	59	18	6	28	1

have been outside of the project area. Basal sherds may offer a clue to site utilization, and all basal sherds (n=5) could tentatively be classed as bowls due to their flattened shape. If this is the case, this suggests a mobile population utilizing these feeder stream areas on a seasonal basis (Shapiro 1984).

Of the three water courses located in the project area, only Lanes Creek (Marshville) contains an appreciable number of sites

(n=5) while Big Bear Creek (Lambert) has one site (31St67). On Dutch Buffalo Creek there are three sites, 31Ca89, 31Ca90 and 31Cal00. 31Ca89 may be a redeposition of ceramic artifacts from an area west of the site known as "Harkey's Bottom." Harkey's Bottom, a large eroded site up stream, produced multiple sherds provided by a local collector. An additional site, 31Cal01, provided a surface collection (n=34) also included in the analysis although it was located outside the project area. 31Cal01 is a large site on a small feeder stream, Lick Branch, in the uplands.

Table 7.10: Ceramic Sites and Exterior Surface Treatment

Site Number	n	net	cord	sm	curv stamp	simp stamp	fabric	Other ccob	eroded	NA
31Ca89	3	1							1	
31Ca90	1		1							
31St67	9	5	1						1	2
31Un59	10	6	1						3	
31Un63	1	1								
31Un72	1	1								
31Un82	1								1	
31Un100	1	1								
31Un92	97	31	4	40	5	4	1		5	2
31Cal01	34	17	9	1			4	2	1	
Total	153	63	16	41	5	4	5	2	13	4

Although the ceramic assemblage is sparse, the location of these ceramic-bearing sites reinforces the settlement pattern established for late Woodland groups, i.e. sites located at the confluence of two streams and/or on the stream floodplains.

CHAPTER 8: LITHIC ANALYSIS

The Rocky River Basin survey project recorded a total of 47 prehistoric sites with 23 and 24 of these sites located in Lambert and Marshville, respectively. Lithic artifacts were collected on all of these sites. The classification and analysis of these materials proceeded from a set of assumptions outlined previously by Collins (1975). These assumptions include:

A. Lithic technology is a linear process based on one or more technological and stylistic traditions that is divided into a series of reductive steps. These steps include

   1. Acquisition of raw materials,
   2. Core preparation and/or initial reduction (bulk breakage),
   3. Primary trimming (optional),
   4. Secondary trimming (optional),
   5. Shaping of a final form,
   6. Discard,
   7. Reuse of previously discarded pieces.

B. Each of the above steps produces specific types of waste products, lithic debris.

C. Utilization of debris may occur during any portion of the reductive process.

D. Lithic reduction activities are patterned according to the limitations of specific raw materials (Speth 1972).

E. Lithic reduction activities are patterned according to specific or combinations of specific culturally prescribed technological and stylistic traditions.

F. Idiosyncratic and/or innovative activities are derived from specific or combinations of specific culturally derived technological and stylistic traditions.

F. Lithic reduction activities may be patterned to allow expedient usage of certain raw material types, e.g. quartz.

F. Lithic raw material acquisition activities may be based on one or more of the following criteria:

   1. Proximity,
   2. Tool function,
   3. Selectivity based on aesthetics,
   4. Selectivity based on restricted access to sources,
   5. Selectivity based on trade.

A total of 6260 lithic artifacts was recovered from the sites recorded in the two survey areas. Of this total 1406 specimens were found in the Lambert area while 4854 were recovered at

Marshville. These artifacts were initially assessed using two schemes, a geological scheme and a cultural scheme.

The geological scheme related to the lithic raw material used to make the artifacts and involved simple visual analysis to determine whether local resources were used to produce the artifacts collected. The results of this approach have been discussed in the geology section of this report. The criteria used to arrive at those conclusions were based on differences and/or similarities in terms of groundmass, texture, luster, fracture, presence/absence of inclusions, and weathering properties of samples of the local raw materials. Specimens selected for analysis were classified using a visual analysis form originally developed by Alan N. Snavely. That sheet provides a detailed description for each sample coded. The categories within the sheet were divided into several sections to describe the visual attributes of the specimens and were defined according to the work of Matthews et al. (1976). These sections were as follow:

Groundmass. The material between the phenocrysts in a porphyritic igneous rock, the finely crystalline or glassy portion of a porphyry. It includes the bases or base as well as the smaller crystals of the rock. The assessments of groundmass were made visually.

A. Color. Color was defined using Munsell soil color charts, 1975 edition.

B. Grain, Aphanitic. A texture of igneous rocks in which individual particles (crystals) are not visible to the naked eye. It includes both microcrystalline and cryptocrystalline textures.

   1. Microcrystalline: The individual crystals can only be seen under magnification.

   2. Cryptocrystalline: The individual crystals are not easily distinguished under low to medium magnification (10x-20x).

C. Grain, Phaneritic. A texture of igneous rocks in which all the crystals of the essential minerals can be distinguished with the unaided eye. This section was further divided into coarse, medium and fine using the textures of 240, 440 and 600 grit sandpaper as standards.

D. Matrix. In lithic materials in which certain grains are much larger than the others, the grains of the smaller size comprise the matrix.

   1. Homogeneous: Any groundmass consisting throughout of identical or closely similar components.

2. Heterogeneous: Any groundmass lacking specific uniformity in general in terms of its components.

3. Flow-banded: Any groundmass that exhibits alternating, mineralogically unlike layers due to successive movements or flows of magma or lava.

4. Flow-bubbled: Any groundmass which contains a string or strings of vesicles marking the paths followed by rising gas escaping from a lava flow.

5. Bedded: Any groundmass that exhibits beds or laminae resulting from consolidated sediments of the same or different lithology.

6. Fissile (n. fissility): A property of the groundmass whereby it splits along closely spaced parallel planes more or less parallel to the bedding.

E. Translucency. This section pertains to the diffusion of light through the groundmass.

1. Clear quartz: A glass-like matrix of SiO_2 with little or no diffusion of light through the matrix.

2. Translucent chalcedony: Cryptocrystalline quartz and chert which allows the passage of light through the matrix, but is not transparent.

3. Translucent quartz: A matrix of SiO_2 which allows the passage of (diffused) light.

4. Translucent chert: A cryptocrystalline variety of quartz exhibiting varying colors composed of remains of microorganisms and/or precipitated silica grains which allows passage of diffused light.

5. Quartzite: A granular metamorphic rock consisting essentially of quartz which allows little or no passage of light through its matrix.

6. Opaque: Any groundmass which is impervious to the passage of light through its matrix.

Luster. The character of the light reflected by minerals. The luster assessments were made visually.

A. Shiny: Bright with reflected light.

B. Semi-glossy: A low amount of reflected light.

C. Flat: Little or no perceptable light reflection

D. Earthy (Dull): A filmy or patinated surface which presents a dull or cloudy appearance with little or no reflection of light.

Texture. The geometrical aspects of the component particles of a rock which include size, shape, and arrangement. The textural assessments were made tactilely.

A. Glassy: A slick surface texture resembling that of glass.

B. Smooth: A continuous and even surface texture that allows movement without friction across its surface.

C. 600 Grit: A surface texture that resembles the feel of 600 grit sandpaper (this is the "finest" of the three sandpaper gauges).

D. 440 Grit: A surface texture that resembles the feel of 440 grit sandpaper.

E. 240 Grit: A surface texture that resembles the feel of 240 grit sandpaper.

Density. The mass or quantity of a specimen in grams per cubic centimeter. This attribute was measured for each specimen using an improvised version of a Jolly balance to record specific gravity.

Fracture. The manner of breaking and appearance of a mineral when broken. This assessment was made visually and tactilely.

A. Conchoidal: A type of fracture giving smoothly curved surfaces like the interior of a shell. This fracturing is typical of glass and quartz.

B. Sub-conchoidal: A subjective fracture designation somewhere between conchoidal and blocky. True conchoidal fracturing is noted only in obsidian, some quartz, glass, and only the finest grained felsites (J. Robert Butler, personal communication).

C. Fissile: The fracture of a lithic material along closely spaced parallel planes generally parallel to the bedding.

D. Blocky: A form of fracturing which occurs in chunks or patches.

E. Friable: A form of fracturing characterized by crumbling of the lithic material.

F. Hackly: A form of fracturing featuring jagged points on the fractured surface.

Inclusions. Crystals or fragments of another substance or a minute cavity filled with gas or liquid enclosed in a crystal. A fragment of older rock enclosed in an igneous rock.

A. Type: Type or classification of inclusions.

1. Porphyritic: A textural term for those igneous rocks in which larger crystals, called phenocrysts, are set in a finer groundmass.

a. Quartz phenocrysts: Those crystal insets that have the properties of SiO_2.

b. Feldspar phenocrysts: Those crystal insets that have the properties of $MAL(AL, Si)_3O_8$, where M can be K, Na, Ca, Ba, Rb, Sr and Fe. Usually orthoclase feldspar with small amounts of albite occurs as phenocrysts. The crystals are white to light pink in color and euhedral in shape.

2. Clastic: Lithic materials consisting of fragments of rocks or of organic structures that have been moved individually from their place of origin.

a. Vitric tuff: Volcanic ash of which 75% or more by volume is comprised of glassy fragments blown out during eruption. This type of tuff is characterized by a very fine-grained, cryptocrystalline matrix.

b. Crystal tuff: Volcanic ash that contains at least 75% by volume of ejected volcanic crystals and single crystal fragments. The crystals are usually broken euhedra of quartz and feldspar and may be sheathed in an envelope of glass.

c. Lithic tuff: Volcanic ash that is similar in composition to crystal tuff; however, the feldspar and quartz fragments tend to be slightly larger (rock fragments are 2mm or greater). The presence of lithic fragments in lithic tuffs differentiate these from crystal tuffs.

d. Lapilli: Essential, accessory, and accidental volcanic ejecta ranging in size from 4mm to 32mm across. Essential ejecta includes quartz, feldspars and feldspathoids. Accessory ejecta includes apatite, muscovite, corundum, sphene, flourite, zircon, ilmenite, magnetite, pyrite, pyrrhotite and any other trace element. Accidental ejecta include any other crystals or fragments having no necessary connection with the igneous rock in which they occur.

e. Breccia: A pyroclastic rock form which consists mainly of accessory and accidental angular ejecta

measuring 64mm or greater across, lying in a fine-grained tuffaceous matrix.

3. Density: Number of inclusions clustered along and within a 10mm line. This measurement was made using a 6X Edscope pocket comparator.

   a. Very dense: 10 or more inclusions

   b. Moderately dense: 5-10 inclusions.

   c. Slightly dense: 1-5 inclusions.

4. Color: The color of specific inclusions was recorded using the Munsell soil color charts, 1975 edition.

5. Size: The size of those inclusions noted for density estimates was made using the 6X comparator to measure their diameter.

Weathering. This term denotes the array of natural processes such as rain, air, temperature and soil chemistry which act upon lithic materials causing changes in character, decay, and finally the crumbling into soil.

A. None to slight: Lithic material reveals a fresh, relatively unadulterated surface.

B. Slight: Recent flake scars lie in contrast to the general surface.

C. Pitted or sandy: A series of .1 to 1mm weathered spots are obvious against a darker groundmass.

D. Thin patination: The fresh material can still be seen through an obvious but thin layer of weathered surface.

E. Fully patinated: A thickly weathered surface which obscures the fresh, unweathered interior of the material.

G. Leached: A lithic material that is patinated throughout. No unweathered material remains within the particular specimen.

The results of the visual analysis indicated a lack of any knappable quality felsic raw material within either of the survey areas. The majority of the felsic lithic artifacts recovered within the project areas appeared to have been imported from elsewhere within the Carolina Slate Belt. These materials consisted mainly of fine-grained cryptocrystalline rhyolites, argillites and tuffs with none of the coarse-grained argillites of the local area included in any of the assemblages. Some local quartz was however apparently used in both areas. The useage of quartz will be discussed again in the analysis portion of this chapter. The absence of felsite outcrops in the survey areas was

unexpected, inasmuch as the project areas are situated in that broad geological zone referred to generally as the Slate Belt.

The cultural scheme involved a study of the various types of lithic technology applied to the raw materials recovered in the survey. Each artifact collected was categorized using a set of terms which followed the assumptions outlined above. These follow closely those provided by Bradley (1975), and are as follow:

Reduction debris. Applies to those lithic pieces that are the residue of the manufacture or maintenance processes of a particular stone tool industry. Reduction debris may also result from lithic procurement strategies (e.g. bulk breakage to examine the quality of a particular nodule). Reduction debris has not been utilized.

Cores. Blocks or chunks of raw material with one or more flakes removed.

Primary core. A piece of raw material that has had flakes removed. The desired product is the flake.

Secondary core. Any primary flake that has had flakes removed. The desired product is the flake.

Exhausted core. Any core that has been utilized to the limits of its usefulness. No usable flakes can be removed. These pieces are normally discarded.

Utilized core. Any core that has been utilized for some function other than the extraction of flakes (e.g. a chopper or scraper).

Unmodified flake. Any lithic debris or byproduct of lithic reduction that has not been further reduced, modified or utilized.

Primary flake. Any flake removed from a core with no more than one negative flake scar on the exterior. Some cortex normally remains.

Decortication flake. Any flake removed in order to trim a core, produce a platform or remove the cortex to reveal the unweathered interior of the material. The flake must bear cortex on at least 50% of its dorsal surface.

Secondary flake. A large flake with two or more negative flake scars on the exterior (dorsal) surface. Little or no cortex remains.

Thinning flake. A smaller flake, less than 5 cm in length with no cortex remaining. A thinner flake than most secondary flakes.

Retouch flake. Any flake that is less than 7mm. in length resulting from sharpening or extensive, fine-grained reduction.

Blade. Any flake that is twice as long as it is wide.

Spall. Raw material ejecta resulting from the impact of the raw material and the object used to remove flakes.

Utilized flake. Any flake that has been used as a tool without any further modification or retouch. These flakes generally have small micro-flakes removed or edge damage or wear resulting from use.

Preform. Any piece of lithic material that has been modified to a specific, predetermined stage of a lithic reduction sequence. A preform is not a finished tool, but is intended to be further reduced in a specific, predetermined manner into one tool type of a particular lithic industry.

Retouched flake. Any flake that has had retouch flakes removed. These flakes were removed before any utilization of the flake occurred.

Blank. Any piece of lithic material that has been modified to a specific, predetermined stage of a lithic reduction sequence. A blank is not a finished tool, but is intended to be reduced in a specific, predetermined manner into one of several possible tool types of a particular lithic industry.

Uniface. Any tool with flakes removed from one side only.

Biface. Any tool with flakes removed from two sides of a multi-faceted form.

Projectile point. Any of several recognized types of hafted bifaces.

Burin. A tool with a chisel-like working bit, formed by two intersecting flake scars.

Denticulate. A tool characterized by small pointed projections or serrations.

Drill. A tool with a narrow pointed end for making holes in hard or tough surfaces by revolving, or by a succession of blows.

Nondescript piece. Lithic debris or tools that cannot be classified into any of the above categories. This includes broken flakes.

Discard. Any piece of lithic material that is not part of any lithic reduction process. A naturally occurring rock devoid of any cultural attributes, but found in an archeological context.

The specific assemblages collected at each site have been listed in Chapter 4 of this report. There was considerable

variation in the artifact frequencies among the sites (Tables 8.1, 8.2). On most sites with low artifact frequencies there was evidence of redeposition, so these likely were removed from the original context. The analysis discussed below deals with the survey areas separately, and uses only those sites which were discovered in context.

Table 8.1: Artifact Frequencies, Lambert Reservoir Sites

Site	Total Lithic Artifacts
31St67	303
31St68	14
31St69	4
31St70	4
31St73	10
31St74	374
31St75	126
31St76	2
31St77	20
31St78	19
31St79	6
31St80	3
31St81	12
31St82	63
31St83	14
31St84	2
31St85	6
31St87	249
31St88	49
31St89	44
31St90	19
31St91	55
Total 23	1406

Table 8.2: Artifact Frequences, Marshville Reservoir Area

Site	Total Lithic Artifacts
31Un57	18
31Un59	853
31Un60	3
31Un62	66
31Un63	174
31Un65	107
31Un66	2
31Un69	62
31Un72	78
31Un73	14
31Un81	26
31Un82	2
31Un83	27
31Un84	3
31Un85	14
31Un86	1277
31Un87	576
31Un88	181
31Un89	247
31Un90	290
31Un91	9
31Un92	721
31Un97	52
31An53	52
Total 24	4854

Table 8.3: Sites in Context, Lambert Reservoir Area

Site	Total Lithic Artifacts
31St67	303
31St68	14
31St73	10
31St74	374
31St75	126
31St78	19
31St82	63
31St86	8
31St87	249
31St91	55
Total 10	1221

Table 8.4: Sites in Context, Marshville Reservoir Area

Site	Total Lithic Artifacts
31Un57	18
31Un59	853
31Un60	3
31Un62	66
31Un63	174
31Un65	107
31Un66	2
31Un69	62
31Un72	78
31Un83	27
31Un84	3
31Un85	14
31Un86	1277
31Un87	576
31Un88	181
31Un89	247
31Un90	290
31Un92	721
31Un97	52
31An53	52
Total 20	4803

Site Types and Activities

With the exception of five sites (St67, Un59, Un63, Un72 and Un96), the prehistoric sites are represented by simple lithic scatters or relatively low density surface sites (Tainter 1979). According to Tainter, lithic scatters in upland areas suggest "that the sites may have functioned as locations where game movements in the area were observed, and where butchering took place. Other interpretations, which are plausible on an a priori basis, are that sites were locations for procuring and processing vegetal foods, or for manufacturing lithic tools, or that some combination of these activities took place" (1979:464). While Tainter wrote mainly concerning sites in the U.S. Southwest, his assumptions are considered applicable to the Lambert and Marshville areas in that the lithic scatters represent the execution of a certain activity or set of activities. The evaluation of the prehistoric sites for Lambert and Marshville proceeded from several observations outlined by Tainter, as follow:

A. Edge Angle. Recent work by Wilmsen (1968, 1970) and Gould et al. (1971) suggest that certain activities could be inferred from the edge angles of utilized and retouched flakes. Edge angle was defined as the angle created at the working edge of a flake or tool. Wilmsen (1968) suggests that flakes with edge angles of 26^{o}-35^{o} are associated with

cutting. Semenov (1964) notes the optimum angle for whittling knives to be between 35^{o}-40^{o} (Wilmsen 1968:156). Edge angles between 46^{o}-55^{o} were associated with skinning, hide scraping, sinew and plant-fiber shredding, heavy cutting of fiberous materials and tool blunting (backing). Edge angles between 66^{o}-75^{o} are associated with bone and wood-working, skin softening and heavy shredding (Wilmsen 1968). Bohmers (1963) noted concentrations of edge angles between 50^{o}-70^{o} for Upper Paleolithic endscrapers and 60^{o}-80^{o} for Mesolithic counterparts (Wilmsen 1968). Wilmsen suggests these tools were best suited for wood or bone working (1968:159). In this study edge angles for utilized and retouched flakes and for unifaces were measured using methods similar to those described by Wilmsen (1970). Each angle was measured to the nearest five degree increment, but these were collapsed into ten degree increments for the tables which follow.

B. Edge shape. Tainter noted that the shape of a tool edge was a less useful indicator of its function due to a lack of direct association of form to function (1979:465). Gould et al. (1971), however, observed that straight to convex edges were preferred for butchering while concave edges were associated more often with woodworking. In this study edge shapes were visually examined on utilized and retouched flakes and unifaces; the shapes were classified as straight, convex, concave, notched, or projecting (Tainter 1979:467).

C. Percentage of unmodified debris. A high percentage of unmodified and non-utilized debris was considered to be indicative of lithic reduction activities, directed toward either tool production or tool maintainance.

D. Presence or absence of a wide range of formal tools. A wide variety of formal tools was considered to be indicative of a number of different activities. A small number of formal tools or the occurrence of one type of tool group suggests limited activities. Projectile points, burins, denticulates, drills, end scrapers and side scrapers were considered formal tools.

E. Presence of projectile points. The presence of projectile points was considered to be indicative of activities associated with hunting (Tainter 1979:465). The projectile points were also used as phase and/or period indicators (Coe 1964; Claggett and Cable 1982). Figures 8-1 and 8-2 illustrate the range of projectile points recovered.

The assessment of the indicators defined above facilitated the classification of those sites found in context in the two reservoir areas. The classification scheme defines four prehistoric site types based on site size, artifact density and the attributes of recovered artifacts. The "base camp"

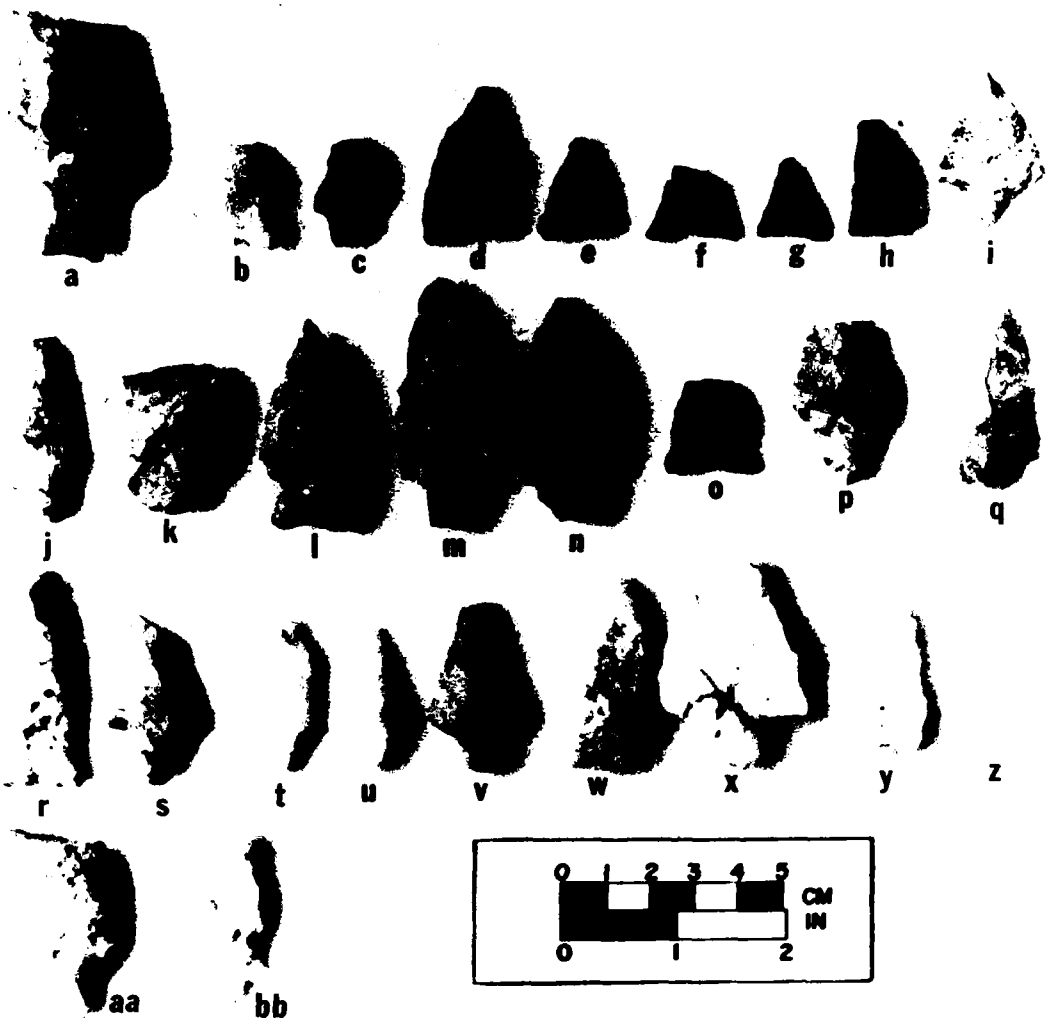


Figure 8-1. Projectile Points, Rocky River Project. a, 31Un57; b, 31Ca88; c-h, 31Un59; i, 31Un62; j,k, 31Un69; l,m, 31Un72; n, 31Un84; o, 31Ca98; p, 31St73; q, 31Un89; r-bb, 31Un87.

designation used here corresponds with Binford's (1980) "residential bases"; the "short-term camps" and "bivouacs" with Binford's "field camps"; and the "special activity sites" with "locations." The several site types used here are as follow:

A. Base camps. These were relatively large in areal extent and contained a variety of lithic tool types, in some cases fire-cracked rock and, in Woodland components with ceramics. Such sites were probably occupied by a relatively large group over an extended period of time, possibly a season. Recovered artifacts indicate multiple activities took place at such sites.

B. Short-term camps. Although smaller than the base camps, short-term camps were larger than bivouacs and contained a small number of lithic types representing one or two tool kits, and in some cases fire-cracked rocks or ceramics. Site size and contents suggest an occupation of more than a day, but less than a season, by a small group such as a family or a hunting or gathering party.

C. Bivouacs. These are the smallest of habitational site types, and contain only one or two lithic types as debitage from tool maintainance or expedient tool production. Fire-cracked rock is absent, as are ceramics. Such sites could be produced by an overnight or, at most, a few days visit by a small group. Artifacts suggest a very limited activity range on these sites.

C. Special activity sites. These sites are variable in size, ranging from rather extensive quarry locales to very small killing and/or butchering stations and gathering locales. The smallest are characterized by on-site acquisition, utilization and discard of artifacts fashioned from local raw material, especially quartz. Those tools likely were used for some short-lived extractive activity.

Certain activities are inferred for the various site types based on characteristics outlined by Tainter (1979). Examples are:

A. Hunting. Hunting activity was assumed with the presence of a high percentage of edge angles in the 10^{o}-35^{o} range, a high percentage of edge shapes within the convex to straight range, a low frequency of retouched edges, the presence of projectile points, and a high tool density.

B. Vegetal food-gathering/processing. These activities were identified by a high percentage of edge angles greater than 40^{o}, the presence of milling stones, and the absence or low frequency of projectile points.

C. Tool Preparation. This site activity was characterized by a high percentage of unmodified and nonutilized lithic

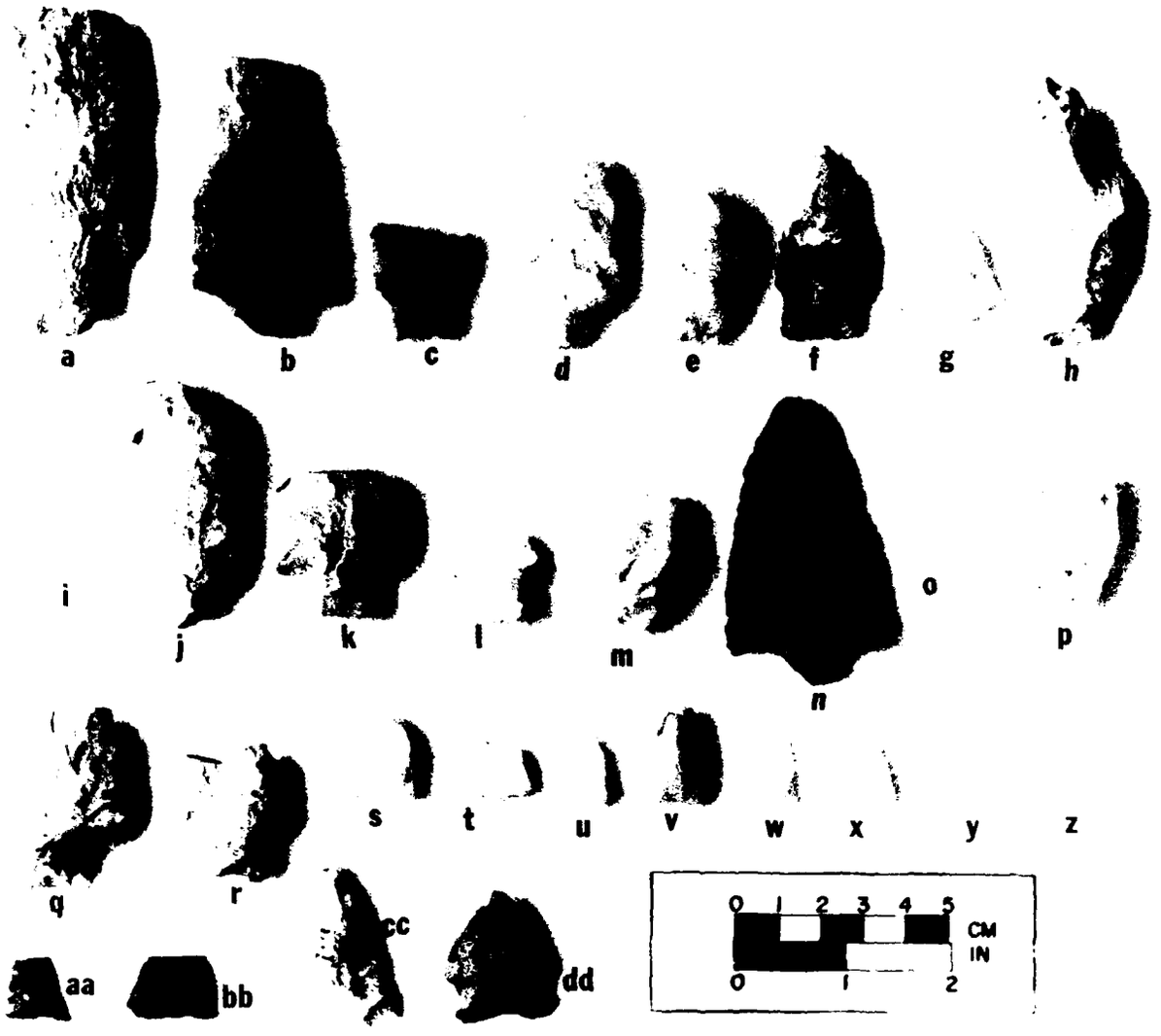


Figure 8-2. Projectile Points, Rocky River Project. a. 31Un87; b, 31Un69; c-e, 31Un88; f-i, 31Un89; j-o, 31Un90; p-aa, 31Un92; bb, 31Un97; cc,dd, 31St74.

debris, and/or a high percentage of concave-edged and notched tools appropriate for production of wooden tools.

Table 8.5: Edge Angle Distribution, Utilized Flakes, Lambert

Site	Angle(%)							
	10°	20°	30°	40°	50°	60°	70°	80°
St67			2(66.7)				1(33.3)	
St68		2(33.3)		1(16.7)	1(16.7)			2(33.3)
St73								
St74	1(10)	4(40)	3(30)	2(20)				
St75								
St78								
St82								
St86								
St87		1(50)	1(50)					
St91		1(100)						

Table 8.6: Edge Angle Distribution, Utilized Flakes, Marshville

Site	Angle(%)							
	10°	20°	30°	40°	50°	60°	70°	80°
Un57								
Un59		3(27)	2(18)	1(9)	1(9)	2(18)	2(18)	
Un60								
Un62		1(50)		1(50)				
Un63		2(66)					1(33)	
Un65			3(50)	1(17)		1(17)	1(17)	
Un66								
Un69		2(50)		1(25)	1(25)			
Un72		1(50)			1(50)			
Un83								
Un84								
Un85								
Un86	1(3)	3(8)	16(43)	12(32)	1(3)	2(5)	2(5)	
Un87	1(8)		3(25)	2(17)	3(25)	1(8)	2(17)	
Un88		2(50)	2(50)					
Un89		1(14)		1(14)	2(29)	2(29)	1(14)	
Un90		1(33)		1(33)		1(33)		
Un92		1(7)	4(29)	4(29)	1(7)	2(14)	2(14)	
Un97		1(33	1(33)	1(33)				
An53						1(100)		

Table 8.7: Edge Angle Distribution, Retouched Flakes, Lambert

Site	Angle (%)							
	10°	20°	30°	40°	50°	60°	70°	80°
St67				1(33)		1(33)	1(33)	
St68								
St73								
St74								
St75								
St78								
St82								
St86								
St87	1(33)	1(33)		1(33)				
St91					1(100)			

Table 8.8: Edge Angle Distribution, Retouched Flakes, Marshville

Site	Angle(%)							
	10°	20°	30°	40°	50°	60°	70°	80°
Un57								
Un59	1(5)	2(10)	2(10)	9(45)	2(10)	1(5)	3(15)	
Un60					2(100)			
Un62			1(50)				1(50)	
Un63	1(17)		1(17)	2(33)	1(17)		1(17)	
Un65								
Un66								
Un69								
Un72						1(50)		1(50)
Un83								
Un84								
Un85								
Un86	1(4)	3(13)	4(17)	7(29)	5(21)	1(4)	3(13)	
Un87		1(13)		3(38)	1(13)	2(25)	1(13)	
Un88								
Un89			1(25)	1(25)	1(25)		1(25)	
Un90			1(33)			1(33)	1(33)	
Un92		1(11)	3(33)	1(11)	1(11)	1(11)	2(22)	
Un97			1(25)	2(50)		1(25)		
An53								

Table 8.9: Edge Angle Distribution, Unifaces, Marshville

Site	Angle (%)							
	10°	20°	30°	40°	50°	60°	70°	80°
Un57								
Un59				1(100)				
Un60								
Un62			1(50)				1(50)	
Un63								1(100)
Un65								
Un66								
Un69								
Un72								
Un83				1(100)				
Un84								
Un85								
Un86					2(33)	1(17)		3(50)
Un87						1(100)		
Un88								
Un89								1(100)
Un90								
Un92			1(25)		2(50)			1(25)
Un97								
An53								

(No unifaces were recovered in the Lambert Reservoir area, hence there is no corresponding table to the above 8.9.)

Table 8.10: Edge Angle Distributions, Combined Utilized Flakes, Retouched Flakes, Lambert

Site	Angle (%)							
	10°	20°	30°	40°	50°	60°	70°	80°
St67			2(33)	1(17)		1(17)	2(33)	
St68		2(33)		1(17)	1(17)			2(33)
St73								
St74	1(10)	4(40)	3(30)	2(20)				
St75								
St78								
St82								
St86								
St87	1(20)	2(40)	1(20)	1(20)				
St91		2(100)						

Table 8.11: Edge Angle Distributions, Combined Utilized Flakes, Retouched Flakes, Unifaces, Marshville

Site	Angle (%)							
	10°	20°	30°	40°	50°	60°	70°	80°
Un57								
Un59	1(3)	5(15)	5(15)	11(33)	3(9)	3(9)	5(15)	
Un60								2(100)
Un62		1(17)	2(33)	1(17)			2(33)	
Un63	1(10)	2(20)	1(10)	2(20)	1(10)		3(30)	
Un65			3(50)	1(17)		1(17)	1(17)	
Un66								
Un69		2(50)		1(25)	1(25)			
Un72		1(25)			2(50)			1(25)
Un83				1(100)				
Un84								
Un85								
Un86	2(3)	6(8)	20(30)	19(28)	8(12)	4(6)	5(7)	3(4)
Un87	1(5)	1(5)	3(14)	5(24)	4(19)	4(19)	3(14)	
Un88		2(50)	2(50)					
Un89		1(8)	1(8)	2(17)	3(25)	2(17)	2(17)	1(8)
Un90		1(17)	1(17)	1(17)		2(33)	1(17)	
Un92		2(7)	8(30)	5(19)	4(15)	3(11)	4(15)	1(4)
Un97		1(14)	2(29)	3(43)		1(14)		
An53				1(100)				

Table 8.12: Edge Shape Distributions, Combined Utilized Flakes, Retouched Flakes, Lambert

Site	Edge Shape				
	Straight	Convex	Concave	Notched	Projections
St67	1(25)	3(75)	1(25)		
St68	1(17)	4(67)	1(17)		
St73					
St74	6(60)	3(30)			1(10)
St75					
St78					
St82					
St86					
St87	1(20)	3(60)			1(20)
St91	2(100)				

Table 8.13: Edge Shape Distributions, Combined Utilized Flakes, Retouched Flakes and Unifaces, Marshville

Site	Edge Shape (%)				
	Straight	Convex	Concave	Notched	Projections
Un57					
Un59	15(47)	12(38)		2(6)	3(9)
Un60		2(100)			
Un62		4(100)			
Un63	2(20)	6(60)			2(20)
Un65		4(67)	2(33)		
Un66					
Un69	2(50)	1(25)			1(25)
Un72	3(75)	1(25)			
Un83		1(100)			
Un84					
Un85					
Un86	23(34)	39(58)			5(7)
Un87	6(29)	10(48)		1(5)	4(19)
Un88	3(75)	1(25)			
Un89	6(50)	3(25)		1(8)	2(17)
Un90		3(50)		2(33)	1(17)
Un92	8(30)	18(67)		1(4)	
Un97	4(57)	1(14)	1(14)		1(14)
An53			1(100)		

Table 8.14: Percentage of Unmodified, Nonutilized Debris, Lambert

Site	%
St67	90.56
St68	16.67
St73	88.89
St74	92.58
St75	97.80
St78	86.67
St82	100.00
St86	83.33
St87	93.55
St91	75.00

Table 8.15: Percentage of Unmodified, Nonutilized Debris, Marshville

Site	%
Un57	23.08
Un59	85.90
Un60	33.33
Un62	63.93
Un63	89.38
Un65	88.64
Un66	100.00
Un69	71.15
Un72	70.31
Un83	96.15
Un84	66.67
Un85	100.00
Un86	78.56
Un87	79.64
Un88	79.35
Un89	78.08
Un90	85.83
Un92	81.31
Un97	60.98
An53	90.00

Table 8.16: Distribution of Formal Tool Types, Lambert

Site	Tools(%)					
	Projectile Points	Burins	Denticulates	Drills	End Scrapers	Side Scrapers	Other
St67	9(82)			1(9)			1(9)
St68							1(100)
St73	1(100)						
St74	5(71)						2(29)
St75							
St78	1(50)						1(50)
St82							
St86	1(100)						
St87	6(100)						
St91	4(100)						

Table 8.17: Distribution of Formal Tool Types, Marshville

Site	Tools(%)						
	Projectile Points	Burins	Denticulates	Drills	End Scrapers	Side Scrapers	Other
Un57	3(100)						
Un59	32(97)					1(3)	
Un60							
Un62	2(40)	1(20)		1(20)			1(20)
Un63	6(86)				1(14)		
Un65				2(67)			1(33)
Un66							
Un69	5(71)		1(14)				1(14)
Un72	4(67)	2(33)					
Un83						1(100)	
Un84	1(100)						
Un85							
Un86	29(49)		6(10)	4(7)	4(7)	2(3)	14(24)
Un87	29(71)	2(5)	1(2)		1(2)		8(20)
Un88	7(100)						
Un89	5(50)	1(10)				1(10)	3(30)
Un90	10(77)						3(23)
Un92	30(81)		2(5)	1(3)	2(5)	1(3)	1(3)
Un97	2(40)	1(20)					2(40)
An53							

Table 8.18: Temporally Diagnostic Artifacts, Lambert*

Site	PL	KK	ST	MM	GF	HX	SR	BD	YD	UW	PD	CR	RD	UID
31St67	0	2	0	0	0	0	0	0	0	0	1	4	1	2
31St68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31St73	0	0	0	1	0	0	0	0	0	0	0	0	0	0
31St74	0	1	0	0	0	0	0	0	0	0	0	0	0	4
31St75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31St78	0	0	0	0	0	0	0	0	0	0	0	0	0	1
31St82	0	1	0	0	1	0	0	0	0	0	0	0	0	0
31St86	0	0	1	0	0	0	0	0	0	0	0	0	0	0
31St87	0	1	0	1	1	0	0	0	0	0	0	2	0	1
31St91	0	0	0	0	0	0	0	0	0	0	0	4	0	0

*Abbreviations:

PL= Palmer
BD= Badin
KK= Kirk
YD= Yadkin
ST= Stanly
UW= Uwharrie
MM= Morrow Mountain
GY= Gypsy
GF= Guilford
CR= Caraway
HX= Halifax
RD= Randolph
SR= Savannah River
UID= unidentified

Table 8.19: Temporally Diagnostic Artifacts, Marshville

Site	PL	KK	ST	MM	GF	HX	SR	BD	YD	UW	PD	CR	RD	UID
31Un57	0	0	0	0	0	0	1	0	0	0	0	0	0	0
31Un59	2	0	0	0	0	0	0	2	1	1	0	8	1	19
31Un60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31Un62	0	0	0	1	0	0	0	0	0	0	0	0	0	1
31Un63	0	1	0	0	0	0	0	0	0	0	0	1	0	4
31Un65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31Un66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31Un69	0	1	0	1	1	0	0	0	0	0	0	1	0	1
31Un72	0	0	0	0	2	1	0	0	0	0	0	0	0	1
31Un83	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31Un84	0	1	0	0	0	0	0	0	0	0	0	0	0	0
31Un85	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31Un86	1	3	0	2	5	1	4	0	0	0	0	0	0	15
31Un87	0	2	0	4	1	1	4	0	0	0	0	0	0	17
31Un88	0	0	0	0	1	0	2	0	0	0	0	0	0	4
31Un89	0	2	0	1	1	0	0	0	0	0	0	1	0	0
31Un90	0	2	0	1	1	0	2	0	0	0	0	1	0	3
31Un92	0	0	0	0	1	0	2	1	0	0	0	11	0	15
31Un97	0	0	0	0	0	0	0	0	0	0	0	1	0	1
31An53	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Site Function Interpretations

The data listed above have made it possible to suggest a functional interpretation for the sites recorded in Lambert and Marshville. These inferences allow comparisons of site types for both project areas and suggestions concerning land useage patterns during various phases of prehistory.

Site Distribution: Lambert. Of the ten sites in Lambert considered to be in context, none were found to contain any identifiable Paleo-Indian components. This lack of any recorded early prehistoric materials could well be the result of the restrictions placed on the sampling design in terms of the survey area boundaries. Because of the elevational limits of the two floodpools, a large portion of the uplands, i.e. hills, ridgetops, and saddles, were not surveyed. For this reason, all inferences and suggestions concerning land-use patterns have been tempered with this realization.

A total of 4 sites were found to contain Early Archaic/Kirk components (Table 8.20). Of these, all four exhibited

Table 8.20: Early Archaic/Kirk Site Distribution, Lambert

Site	Type	Activities
St67	Short-term camp	Hunting camp activities, tool preparation
St74	Short-term camp	Hunting camp activities, tool preparation
St82	Short-term camp	Tool preparation and maintenance
St87	Short-term camp	Hunting camp activities, tool preparation

characteristics indicative of small, short-term campsites. The Kirk component was identified at 31St67 by diagnostic projectile points in combination with debris at the site which was similar in weathering and raw material type to the diagnostics. The percentage of these Kirk-type artifacts within the site was small relative to the later phases. This information suggests that the Lambert area experienced short-term, ephemeral useage during the Early Archaic/Kirk phase. Activities in the area were apparently confined mainly to small hunting forays.

One site, 31St86, had an early Middle Archaic (Stanly) component (Table 8.21). 31St86 displayed chacteristics

Table 8.21: Early Middle Archaic (Stanly) Site Distribution, Lambert

Site	Type	Activities
St86	Bivouac	Very limited activity/tool preparation

of those defined for a bivouac, with tool preparation activities suggested by the high percentage (83.3%) of unmodified/nonutilized debris. This suggests a very transient useage of the Lambert area by Stanly groups.

Middle Archaic/Morrow Mountain phase components were recorded for two sites in the Lambert area (Table 8.22). The sites

Table 8.22: Middle Archaic/Morrow Mountain Site Distribution, Lambert

Site	Type	Activities
St73	Bivouac	Very limited activity/tool preparation
St87	Special activity	Hunting camp activities/tool preparation

recorded for the Morrow Mountain phase also exhibited the characteristics indicative of small, short-term occupations. This information suggests that the Lambert area was used for small hunting forays and followed the same pattern as the Early Archaic.

A Middle Archaic/Guilford component was recorded on two sites, 31St86 and 31St87, in the Lambert survey area (Table 8.23).

Table 8.23: Middle Archaic/Guilford Site Distribution, Lambert

Site	Type	Activities
St86	Short-term camp	Tool preparation and maintenance
St87	Special Activity	Hunting camp activities/tool preparation

These sites indicate the same ephemeral useage of the Lambert area as suggested for the earlier phases.

The survey in Lambert recorded no Late Archaic components on any site considered to be in context, and in fact, the survey in general failed to produce any firm evidence of a Late Archaic presence in the Lambert area. In addition, the survey failed to record any early to late Woodland components in the area. This information suggests that the Lambert area received, at best, only light useage during these phases.

Late Woodland components were identified for three sites in Lambert (Table 8.24), the first evidence of any relatively

Table 8.24: Late Woodland Site Distribution, Lambert

Site	Type	Activities
St67	Small base camp	Combined activities
St87	Special activity	Hunting camp activities
St91	Special activity	Hunting camp activities

long-term occupation in the surveyed areas of Lambert. This evidence occurred in the form of a small base camp, 31St67. The artifacts from this site suggest a variety of hunting and gathering activities and tool preparation. Two additional sites with Late Woodland components, 31St87 and 31St91, may have served as smaller satellite sites situated within the catchment of 31St67.

The Protohistoric phase was only represented at 31St67 (Table 8.25), consisting of one projectile point. The assessment of

Table 8.25: Protohistoric/Randolph Site Distribution, Lambert

Site	Type	Activities
St67	Small short-term camp	Limited activities

this site as a Protohistoric short-term camp was based on the presence of lightly to unweathered lithic debris associated with the diagnostic tool form present on the site.

The information generated from the survey in Lambert suggests that the general area was sparsely used throughout most of prehistory up to the Late Woodland. Most of the land use before the Late Archaic appears to be a result of small, short-term hunting trips into the area. An absence of activity was noted for the area between the Late Archaic and Middle Woodland. An increased useage of the area was noted during the Late Woodland when the area was apparently occupied for longer periods of time.

Smaller sites in association with base camps suggest reduced catchment areas during these phases. This phenomenon could possibly be the result of increased population pressure during these late phases causing the utilization of more marginal landforms which may have had lower productivity and less suitable attributes in terms of preferred settlement patterns (Ford 1974; Coe 1952:308).

Site Distribution: Marshville. No identifiable Paleo-Indian components were found in any of the assemblages collected in the Marshville area. The same basic qualifications discussed for the Lambert area regarding this statement apply to Marshville.

Two sites were found to contain Early Archaic/Palmer diagnostics (Table 8.26). Both of these sites exhibit characteristics

Table 8.26: Early Archaic/Palmer Site Distribution, Marshville

Site	Type	Activities
Un59	Short-term camp	Tool preparation
Un86	Short-term camp	Tool preparation

indicative of small, short term campsites. The Palmer components were identified at both sites based on the percentage of debris similar to the materials of the diagnostic projectile points and additional heavily weathered lithic debris. The artifacts for both sites suggest tool preparation activities; however no additional activities could be inferred. This suggests that the Marshville area experienced short-term, ephemeral useage during the Early Archaic/Palmer phase.

A total of eight sites contained Early Archaic/Kirk components (Table 8.27). All of the sites exhibited characteristics

Table 8.27: Early Archaic/Kirk Site Distribution, Marshville

Site	Type	Activities
Un63	Short-term camp	Combined hunting/gathering activities, tool preparation
Un69	Short-term camp	Combined hunting/gathering activities, tool preparation
Un72	Short-term camp	Combined hunting/gathering activities, tool preparation
Un84	Special activity	Hunting stand or kill site
Un86	Short-term camp	Tool preparation
Un87	Short-term camp	Tool preparation
Un89	Short-term camp	Tool preparation
Un90	Short-term camp	Tool preparation

indicative of small, short-term campsites. Two sites, 31Un63 and 31Un69, revealed artifacts that indicate a range of activities suggestive of both hunting and gathering activities in addition to tool preparation. These sites may have functioned as small base camps while the remaining sites were part of the catchment. This statement is based on the location of 31Un63 and 31Un69 on a hilltop and knoll remnant respectively while the remainder, except for 31Un84, were located on ridgetoes. 31Un84 was found on a hilltop; however, the assemblage was not suggestive of combined activities. This information suggests that the Marshville area

experienced more useage, maybe in the form of reduced catchment size, during the Kirk phase when compared to Palmer components.

Six sites contained Middle Archaic/Morrow Mountain components (Table 8.28). These data suggest a shift in the intensity

Table 8.28: Middle Archaic/Morrow Mountain Site Distribution, Marshville

Site	Type	Activities
31Un62	Base camp	Combined activities
31Un69	Short-term camp	Combined hunting/gathering activites, tool preparation
31Un86	Base camp	Combined activities
31Un87	Base camp	Combined activities
31Un89	Base camp	Combined activities
31Un90	Base camp	Combined activities

of land useage beginning in the Middle Archaic. A large number of small base camps were clustered within the area. These sites all were located on ridgetoes in relative close proximity to each other. Whether these sites represent successive visits by groups with the same cultural traditions over time or contemporaneous groups in close proximity is not known, but the increased habitation of this area beginning during the Morrow Mountain phase of the Middle Archaic suggests a shift in settlement pattern.

The pattern begun during the Morrow Mountain phase is apparently continued by Guilford groups (Table 8.29). The number

Table 8.29: Middle Archaic/Guilford Site Distribution, Marshville

Site	Type	Activities
31Un69	Short-term camp	Combined hunting/gathering activities, tool preparation
31Un72	Short-term camp	Combined hunting/gathering activities, tool preparation
31Un86	Base camp	Combined activities
31Un87	Base camp	Combined activities
31Un88	Short-term camp	Hunting camp activities, tool preparation
31Un89	Base camp	Combined activities
31Un90	Base camp	Combined activities
31Un92	Base camp	Combined activities

of different site types containing Guilford components suggests smaller catchments than those suggested for the Early Archaic.

Two sites contained middle Archaic/Halifax components (Table 8.30). Although reduced in number, the Halifax occupations follow

Table 8.30: Middle Archaic/Halifax Site Distribution, Marshville

Site	Type	Activities
31Un86	Base camp	Combined activities
31Un87	Base camp	Combined activities

the same general pattern of increased useage of the Marshville area begun during the early Middle Archaic. The possibility exists that Halifax groups may have been utilizing the outcrops of quartz noted in the general area (Coe 1964:118).

Six sites contained Late Archaic/Savannah River components (Table 8.31). The possibility exists that 31Un57 functioned as

Table 8.31: Late Archaic/Savannah River Site Distribution, Marshville

Site	Type	Activities
31Un57	Special Activity	Limited activity-tool preparation
31Un86	Base camp	Combined activities
31Un87	Base camp	Combined activities
31Un88	Short-term camp	Hunting camp activities, tool preparation
31Un90	Base camp	Combined activities
31Un92	Base camp	Combined activities

a hunting stand; however, little evidence is available to support this suggestion. The Late Archaic presence in the area encompassed by the survey continued the same pattern observed for the Middle Archaic with numerous sites of variable functions.

A decline in the number of sites in the survey area was observed for the early and middle Woodland (Table 8.32). Only

Table 8.32: Early and Middle Woodland Site Distribution, Marshville

Site	Phase	Type	Activities
31Un59	Badin, Yadkin, Uwharrie	Base camp	Combined activities
31Un92	Badin	Base camp	Combined activities

two sites contained early and middle Woodland components. This suggests another shift in settlement preference toward the

floodplains of the larger streams and away from the uplands as suggested by Woodall (1984).

A total of seven sites contained Late Woodland components (Table 8.33). The number of Late Woodland sites suggests another

Table 8.33: Late Woodland Site Distribution, Marshville

Site	Type	Activities
31Un59	Base camp	Combined activities
31Un63	Short-term camp	Combined hunter/gather activities, tool preparation
31Un69	Short-term camp	Combined hunter/gather activities, tool preparation
31Un89	Base camp	Combined activities
31Un90	Base camp	Combined activities
31Un92	Base camp	Combined activities
31Un97	Short-term camp	Combined hunter/gather activities, tool preparation

shift in land use patterns after the Middle Woodland toward reoccupation of upland areas adjacent to small streams. This suggests a response to increased population or social pressure to move into marginal environments as noted for the Lambert area (Ford 1974; Coe 1952:308).

The prehistoric land use patterns observed for the area surveyed in Marshville suggest a series of shifts in intensity of occupation. An ephemeral presence is noted for Palmer phase sites with an increase in site density during the Kirk phase. These sites were characterized by a group of small ephemeral campsites with hunting activities suggested. No sites with Stanly components were noted. A shift toward a more intensive land use was noted for the middle and late Archaic phases with a series of relatively large base camps clustered along ridgetoes overlooking Lanes Creek. The larger variety of artifacts collected on these sites suggested a wider range of activities and a longer period of occupation.

After the Late Archaic, a general abandonment of the area is suggested by the sparse representations of early and middle Woodland components in the sites recorded in the area. This phenomenon changes again during the Late Woodland with increased useage of the area, and again toward less useage during the Protohistoric.

Comparison of Land Useage in Lambert and Marshville

A comparison of the data collected in Lambert and Marshville suggests a difference in the intensity of land useage between the two areas. The Lambert survey area was apparently occupied on a very ephemeral basis with small, short-term sites common

throughout the phases represented. The data from Marshville suggests larger, more intensive occupation beginning around the Middle Archaic. The specific reasons for the difference in the land use patterns between two areas with nearly the same topography and general ecology are unclear, but may involve raw material availability as discussed below.

Quartz Useage Within the Survey Areas

The survey areas have been shown in previous chapters to contain very low-quality felsic raw materials. The coarse grained argillites outcropping in the respective areas would not have supplied suitable raw material for the production of stone tools. Such suitable material would have to be acquired elsewhere and imported into the areas encompassed by the survey. Quartz, on the other hand, has been shown to be used in the absence of easily acquired felsites (Tippitt and Marquardt 1984; House and Ballenger 1976; Goodyear et al. 1979). According to Tippitt and Marquardt, "Quartz, especially vein quartz, is easily procured in the Piedmont." In modeling quartz procurement, House and Ballenger (1976:128) argue that it may be treated as a "non-quarried" raw material due to its ubiquity. Further evidence of its localized procurement is the lack of quartz debitage bearing river cobble cortex in upland sites and the frequency with which such cortex is observed on quartz artifacts as one approaches the major rivers (Goodyear et al. 1979:156, Tippitt and Marquardt 1984:9-2). The models used recently to discuss quartz useage in the Piedmont have been taken from ethnoarcheological fieldwork of Gould (1977) in Western Australia (House and Ballenger 1976; House and Wogaman 1978; Goodyear et al 1979). These researchers have taken Gould's (1971) ideas concerning distinctions between activities utilizing tools made of quarried (non-local) and non-quarried (local) materials and applied them to quartz verses non-quartz utilization in the Piedmont. According to Goodyear et al., "Given Gould's (1977) quarried versus non-quarried dichotamy, House and Ballenger (1976:128) argued that quartz in the Piedmont would behave more like a 'non-quarried' raw material due to its widespead natural occurence in the region. Furthermore, they offered the argument that there would be variability in some of the stone tools themselves that might reflect functional differences in settlements related to habitation versus extraction activities because of the relative availability of the raw material from which they were made" (1979:157). The same phenomenon that affected the variability of the land use patterns was observed between the Lambert and Marshville survey areas. The quartz to felsite ratios computed for both survey areas on those sites with diagnostic components reflect a larger percentage of quartz utilization in the Marshville area (Tables 8.34 and 8.35). All of the sites with diagnostic components in Lambert were found to have higher percentages of felsite artifacts. In Marshville, 57.14% of the sites in question had a higher incidence of felsite. This difference may be explained when the site types for the two areas are considered. The Lambert area has been shown to contain mainly small, short-term campsites with no solid evidence of any extended

habitation site other than 31St67. Marshville, on the other hand, has been shown to contain several relatively large base camps which were apparently inhabited during the middle to late Archaic and Late Woodland. Any extended habitation in the area would have probably utilized local materials as a function of the length of stay and the demand for raw materials to supply needed tools. In contrast short-term occupations of areas would have had a greater dependance on raw materials carried into the area to allow free mobility into areas with marginal lithic resources in the form of ready-made tools, blanks or cores. These assumptions are supported by the ratios of various artifact categories from the two survey areas (Tables 8.36 - 8.45).

Table 8.34: Quartz/Felsite Ratio, All Artifacts, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
St67	303	1.9	98.1	0	STS-SBC(Wood.)
St68	14	7.6	21.4	0	
St73	10	0	100.0	0	Biv.
St74	374	0	100.0	0	STC
St75	126	1.6	98.4	0	
St78	19	0	100.0	0	
St82	63	3.2	96.8	0	
St86	8	12.5	87.5	0	Biv
St87	249	1.6	98.4	0	STC
St91	55	0	100.0	0	STC
Total With More Of Each Type		0	100.0		

Table 8.35: Quartz/Felsite Ratio, All Artifacts, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	18	16.7	72.2	11.1	STC, BC
Un59	853	18.9	80.9	.2	
Un60	3	0	100.0	0	BC
Un62	66	22.7	77.3	0	STC
Un63	174	12.1	87.9	0	
Un65	107	15.7	84.3	0	
Un66	2	0	100.0	0	STC
Un69	62	37.1	62.9	0	STC
Un72	78	61.5	35.9	2.6	
Un83	27	29.6	70.4	0	
Un84	3	33.3	66.7	0	Biv
Un85	14	0	100.0	0	(M.A, Wood.)
Un86	1277	81.0	18.3	.7	STC, BC
Un87	576	65.45	33.68	.87	STC, BC
Un88	181	72.93	27.07	0	STC
Un89	247	83.40	16.60	0	STC, BC
Un90	290	48.97	50.34	.69	STC, BC
Un92	721	93.34	6.24	.42	BC
Un97	52	40.38	59.62	0	STC
An53	52	28.85	69.23	1.92	
Total With More Of Each Type		42.86	57.14		

Table 8.36: Quartz/Felsite Ratio, Tools/Utilized Flakes, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
St67	3	100.0	0	0	STC, SBC
St68	6	83.33	16.67	0	
St73	0	0	0	0	Biv
St74	9	0	100.0	0	STC
St75	1	0	100.0	0	
St78	0	0	0	0	
St82	0	0	0	0	
St86	0	0	0	0	Biv
St87	2	0	100.0	0	STC
St91	1	0	100.0	0	STC

Table 8.37: Quartz/Felsite Ratio, Tools/Utilized Flakes, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	0	0	0	0	Biv
Un59	15	26.67	73.33	0	STC, BC
Un60	0	0	0	0	
Un62	2	0	100.00	0	BC
Un63	3	33.33	66.67	0	STC
Un65	6	33.33	66.67	0	
Un66	0	0	0	0	
Un69	4	50.00	50.00	0	STC
Un72	2	50.00	50.00	0	STC
Un83	0	0	0	0	
Un84	0	0	0	0	Biv
Un85	0	0	0	0	
Un86	38	84.21	15.79	0	STC, BC
Un87	12	75.00	25.00	0	STC, BC
Un88	4	75.00	25.00	0	STC
Un89	8	87.50	12.50	0	STC, BC
Un90	3	33.33	66.67	0	STC, BC
Un92	14	92.86	7.14	0	BC
Un97	3	100.00	0.00	0	STC
An53	1	100.00	0.00	0	

Table 8.38: Quartz/Felsite Ratio, Formal Tools, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type
St67	13	7.69	92.31	0	STC, BC
St68	1	100.00	0	0	
St73	1	0	100.00	0	Biv
St74	8	0	100.00	0	STC
St75	0	0	0	0	
St78	2	0	100.00	0	
St82	2	0	100.00	0	
St86	1	100.00	0	0	Biv
St87	7	14.29	85.71	0	STC
St91	6	0	100.00	0	STC

Table 8.39: Quartz/Felsite Ratio, Formal Tools, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	3	33.33	33.333	33.33	Biv
Un59	33	24.24	75.76	0	STC, BC
Un60	0	0	0	0	
Un62	9	55.56	44.44	0	BC
Un63	8	12.50	87.50	0	STC
Un65	3	0	100.00	0	
Un66	0	0	0	0	
Un69	7	42.86	57.14	0	STC
Un72	8	62.50	37.50	0	STC
Un83	1	100.00	0	0	
Un84	1	0	100.00	0	Biv
Un85	0	0	0	0	
Un86	73	67.12	26.03	6.85	STC, BC
Un87	46	54.35	43.48	2.17	STC, BC
Un88	9	66.67	33.33	0	STC
Un89	12	66.67	33.33	0	STC, BC
Un90	11	45.45	54.55	0	STC, BC
Un92	47	78.72	21.28	0	BC
Un97	6	66.67	33.33	0	STC
An53	0	0	0	0	

Table 8.40: Quartz/Felsite Ratio, Tools/Retouched Flakes, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
St67	3	0	100.00	0	STC, BC
St68	1	100.00	0	0	
St73	0	0	0	0	Biv
St74	0	0	0	0	STC
St75	0	0	0	0	
St78	0	0	0	0	
St82	0	0	0	0	
St86	0	0	0	0	Biv
St87	0	0	0	0	STC
St91	1	0	100.00	0	STC

Table 8.41: Quartz/Felsite Ratio, Tools/Retouched Flakes, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	0	0	0	0	Biv
Un59	22	36.36	63.64	0	STC, BC
Un60	2	0	100.00	0	
Un62	2	50.00	50.00	0	BC
Un63	6	16.67	83.33	0	STC
Un65	0	0	0	0	
Un66	0	0	0	0	
Un69	0	0	0	0	STC
Un72	2	50.00	50.00	0	STC
Un83	0	0	0	0	
Un84	0	0	0	0	Biv
Un85	0	0	0	0	
Un86	24	83.33	16.67	0	STC, BC
Un87	9	55.56	33.33	11.11	STC, BC
Un88	0	0	0	0	STC
Un89	4	100.00	0	0	STC, BC
Un90	3	100.00	0	0	STC, BC
Un92	11	72.73	27.27	0	BC
Un97	4	50.00	50.00	0	STC
An53	0	0	0	0	

Table 8.42: Quartz/Felsite Ratio, Blanks and Preforms, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
St67	1	0	100.00	0	STC, BC
St68	1	100.00	0	0	
St73	0	0	0	0	Biv
St74	1	0	100.00	0	STC
St75	1	0	100.00	0	
St78	0	0	0	0	
St82	0	0	0	0	
St86	0	0	0	0	Biv
St87	0	0	0	0	STC
St91	2	0	100.00	0	STC

Table 8.43: Quartz/Felsite Ratio, Blanks and Preforms, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	6	20.00	80.00	0	Biv
Un59	16	25.00	75.00	0	STC, BC
Un60	0	0	0	0	
Un62	6	16.67	83.33	0	BC
Un63	1	100.00	0	0	STC
Un65	0	0	0	0	
Un66	0	0	0	0	
Un69	2	50.00	50.00	0	STC
Un72	5	40.00	60.00	0	STC
Un83	0	0	0	0	
Un84	0	0	0	0	Biv
Un85	0	0	0	0	
Un86	41	68.29	31.71	0	STC, BC
Un87	15	66.67	26.67	6.66	STC, BC
Un88	8	75.00	25.00	0	STC
Un89	10	70.00	30.00	0	STC, BC
Un90	8	62.50	37.50	0	STC, BC
Un92	10	70.00	30.00	0	BC
Un97	0	0	0	0	STC
An53	1	0	100.00	0	

Table 8.44: Quartz/Felsite Ratio, Cores, Lambert

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
St67	1	100.00	0	0	STC, BC
St68	1	100.00	0	0	
St73	0	0	0	0	Biv
St74	2	0	100.00	0	STC
St75	0	0	0	0	
St78	0	0	0	0	
St82	0	0	0	0	
St86	0	0	0	0	Biv
St87	0	0	0	0	STC
St91	2	0	100.00	0	STC

Table 8.45: Quartz/Felsite Ratio, Cores, Marshville

Site	#Artifacts	%Quartz	%Felsite	%Other	Type of Site
Un57	1	0	100.00	0	Biv
Un59	13	61.54	38.46	0	STC, BC
Un60	0	0	0	0	
Un62	3	33.33	66.67	0	BC
Un63	0	0	0	0	STC
Un65	1	0	100.00	0	
Un66	0	0	0	0	
Un69	2	100.00	0	0	STC
Un72	2	0	50.00	50.00	STC
Un83	0	0	0	0	
Un84	0	0	0	0	Biv
Un85	0	0	0	0	
Un86	83	98.80	1.20	0	STC, BC
Un87	19	84.21	15.79	0	STC, BC
Un88	11	90.91	9.09	0	STC
Un89	14	100.00	0	0	STC, BC
Un90	11	100.00	0	0	STC, BC
Un92	42	97.62	2.38	0	BC
Un97	3	33.33	66.67	0	STC
An53	2	50.00	0	50.00	

Table 8.46: Distribution of "Other" Raw Materials By Site

Site	Quartzite	Jasper	Diabase	Siliceous Breccia
Un57	1	0	1	0
Un59	1	1	0	0
Un72	1	1	0	0
Un86	3	0	6	0
Un87	3	1	0	1
Un90	2	0	0	0
Un92	1	1	1	0
An53	0	1	1	0

The information above indicates a greater dependance on quartz in the Marshville area regardless of site type. The utilization of quartz on those sites identified as base camps reflect what one would expect for an extended occupation. Expedient activities carried out within the site itself would have been facilitated by the use of raw materials readily available to those performing the tasks. The survey in Marshville recorded a source of vein quartz which would have supported the demands of extended land use by prehistoric groups. In contrast, the smaller, short-term occupations in Lambert have a higher percentage of felsite when compared to all of the sites in Marshville regardless of phase or site type. This information suggests a general lack of readily available quartz or "non-quarried" raw material in the general area surveyed in Lambert. This suggestion is supported by both the lack of any recorded outcrops of quartz in the Lambert area and a relative lack of a general distribution of quartz nodules on the ground surface. This apparent lack of expedient "non-quarried" lithic material coupled with the poor quality felsites in Lambert may have had some bearing on the amount of time prehistoric groups spent in the area, restricting land use to a short-term basis because of the deficit of useable raw material necessary to support an extended occupation.

CHAPTER 9: SUMMARY AND CONCLUSIONS

The fieldwork and analysis described in the preceding chapters focuses on 71 archeological sites and structures discovered in two survey areas in the southern Piedmont of North Carolina. In the Lambert Reservoir area of Stanly County 169 hectares were surveyed, including 81 h in the dam site area and 88 h in the flood pool area, the latter investigated using a 20% stratified cluster sample. In the Marshville Reservoir area of Union County 205 h were examined, including another 81 h in the dam site sector and 124 h in the flood pool area (again sampled using a 20% stratified cluster sampling design). In the table below are the cultural resources found by the survey.

As occurs so often, the research objectives formulated for our field work, and set forth in Appendix D, were not fully obtained. Because the research questions were different for the historic and prehistoric resources, this discussion is similarly divided.

Historic Resources

Two of the research questions already have been addressed in Chapter 2, namely those dealing with the broad patterns of settlement in the Stanly-Union county region. The third research question posed in the original Wake Forest proposal proved to be far too ambitious for the scanty historic resources discovered by the survey. In the Lambert and Marshville reservoir areas only seven historic residential sites were discovered, including the Whitney Mill. At least two of these, Un58 and Un80 in Marshville, clearly date after the War Between the States, leaving only four non-industrial sites at most to bear on the research problems. In the Lambert Reservoir area only one non-industrial site was located, the poorly dated Furr Homestead (ST6), so no comparison is possible with other residential sites in that region. In the Marshville Reservoir there are three probable antebellum sites, Un68, Un78 and Un155. To seriously attempt any fitting of those data to the settlement model and problem would be pretentious, but it is hoped that in combination with other data from the region those sites can contribute to a future resolution of question 3, the relationship between the age of a structure and its elevation above adjacent watercourses. If the reader now is aware of the mistrust we hold toward this data base we would like to indulge in the observation that the oldest historic structure recorded in the Marshville survey (Un68) was found at an elevation of 422 feet, lower than any of the others in the same area. Unfortunately the elevations of later structures vary in no discernable pattern. It should be noted also that no sites or structures relating to the period of settlement were found, and the region's vernacular architecture of the eighteenth century remains undocumented.

Prehistoric Resources

A primary goal of the Rocky River project was to characterize the data base available, and this is possible in at least a rudimentary fashion. A striking feature of the surveyed areas is the paucity of ceramic sites, interpreted here as indicating the absence of long-term Woodland stage occupations in the upper reaches of the Rocky River tributaries. This reinforces the model commonly held, at least in North Carolina, that Piedmont Woodland cultures were distinctly oriented toward riverine settlement patterns, having abandoned older settlements along and in the smaller streams and uplands as villages congregated on major water courses. Intermittent use of the project areas during the Woodland seems to have continued, however, as marked by the several aceramic sites yielding Woodland lithic forms, and by the sites producing only a handful of sherds. It seems likely that these were generated by short-term visits of task groups from permanent or semi-permanent villages located outside the project area, perhaps on the Rocky River or lower reaches of its tributaries such as Lanes Creek or Big Bear Creek. [One exception should be mentioned, namely 31Cal01, a site found outside the project area in Cabarrus County. It is a multicomponent site with a large (for the region) Woodland component, in an eroded upland setting. It is located adjacent to Lick Branch, a name that may indicate a salt source in the vicinity. The site is mentioned here simply to record its existence in the regional literature; if it can be linked to salt procurement then it and other sites in the vicinity may add a completely new dimension to settlement studies of the region.] No appreciable data bearing on the origin of the Pee Dee phenomenon was recovered, and thus the processes involved in its manifestation on the Little River at Town Creek remain unclear. It does seem apparant that there was no significant penetration of the Rocky River tributaries by the Pee Dee phase (either via diffusion of distinctive culture traits or population movements), but then Woodland sites are rare, particularly those yielding ceramics. It may well be that some of the aceramic Woodland sites are affiliated with the Pee Dee phase, but this cannot be demonstrated. In regard to the "site unit intrusion" model cited in Chapter 2, we can only state that if the Town Creek occupants entered North Carolina from the south they did not pass through the Lambert or Marshville areas, a conclusion in keeping with Coe's concept of a passage along the outer margin of the fall line (Joffre Coe, personal communication).

Table 9.1: Site Inventory, Rocky River Basin Archeological Survey Project, Lambert Reservoir Area

Site No.	Component(s)	Site Type	Activities	Rec. *
31St67	E. Archaic	Short-term Camp	Hunting, Tool Preparation	1
	L. Woodland	Small Base Camp	Combined Activities	1
	Proto-Historic	Small Base Camp	Combined Activities	1
31St5	Historic-Whitney Mill	Mill		2
31St6	Historic-Furr	Farmstead		2
31St68	M. Archaic	Short-term Camp	Combined Activities	1
31St69	Prehistoric	Redeposited	Unknown	1
31St70	Prehistoric	Redeposited	Unknown	1
31St71	Historic	Rock Wall	Erosion Control	1
31St73	M. Archaic	Bivouac	Hunting, Tool Preparation	1
31St74	E. Archaic	Short-term Camp	Hunting, Tool Preparation	1
31St75	Prehistoric	Short-term Camp	Tool Preparation	1
31St76	Prehistoric	Redeposited	Unknown	1
31St77	Prehistoric	Redepostied	Unknown	1
31St78	Prehistoric;	Short-term Camp	Tool Preparation	1
	Historic Component			1
31St79	Prehistoric	Redeposited	Unknown	1
31St80	Prehistoric	Redeposited	Unknown	1
31St81	Prehistoric	Redeposited	Unknown	1

Table 9.1: Site Inventory, Rocky River Basin Archeological Survey Project, Lambert Reservoir Area (Cont.)

Site No.	Component(s)	Site Type	Activities	Rec. *
31St82	E. Archaic	Short-term Camp	Tool Preparation	1
	M. Archaic	Short-Term Camp	Tool Preparation	1
31St83	Prehistoric	Redeposited	Unknown	1
31St84	Prehistoric	Redeposited	Unknown	1
31St85	Prehistoric	Redeposited	Unknown	1
31St86	M. Archaic	Bivouac	Tool Preparation	1
31St87	E. Archaic	Special Activity	Hunting Activities	1
	M. Archaic	Special Activity	Hunting Activities	1
	M. Archaic	Special Activity	Hunting Activities	1
	L. Woodland	Special Activity	Hunting Activities	1
31St88	L. Woodland	Redeposited	Unknown	1
31St89	E. Archaic	Redeposited	Unknown	1
31St90	Prehistoric	Redeposited	Unknown	1
31St91	L. Woodland	Short-term Camp	Hunting, Tool Preparation	1
31St93	Historic	Cemetery		3
31St94	Historic	Bridge		1
31St95	Historic	Cemetery		3
31St96	Historic	Rock Pile and Wall	Erosion Control, Land Clearing	1

* 1 = No Further Work
2 = Data Recovery or Preservation
3 = Avoidance
4 = No Recommendation

Table 9.2: Site Inventory, Rocky River Basin Archeological Survey Project, Marshville Reservoir Area

Site No.	Component(s)	Site Type	Activities	Rec. *
31Un57	L. Archaic	Bivouac	Tool Preparation	1
31Un58	Historic	Domestic Refuse	Habitation	1
31Un59	E. Archaic	Short-term Camp	Tool Preparation	1
	E. Woodland	Small Base Camp	Combined Activities	1
	M. Woodland	Small Base Camp	Combined Activities	1
	L. Woodland	Small Base Camp	Combined Activities	1
31Un60	Prehistoric	Special Activity	Vegetal Food-gathering /processing	1
31Un61	Historic	Privy or Smoke House		1
31Un62	M. Archaic	Small Base Camp	Combined Activities	1
31Un63	E. Archaic	Short-term Camp	Combined Activities	1
	L. Woodland	Short-term Camp	Combined Activities	1
31Un64	Historic	Cemetery		3
31Un65	Prehistoric	Short-term Camp	Combined Activities	2
31Un66	Prehistoric	Unknown	Tool Preparation	1
	Historic Component	Rock Pile	Land Clearing	1
31Un67	Historic	Cemetery		3
31Un68	Historic	Domestic Refuse	Habitation	1
31Un69	E. Archaic	Short-term Camp	Combined Activities	1
	M. Archaic	Short-term Camp	Combined Activities	1
	M. Archaic	Short-term Camp	Combined Activities	1
	L. Woodland	Short-term Camp	Combined Activities	1
31Un70	Historic	Cemetery		3
31Un71	Historic	Rock Pile	Land Clearing	1

Table 9.2: Site Inventory, Rocky River Basin Archeological Survey Project, Marshville Reservoir Area (Cont.)

Site No.	Component(s)	Site Type	Activities	Rec. *
31Un72	E. Archaic	Short-term Camp	Combined Activities	1
	M. Archaic	Short-term Camp	Combined Activities	1
	L. Woodland	Short-term Camp	Combined Activities	1
31Un73	Prehistoric	Redeposited	Unknown	1
31Un74	Historic	Rock Pile	Land Clearing	1
31Un75	Historic	Rock Wall	Erosion Control	1
31Un76	Historic	Rock Wall	Erosion Control	1
31Un77	Historic	Rock Pile	Land Clearing	1
31Un78	Historic	Domestic Refuse	Habitation	1
31Un79	Historic	Cemetery		3
31Un80	Historic	Domestic Refuse	Habitation	1
31Un81	M. Archaic	Redeposited	Unknown	1
	L. Archaic	Redeposited	Unknown	1
31Un82	Prehistoric	Redeposited	Unknown	1
31Un83	Prehistoric	Special Activity	Vegetal Food-gathering /Processing	1
31Un84	E. Archaic	Special Activity	Hunting	1
31Un85	Prehistoric	Bivouac	Tool Preparation	1
31Un86	E. Archaic	Base Camp	Combined Activities	1
	E. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	L. Archaic	Base Camp	Combined Activities	1

Table 9.2: Site Inventory, Rocky River Basin Archeological Survey Project, Marshville Reservoir Area (Cont.)

Site No.	Component(s)	Site Type	Activities	Rec. *
31Un87	E. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	L. Archaic	Base Camp	Combined Activities	1
31Un88	M. Archaic	Short-term Camp	Hunting, Tool Preparation	1
	L. Archaic	Short-term Camp	Hunting, Tool Preparation	1
31Un89	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	L. Woodlan	Base Camp	Combined Activities	1
31Un90	E. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	M. Archaic	Base Camp	Combined Activities	1
	L. Archaic	Base Camp	Combined Activities	1
	L. Woodland	Base Camp	Combined Activities	1
31Un91	Prehistoric	Redeposited	Combined Activities	1
31Un92	M. Archaic	Base Camp	Combined Activities	1
	L. Archaic	Base Camp	Combined Activities	1
	E. Woodland	Base Camp	Combined Activities	1
	L. Woodland	Base Camp	Combined Activities	1
31Un97	L. Woodland	Short-term Camp	Combined Activities	1
31Un155	Historic	Domestic Refuse	Habitation	1
31An53	L. Archaic	Short-term Camp	Tool Preparation	1

* 1 = No Further Work 2 = Data Recovery or Preservation
3 = Avoidance 4 = No Recommendation

The density of Archaic sites exhibits some minor but interesting variation when compared to patterning in the northern Carolina Piedmont. In a gross sense the density of such sites is about the same as in interriverine settings elsewhere in the Piedmont. Early Archaic components however seem slightly under-represented, with the great majority of the occupations dating to the middle and Late Archaic. There is no clear population increase registered here during the middle to late Archaic, or at least none is indexed by the frequency of the components assigned to those stages. Middle Archaic sites are more frequent, but then that period lasts longer. If a "correction factor" is applied to the Middle Archaic site frequency to scale site frequency against the same time period (i.e. "sites generated per 500 years") then the middle and late Archaic are about equally represented. Counting sites as an indirect method for counting people is fraught with dangers, however, particularly here where the sample size for each period is small. Interestingly the early Middle Archaic, the Stanly phase, is poorly represented, and the terminal Early Archaic -- marked by the bifurcate based point horizon -- is not present in our site sample.

It seems that the first appreciable occupation of the upper reaches of the Rocky River tributaries occurred around 7000 B.C., during the Kirk phase of the Early Archaic. There was a diminished presence after 6500 B.C. until about 5000 B.C., when Morrow Mountain, then Guilford and Halifax occupations appear in the region. The Late Archaic, marked by the Savannah River point, continues the use of the region, but shortly after A.D. 0 the project area was largely abandoned, at least by permanent residents. It is tempting to ascribe the heavy Middle Archaic presence to the broad-spectrum foraging economy often proposed for that period (Cohen 1977; Cleland 1976; Claggett and Cable 1982), a pattern that is maintained through the Late Archaic until domesticates anchor populations along the major watercourses during the Woodland stage. This does not account for the well-documented Kirk phase presence, however, nor the attenuated use of the region during the late Early Archaic and the early Middle Archaic. The Kirk-phase sites, while certainly present, may be monitoring a different kind of useage. Those sites almost invariable are classified as short-terms camps, whereas the base camps appear mainly associated with middle and late Archaic manifestations. This is especially true in the Marshville project area. In the Lambert area all the sites are ephemeral, perhaps because of the scarcity of lithic raw material there, even quartz. The small Kirk-phase Marshville camps, if correctly interpreted as special-activity loci, may well be economically related to base camps outside the project area. If so, this lends some credence to Claggett and Cable's (1982) contention that the Kirk phase, and the Early Archaic generally, may be characterized by a logistical settlement-subsistence system, with a mapping-on strategy (Binford 1980) more characteristic of the Middle Archaic. In a mapping-on pattern, in effect every site is a base camp.

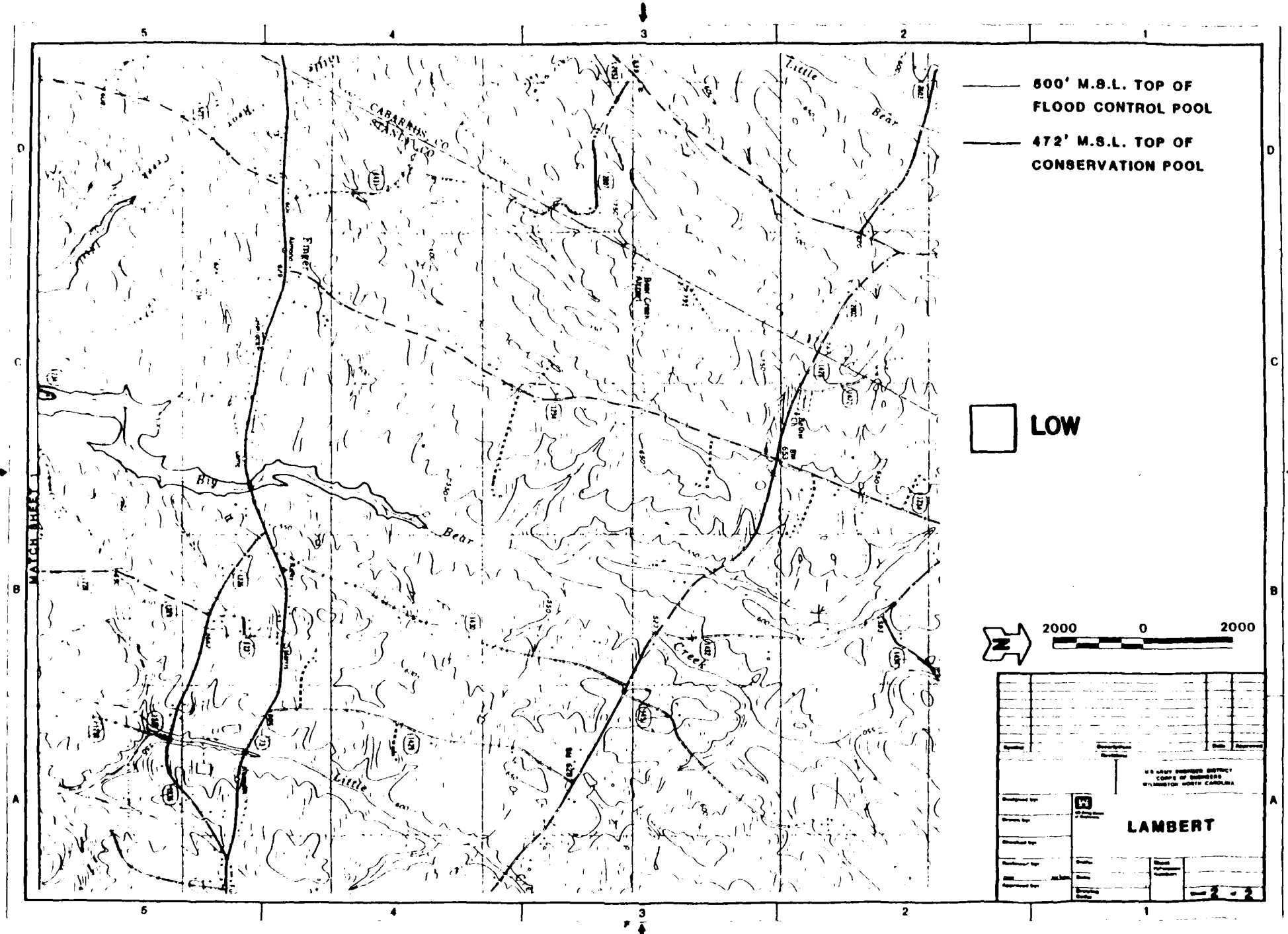


Figure 9-1. Site Probability Areas -- Lambert

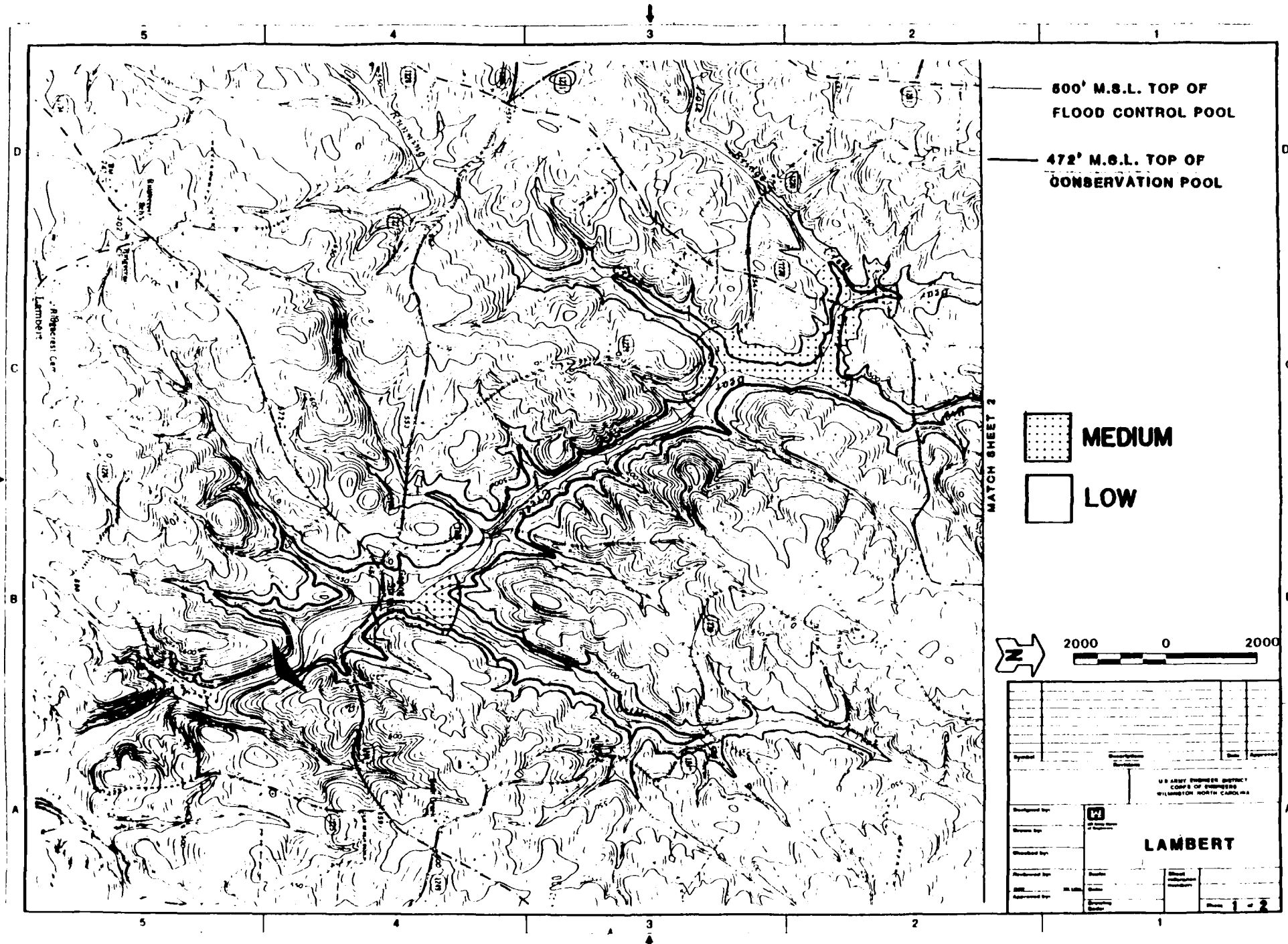


Figure 9-2. Site Probability Areas -- Lambert

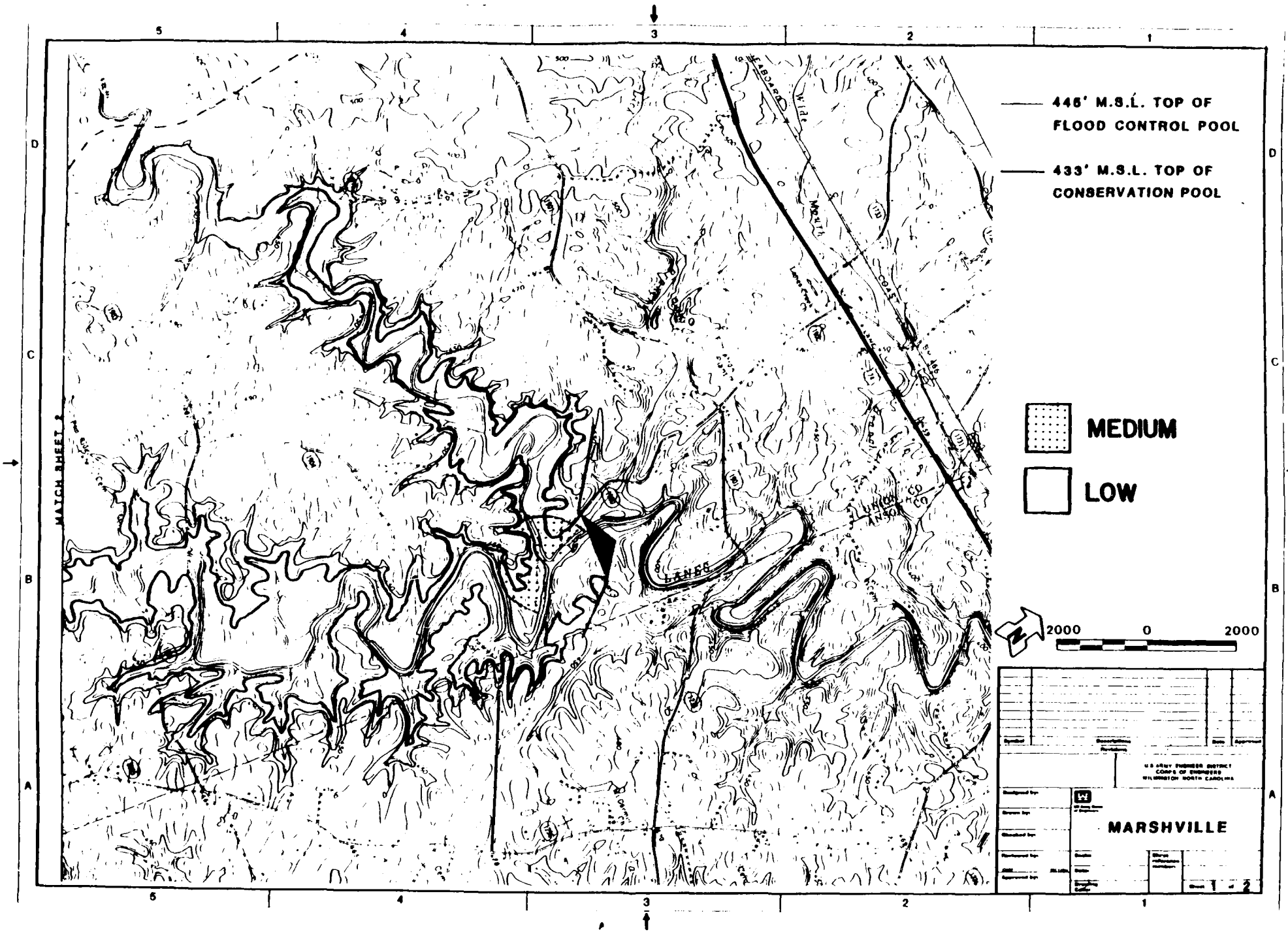


Figure 9-3. Site Probability Areas -- Marshville

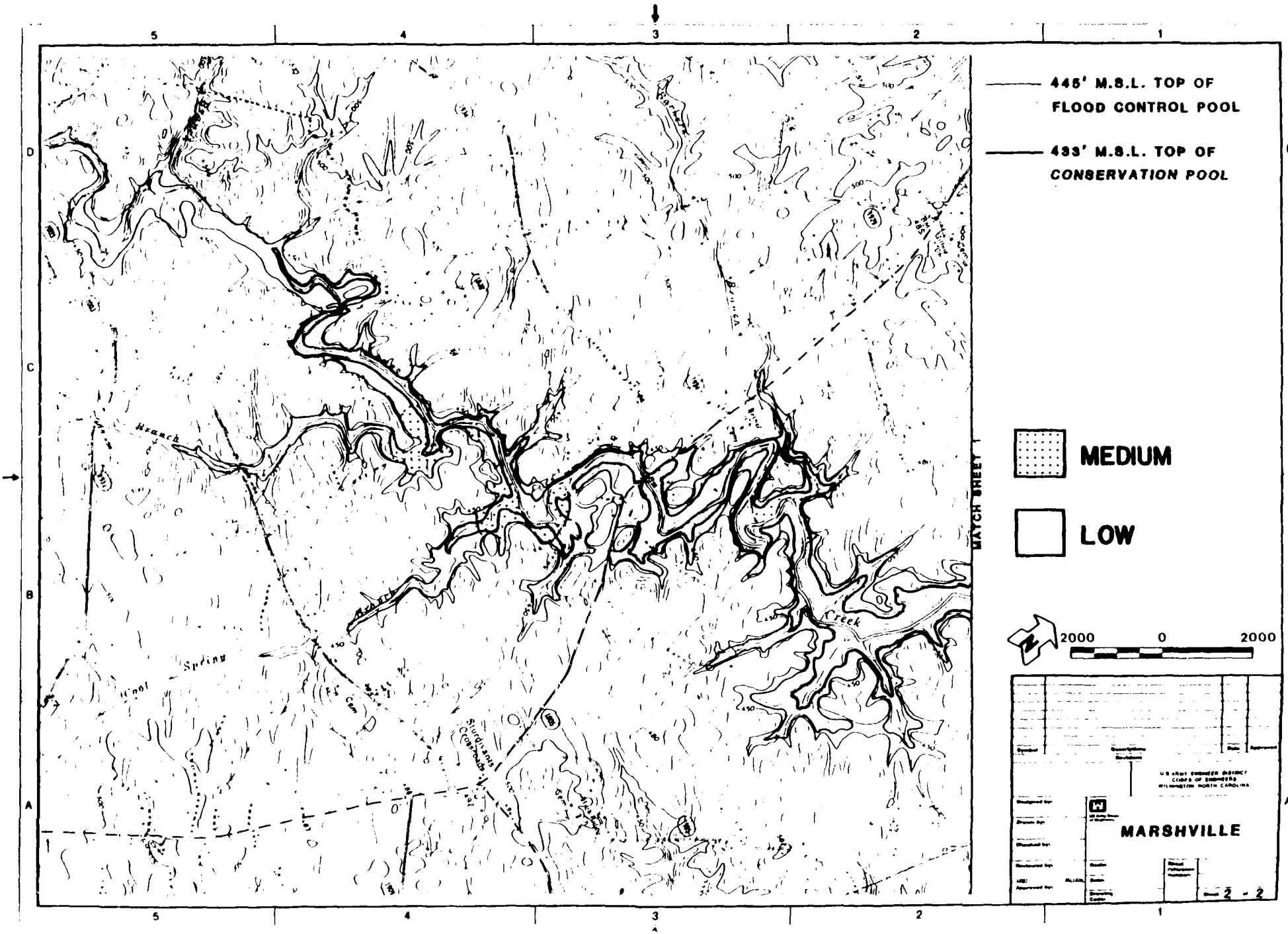


Figure 9-4. Site Probability Areas -- Marshville

An unexpected pattern encountered in both project areas is the high incidence of the use of quartz as raw material for stone tool production, particularly at the base camps. The details of this pattern are provided in Chapter 8, but in summary there seems to be a much higher useage of local raw materials at the base camps than at the special activity loci. Thus despite the proximity of the project areas to the felsic deposits of the Slate Belt, at least certain constraints seem to have operated to reduce felsite useage. Several general processes may have been operative, and unfortunately our data set does not allow discrimination between those. For example, base camps probably had a more sedentary core population of females, infirm or aged persons, and perhaps their lithic reduction activities necessarily involved local quartz sources, whereas wider-ranging special activity task groups regularly replenished the supply of transported, high-quality stone. As noted above, however, in the Lambert area even quartz may have been scarce. It is pointed out here that this same process can operate to produce differences in the quartz/felsite ratios between phases of the archeological record, as catchments of cultural units swell or diminish in response to natural or cultural conditions. Alternatively, the depletion of transported felsite is time-factored; i.e., the longer a site is occupied outside the zone of felsite availability the greater the likelihood that the supply on hand will be depleted, encouraging or requiring use of local materials. Simply put, the base camps will generate a higher incidence of quartz simply because they were created by groups staying longer from the felsite quarries. Or, a third alternative, base camp activities -- in the main -- may not have required an abundant supply of symmetrical, thin tools (e.g. projectile points), but rather expedient tool manufacture was the norm, supplemented with the use of highly curated tools. In other words, available felsite may have been reserved for those periods spent away from the base camp on special procurement tasks (where the predictable knapping characteristics of felsite would be advantageous), with "at-home" work being largely carried out using quartz.

Site Probability Estimate

One goal of the project was to provide estimates of site density for each of the four strata used in the sampling design. As can be seen in Table 9.3 most of the area potentially affected by reservoir construction is "low probability," i.e. the likelihood of a site occurring in a selected hectare is less than 33.33 percent. When prehistoric and historic sites are considered seperately only one portion of one reservoir area, the confluences of the Lambert project, is in the "medium" range of 33.3-66.6 percent. When prehistoric and historic sites are grouped then the confluences of both Lambert and Marshville reach the medium range, all other strata of both areas remain in the low probability range.

Table 9.3: Site Probability Estimates

Marshville:

Prehistoric				Historic			
Strata	#ha	#sites	%	Strata	#ha	#sites	%
1	7	2	28.6	1	7	2	28.6
2	29	0	0.0	2	29	1	3.4
3	30	6	20.0	3	30	2	6.7
4	61	7	11.5	4	61	4	6.6

Lambert:

Prehistoric				Historic			
Strata	#ha	#sites	%	Strata	#ha	#sites	%
1	13	5	38.5	1	13	3	23.1
2	19	2	10.5	2	19	0	0.0
3	12	1	8.3	3	12	0	0.0
4	47	11	23.4	4	47	2	4.3

Prehistoric and Historic:

Marshville Strata				Lambert Strata			
Strata	#ha	#sites	%	Strata	#ha	#sites	%
1	7	4	57.1	1	13	8	61.5
2	29	1	3.4	2	19	2	10.5
3	30	8	26.7	3	12	1	8.3
4	61	11	18.0	4	47	13	27.7

Strata:
1 = Confluence
2 = Floodplain
3 = Terrace
4 = Upland

% Probability:
0.0 - 33.3 = Low
33.3 - 66.6 = Medium
66.6 -100.0 = High

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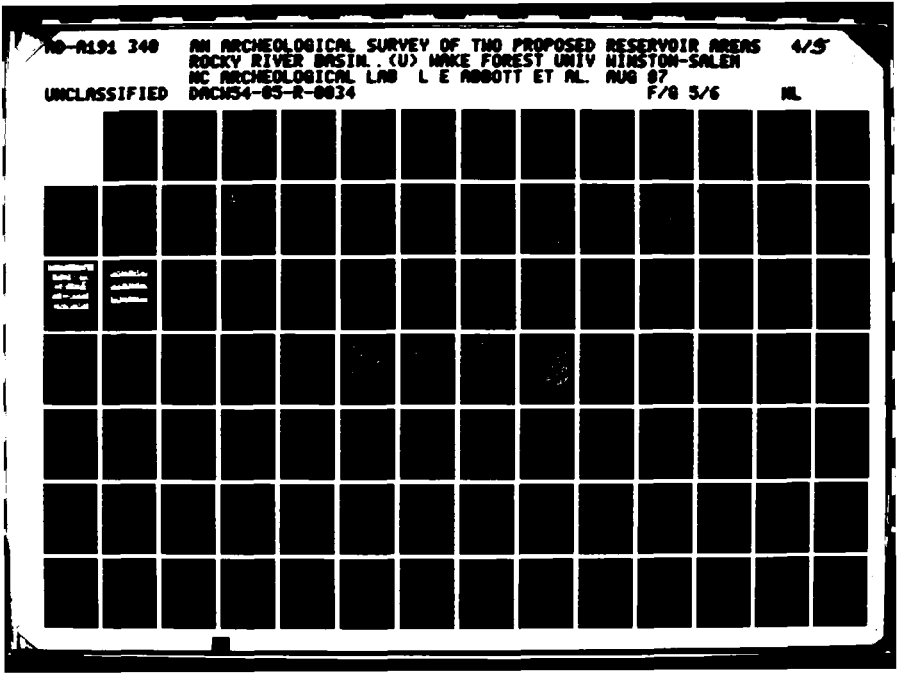
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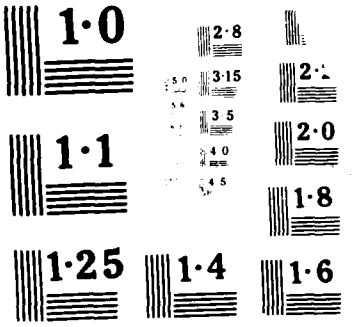
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APPENDIX B: SURVEYED AREAS AND METHOD OF COVERAGE

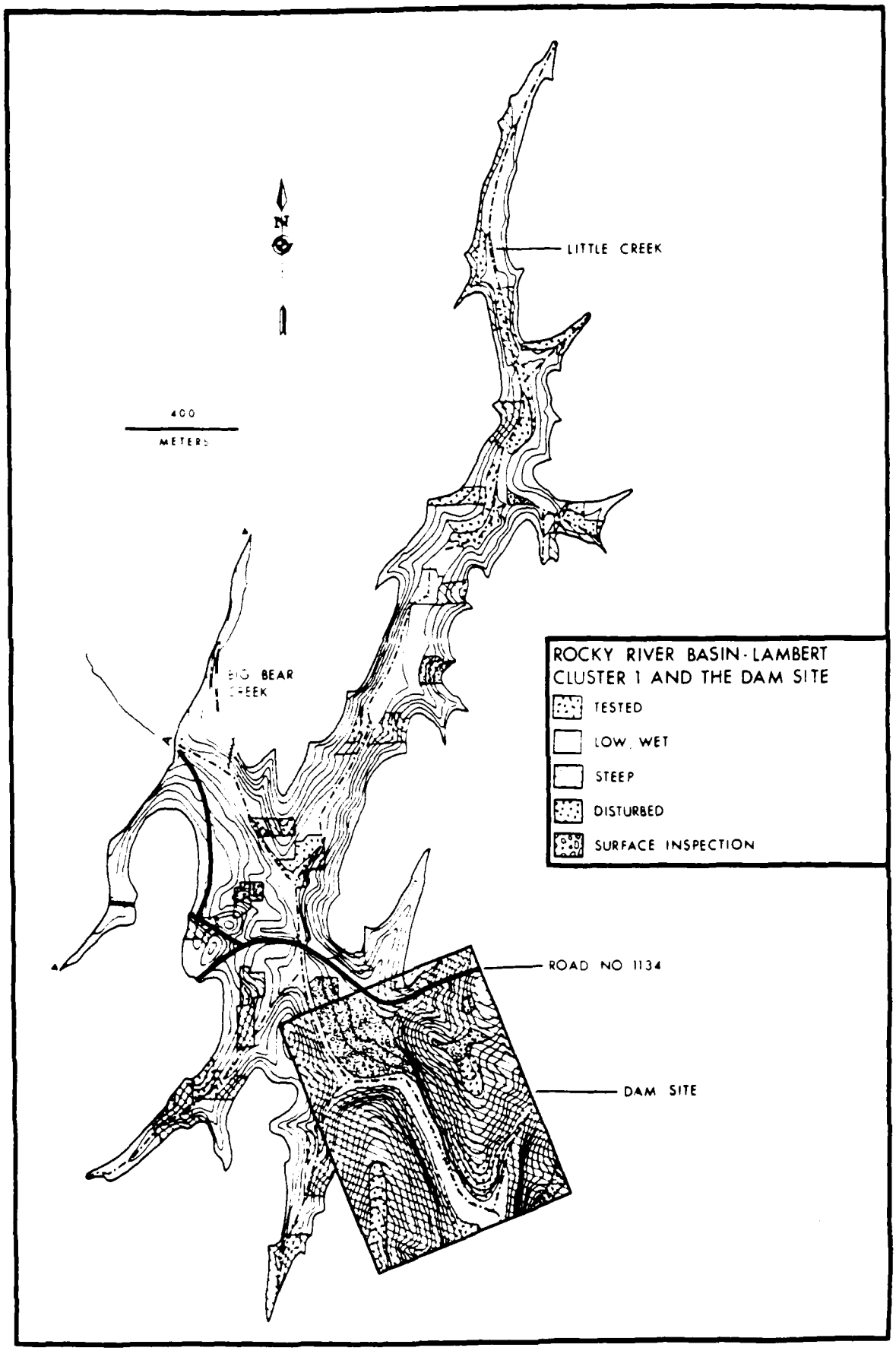


Figure B-1: Method of Coverage -- Lambert Cluster 1 and Dam Site

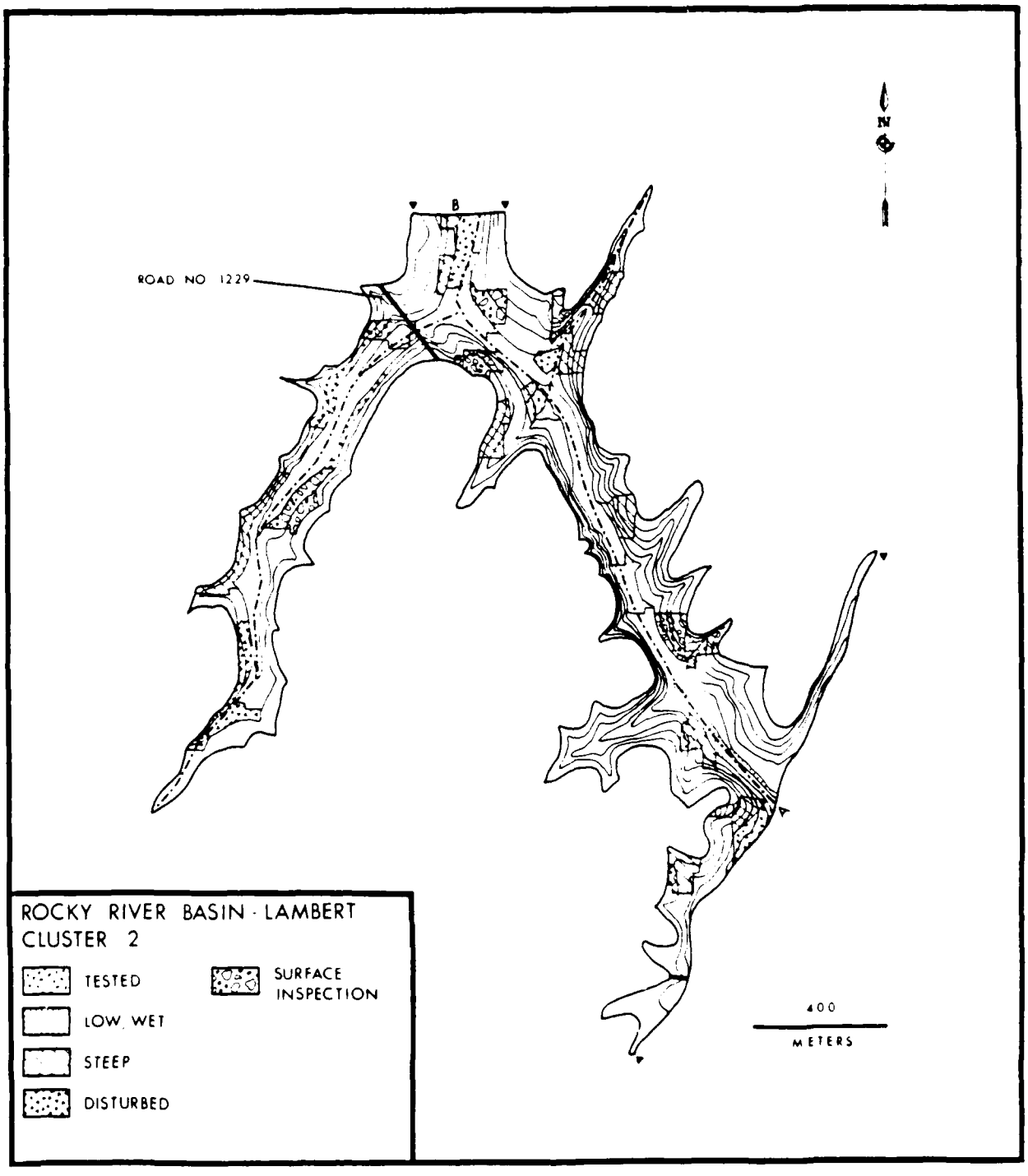


Figure B-2: Method of Coverage -- Lambert Cluster 2

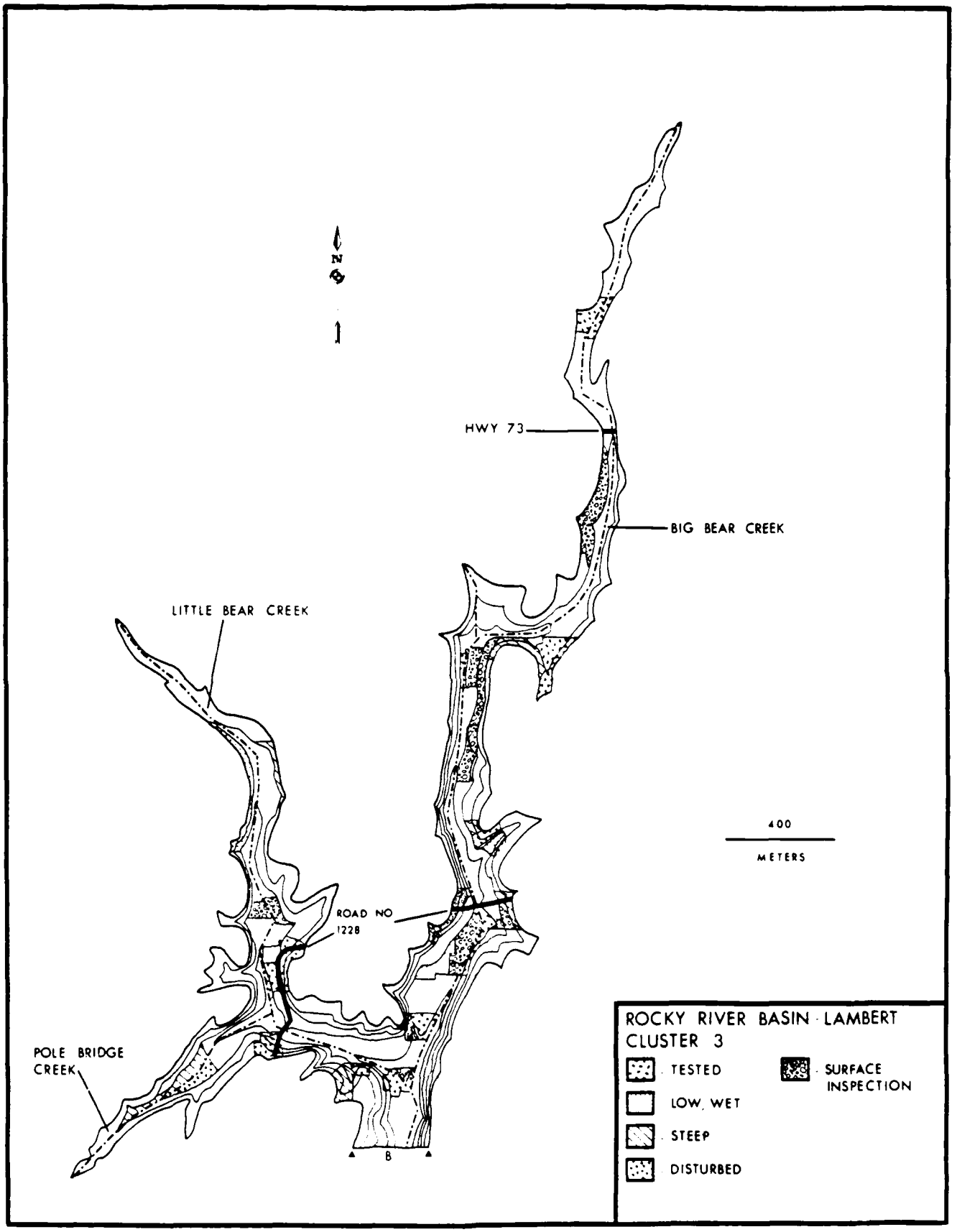


Figure B-3: Method of Coverage -- Lambert Cluster 3

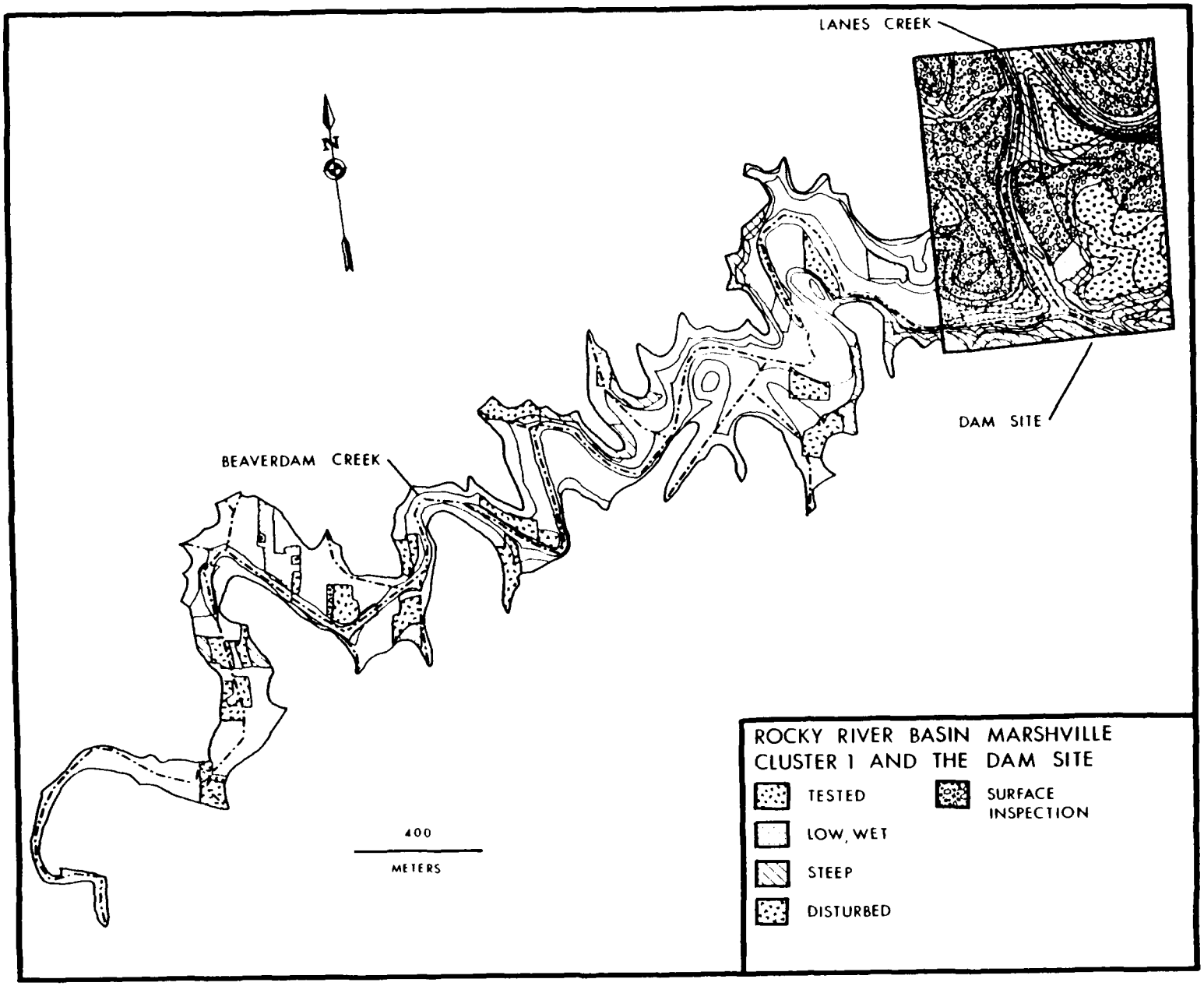


Figure B-4: Method of Coverage -- Marshville Cluster 1 and Dam Site

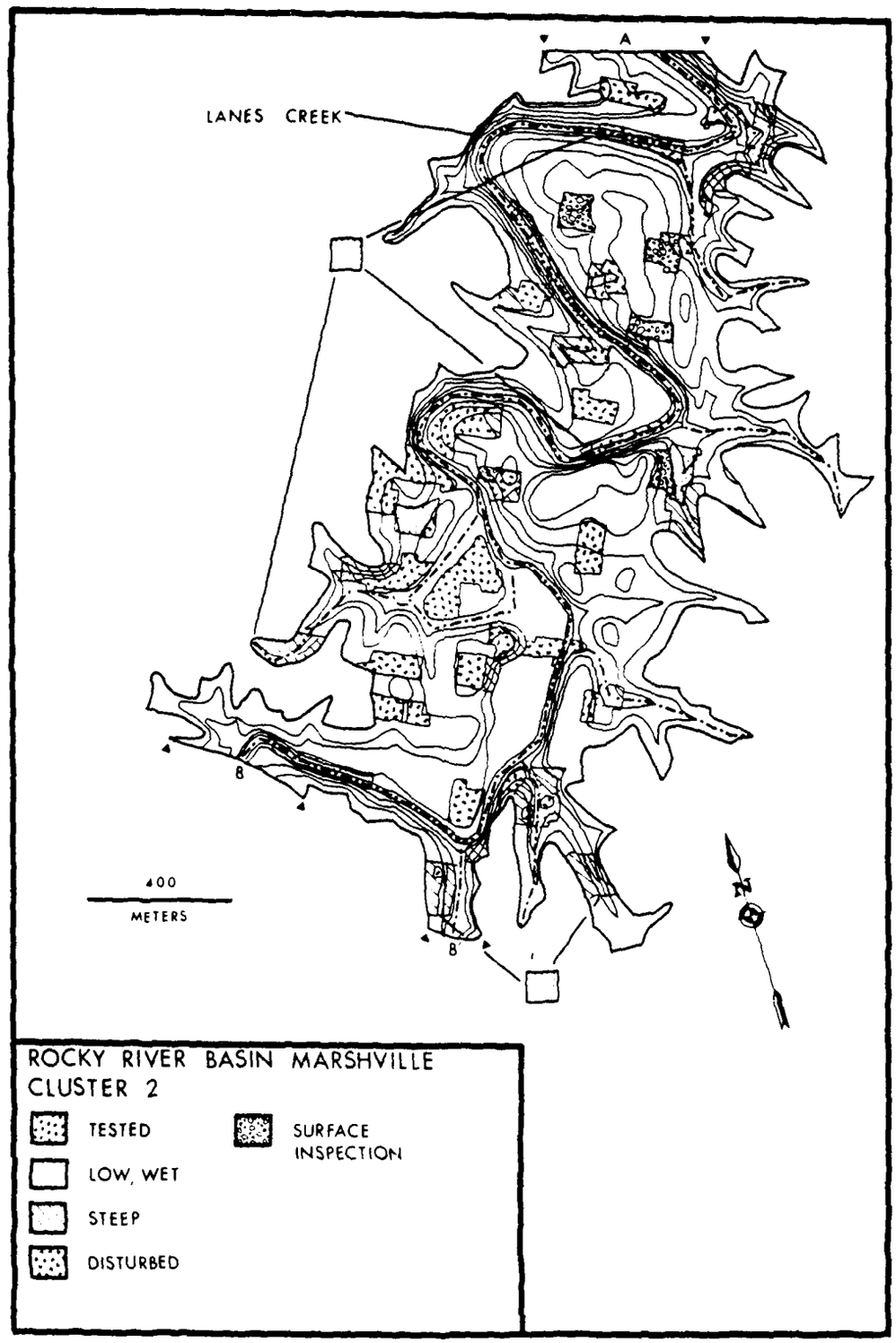


Figure B-5: Method of Coverage -- Marshville Cluster 2

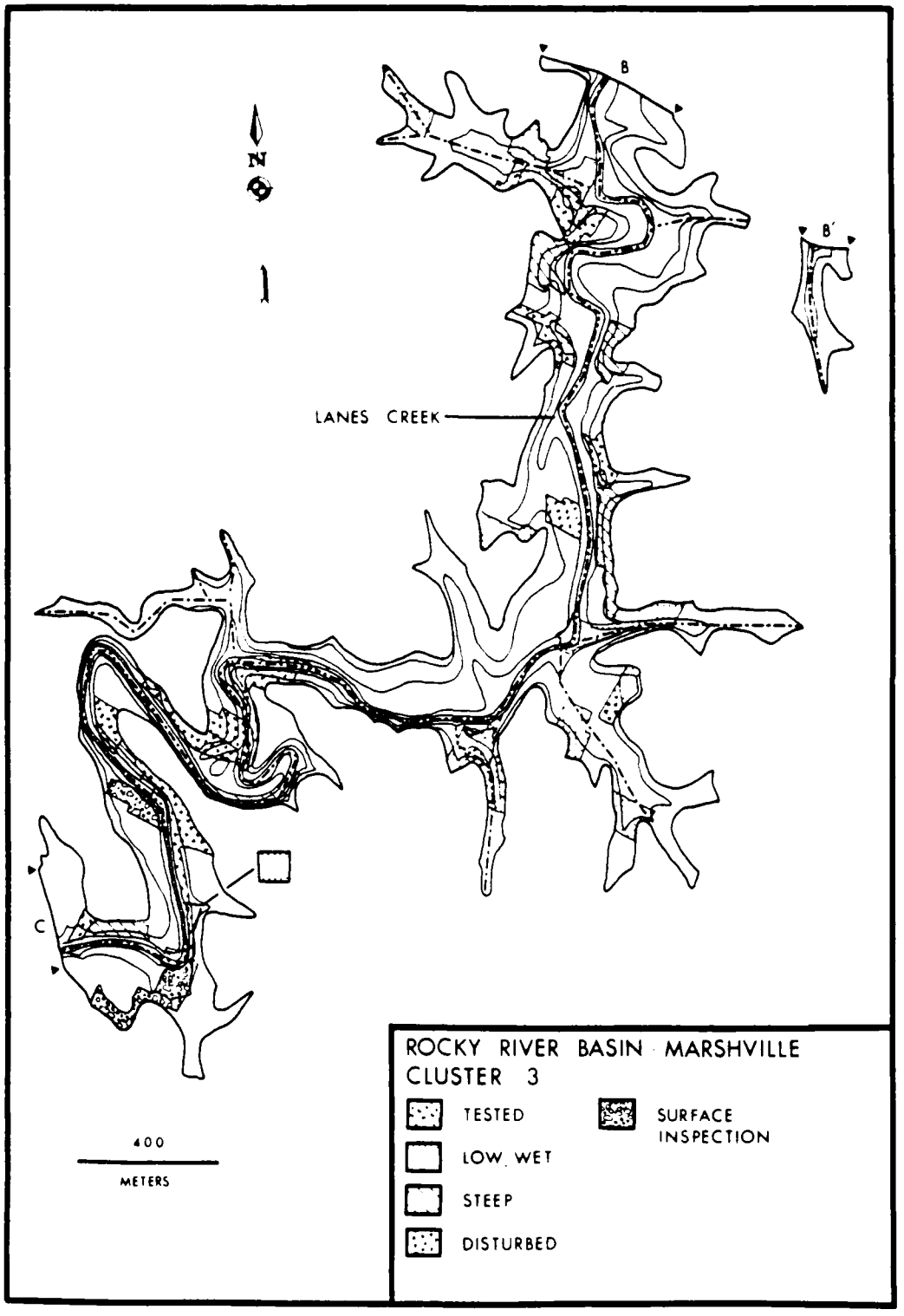


Figure B-6: Method of Coverage -- Marshville Cluster 3

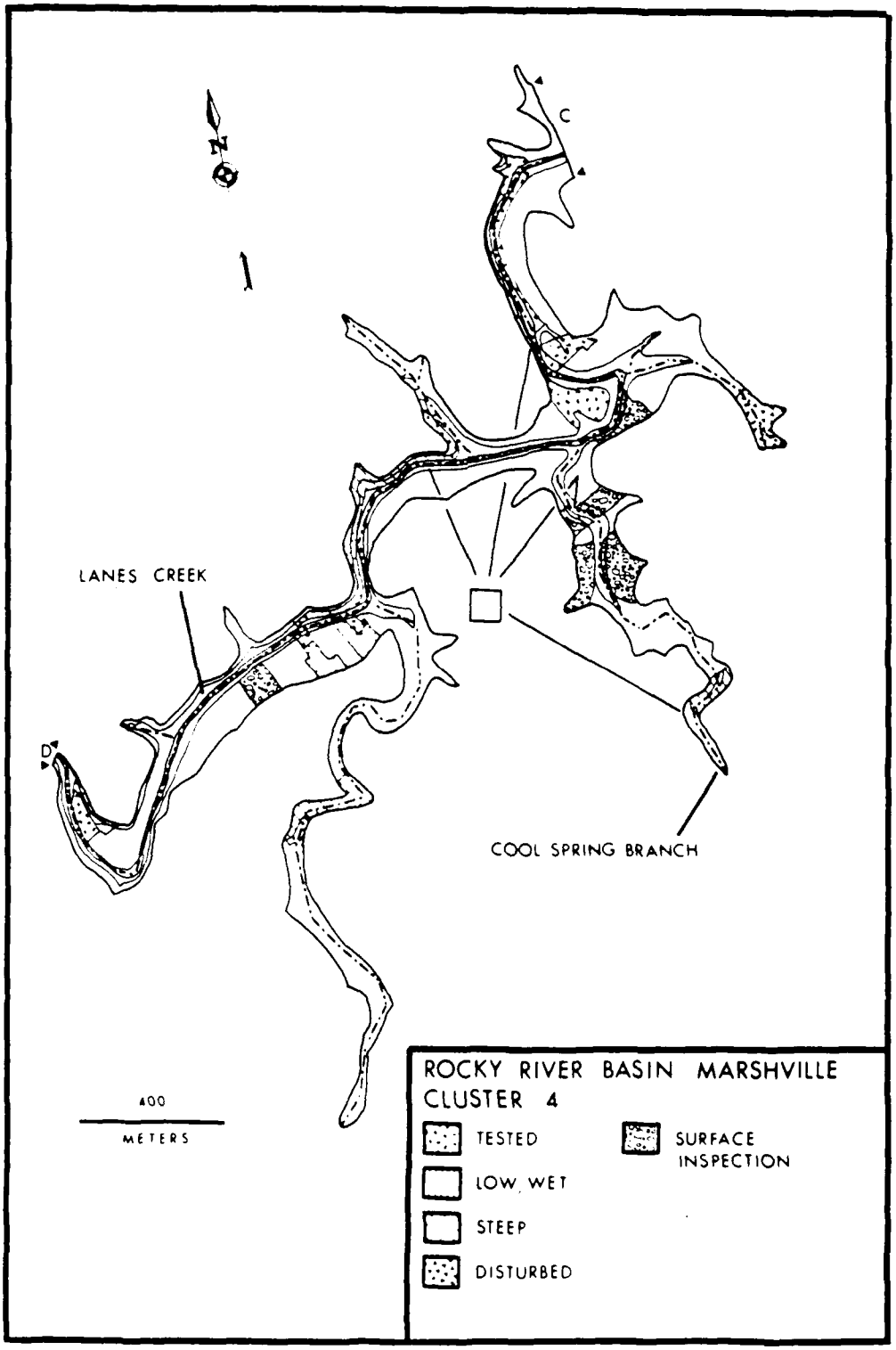


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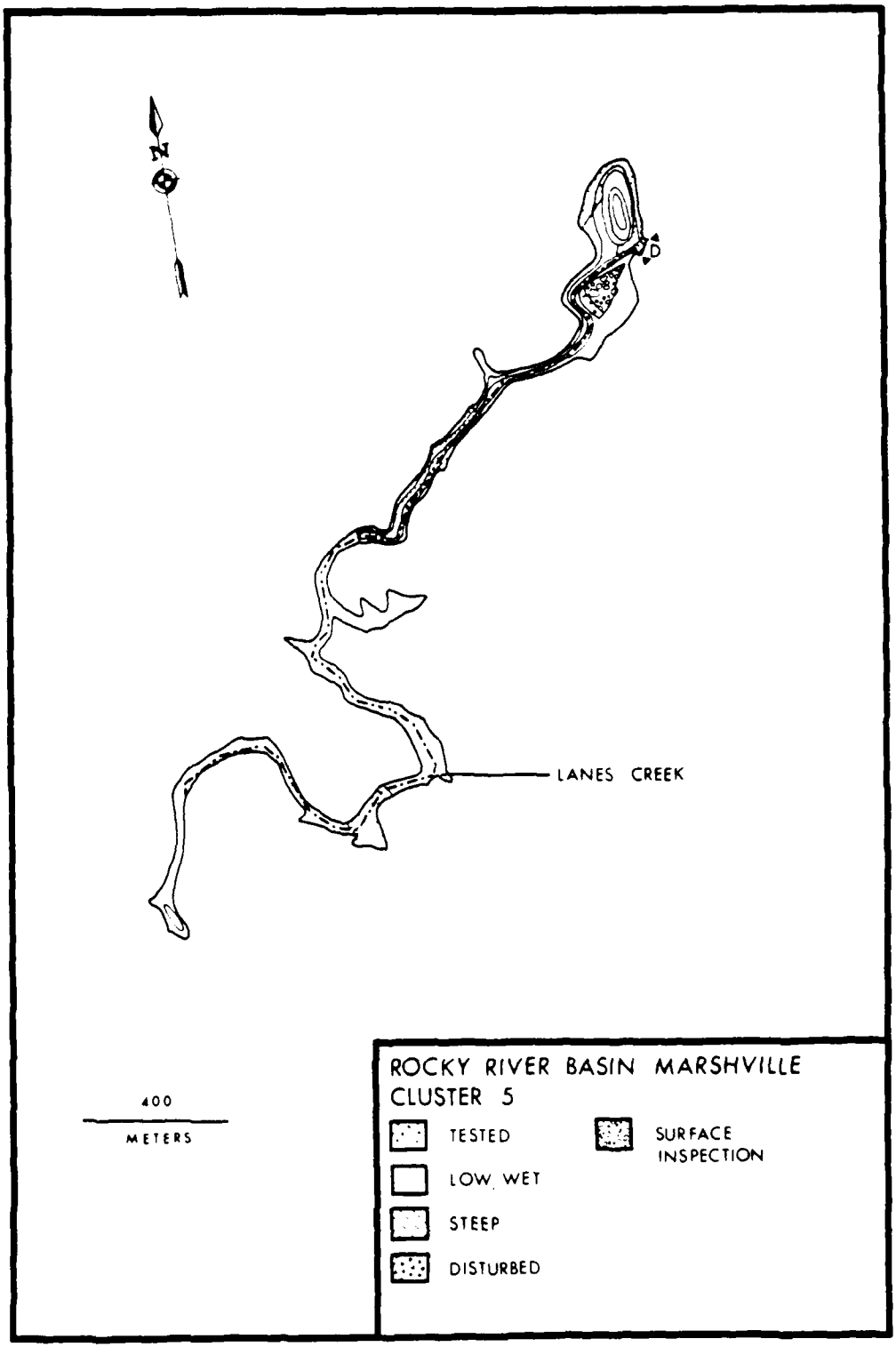


Figure B-8: Method of Coverage -- Marshville Cluster 5

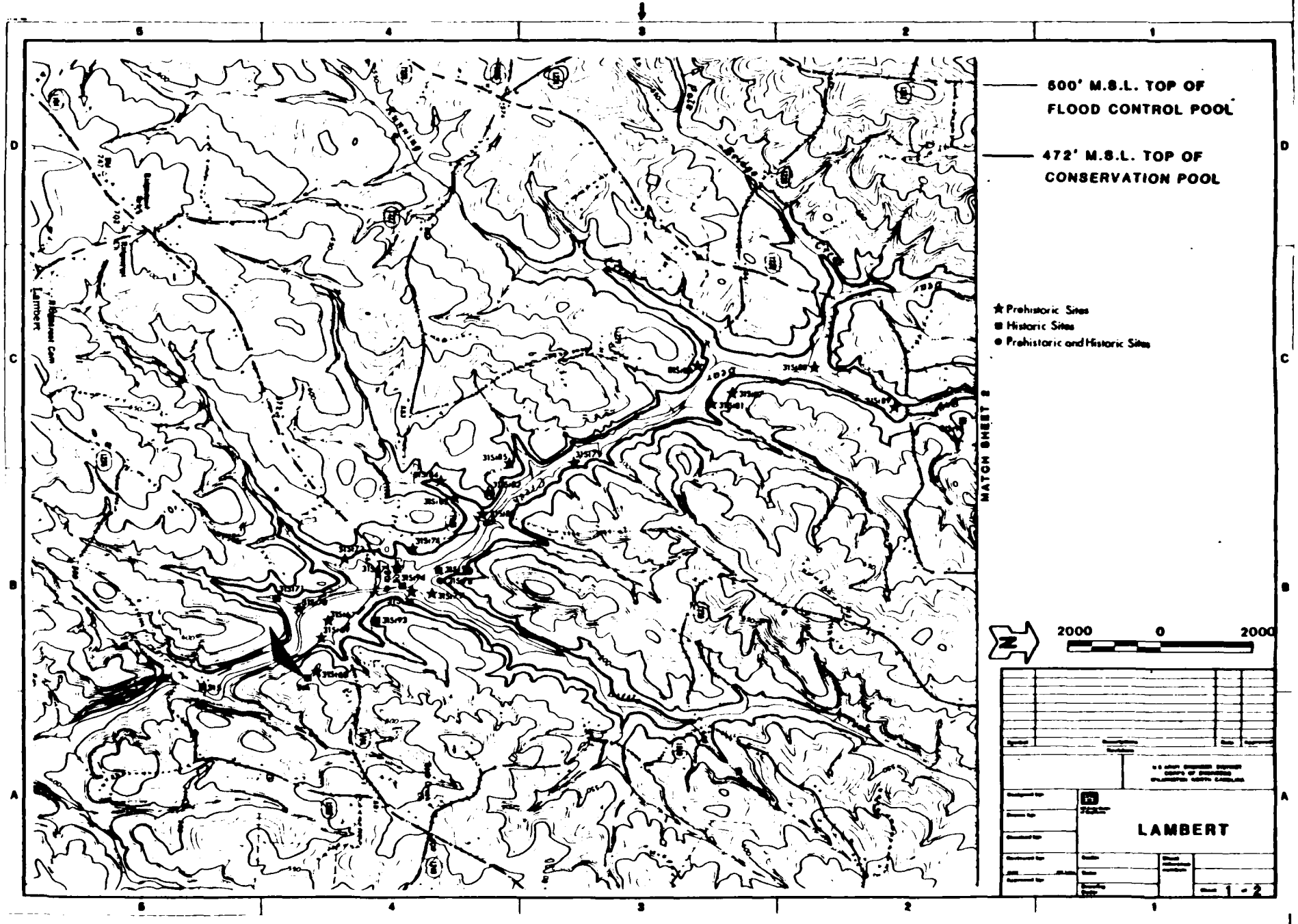


Figure B-9: Site Locations -- Lambert Reservoir

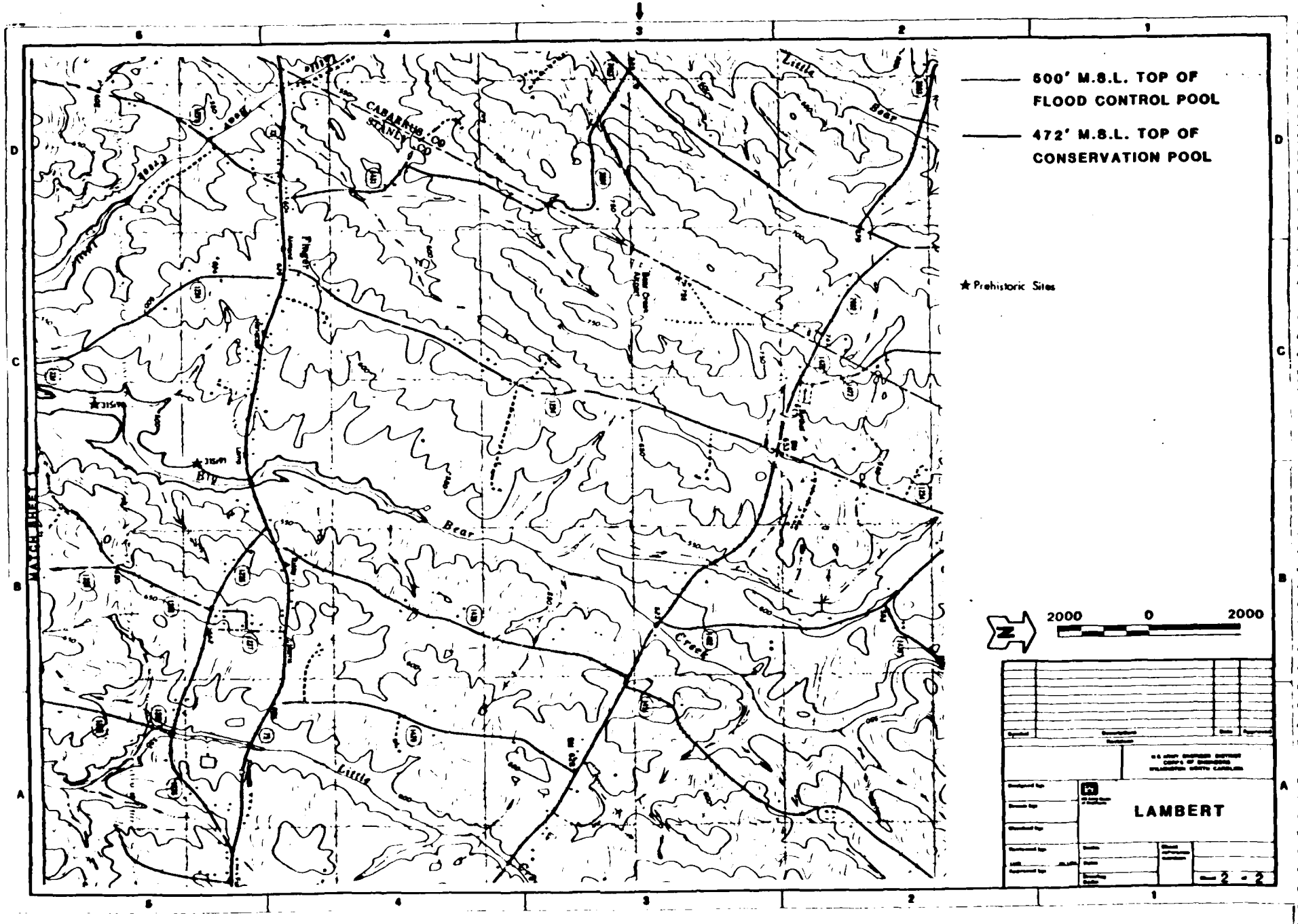


Figure B-10: Site Locations -- Lambert Reservoir

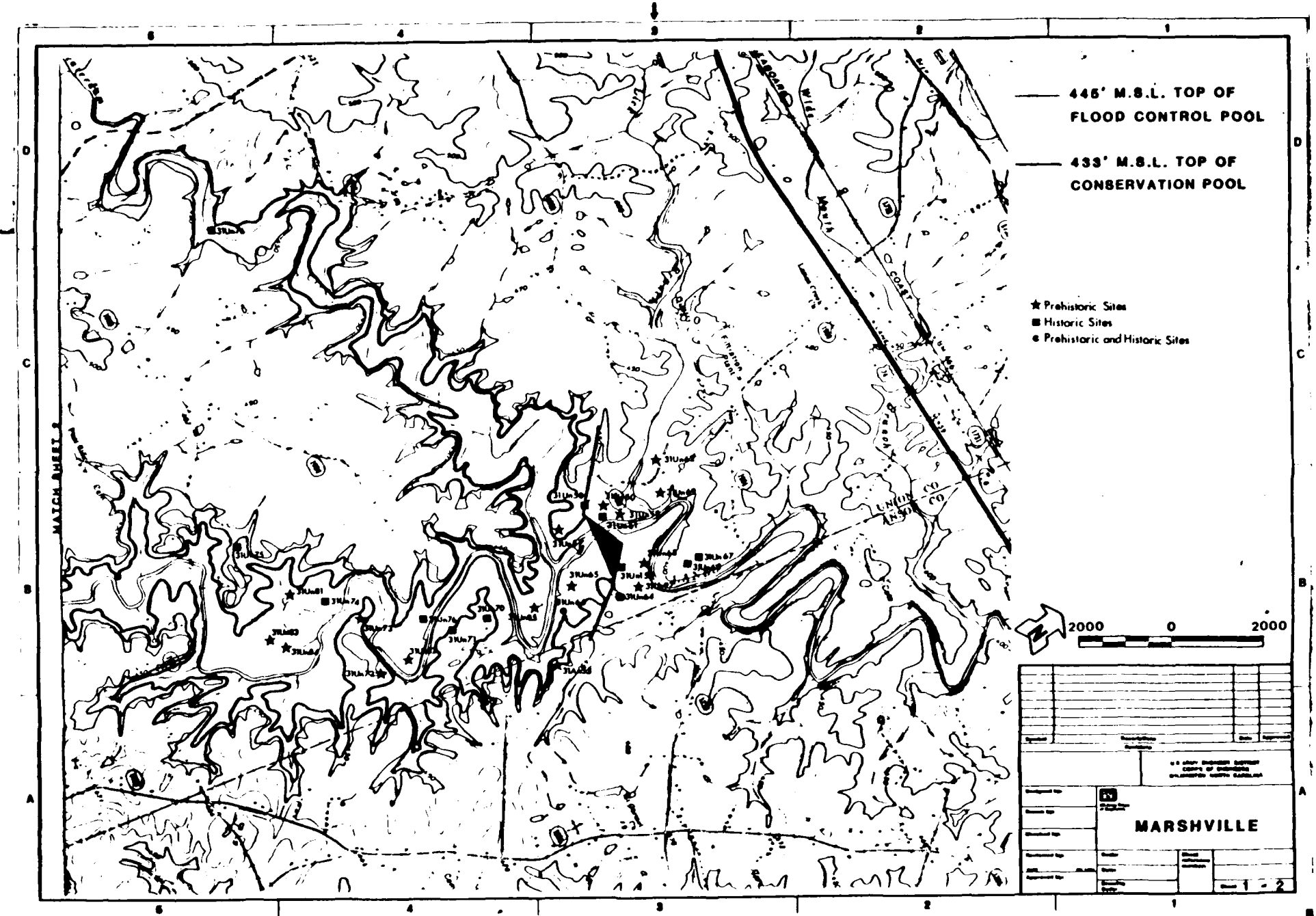


Figure B-11: Site Locations -- Marshville Reservoir

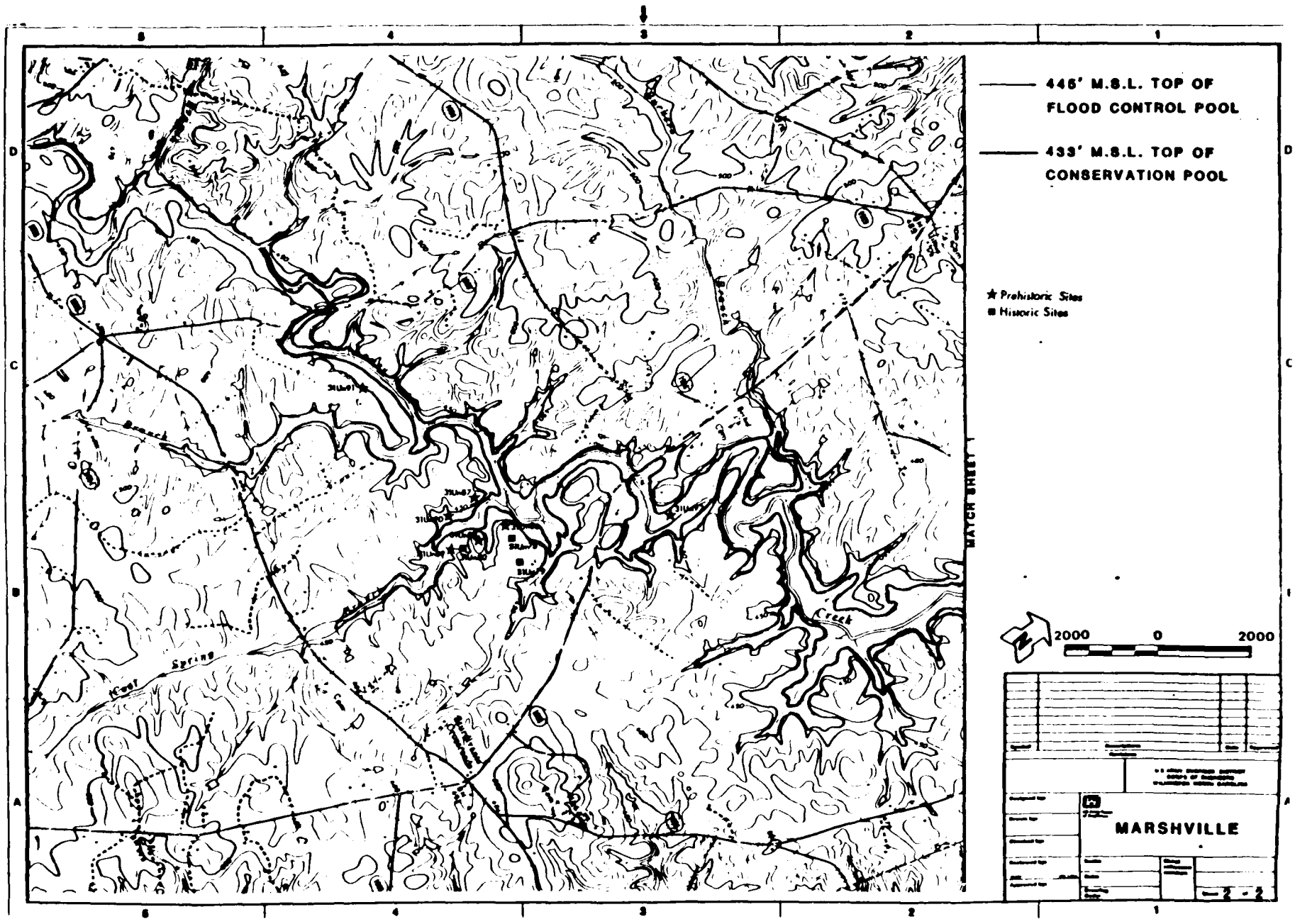


Figure B-12: Site Locations -- Marshville Reservoir

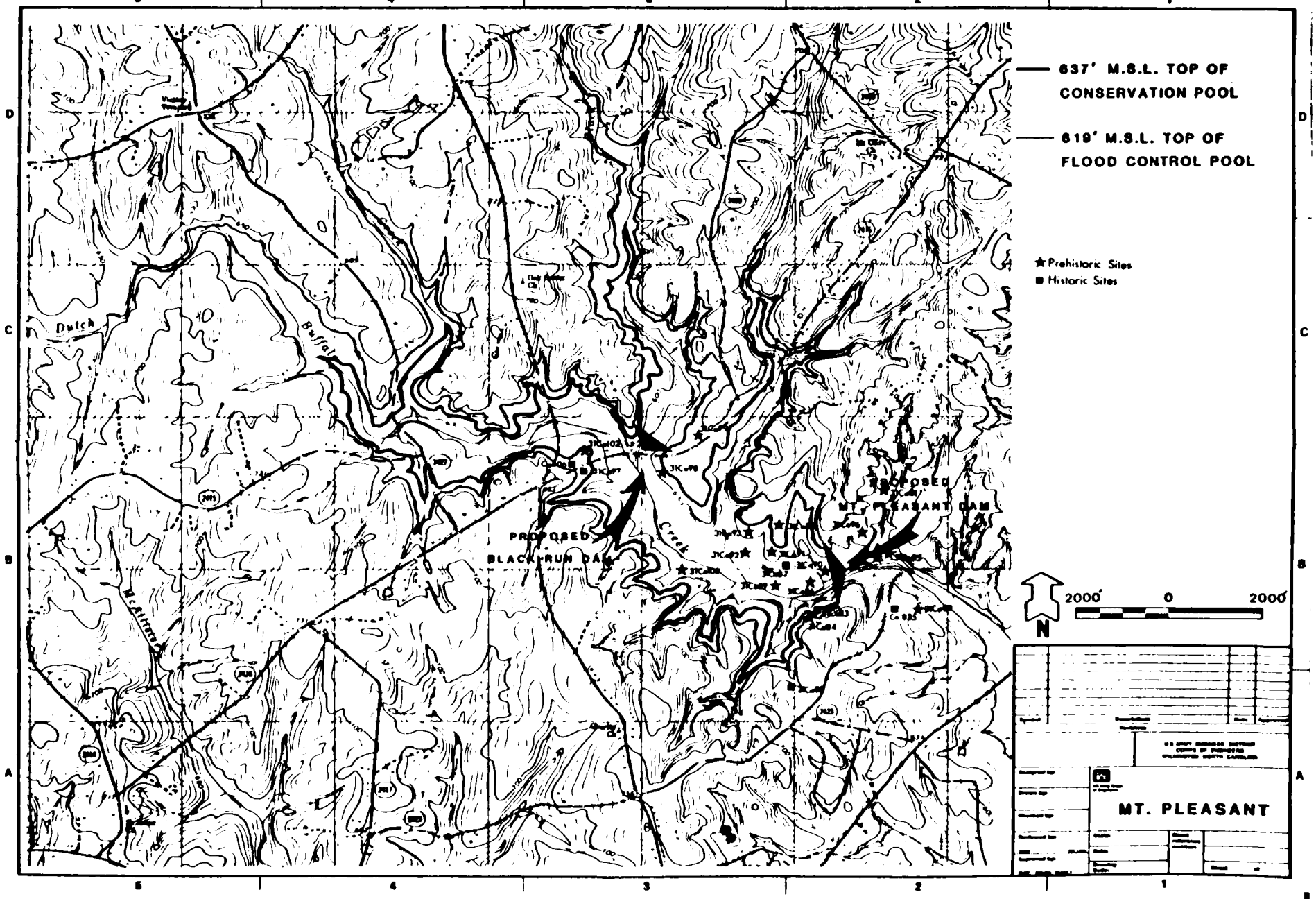


Figure B-13: Site Locations -- Mt. Pleasant Reservoir

APPENDIX C: PHOTOGRAPHS OF STANDING STRUCTURES

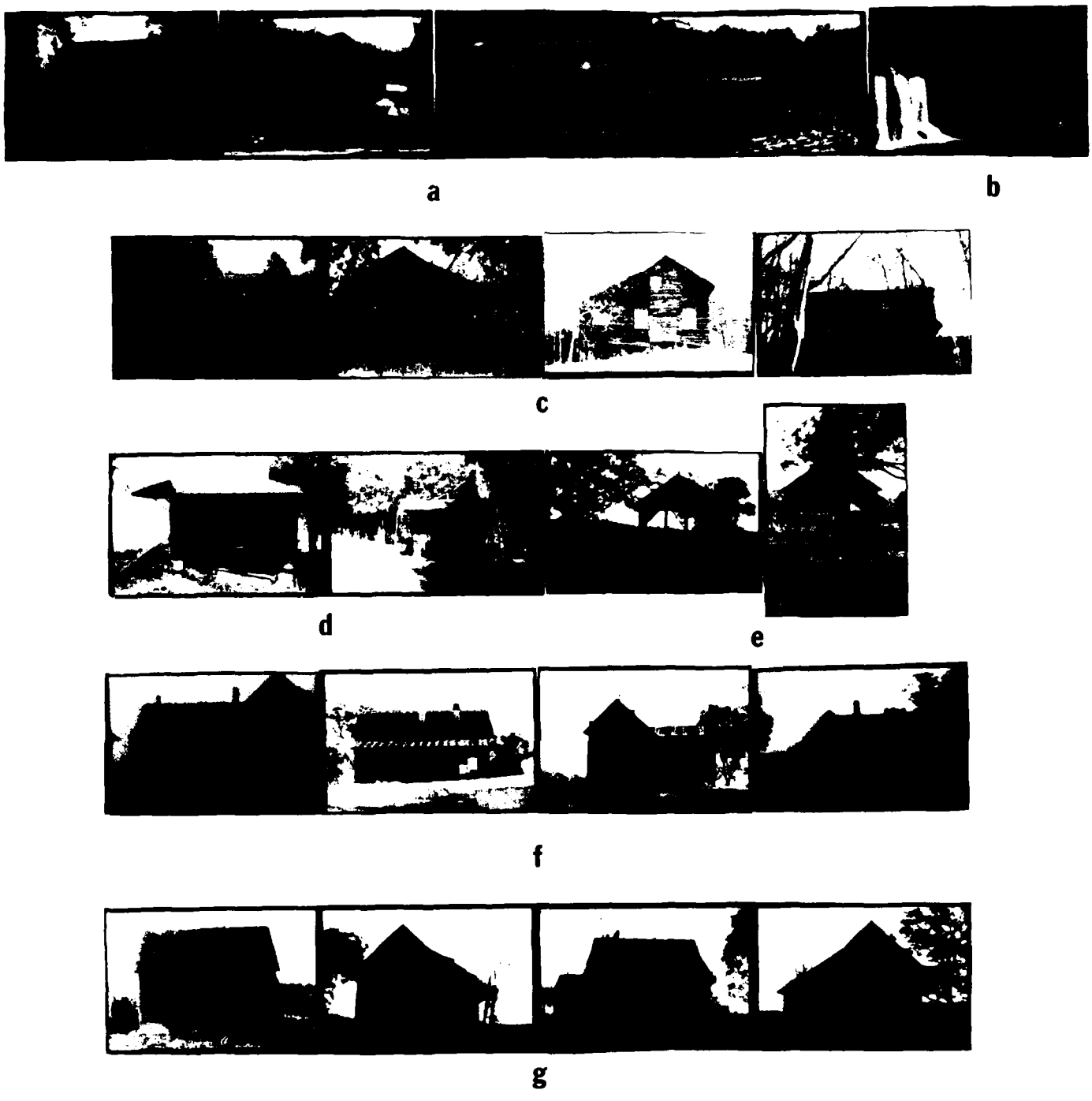


Figure C-1. Standing structures, Rocky River Project. a, 31St5, Whitley Mill; b, 31St5, dam; c, 31St5, Structure B; d, 31St5, Structure A; e, 31St6, Structure C; f, 31St6, Structure A; g, 31St6, Structure B.



a



b



c

Figure C-2. Standing structures, Rocky River Project. a, 31St6, Structure D; b, 31St6, Structure E; c, 31St6, Structure F.

APPENDIX D: SCOPE OF WORK AND PROPOSAL

INFORMATION TO OFFERORS OR QUOTERS

SOLICITATION NUMBER: DACW54-85-R-0034

☐ ADVERTISED (IFB) XX NEGOTIATED (RFP)

☐ NEGOTIATED (RFQ)

ISSUING OFFICE (Complete mailing address including Zip Code)

U.S. Army Engineer District, Wilmington, CE
ATTN: SAWPS-C/AYERS
PO Box 1890
Wilmington, NC 28402-1890

ITEM(s) TO BE PURCHASED (Brief description)

Archeological and Architectural Survey of the Damsite and Archeological and Architectural Sampling Survey of the Impoundment Areas of Three Proposed Reservoirs in the Rocky River Basin, North Carolina

THIS PROCUREMENT IS:

XX UNRESTRICTED ☐ SET-ASIDE (This is a _____", set-aside for ☐ Small Business, ☐ Labor Surplus Area Concerns or ☐ Combined Small Business/Labor Surplus Area Concerns.) (See Section C of the Table of Contents in this solicitation for details of the set-aside.)

NOTE THE AFFIRMATIVE ACTION REQUIREMENT OF THE EQUAL OPPORTUNITY CLAUSE WHICH MAY APPLY TO THE CONTRACT RESULTING FROM THIS SOLICITATION.

You are cautioned to note the "Certification of Non-Segregated Facilities" in the solicitation. Failure to agree to the certification will render your reply nonresponsive to the terms of solicitations involving awards of contracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause.

* "Fill-ins" are provided on the face ~~and reverse~~ of Standard Forms ~~18 and~~ 33, or other solicitation documents and Sections of Table of Contents in this solicitation and should be examined for applicability.

See the paragraph of this solicitation entitled "Late Bids, Modifications of Bids or Withdrawal of Bids" or "Late Proposals, Modifications of Proposals and Withdrawals of Proposals".

** The envelope used in submitting your reply must be plainly marked with the Solicitation Number, as shown above and the date and local time set forth for bid opening or receipt of proposals in the solicitation document.

If NO RESPONSE is to be submitted, detach this sheet from the solicitation, complete the information requested on reverse, fold, affix postage, and mail. NO ENVELOPE IS NECESSARY

Replies must set forth full, accurate, and complete information as required by this solicitation *(including attachments)*. The penalty for making false statements is prescribed in 18 U.S.C. 1001.

ADDITIONAL INFORMATION

*SECTIONS A and K should be completed and returned with the Technical Proposal, while SECTION B and pages M-4 thru M-12 of SECTION M should be included with the Cost Proposal to be returned to this office as stated on page M-1, paragraph 1, prior to specified closing date.

**Please show in lower left corner of offer envelope:

"PROPOSAL UNDER RFP DACW54-85-R-0034
DUE: CLOSE OF BUSINESS (4:00 p.m., local time), 30 APRIL 1985"

FOR INFORMATION ON THIS PROCUREMENT WRITE OR CALL

NAME AND ADDRESS	TELEPHONE Area Code, No. & Ext.	
TECHNICAL INFORMATION: Richard Lewis, SAWPD-EA ---------	919-343-4755	NO COLLECT CALLS
SOLICITATION INFORMATION: Hilda Ayers, SAWPS-C ---------	919-343-4862	

DD FORM 1707
1 FEB 76

REPLACES DD FORMS 1706 AND 1707, WHICH ARE OBSOLETE

	CANNOT COMPLY WITH SPECIFICATIONS	CANNOT MEET DELIVERY REQUIREMENT
	UNABLE TO IDENTIFY THE ITEM(S)	DO NOT REGULARLY MANUFACTURE OR SELL THE TYPE OF ITEMS INVOLVED
	OTHER *(Specify)*	
	WE DO	WE DO NOT, DESIRE TO BE RETAINED ON THE MAILING LIST FOR FUTURE PROCUREMENT OF THE TYPE OF ITEM(S) INVOLVED

NAME AND ADDRESS OF FIRM *(Include Zip Code)*	SIGNATURE
	TYPE OR PRINT NAME AND TITLE OF SIGNER

FROM:

AFFIX STAMP HERE

TO: U.S. Army Engineer District, Wilmington, CE
ATTN: SAWPS-C/AYERS
PO Box 1890
Wilmington, NC 28402-1890

SOLICITATION NO DACW54-85-R-0034

DATE AND LOCAL TIME CLOSE OF BUSINESS (4:00 p.m., Local Time), APRIL 1985

SOLICITATION, OFFER AND AWARD

1. SOLICITATION FOR NATIONAL DEFENSE UNDER BOSAR ED 2 AND OR DMS REG 1 ▶ RAT NG | PAGE OF PAGES

2. CONTRACT NO	3. SOLICITATION NO	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NO
	DACW54-85-R-0034	ADVERTISED (IFB) = X NEGOTIATED (RFP)	85 MAR 29	SAWPD-EA-85-41

7. ISSUED BY	CODE	8. ADDRESS OFFER TO (If other than Item 7)
U.S. Army Engineer District, Wilmington, CE PO Box 1890 ATTN: SAWPS-C/AYERS Wilmington, NC 28402-1890		SAME AS 7.

NOTE In advertised solicitations "offer" and "offeror" mean "bid" and "bidder"

SOLICITATION

9. Sealed offers in original and 3 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Room 102, Federal Building, Wilmington, NC, until 4:00 P.m. local time 30 April 85 (Hour) (Date)
(Foot of Princess & Water Streets)

CAUTION – LATE Submissions, Modifications and Withdrawals See Section L, page L-1. All offers are subject to all terms and conditions contained in this solicitation

10. FOR INFORMATION CALL ▶	A. NAME	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS)
	Hilda Ayers	919-343-4862

11. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I – THE SCHEDULE				PART II – CONTRACT CLAUSES	
X	A	SOLICITATION/CONTRACT FORM	A-1	X	I	CONTRACT CLAUSES	I-46
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	B-1			PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.	
X	C	DESCRIPTION/SPECS./WORK STATEMENT	C-1/17	X	J	LIST OF ATTACHMENTS	J-1
	D	PACKAGING AND MARKING				PART IV – REPRESENTATIONS AND INSTRUCTIONS	
X	E	INSPECTION AND ACCEPTANCE	E-1		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	K-1/4
	F	DELIVERIES OR PERFORMANCE		X			
	G	CONTRACT ADMINISTRATION DATA		X	L	INSTRS., CONDS., AND NOTICES TO OFFER	L-1/4
X	H	SPECIAL CONTRACT REQUIREMENTS	H-1/3	X	M	EVALUATION FACTORS FOR AWARD	M-1, 2

OFFER (Must be fully completed by offeror)

NOTE Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period

12. In compliance with the above, the undersigned agrees, if this offer is accepted within ____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8) ▶	10 CALENDAR DAYS %	20 CALENDAR DAYS %	CALENDAR DAYS %	CALENDAR DAYS %

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated)	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

15B. TELEPHONE NO. (Include area code)

15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE – ENTER SUCH ADDRESS IN SCHEDULE

17. SIGNATURE

18. OFFER DATE

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
		96X3121 AA45502 AC4000 284 PN

22. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ▶	ITEM 25	23. NEGOTIATED PURSUANT TO: X 10 U.S.C. 2304(a) ___ 41 U.S.C. 252(c)

24. [redacted] CODE	25. PAYMENT WILL BE MADE BY	CODE
PROJECT: Archeological Services in the Rocky River Basin, NC	Disbursing Officer U.S. Army Engineer District, Wilmington, CE PO Box 1890, Wilmington, NC 28402-1890	

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA	28. AWARD DATE
	Signature of Contracting Officer	

IMPORTANT – Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE OF PAGES
	DACW54-85-R-0034	

NAME OF OFFEROR OR CONTRACTOR

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1.	Archeological and Architectural Survey of the Damsite and Archeological and Architectural Sampling Survey of the Impoundment Areas of Three Proposed Reservoirs in the Rocky River Basin, North Carolina, in accordance with the attached Scope of Work (SECTION C)	1	JOB	L.S.	$_____

SCOPE OF WORK
FOR
ARCHEOLOGICAL AND ARCHITECTURAL SURVEY
OF THE DAMSITES
AND
ARCHEOLOGICAL AND ARCHITECTURAL SAMPLING SURVEY
OF THE IMPOUNDMENT AREAS
OF
THREE PROPOSED RESERVOIRS
IN
THE ROCKY RIVER BASIN, NORTH CAROLINA

1. Introduction. The purpose of this contract is the completion of archeological and architectural sampling surveys in the impoundment areas of the proposed Marshville, Mt. Pleasant, and Lambert Reservoirs (see attachment 1) and archeological and architectural survey and testing of 200 acres immediately adjacent to each of the proposed damsites. The Marshville study area includes 4,700 acres in Union County, the Mt. Pleasant study area includes 2,200 acres in Cabarrus County, and the Lambert study area includes 2,300 acres in Stanly County. All sites are located in Rocky River Basin, North Carolina. In addition to the above, work maps showing site location; maps showing areas of projected high, moderate, and low sensitivity for archeological and architectural resources in those areas of the study area(s) not surveyed or sampled; and a list of research questions and concerns which may guide further investigations in the project areas will be required. Each of the work items is more fully described in the following paragraphs.

2. Items to be Furnished to the Contract by the Contracting Officer.

a. The plan and documents (item 2b) to be provided to the Contractor under terms of this contract are "preliminary" and furnished for the use of the Contractor in fulfilling the terms of this contract. Under no circumstances shall these plans be reproduced or released by the Contractor without prior written approval of the Contracting Officer or the Contracting Officer's Representative (COR). Upon completion of this contract, these items must be returned to the Wilmington District as property of the U.S. Government.

b. Plans and documentation relating to the planning effort of the proposed projects. **(NOTE: Due to the current stage of project planning, these plans and documents are preliminary and are subject to change as the study progresses.)**

c. United States Geological Survey (USGS) 7-1/2 minute quadrangle maps for: Frog Pond, Marshville, Mount Pleasant, Richfield, and Wingate, North Carolina (1 Set Mylar).

3. Consultation. Prior to initiating field work, the Contractor will become thoroughly familiar with available documentation and will initiate a process of comprehensive consultation with staff archeologists, architectural historians, and historians at the North Carolina Division of Archives

and History (NCDAH) and with selected authors listed in appendixes A and B of the attached report entitled: **Resource Planning Protection Process (RP3) Study for Rocky River and South Yadkin River Basins (The South Yadkin RP3 Study Area), North Carolina.** (This report, hereinafter referred to as reference 1, is incorporated in this Scope of Work by reference.) The authors consulted will include Stephen R. Claggett, Joffre L. Coe, Ruth Little-Stokes, Davyd Foard Hood, Peter Kaplin, H. Trawick Ward, and J. Ned Woodall. Insofar as practical, the Contractor should consider initiating some consultation during the preparation of proposals.

4. Literature Review. A large body of literature is currently available addressing the various aspects of the architecture, history, and prehistory in the Rocky River and South Yadkin River Basins. A fairly comprehensive list is presented in reference 1. The Contractor and his field personnel shall become thoroughly familiar with the available literature in order to make informed field judgments on the nature of the resources encountered. A review of the material presented in reference 1 will not be sufficient to meet this requirement. Prior to beginning field survey and testing, the Contractor will have completed a thorough document search, will have conducted interviews of residents and local historians, and will have exploited the resources available through the NCDAH.

5. Services to be provided by the Contractor.

a. Field Work. Survey of the damsite locations and the selected sampling units will include surface collection, subsurface testing along equal interval transects, and deep testing in areas where deep deposits are encountered. The actual placement of transects shall be determined by the Principal Investigator (PI) but will contain at least one subsurface sampling point per 1,600 square meters in areas designated by the Contractor for high intensity survey, one subsurface sampling point per 2,500 square meters in areas designated by the Contractor for moderate intensity survey, and one subsurface sampling point per 5,000 square meters in areas designated by the Contractor for low intensity survey. No subsurface testing will be required in areas where the slope exceeds 15 percent. On slopes greater than 15 percent, the investigations will consist of a pedestrian survey of the area to locate rock quarries and/or rock shelters. **Changes in research strategy and/or level of testing after contract award will require prior written approval of the COR.** The test units to be used for subsurface testing will be either a 0.3 - 0.5 meter shovel test, a 1 x 1 meter test pit, or a deep-test trench cut. The PI shall use the most appropriate, least costly option available. For instance, in areas of shallow deposition, shovel cuts may be appropriate as a means of determining the presence or absence of cultural horizons. In other areas more complex stratigraphic conditions may necessitate deep testing before appropriate sampling measures can be determined. When a site is encountered, the following information will be sought: cultural affiliation, stratigraphic condition, state of preservation, areal extent, elevation, Universal Transverse Mercator (UTM) coordinates, and condition of features. The PI will determine whether or not discovered sites are duplicated in the North Carolina State site files. A fully documented North Carolina State site form will be prepared for each newly discovered site. If a site is found to duplicate a site listed in the

North Carolina State site file, supplemental information will be provided to NCDAH to allow the existing site form to be updated. When a site is encountered which the contract PI feels has the potential to be included in the National Register of Historic Places (NRHP), the Contractor shall test the site to obtain sufficient information to prepare a fully documented request for a determination of eligibility from the NRHP as outlined in paragraph 5(b)1 below. Upon completion of the investigations, all areas surveyed and tested for cultural resources will be restored, insofar as possible, to their preinvestigation appearance. **On lands which are not in Federal ownership, it will be the responsibility of the Contractor to obtain permission from the landowner to perform the necessary investigations requires by this Scope of Work.** Areas of land where a survey was not possible because access was denied by the landowner shall be clearly marked on the U.S.G.S. Quad Maps and labeled "ACCESS DENIED."

(1) Sampling of the Impoundment Areas of the Proposed Marshville (4,700 acres), Mt. Pleasant (2,200 acres), and Lambert (2,300 acres) Reservoirs (see attachment 1). The sampling of each of these areas shall include: construction of a sampling design based on topographic, geomorphological, environmental, and other factors; identification of sample units based on the sampling design; survey of selected sample units in order to provide an estimate of the numbers and kinds of prehistoric and historic archeological and architectural properties present in the project and to allow for the construction of site sensitivity maps. A separate sampling design need not be constructed for each proposed reservoir; however, **each reservoir must contain a similar percentage of sampling units.** The sampling design and preliminary definitions of the sampling units must be submitted with the initial technical proposal. **Failure to submit these items will result in a determination that the offeror is nonresponsive.**

(2) Survey of the 200 Acres Adjacent to the Three Proposed Damsites (see attachments 2 - 4). The survey of these areas shall include surface collection and subsurface testing for both historic and prehistoric archeological resources. A detailed survey plan with a comprehensive field work and analysis strategy based on various environmental factors and existing prehistoric, historic, and architectural knowledge of the project area will be submitted as part of the proposal. The PI shall make clear the criteria used in selecting areas for various levels of survey and testing effort.

(3) Photographs of Standing Structures. Black and white photographs of the front, rear, and side elevations of each standing structure located in the survey or sampling areas will be provided. Standing structures include: dwellings, dams, mills, privies, cribs, cabins, churches, barns, sheds (and other outbuildings), garages, and stores. The location of structures will be drawn on the USGS mapping (using a symbol which is distinguishable from the symbol(s) used for prehistoric and historic archeological sites). Contact prints (or screened offset printed reproductions) of the photographs will be appropriately labeled and included as appendix C to the draft and final reports.

b. Evaluation. Sites discovered as a result of the field work must be evaluated in terms of the NRHP and expected project impacts. In addition, mitigation recommendations (preservation, avoidance, and/or data recovery) must be presented for sites which are felt to be significant. Further details of this requirement are presented below.

(1) Requests for Determination of Eligibility. The Contractor will prepare a fully documented Request for Determination of Eligibility in accordance with 36 CFR part 63 and 36 CFR part 60 for all sites that the Contractor and COR (after consultation with NCDAH) consider eligible for nomination to the NRHP. To be considered eligible for the NRHP, a resource must be determined significant in American history, architecture, archeology, or culture. Properties are significant that possess integrity of location, design, setting, materials, workmanship, feeling, and association. They may be associated with historically significant events or persons; embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; represent a significant entity whose components may lack individual distinction; or have yielded, or may be likely to yield, information important in prehistory or history. Statements of significance will be directed to a whole resource and not a functional segment. They should include both information on the period(s) during which the resource achieved significance and relate the resource to a broad historical, architectural, archeological, or cultural context. Statements on significance will be as specific as possible. In other words, it is not proper to evaluate a resource merely by writing that it contains information dating from a particular time period and that the information is of regional significance. Instead, the Contractor should state precisely why that information is of value or how it is unique. For example, if a site contains material dating to a particular time period, the value of the site should be expressed in terms of what is known about the local culture dating to that period. Questions should be asked, such as: Would the data recovery at the site add significant knowledge to what is already known about the culture? What problems exist concerning the general understanding of the culture? Would data recovery at the site serve to answer some of these problems? Is the site unique or does it duplicate information which can be derived from sites which are not threatened? Questions like these will permit the investigator to determine the true significance of a resource. The questions asked, of course, depend upon the nature of the resource being considered. **Completed NRHP documentation for those sites which the Contractor considers eligible for NRHP will be submitted (one original and six copies each) with the project draft report unless otherwise requested in writing by the COR.**

(2) Project Impact. In addition to evaluating individual resources in terms of the NRHP criteria (36 CFR part 30.6), each resource will also be analyzed with respect to the impact that construction and operation of the proposed project will have on it (36 CFR part 800). For instance, it should be clear if the construction and/or operation of the proposed project will ultimately destroy the resource, have only a partial effect on the resource, or have minimal effect or no effect on the resource. Any other pertinent information having a bearing on this analysis should be included in the evaluation.

(3) Mitigation Recommendations. Resources will also be evaluated in terms of mitigation recommendations. The Contractor will indicate whether or not further work should be undertaken with respect to a particular threatened resource, and an estimate will be made as to how much time and what type (preservation, avoidance, or data recovery) of mitigation is required. Where no further work is recommended, that should be stated, along with the reasons for arriving at this conclusion. Similarly, where further work is recommended, it will not be adequate to write simply that mitigation is necessary. Rather, these recommendations should be supported with statements as to what information would be expected to result from further research and why this information would be significant in terms of expanding the knowledge of the area's history or prehistory. These recommendations should also be framed as a series of research questions which the data contained in the particular site or resource can possibly answer. In other words, mitigation recommendations should be justified, and these justifications should be applied to both positive and negative evaluations.

c. Research Concerns and Questions. The Contractor shall formulate a series of research concerns and questions for each of the study areas (e.g., Mt. Pleasant, Marshville, and Lambert Reservoirs) to guide future archeological and architectural investigations for the project. These research concerns and questions will cover prehistoric and historic archeological sites and standing structures and will be based on the report entitled: **Resource Planning Protection Process (RP3) Study for Rocky River And South Yadkin River Basins (The South Yadkin RP3 Study Area), North Carolina,** and the consultation, literature review, field work, and evaluation required by paragraphs 3, 4, and 5 a and b, respectively.

6. Items to be Provided to the Contracting Officer by the Contractor.

a. Weekly Progress Reports. The Contractor shall, **during the entire period the contract is in force,** submit verbal weekly progress reports by the close of business on Monday of each week. The progress report will normally detail the field and/or laboratory activities of key personnel and actions taken to accomplish each designated task during the previous week. Methodological problems, results of test excavations, results of analysis, and requests for conferences will be discussed.

b. Monthly Progress Reports. Monthly progress reports shall be submitted to the COR by the 7th day of each month during the entire period the contract is in force. All or part of any partial payment may be withheld if monthly progress reports are not submitted on time or in a satisfactory manner. These reports shall contain an accurate up-to-date account of all laboratory and field procedures and results, and they will also specify the percent of the completion of each of the basic tasks outlined above. Standard forms for the submission of the monthly reports will be furnished by the Contracting Officer (see attachment 5). Monthly progress reports will also serve as interim cultural resources evaluation reports. Each monthly report will include an evaluation of the archeological, historic, and architectural investigations performed during the previous month. If, in the opinion of the PI, it appears that more intensive survey and/or

mitigation will be required in the area(s) under study, this needs to be documented and justified as early as possible in a monthly report.

c. Draft and Final Reports. The draft and final reports will reflect the analysis required by 36 CFR part 66 and this Scope of Work. They shall meet current professional standards, be suitable for publication, and be prepared in a format reflecting contemporary organizational and illustrative standards of the current professional archeological, architectural, and historical journals. The general style guide for any report, prepared under the terms of this contract, shall be the same as that found in the 1983 "Editorial Policy and Style Guide for American Antiquity" American Antiquity 48: 429-440. The final report will be prepared on 8-1/2 by 11-inch paper and typed single-spaced. All pages must be numbered. The final reports will be bound in perfect bindings on the left hand edge and, in addition, all draft and final formal reports will either contain the following or meet the following criteria:

(1) Maps showing the actual areas surveyed and the intensity of survey performed. These maps shall also show survey methodology when more than one survey technique is used.

(2) Actual site locations will be drafted on the Government provided Mylar USGS Quadrangles (item 2c). The Contractor shall also prepare one set of overlays (pin registered to base) showing the inferred potential of areas not surveyed (high, moderate, or low) based on field work, topographic, environmental, and other relevant factors **(site locations will be drawn on the base maps not the overlays).** One 8-1/2 by 11-inch set of offset printed reproductions (without overlays) will be furnished as appendix B to the draft and final reports. One 8-1/2 by 11-inch set of offset printed reproductions (overlays on USGS maps not showing site locations) will be furnished with each copy of the draft and final reports. In addition, one full size reproducible set (base with site locations and overlays) will be required.

(3) High quality original black and white photographs (or screened offset printed reproductions), or measured drawings, as appropriate, shall be provided which show details of features, artifacts, or other evidence of value in assessing Register eligibility. Upon completion of the report, all photo negatives will be forwarded to the COR, Corps of Engineers, Wilmington District, for permanent record. In addition, an overall site plan, showing the relationships of any features to one another, will be included in the reports. When drawings are used, they shall conform to the following criteria:

(a) Mechanical lettering shall be used in accordance with good drafting practice (reference ER 1110-2-1002 "Maps and Drawings"). In no case shall lettering height be less than 1/8-inch.

(b) Pencil shading on finished drawings will not be accepted. Shading will be accomplished with hatching or preprinted "stick-on" screens. Lettering shall not be obscured with hatching or screening. Hatching on the reverse side of the drawing is preferred. The Contractor will furnish

original reproducible drawings on 4-millimeter Polyester Matte (both sides) drafting film or other stable based drafting film of all drawings prepared under this contract.

(c) Finished drawings shall be prepared to produce clear and sharp images on 35-millimeter microfilm in order to avoid filled loops or leaching of lines and/or characters on blowbacks. Reproductions, maps, and drawings shall meet or exceed the quality of those shown in the attachments.

(4) If a report has been authored by someone other than the Contract Principal Investigator, the cover and title page of the publishable report must bear the inscription: "Prepared under the Supervision of (Name), Principal Investigator," and the PI must at least prepare a forward describing the overall research context of the report, the significance of the work, and any other background circumstances relating to the manner in which the work was undertaken. The PI is required to sign the original copy of the report.

(5) The cover of the report must bear a Government provided Corps of Engineers Logo (Castle) and the inscription: "Prepared for the Wilmington District Corps of Engineers."

(6) The title page of the report(s) will bear an inscription which indicates the source of funding for the particular item of work covered by the report. This inscription will reference the Contract Number.

(7) If the Contractor expects to publish all or part of the final report, he must provide the Corps of Engineers with a letter specifying the expected date, place, and name of publication. This letter must be submitted with the final report.

(8) Specific locations (UTM coordinates) of sites found or otherwise identified as the result of investigations under this contract will be submitted by the Contractor as a separate document designated as appendix A simultaneously with the final report. References to specific site locations will not be made in the body of the report.

(9) The photographs of standing structures required by paragraph 5a(3) above shall be submitted as appendix C to the draft and final reports.

(10) This Scope of Work and research design submitted in response to it by the Contractor shall be included as appendix D to the draft and final reports.

(11) An abstract suitable for publication in an abstract journal must be prepared. This should consist of a brief, quotable summary useful in informing the technically oriented public of what the author(s) consider(s) to be the significant contributions of the investigation.

(12) A brief, nontechnical summary of the survey results and their significance to the study of human prehistory and history shall be prepared

and submitted separately from the final report. The narrative should be oriented toward the nonprofessional public. The purpose of this document is to inform the interested public of the results of the research conducted by archeologists, historians, and architectural historians using public funds. This nontechnical report should give a complete synopsis of the findings and **should be in a style and length adaptable to a public information brochure or for publication in a "popular journal."** Photographs and/or drawings of significant artifacts, sites, and/or buildings shall be included.

(13) The formal report will include a management summary to be used by the Corps of Engineers in determining the probable impact of any given development on the archeological-historic values in the affected area. The management summary should describe the significance of the cultural resources discovered. The text should be readable by nonspecialists and must contain sufficient detail to enable one to judge the degree of impact on cultural resources of any given development. The summary will also be used in determining which areas should be avoided in the development process.

(14) The draft and final reports shall include a complete bibliography of all historical and anthropological literature consulted or referenced in the report.

(15) The final report will be submitted in fifty (50) bound copies, plus the unbound original. The draft formal report will be submitted in fifteen (15) copies.

(16) Department of Defense Form 1473 (DD 1473). Copies of final reports will be maintained on microfiche by the Defense Technical Information Service (DTIS) and National Technical Information Service (NTIS) and will be available from DTIS and NTIS to interested persons. The final report will include a DD 1473 (Government provided) as its first page. Blocks 4, 5, 7, 9, 11, 12, 13, 15, 16, 17, 19, 20, and 21 of the form will be completed by the Contractor.

d. State Cultural Resources Inventory Forms. All sites will be recorded on current North Carolina site forms (Contractor provided). Instructions published by the North Carolina Division of Archives and History will be followed in filling out site forms. Appropriate USGS quad sheets needed as supplemental information to be attached to these forms will be furnished by the Contractor.

7. Personnel/Agency Standards. The Contractor must employ individuals that meet the minimum criteria given below. A contract proposal must include vitae for the Principal Investigator, Archeologist, Historian, and supervisory personnel in support of their academic and experiential qualifications. In the event that consultants have not been identified at the time of contract proposal, vitae on these positions may be omitted until such time as they are identified with the provision that those to be selected meet the minimum professional standards stated below and that their retention is subject to approval by the COR. All changes in Principal

Investigator, Archeologist, Historian, and supervisory personnel during the period of contract services must be approved in advance by the COR.

a. Project Director and Principal Investigator. Persons in charge of an archeological project or research investigation, in addition to meeting the appropriate standards for archeologists or historians, must have the doctorate or an equivalent level of professional experience as evidenced by a publication record that demonstrates experience in field project formulation execution and technical monograph reporting. Suitable professional references may also be made available to obtain estimates regarding the adequacy of prior work. If prior projects were of a sort not ordinarily resulting in a publishable report, a narrative should be included, detailing the proposed PI's previous experience along with references suitable to obtain opinions regarding the adequacy of this earlier work.

b. Archeologist. The minimum professional qualifications for this position are:

(1) A graduate degree in archeology, anthropology, or closely related field or equivalent training accepted for accreditation purposes by the Society of Professional Archeologists;

(2) Demonstrated ability to carry research to completion, usually evidenced by timely completion of theses, research reports, or similar documents; and

(3) At least 16 months of professional experience and/or specialized training in archeological field, laboratory, library research, administration, or management including at least 4 months of experience in archeological field research and at least 1 year of experience and/or specialized training in the kind of activity the individual proposes to practice. For example, persons supervising field archeology should have at least 1 year or its equivalent in field experience and/or specialized field training, including at least 6 months in a supervisory role. Persons engaged to do archival or documentary research should have had at least 1 year of experience and/or specialized training in such work. Archeologists engaged in regional or agency planning or compliance with historic preservation procedures should have had at least 1 year of experience in work directly pertinent to planning, compliance actions, etc., and/or specialized historic preservation or cultural resource management training. A practitioner of prehistoric archeology should have had at least 1 year of experience or specialized training in research concerning archeological resources of the prehistoric period. A practitioner of historic archeology should have had at least 1 year of experience or specialized training in research concerning archeological resources of the historic period. Experience in archeological research in the region where the project will be undertaken is usually desirable.

c. Historian. The minimum professional qualifications in history are a graduate degree in American history or a closely related field or a Bachelor's degree in history or a closely related field plus one of the following:

(1) At least 2 years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historical organization or agency, museum, or other professional institution; or

(2) Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

d. Architectural Historian. The minimum professional qualifications in architectural history are a graduate or Bachelor's degree in architectural history, historic preservation, or closely related field, with course work in American architectural history, plus one of the following:

(1) At least 2 years of full-time experience in research, writing, architectural surveying, the teaching of American history or restoration architecture with an academic institution, work experience with an historical organization or agency, museum, or other professional institution; or

(2) Substantial contribution through research and publication to the body of scholarly knowledge in the field of architectural history.

e. Archeological Technician. Archeological technicians will have a bachelor's degree in anthropology and/or at least 12 months combined field and laboratory experience. These individuals should have experience in excavation technique, field recording, artifact processing, and cataloging.

f. Illustrator. The illustrator should be able to demonstrate competence by providing a portfolio or other evidence of ability to produce illustrations of high technical quality suitable for use in professional journals.

g. Typist. The typist should be familiar with good clerical practices including editing and shall demonstrate a level of skill in typing sufficient to produce high quality manuscripts in a timely manner.

h. Consultants. Personnel hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence. Such qualifications are to be documented by means of vitae attachments submitted with the proposal or at a later time if the consultant has not been retained at the time of proposal.

i. Equipment and Facilities. The Contractor must provide or demonstrate access to the following capabilities:

(1) Adequate field and laboratory equipment necessary to conduct whatever operations are defined in this Scope of Work.

(2) Adequate facilities necessary for proper treatment, analysis, and storage of specimens and records likely to be obtained from a given project. This does not necessarily include such specialized facilities as pollen, geochemical, or radiological laboratories, but it does include

facilities sufficient to properly preserve or stabilize specimens for any subsequent specialized analysis.

8. Disposition of Data. Data may be collected under terms of this contract from lands in various categories of ownership. These categories are: Federal, State, municipal, corporate, and private. It shall be the responsibility of the Contractor to negotiate the collection and the retention of artifacts collected from private or corporately owned land. The principal which will at all times govern these negotiations is: that in instances where public funds are expended for the collection of data, then the public must be the benefactor. However, realizing that all data removed from privately or corporately held land is the property of the individual or corporate landowner and that the owner(s) may wish to retain this data for their own personal use, the Contractor shall, at a minimum, photograph and describe all data collected but not retained for the Government. The data collected on lands owned by the Federal Government are property of the Federal Government.

9. Curation. All artifacts recovered from work performed under this contract will be washed, stabilized (as necessary), labeled, and bagged by provenience. The artifacts shall be returned to the COR for final curation if no other suitable repository is found and agreed to by the COR. At a minimum, information to be supplied with the labeled artifacts will include site name, site number, provenience unit number, county name, state, investigator or company name, name of the project, and the date of collection. If the COR designates a repository or if the Contractor negotiates an agreement for the disposition of the artifacts and that repository is approved by the COR, the institutional curation standards for labeling and other required information take precedence over the ones listed above.

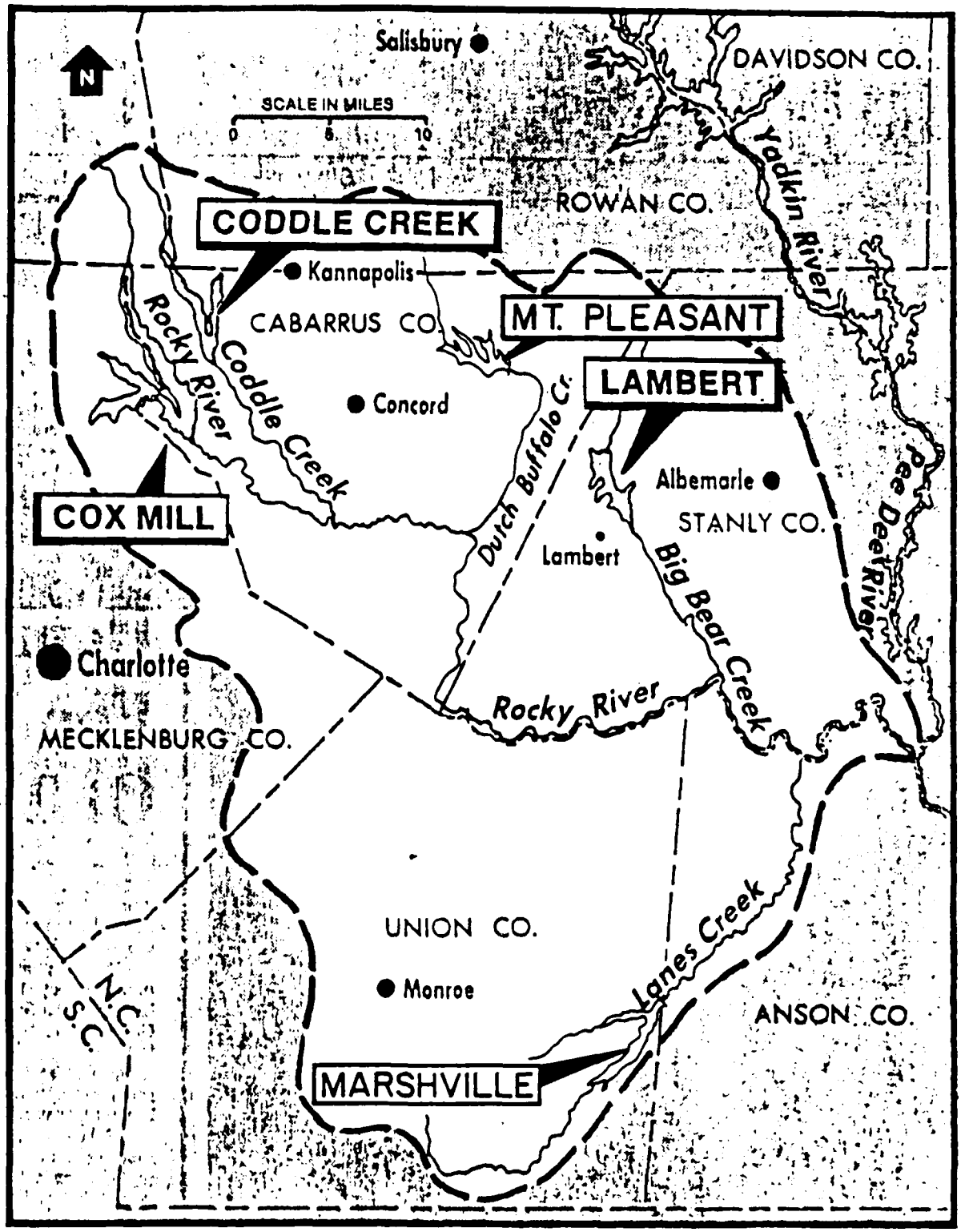
10. Controversies. In the event of controversy or court challenge, Principal Investigator(s) shall be placed under separate contract to testify on behalf of the Government in support of findings presented in the report.

11. Release of Information. Neither the Contractor nor his representatives shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the time of final acceptance of the report(s) by the Government.

12. Period of Services. The Contractor will be required to commence work under the terms of this contract within 20 calendar days of the Contract Award Date (CAD). A reasonable delay of up to 90 days can be expected for District review and approval of the draft and final reports prior to their acceptance by the Government. The Contractor shall adhere to the following contract schedule:

-COMPLETION OF FIELD WORK	-100 DAYS FROM CAD
-COMPLETION OF ANALYSIS	-300 DAYS FROM CAD
-SUBMITTAL OF DRAFT REPORT	-360 DAYS FROM CAD
-SUBMITTAL OF FINAL REPORT	-510 DAYS FROM CAD

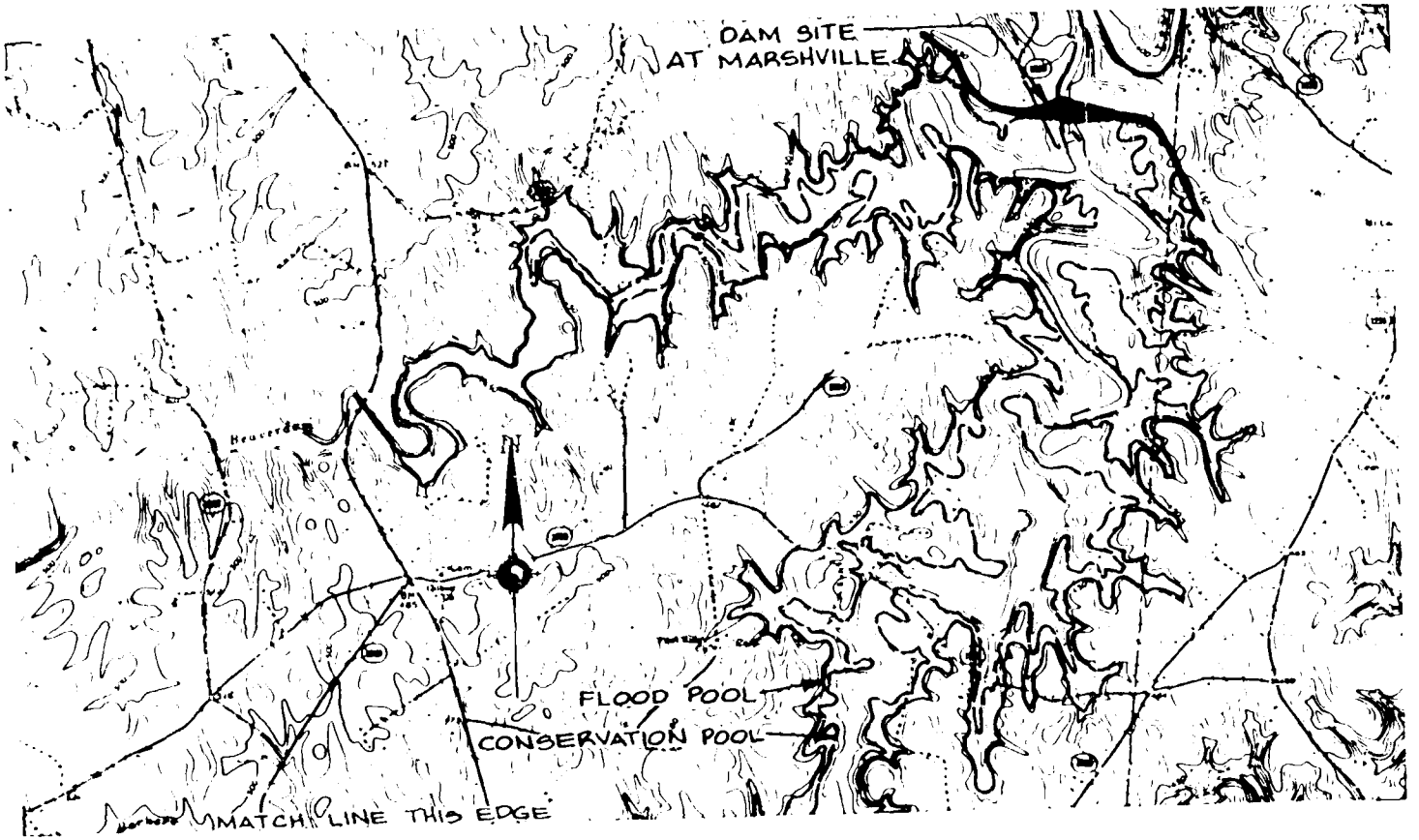
13. Method of Payment. Partial payments to the Contractor for services performed under the terms of this contract will be made at the end of each month, based on an approved estimate of value of work accomplished during the month. The dollar value of each stage of work will be indicated on a progress schedule. The amounts of partial payments due the Contractor shall be determined by the COR on the basis of approved monthly progress reports. Ten percent (10%) will be deducted from each partial pay estimate, such deductions shall be retained until all work has been completed and accepted by the Government at which time all remaining amounts due and the retained percentage will be paid to the Contractor.



ALTERNATIVE PLANS CONSIDERED

NOTE: SURVEY OF THE CODDLE CREEK AND COX MILL SITES IS NOT REQUIRED UNDER THE TERMS OF THIS RFP.

ATTACHMENT 1

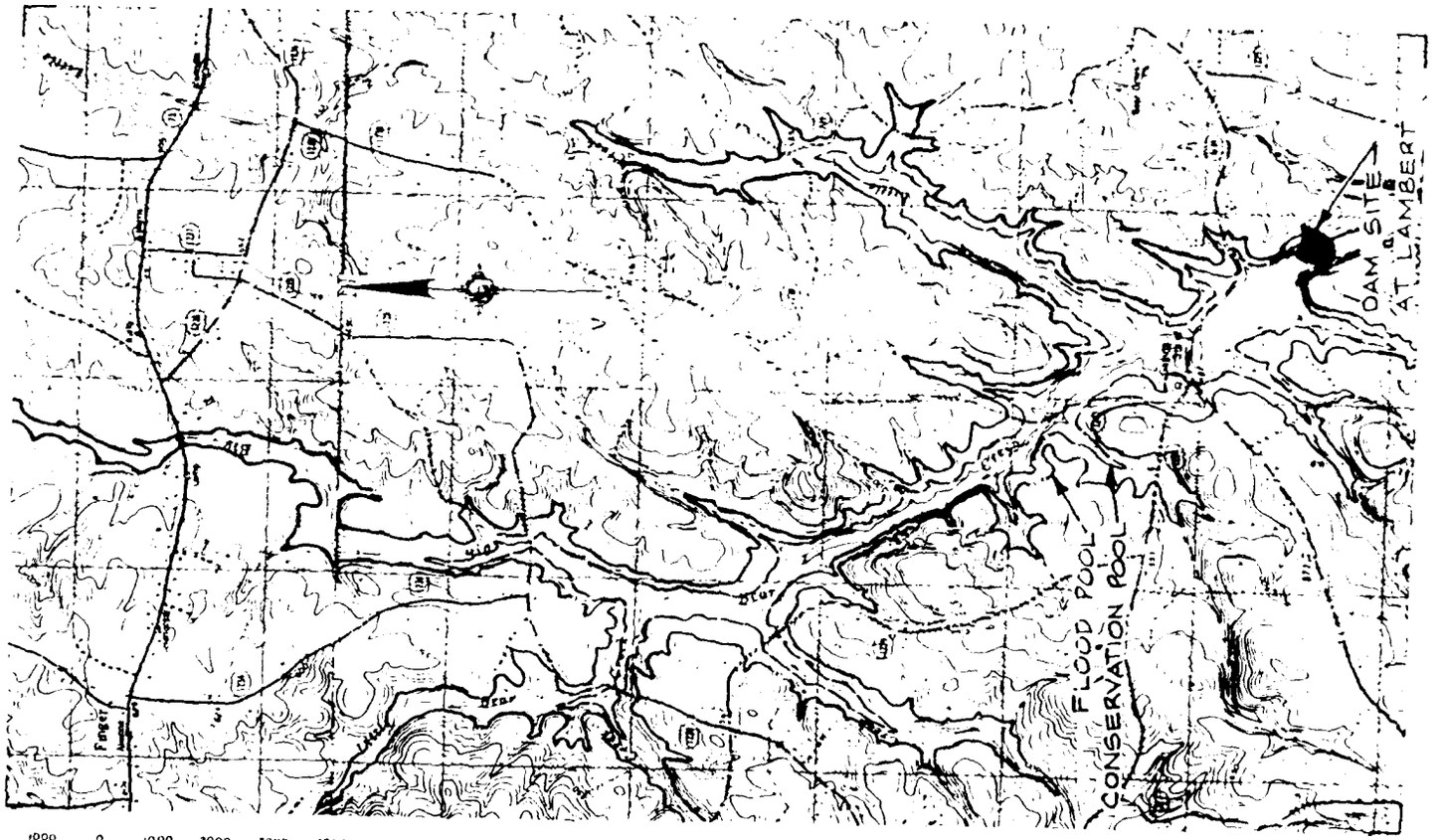


NOTE: THE ENTIRE RESERVOIR AREA IS NOT SHOWN ON THIS MAP

ROCKY RIVER, N C

MARSHVILLE

ATTACHMENT 2



NOTE: THE ENTIRE RESERVOIR AREA IS NOT SHOWN ON THIS MAP

ROCKY RIVER, N C

LAMBERT

ATTACHMENT 3



1000 0 1000 2000 3000 4000 5000

SCALE IN FEET

ROCKY RIVER, N.C.

MT. PLEASANT

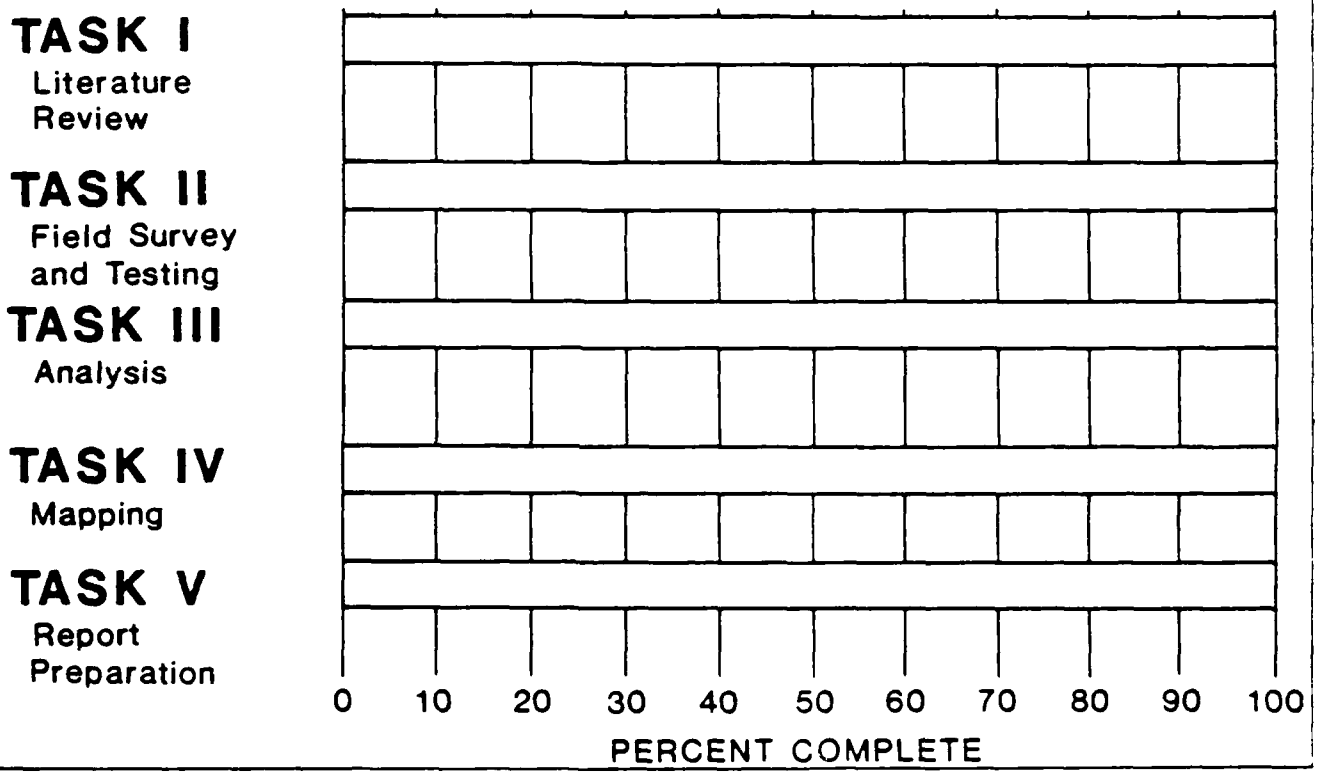
ATTACHMENT 4

PROGRESS REPORT

Archaeological and Historical Survey

PROPOSED ROCKY RIVER RESERVOIRS

NORTH CAROLINA



ATTACHMENT 5

1. INSPECTION OF SERVICES - FIXED PRICE (APR 1984)

(a) Definitions. "Services," as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(c) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all times and places during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If any of the services do not conform with contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by reperformance, the Government may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and (2) reduce the contract price to reflect the reduced value of the services performed.

(e) If the Contractor fails to promptly perform the services again or to take the necessary action to ensure future performance in conformity with contract requirements, the Government may (1) by contract or otherwise, perform the services and charge to the Contractor any cost incurred by the Government that is directly related to the performance of such service or (2) terminate the contract for default.

(End of clause) (FAR 52.246-4)

1. ACCIDENT PREVENTION (APR 1984)

(a) In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoiding work interruptions. For these purposes, the Contractor shall—

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for this purpose are taken.

(b) If this contract is with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, dated April 1981.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. The Contractor shall report this data in the manner prescribed by the Contracting Officer.

(d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with this clause.

(f) Before commencing the work, the Contractor shall—

(1) Submit a written proposal for implementing this clause; and

(2) Meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

2. SAFETY PUBLICATIONS

The April 1981 edition of the Corps of Engineers Safety Manual, EM 385-1-1, as revised 1 October 1984, is applicable to work to be performed under this contract. The manual may be obtained without charge by applicants considered to be properly interested upon separate request to the issuing office.

3. MINIMUM INSURANCE REQUIREMENTS

In accordance with SECTION I, Contract Clauses, Insurance--Work on a Government Installation, the contractor shall procure and maintain during the entire performance period of this contract at least the following kinds and minimum amounts of insurance:

Workers' Compensation and Employer's Liability: In the amount required by law of the State in which work is to be performed or at least $100,000.

General Liability: Bodily injury liability coverage written on the comprehensive form of policy of at least $500,000 per occurrence.

Automobile Liability: At least $200,000 per person and $500,000 per occurrence for bodily injury and $20,000 per occurrence for property damage.

4. CONTINUING CONTRACTS (1978 MAR OCE)

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of $29,000 has been reserved for this contract and is available for payments to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds will be reserved for this contract. The liability of the United States for payments beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (d) and (e) below.

(c) (1) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor in writing of any additional funds reserved for the contract.

(2) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(d) (1) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat 97, for the Renegotiation Board, as in effect on the first day of the delay in such payment.

(2) Any suspension, delay, or interuption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(3) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(e) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefor are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(f) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(g) The term "Reservation" means monies that have been set aside and made available for payments under this contract. (EFARS 52.2/9109(d)(d).

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS
SECTION J - List of Attachments

DD Form 1707, Information to Offerors, 1 FEB 76, 2 pages

Standard Form 33 (REV. 10-83), 1 page.

Standard Form 36 (Rev. 10-83), 1 page

Attachments (5), SECTION C, 5 pages

Service Contract Clauses, 46 pages

Reference 1, Report, 122 pages

1. CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1984)

(a) The offeror certifies that—

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a formally advertised solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory—

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above .... [*insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization*];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

2. CONTINGENT FEE REPRESENTATION AND AGREEMENT (APR 1984)

(a) *Representation.* The offeror represents that, except for full-time bona fide employees working solely for the offeror, the offeror—

[Note: The offeror must check the appropriate boxes. For interpretation of the representation, including the term "bona fide employee," see Subpart 3.4 of the Federal Acquisition Regulation.]

(1) ☐ has, ☐ has not employed or retained any person or company to solicit or obtain this contract; and

(2) ☐ has, ☐ has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) *Agreement.* The offeror agrees to provide information relating to the above Representation as requested by the Contracting Officer and, when subparagraph (a)(1) or (a)(2) is answered affirmatively, to promptly submit to the Contracting Officer—

(1) A completed Standard Form 119, Statement of Contingent or Other Fees, (SF 119); or

(2) A signed statement indicating that the SF 119 was previously submitted to the same contracting office, including the date and applicable solicitation or contract number, and representing that the prior SF 119 applies to this offer or quotation.

(End of provision)

3. TYPE OF BUSINESS ORGANIZATION (APR 1984)

The offeror or quoter, by checking the applicable box, represents that it operates as ☐ a corporation incorporated under the laws of the State of ....., ☐ an individual, ☐ a partnership, ☐ a nonprofit organization, or ☐ a joint venture.

(End of provision)

4. AUTHORIZED NEGOTIATORS (APR 1984)

The offeror or quoter represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this request for proposals or quotations: (List names, titles, and telephone numbers of the authorized negotiators)

_____

_____

_____

_____

_____

5. SMALL BUSINESS CONCERN REPRESENTATION (APR 1984)

The offeror represents and certifies as part of its offer that it ☐ is, ☐ is not a small business concern and that ☐ all, ☐ not all supplies to be furnished will be manufactured or produced by a small business concern in the United States, its possessions, or Puerto Rico. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(End of provision)

6. WOMEN-OWNED SMALL BUSINESS REPRESENTATION (APR 1984)

(a) *Representation.* The offeror represents that it ☐ is, ☐ is not a women-owned small business concern.

(b) *Definitions.*

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominate in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

"Women-owned," as used in this provision, means a small business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(End of provision)

7. SMALL DISADVANTAGED BUSINESS CONCERN REPRESENTATION (APR 1984)

(a) *Representation.* The offeror represents that it ☐ is, ☐ is not a small disadvantaged business concern.

(b) *Definitions.*

"Asian-Indian American," as used in this provision, means a United States citizen whose origins are in India, Pakistan, or Bangladesh.

"Asian-Pacific American," as used in this provision, means a United States citizen whose origins are in Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territory of the Pacific Islands, the Northern Mariana Islands, Laos, Cambodia, or Taiwan.

"Native Americans," as used in this provision, means American Indians, Eskimos, Aleuts, and native Hawaiians.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR 121.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals and (2) has its management and daily business controlled by one or more such individuals.

(c) *Qualified groups.* The offeror shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans, and other individuals found to be qualified by the SBA under 13 CFR 124.1.

(End of provision)

8. PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (APR 1984)

The offeror represents that—

(a) It ☐ has, ☐ has not participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;

(b) It ☐ has, ☐ has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

9. AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that (a) it ☐ has developed and has on file, ☐ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (b) it ☐ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

10. CLEAN AIR AND WATER CERTIFICATION (APR 1984)

The Offeror certifies that—

(a) Any facility to be used in the performance of this proposed contract is ☐ is not ☐ listed on the Environmental Protection Agency List of Violating Facilities;

(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

(End of provision)

11. CERTIFICATION OF NONSEGREGATED FACILITIES (APR 1984)

(a) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By the submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(c) The offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will—

(1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;

(2) Retain the certifications in the files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

NOTE:

Contractor, if a corporation should cause the following certificate to be executed under its corporate seal, provided that the same officer shall not execute both the contract and the certificate.

CERTIFICATE

I, _____, certify that I am _____ of the corporation named as Contractor herein, that _____ who signed this contract on behalf of the Contractor, was then _____ of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ (CORPORATE SEAL)

(Signature)

1. SOLICITATION DEFINITIONS (APR 1984)

"Offer" means "proposal" in negotiation.

"Solicitation" means a request for proposals (RFP) or a request for quotations (RFQ) in negotiation.

(FAR 52.215-5)

2. ACKNOWLEDGMENT OF AMENDMENTS TO SOLICITATIONS (APR 1984)

Offerors shall acknowledge receipt of any amendment to this solicitation (a) by signing and returning the amendment; (b) by identifying the amendment number and date in the space provided for this purpose on the form for submitting an offer; or (c) by letter or telegram. The Government must receive the acknowledgment by the time specified for receipt of offers.

(FAR 52.215-8)

3. SUBMISSION OF OFFERS (APR 1984)

(a) Offers and modifications thereof shall be submitted in sealed envelopes or packages (1) addressed to the office specified in the solicitation and (2) showing the time specified for receipt, the solicitation number, and the name and address of the offeror.

(b) Telegraphic offers will not be considered unless authorized by the solicitation; however, offers may be modified by written or telegraphic notice, if that notice is received by the time specified for receipt of offers.

(c) Item samples, if required, must be submitted within the time specified for receipt of offers. Unless otherwise specified in the solicitation, these samples shall be (1) submitted at no expense to the Government and (2) returned at the sender's request and expense, unless they are destroyed during preward testing.

(End of provision)

4. LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF PROPOSALS (APR 1984)

(a) Any proposal received at the office designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it—

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail (or telegram if authorized) and it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation; or

(3) Is the only proposal received.

(b) Any modification of a proposal or quotation, except a modification resulting from the Contracting Officer's request for "best and final" offer, is subject to the same conditions as in subparagraphs (a)(1) and (2) above.

(c) A modification resulting from the Contracting Officer's request for "best and final" offer received after the time and date specified in the request will not be considered unless received before award and the late receipt is due solely to mishandling by the Government after receipt at the Government installation.

(d) The only acceptable evidence to establish the date of mailing of a late proposal or modification sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark on the wrapper or on the original receipt from the U.S. or Canadian Postal Service. If neither postmark shows a legible date, the proposal, quotation, or modification shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors or quoters should request the postal clerks to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(e) The only acceptable evidence to establish the time of receipt at the Government installation is the time/date stamp of that installation on the proposal wrapper or other documentary evidence of receipt maintained by the installation.

(f) Notwithstanding paragraph (a) above, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

(g) Proposals may be withdrawn by written notice or telegram (including mailgram) received at any time before award. Proposals may be withdrawn in person by an offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the proposal before award.

(FAR 52.215-10)

5. UNNECESSARILY ELABORATE PROPOSALS OR QUOTATIONS (APR 1984)

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective response to this solicitation are not desired and may be construed as an indication of the offeror's or quoter's lack of cost consciousness. Elaborate art work, expensive paper and bindings, and expensive visual and other presentation aids are neither necessary nor wanted.

(FAR 52.215-7)

6. RESTRICTION ON DISCLOSURE AND USE OF DATA (APR 1984)

Offerors or quoters who include in their proposals or quotations data that they do not want disclosed to the public for any purpose or used by the Government except for evaluation purposes, shall—

(a) Mark the title page with the following legend:

"This proposal or quotation includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part— for any purpose other than to evaluate this proposal or quotation. If, however, a contract is awarded to this offeror or quoter as a result of—or in connection with—the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [*insert numbers or other identification of sheets*]"; and

(b) Mark each sheet of data it wishes to restrict with the following legend:

"Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal or quotation."

(FAR 52.215-12)

7. EXPLANATION TO PROSPECTIVE OFFERORS (APR 1984)

Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all propsective offerors before the submission of their offers. Oral explanations or instructions given before the award of the contract will not be binding. Any information given to a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an amendment of the solicitation, if that information is necessary in submitting offers or if the lack of it would be prejudicial to any other prospective offerors.

(FAR 52.215-14)

8. PREPARATION OF OFFERS (APR 1984)

(a) Offerors are expected to examine the drawings, specifications, Schedule, and all instructions. Failure to do so will be at the offeror's risk.

(b) Each offeror shall furnish the information required by the solicitation. The offeror shall sign the offer and print or type its name on the Schedule and each continuation sheet on which it makes an entry. Erasures or other changes must be initialed by the person signing the offer. Offers signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(c) For each item offered, offerors shall (1) show the unit price/cost, including, unless otherwise specified, packaging, packing, and preservation and (2) enter the extended price/cost for the quantity of each item offered in the "Amount" column of the Schedule. In case of discrepancy between a unit price/cost and an extended price/cost, the unit price/cost will be presumed to be correct, subject, however, to correction to the same extent and in the same manner as any other mistake.

(d) Offers for supplies or services other than those specified will not be considered unless authorized by the solicitation.

(e) Offerors must state a definite time for delivery of supplies or for performance of services, unless otherwise specified in the solicitation.

(f) Time, if stated as a number of days, will include Saturdays, Sundays, and holidays.

(FAR 52.215-13)

9. FAILURE TO SUBMIT OFFER (APR 1984)

Recipients of this solicitation not responding with an offer should not return this solicitation, unless it specifies otherwise. Instead, they should advise the issuing office by letter or postcard whether they want to receive future solicitations for similar requirements. If a recipient does not submit an offer and does not notify the issuing office that future solicitations are desired, the recipient's name may be removed from the applicable mailing list.

(FAR 52.215-15)

10. CONTRACT AWARD (APR 1984)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The Government may (1) reject any or all offers, (2) accept other than the lowest offer, and (3) waive informalities and minor irregularities in offers received.

(c) The Government may award a contract on the basis of initial offers received, without discussions. Therefore, each initial offer should contain the offeror's best terms from a cost or price and technical standpoint.

(d) The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. *Unless otherwise provided in the Schedule, offers may be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the offer.*

(e) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer, as provided in paragraph (d) above), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the Government.

(f) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract. However, if the resulting contract contains a clause providing for price reduction for defective cost or pricing data, the contract price will be subject to reduction if cost or pricing data furnished is incomplete, inaccurate, or not current.

(FAR 52.215-16)

11. ORDER OF PRECEDENCE (APR 1984)

Any inconsistency in this solicitation shall be resolved by giving precedence in the following order: (a) the Schedule (excluding the specifications); (b) representations and other instructions; (c) contract clauses; (d) other documents, exhibits, and attachments; and (e) the specifications.

(FAR 52.215-18)

12. SITE VISIT (APR 1984)

Offerors or quoters are urged and expected to inspect the site where services are to be performed and to satisfy themselves regarding all general and local conditions that may affect the cost of contract performance, to the extent that the information is reasonably obtainable. In no event shall failure to inspect the site constitute grounds for a claim after contract award.

(FAR 52.237-1)

13. DISCOUNTS (APR 1984)

Prompt payment discounts will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a prompt payment discount in conjunction with the offer, offerors awarded contracts may include prompt payment discounts on individual invoices. (DOD FAR SUPL. 52.214-7000).

14. DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER REPORTING (DEC 1980)

In the block with its name and address, the offeror should supply the Data Universal Numbering System (DUNS) Number applicable to that name and address. The DUNS Number should be preceded by "DUNS:". If the offeror does not have a DUNS Number, it may obtain one from any DUN and Bradstreet branch office. No offeror should delay the submission of its offer pending receipt of its DUNS Number. (DOD FAR SUPL. 52.204-7004).

15. SMALL BUSINESS SIZE STANDARD AND PRODUCT CLASSIFICATION CODE: In order to qualify as a Small Business concern for this procurement, a concern must be independently owned and operated, is not dominant in the field of operation in which it is offering on Government contracts and:

( ) the number of employees of the concern and its affiliates must not exceed _____ persons..

( ) the average annual receipts of the concern and its affiliates for the preceding three fiscal years do not exceed $ 3.5 million.

The Standard Industrial Classification Code of this procurement is 8999 .

16. NOTICE REGARDING BID PROTESTS. Any interested party who files a protest concerning this solicitation with the General Accounting Office (GAO) must furnish a copy of the complete protest to the Contracting Officer, U.S. Army Corps of Engineers, PO Box 1890, Wilmington, NC 28402-1890, no later than one day after the protest is filed with the GAO. Failure to furnish a complete copy of the protest within one day may result in dismissal of the protest by the GAO (4 CFR 21.1(d)). .

Section M - Evaluation Factors for Award

1. PROPOSALS - REQUIRED SUBMITTALS: Proposals shall be prepared in two separate and distinct parts entitled, "Technical Proposal for RFP DACW54-85-R-0034 from _____(Name of Offeror)," and "Price Proposal for RFP DACW54-85-R-0034 from _____(Name of Offeror)." Both technical and price proposals (4 copies each) should be placed in inner sealed envelopes marked as indicated above and submitted together in the same envelope to the address shown on page A-1, Block 7. The technical proposal shall not make reference to cost or price data so that a technical evaluation may be made on the basis of technical merit alone. **Failure to comply with this requirement will result in a determination of nonresponsiveness. Any exceptions taken by an offeror to any provision of this Request for Proposal or any condition placed upon a proposal may result in a finding of nonresponsiveness.** Only one proposal may be submitted by each offeror. An offeror is considered to include any individual, company, or corporation and all of its subsidiary companies, or corporations together.

2. TECHNICAL PROPOSALS:

a. Each initial technical proposal should be submitted so as to be fully and clearly acceptable without additional explanation or information, since the Government may make a final determination as to whether a proposal is acceptable or unacceptable solely on the basis of the initial proposal submitted. However, at the sole discretion of the Government, additional information may be requested from offerors of proposals which the Government considers reasonably susceptible of being made acceptable by additional clarifying or supplementing, but not basically changing the proposal as submitted and, for this purpose, the Government may discuss any such proposal with the offeror. Only initial proposals received will be subject to technical evaluation by a technical evaluation committee utilizing a point system for the purpose of determining offerors with acceptable technical proposals. Reevaluation of proposals for which clarifying or supplementing information was requested will not utilize the same point system for evaluation as used in the evaluation of the original proposals, and the technical evaluation committee may or may not consist of the same individuals. When deemed appropriate by the Wilmington District, U.S. Army Corps of Engineers, neutral, outside (not employed by the Wilmington District), professional archeologists may be utilized as consultants during the technical evaluation. However, in all cases the final decision as to the successful offeror will be made by the Contracting Officer.

b. Each initial proposal submitted in response to this RFP will be evaluated on the following criteria listed in descending order of importance. (Note that criteria (1) is worth at least as much as the other two criteria combined.)

(1) Technical Detail and Research Proposal. In order to be successful, a technical proposal must include the following items: a discussion of the proposed sampling strategy for the impoundment zones of the proposed reservoirs; a description of the survey methodology (including

subsurface testing interval for high, moderate, and low intensity levels of survey) to be used in both the intensive survey of the areas of the proposed damsites and the sampling areas chosen for survey by the offeror; a description of the technique proposed for the testing of sites thought to be eligible for the National Register of Historic Places; a definition of what constitutes a site; a description of the techniques to be used in data analysis; and a discussion of the techniques to be used to properly accession and care for artifacts prior to their final curation (i.e., interim curation and stabilization techniques). The proposal will make clear how the different phases of the investigation (e.g., research question formulation, field work, analysis, and report preparation) relate to each other. In addition, alternate research strategies will be discussed in case the data collected does not meet the requirements of the preferred analysis or the expectations of the defined research goals.

(2) Expertise of the Contract Principal Investigator, and Key Project Staff. Consideration will be given to the expertise of the project staff in terms of: local experience, relevant research interests, evidence of ability to successfully complete the proposed research design(s) (e.g., publications or reports prepared on a similar topic of research. NOTE: Copies of these publications need not be submitted as part of the proposal), and knowledge of current governmental standards relating to cultural resource investigations and determinations of eligibility for the National Register of Historic Places. Contractor may be asked to identify and confirm the availability of key personnel during the evaluation of the proposal. (For further details of personnel qualifications, see paragraph 7 of the Scope of Work, Section C of this solicitation.)

(3) Management. The offeror will be evaluated on his proposed scheduling, administration, and management of the various phases of contract execution.

3. PRICE PROPOSALS: The price proposal which accompanies an acceptable technical proposal will be subject to price evaluation by a price evaluation committee. The entire pricing arrangement will be analyzed but only the total price will be evaluated. The total price will be evaluated by use of a formula which will assign points based on the relationship of the price being evaluated to the lowest realistic price received. Under this system the lowest realistic price will receive 100 points and the remaining prices will be ranked in accordance with the amount they vary from the lowest realistic price. **Unrealistically high or low price proposals, which in the judgement of the committee either have no chance of being selected because of high price or that are so low in price that the work can not be completed for the stated amount will not be evaluated by use of this formula.**

4. COMPETITIVE RANGE-DISCUSSIONS AND BEST AND FINAL OFFERS:

a. Determination of Requirement for Discussions. Upon completion of the evaluation discussed in items 2 and 3 above, the Contracting Officer will make a determination of the competitive range for the proposed contract and determine if discussions with the offerors in the competitive range are in the best interest of the Government. If, as a result of the initial

evaluation, one firm's proposal (both technical and price) clearly is more advantageous, the Government may award a contract, based on initial offers received, without discussion of such offers. Accordingly, each initial offer should be submitted on the most favorable terms from a price and technical standpoint which the offeror can submit to the Government (see paragraph 10,c, Contract Award, Page L-3, Section L). However, if the Contracting Officer determines that discussions are necessary, discussions will be held with all offerors in the competitive range, and revised proposals (either or both technical and price) will be requested by a common cutoff date.

b. Evaluation of revised proposals submitted as a result of the discussions. The revised proposals submitted as a result of the discussions will be reevaluated to the extent that points will be added to the original technical evaluation score for those areas of the proposal where clarifying or supplementing information was requested and received from the offeror. The score resulting from this reevaluation will be combined with the score resulting from the cost formula explained in paragraph 3 above to establish the final score for each offeror. The proposal with the highest score will be considered to be the offer most advantageous to the Government. The lowest price proposal will not necessarily be considered the most advantageous.

5. AWARD: Award will be made to the responsive and responsible offeror submitting the offer considered most advantageous to the Government (either as a result of the initial proposal submitted or as a result of the Best and Final Offer) in accordance with the evaluation criteria set forth above. If, as a result of the initial evaluation (both technical and price), it is determined to be in the best interest of the Government to award the contract without Discussions and without the solicitation of Best and Final Offers, the procedures explained in paragraphs 2 and 3 will be followed. If several offerors submit proposals which are grouped (by point spread) so that a moderate change in the price or technical proposal could make one of the group most advantageous to the Government, the procedure described in paragraph 4 will be followed.

6. PREAWARD INFORMATION: If a proposal submitted in response to this solicitation is favorably considered, such offeror shall furnish, upon request, statements which will show their ability to perform the services required herein. Such statements shall include, but are not limited to, Financial Statement not over 60 days old, which will be treated as confidential (if over 60 days old, a certificate will be attached thereto stating that the financial condition is substantially the same or, if not the same, the changes that have taken place); names of commercial and financial reporting agencies from whom credit report may be obtained, trade creditors, business and/or manufacturing experience; past record of performance of Government contracts; plant capacity with resume of work in progress or other data which will assure that the offeror is in a position to perform in accordance with the delivery requirements specified; and any other information to substantiate the offeror's qualifications as a responsible offeror.

7. TYPE OF CONTRACT CONTEMPLATED: The offeror is advised that only an offer submitted on a firm fixed-price basis will be considered for contract award and that an offer submitted on any other basis will be rejected.

Project Description: ARCHEOLOGICAL SURVEY AND SAMPLING IN THE ROCKY RIVER BASIN

Project Location: Cabarrus, Stanly and Union Counties, North Carolina.

Item No. 1, Item Description: SET UP

(1) Direct Labor Cost:

	Discipline	Manhours		Hourly Rate		Amount
a.	_____	_____	@	$ _____	=	$_____
b.	_____	_____	@	$ _____	=	$_____
c.	_____	_____	@	$ _____	=	$_____
d.	_____	_____	@	$ _____	=	$_____
e.	_____	_____	@	$ _____	=	$_____
f.	_____	_____	@	$ _____	=	$_____
i.	_____	_____	@	$ _____	=	$_____
j.	_____	_____	@	$ _____	=	$_____
k.	_____	_____	@	$ _____	=	$_____
l.	_____	_____	@	$ _____	=	$_____
m.	_____	_____	@	$ _____	=	$_____

Subtotal, Direct Labor $_____

(2) *Overhead on Direct Labor (_____%) $_____

(3) *Gen. and Admin. Overhead (_____%) $_____

(4) Materials, Supplies:
a. _____
b. _____
c. _____ $_____

(5) Travel:
a. _____
b. _____
c. _____ $_____

(6) Others:
a. _____
b. _____ $_____

Subtotal, Cost to the Contractor $_____

(7) Profit of Fee (_____%) $_____

Total, Item No. 1 $_____

* APPLY TO DIRECT LABOR COSTS ONLY (NOT CUMULATIVE). TASK 1

PROPOSAL TO

The U. S. Army Engineer District, Wilmington, CE for an Archeological and Architectural Survey of the Damsite and Archeological and Architectural Sampling Survey of the Impoundment Areas of Three Proposed Reservoirs in the Rocky River Basin, North Carolina.

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Enclosure F - Macroscopic Analysis Sheet

Enclosure G - Lithic Analysis Sheet

Enclosure H - Lithic Quantitative Analysis Sheet

Abstract

This proposal is for the execution of an archeological and architectural sampling survey of the impoundment areas of the proposed Marshville, Mt. Pleasant, and Lambert Reservoirs, a total area of 4468 acres. In addition, archeological and architectural survey and testing of 200 acres adjacent to each damsite, a total of 600 acres, is proposed. The proposed survey areas occur in three locations. The Mt. Pleasant impoundment area lies northeast of Concord, N. C. along Dutch Buffalo Creek in Cabarrus County. The Lambert impoundment area lies west of Albemarle, N. C. along Big Bear Creek in Stanly County. The Marshville impoundment area lies east of Monroe, N. C. along Lanes Creek in Union County. A sample area of 894 acres (approximately 20% or more of the total surveyable impoundment area) is to be examined and relevant data collected on archeological sites and standing structures. Another 600 acres (100% of each 200 acres encompassed by the three individual damsites) will be surveyed. Each cultural resource found will be evaluated in terms of the National Register of Historic Places criteria and expected project impacts. Suggestions for preservation, avoidance or mitigation of adverse effects will be offered for each site believed to be significant, and the total number and nature of cultural resources present in the impoundment area will be projected.

The Survey Areas

The survey area is divided into three different locations in Cabarrus, Stanly and Union Counties, North Carolina. The proposed dam site at Mt. Pleasant will impound the water of Dutch Buffalo Creek north of Mount Pleasant, North Carolina, UTM Northing 3920940m, Easting 552320m, Mt. Pleasant Quad (USGS), Zone 17. The lake will cover all areas below 640 feet m.s.l. on Dutch Buffalo Creek to a point located approximately 3.66 miles upstream, UTM Northing 3922640m, Easting 547630m. The lake will also impound Black Run Creek to a point approximately 1.9 miles upstream from its confluence with Dutch Buffalo Creek, UTM Northing 3924500m, Easting 550500m and Jennie Wolf Creek to a point approximately 1.1 miles upstream from its confluence with Dutch Buffalo Creek, UTM Northing 3923600m, Easting 549040m, Mt. Pleasant Quad (USGS), Zone 17.

The dam site at Lambert will impound the water of Big Bear Creek west of Albemarle, North Carolina, UTM Northing 3909410m, Easting 560810m, Frog Pond, N. C. Quad (USGS), Zone 17. The lake will cover all areas below 500 feet m.s.l. on Big Bear Creek to a point located approximately 5.1 miles upstream, UTM Northing 3916620m, Easting 559960m, Richfield Quad (USGS), Zone 17. The lake will also impound Little Creek 2.1 miles, Running Creek 1.2 miles and Little Bear Creek 1.4 miles upstream from their confluence with Big Bear Creek, UTM Northings 3913420m, 3910700m and 3914660m respectively, Eastings 561380m, 557920m and 557730m respectively. Approximately .6 miles along Pole Bridge Creek from its confluence with Little Bear Creek,

UTM Northing 3912510m, Easting 557600m, will also be impounded.

The dam site at Marshville will impound the water of Lanes Creek southeast of Marshville, N. C., UTM Northing 3869490m, Easting 572990m, Marshville, N. C. Quad (USGS), Zone 17. The lake will cover all araeas below 440 feet m.s.l. on Lanes Creek to a point located approximately 12.7 miles upstream, UTM Northing 3859960m, Easting 555580m, Wingate Quad (USGS), Zone 17. The lake will also impound Beaverdam Creek 4.6 miles, Barkers Branch .9 miles, Cool Spring Branch 1.3 miles, Norkett Branch 1.7 miles and Waxhaw Branch .41 miles upstream from their confluence with Lanes Creek, UTM Northings 3867840m, 3865530m, 3861840m, 3861400m and 3860480m respectively, Eastings 558870m, 559530m, 560040m, 558060m and 555110m respectively.

Several sets of topographic features within the project areas may have affected aboriginal settlement patterns. Each of these features deserves to be examined as part of the prehistoric and historic cultural ecology of the region. These features include, but are not limited to, the following: floodplains of the major streams and their tributaries (both natural levee areas, swamps and backswamps); alluvial terraces; the confluences of the major streams and their tributaries; and the clay uplands. Additional natural features such as rock shelters or major lithic outcrops encountered in the survey areas may be differentiated and incorporated into the sampling design described below. Topographic features that may have encouraged alluviation will also be considered as a separate stratum within individual clusters (these features are not discernable from topographic maps and require identification in the field).

Research Design

The Rocky River Basin impoundment areas allow formulation and testing of various research questions bearing on both prehistoric and historic archeological resources. For present purposes the research objectives are categorized by that gross temporal distinction, although some--particularly the first--are pertinent to both periods.

Prehistoric Resources

1. A primary goal of the project simply is to characterize the archeological data base of the Rocky River area. As cited by Lewis (1985:35), large-scale, probabilistic surveys are needed to determine the nature of the archeological record in the Rocky River drainage. Without this general, "base-line" level of information it is impossible to formulate and test explanatory models of archeological patterning in the survey area. Thus, one research objective is to supply data on such elemental questions as:
   a. What is the site density in the region and how does the density vary through time (e.g. Early vs. Middle vs. Late Archaic) and space (e.g. are settlement patterns derived from elsewhere in the Piedmont applicable to the Rocky River area)?
   b. What variability exists, through time and space, in site size, relative frequencies of artifact classes, and artifact form (e.g. ceramics)?

c. What is the probability of stratified archeological deposits along the rank 3-4 streams, and what processes of erosion and alluviation are of significance in identifying probability levels for stratified site occurrance? Likewise, what is the probability of undisturbed single component sites? One deeply stratified site has been reported from Union County, on the Rocky River (Peck and Painter 1984). Although certain aspects of this site are controversial, it does suggest that stratified sites may be found where certain topographic features have caused local, long-term alluviation. Such features will be given particular attention if present in the project areas.

2. Despite the limitations posed by a poorly known data base certain more specific research questions can be addressed. Those questions derive from observed archeological phenomena elsewhere in the Piedmont, and explanatory statements previously generated can be tested by predicting the archeological contents of the Rocky River area. For example:

   a. The Town Creek site of Montgomery County is located 40 km. northeast of the upper reservoirs (Lambert and Mt. Pleasant), and 60 km. north-northeast of the Marshville reservoir. Town Creek, and its associated PeeDee ceramic tradition, is generally believed to

represent a site unit intrusion from the south (Coe 1952: 308. Reid 1967: v-ix). If so, this is of considerable significance in interpreting southeastern cultural dynamics during the late prehistoric period, involving as it does many related questions regarding the predatory nature of Mississippian or Mississippian-related societies; the dynamics involved in the distribution of Muskhogean-speakers; and the effect of site-unit intrusion on resident cultural systems, ranging from diffusion of artifact style to gross ecological disruptions. Although "invading cultures" were a common theoretical construct in the formative years of American archeology (e.g. the demise of the "Mound-Builders", the "migration" of Mississippian "peoples") later research revealed these models to be overly simple or in the first example, simply wrong. To date there remain very few archeological examples of purported population migrations and consequent invasions; DiPeso's Hohokam (probably), the Macon Plateau phenomenon (possibly), and Town Creek are among these. One objective in the Rocky River Basin project is to collect data bearing on the origin of Town Creek. The presence or absence of Pee Dee ceramics in the project area will be used, in conjunction with other associated data, to evaluate the invasion model. If Town Creek does represent an intrusive cultural manifestation, its diagnostic

traits should, if present in the survey area, be represented more frequently in the Mt. Pleasant/Lambert areas; alternatively, if it is a product of northward diffusion of trails through traditional late Woodland cultures of the southern North Carolina Piedmont, those traits should be equally or more abundant in the Marshville area. Data collected in the reservoir areas, coupled with information available at the Institute of Archeology and Anthropology in South Carolina, will be used to evaluate the traditional interpretation of Town Creek.

b. The Rocky River Basin project lies within the Carolina Slate Belt and specifically within a zone of bedded argillites with ready access to mafic volcanics. These lithic deposits provide prehistoric occupants with high-quality raw material for stone tools, and allow the test of a set of research questions developed from studies in the Yadkin-River Great Bend area. Those questions involve the scarcity of high-quality raw material in the Great Bend region which seemingly led to the use of native vein quartz for certain tool classes. Imported argillites and felsites were used for intensely curated classes of tools; in the middle to late Woodland stage, our model suggests, complex trade networks were established to procure a ready supply of high-quality stone from the Slate Belt. Our diachronic model (here abbreviated)

sees Early Archaic cultures of the Great Bend region acquiring high-quality raw material by incorporating distant quarries into a seasonal round or by down-the-line trade mediated by band-level reciprocity and involving few intervening groups (again a consequence of large band territories). By Middle to Late Archaic times a growing population had caused band territories to shrink, creating additional intervening groups (and thereby diminished access to raw material either through attrition of commodities moving by down-the-line trade or by interdiction of direct access to quarries).

This model adequately explains the archeological pattern in the Great Bend region, but it has not been systematically tested where high-quality raw material is indigenous. The Rocky River Basin project offers an opportunity for such testing. We will be unable to reject our model if we find, in the Rocky River reservoirs, utilization of high-quality raw material during the Middle and Late Archaic, continuance of a lithic extraction tradition established in the Early Archaic. Likewise we expect to see the same materials in use in Woodland sites, with less variability than is seen in lithic assemblages of Great Bend Woodland sites (where external trade connections seemingly involved importation from several different quarries yielding distinctive lithic profiles). If, on the

other hand, the Rocky River area replicates the Great Bend pattern our model must be replaced or severely modified.

c. Because of the relatively large time periods marked by varying projectile point styles, "diagnostic" specimens (i.e. formerly recognized types) are considered to be contemporaneous throughout North Carolina. This is not true of ceramic varieties, however, and one research objective is to define the ceramic traditions present, their relative dates, and secure radiometric absolute dates where feasible. Such information, once collated with data now available from the northwestern Piedmont of North Carolina, will allow an estimation of the relative age of similar ceramic attributes in different areas and suggest directionality in the spread of those attributes. At present the "Doppler Effect" probably is skewing our view regarding contemporaneity between interregional sites: before behavioral models for interpreting the archeological record can be constructed we must know, for example, whether Uwharrie wares are earlier in the north, or in the south? Are the technological and stylistic attributes found in, say, Dan River wares of the Great Bend area also present in the Rocky River Basin and, if so, how do they relate temporally to the northern specimens?

In other words, and in general, sets of ceramic attributes with associated dates will allow a fine-tuning and possible revision of the North Carolina ceramic distribution models.

Historic Resources

A cursory study of topographic maps of the survey areas indicates very few standing structures below the floodpool contours of the proposed reservoirs. It may be the case that few historic structures are to be encountered, yet certain research problems may be addressed despite this limitation.

1. The settlement patterns of the mid-18th century--the earliest occupation of the Rocky River area by Euroamericans--"primarily were based on the availability of land and the quality of the soil." (Lewis 1985: 9). In fact this is a 20th century assumption which should be tested inasmuch as other determinants have been suggested (location of other settlers and established kin ties, Owsley 1969, Anderson-Green 1978; location of mills, or potential mill sites, Babits 1981). Soil maps are available for all three project counties. Ranking of soil types can allow measurement of the correlation between 18th century settlements and more productive lands in the project area. Likewise mill sites known or documented will be correlated, by means of a simple gravity model, with

early settlement locations the same procedure can be used to retrodict the effect of early settlements on later immigrants to the project area. Clarification of variables affecting early historic settlements can contribute to more defined predictive models of Euroamerican frontier expansion.

2. In the project area, as elsewhere in the Piedmont, decades following the War Between the States saw abandonment of farms and movement to towns and cities where industrial concerns were rapidly developing (Lewis 1985:5). The Rocky River Basin project provides an exceptional opportunity to measure the rate and degree of this abandonment as an inverse correlate of distance to industrial towns. If we can detect a patterned relationship between distance to the nearest 19th century industrial centers (Charlotte, Concord, Kannapolis, Monroe) and rate of abandonment of family farms in favor of tenant farming and/or sharecropping, we have applied the anthropological concept of the "ecological approach" to an historic phenomenon. Confirmation of the pattern will contribute to an array of historical questions: for example, how does Central Place Theory preduct the location of industrial centers which were successful in achieving and sustaining a satisfactory growth rate through the 1920's? or, how did the ultimate sale and dismemberment of family farms contribute to the differential growth of alternative land use systems in the

state (e.g. poultry houses, timber management, viticulture)? or, how did the loss of the family/land identity contribute to the varying scale and scope of rural poverty and/or social problems across North Carolina? The proposed study will not deal with these larger issues--they are offered here as problems that may benefit from a better identification of processes contributing to their formation.

3. A more particularistic research objective is the description of 18th century architecture in the project area. As lamented in Lewis (1985:10), the only extant structures from that century are a handful of houses and churches, none considered typical of the period. Archeological remains of house foundations and outbuildings will be assessed in terms of their likelihood of yielding information on architecture (as well as other data classes). As mentioned above, there appears to be a dearth of standing structures in the projected flood pool areas, which may indicate a low frequency of historic period archeological sites as well. (For that reason the preceeding research problems deal with land rather than structures per se.)

4. This itself is a research question worthy of attention, however, and we will assess the relative frequency of historic structures of varying age within elevation zones. Data acquired along the Great Bend of the Yadkin (Woodall 1984:6) and for the Piedmont generally (Trimble 1974)

indicate a dramatic increase in riverbed aggradation, overbank deposition and, consequently, ever-higher flood levels as large scale land clearing and cultivation increased soil erosion. If this process affected historic settlement patterns, it may well have led to a gradual shift of settlements away from the streams. All historic remains will be evaluated in terms of their elevation, and for localized evidence of alluviation, in hopes of defining a pattern useful for building a predictive model pertaining to 18th or 19th century Piedmont riverine settlements.

Ceramic Analysis

An initial research objective will be to identify those ceramic series represented within the project areas. It is expected that the following series will be present: the Pee Dee Series, the Caraway Series, and the Uwharrie Series. An additional objective will be to assess a possible relationship between these series if present and to assess the distribution of these traditions throughout the project areas. These ceramics will then be compared and contrasted in terms of technological and stylistic variables.

Other Research Questions

It is anticipated that, prior to initiating fieldwork, additional research questions will arise following closer study of the regional archeological and historical literature and

consultation with colleagues. If at all possible those research questions will be incorporated into the research design.

Artifact Analysis Methods

In order to address the research objectives regarding the Rocky River artifacts, the following program of analysis will be implemented.

Laboratory Preparation:

Artifacts recovered from survey and excavation will be processed by accepted techniques according to artifact class. The artifact collections will be cataloged using the standard Wake Forest University archeology laboratory form (Enclosure A). Ceramic and lithic artifacts will be processed by washing, labeling, sorting into artifact classes, and bagging ay analytic units. Each bagged unit will contain an acid-free paper tag containing the site number and provenience information. Bags will be labeled also on the exterior with this information in permanent ink. Where necessary (as determined by analytical needs) artifacts will be individually labeled with Gesso under India ink and covered with a protective coat of clear polyurethane. Artifacts will be boxed alphabetically by county and numerically by site number.

Ceramic Analysis (Prehistoric)

The analysis will be conducted in four phases: Phase One--Data Preview; Phase Two--Data Description; Phase Three--Data Patterning; and Phase Four-Data Synthesis and Interpretation.

Phase One: Data Preview

In preparation for the extensive analysis of pottery gathered from the project area, literature will be collected pertaining to piedmont ceramics and ceramic types of North and South Carolina. A comparative collection of these ceramic types will be assembled to give greater precision to the typological analysis. A large series of collections, including type collections, is curated in the Archeology Laboratories. Most of these materials were recovered by Catawba College research in the southeastern North Carolina Piedmont.

Phase One will encompass the typological analysis based on current typologies of the area. The objectives of this phase will be to identify ceramic series, establish relative dates for sites, and coordinate field data with current studies.

Phase Two: Data Description

Phase Two, Data Description, will contain the descriptive data of the pottery sample. This phase of analysis will begin at the site level. Each sherd will be assessed according to attributes presented in Enclosure C. It should be noted that the attributes presented on the ceramic code sheet are an exhaustive listing; only those attributes appearing in the Rocky River data will be incorporated into analysis.

It is anticipated that the descriptive profile of pottery attributes emerging from this analysis will reinforce existent typologies. At this stage, it is felt that repetitive data patterning will emerge. Interpretation of data patterning will be guided by the perspectives discussed below in Phase Three.

Phase Three: Data Patterning

Phase Three will deal with data patterning of the Rocky River descriptive data in terms of stylistic (typological) patterns and a technological pattern. Once a pattern of distribution emerges, this pattern can then be studied as it relates to distribution of series (types) within these traditions.

Another pattern dealing with technological considerations will also be considered. Longitudinal research on northwestern Piedmont ceramics (Newkirk 1978; Barnette 1978; Snavely 1978b; Snavely and Raber 1982) has indicated that variability in populations of ceramics can perhaps best be understood by reference to technological considerations. It has been observed in northwestern Piedmont North Carolina that there exist certain general ceramic trends based on an increased sophistication in selection and utilization of clays. These technological changes are manifest in changes such as the clay matrix (fabric), mineral inclusions and degree of vitrification (Clagget and Calbe 1982: 771). For example, the Haw River research has shown that there appears to be a pattern of greater selectivity in choosing clay sources to obtain a desired final product. We might anticipate then that the early ceramics in the project area may be made from readily available poor quality clays. During the next ceramic period we can anticipate evidence of a deliberate selection of clays and inclusions to obtain a thinner, tougher and more durable fabric. Mixture of clays implies an attempt to control pottery quality by the selective use of several local clays and tempering materials. Better clay mixing and processing results in greater success in reducing shrinkage and

ultimately a thinner, tougher ceramic with increased strength and durability. Analysis of the Rocky River ceramics will provide an opportunity to evaluate the utility of this typological construct.

Phase Four: Data Synthesis and Interpretation

Descriptive data generated in Phase Two and grouped in Phase Three will now be used in Phase Four to contrast and compare the ceramics identified by tradition and series. Of special interest will be similarities of style (interior and exterior surface treatments, vessel shape, rim treatments and decoration) and technological attributes (temper, firing and clay utilization) as well as comparisons of relative dates of pottery sequences and sites between areas.

Technological changes such as those mentioned in Phase Three have been observed in the Yadkin River drainage at the Donnaha Site (Woodall 1984) and at the McPherson Site (Woodall personal communication). By studying the Piedmont series, possible information can be gained concerning whether this technological pattern of change observed throughout Haw River and Yadkin River sites is a local phenomenon or can be extended to other regions (i.e. drainages) and ceramic traditions.

Lithic Analysis

The classification of lithic material collected from the Rocky River Basin impoundment areas will involve two schemes. One involves the types of raw materials used, the geological scheme. The second involves the lithic technologies employed, the cultural

scheme.

The Mt. Pleasant survey area is located on the border between two geological belts, the Charlotte Belt on the west and the Carolina Slate Belt on the east (Sundelius 1970). The formations of the Charlotte Belt are composed mainly of massive to weakly foliated, even-grained to porphyritic granite rocks and massive to weakly foliated, gray to dark greenish-gray rocks consisting mainly of plagioclase, hornblende and pyroxene (Stuckey 1985). These rocks are probably of Paleozoic origin. The formations of the Carolina Slate Belt are composed of acid (felsic) and basic (mafic) tuffs, breccias and flows that date to the Precambrian and/or the lower Paleozoic. These rocks are, in part, of sedimentary origin and also include lenses of gneiss, schist and phyllite (Stuckey 1958). Within the immediate area encompassing the impoundment zone at Mt. Pleasant are zones of mafic volcanics, diorites and gabbro.

The Lambert and Marshville survey areas are located within the Carolina Slate Belt. Lithics occurring within the immediate areas of these impoundment zones are bedded argillites which contain lenses of acid and basic fragmented and flow materials (Stuckey 1958).

The geological nature, the geological scheme, of the survey areas has potential of offering information concerning a wide range of prehistoric lithic procurement activities (i.e. raw material acquisition, selectivity, etc.). The project areas are situated within a zone of volcanic rocks that has a variety of fine quality knappable materials. To the west of this area are zones that reveal little or no knappable materials other than quartz. Given the

setting, it is highly probably that this area, the Rocky River Basin Project area, was sought after and visited regularly by prehistoric groups in order to procure suitable raw material for manufacture of stone tools (Binford 1976; Gould 1980; Gardner 1974).

In order to make statements concerning the use of the survey area by prehistoric groups for sources of raw materials, a working knowledge of the range of lithic materials available in the area is imperative. Part of the lithic analysis relating to this project will focus on the range of variation among the mafics and argillites within the survey area. This analysis will be done initially on raw materials, with no signs cultural modification, encountered and collected in their natural setting. The information gained from this will be applied to the analysis of culturally derived debris recovered on sites documented by this survey. These geological samples will be collected by use of a transect or randomly generated dogleashes in areas of natural outcrops of mafics and argillites. A transect will be used to collect specimens from outcrops of small areal extent (less than 10,000 meters in area). The transect will consist of a string laid out to approximate the center of the outcrop. Specimens that occur beneath the string will be collected or sampled (in the case of large boulders). In the event that outcrops of large areal extent, greater than 10,000 meters in area, are encountered, randomly generated 2 meter dogleashes will be collected at specific intervals along a transect through the outcrop area. The intervals along the transect will be determined in the field by the field supervisor, but should vary between 30-50 meters. All specimens occurring within a 2 meter circle will be

collected or sampled. The direction and distance of each dogleash will be computed using a table of random numbers.

The range of variation of lithic materials will be established using macroscopic analysis of individual specimens or groups of visually similar specimens. This analysis will be coded using the forms and definitions outlined in Enclosure F of this proposal. This information will be coded and sorted into lithic groups using data base programming available at Wake Forest University. This process has proved effective in documenting macroscopic ranges of variation in outcrops located elsewhere within the Carolina Slate Belt (Abbott, thesis research in progress, Wake Forest University).

The above information will provide an understanding of what materials were available to prehistoric groups, what materials were selected by these groups and what materials were probably exotic to the area. This information relates directly to statements listed within the lithic tool manufacture section of the research design of this proposal.

The classification of culturally derived lithic materials, the cultural scheme, shall proceed from a logical set of assumptions outlined recently by Collins (1973). These assumptions are:

1. Lithic technology is a linear process divided into a series of reductive steps. These steps include, A. Acquisition of raw materials; B. Core preparation and initial reduction (bulk breakage); C. Primary trimming which is optional; D. Secondary trimming which is optional; E. Shaping of a final form; F. Optional maintenance and/or modification; G. Discard.

2. Each of the above steps produce specific types of waste products, lithic debris.

3. Utilization of reduced pieces or debris may occur during any of the steps.

4. Lithic reduction activities are patterned according to the limitations of specific raw materials (Speth 1972).

The culturally derived lithic materials recovered within the Rocky River Project area will be classified and defined using the criteria outlined in Enclosure G. These definitions are based primarily on those outlined by Bradley (1973). This classification scheme will yield information concerning the basic lithic technologies in the survey area and changes in these industries (Collins 1973). In addition, such information is useful for inferring site function, site activities or special activity sites (Tainter 1979).

More specific information concerning tool function, site activities and site function can be obtained through direct measurement of lithic specimens (Tainter 1979; Burton 1980; Tringham et al 1974; Frison 1968 Wilmsen 1968). This information will be classified and defined using the criteria outlined in Enclosure H of this proposal. These measurements will provide specific information concerning numerous questions, some of which are as follows:

1. Type of percussion used.

2. Direction of impact.

3. The type of form the debris were created from (e.g. biface, core, etc.).

4. The use or function of utilized flakes or retouched tools.

5. Curation and/or tool maintainance activities.

6. Site function and/or activities.

7. Selectivity of materials (i.e. specific material=specific tool or reduction strategy).

The projectile points recovered will be used to assess the temporal nature of sites encountered as a part of this project. Projectile points will be classified using regionally accepted typologies (Coe 1964; Claggett and Cable 1982).

The Sampling Design

A dual stage sampling design is proposed for this project. It involves the definition of two superstrata, one of which will be further divided into units of comparable size with samples to be drawn from each of these units, a stratified cluster sampling design. The creation of two universes for sampling is necessitated by the 100% coverage required for the 600 acres adjacent to the three dam sites. The following is a description for each universe and the proposed sampling strategy for each.

Superstratum I

Except for the area defined as Superstratum II the three impoundment areas will be sampled by collecting data from clusters of topographic features. Each cluster has been defined in order to include as complete an occurrence of the various topographic features (strata) as possible. These strata include floodplains, alluvial terraces, the confluence of major streams and the uplands.

The clusters are defined for each impoundment area as follows:

1. Mt. Pleasant Impoundment Area.

   A. Cluster 1 - Unnamed Seasonal Drainage Adjacent to the Dam Site - This cluster unit begins along the line defined by the 200 acre dam site area on Dutch Buffalo Creek and proceeds

upstream on both sides of the creek to the 640 foot contour line. The cluster unit ends at the confluence of an unnamed seasonal drainage, UTM Northing 3921550m, Easting 551030m. A total of 413 acres (167 hectares) are contained within this cluster.

B. Cluster 2 - Black Run Creek Cluster - This cluster unit begins at, and includes, the unnamed seasonal drainage that defines the upstream boundary of Cluster Unit 1, UTM Northing 3921550m, Easting 551030m. The unit proceeds upstream on both sides of Dutch Buffalo Creek, 4300 feet (1310 meters), UTM Northing 3921820m, Easting 549950m. The unit extends to the 640 foot contour line. This cluster includes both sides of Black Run Creek to the 640 foot contour line to a point 1.9 miles (3.2 kilometers) upstream from its confluence with Dutch Buffalo Creek, UTM Northing 3922640m, Easting 550500m. A total of 342 acres (138 hectares) are contained within this cluster.

C. Cluster 3 - Jennie Wolf Creek Cluster - This cluster unit begins at the point defined as the upstream boundary of Cluster 2, UTM Northing

3921820m, Easting 549950m. The unit extends to the 640 foot contour and proceeds upstream on both sides of Dutch Buffalo Creek 2 miles (3.3 kilometers) to a point defined as the extent of the impoundment zone by the COE, UTM Northing 3922640, Easting 547630m. This cluster includes both sides of Jennie Wolf Creek to the 640 foot contour line to a point 1.1 miles (1.8 kilometers) upstream on the creek. A total of 282 acres (114 hectares) are contained within this cluster.

2. Lambert Impoundment area.

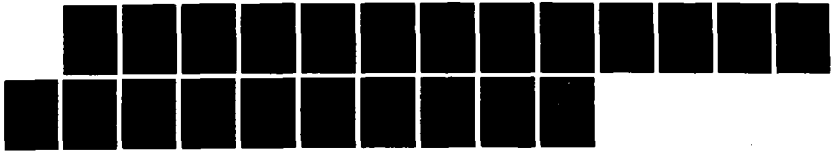
A. Cluster 1 - Little Creek Cluster - This cluster unit begins along the line defined by the 200 acre dam site area on Big Bear Creek and proceeds upstream on both sides of the creek to the 500 foot contour line. The cluster unit ends at a point where Road #1238 crosses Big Bear Creek, UTM Northing 391078m, Easting 559920m. This cluster includes both sides of Little Creek to the 500 foot contour to a point 2.1 miles (3.5 kilometers) upstream from its confluence with Big Bear Creek, UTM Northing 3913420m,

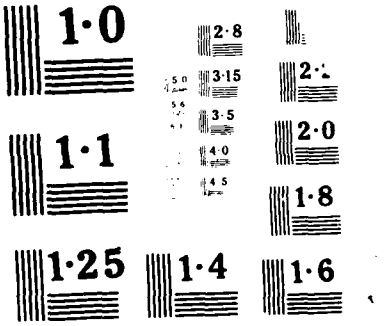
Easting 561380m. A total of 454 acres (184 hectares) are contained within this cluster.

B.Cluster 2 - Running Creek Cluster - This cluster unit begins along the line defined as the upstream boundary of Cluster 1, Little Creek Cluster. The unit proceeds on both sides of Big Bear Creek to the 500 foot contour line to a point 1.3 miles (2.2 kilometers), upstream UTM Northing 3912620m, Easting 558620m. This cluster includes both sides of Running Creek to the 500 foot contour to a point 1.2 miles (2 kilometers) upstream from its confluence with Big Bear Creek, UTM Northing 3910700m, Easting 557920m. A total of 303 acres (123 hectares) are contained within this cluster.

C. Cluster 3 - Pole Bridge and Little Bear Creek Cluster - This cluster unit begins along the line defined as the upstream boundary of Cluster 2, Running Creek Cluster. The unit proceeds on both sides of Big Bear Creek to the 500 foot contour line to a point 2.8 miles (4.7 kilometers) upstream UTM Northing 3916620m, Easting 559960m. This cluster includes both sides of Pole and Bridge and Little Bear

AD-A191 340 AN ARCHEOLOGICAL SURVEY OF TWO PROPOSED RESERVOIR AREAS 5/5
ROCKY RIVER BASIN..(U) WAKE FOREST UNIV WINSTON-SALEM
NC ARCHEOLOGICAL LAB L E ABBOTT ET AL. AUG 87
UNCLASSIFIED DACW54-85-R-0034 F/G 5/6 NL




1·0
1·1
1·25
1·4
1·6
1·8
2·0
2·8
3·15
3·5
4·0
4·5

Creeks to the 500 foot contour line to points .9 miles (1.5 kilometers) and 1.4 miles (2.3 kilometers) upstream respectively, UTM Northings 3912510m, 3914660, Eastings 557600m, 557760m respectively. A total of 390 acres (158 hectares) are contained within this cluster.

3. Marshville Impoundment Area

A. Cluster 1 - Beaverdam Creek Cluster - This cluster unit begins along the line defined by the 200 acre dam site area on Beaverdam Creek and proceeds upstream on both sides of the creek to the 440 foot contour line. The unit ends at a point 1600 feet (488 meters) upstream from the intersection of Beaverdam Creek and Hwy #1005, UTM Northing 3867850m, Easting 558890m. A total of 392 acres (159 hectares) are contained within this cluster.

B. Cluster 2 - Highway 1903 Cluster - This cluster unit begins along the line defined by the 200 acre dam site area on Lanes Creek and proceeds upstream on both sides of the creek to the 440 foot contour line. The unit ends at a point defined by the intersection of Highway 1903 and Lanes Creek, UTM Northing 3867010m, Easting 561950m. A total of 724 acres (293 hectares) are contained within this cluster.

C. Cluster 3 - Barkers Branch Cluster - This cluster unit begins along the line defined as the upstream boundary of Cluster 2 and proceeds upstream on both sides of Lanes Creek to the 440 foot contour line. The unit ends at a point defined by the intersection of Highway #1005 and Lanes Creek, UTM Northing 3864520m, Easting 560090m. This cluster includes both sides of Barker's Branch to a point .9 miles (1.5 kilometers) upstream from the confluence with Lanes Creek, UTM Northing 3865530m, Easting 559530m. A total of 580 acres (235 hectares) are contained within this cluster.

D. Cool Springs and Norkett Branch Cluster - This cluster unit begins along the line defined by the upstream boundary of Cluster 3 and proceeds upstream on both sides of Lanes Creek to the 440 foot contour line. The unit ends at a point defined by the intersection of Highway # 1929 and Lanes Creek, UTM Northing 3863260m, Easting 558170m. This cluster includes both sides of Cool Springs and Norkett Branch to points 1.3 miles (2.2 kilometers) and 1.7 miles

(2.8 kilometers) respectively upstream from the confluence with Lanes Creek UTM Northings 3861840m, 3861400m, Eastings 560040m and 558060m respectively. A total of 338 acres (137 hectares) are contained within this cluster.

E. Cluster 5 - Waxhaw Branch Cluster - This cluster unit begins along the line defined by the upstream boundary of Cluster 4 and proceeds upstream on both sides of Lanes Creek to the 440 foot contour line. The unit ends at a point 3.5 miles (5.8 kilometers) upstream on Lanes Creek, UTM Northing 3859980m, Easting 555580m. This cluster includes both sides of Waxhaw Branch to the 440 foot contour line to a point 2112 feet (644 meters) upstream from the confluence with Lanes Creek, UTM Northing 3860480m, Easting 555110m. A total of 250 acres (101 hectares) are contained within this cluster.

The strata are defined as follows:

1. Floodplains - This includes that portion of the ground adjacent to any stream that is actually flooded during high water levels. It is composed of levees, swamps, backswamps and the stream itself.

2. Alluvial Terraces - This includes any level or nearly level strip of land with a more or less abrupt descent along the margin of a river or stream floodplain and is composed of older alluvial deposits of sand, silt or mud. These areas are formed by flowing water and have been deposited within Pleistocene or post-Pleistocene times.

3. Confluence of Streams - This stratum pertains to an area within a radius of 1000 feet (305 meters) immediately surrounding any major stream confluence.

4. Uplands - This stratum includes the higher elevations within the survey area, the slopes, ridgetoes, ridgetops, hilltops and saddles.

The total surveyable acreage within the impoundment zones equals approximately 4468 acres (1809 hectares). The total acreage is broken down into the following components:

1. Mt. Pleasant Impoundment area - (1037 acres - 419 hectares total).
   - A. Cluster # 1 - 413 acres (167 hectares) = 39.9%
   - B. Cluster # 2 - 342 acres (138 hectares) = 32.9%
   - C. Cluster # 3 - 282 acres (114 hectares) = 27.2%
   - Total 1037 acres (419 hectares) = 100.0%

2. Lambert Impoundment area - (1147 acres - 465 hectares total).
   - A. Cluster # 1 - 454 acres (184 hectares) = 39.6%
   - B. Cluster # 2 - 303 acres (123 hectares) = 26.4%
   - C. Cluster # 3 - 390 acres (158 hectares) = 34.0%
   - Total 1147 acres (465 hectares) = 100.0%

3. Marshville Impoundment area - (2284 acres - 925 hectares total).
   - A. Cluster # 1 - 392 acres (159 hectares) = 17.2%
   - B. Cluster # 2 - 724 acres (293 hectares) = 31.7%
   - C. Cluster # 3 - 580 acres (235 hectares) = 25.4%
   - D. Cluster # 4 - 338 acres (137 hectares) = 14.8%
   - E. Cluster # 5 - 250 acres (101 hectares) = 10.9%
   - Total 2284 acres (925 hectares) = 100.0%

A 20% sample will be taken from the impoundment zones. This fraction equals approximately 894 acres, (362 hectares). The percentage of acreage/hectares sampled from each cluster will be weighted according to the percent of area encompassed within each cluster. From the information given above, the following acreage/hectares will be sampled within each cluster:

1. Mt. Pleasant Impoundment area (20% sample of 1037 acres - 419 hectares).
   - A. Cluster # 1 - 39.9% = 82.6 acres (33.4 hectares).
   - B. Cluster # 2 - 32.9% = 68.3 acres (27.7 hectares).
   - C. Cluster # 3 - 27.2% = 56.5 acres (22.9 hectares).

   Total 100.0% = 207.4 acres (84.0 hectares).

2. Lambert Impoundment area - (20% sample of 1147 acres - 465 hectares).
   - A. Cluster # 1 - 39.6% = 90.8 acres (36.8 hectares).
   - B. Cluster # 2 - 26.4% = 60.6 acres (24.5 hectares).
   - C. Cluster # 3 - 34.0% = 78.0 acres (31.6 hectares).

   Total 100.0% = 229.4 acres (92.9 hectares).

3. Marshville Impoundment area (20% sample of 2284 acres, 925 hectares).

A.	Cluster # 1 -	17.2% =	78.6 acres	(31.8 hectares).
B.	Cluster # 2 -	31.7% =	144.8 acres	(58.6 hectares).
C.	Cluster # 3 -	25.4% =	116.0 acres	(47.0 hectares).
D.	Cluster # 4 -	14.8% =	67.6 acres	(27.4 hectares).
E.	Cluster # 5 -	10.9% =	49.8 acres	(20.2 hectares).
	Total	100.0% =	456.8 acres	(185.0 hectares).

Each cluster will be divided into the strata listed above. This information will be determined through the use of topographic maps (USGS), aerial photographs, project maps and soil survey maps (USDA). The acreage/hectares within each stratum will be determined and a grid of 2.47 acres (1 hectare) sampling units will be superimposed over the area. A sample of these hectare units will be drawn at random for survey from each stratum in proportion to the total area of the stratum within the cluster using a table of random numbers. The sampling units within each stratum will be surveyed for prehistoric and historic sites using the methods outlined in this proposal.

Because of the generally low and flat nature of the impoundment areas the strata within the clusters (floodplains, terraces, confluences and uplands) will be "patchy" in their occurrence. In order to properly deal with this problem, these areas will be sampled in units of varying shape, however, the area of the unit will remain constant, 2.47 acres (1 hectare).

The data collected as a result of this sampling design will be subjected to statistical analysis similar to that discussed by Cochran (1977) and Mendenhall et al. (1971) and applied by Woodall et al. (1977).

A stratified cluster sampling strategy is proposed for several reasons. First of all, it has been shown to be an effective method for sampling archeological resources (Matson and Lipe 1975; Woodall et al. 1977; Mueller 1974). One of the most practical reasons is cost-effectiveness. Stratified cluster sampling decreases the amount of movement between random units and allows the collection of data from different environments within a cluster area.

The sampling design herein proposed will not sample archeological sites or historic structures. It, the sampling design, will sample areas, i.e. geographic units, that are believed to be representative of the total area. The impoundment zones are the population, in terms of statistical analysis, and the proposed methods are designed to produce a representative sample of that population in order to allow the use of inductive statistical techniques. These techniques will supply information concerning the general nature of the population, i.e. the quantity and variability of prehistoric and historic sites occurring within the proposed impoundment zones of the Rocky River.

Superstratum II

Superstratum II is a 600 acre area that is composed of three different dam site areas of 200 acres each proposed for the Rocky River Project. The 200 acre dam site area proposed for the Mt. Pleasant impoundment zone comprises 100 acres on each side of the proposed dam site. The northern boundaries of this area extend from UTM Northing 3921260m, Easting 551700m to Northing 3921480m, Easting 552680m, Mt. Pleasant quad, (USGS) the southern boundaries lie between UTM Northing 3920500m, Easting 551870m and Northing 3920720m, Easting 552850m.

The 200 acre dam site area proposed for the Lambert impoundment zone includes 100 acres on each side of the proposed dam site. The northern boundaries of this area extend from UTM Northing 3909750m, Easting 560270m to Northing 3910020m, Easting 560990m, Frog Pond, N. C. quad, (USGS). The southern boundaries lie between UTM Northing 3908800m, Easting 560630m and Northing 3909080m, Easting 561360m.

The 200 acre dam site area proposed for the Marshville impoundment zone is those 100 acres on each side of the proposed dam site. The northern boundaries of this area extend from UTM Northing 3870040m, Easting 562660m to Northing 3870000m, Easting 563440m, Marshville, N. C. quad, (USGS). The southern boundaries lie between UTM Northing 3869040m, Easting 562620m and Northing 3869000m, Easting 563400m.

Superstratum II will be assessed for prehistoric and historic resources by a 100% pedestrian survey. The 100% coverage will encompass all areas located within the boundaries described above.

Survey Methods

Before any fieldwork is begun, a literature search will be initiated by the Principal Investigator and members of his staff. All the literature listed in the Scope of Work, in addition to any other literature or research in progress, will be sought and reviewed. The field supervisor will contact and consult members of the North Carolina Division of Archives and History (NCDAH) and the appropriate personnel in the Environmental Planning Branch of the Corps of Engineers, Wilmington Office, and other agencies and/or individuals with knowledge of historic or prehistoric remains in the project area. The field supervisor will also consult Stephen R. Claggett, Joffre L. Coe, Ruth Little-Stokes, Davyd Foard Hood, Peter Kaplin, H. Trawick Ward and others in regards to their research interests in the general area. Their comments and recommendations will be incorporated into the data collection procedures initiated in the field in order to gather the maximum amount of data that could be applied to numerous research questions. Local collectors, relic hunters and/or amateur societies in the general project area will be contacted concerning site locations and private collections.

The research design for historic resources requires detailed study of local primary source material such as wills, deeds and various archival data on file in local or state repositories. Because of the expertise required for this sort of research the Archeology Laboratories has retained the services of R. Jackson Marshall (vitae attached).

Rights of entry and permission to perform subsurface testing will be acquired from private landowners before any crews begin work in those areas. It will be the responsibility of the field supervisor to be accountable to private landowners for the presence of the field crews on non-government lands during this project. The randomly selected units to be sampled within the impoundment areas and the 600 acres comprising the damsites will be examined by pedestrian survey by persons with previous experience in archeological survey and formal training in archeological methods. Standing swamps within the Rocky River project area will be inspected for small elevations of land, hammocks, terraces, etc. that might have been utilized culturally in the past. Situations of this type have been reported by Hay et.al. (1982), (Alan Snavely, personal communication). Access to the study areas will be by existing roads, trails, or by overland hiking. The areas selected will be surveyed along one or more transects with a crew of 3 to 4 individuals advancing abreast at 40-70 meter intervals dependant on the level of intensity. The areas selected for survey will be located in the field using compass bearings from known points on a USGS topographic map. The distances to the survey area will be computed along these headings and paced off in the field. The ground surface will be visually inspected for signs of cultural activity in places where visibility is greater than 60% and ground slope is less than approximately 15%. Where visibility is estimated to be less than 60% or deemed necessary by the field supervisor, .5 meter shovel tests will be made at 40 meter intervals along the transect in areas of high site probability. In areas of low site probability, i.e. standing swamps, gulley areas

disturbed by severe erosion and/or previous recent construction, etc., the .5 meter shovel tests deemed necessary by the field supervisor will be more widely spaced, i.e. one test per 70 meters. The .5 meter shovel tests will be dug to a depth sufficient to expose the sub-humus soil. The soil from these holes will be screened through 1/4" mesh. The profiles and the floors of the test holes will be troweled and inspected for stratigraphy and/or features.

Those sites recovered by shovel tests in areas that reveal surface visibility of less than 60% will be assessed using additional .5 meter test squares. The site boundaries will be determined by shovel tests extending along transects approximating the cardinal axes of the land. Subsurface tests will be made to a point 40 meters beyond the placement of the last subsurface test to reveal artifacts. These boundaries will be marked with red pin flags and the data listed elsewhere within this section of the proposal will be collected.

A 3" bucket auger will be used in areas deemed necessary by the field supervisor to augment shovel tests within floodplains and other areas suggestive of complex stratigraphic conditions. At least one auger test will be made at each 40 meter interval along the transects in these areas. The auger tests will be taken to the maximum depths allowed by the water table, bedrock or the auger itself (2.15 meters). Each stratigraphic change will be recorded in terms of color (using the Munsell color code), texture, compactness, presence/absence of cultural material and depths of horizons. Auger tests will not be made on the sides of slopes or in wet, swampy areas.

Knowledge of the location of all previously recorded sites in the project areas will be acquired before the start of fieldwork. These sites will be plotted on a USGS map in order to avoid duplication in the field. All additional information gained from previously recorded sites will be forwarded to the NCDAH in order to update the existing files on these sites. All previously unrecorded sites found by this survey will be systematically collected using one or more areal units dependant on the size of the site boundaries. A "site" is defined as any manifestation of human cultural remains that has an age greater than 50 years or significant status in the development of the local or regional community. These manifestations may take the form of art, artifacts, standing structures or other culturally manipulated places or things. A site may be defined by only one artifact. The site boundaries will be determined by the use of red pin flags to mark the location of each individual artifact. Small sites, less than 225 meters in area, will be collected using one collection unit with a 100% collection. Larger sites, greater than 225 meters in area, will be collected by either one of two methods to be determined in the field by the field supervisor. One method involves the use of a grid of 15 meter squares across the boundaries of the site with a 100% collection of each grid square. The second method utilizes transects of dogleashes measuring 2 meters in diameter, across the major axis of the site. The second method will be used to collect sites of larger areal extent, greater than 5000 square meters, or where deemed necessary by the field supervisor. A datum will be established and a sketch map made for each site

located. The following information will be collected for each site: soil type(s), distances to local resources (water, etc.), cultural affiliation, stratigraphic condition, state of preservation, areal extent, elevation, slope, exposure, UTM coordinates and presence of, or condition of features. At least one .50 X .75 meter pit will be dug in those sites revealing more than 10 artifacts on the surface. These pits will be dug and evaluated in the same manner as the .5 meter shovel tests. Photographs will be taken of those pits that reveal any stratigraphic information of cultural or geomorphic nature pertinent to the survey.

Historic still sites will be photographed and mapped showing the distribution of associated debris. No surface collections may be deemed necessary at still sites.

All sites located will be evaluated according to presently recognized regional research goals and the guidelines established by the National Register of Historic Places (36CFR60.6). The significance of any archeological sites located will be assessed within the context of the several "problem domains" listed below. The more specific research objectives have been established in consideration of the cultural and environmental settings of the Rocky River project. Those research objectives are described and discussed in that section of this proposal, but each of those objectives relates to one or more of the general problems domains cited below.

A. The chronological sequence of artifact style in the Piedmont of North Carolina. Stratified, multicomponent sites will be considered significant.

B. The presence and/or age of Paleo-Indian remains. All Paleo-Indian sites except isolated rolled artifacts will be considered significant.

C. The age of Archaic projectile point styles in North Carolina. Single component or unmixed multi-component archaic sites with intact sub-surface features suitable for radiometric age determination will be considered significant.

D. The formal characteristics of, and osteological nature of, Paleo-Indian, Archaic and Woodland burials. All sites with undisturbed sub-surface remains which may include human burials will be considered significant. [Note: Although badly decayed remains may disallow most or all types of osteological analysis dealing with diet, pathology, mortality rate, genetic affiliation, etc. such remains still may inform on interment practices and funary ritual.]

E. The function(s) of sites in uplands, in swamps or backswamps, in terrace locations, or on small (Rank 1, 2, or 3) tributaries. All sites with undisturbed surface and/or subsurface remains yielding an artifact class or classes or ecofacts likely to inform on site function will be considered significant.

F. The relationship between, and interaction of, distinct cultural or ethic groups. Sites identifiable to known and extinct ethnic groups will be considered significant; sites likely to yield information on interaction between culture areas or ethnic groups will be considered significant.

G. The role of historic commercial, administrative, residential, military, or manufacturing sites in the evolution and development of the local or regional community. All such sites greater than 50 years old and likely to have served a role in the development of the area or region will be considered significant.

All sites considered significant and thought to be eligible for the National Register of Historic Places will be tested and evaluated in accordance with the criteria presented in 36 CFR 60, National Register of Historic Places, Nominations by State and Federal Agencies, and 36 CFR 800 (Advisory Council on Historic Preservation, Protection of Historic and Cultural Properties).

The testing methods may vary from site to site, but in most cases will consist of at least two 1x2 meter test pits excavated at least 30 cm. into sterile soil, with bucket auger tests below the lowest level to check for deeply buried cultural strata. Each test pit will be documented by at least one scale profile and photograph, and photographs of each site setting will be made. Excavated pits will be mapped in reference to established datum points. The testing will be adequate for satisfying the National Register's published "Guidelines for Level of Documentation Necessary to Make Determinations of Eligibility for Inclusion in the National Register of Historic Places" (copy on file, Archeology Laboratories, Wake Forest University).

All standing structures considered older than 50 years will be recorded, photographed and mapped. A consultant will be employed to evaluate the sites and issue a report (to be included as a separate section in the final report) regarding the nature and significance of such sites. Dr. Margaret Supplee Smith will serve as a consultant in this phase of the project. Her vita is attached with the proposal.

All data generated by the survey will be returned to the Archeology Laboratories for analysis and temporary curation (please see the enclosed lab manual for curation and storage procedures). Current North Carolina state site forms will be completed following the guidelines set forth by the North Carolina Division of Archives and History (NCDAH). Project impact evaluation and subsequent mitigation recommendations will be made for each resource encountered as a part of this project. A series of research concerns and questions will be formulated in accordance with the guidelines set forth in paragraph 5(C) of RFPDACW54-85-R-0034. Twenty-five copies of a final report along with 3 copies of DD Form 1473 will be submitted to the Corps of Engineers within 510 days after the contract award date.

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