

**ARCHAEOLOGICAL SURVEY  
WITH EMPHASIS ON PREHISTORIC SITES  
OF THE OAK RIDGE RESERVATION  
OAK RIDGE, TENNESSEE**

George F. Fielder, Jr.

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Contract No. W-7405-eng-26

ENERGY DIVISION

ARCHAEOLOGICAL SURVEY

WITH EMPHASIS ON PREHISTORIC SITES

OF THE OAK RIDGE RESERVATION

OAK RIDGE, TENNESSEE

George F. Fielder, Jr.  
Department of Anthropology  
The University of Tennessee  
Knoxville, Tennessee

Project conducted and reported in accordance with Union Carbide  
Corporation, Nuclear Division, Subcontract 3973

OCTOBER 1974



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## ACKNOWLEDGMENTS

This survey of the archaeological resources of the Oak Ridge area was conducted with funds provided by Union Carbide Corporation, Nuclear Division. The many personnel of Union Carbide whom we contacted were very cooperative in providing information about aboriginal sites and aided us in getting access to various areas on the Reservation. Without this cooperation our work would have been considerably more arduous and less productive.

In particular we would like to thank Mr. Thomas H. Row, ORNL Environmental Statements Project, and his staff, Carole Robbins, Walter Stockdale, and Chuck Boston, for their expertise in coordinating and expediting the field work. Mr. Jerry Wing, AEC-ORO, was very helpful in our coordination with AEC personnel. Our liaison contacts at the other plants were Merwyn Sanders (Y-12), Mike Mitchell (ORGDP), and Don Robie (UT-AEC [CARL]). The ORNL Engineering Division provided surveying and mapping assistance at the Scarborough Creek site.

There are many other persons who aided our work, but to list them individually would entail several pages. We appreciated their help all the same.

The author would like to thank Dr. Major C. R. McCollough, who served as Principal Investigator for the project, for his interest and support.

The field crew consisted of Stephen Cooper, Victor Hood, and the author. The laboratory analysis of the lithic artifacts was conducted by Mr. Cooper, a U.T. graduate student. Mr. Hood, also a U.T. graduate student, drafted the figures.

The final draft was typed by Dorothy Fielder, who also served as editorial assistant.



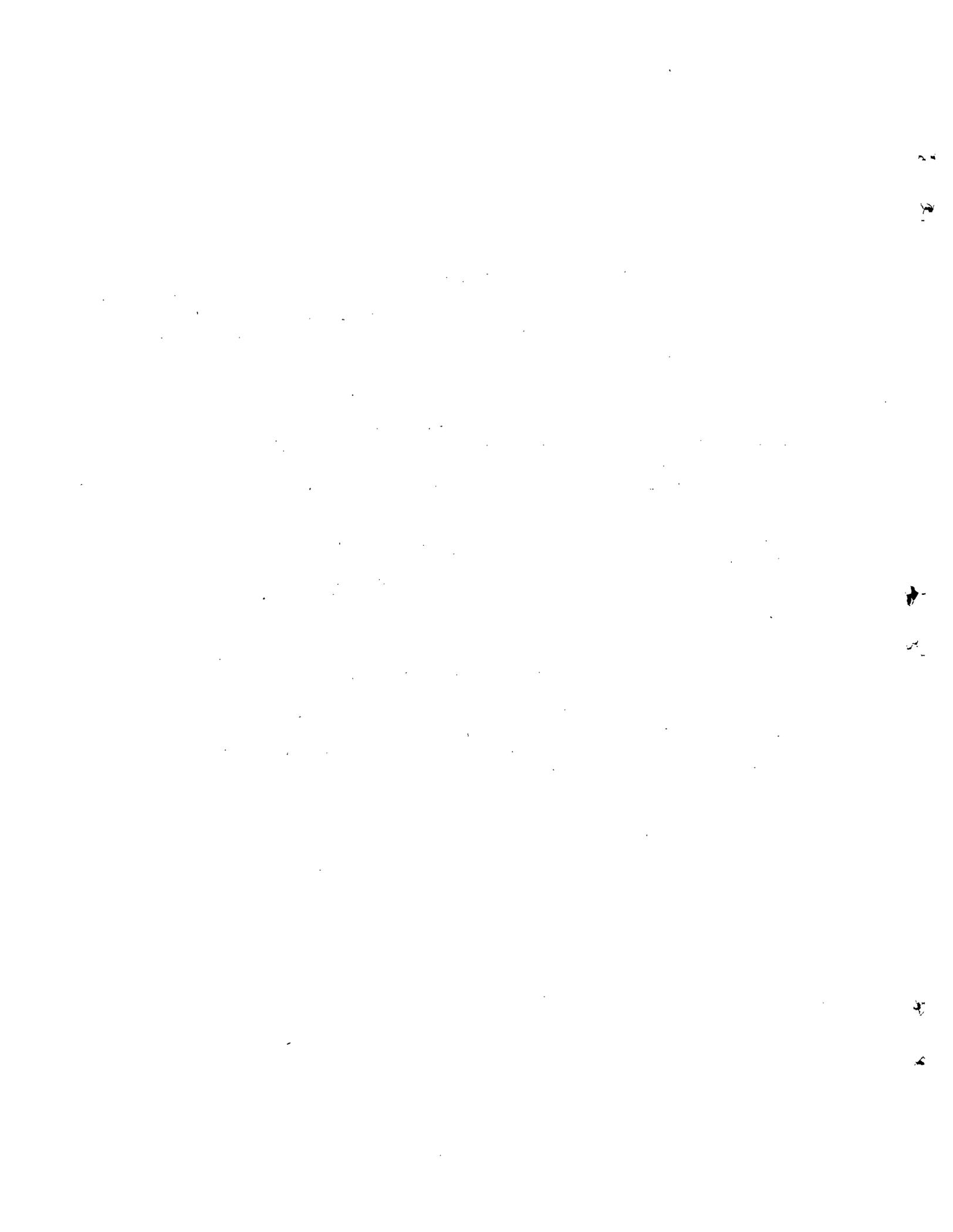
## ABSTRACT

An archaeological survey of the Oak Ridge Reservation, Oak Ridge, Tennessee, by The University of Tennessee, Knoxville, Department of Anthropology located and investigated 45 sites of aboriginal occupation and several early historic Euro-american homestead sites.

Most of the major archaeological periods in the eastern Tennessee chronological sequence were represented in the material collected during the survey. One aboriginal site was assigned to the Paleo-Indian period; eight were assigned to the Archaic period; twenty-four contained Woodland period materials; and five sites were occupied during the Mississippian period.

The sites were distributed along the drainage system of the Clinch River with a majority of them located on the main stream. Several sites were located, however, on the tributary streams of Poplar Creek, East Fork of Poplar Creek, and White Oak Creek.

The site location data generated by this survey can be incorporated into comprehensive regional models, thus aiding in the interpretation of prehistoric settlement and resource utilization patterns in eastern Tennessee. In addition, the data will aid in the planning of future projects on the Reservation so that adverse effects on archaeological resources can be minimized.



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## INTRODUCTION

Oak Ridge National Laboratory, Environmental Statements Project, requested a preliminary archaeological survey of the Oak Ridge Reservation to be conducted by The University of Tennessee Department of Anthropology. In response to this request, Subcontract No. 3973 between The University of Tennessee and Union Carbide Corporation, Nuclear Division, was effected to this end.

An archaeological research team from the Department of Anthropology conducted the survey from 15 March 1974 to 3 June 1974, which was directed toward the investigation of the following areas on the Reservation: those areas that would be affected by plant expansion or other immediate construction plans, the right bank of the Clinch River, selected portions of Poplar Creek, UT-AEC Comparative Animal Research Laboratory (CARL) property holdings, and selected areas in the interior valleys and transmission-line corridors.

The purpose of this survey was to locate and identify as many sites of aboriginal occupation as feasible in the above request. Although a number of Euroamerican farmsteads and cemeteries were examined, the primary survey emphasis was on the aboriginal sites.

As in most archaeological projects the scope of the endeavor is determined by the time and funds available, an area as large as the Oak Ridge Reservation cannot be completely and thoroughly surveyed in only four months. One must place priorities on the areas that should be examined; the priorities in this survey were the following. The most important loci were those that may be affected by current or planned proposed construction activities. These activities, such as grading, filling, excavating, and other substantial earth-moving operations, can completely destroy the informational content of an archaeological site. In many ways the artifacts themselves are less important than their archaeological context--the various ways they are associated with each other in spatial and temporal relationships. Once a set of artifacts has been disturbed from the way they were left by their makers and users, the cultural information which can be inferred from them has been greatly diminished.

Representatives from the Atomic Energy Commission, Oak Ridge National Laboratory, Y-12 Plant, Oak Ridge Gaseous

Diffusion Plant, and The University of Tennessee Comparative Animal Research Laboratory made available information concerning current and proposed plant expansion projects. The areas that may be affected by expansion were given first priority.

Second priority was given to the banks of the Clinch River that are included in the Oak Ridge Reservation. Pre-historic settlements in East Tennessee were very much oriented to the main rivers and their tributary streams. Heavy concentrations of aboriginal occupation have been investigated along the Tennessee River; the Little Tennessee River (Salo 1969; Gleeson 1970, 1971); and the Clinch River (Webb 1938; McNutt and Fischer 1960; McNutt and Graham 1961).

The interior valley section of the Oak Ridge area was of special interest in this survey. There is relatively little archaeological information recorded about the interior valleys of the East Tennessee ridge-and-valley region. The main reason for this lack is that most of the archaeological surveys and excavations have been in association with river-basin developments; hence the work was done in the areas affected by the impoundments. Very seldom did the flooding affect the interior valleys, and consequently these are not fully represented in the current models of aboriginal settlement distribution due to the paucity of information.

It is hoped that this survey will enable the planned expansion of the Oak Ridge area to take into account the archaeological and historical resources that may be adversely affected. In the past a number of sites in the area have been inadvertently destroyed mainly due to a lack of information on their location and importance.

## THE SETTING

Prehistoric occupations in the Oak Ridge area did not exist independently of the physical and biotic factors of the local environment; the aboriginal inhabitants were probably more closely attuned to the natural surroundings than are the present inhabitants. The physical features on the landscape, the rivers, mountains, and valleys, limited in many ways opportunities for development. The geographical features did not necessarily determine the location of the settlements, but they did place a limitation on the number of available alternatives. In a similar vein, the flora and fauna in the area had an effect on the aboriginal lifeways. The biotic resources available to the Indians must have had a considerable effect on the cultural habits and manifestations that are seen in the archaeological record. Indeed, the subsistence patterns of the various aboriginal groups that inhabited the Oak Ridge area changed significantly through time from when they first entered this area until the European domination.

The aboriginal inhabitants were not in cultural isolation either; there was a long sequence of cultural evolution from a basic hunting-and-gathering economy, centered around small bands of hunters, to a larger population base involved with the intensive collection of plants and game, and finally to a sedentary agricultural product-based village economy.

The occurrence of exotic foreign materials in archaeological sites indicates extensive trade networks between East Tennessee and areas as diverse and distant as the Gulf Coast and the Great Lakes region. Other sites in the area show influences that apparently originated in Mesoamerica.

Therefore, in order to understand the aboriginal lifeways in this area, one must consider the physical, biotic, and cultural factors which affected the aboriginal inhabitants.

### Physiography

#### Topography

The Oak Ridge Reservation is located in the western part of the Tennessee section of the ridge-and-valley province (Fenneman 1938). This portion is characterized by a

series of parallel ridges and valleys trending northeast. Figure 2 shows the general topography of the Reservation with the dominant ridges. The range in altitude on the Reservation is from 220 to 407 meters (720 to 1335 feet) (U.S. Atomic Energy Commission 1974:25). The drainage pattern is dominated by the Clinch River, Poplar Creek, and many small feeder streams originating in the valleys and on the side slopes of the ridges.

### Climatology

The present climate of the Oak Ridge area has been documented over a period of 20 years by the National Oceanographic and Atmospheric Administration. The following climatological information is taken from the *Draft Environmental Statement for Radioactive Waste Facilities* (U.S. Atomic Energy Commission 1974).

The climate is typical of the humid Southern Appalachian region. The mean annual rainfall is 53.5 inches (135 centimeters), and the mean temperature is 57.9°F (14.4°C). Precipitation is normally in the form of rain; but snowfalls can be heavy, as in the winter of 1959-60 when 41.4 inches (105.2 centimeters) were recorded.

Storms generally follow a northwest-to-southeast track; and the seasonal precipitation pattern is characterized by wet winters, dry springs, wet summers, and dry autumns. Specific precipitation and temperature data are given in Table C.1.

From an archaeological standpoint, the early spring moisture deficits, although compensated for by the summer rainfall, may have affected the development of large villages based on an agricultural product subsistence. This statement is predicated, however, on the assumption that the present climate is essentially similar to the climate 1000 years ago. Faunal and floral remains recovered from archaeological sites dating from this time period are sufficiently similar to present inventories to indicate such a similar climate (McCollough and Faulkner 1973).

### Biotic

The biotic conditions under which the various aboriginal occupations lived can be partially reconstructed by a thorough identification and analysis of the food remains present in an archaeological site. This assumes that a representative sample of the species, etc., is present at the time of occupation. In spite of the limitations placed on

interpretations of biotic potential due to the incompleteness of the record, these kinds of analyses have yielded an approximation of the faunal and floral resources available in the East Tennessee area at selected time periods (McCollough and Faulkner 1973).

### Faunal Resources

The Clinch River, the southern boundary of the Oak Ridge area, provided a rich source of faunal food products to the Indians. Shellfish, fish, and the smaller aquatic invertebrates and vertebrates were used extensively for food by the aboriginal inhabitants of the area. In an analysis of the faunal food remains from an archaeological site on the Tennessee River in Loudon County, Tennessee, Parmalee (1973) identified a number of aquatic animals (Table A.3).

In addition to the identified remains, the following aquatic animals were also probably available as a potential food source (adapted from McCollough and Faulkner 1973:14).

1. Mollusks are quite abundant in shallow rivers such as the Clinch; 40 species of pelecypods and 32 species of gastropods have been identified from the ponds, streams, and rivers of East Tennessee (Hickman 1937). The mussels and gastropods would have been readily accessible to the Indians; and judging from the large quantities of mussel shell found in habitation site refuse, they were used extensively.
2. Although there are over 100 species of fish found in the streams of East Tennessee, probably only the larger varieties were important food sources. These would have included gar (*Lepisosteus* sp.), suckers (*Catostomidae*), catfish (*Ictalurus* sp.), bullhead (*Ameiurus* sp.), black bass (*Huro salmoides* and *Micopterus dolomieu*), sunfish (*Lepominae*), and freshwater drum (*Aplodinotus grunniens*) (McCollough and Faulkner 1973:14).
3. Turtle remains occur quite frequently in archaeological deposits and probably were fairly easily obtained by aboriginal man. The common snapping turtle (*Chelydra serpentina*), spiny soft-shelled turtle (*Tryonox ferox*), musk turtle (*Sterntherus odoratus*), mud turtle (*Kinosturnum subrubrum*), painted turtle (*Chrysemys picta*), map turtle (*Graptemys geographica*), and the elegant slider (*Pseudemys scripta*) occur in the rivers and sloughs in and around the Oak Ridge area (Johnson 1964).

4. Frogs, toads, and other small amphibians and reptiles were collected and eaten also.

The faunal resources available on the flood plains included muskrat, beaver, mink and otter, ducks, geese, and the wading birds. The ridges and valleys of the Oak Ridge area would have contained a variety of animals such as the opossum, squirrel, fox, raccoon, rabbit, small rodents, black bear, white-tailed deer, elk, and the eastern woodland bison (*Bison bison*). Wild turkey, grouse, and other game birds that inhabit the open woodlands were available.

Henry Timberlake, an English army officer who traveled in East Tennessee in 1761-62, gave the following account of the animals available to the Cherokee:

There are likewise an incredible number of buffaloes, bears, deer, panthers, wolves, foxes, raccoons, and opossums . . . . There are a vast number of lesser sort of game such as rabbits, squirrels of several sorts, and many other animals, besides turkeys, geese, ducks of several kinds, partridges, pheasants, and an infinity of other birds, pursued only by the children . . . (Timberlake 1765:71).

In conclusion, the faunal resources available to aboriginal man in the Oak Ridge area were very numerous and available for the most part throughout the year, although there are seasons in which some species are difficult to obtain. The white-tailed deer was the most important source of meat at all periods of time in this area based on the large quantities of these remains recovered from archaeological sites (Lewis and Kneberg 1946; McCollough and Faulkner 1973:18).

The present faunal resources of the Oak Ridge area have been inventoried as part of the environmental studies carried out by Oak Ridge National Laboratory and cooperating agencies (Howell 1958; Howell and Dunaway 1959; Johnson 1964). The results of these inventories are presented in Appendix A (Tables A.1 and A.2).

#### Floral Resources

Although the floral resources exploited by aboriginal man are more difficult to recover archaeologically than are the faunal, food remains are sometimes well enough preserved to allow the paleobotanist and archaeologist to reconstruct aboriginal dietetic habits. A recent archaeological report of investigations on the Tennessee River near Loudon, Tennessee, lists 62 species of plants that were probably used for food

(McCollough and Faulkner 1973:23). All of these plants are found on the Oak Ridge Reservation (Olsen, Cristofolini, and Cristofolini 1966). The oak-hickory forests on the Reservation were probably quite important to the aboriginal inhabitants due to the nut resources they produced. Plant materials were also used for purposes other than for food; the various vines, cane, and other fibrous plants were undoubtedly utilized for basketry, weaving, cordage, and other similar functions.

### Cultural Setting

#### Synopsis of Aboriginal Occupations in East Tennessee

The eastern section of Tennessee has seen a long sequence of human occupation; all of the major stages in the cultural evolution of the American Indian have been reported in the archaeological literature. When the first Europeans came into this section of East Tennessee, the Indians they encountered were the Cherokee, the last in a series of aboriginal inhabitants who had occupied the area for at least 10,000 years. Their predecessors do not have tribal names such as Cherokee, but are known by their archaeological culture names. The material remains of a past or present culture are the result of many different types of activities pursued by the members of the group. The tools indicate the kinds of economic pursuits used; e.g., stone or bone hoes are indicative of agricultural endeavors, arrowheads imply the use of the bow and arrow in hunting, etc. However, a group of people has a large number of traits other than material artifacts; their religion, language, lineage system, customs, and traditions are all part of the characteristics that make one group distinct from another. Since the nonmaterial aspects of culture leave only the sketchiest evidence of their existence, archaeologists are confronted with the problem of identifying groups of people solely by their material culture. The archaeologist, therefore, will identify a prehistoric society by the type of pottery they made, the styles of projectile points they used, and the types of dwellings they constructed. These archaeological cultures are given arbitrary names usually derived from a site where the particular culture is well represented.

In addition to naming archaeological cultures, the archaeologists have given names to the general time periods that are represented in the archaeological record. The archaeological periods for East Tennessee are the Paleo-Indian, Archaic, Woodland, Mississippian, and Historic Native American. Although these periods are defined by initial and terminal dates, each has general characteristic cultural manifestations

associated with it; the Paleo-Indian period has a subsistence base, settlement pattern, and population density different from those of the Archaic period, for example.

### Paleo-Indian Period

The first known period of human occupation in the East Tennessee region is the Paleo-Indian. This period is the least well defined due to a paucity of information especially on when the initial occupation came into the area. Current estimates place the initial known occupation about 10,000 years ago.

The presumed subsistence base was principally large-game hunting supplemented by gathering roots, berries, nuts, and probably anything else that was edible (Lewis and Kneberg 1958).

There is not a settlement pattern as such characteristic of this period since the population consisted of nomadic hunters. There are very few known habitation sites that date from the Paleo-Indian period; most of the material occurs as isolated artifacts or clusters of artifacts which indicate the Paleo-Indian sites were mainly brief campsites used for specific purposes rather than being occupied for longer periods with multiple economic activities being pursued.

### Archaic Period

The Archaic period lasted from the end of the Paleo-Indian period to the beginning of the Woodland period, roughly from about 6000 years ago to about the beginning of the Christian era.

The subsistence base, similar to the one in the Paleo-Indian period, put less emphasis on large-game animals and more on the collection of aquatic resources, especially the mollusks. Plant foods were still procured with these becoming more important in the latter part of the period.

The settlement pattern in the Archaic period appears to be a riverine distribution. Most of the known sites in East Tennessee are located on river or stream terraces.

At the end of the Archaic period, there is evidence of intensive plant food exploitation. Excavations at a site in Loudon County on the Tennessee River recovered the remains of acorn kernels, chenopod seeds, and sunflower seeds. The sunflower seeds were especially significant because their size indicated that they were of a domesticated variety (Brewer

1973:142). The feature containing these plant remains was radiocarbon dated at about 900 years B.C. (UGa-517, McCollough and Faulkner 1973:65).

#### Woodland Period

The closer we come to the present, the more information we know about the lifeways of the aboriginal inhabitants of the area. The Woodland period lasted from about the beginning of the Christian era to ca. 1000 years A.D. and saw a number of important cultural changes take place. Plant resource domestication, which began in the Archaic period, continued in conjunction with hunting and gathering activities. Ceramic technology was developed, an innovation that must have had wide repercussions in the areas of food preparation and storage. Extensive trade systems were apparently in operation as seen from the widespread dispersal of distinctive items such as sheet mica from North Carolina, shells from the Gulf Coast, and obsidian from the Rocky Mountains.

Distinctive customs developed in the Woodland period also; late in the period the disposal of the dead in mounds became a typical trait in East Tennessee and elsewhere. These burial mounds were used only for the interment of the dead; they contain no other cultural debris unless it was an accidental inclusion due to the selection of the soil borrow pit in a location of previous human occupation.

The Woodland settlement pattern is better known than that of the previous periods. There appears to have been a seasonal pattern of resource exploitation in which the population would move their camps to the area of resource availability. This results in occupation sites occurring in different ecozones and ecotones at different times of the year. In East Tennessee, the river and stream terraces and bottomlands were apparently occupied in the summer months when, due to the low water levels, shellfish and other aquatic fauna could be obtained expediently. In the fall when the rains caused frequent flooding in the rivers and the acorns, walnuts, and hickory nuts were ready for gathering, the Indians would move camp to the uplands and occupy rockshelter sites during this phase of the economic quest.

McCollough and Faulkner (1973:127) have proposed a model of the subsistence-settlement pattern for the eastern Tennessee Valley Woodland period, which encompasses three basic types of habitation--summer-fall settlements, winter-spring base camps, and winter-spring hunting camps. The summer-fall settlements were located along the rivers, in the flood-plain zone, where incipient horticulture was probably practiced and

intensive collecting of plant foods and shellfish took place. In the winter and spring, the group divided into smaller units, possibly the nuclear or extended family; lived in small base camps; and participated in hunting forays which used the rock-shelters as temporary campsites.

This model is not limited to just the eastern Tennessee Valley but has been proposed for a number of different localities. Winters (1969) has proposed similar models of Woodland subsistence-settlement patterns in the Wabash Valley, Illinois.

### Mississippian Period

The Mississippian period is the time of extensive agricultural product-based aboriginal societies in eastern Tennessee. This period began around 1000 years A.D. and lasted until the incursion of Europeans in the late 17th century. The Mississippian period is characterized by large settled villages stabilized by the production of corn or maize. The relatively stable food production (as compared to the prior hunting-and-gathering economy) allowed the development of elaborate social systems which eventually involved a priesthood, grandiose ceremonialism, and the building of monumental earthworks.

The size and permanence of the Mississippian villages indicate a year-round occupation, although there were probably small seasonal hunting-and-gathering camps used in addition to the main village. The villages were located on the lower terraces where the soil was more suitable for agricultural purposes.

### Historic Native American Period

The Mississippian period ended with the advent of European explorers into the East Tennessee area, thus bringing in the Historic period. When the first European explorers came into the eastern Tennessee area in the late 1600's, they encountered Indians living in large villages; growing corn; hunting the many varieties of game animals in the region; and in general leading a comparatively rich, self-sufficient existence.

Only in the Historic period can we speak in terms of tribal affiliations which are based on a multitude of cultural factors such as language, political affiliations, kinship, and other characteristics that leave only the barest traces in the prehistoric archaeological record. The ethnographic tribe living in the Oak Ridge area was the Overhill Cherokee. Their center of population was in the Little Tennessee River Valley

in present-day Monroe County, but their activities certainly extended into this the Oak Ridge area. There are probably some archaeological remains in the area that date from this ethnographic or historic period. Roberts (1969) cites one of the early settlers in the western portion of the Oak Ridge area as talking about the Indians living there in the late 1700's. ✓

The Cherokees were quite affected by the coming of the Euroamericans; they adopted many of the new trades, artifacts, and customs, but kept many of their own in the process. The result was a syncretic culture combining the best (as they saw it) elements of the Native American and Euroamerican cultures. In the end, however, their determination to coexist with the Euroamericans led to their demise. They happened to have possession of the river bottoms, prime agricultural lands; and these were the lands that appealed to the white settlers. The final outcome was that the Cherokee were evicted from their homeland under Federal orders and forcibly moved to Oklahoma in 1838 in the infamous "Trail of Tears." ✓

#### Synopsis of Euroamerican Settlement

The first Euroamericans in the Oak Ridge area came in when the Cherokees were still in possession; they came to trap, hunt, and explore this new land that lay west of the Appalachians. These early Whites included the French and English; the French were more concerned with symbiotic relationships with the Indians; they wanted the furs and goods that the Indians could provide French traders. The English were more threatening to the Indians because they were after land and allegiance from the Cherokee against the French. The establishment of Fort Loudoun on the Tellico River in 1756 was an overt attempt by the English to thwart the French incursions into East Tennessee and provide a foothold for English settlement there. ✓

The first settlers in what is now the Oak Ridge Reservation were William Tunnell, Anne Howard, Isaac Freels, and Collins Roberts (Seeber 1928). The descendants of these families were still in the area when the Corps of Engineers acquired the land for the Manhattan Project in 1942 (U.S. War Department 1944). Many current place names on the Reservation, such as Freels Bend and Robertsville, were derived from these early settler families. ✓

## PREVIOUS ARCHAEOLOGICAL RESEARCH

Almost any area in the country that has archaeological sites has had some sort of archaeological investigation over the past hundred years, and East Tennessee is no exception. The combination of a rich archaeological potential, access by major waterways, the Tennessee and Clinch rivers, and Tennessee Valley Authority reservoir projects has resulted in East Tennessee and the Oak Ridge area receiving the attentions of a number of persons interested in the archaeological remains.

The first persons interested in this area were after Indian "relics," the artifactual remains; this type of person, usually known as an antiquarian, is mainly concerned with the objects as works of primitive art and as a consequence is more interested in esoteric objects than the refuse of everyday life. There is undoubtedly much appeal in esoteric artifacts, but the amount of cultural information they represent is usually fairly limited.

As in most sciences, archaeology has seen a shift in emphasis in the methods and goals of its research over the course of its development. The early archaeologists were antiquarians, but through time they realized that there was more to prehistoric cultures than pots and arrowheads. Artifacts were the result of complex activities; and if one was going to understand prehistoric peoples and their lifeways, one had to do more than look at pots and rocks.

The Works Progress Administration archaeological salvage program in the 1930's generated an immense amount of data on the prehistory of East Tennessee. Under the direction of Major William S. Webb, large work crews excavated sites along the Tennessee and Clinch rivers that were destined to be flooded by a series of flood-control and power-generation dams being built by the Tennessee Valley Authority. Even though this work was generally well conducted, it was unavoidably done using 1930 techniques and operating under the then-current theories of archaeological sequences and culture change. Nonetheless, these massive projects collected vast amounts of data that are still in the process of being reviewed and analyzed.

Later reservoir projects in the 1940's led to the surveying of the archaeological potential of the lower Clinch that would be affected by the building of Watts Bar Dam on the Tennessee River but which would flood portions of the Clinch.

Melton Hill Dam, built on the Clinch in 1962, resulted in archaeological surveying and testing of those portions affected by the impoundment (McNutt and Fischer 1960; McNutt and Graham 1961).

The most recent archaeological research conducted in the Oak Ridge area is in the area that will be affected by the construction of the Liquid Metal Fast Breeder Reactor (LMFBR) on the lower Clinch (Schroedl 1972, 1973a, 1973b, 1974a).

The above brief overview of previous archaeological research in the Oak Ridge area is augmented by the following detailed information on each of the prior research efforts.

#### Cyrus Thomas

Cyrus Thomas, under the auspices of the Bureau of American Ethnology, conducted an archaeological survey along part of the Clinch River which was reported in the 12th Annual Report of the Bureau of American Ethnology in 1894. ✓

Thomas visited the Lee Farm site (40RE27) and commented on a flood in 1886 that had exposed a number of human burials (Thomas 1894:364-366). He also recorded a site on Jones Island (40RE28), describing mounds and midden deposits (Thomas 1894:364-366).

Obviously the Thomas surveys were not particularly thorough nor complete, as he recorded only two sites in a stretch of the river where there are a large number.

#### Norris Basin Survey

The next professional archaeological investigations in what is now the Oak Ridge Reservation were conducted by William S. Webb as part of the massive WPA archaeological program. As Norris Dam was under construction in 1933-34, Webb and a number of assistants excavated several sites that would be adversely affected by the backwaters of the dam. The lake would inundate a large portion of the upper Clinch and Powell rivers and in the process cover most of the sites of prehistoric Indian occupation in those areas which were located on the first and second terraces.

In addition to the sites upstream from the dam, Webb excavated several sites on the downstream side. Two of these sites, the Crawford Farm Mounds (40AN21) and the Freels Farm Mounds (40AN22) are located within the present Oak Ridge. ✓

Reservation. Both of these sites, Woodland period burial mounds, were completely excavated.

#### Watts Bar Reservoir Survey

The construction of Watts Bar Dam in 1941 led to an archaeological survey of the lower Clinch River from the mouth upstream to about river mile 28. This survey, conducted by Charles Nash of The University of Tennessee, recorded a large number of sites in this part of the river. However, since the lake was not going to flood wide expanses of bottomland in this section of the river, the archaeological survey was confined to a fairly narrow strip along the river. The Nash survey was quite thorough and was aided by favorable ground conditions at the time. Most of the sites were in cultivated fields, which meant that the action of the plow would bring the archaeological materials to the surface. These exposed surfaces greatly facilitate the discovery and delineation of archaeological sites.

The 1941 Nash survey covered both banks of the river but apparently did not include the tributary streams such as Poplar Creek; at least there were no sites recorded on Poplar Creek during the survey.

#### Melton Hill Reservoir Survey

Melton Hill Dam was constructed on the Clinch River at mile 23 in 1962. The University of Tennessee Department of Anthropology conducted salvage archaeological investigations in the proposed reservoir area under the direction of Charles McNutt. The 1960 field season was directed toward locating and assessing the archaeological potential of the various sites affected by the project (McNutt and Fischer 1960). Field work in the 1961 season surveyed, tested, and also excavated two sites, the Johnson Farm site (40AN15) and the Cox site (40AN19) (McNutt and Graham 1961). The particular sites on the Oak Ridge Reservation investigated during the Melton Hill Reservoir project are discussed in the site inventory section later in this report.

#### Liquid Metal Fast Breeder Reactor Project (LMFBR)

Another proposed major construction project along the Clinch River, the Liquid Metal Fast Breeder Reactor project, or LMFBR as it is generally called, is currently in the planning stage. The construction activities associated with this project will adversely affect several sites of aboriginal and

historic occupation (Schroedl 1972). A field survey in 1973 conducted by Gerald Schroedl, The University of Tennessee Department of Anthropology, located sites that would be affected by the work and recommended excavation of a Woodland period burial mound (40RE124) and extensive testing of site 40RE108. Schroedl excavated the sites in the fall of 1973, and a report of his findings is in preparation. The Woodland period burial mound excavation is quite interesting from an archaeological point of view since it may help answer some of the problems concerning the transition from Woodland period archaeological cultures into Mississippian period cultures.

The previous archaeological researches described above have one aspect in common--they were all concerned with archaeological sites along the river. The river, however, makes up only a small part of the Oak Ridge area; the majority of the area has a ridge-and-valley topography characterized by open valleys and forested ridges. The drainage pattern is oriented parallel to the valleys with small creeks feeding larger creeks, which in turn flow into the Clinch River. The archaeological sites along this secondary drainage system and on the ridges were unknown prior to the present survey.

## SURVEY PROCEDURES

### Operational Definitions

Since this report will hopefully be read by persons other than archaeologists, the following operational definitions are presented to clarify the terminology used.

We have operated under the basic assumption that the materials that we call archaeological remains are the product and direct result of human activity. These remains can range from a simple stone used as a hammer and then discarded to an elaborate temple complex or city.

The most common terms one encounters in archaeological reports are *site*, *artifact*, *period*, and *culture*. An *artifact* is any material object that has been used, altered, or manufactured by man. Common examples are projectile points, pottery vessels, structures, and all of the other various and sundry objects that man uses. The term artifact includes not only tools, but also the by-products of tool manufacture. Hence the waste flakes produced by the chipping of an arrowhead are as much artifacts as the finished product.

An archaeological *site* is any locus that contains evidence of human occupation. The evidence is usually artifactual; but vegetation, topography, soil morphology, or chemical composition characteristics can indicate past human occupations. There is no specific minimum number of artifacts considered necessary for a location to be a site, but an isolated artifact is not usually considered sufficient evidence. The typical site contains any number of types of evidence such as tools, tool manufacturing by-products, food preparation remains, soil discoloration due to the increased organic materials associated with human occupation, and nonrandom placement of natural materials. The sites reported in this survey were defined by the presence of artifactual evidence in addition to other factors.

An archaeological *period* is a block of time in the past that is defined by initial and terminal dates, but is also associated with characteristic cultural manifestations. For example, the Late Woodland period is defined in a given locale by initial and terminal dates; but what makes it distinctive is the association of various cultural elements, such as burial mound deposition of the dead, specific types of artifacts, and

other attributes that when taken together form a cluster of characteristics that serve to distinguish the Late Woodland period from the Middle Woodland and other periods. The use of the period concept is qualified by the realization that the initial and terminal dates for a particular period in one region do not necessarily mean that the period has the same dates in another region. For example, the historical period known as the Industrial Revolution does not have the same dates in England as it does in the United States.

An archaeological *culture* is somewhat different from the traditional idea of culture as generated by cultural anthropologists. To the cultural anthropologist, culture has been defined as ". . . that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" (Tylor 1871 *in* Bock 1969:17). The archaeological culture, in contrast, does not directly involve nonmaterial aspects; it looks at the material things left by a group of people. An archaeological culture, then, is defined by the total assemblage of artifacts that were used by a specific group of people. For example, if a group made distinctive types of projectile points, pottery vessels, and did not make or use a certain type of scraper, then the presence and absence of the above artifacts serve to define the archaeological culture in question. The important aspect to keep in mind, however, is that the definition is based on a polythetic set; i.e., it takes more than a single type of artifact to define a culture.

Consequently, if one has a small sample of artifacts, then it may be difficult to assign them to a given archaeological culture with a reasonable degree of certainty. Only in the case where a culture is defined by a small number of very distinctive artifacts is the assignment easily made. One example of such a case is the Late Woodland Hamilton culture. This culture, at the present time, is defined by the presence of conical burial mounds, small triangular projectile points with incurvate sides, and a specific type of pottery. The small number of diagnostic traits is a reflection of the amount of information known, however; and these may be revised when more Hamilton sites are excavated and a complete range of cultural activities is investigated.

The cultural affiliations given to the sites investigated by this survey were based on artifactual and other supporting evidence. In some cases the affiliation is quite tentative or nondiscernible due to a small sample size, lack of diagnostic material, or the presence of ambiguous evidence.

## Areal Coverage

An area the size of the Oak Ridge Reservation could not be surveyed thoroughly in the time limitations specified in the initial survey request due to a number of reasons. The area is about 37,000 acres, and the majority of it is covered with light to heavy vegetation. Vegetation is the nemesis of archaeological surveys since it obscures the kinds of evidence of human occupation that the archaeologist looks for. As was stated previously, plowed fields are welcome sights to the surveyor since such fields can show the degree of concentration of artifacts, the site limits, and other kinds of useful data.

As a result, the area surveyed is considerably less than the total Oak Ridge Reservation. The guidelines that were followed have been set forth in the introduction. Figure 1 shows three categories of survey coverage, distinguished by the intensity or degree of completeness.

The first category is the areas which were examined closely and extensively. The ground cover in these areas was such that a thorough survey could be carried out effectively and efficiently. Examples are plowed fields and lake beaches.

The second category is those areas which were examined by the archaeologists but in which, due to vegetation cover, only parts of the area were in suitable condition to show evidence of human habitation. This category includes such areas as erosional washouts, creek banks, road cuts, and other denuded zones. A large percentage of the area in this category, however, was inaccessible for close examination. In some cases if other factors indicated a likelihood of aboriginal occupation, then subsurface test pits were excavated.

The third broad category is the areas that were not examined due to time limitations, extensive disturbance, or safety reasons.

## Survey Techniques

The survey techniques used in this investigation consisted of:

1. Systematically examining potential site locations on foot and collecting observed cultural materials, if present. The collections were made by experienced field archaeologists familiar with lithic, ceramic, and other types of artifactual remains.

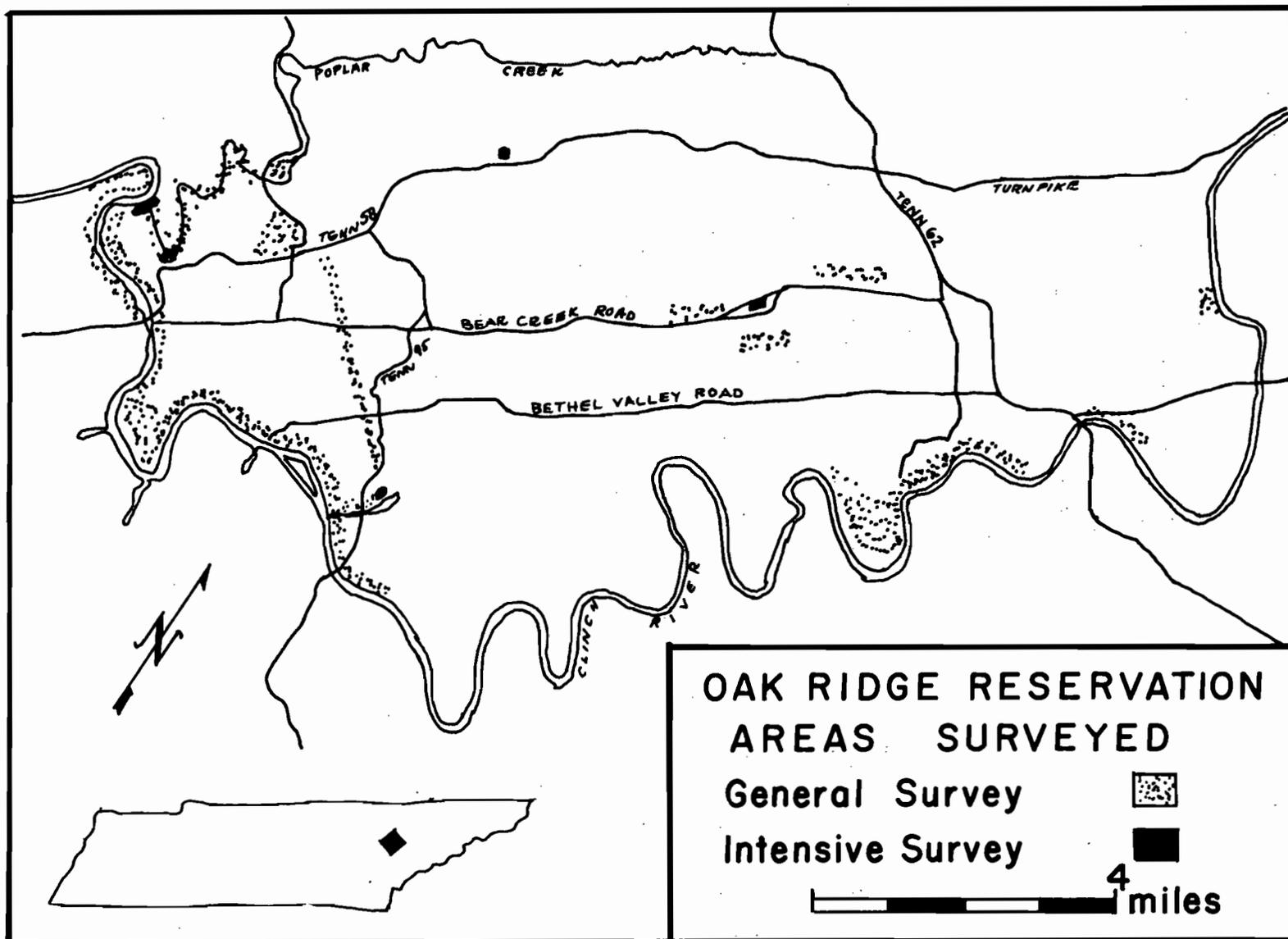


Fig. 1. The areas surveyed with the degree of intensity indicated.

2. Examining the Clinch River and Poplar Creek banks from a boat that was slowly paddled along the bank. If any cultural evidence was noticed, the bank was examined on foot.
3. One-meter square test pits were excavated at selected locations to determine the depth and nature of cultural deposits indicated by surface artifacts.
4. Soil core samples were taken at selected locations to detect the presence or absence of culturally derived soil discontinuities.
5. Local informants were contacted when possible for information concerning known but unrecorded site locations.

The metric system was used in the field recording on the prehistoric sites investigated; the English system was used on the historic Euroamerican sites.

The original field notes, maps, site survey forms, color and black-and-white photographs, and other field records will be kept on file at The University of Tennessee Department of Anthropology, Knoxville. Duplicate copies of the site survey forms will be filed in the central site files housed in the McClung Museum, The University of Tennessee, Knoxville.

## ARCHAEOLOGICAL SITE INVENTORY

The following section is an inventory of the sites recorded on the Oak Ridge Reservation (Fig. 2). Sites are numbered in accordance with the Smithsonian designation system. All sites in Tennessee are numbered using a three-unit designation. The first unit is the state's place in an alphabetical list of states (Tennessee = 40); the second unit is the county abbreviation (Anderson = AN, Roane = RE); and the third unit is the chronological sequence in which the sites were recorded. The first site recorded in a given county is number 1; the second is number 2, etc. For example, the thirtieth site recorded in Anderson County, Tennessee, has the site designation 40AN30.

Site names are usually derived from local landmarks, land-owner names, or other characteristics which aid in communication between archaeologists. It is more convenient to refer to the Freels Mound site than to the 40AN22 site.

The inventory follows a general format that includes the site name, site number, location in respect to local landmarks or features, latitude and longitude, description of the condition of the site at the time it was examined, previous archaeological research at the site, work done during the current survey, comments, and recommendations.

### U.T. FARM Site (40AN2)

Location: The site is located on the right bank of the Clinch River at mile 45 (35°59'40" N lat, 84°10'35" W long.).

Present condition: Inundated by Melton Hill Lake.

Previous investigations: Recorded by the Melton Hill Reservoir survey in 1960. No excavations were conducted (site survey records, U.T. Department of Anthropology, Knoxville).

Current investigations: None.

Comments: The 1960 survey assigned the site to Woodland and Mississippian period occupations.

Recommendations: None.

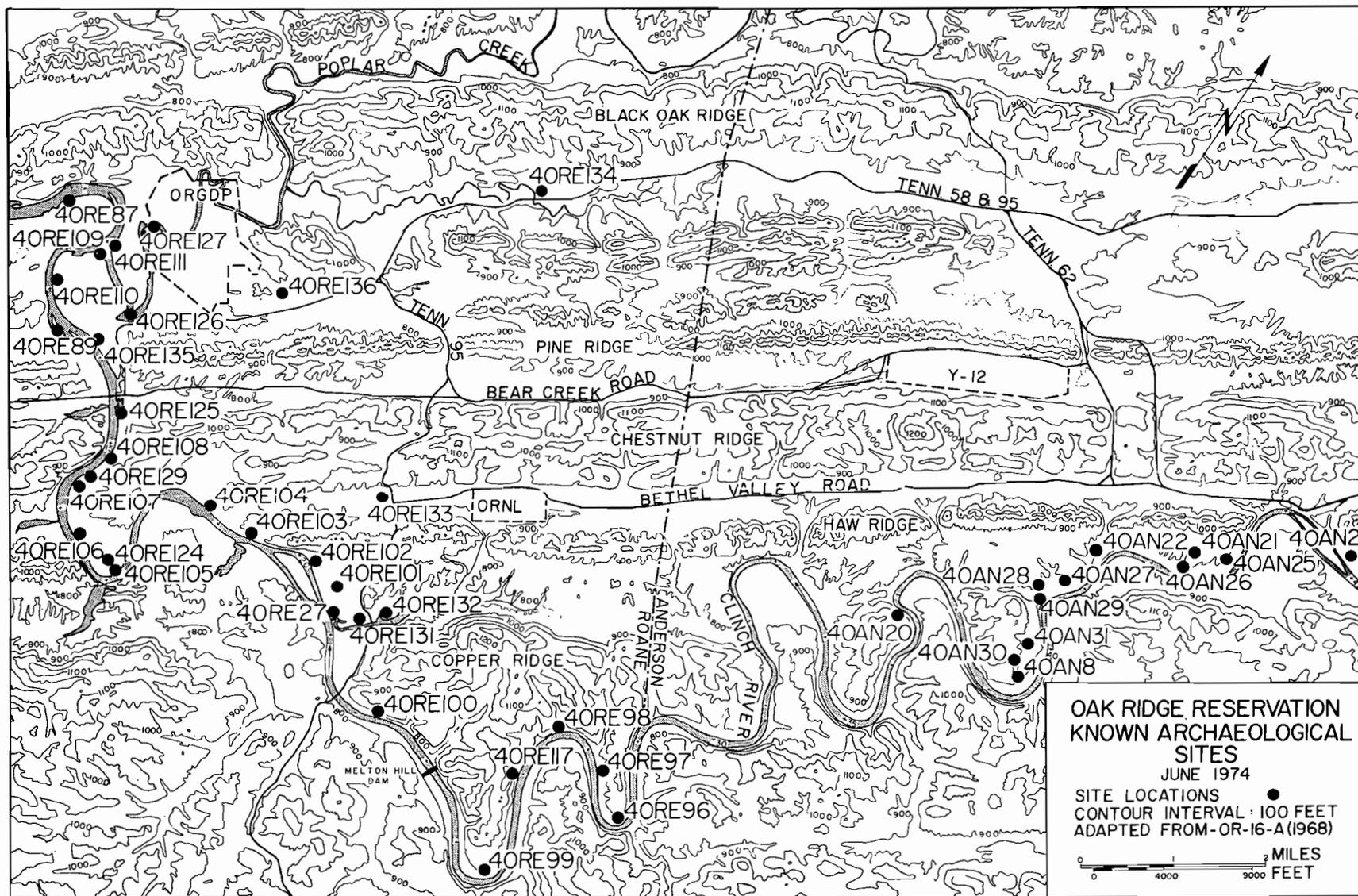


Fig. 2. The Oak Ridge area showing known archaeological sites as of June 1974; historic sites 40RE120, 40RE121, 40RE122, and 40RE123 not included.

FREELS BEND Site (40AN8)

Location: The site is situated on the right bank of the Clinch River on Freels Bend; it consists of cultural material scattered between miles 40.5 and 41.

Present condition: The general area is being used for pasture by UT-AEC (CARL).

Previous investigations: The site was recorded by the Melton Hill survey in 1961; no excavations were conducted.

Current investigations: The site was not examined due to heavy ground cover and the fact that the area is not going to be affected by any known planned projects.

Comments: There is insufficient data to assign a cultural affiliation to this site.

Recommendations: No further testing is required.

BULL BLUFF Site (40AN20)

Location: Base of Bull Bluff on right bank of the Clinch River at mile 36.8 (35°56'53" N lat, 84°14'30" W long.).

Present condition: Undetermined.

Previous investigations: Recorded and tested by McNutt during Melton Hill survey in 1961.

Current investigations: None conducted since site will not be affected by known expansion plans.

Comments: The site is reported as multicomponent with Woodland, Mississippian, and Euroamerican period occupational debris evident (McNutt and Graham 1961). The site is not likely to be affected by construction, but could be affected by illegal digging since it is accessible by boat from Melton Hill Lake.

Recommendations: No further testing is needed at this time.

CRAWFORD FARM Site (40AN21)

Location: On the right bank of the Clinch River on an upper terrace near river mile 42.5. The exact location is not recorded in the 1934 field records, but the site appears to be located at 35°58'50" N lat, 84°12'07" W long.

Present condition: Pasture, UT-AEC (CARL).

Previous investigations: The site was completely excavated by Webb in 1934 as part of the Norris Basin salvage program (Webb 1938:180).

Current investigations: The site area was visited, and the specific location was compared with 1934 field photographs and descriptions.

Comments: The site consisted of two burial mounds that appear to be comparable to the mound (40RE124) currently being excavated at the LMFBR plant site (Schroedl 1974a) and the mounds located downstream (40AN22 and 40AN27). The apparent temporal association is the Late Woodland period.

Recommendation: No work is needed at this site.

#### FREELS FARM MOUND Site (40AN22)

Location: The mound was located on Scarboro Creek in a small valley separated from the Clinch River by a prominent wooded knoll (Fig. 23) (35°58'24" N lat, 84°13'06" W long.).

Present condition: The site is inundated by Melton Hill Lake.

Previous investigations: The mound was completely excavated in 1934 during the Norris Basin investigations (Webb 1938:186).

Current investigations: The site was relocated by examination of 1934 site records (site survey records, U.T. Department of Anthropology).

Comments: This site was erroneously located on the survey maps used in the Melton Hill survey. The mound is associated with the burial practices of the Late Woodland period and related to sites 40AN21, 40RE124, and 40AN27.

Recommendations: None.

#### CRAWFORD FARM Site (40AN25)

Location: The site is located on the right bank of the

Clinch River adjacent to river mile 43.1 (35°58'53" N lat, 84°11'51" W long.).

Present condition: The site is in pasture and is partly under Melton Hill Lake; the area surveyed consisted of the portion exposed on the lake wave-cut beach.

Previous investigations: Not previously recorded.

Current investigations: The shoreline was surface collected with the pool level about 3 feet (1 meter) below full pool (795 feet). The cultural material recovered consisted of 64 pieces of lithic material but did not include any specific diagnostic artifacts (Table B.7).

Comments: There is insufficient evidence to assign this site to a particular period, although a Woodland association is suggested.

Recommendations: No further work is needed at this site.

#### PETERS Site (40AN26)

Location: The Peters site is located on the right bank of the Clinch River adjacent to mile 42.2 (35°58'45" N lat, 84°12'10" W long.).

Present condition: Pasture and lake bank; part of the site is under Melton Hill Lake.

Previous investigations: Not previously recorded.

Current investigations: Surface collection was made of the portion exposed by wave action. A total of 23 lithic artifacts were collected (Table B.2).

Comments: There is insufficient material to assign this site to a particular archaeological culture.

Recommendations: No further work is needed.

#### SCARBORO CREEK Site (40AN27)

Location: These mounds are located just above Melton Hill Reservoir pool on the right bank of the Clinch River inland from mile 41. The site is downstream from the mouth of Scarboro Creek and is on the third terrace (T-2) at an elevation of about 800 feet MSL (Figs. 3 and 4) (35°58'02" N lat, 84°13'10" W long.).

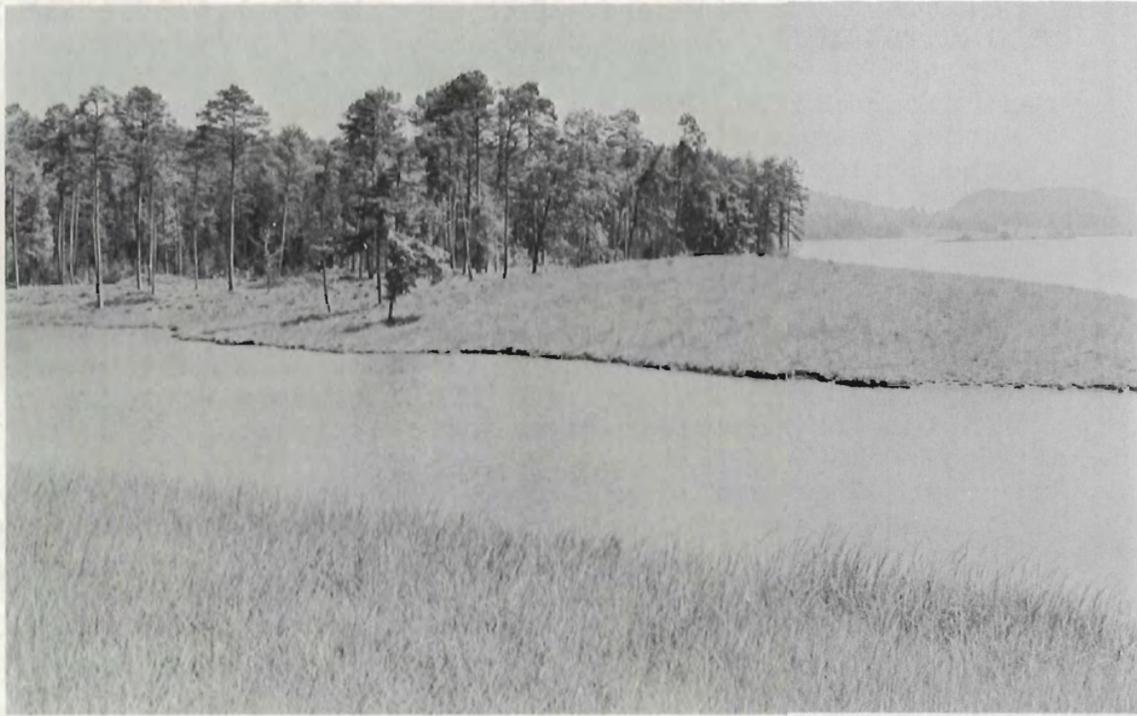


Fig. 3. General view of Scarboro Creek site (40AN27) looking northeast and upstream; mound A at left center.



Fig. 4. Mound A, Scarboro Creek site (40AN27) looking northeast.

Present condition: The site is in pasture and lightly wooded with pine and hardwood. It is administered by UT-AEC (CARL).

Previous investigation: Not previously recorded.

Current investigations: The site, located with the assistance of CARL personnel, consists of two small mounds designated A and B. Mound A is larger than B and is more distinct (Fig. 5). Although there is some evidence of rodent burrowing in mound A and possibly some destruction by relic collectors, the mounds appear essentially intact. Mound A is 1.5 meters (5 feet) higher than the surrounding area, and mound B is 0.7 meter (2 feet) higher.

Three one-meter square test pits were excavated in the immediate vicinity of the mounds to check for occupational material. Surface collections around the mounds were also made, but no subsurface testing of the mounds proper was conducted, in order to avoid drawing attention to the site.

The cultural assemblage collected indicated that there was some occupation around the mound area (Table B.3).

Comments: The mounds appear to be Late Woodland period burial mounds similar to site 40AN21 and to 40RH7, a site on the Tennessee River in Rhea County (Fielder and Schroedl n.d.). The cultural material around the mounds does not appear to be associated with the mounds, but rather it is associated with a previous Early Woodland period occupation on that terrace.

Recommendations: No further work is needed at this time, but the site should be excavated if any future plans would involve its being removed from the protection of Federal ownership. If it becomes evident that the site is not well protected by reason of its being on the UT-AEC (CARL) land, e.g. if the site is being destroyed by illegal digging by relic collectors, then it should be excavated by qualified personnel.

#### FREELS CABIN Site (40AN28)

Location: The Freels cabin, located on the east side of Freels Bend along the old Freels Bend road, is situated on a knoll overlooking the Clinch River and an unnamed

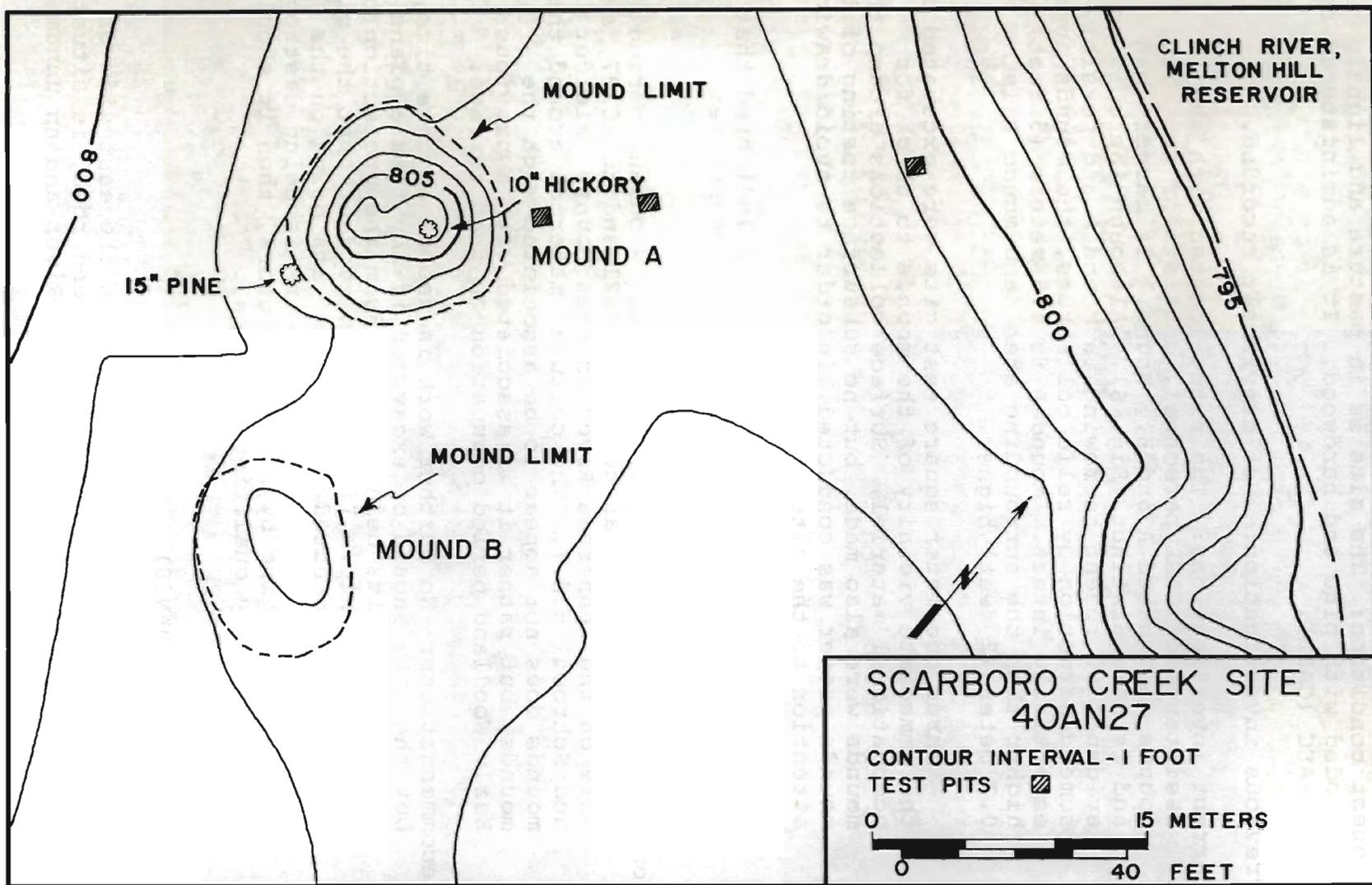


Fig. 5. Plan and contour map of mounds A and B, Scarboro Creek site (40AN27).

creek which empties into the river at mile 40.4. The cabin site is at 35°57'48" N lat, 84°13'24" W long.

**Present condition:** The hewn-log cabin and an associated log outbuilding are currently being used as a picnic area for UT-AEC (CARL) employees and as such are in very good condition. There has been some effort to restore the cabin, particularly the fireplaces; and a recent shake roof has been added. Overall, however, the cabin is in excellent condition. The outbuilding, originally a smokehouse, has been converted into a public restroom. The grounds are well cared for, and the overall appearance is quite beautiful (Fig. 6).

**Previous investigations:** No previous work has been conducted at the site.

**Current investigations:** Measured drawings of the floor plan, north elevation (Figs. 7 and 8), and details of the chimney and fireplaces were made. Detailed notes on the construction techniques were taken, and the construction sequence was investigated. The smokehouse was drawn and photographed. No subsurface archaeological investigations were conducted.

**Comments:** The cabin, which was reportedly built in the early 1800's, is a double-pen construction with a central double chimney and fireplace. One pen was built using a half-dovetail notching technique; the other pen has a "V" notch technique. The fireplace mantle of the east pen has the date 1844 carved into it; and from the style of the figures, they could be authentic. The Freels family, which lived in the house at the time of Federal acquisition in 1942, was one of the earliest families in Anderson County and did settle in this general locale (Seeber 1928). It is quite possible that the cabin is one of the earliest cabins built in Anderson County.

**Recommendations:** It is highly recommended that this cabin be thoroughly examined and evaluated for possible nomination to the National Register of Historic Places and that in the interim period no further alteration or restoration be conducted. Additional drawings, photographs, and records should be made and a thorough search of archival records made to establish the date of construction. This site is probably one of the few historical sites on the Oak Ridge Reservation that has the potential for qualifying for the National Register of Historic Places, and steps should be initiated to pursue this end.



Fig. 6. The Freels Cabin (40AN28) May 1974; view to the southeast.

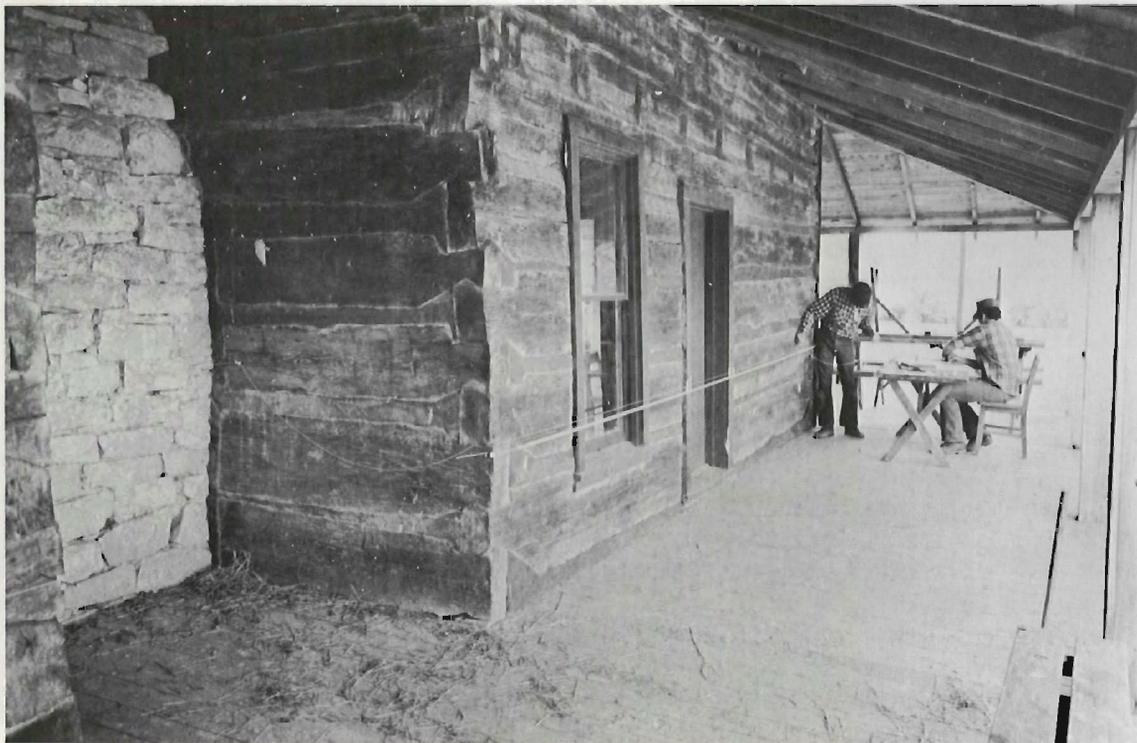


Fig. 7. The field crew making measured drawings of the north side of the west pen of the Freels Cabin (40AN28).

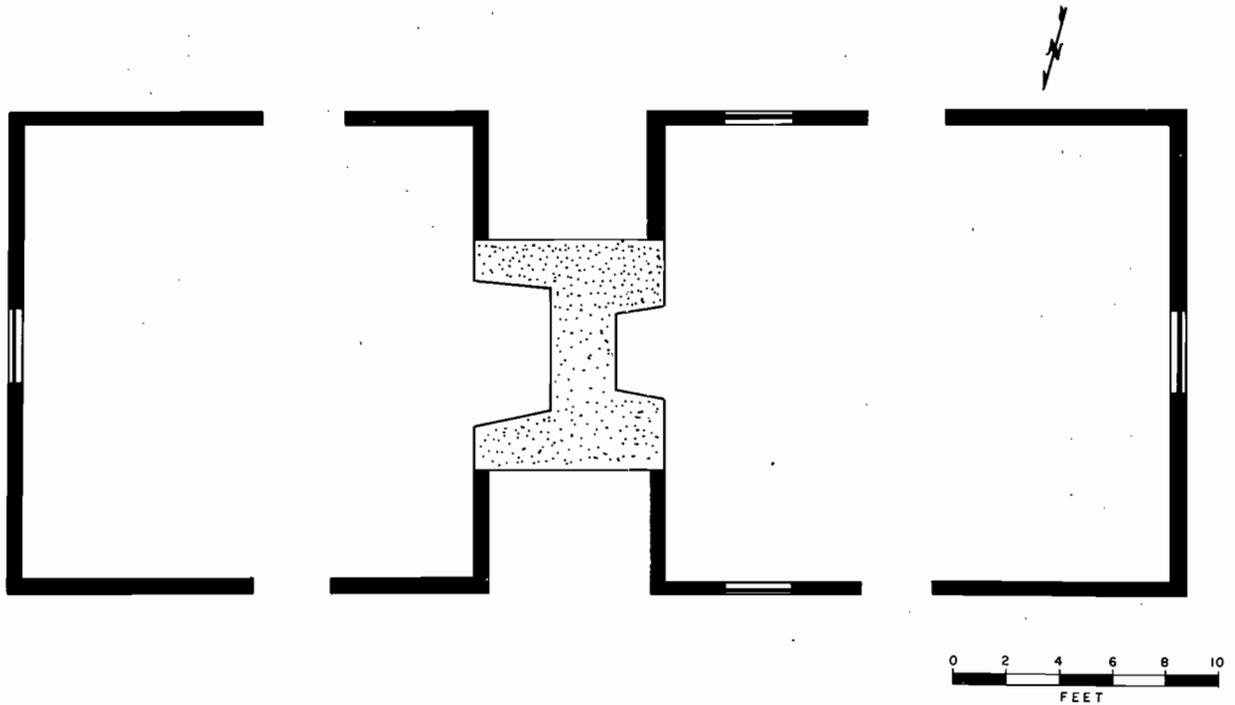
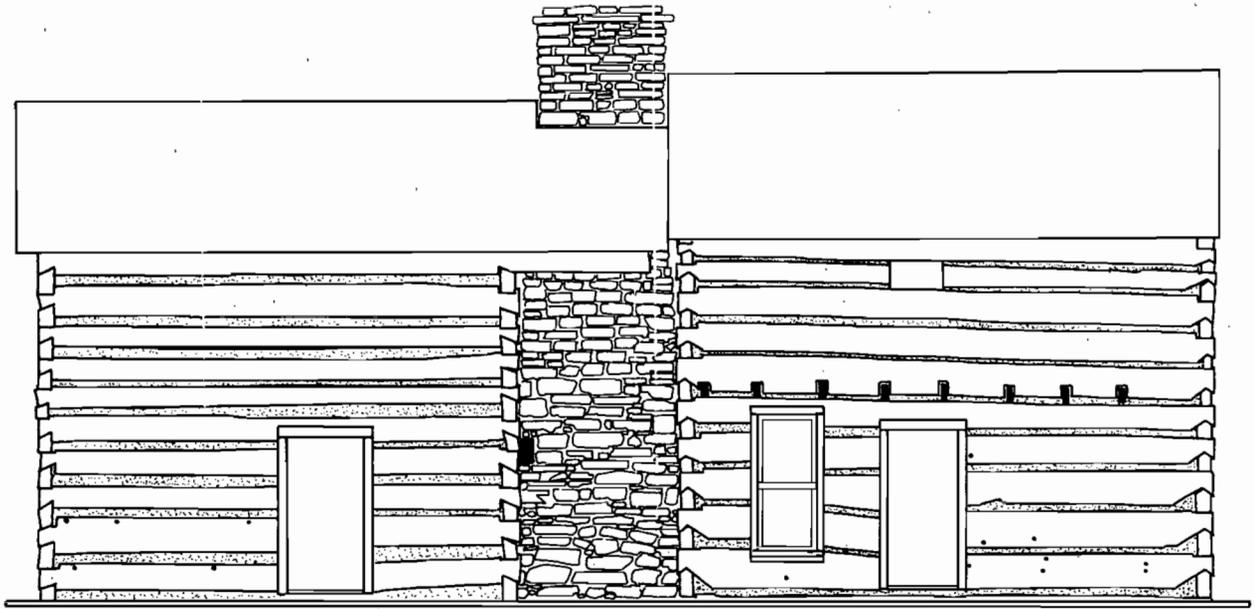


Fig. 8. North elevation and ground floor plan of the Freels Cabin.

VAN GILDER Site (40AN29)

Location: The site is located on the bank of Melton Hill Lake near the mouth of an unnamed creek that joins the Clinch River at mile 40.5 (35°57'42" N lat, 84°13'21" W long.).

Present condition: The site is partially inundated by Melton Hill Lake and partially in pasture. The only exposed part is the lake bank at pool elevations less than 795 feet.

Previous investigations: None.

Current investigations: Surface collection from the exposed beach; a total of 227 lithic artifacts were collected (Table B.4). No ceramic artifacts were recovered.

Comments: The artifacts collected indicate the site is represented by Middle and Late Woodland period components.

Recommendations: No further work needed at this time.

HUDDLESTON Site (40AN30)

Location: This site is located on an elevated part of Freels Bend and overlooks the mouth of Beaver Creek on the opposite side of the Clinch River (35°57'12" N lat, 84°13'08" W long.).

Present condition: The site is in hay and strip corn; the survey was confined to the corn areas which had been recently plowed and planted.

Previous investigations: None.

Current investigations: Surface collection from plowed fields resulted in 20 artifacts (Table B.5).

Comments: Insufficient information to assign cultural affiliation.

Recommendations: No further work required.

LANGLEY Site (40AN31)

Location: The Langley site is located on the eastern slope of Freels Bend adjacent to river mile 40.1 (35°57'19" N lat, 84°13'06" W long.).

Present condition: Alternate strips of hay and corn contoured with the land surface. The corn strips had been plowed at the time of the survey.

Previous investigations: None.

Current investigations: Surface survey collected five lithic artifacts (Table B.6).

Comments: Insufficient data to assign the site cultural affiliation.

Recommendations: No further work required.

LEE FARM Site (40RE27)

Location: The site consists of two distinct units--a separate burial mound complex with three mounds and a habitation site at the mouth of White Oak Creek. The mounds were not relocated due to heavy vegetation in the area. The habitation locus is centered at 35°53'49" N lat, 84°20'00" W long.

Present condition: The mound area is covered with heavy vegetation, mainly pine trees planted in the late 1940's. The mounds were only 3 feet (1 meter) above the surrounding surface when the site was surveyed in 1941 (site survey records, U.T. Department of Anthropology, Knoxville).

The habitation locus is in grass and weeds; the portion on the downstream side of White Oak Creek has been destroyed by borrow pit operations during landscaping activities at ORNL and Y-12 about 15 years ago.

Previous investigations: The site was visited by Cyrus Thomas in 1886; he noted that burials had been exposed by a recent flood (Thomas 1894). One mound was excavated at that time. The site was in cultivation when surveyed in 1941 by Nash as part of the Watts Bar Reservoir project (site survey records, U.T. Department of Anthropology, Knoxville). No excavations were conducted in 1941.

Current investigations: A surface collection was made, and one test pit was excavated to check the cultural stratigraphy. Artifacts recovered included lithic materials and grit-tempered ceramics (Table B.7).

Comments: The previous investigations indicate that the site is multicomponent with several Woodland period occupations present. Local informants report that a mound, located at the mouth of the creek, was destroyed by earth-moving activities. Numerous artifacts were found during the topsoil borrow pit operations, according to informants.

Recommendations: The part of the site downstream from the creek mouth does not warrant further investigation due to the disturbance, but that portion upstream should be tested further if it would be affected by any construction plans. The mound complex area of this site is located sufficiently close to Tennessee highway 95 that possible road relocation or straightening could affect that part. In that case, the relocation and testing of the mounds would be advisable. No further work is needed at the present time.

CAMPBELL FARM Site (40RE87)

Location: This site is located on the left bank of the Clinch River at mile 11 and is adjacent to Poplar Creek Island (35°55'42" N lat, 84°25'16" W long.).

Present condition: Heavy vegetation along the bank of Watts Bar Lake. Fairly steep wave-cut bank shows some evidence of occupation.

Previous investigations: The site was surveyed in 1941 by Nash, who reported shell and lithic debris in two distinct areas.

Current investigations: The wave-cut bank was examined, and fire-cracked cobbles were noted; no artifacts were collected.

Comments: Insufficient data to assign cultural affiliation.

Recommendations: No further work is needed at this time.

✓ ROBERTS BRANCH Site (40RE89)

Location: This site is located on the left bank of the

Clinch River adjacent to mile 13.5 (35°54'38" N lat, 84°24'29" W long.).

**Present condition:** The vegetation cover is weeds and small trees. The site has been destroyed from an archaeological viewpoint by illegal digging by relic collectors. The surface is pock-marked with open pits dug for burials and artifacts.

**Previous investigations:** The site was recorded by Nash during the Watts Bar Reservoir survey in 1941. No professional excavations have been conducted at the site.

**Current investigations:** Surface collections were made on the beach area, and material strewn around the site by the relic collectors was recovered. Interviews were conducted with persons familiar with the material that had been taken from the site.

**Comments:** The material recovered from the site indicates the site is a Late Mississippian Dallas village (Table B.8). Although the site is protected under the Federal Antiquities Act, extensive illegal digging has been going on for at least ten years without significant interference from AEC Security personnel. The result has been that the site is essentially worthless for any future archaeological research due to the massive disturbance. Reportedly about 200 human burials have been looted at the site, which could have serious consequences since the site is under the legal protection of the Federal government under the conditions of the Federal Antiquities Act.

**Recommendations:** No further work is desirable at the site due to the disturbance noted above. However, it is strongly recommended that the type of wholesale destruction that occurred at this site be prevented in the future at other sites under the control of the Federal government and its subcontractors.

ROBERTS BRANCH MOUNDS Site (40RE90)

**Location:** This site, consisting of two mounds along Roberts Branch, is located inland from the 40RE89 site (35°54'34" N lat, 84°24'38" W long.).

**Present condition:** The mounds were low and eroded in 1941 when the site was surveyed by Nash (site survey records, U.T. Department of Anthropology). There are

no discernible mounds in the locale presently, due to landscaping operations in the immediate area. The ground cover is grass and weeds.

Previous investigations: Surveyed during the Watts Bar Reservoir project in 1941. No excavations were conducted.

Current investigations: Surface collection resulted in the recovery of 35 lithic artifacts (Table B.9). No cultural deposit below the plowzone was detected.

Comments: The morphological description and location of the mounds indicate a Late Woodland period association; the cultural material collected from the surface is not necessarily associated with the mounds.

Recommendations: No further work needed.

HICKORY CREEK BEND Site (40RE96)

Location: The site is located on a narrow terrace at the point of Hickory Creek Bend directly across from the mouth of Hickory Creek (35°53'44" N lat, 84°15'54" W long.).

Present condition: Inundated by Melton Hill Lake.

Previous investigations: Recorded by Nash in 1941; no excavation conducted.

Current investigations: None.

Comments: There is insufficient data to assign the site to a particular culture, although a habitation site is indicated.

Recommendations: None.

HICKORY CREEK Site (40RE97)

Location: The site is located on the west side of Hickory Creek Bend on the flood plain of the Clinch River adjacent to mile 27.5 (35°54'02" N lat, 84°16'27" W long.).

Present condition: Inundated by Melton Hill Lake.

Previous investigations: Recorded in 1941 by Nash.

Current investigations: None.

Comments: Nash reports the site as a mussel shell concentration. No specific information is recorded that would indicate cultural affiliation.

Recommendations: None.

ATCHELY Site (40RE98)

Location: The site is located on a narrow flood plain of the Clinch River on the right bank adjacent to mile 26.6 (35°54'05" N lat, 84°17'07" W long.).

Present condition: Inundated by Melton Hill Lake.

Previous investigations: Recorded by Nash in 1941.

Current investigations: None.

Comments: Nash describes the site as a village with mussel shell over the entire surface; there is insufficient data to assign cultural affiliation.

Recommendations: None.

MELTON HILL Site (40RE99)

Location: The site consists of two units, a small mound on the ridge above the flood plain and a habitation site on the flood plain. The mound has not been located, but the village is on the right bank of the Clinch River at mile 24.5 (35°52'55" N lat, 84°16'52" W long.).

Present condition: The habitation site is under Melton Hill Lake. The mound could be above water but has not been located at this time.

Previous investigations: Site recorded by Nash in 1941.

Current investigations: The site was not examined during this survey but will be examined in the fall of 1974 when the vegetation is less dense.

Comments: The village area was assigned to the Woodland period by Nash, and the mound is probably associated with a Late Woodland period culture.

Recommendations: The mound should be located if it is above Melton Hill pool level.

BOGLE FERRY Site (40RE100)

Location: The site is located about a quarter of a mile above the old Bogle ferry at river mile 22.3 on the right bank (35°53'17" N lat, 84°18'54" W long.).

Present condition: The site is buried under the fill of the Melton Hill Dam access road.

Previous investigations: Recorded by Nash in 1941.

Current investigations: Examined the river bank in the area.

Comments: Nash records the site as a small shell patch. No cultural affiliation is noted.

Recommendations: No further work is needed.

WHITE OAK BOTTOM Site (40RE101)

Location: The site is located on the wide bottom below the mouth of White Oak Creek. The main part of the site is on the third terrace (T-2) and centered at 35°54'00" N lat, 84°20'05" W long.

Present condition: The site is in thick grass with a few denuded areas. Part of the site has been contaminated by radiation ecology studies.

Previous investigations: The site was recorded by Nash in 1941.

Current investigations: Since the site was in heavy grass over most of the surface, five 1-meter square test pits were excavated to check for cultural material below the plowzone. There were some artifacts a few centimeters below the lower boundary of the plowzone, but no indication of midden deposits was seen. The surface collection and test pits recovered 451 artifacts (Table B.10).

Comments: The artifacts recovered and Nash's comments indicate a Woodland period habitation site.

Recommendations: The site should be tested further if any extensive construction is planned in the area that would disturb the existing land surface.

McKINNEY Site (40RE102)

Location: This site is located on the downstream end of White Oak bottom directly across from the center of Jones Island. The site is situated on the riverbank (35°54'08" N lat, 84°20'29" W long.).

Present condition: The site is covered with a thick stand of pine trees.

Previous investigations: The site was recorded by Nash in 1941.

Current investigations: The riverbank portion of the site was examined; no artifacts were collected.

Comments: The site was described by Nash in 1941 as a small site covered with mussel shell and assigned to a Woodland period component.

Recommendations: No further work needed unless the area would be affected by construction activities.

THACKER Site (40RE103)

Location: The site is situated on the right bank of the Clinch River below Jones Island and the mouth of Raccoon Creek (35°54'02" N lat, 84°21'16" W long.).

Present condition: Planted in young pines, weeds, and grass, the site is severely eroded on the terrace slope toward the river. A gravel road cuts through part of the site.

Previous investigations: The site was recorded by Nash in 1941.

Current investigations: A surface collection was made in the areas exposed by erosion. Test pits showed no sub-surface cultural material.

Comments: The surface collection indicates the site is possibly associated with an Early Archaic period occupation (Table B.11).

Recommendations: The site should be tested further if any construction is planned in the area.

CLOUGH Site (40RE104)

Location: This site is located on the right bank of the Clinch River adjacent to mile 18.8 (35°54'02" N lat, 84°21'51" W long.).

Present condition: The site is covered with light brush and trees. There is some erosion on the riverbank portion of the site.

Previous investigations: The site was recorded by Nash in 1941. Schroedl (1972:4) conducted a surface survey and testing as part of the LMFBR project survey.

Current investigations: The riverbank portion was examined and a surface collection made. Two lithic artifacts were recovered (Table B.12).

Comments: The artifact concentration on the site is very sparse; no cultural affiliation is apparent.

Recommendations: No further work is required.

HENSLEY Site (40RE105)

Location: The site is located at river mile 17.3 on the first terrace above the river. It is bounded by a TVA powerline on the south and a gravel road on the west (35°53'13" N lat, 84°22'24" W long.).

Present condition: The site is planted with pine trees and moderate undergrowth. Moderate erosion is occurring on the riverbank part of the site.

Previous investigations: The site was recorded by Nash in 1941. Schroedl (1972) conducted a surface survey and excavated 11 test pits.

Current investigations: The site was examined from the riverbank, but no material was collected.

Comments: Nash in 1941 reported a mound in association with, but separated from, the habitation site. Schroedl (1973a) relocated the mound and designated it as site 40RE124. Nash assigned the village site to a Woodland period culture.

Recommendations: No further work is needed.

ROBINETTE Site (40RE106)

Location: This site is located on the riverbank adjacent to mile 16.5 around the mouth of an unnamed creek (35°53'03" N lat, 84°22'18" W long.).

Present condition: The site has been partially destroyed by the river road, but a section along the riverbank is apparently undisturbed. Vegetation cover includes trees, grass, and weeds.

Previous investigations: The site was recorded by Nash in 1941. Schroedl (1972) tested the area and recommended that no further work was needed.

Current investigations: The eroded riverbank section was examined; 67 artifacts were collected (Table B.13). The wave-cut bank showed evidence of a cultural soil horizon below the plowzone.

Comments: Nash records the site as Early and Late Woodland period with shell, lithic, and ceramic artifacts present. Our collections confirm the Woodland attribution and indicate a possible Archaic period component also.

Recommendations: No further work is needed due to the disturbance noted above.

HEMBREE Site (40RE107)

Location: This site, located on the right bank of the Clinch River at mile 15.7, is situated on the first terrace (35°53'16" N lat, 84°24'15" W long.).

Present condition: Pine tree stumpage covers most of the site along with weeds and grasses. Minor erosion along the riverbank.

Previous investigations: The site was recorded by Nash in 1941; it was tested in 1972 (Schroedl 1972).

Current investigations: The riverbank area was examined; no material was collected.

Comments: The site is mainly a mussel shell concentration with some associated occupational debris (Schroedl 1972).

Recommendations: Schroedl recommended testing of the shell concentration. No additional work is recommended at this time.

#### 40RE108

Location: This site is located on the first terrace of the Clinch River at mile 15.2. A TVA powerline is on the southern border; a small unnamed creek about 800 feet (250 meters) downstream forms the northern border (Schroedl 1972:7).

Present condition: The area has been cleared of pine trees and underbrush leaving grasses and weeds. The riverbank is partially eroded by wave action.

Previous investigations: The site was recorded by Nash in 1941. Schroedl surveyed and tested the area (1972:7) and conducted limited excavations (Schroedl 1973b, 1974a).

Current investigations: Our survey did not do any additional work at the site.

Comments: Schroedl's excavations at this site recovered Woodland period cultural material in a stratified deposit. The faunal and botanical material has not been analyzed at this time but should yield information about the functional activities at the site.

Recommendations: None in addition to the work currently being conducted.

#### GALLAHER Site (40RE109)

Location: This site is located at the confluence of Poplar Creek and the Clinch River on the upstream side. Cultural material is distributed approximately 100 meters (350 feet) upstream from the mouth. There are two distinct areas at the site; area A is located along the second river terrace, and area B is situated on a small knoll across a slough from A and along Poplar Creek (Fig. 11). This slough is flooded by Watts Bar Lake in the summer, but is relatively dry during the winter drawdown period. Area A is located at 35°55'24" N lat, 84°24'41" W long.; area B is at 35°55'26" N lat, 84°24'36" W long.

Present condition: The area has been cleared of vegetation, graded, plowed, and planted with pine seedlings. The survey was conducted prior to and after the plowing. There are indications of some bulldozer activity in the area, but this seems to be confined to the top 10 centimeters of surface and was apparently associated with the vegetation-clearing operations.

Previous investigations: The site was under cultivation when recorded by Nash in 1941. He recorded a large mound, 120 x 100 x 6 feet, that had a flat top. At the time, the mound was being eroded by the river and plowing.

Current investigations: The site was thoroughly surface collected, and a series of test pits were dug to determine the cultural stratigraphy present. Surface collections were made in the beach area before Watts Bar Lake was raised to full pool level, and the test pits were excavated before the water table was affected by the full pool level. Surface collections in areas A and B were made before and after the site had been plowed and had had a hard rain. In sum, the conditions were ideal for surface collection in both areas of the site.

Test pits in area A, which is located along the riverbank, indicated cultural material to the depth of the water table (1.5 meters [4.6 feet]). Two test pits were excavated to a depth of 1.5 meters; the soil strata were recorded and correlated with the artifactual material recovered. Artifacts collected from the beach could have originated in both the upper and lower cultural strata recorded in the test pits. The material from the surface of the site, however, would only represent later occupations.

The artifacts recovered from area A include a number of diagnostic projectile points/knives (Table B.14). They indicate that area A is a multicomponent site with Early and Late Archaic and Late Woodland period components represented (Fig. 9).

Area B, which is situated on a knoll above area A, appears to contain Middle Archaic, Early and Late Woodland period artifacts. None of the projectile points generally associated with Early Archaic cultures occurred in area B (Fig. 10; Table B.15). Core testing in area B did not show any cultural strata below the plowzone. Cores in the slough between areas

Fig. 9. Selected lithic artifacts: Gallaher site (40RE109A).

a. Type 75	b. Type 60	c. Type 61	d. Type 71	e. Type 139(90)
f. Type 76	g. Type 60	h. Type 78	i. Type 130	j. Type 45
k. Type 91	l. Type 30	m. Type 124	n. Supplemental	
o. Type 84	p. Type 86	q. Type 131	r. Type 100	

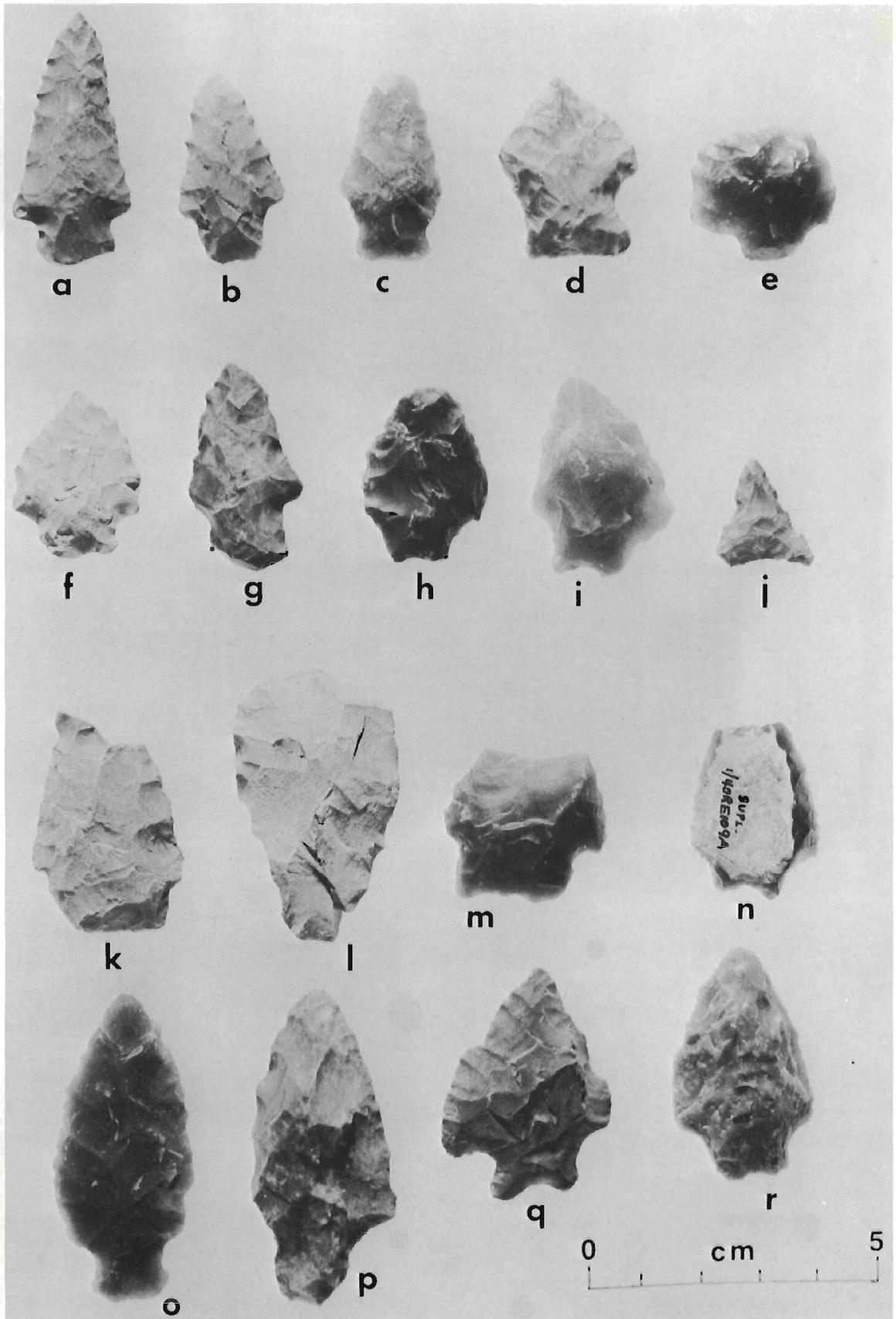
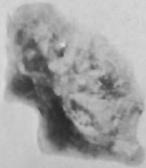
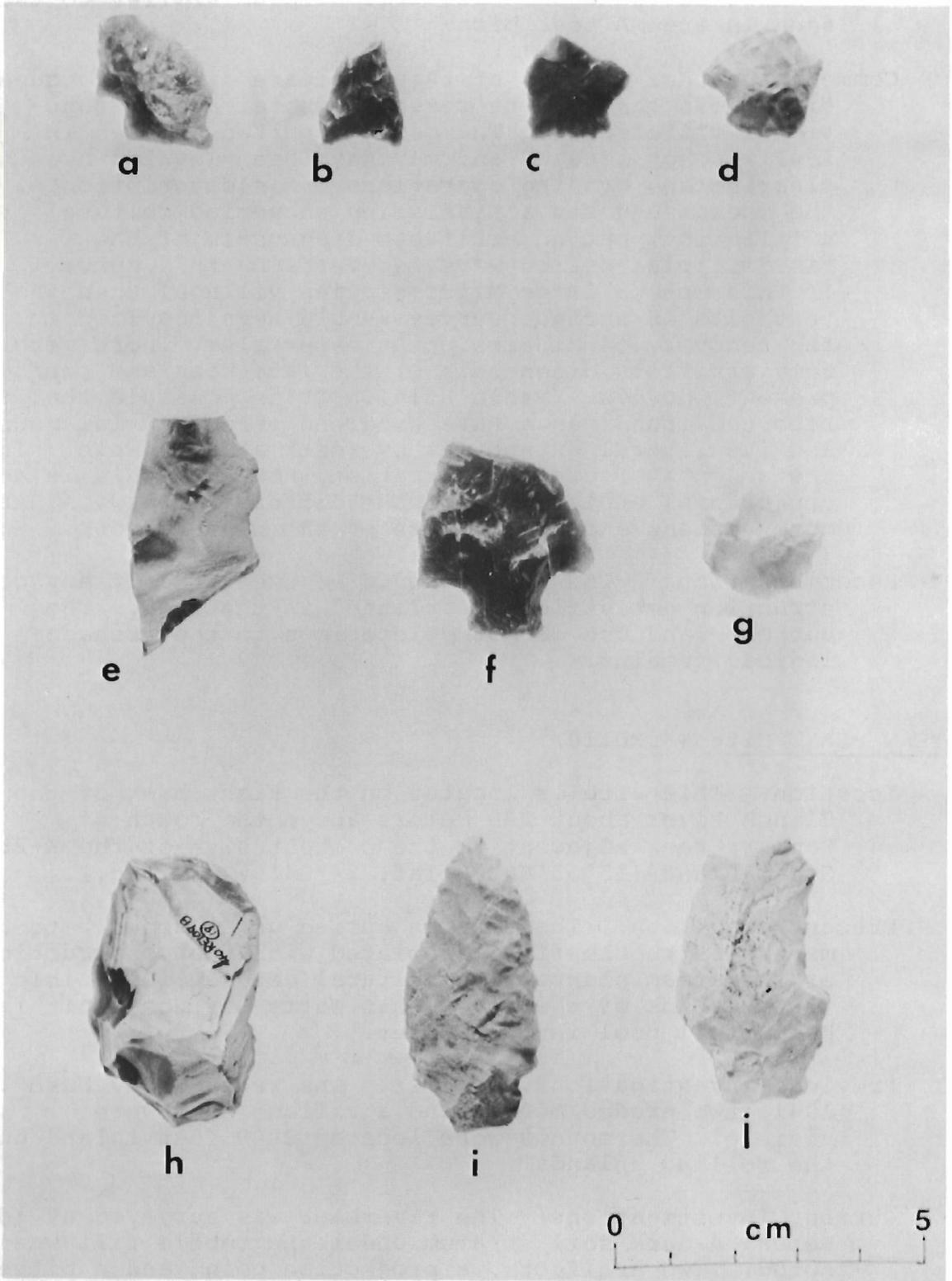


Fig. 10. Selected lithic artifacts: Gallaher site (40RE109B).

a. Type 114	b. Type 43	c. Type 138	d. Type 138
e. Type 23	f. Type 80	g. Type 18	
h. Type 19	i. Type 88	j. Type 10	



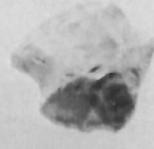
a



b



c



d



e



f



g



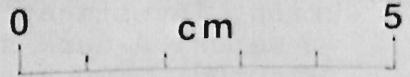
h



i



j



A and B showed a dark cultural stratum similar to that seen in area A test pits.

Comments: Areas A and B of this site are distinct occupation areas that may represent temporal and/or functional differences. The mound reported by Nash in 1941 was not located and may have been leveled by clearing and grading operations. His description of the mound suggests a Mississippian period cultural affiliation, but no artifacts diagnostic of the Mississippian period were recovered by this survey. If this were a large Mississippian village, then the test pits or surface survey should have resulted in the recovery of Mississippian materials. There were some artifacts diagnostic of the Late Woodland period present, however (Table B.14). It is possible that the reported mound was a Late Woodland period burial mound and its lateral extent was overestimated by Nash. In the absence of other information, however, this is a conjectural explanation of the difference between Nash's observations and the results of the current work.

Recommendations: This site should be excavated if any construction activities are planned in the area. The current land use is not deleterious to the archaeological remains.

#### STEAM PLANT Site (40RE110)

Location: This site is located on the right bank of the Clinch River about 900 meters above the mouth of Poplar Creek adjacent to the present site of the K-25 Steam Plant (35°55'06" N lat, 84°24'56" W long.).

Present condition: The site is buried under about 2 to 3 meters of rubble fill associated with the construction of the steam plant. The cultural deposit is visible in the cut bank of the river when Watts Bar Reservoir is below full pool in the winter.

Previous investigations: The site was recorded by Nash in 1941; two eroded mounds and a village unit were visible. The mounds were located 2000 feet inland on the rolling uplands.

Current investigations: The riverbank was surveyed at low water; a dark soil stratum under the rubble fill was noted. Two artifacts, a projectile point and a pitted cobble, were collected from the exposed beach area (Table B.16).

Comments: The artifactual material indicates a Woodland period occupation at this site. The two mounds reported in 1941 were not located.

Recommendations: Due to the rubble overburden present at the riverbank site, no further work is required. Further efforts should be made to locate the mounds.

BROWDER Site (40RE111)

Location: This site is located at the confluence of Poplar Creek and the Clinch River on the downstream side. It is directly across Poplar Creek from site 40RE109 (35°55'35" N lat, 84°20'30" W long.).

Present condition: Most of the site is under Watts Bar Reservoir at full pool level, but it is exposed during the winter drawdown. There is a small portion of the site that is above water during the summer, but the high water table would not permit any archaeological work at that time of year.

Previous investigations: The site was recorded by Nash in 1941 as a small village site with no apparent depth of material.

Current investigations: A surface collection before the lake was raised recovered 164 artifacts (Table B.17). Core testing showed a dark soil stratum to a depth of about 40 centimeters that could be cultural in nature. A high water table prevented any test pit excavation. There were a number of fire-cracked rocks on the beach area indicating a habitation site.

Comments: The cultural material present indicates a mixed component site with Archaic and Woodland periods represented.

Recommendations: No further work is recommended.

40RE124

Location: This site is located adjacent to site 40RE105 on the right bank of the Clinch River (35°53'05" N lat, 84°22'28" W long.). ✓

Present condition: The site is currently being excavated.

Previous investigations: The mound was surveyed in 1941 by Nash and designated as part of site 40RE105. Schroedl relocated the mound in 1973 and redesignated the site 40RE124 (Schroedl 1973a). The mound was excavated in the fall of 1973, and more work is planned for the fall of 1974.

Current investigations: Excavations are in progress.

Comments: The mound is a Late Woodland period burial mound. It was constructed in three major building phases and contained 33 individual burials. There is an Early Mississippian period midden on the northeast side of the mound that will be investigated further (Schroedl 1974a).

Recommendations: None in addition to the work in progress.

#### GRASSY CREEK Site (40RE125)

Location: This site is located at the mouth of Grassy Creek on the upstream side and the right bank of the Clinch River (35°54'14" N lat, 84°23'22" W long.).

Present condition: Most of the site has been inundated by Watts Bar Lake; at low pool level in the winter the site is a small narrow peninsula. At full pool, only a small wooded tip of the site is above water.

Previous investigations: None:

Current investigations: The exposed beach area was surface collected, and four artifacts were recovered (Table B.18). There were some mussel shell concentrations in the area also. About 40 centimeters below the present surface was an occupation level containing daub and charcoal. The areal extent of this feature is quite limited since wave action had deflated the surface around the feature. The burned area could be associated with reservoir clearing operations, however, and not be associated with the cultural remains present on the site.

Comments: A Woodland period cultural affiliation is assigned to the site.

Recommendations: No further work is needed.

POPLAR CREEK Site (40RE126)

Location: This site is located on the right bank of Poplar Creek one mile above its confluence with the Clinch River, on a sharp bend with a bluff on the left bank and a wide terrace on the right (35°55'08" N lat, 84°23'54" W long.).

Present condition: This site is inundated by Watts Bar Lake at full pool elevation but is exposed during the winter drawdown (Fig. 12). The surface is severely eroded due to wave action and the periodic flooding of Poplar Creek.

Previous investigations: None.

Current investigations: This site was surveyed with Watts Bar Lake in the drawdown stage in late March. Several days before the site was visited, Poplar Creek had flooded due to local heavy rains. Apparently the rapid current associated with the flood removed the surface soil from the site area and left the cultural debris on the subsoil. A total of 243 artifacts was collected from the surface by a thorough survey of the exposed portion of the site (Table B.19). In addition to the large numbers of artifacts present, there were six fire-reddened areas in the clay subsoil. Unfortunately, the lake came up before these features could be mapped. Most of the site was exposed sterile clay, but the portion at the tip of the bend was covered with silt deposits and not in suitable condition for surface collecting. The collections were made in controlled spatial units, but artifact displacement by water flow probably invalidated any cultural significance to differences in the spatial distribution of various artifacts.

The surface assemblage contains artifacts from the Early Archaic and possibly Paleo-Indian periods, Late Archaic, Middle Woodland, Late Woodland, and Mississippian periods. This assemblage is remarkable in the fact that although all of these periods are represented, only lithic artifacts were recovered. No ceramic artifacts were present on the site at the time of the survey. The range of lithic types present at the site is presented in Figs. 13, 14, 15, and 16. There is no cultural stratigraphy on the exposed part of the site due to erosion. The artifacts from each of the occupations are intermixed on the present surface. The presence of possible hearth areas indicates, however, that at least one living surface was possibly 10-15



Fig. 11. General view of Gallaher site (40RE109); Clinch River on the right, Poplar Creek on the left.



Fig. 12. General view of Poplar Creek site (40RE126) with the site partially inundated; view to the northeast.

centimeters above the present surface. The hearths also suggest the site was used for habitation, although the lack of other habitation debris such as fire-cracked cobbles and pottery does not corroborate this inference. There were pitted cobbles present, however, that indicate some type of food preparation was being carried out at the site.

Comments: The abundance of artifacts at this site is due in part to the flooding of Poplar Creek and to the fact that the site is inside the ORGDP security area and access is restricted in that area.

Recommendations: The site should be examined when Watts Bar Reservoir is lowered in the fall so that the spatial distribution of the hearth areas can be mapped. No extensive excavations would be warranted, due to the lack of subsurface cultural strata, although further testing is recommended in adjacent uneroded areas.

#### 40RE127

Location: This small site is located on the left bank of Poplar Creek about 2.3 miles above the mouth (35°55'57" N lat, 84°24'15" W long.).

Present condition: The creek bank portion of this site is exposed at low pool level of Watts Bar Lake; the remaining part is in heavy grass and weeds.

Previous investigations: None.

Current investigations: This site was examined at low pool level. Three artifacts were recovered (Table B.20).

Comments: The cultural material at the site is very sparse; no cultural affiliation was assigned.

Recommendations: No further work is required.

#### 40RE129

Location: This site is located adjacent to site 40RE108 on the right bank of the Clinch River (35°53'42" N lat, 84°23'15" W long.).

Present condition: Site is covered with vines, brush, and trees.

Fig. 13. Selected lithic artifacts: Poplar Creek site (40RE126).

a. Supplemental	b. Type 101	c. Type 138
d. Type 26	e. Type 31	f. Type 116
g. Type 27	h. Type 115	i. Type 122

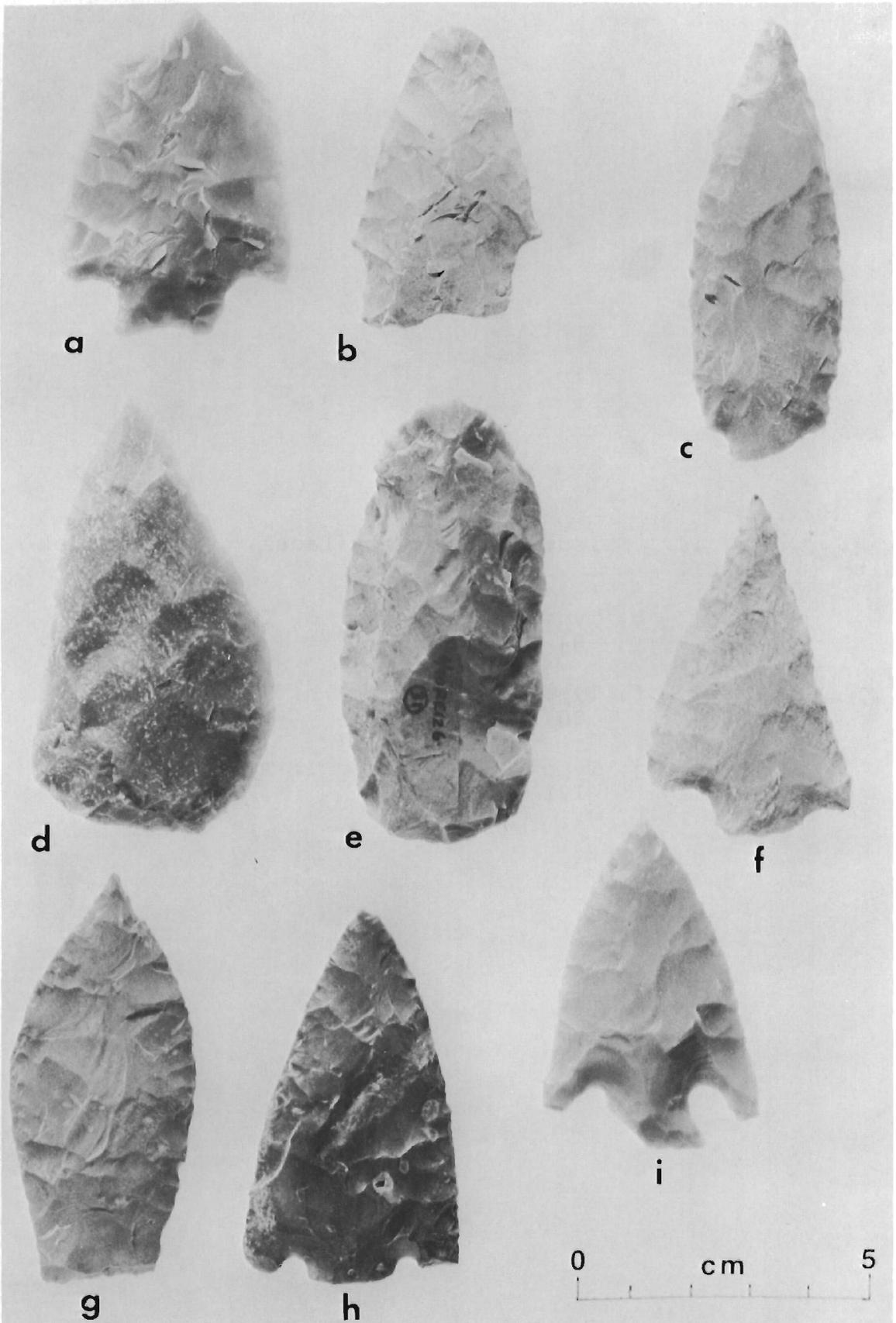


Fig. 14. Selected lithic artifacts: Poplar Creek site (40RE126).

a. Type 91	b. Type 84	c. Type 124	d. Type 96
e. Type 80	f. Type 80	g. Type 86	h. Supplemental
i. Type 99	j. Type 122	k. Type 123	l. Type 123

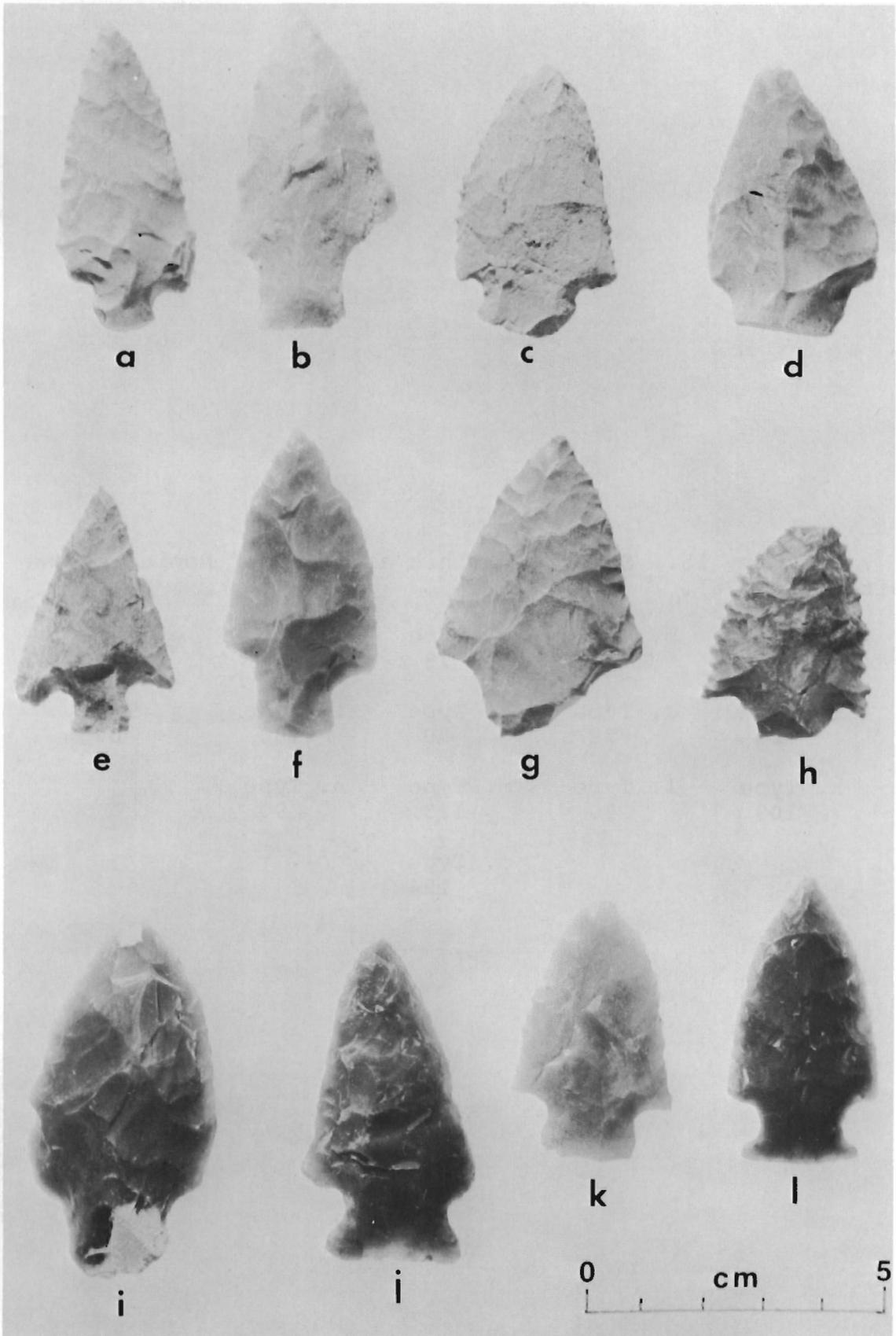


Fig. 15. Selected lithic artifacts: Poplar Creek site (40RE126).

a. Type 10	b. Type 23	c. Type 73	d. Type 71	e. Type 138
f. Type 125	g. Type 78	h. Type 90	i. Type 100	j. Type 62
k. Type 109	l. Type 90	m. Type 123	n. Type 90	
		o. Type 124		

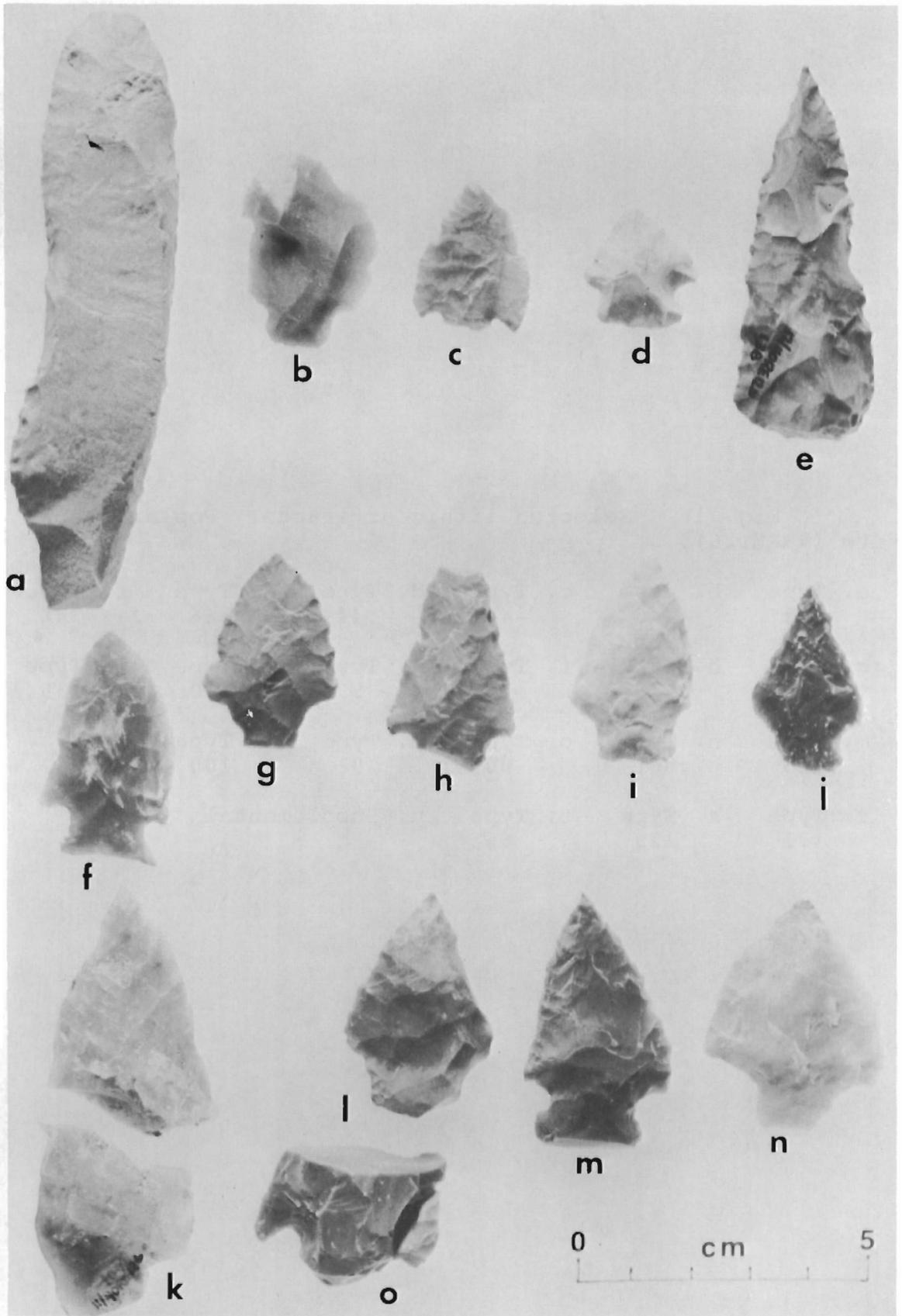
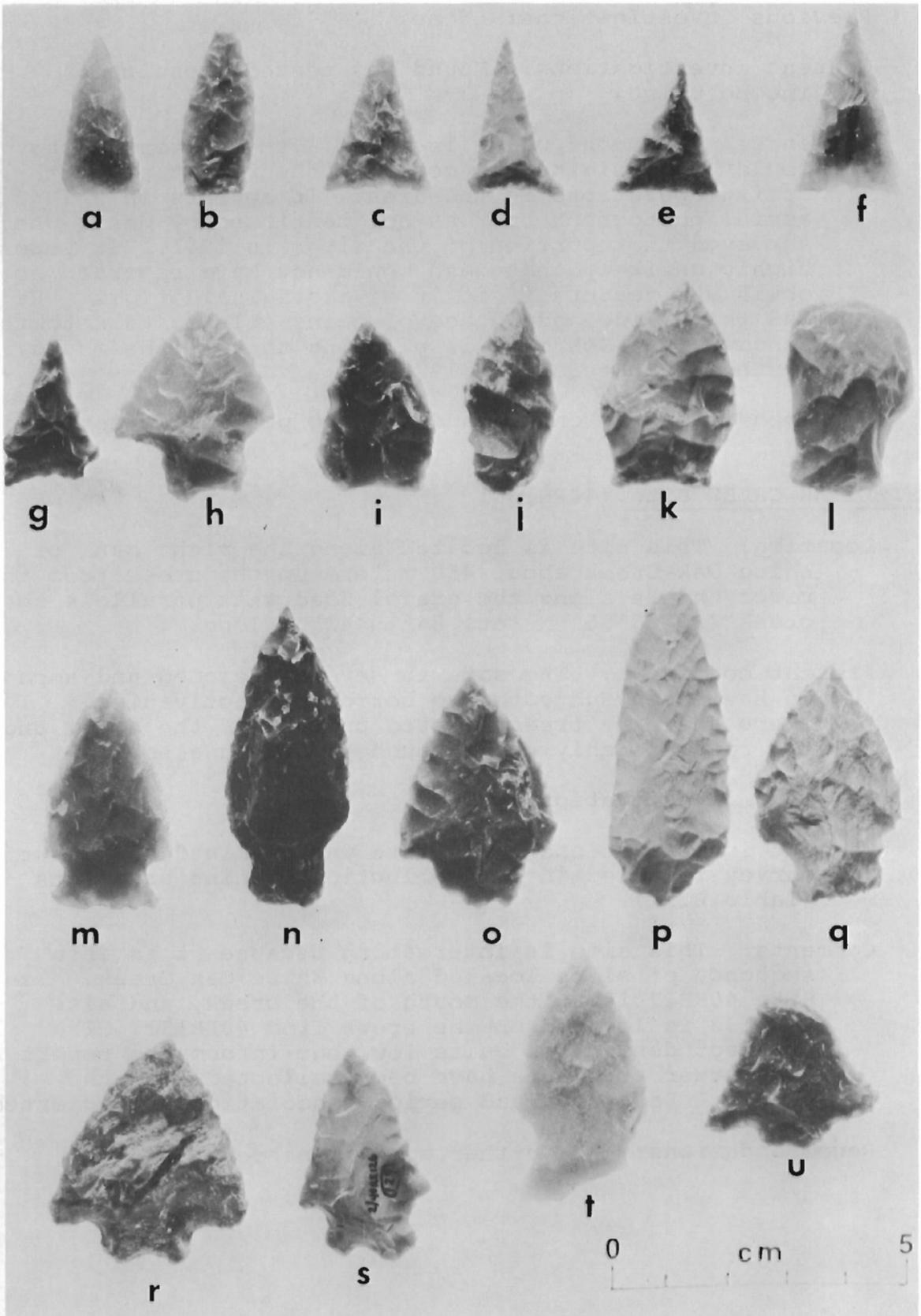


Fig. 16. Selected lithic artifacts: Poplar Creek site (40RE126).

a. Type 43	b. Type 43	c. Type 45	d. Type 44	e. Type 46	f. Type 48
g. Type 50	h. Type 78	i. Type 43	j. Type 59	k. Type 70	l. Type 139(101)
m. Type 125	n. Type 67	o. Type 90	p. Type 91	q. Type 100	
r. Type 131	s. Type 129	t. Type 66	u. Supplemental		



Previous investigations: None.

Current investigations: Mound was tested; results inconclusive.

Comments: The mound, which is about 3 to 4 meters high, could be aboriginal or could be the result of earth-moving operations in the area. It appears in a 1942 aerial photograph but was not mentioned by Nash, who surveyed that portion of the river in 1941. It seems highly unlikely that Nash would not have recorded so obvious a feature if it is of aboriginal origin. He had the decided advantage of being able to talk to the landowners. Schroedl is planning to test the mound further in the fall of 1974.

Recommendations: None in addition to planned investigation.

WHITE OAK CREEK Site (40RE131)

Location: This site is located along the right bank of White Oak Creek about 450 meters up the creek from the river and is along the gravel road that parallels the creek (35°53'55" N lat, 84°19'42" W long.).

Present condition: The site is severely eroded and appears to have been subjected to borrow pit activities. There are pine trees planted on part of the site, and the road probably cut through a portion also.

Previous investigations: None.

Current investigations: The site was examined and a surface survey resulted in the collection of nine artifacts (Table B.21).

Comments: This site is interesting because it is in a sequence of sites located along White Oak Creek. Site 40RE27 is at the mouth of the creek, and site 40RE132 is located up the creek from 40RE131. The artifact density is quite low, but informants report that other artifacts have been collected from the site. A Late Woodland period association is suggested.

Recommendations: No further work is needed.

WHITE OAK LAKE Site (40RE132)

Location: This site is located on the right bank of White Oak Creek and along the shore of White Oak Lake about one kilometer up the creek from the river (35°54'08" N lat, 84°19'29" W long.).

Present condition: The majority of the site appears to have been destroyed by radioactive waste disposal in Burial Ground 6. The remaining part is covered with grass, pine trees, weeds, and crushed rock (Fig. 17).

Previous investigations: None.

Current investigations: Work at the site consisted of a surface collection and one test pit. The test pit indicated no cultural strata below the plowzone. The surface collection was from the portion of the site that has not been affected by waste disposal. The artifacts recovered indicate Woodland and Archaic period components are present at this site (Table B.22; Fig. 19).

Comments: The site appears to be related to the other sites on White Oak Creek, but more investigation is needed to determine the distribution of sites along this and other creeks in the area. The remaining portion of the site will be affected by future expansion of the waste disposal area.

Recommendations: This site should be investigated further in light of expansion plans in the immediate area. Additional work would involve the stripping of the plow-disturbed soil over the site area. Once the plowzone is removed, any subsurface pits or burials that may have intruded below the plowzone can be discerned by differences in soil color and texture. The presence of these subsurface features, if present, would greatly aid the interpretation of the site. If this work is not conducted, expansion of Burial Ground 6 will destroy the remaining portion of the site.

BETHEL VALLEY Site (40RE133)

Location: The site is located on the north side of Bethel Valley, west of Tennessee highway 95 and north of Bethel Valley Road. It is on a power-line corridor that runs from White Oak Lake north to an area east of Blair Road. The site is situated on the south slope of

the first knoll north of Bethel Valley Road  
(35°55'01" N lat, 84°20'14" W long.).

Present condition: The ground cover is grass and weeds in the transmission-line corridor.

Previous investigations: None.

Current investigations: Nineteen artifacts were recovered from the rock outcrop and adjacent area (Table B.23).

Comments: This site is probably a chipping station or a quarry site. No evidence of habitation was found.

Recommendations: No further work is needed.

#### EAST FORK Site (40RE134)

Location: This site is located on the left bank of the east fork of Poplar Creek adjacent to Tennessee highway 58/95. It is situated on a small knoll about 60 meters north of the road and about 30 meters east of the creek (35°58'16" N lat, 84°20'46" W long.).

Present condition: The site was plowed and planted in pine seedlings when the survey was conducted (Fig. 18). Conditions were excellent for the surface survey. There is a concrete silo on the north edge of the site, and Euroamerican artifacts were found on the site.

Previous investigations: None.

Current investigations: A surface collection was made and 54 artifacts collected (Table B.24). No cultural strata were detected below the plowzone.

Comments: This site is important because it demonstrates that there are sites located away from the main river area. If the rest of the interior valley region were in a comparable condition to 40RE134, i.e., plowed, then many more sites would have been located. Woodland period cultural affiliation is suggested (Fig. 19).

Recommendations: No further work is required at this time.

#### 40RE135

Location: This site is located on the right bank of the



Fig. 17. General view of the White Oak Lake site (40RE132) showing test pit location (crew), crushed rock, and partial stripping of the vegetation; view to the northeast.



Fig. 18. General view of the East Fork site (40RE134) from Tennessee highway 58 looking northwest showing vegetation and plowing.

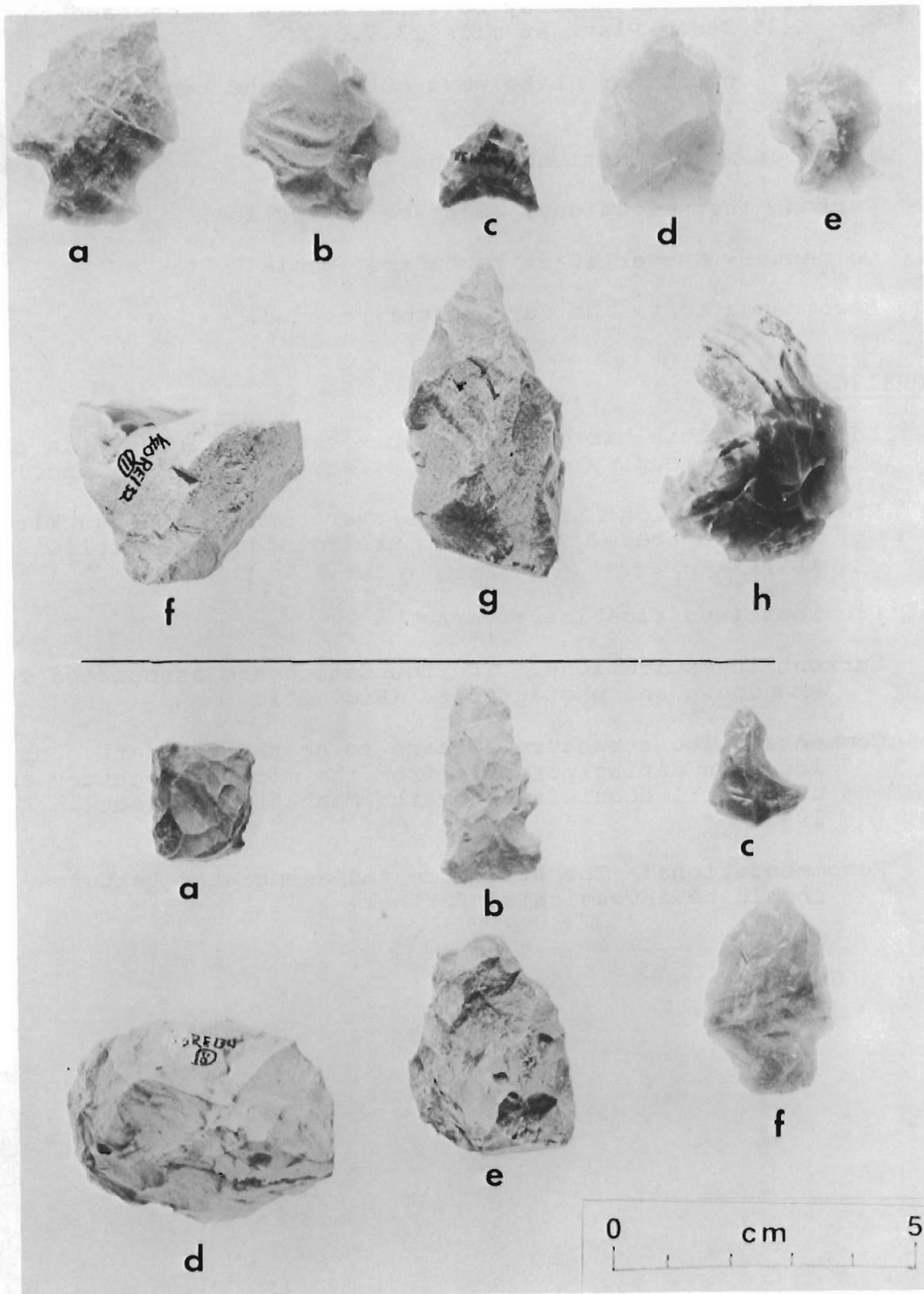
Fig. 19. Selected lithic artifacts:

## White Oak Lake Site (40RE132)

a. Type 101	b. Type 14	c. Type 45	d. Type 27	e. Type 8
f. Type 11	g. Type 25	h. Type 27		

## East Fork Site (40RE134)

a. Type 19	b. Type 62	c. Type 23
d. Type 8	e. Type 25	f. Type 78



Clinch River halfway between Gallaher Bridge and the K-25 Steam Plant at mile 13.7.

Present condition: Lake wave-cut bank and beach at low water.

Previous investigations: None.

Current investigations: Surface collection.

Comments: One artifact recovered (Table B.25).

Recommendations: No further work needed.

✓ 40RE136

Location: This historic structure site was located in the Wheat community (35°56'02" N lat, 84°22'39" W long.).

Present condition: The site is overgrown in honeysuckle and pine trees. The structure foundation is still intact.

Previous investigations: None.

Current investigations: The foundation and associated well were drawn and photographed (Fig. 20).

Comments: The structure appears to be the foundation of a log barn dating possibly from the mid-19th century and used until acquisition by the Manhattan Project in 1943.

Recommendations: The structure and associated features should be investigated further.

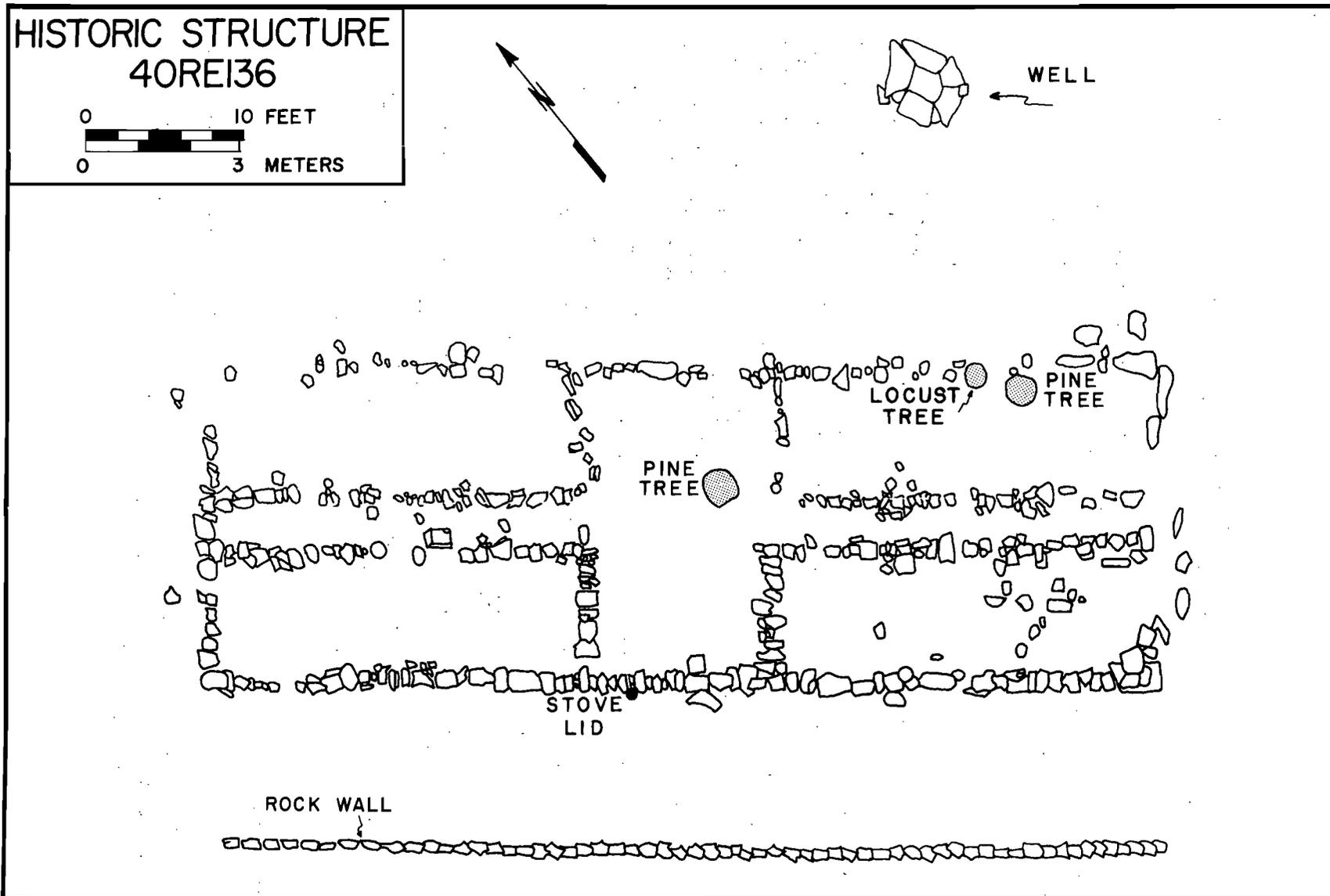


Fig. 20. Plan and associated features of historic barn foundation (40RE136).

## ARCHAEOLOGICAL RESOURCES IN SPECIFIC RESERVATION AREAS

In order to make this report more useful to persons involved in the planning stages of plant expansion, the following section describes the archaeological resources in specific plant areas.

### Oak Ridge Gaseous Diffusion Plant

The ORGDP area is located on the lower portion of the Clinch River and as such is in a prime area as far as archaeological sites are concerned. The survey has located 12 sites in and around the plant (Fig. 21) that could be affected by future plant expansion (sites 40RE87, 40RE89, 40RE90, 40RE109, 40RE110, 40RE111, 40RE125, 40RE126, 40RE127, 40RE134, 40RE135, and 40RE136). Of these 12 sites, 4 would require extensive testing and excavation if construction activities were planned in their locations (sites 40RE109, 40RE126, 40RE134, and 40RE136). In addition to the prehistoric sites listed, there are a number of historic sites in the Wheat community area that would need to be tested and evaluated if expansion were planned there. The Wheat area is around the junction of Blair Road and Tennessee highway 58. Any specific construction plans should include a detailed survey of the impact area.

### Proposed Poplar Creek Substation

The proposed (TVA) substation site along Poplar Creek east of Blair Road was examined by this survey and by Gerald Schroedl, U.T. Assistant Research Professor. No archaeological sites were located in the substation site area (Schroedl 1974b).

### Y-12 Plant

The Y-12 Plant is located in Bear Creek Valley between Chestnut and Pine ridges. The plant construction has affected most of the open area in that part of the valley and has expanded eastward to Scarboro Road. The westward plant expansion would affect portions of Bear Creek and the sides of Pine

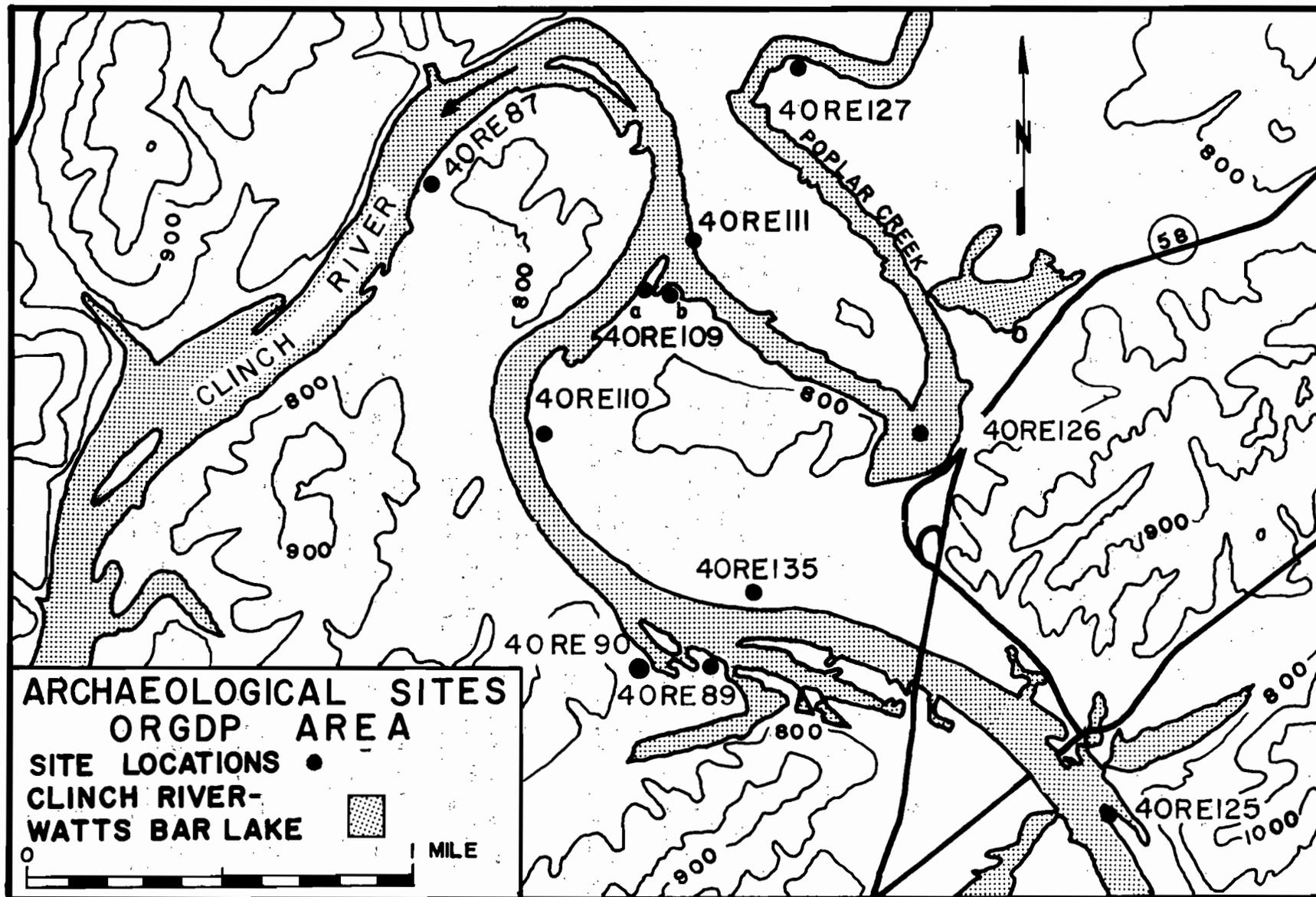


Fig. 21. Known archaeological sites in the ORGDP area as of June 1974; adapted from USGS 7-1/2' Elverton Quadrangle.

and Chestnut ridges. The south exposure of Pine Ridge west of the plant has been affected by radioactive waste disposal operations, and the area along Bear Creek west of the plant is being filled with earth and construction rubble. The waste disposal area was examined, and no archaeological sites were located. The area immediately west of the Y-12 Plant has been proposed for the ORMAK FB/X facility. This area (Fig. 22) was thoroughly tested for evidence of archaeological remains. No archaeological sites are present in the proposed plant site or the immediate area around the site.

Traverses along the crests of Pine and Chestnut ridges in the Y-12 area were made to check for historic sites; none were located in the areas surveyed.

Any specific expansion plans in the Y-12 area should include an evaluation of the proposed plant site locale.

#### ✓ Oak Ridge National Laboratory

Oak Ridge National Laboratory is located in Bethel Valley between Chestnut and Haw ridges. There are eight sites located in the general ORNL area, which includes portions of the north bank of the Clinch River but does not include the TVA land that is being used for the LMFBR project. The sites are 40RE27, 40RE101, 40RE102, 40RE103, 40RE104, 40RE131, 40RE132, and 40RE133. Of these eight sites, 40RE27, 40RE101, and 40RE132 would require extensive testing and possible excavation if construction activities were planned in their locations.

The expansion of Burial Ground 6 will adversely affect site 40RE132, and plans should be made to test and excavate the site or divert the expansion to an area that is devoid of archaeological materials.

Other future construction projects should be reviewed with respect to the impact on archaeological resources beyond what this preliminary survey has located.

#### UT-AEC Comparative Animal Research Laboratory (CARL)

The UT-AEC (CARL) area is located in the southeast sector of the Oak Ridge Reservation and is used for a variety of agriculturally related experimentation involving radioactive materials. There are ten sites in the CARL area that

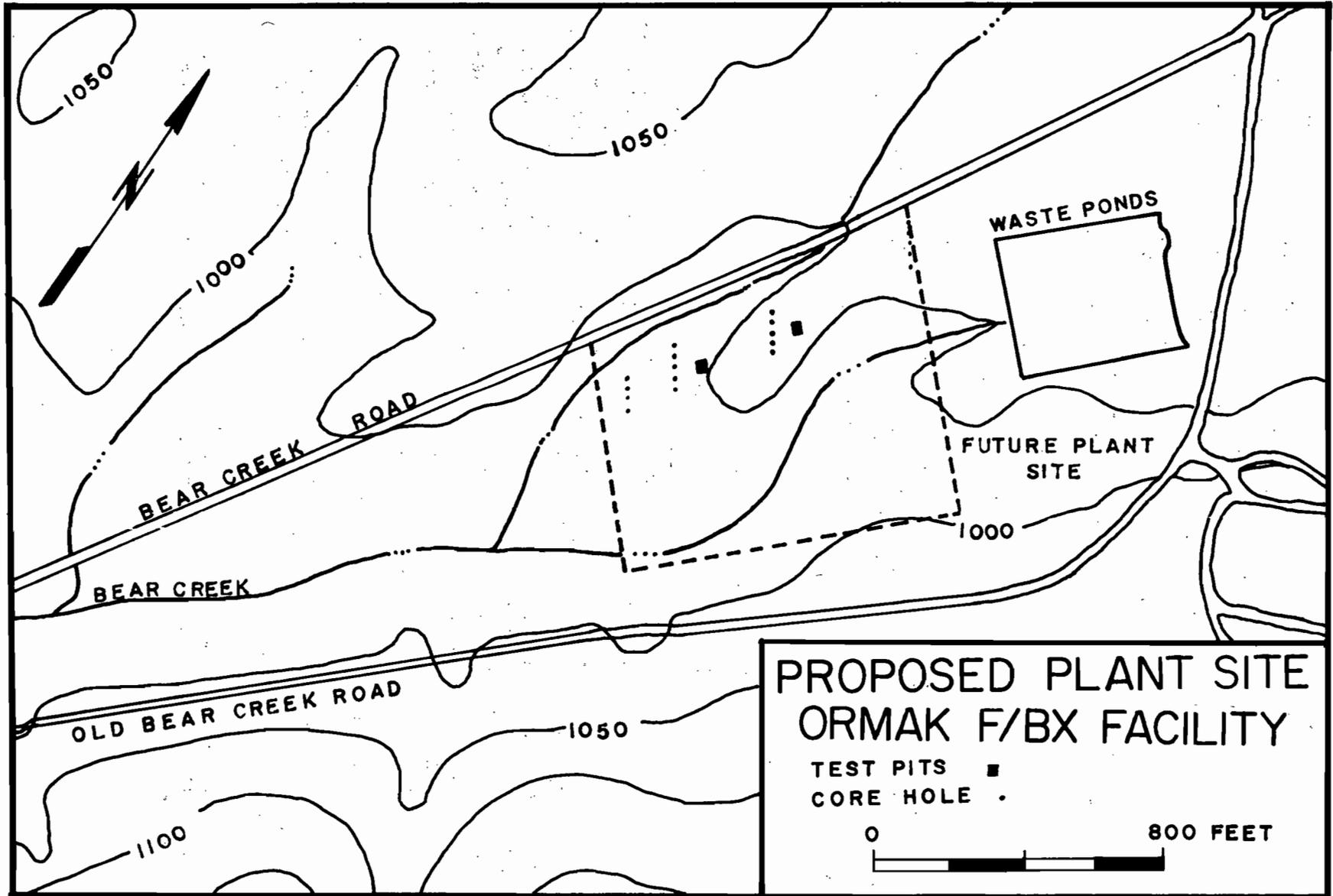


Fig. 22. Archaeological testing in the proposed ORMAK F/BX plant site located west of Y-12.

could be affected by expansion or acquisition of the lands for other purposes (Fig. 23). Of these ten sites (40AN8, 40AN20, 40AN25, 40AN26, 40AN27, 40AN28, 40AN29, 40AN30, and 40AN31), three would involve extensive testing and possible excavation if they were threatened by construction or other plans that would alter the site. These three sites, 40AN20, 40AN27, and 40AN28, could be affected by a proposed transfer of the CARL land holdings to the City of Oak Ridge. One site, the Freels Cabin site, will be evaluated in a future study for possible nomination to the National Register of Historic Places.

#### Liquid Metal Fast Breeder Reactor Site

The LMFBR plant site has been thoroughly surveyed for prehistoric and historic sites under specific contract arrangements between TVA, PMC, and The University of Tennessee. The sites that will be affected by possible plant construction have been tested, and salvage excavations are in progress (Schroedl 1974a).

#### Existing Transmission-Line Corridors

One corridor was selected for examination to evaluate any archaeological sites present. The corridor selected was deemed typical of others in the Reservation since it transected both ridge and valley terrains. Specifically, the corridor runs in a northwesterly direction from White Oak Lake to a junction north of Tennessee highway 58 east of the George Jones Memorial Church. The corridor was surveyed from where it crosses Tennessee highway 95 on the south side of Haw Ridge, across Haw Ridge through Bethel Valley, across Chestnut Ridge and through Bear Creek Valley, across Pine Ridge to Tennessee highway 58. One archaeological site, 40RE133, was located during the survey. This site was located on the south slope of Chestnut Ridge just north of Bethel Valley Road.

In general, transmission-line corridors do not adversely affect archaeological sites unless extensive excavation or filling is involved in tower construction. Easement clearing operations would affect above-ground features such as mounds and historic structures.

Based on the transmission-line corridor examined, the existing corridors on the Reservation do not adversely affect archaeological sites and resources.

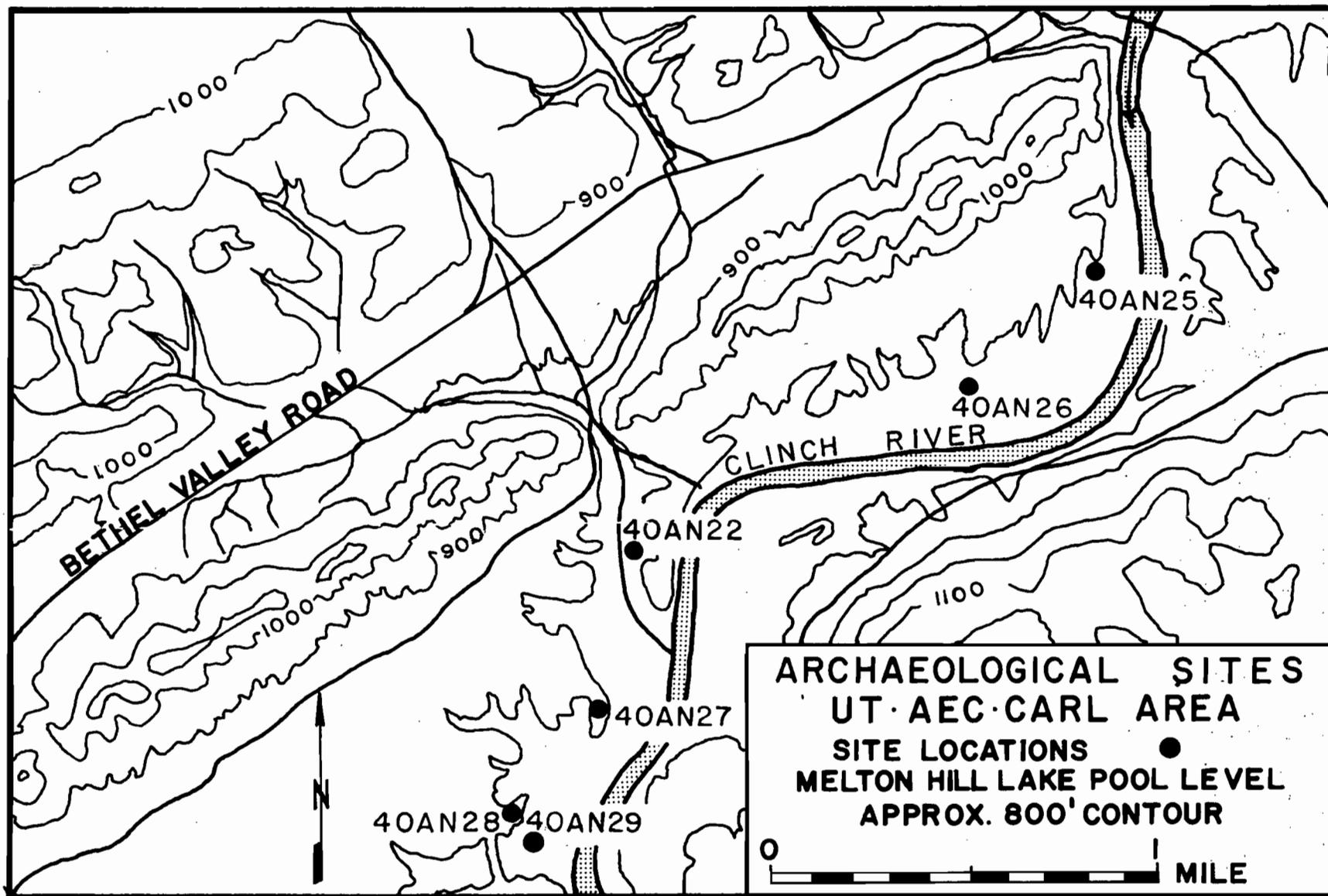


Fig. 23. Known archaeological sites on part of the UT-AEC Comparative Animal Research Laboratory lands; adapted from USGS 7-1/2' Lovell Quadrangle.

Federal Building, Oak Ridge, Tennessee

A construction trench at the northeast corner of the Federal Building was examined for stratigraphic evidence of aboriginal occupation. No indications of such were evident. No other work was done in the area since extensive landscaping activities have been carried out around the building.

## SUMMARY AND CONCLUSIONS

### Temporal Patterns

In an earlier section, the classification of the periods of prehistoric occupation of the Tennessee region was presented. These are the Paleo-Indian, Archaic, Woodland, Mississippian, and Historic Native American. The following section summarizes the archaeological sites located during this survey from the standpoint of their temporal affiliation and chronological sequence. A site can be listed under different time periods if it was occupied at different times.

#### Paleo-Indian Period

Only one site, 40RE126, yielded material possibly associated with the Paleo-Indian period. One artifact, a unifacial scraper (Fig. 15a), is quite similar to artifacts from the Knuckolls site in West Tennessee that has been assigned to the transitional Paleo-Indian period (Lewis and Kneberg 1958). Due to the presence of only one Paleo-Indian artifact at this site, it cannot be considered a Paleo-Indian occupation but may indicate that the site was used during the latter part of that period.

#### Archaic Period

The Archaic period, which lasted from ca. 7000 B.C. to ca. 1000 B.C., has been divided into three subdivisions--Early, Middle, and Late. A fourth division, the Terminal Archaic, is also recognized in East Tennessee (McCollough and Faulkner 1973).

Eight sites have been tentatively assigned to the Archaic period--40RE87, 40RE101, 40RE103, 40RE106, 40RE109A, 40RE111, 40RE126, and 40RE132. Of these, two have sufficient sample sizes to discriminate the subdivisions within the Archaic period. The Poplar Creek site (40RE126) assemblage contained material characteristic of the Early, Middle, Late, and Terminal Archaic periods. The Gallaher site (40RE109A) assemblage contained artifacts referable to the Early and Late Archaic periods.

### Woodland Period

Twenty-four sites on the Reservation have been assigned to the Woodland period based on the presence of diagnostic artifactual material or the occurrence of characteristic features such as burial mounds. The following sites were apparently occupied during this period: 40AN2, 40AN20, 40AN21, 40AN22, 40AN25, 40AN27, 40AN29, 40RE27, 40RE90, 40RE99, 40RE101, 40RE102, 40RE105, 40RE106, 40RE107, 40RE108, 40RE109A and B, 40RE110, 40RE111, 40RE124, 40RE126, 40RE131, 40RE132, and 40RE134. Early, Middle, and Late subdivisions are represented.

### Mississippian Period

The Mississippian period is represented by five sites--40AN2, 40AN20, 40RE89, 40RE124, and 40RE126. Of these five, only one, the Roberts Branch site (40RE89), is a major habitation site with extensive evidence of a large village. There were other large Mississippian villages along the Clinch, but none on the Oak Ridge Reservation.

### Historic Native American Period

Although there were Native Americans living in the area when the first Euroamericans arrived, no archaeological sites dating from this period were located or identified as such. The usual criteria for determining whether a site is historic Native American is the presence of European trade artifacts in an Indian context such as burial associations. The presence of Euroamerican artifacts mixed with aboriginal artifacts on the surface of a site does not necessarily indicate a historic Native American site.

### Historic Euroamerican Period

This period was not the primary focus of this survey, although several historic sites were investigated. Two sites were selected for a detailed examination--the Freels Cabin site (40AN28) and a barn foundation (40RE136). There are many other historic sites on the Reservation that require a detailed investigation not within the scope of the present survey. Steps have been initiated to undertake a study of the traditional architecture of the Oak Ridge Reservation.

## Site Distribution Patterns

### Intersite Patterns

The primary site distribution patterns are related to the Clinch River drainage. The majority of the known sites are associated with the main river and probable riverine resource exploitation. The favored site location on the main river was at the confluence of tributary streams. Examples include Poplar Creek, Grassy Creek, Scarboro Creek, and Raccoon Creek confluences. ✓

Sites were also located on tributary streams; sites 40RE126 on Poplar Creek and 40RE134 on the east fork of Poplar Creek are notable examples.

Only one site was investigated that was not on the drainage system of the Clinch River. This site, 40RE133, a possible quarry site on the side of Chestnut Ridge, represents a different type of activity than the habitation or food resource associated with sites along the river.

### Intrasite Patterns

Comments on relationships within sites are quite tentative in a survey of this nature which did not involve extensive testing of each site, but one aspect did become apparent during the course of the survey. There were five sites that included Late Woodland burial mounds as distinctive features (40AN21, 40AN27, 40RE27, 40RE90, and 40RE110). All of these sites have multiple mounds; 40RE27 has three and the others have two. The occurrence of the mounds in multiple groups is probably related to discrete cultural practices in Late Woodland times. It may be that once a burial mound reached a given size, a new mound was started. This pattern has been documented at several sites in East Tennessee. The McDonald site in Rhea County on the Tennessee River had five mounds with four of them paired (Fielder and Schroedl n.d.). The Scarboro Creek site (40AN27) also has two mounds, one larger than the other, as did the Crawford Mound site (40AN21).

Another possible explanation, other than a sequential process, is that the separate mounds represent different social or political units and that such units are reflected in the construction of separate mounds. The existence of isolated mounds such as sites 40RE124, 40AN21, 40RE99, and others can be incorporated into either scheme; i.e., they might not have reached optimum size, or there was only one socio-political group depositing their dead in that area.

The above comments are conjectural at this time, but current research at site 40RE124 and other mound sites should help resolve some of these questions.

### Conclusion

It should be realized that this study is preliminary and did not have the time nor the resources to effect a complete inventory of all of the sites on the Reservation. A complete inventory would be a major project of the size and scope that have been applied to some of the TVA reservoir projects such as Tellico and Normandy. Projects of this scope involve the expenditure of hundreds of thousands of dollars and several years of intensive survey, testing, and excavation. The magnitude of these projects is necessitated by the fact that large numbers of sites will be affected by the impoundment of major river systems. This situation is not analagous to the Oak Ridge Reservation where the effect on archaeological resources will be limited to specific construction activities.

Consequently, the evaluation of the impact of such projects can be handled as they arise on an individual basis. Examples of this type of evaluation include the LMFBR site survey and salvage excavations (Schroedl 1972, 1973a, 1973b, 1974a); the proposed TVA Poplar Creek substation survey (Schroedl 1974b); and the proposed ORMAK F/BX site examined during the current survey.

The result of the limited scope of the current survey is that although a number of sites were investigated, there are undoubtedly other sites on the Reservation that would add to the model of site distribution relationships. The east fork of Poplar Creek is a good example of an area that probably contains a number of sites of which only one is recorded (40RE134). This site was discovered because the surface in the immediate area had been cleared of the heavy vegetation and plowed. Had other areas along the creek been in comparable condition, it is virtually certain that other sites would have been located. Thus our conclusions on the distribution of archaeological sites is limited by the incompleteness of our data, mainly due to a small sample size and areas that have not been investigated. This lack of information, however, does not prevent us from postulating general implications of settlement patterns that can be tested in similar physiographic and ecological situations. Studies of the type conducted in this survey can be integrated into larger area models.

This study has located and investigated the archaeological potential of 45 sites of aboriginal occupation that could be affected by future expansion or development on the

Oak Ridge Reservation. This information will be made available to interested persons involved in the planning of future projects that may have an impact on archaeological resources. Other than the LMFBR project, there is only one site investigated during this survey which will be affected by immediate construction activities. This site, the White Oak Lake site (40RE132), is located in an area that will be used for the expansion of Burial Ground 6. However, there may be other planned construction of which the investigators are unaware that would affect archaeological sites.

## RECOMMENDATIONS

1. The site (40RE132) that will be affected by the expansion of Burial Ground 6 should be tested further to assess the impact of such expansion.
2. A survey comparable to the present one should be conducted to assess and evaluate the impact of the Oak Ridge Operations on the historic sites on the Reservation that predate the Manhattan Project, including the possibility of nominating the Freels Cabin site to the National Register of Historic Places.
3. Any specific future activity that would possibly affect archaeological or historic resources or sites on the Reservation should be evaluated on its specific impact. This includes any transfer of Federally owned properties to private or municipal agencies, as outlined in Executive Order 11593 of 13 May 1971.

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APPENDIX A  
MAMMALS AND HERPETOFAUNA OF THE  
OAK RIDGE AREA  
AND VERTEBRATE REMAINS FROM  
THE HIGGS SITE, LOUDON COUNTY

TABLE A.1  
MAMMALS OF OAK RIDGE AREA

Common Name	Scientific Name
Virginia opossum	<i>Didelphis virginiana</i>
Eastern mole	<i>Scalopus aquaticus</i>
Short-tailed shrew	<i>Blarina brevicauda</i>
Southeastern shrew	<i>Sorex longirostris</i>
Small short-tailed shrew	<i>Cryptotis parva</i>
Smoky shrew	<i>Sorex fumeus</i>
Little brown myotis	<i>Myotis lucifugus</i>
Southeastern bat	<i>Myotis austroriparius</i>
Red bat	<i>Lasiurus borealis</i>
Raccoon	<i>Procyon lotor</i>
Mink	<i>Mustela vison</i>
Striped skunk	<i>Mephitis mephitis</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Bobcat	<i>Lynx rufus</i>
Woodchuck	<i>Marmota monax</i>
Eastern chipmunk	<i>Tamias striatus</i>
Eastern gray squirrel	<i>Sciurus carolinensis</i>
Beaver	<i>Castor canadensis</i>
Eastern harvest mouse	<i>Reithrodontomys humulis</i>
White-footed mouse	<i>Peromyscus leucopus</i>
Golden mouse	<i>Peromyscus nuttalli</i>
Rice rat	<i>Oryzomys palustris</i>
Pine vole	<i>Pitymys pinetorum</i>
Muskrat	<i>Ondatra zibethica</i>
Norway rat	<i>Rattus norvegicus</i>
Cotton rat	<i>Sigmodon hispidus</i>
House mouse	<i>Mus musculus</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Feral domestic dog	<i>Canis familiaris</i>

SOURCE: Howell and Dunaway 1959.

TABLE A.2  
HERPETOFAUNA OF OAK RIDGE AREA

Common Name	Scientific Name
Pickerel frog	<i>Rana palustris</i>
Green frog	<i>Rana clamitans melanota</i>
Bullfrog	<i>Rana catesbeiana</i>
Northern cricket frog	<i>Acris crepitans crepitans</i>
Upland chorus frog	<i>Pseudacris triseriata feriarum</i>
Spring peeper	<i>Hyla crucifer</i>
Eastern gray tree frog	<i>Hyla versicolor versicolor</i>
Eastern narrow-mouthed toad	<i>Gastrophryne carolinensis</i>
American toad	<i>Bufo terrestris americanus</i>
Fowler's toad	<i>Bufo woodhousei fowleri</i>
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i> <i>holbrookii</i>
Southern leopard frog	<i>Rana pipiens sphenoccephala</i>
Spotted salamander	<i>Ambystoma maculatum</i>
Red-spotted newt	<i>Diemictylus viridescens</i> <i>viridescens</i>
Northern dusky salamander	<i>Desmognathus fuscus fuscus</i>
Slimy salamander	<i>Plethodon glutinosus</i> <i>glutinosus</i>
Northern red salamander	<i>Pseudotriton ruber ruber</i>
Northern two-lined salamander	<i>Eurycea bislineata bislineata</i>
Cave salamander	<i>Eurycea lucifuga</i>
Common snapping turtle	<i>Chelydra serpentina serpentina</i>
Eastern spiny soft-shelled turtle	<i>Trionyx spinifer spinifer</i>
Eastern painted turtle	<i>Chrysemys picta picta</i>
Map turtle	<i>Graptemys geographica</i>
Pond slider	<i>Pseudemys scripta</i>
Eastern box turtle	<i>Terrapene carolina carolina</i>
Northern fence lizard	<i>Sceloporus undulatus</i> <i>hyacinthinus</i>
Ground skink	<i>Lygosoma laterale</i>
Broad-headed skink	<i>Eumeces laticeps</i>
Five-lined skink	<i>Eumeces fasciatus</i>
Six-lined racerunner	<i>Cnemidophorus sexlineatus</i>

TABLE A.2--Continued

Common Name	Scientific Name
Northern water snake	<i>Natrix sipedon sipedon</i>
Queen snake	<i>Natrix septemvittata</i>
Diamond-backed water snake	<i>Natrix rhombifera rhombifera</i>
Eastern garter snake	<i>Thamnophis sirtalis sirtalis</i>
Eastern worm snake	<i>Carphophis amoenus amoenus</i>
Midland brown snake	<i>Storeria dekayi wrightorum</i>
Northern red-bellied snake	<i>Storeria occipitomaculata</i> <i>occipitomaculata</i>
Northern ringneck snake	<i>Diadophis punctatus edwardsi</i>
Northern black racer	<i>Coluber constrictor</i> <i>constrictor</i>
Eastern milk snake	<i>L. doliata triangulum</i>
Mole snake	<i>L. calligaster rhombomaculata</i>
Corn snake	<i>Elaphe guttata guttata</i>
Gray rat snake	<i>Elaphe obsoleta spiloides</i>
Rough green snake	<i>Opheodrys aestivus</i>
Northern copperhead	<i>Agkistrodon contortrix mokeson</i>
Timber rattlesnake	<i>Crotalus horridus horridus</i>
Stripe-necked musk turtle	<i>Sternotherus minor peltifer</i>
Ouachita map turtle	<i>Graptemys pseudo-geographica</i> <i>ouachitensis</i>
Slider turtle	<i>Pseudemys concinna hieroglyphica</i>
Stinkpot turtle	<i>Sternotherus odoratus</i>
Eastern earth snake	<i>Haldea valeriae valeriae</i>
Scarlet snake	<i>Cemophora coccinea</i>

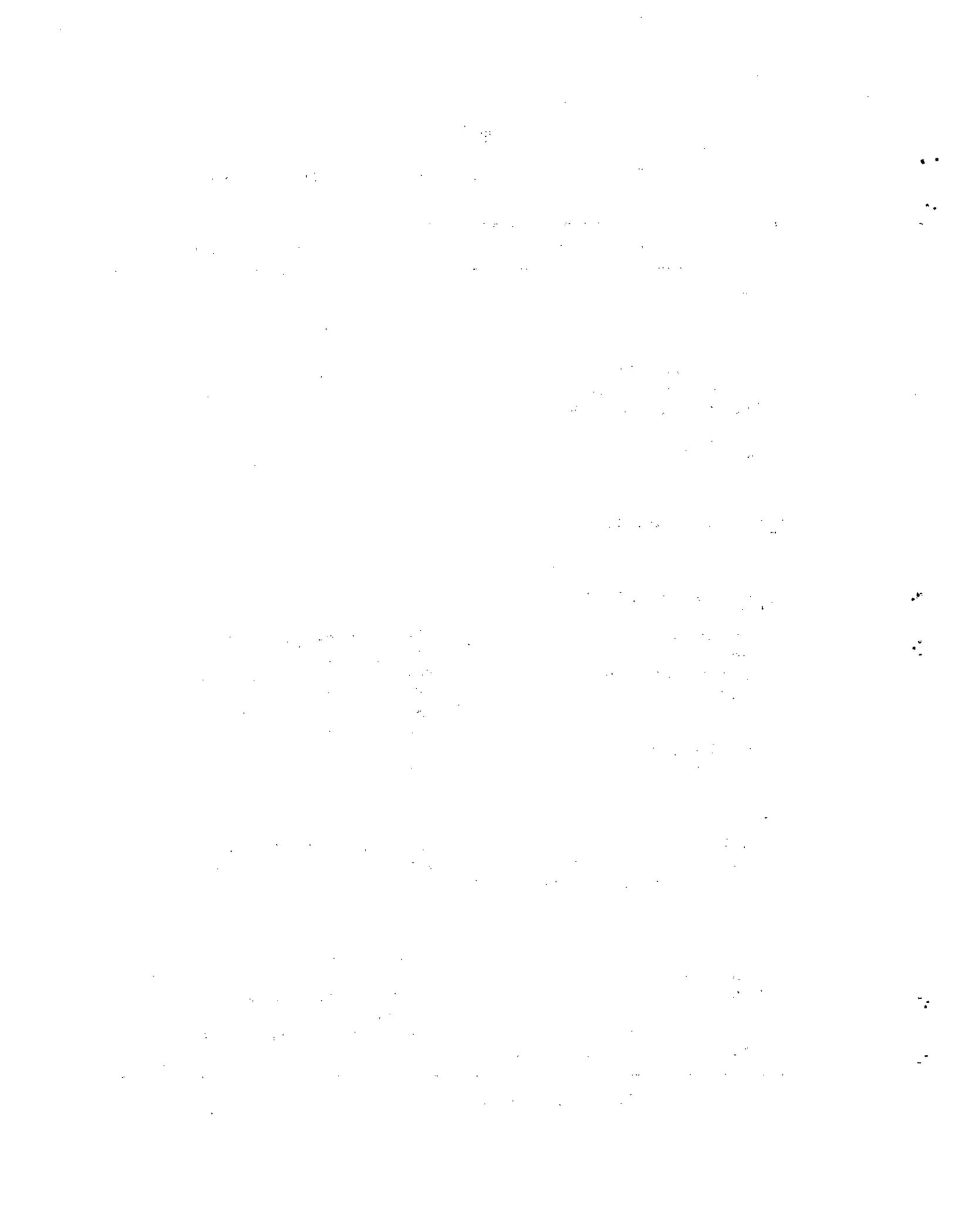
SOURCE: Johnson 1964.

TABLE A.3

## VERTEBRATES IDENTIFIED FROM THE HIGGS SITE

Common Name	Scientific Name
<u>Fishes</u>	
Gar	<i>Lepisosteus</i> sp.
Sucker	family <i>Catostomidae</i>
Catfish/Bullhead	<i>Ictalurus</i> sp.
Freshwater drum	<i>Aplodinotus grunniens</i>
Indet. fish bones	
<u>Amphibians</u>	
Toad	<i>Bufo</i> sp.
<u>Reptiles (snakes)</u>	
Snake sp.	
<u>Reptiles (turtles)</u>	
Snapping turtle	<i>Chelydra serpentina</i>
Musk turtle	<i>Sternotherus odoratus</i>
Eastern box turtle	<i>Terrapene</i> cf. <i>carolina</i>
Slider	cf. <i>Pseudemys</i>
Turtle	<i>Pseudemys</i> , <i>Graptemys</i> , <i>Chrysemys</i> group
Turtle spp.	
Softshell	<i>Trionyx</i> sp.
<u>Birds</u>	
Turkey	<i>Meleagris gallopavo</i>
cf. Sandhill crane	<i>Grus canadensis</i>
Indet. bird bone fragments	
<u>Mammals</u>	
Raccoon	<i>Procyon lotor</i>
Squirrel	<i>Sciurus</i> sp.
Beaver	<i>Castor canadensis</i>
Elk ?	<i>Cervus canadensis</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Indet. mammal bone fragments	

SOURCE: Parmalee 1973.



APPENDIX B  
INVENTORY AND ANALYSIS OF CULTURAL  
MATERIALS RECOVERED

## B. INVENTORY AND ANALYSIS OF CULTURAL MATERIALS RECOVERED

The cultural materials that were collected during the course of this survey were catalogued by site number and specific provenience such as test pit number, general surface, location within a site, or any other pertinent identification. After washing and labeling, the artifacts were typed using standard archaeological procedures and criteria. The lithic artifacts were analyzed by Mr. Stephen Cooper, a member of the field party and a graduate student in anthropology at The University of Tennessee. Mr. Cooper is experienced in lithic analysis and classification, having worked on materials from the Normandy Reservoir salvage project. The ceramic artifacts were analyzed and classified by the author.

The lithic artifacts were typed using the scheme devised for the Normandy Reservoir as developed in Faulkner and McCollough (1973). This typology was used to describe the various types of lithic artifacts recovered during the course of survey, testing, and preliminary excavation in that reservoir. The result of their work was a set of descriptive attributes which defined a given type of artifact. For example, Type 45 in their collection is a small triangular projectile point/knife with a thin, narrow, incurvate blade. Distinguishing criteria are further defined based on method of flaking used, base shape, and metric attributes (Faulkner and McCollough 1973:90).

Their type categories were used in the ordering and description of the artifacts recovered in this survey. The assigning of a Normandy type number to a projectile point found at Oak Ridge does not imply that the same peoples or culture associated with those at Normandy in Middle Tennessee were present in Oak Ridge. What it does mean is that the point found in Oak Ridge fits the description of the point type described in Normandy. It is assumed in a broad sense that the two points are temporally related, but the relationship should not be pushed too far. For example, Type 45 is related to a Late Woodland period occupation in Middle Tennessee and has been shown to be related to a Late Woodland period occupation in East Tennessee; but this does not imply that the same people were occupying both areas. This particular point type occurs in both places at about the same time and can be used as a marker for the Late Woodland period in both areas.

A complete listing of the descriptive attributes of each of the Normandy types can be found in Faulkner and McCollough (1973:80-159). An abbreviated list of the descriptive morphology of each type is listed below; the tables in this appendix are keyed to that list, as well as the detailed description in the original source.

Several of the artifacts recovered at Oak Ridge did not fit comfortably into the types proposed for Normandy. In these cases supplemental types were described, but not assigned numbers to avoid confusion with additional numbers that will be given to new types in the Normandy series. The numbers listed below correspond to those assigned to the types in Faulkner and McCollough (1973:72-79).

### Lithic Typology Master List--Oak Ridge Survey

#### Primary Lithic

1. Hammerstone
- 2a. Crude subconical core
- 2c. Discoidal core
- 2d. Amorphous core
3. Core trimming flake
4. Flat flake
5. Bifacial thinning flake
6. Utilized flake
7. Miscellaneous retouched flake

#### Unifacial Implements

8. End scraper on flake
10. Side scraper on flake
11. Transverse side scraper
14. Notched flake
15. Spokeshave
16. Denticulate flake
17. Perforator
18. Graver
19. End and side scraper
21. End scraper/graver
23. Miscellaneous unifacial implements

#### Bifacial Implements

25. Thick biface: blank, roughout
26. Knife, including asymmetrical knife
27. Preform: knife
28. Core scraper

- 30. End scraper
- 31. Chisel
- 32. Side scraper
- 36b. Perforator

#### Projectile Points/Knives

- 43. Small triangular, thin narrow excurvate blade
- 44. Small triangular, thick narrow incurvate blade
- 45. Small triangular, thin narrow incurvate blade
- 46. Small triangular, thin narrow straight blade
- 47. Small triangular, thick narrow straight blade
- 50. Pentagonal
- 53. Medium-large triangular, straight-excurvate blade
- 56. Medium-large triangular, recurvate elongate blade
- 58. Unidentifiable broken triangular
- 60. Narrow thick lanceolate stemmed
- 61. Narrow thick lanceolate expanded stemmed
- 62. Narrow thick lanceolate side notched
- 66. Medium-large wide shallow side notched
- 67. Medium-large shallow side notched, narrow blade
- 69. Small shallow side notched
- 71. Undifferentiated side notched
- 73. Small corner notched, thin blade
- 74. Small-medium corner notched
- 75. Medium corner notched, elongate blade
- 76. Small-medium expanded stemmed
- 78. Small-medium short straight stemmed
- 80. Small-medium narrow expanded stemmed, slight barb, narrow blade
- 84. Medium undifferentiated expanded stemmed
- 86. Large wide contracting stemmed
- 88. Medium contracting stemmed, narrow blade, weak shouldered
- 89. Medium short straight-rounded stemmed, weak shouldered, narrow blade
- 90. Medium short rounded stemmed, strong shouldered
- 91. Medium rounded stemmed, narrow blade
- 96. Medium short stemmed, unfinished base
- 98. Medium straight stemmed, narrow blade
- 99. Medium-large straight stemmed, weak shouldered
- 100. Medium short straight stemmed, narrow blade
- 101. Medium straight stemmed, narrow blade, strong shouldered
- 107. Asymmetrical stemmed knife
- 109. Large crude straight stemmed
- 112. Medium-large corner removed, wide blade
- 114. Small-medium corner removed
- 115. Medium-large basal notched, wide blade
- 116. Medium-large short rounded base, wide blade
- 122. Large corner notched, straight base

- 123. Medium-large corner notched, straight base
- 124. Medium-large corner notched, excurvate base
- 125. Medium corner notched, straight base
- 127. Medium short expanded stemmed, serrated blade
- 129. Small-medium short expanded stemmed, bifurcate base, narrow blade
- 130. Small-medium expanded stemmed, bifurcate base, narrow blade, weak shoulders
- 131. Medium short expanded stemmed, bifurcate base, wide blade, barbed
- 138. Unidentifiable broken distal ends
- 139. End scraper, reworked on projectile point/knive

#### Ground Stone Implements

- 141. Pecked cobble
- 142. Pecked pebble
- 144. Pitted cobble, Type B
- 146. Pitted cobble, Type D
- 148. Pitted cobble, Type F
- 149. Ground and battered cobble, Type A
- 154. Ground and faceted hematite
- 156. Celt, green slate (greenstone)
- 159. Green slate fragment
- 160. Worked igneous rock fragment
- 162. Worked steatite

TABLE B.1  
 SITE 40AN25  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	13	20.3
4	23	35.9
5	13	20.3
6	12	18.8
7	1	1.6
8	1	1.6
14	<u>1</u>	1.6
Total	64	

TABLE B.2  
 SITE 40AN26  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	1	4.3
3	7	30.4
4	8	34.8
5	4	17.4
6	2	8.7
10	<u>1</u>	4.3
Total	23	

TABLE B.3  
 SITE 40AN27  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	1	0.5
3	45	24.2
4	64	34.4
5	25	13.4
6	38	20.1
7	1	0.5
8	3	1.6
15	1	0.5
17	1	0.5
18	1	0.5
78	1	0.5
100	1	0.5
138	4	2.2
Total	186	

TABLE B.4  
 SITE 40AN29  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	1	0.4
3	52	22.9
4	66	29.1
5	31	13.7
6	53	23.3
7	3	1.3
8	5	2.2
10	3	1.3
14	2	0.9
15	2	0.9
18	1	0.4
19	1	0.4
23 <sup>1</sup>	1	0.4
47	1	0.4
53	1	0.4
62	1	0.4
69	1	0.4
138	<u>2</u>	0.9
Total	227	

<sup>1</sup>Two side-scraper edges converging to form a perforator or graver.

TABLE B.5  
 SITE 40AN30  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	14	70.0
5	2	10.0
6	<u>4</u>	20.0
Total	20	

TABLE B.6  
 SITE 40AN31  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	1	20.0
4	1	20.0
5	1	20.0
28	<u>2</u>	40.0
Total	5	

TABLE B.7  
 SITE 40RE27  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	1	1	12.5
	4	1	12.5
	5	1	12.5
	8	2	25.0
	25	1	12.5
	43	1	12.5
	Supplemental <sup>1</sup>	<u>1</u>	12.5
	Total	8	
Ceramic	Limestone-tempered		
	Cord-marked	1	
	Plain	<u>2</u>	
	Total	3	

<sup>1</sup>Very small, extremely smooth pebble.

TABLE B.8  
 SITE 40RE89  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	2d	4	2.4
	3	32	19.0
	4	26	15.5
	5	25	14.9
	6	54	32.1
	7	5	3.0
	8	5	3.0
	10	7	4.2
	11	2	1.2
	17	1	0.6
	18	3	1.8
	138	4	2.4
		Total	168
Ceramic	Shell-tempered		
	Incised (Dallas)	9	
	Cord-marked	43	
	Filletted rims	4	
	Plain	271	
	Salt pan	1	
	Total	328	

TABLE B.9  
SITE 40RE90  
ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	6	17.1
4	7	20.0
5	7	20.0
6	6	17.1
7	1	2.9
10	3	8.6
19	2	5.7
28	2	5.7
138	<u>1</u>	2.9
Total	35	

TABLE B.10  
 SITE 40RE101  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	7	1.6
3	106	23.5
4	181	40.1
5	52	11.5
6	77	17.1
7	2	0.4
8	5	1.1
10	7	1.6
11	1	0.2
18	1	0.2
19	2	0.4
23 <sup>1</sup>	1	0.2
25	2	0.4
31	1	0.2
60	1	0.2
73	1	0.2
138	2	0.4
141	1	0.2
142	<u>1</u>	0.2
Total	451	

<sup>1</sup>Small-medium unifacial knife.

TABLE B.11  
 SITE 40RE103  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	2	1.5
3	42	32.3
4	17	13.1
5	13	10.0
6	42	32.3
7	6	4.6
8	2	1.5
10	2	1.5
14	1	0.8
19	1	0.8
127	1	0.8
144	1	0.8
Total	130	

TABLE B.12  
 SITE 40RE104  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	1	50.0
10	1	50.0
Total	2	

TABLE B.13  
 SITE 40RE106  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	2d	1	1.5
	3	16	23.9
	4	13	19.4
	5	18	26.9
	6	7	10.4
	7	1	1.5
	8	2	3.0
	10	4	6.0
	50	1	1.5
	58	1	1.5
	98	1	1.5
	159	1	1.5
160	1	1.5	
	Total	67	
Ceramic	Grit-tempered Plain	1	

TABLE B.14  
 SITE 40RE109A  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	2a	2	0.4
	2c	2	0.4
	2d	16	3.4
	3	172	36.8
	4	56	12.0
	5	53	11.3
	6	77	16.5
	7	13	2.8
	8	7	1.5
	9	1	0.2
	10	2	0.4
	14	2	0.4
	16	1	0.2
	18	8	1.7
	21	3	0.6
	23 <sup>1</sup>	2	0.4
	25	2	0.4
	26	1	0.2
	28	1	0.2
	30	1	0.2
	31	1	0.2
	32	2	0.4
	43	1	0.2
	45	1	0.2
	60	3	0.6
	61	1	0.2
	71	1	0.2
	73	1	0.2
	75	1	0.2
	76	1	0.2
78	1	0.2	
84	1	0.2	
86	1	0.2	
90	1	0.2	
91	1	0.2	
100	1	0.2	
114	2	0.4	
124	1	0.2	
130	1	0.2	
131	1	0.2	
138	10	2.0	

TABLE B.14--Continued

Classification	Artifact Type No.	Artifacts Recovered	%
	139 (90) <sup>2</sup>	1	0.2
	141	2	0.4
	144	1	0.2
	154	1	0.2
	156	1	0.2
	159	1	0.2
	162	3	0.6
	Supplemental <sup>3</sup>	1	0.2
	Total	467	
Ceramic	Grit-tempered Cord-marked Plain Limestone-tempered Cord-marked	1 1 <u>1</u>	
	Total	3	

<sup>1</sup>Distal end of unifacial knife. End and side scraper with perforator.

<sup>2</sup>End scraper on reworked Type 90.

<sup>3</sup>Unifacial projectile point: small-medium; short contracting stem; bifurcated base; excurvate blade.

TABLE B.15  
 SITE 40RE109B  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2a	1	0.4
2d	12	4.6
3	58	22.1
4	34	13.0
5	19	7.3
6	82	31.3
7	10	3.8
8	5	1.9
9	1	0.4
10	7	2.7
11	2	0.8
16	1	0.4
17	1	0.4
18	2	0.8
19	3	1.1
23 <sup>1</sup>	2	0.8
25	2	0.8
28	3	1.1
43	1	0.4
62	1	0.4
80	1	0.4
88	1	0.4
114	1	0.4
138	8	3.1
144	3	1.1
148	<u>1</u>	0.4
Total	262	

<sup>1</sup>Side scraper and spokeshave.

TABLE B.16  
 SITE 40RE110  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	78	1	50.0
	146	<u>1</u>	50.0
	Total	2	
Ceramic	Grit-tempered Cord-marked	1	

TABLE B.17  
 SITE 40RE111  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
1	1	0.6
2d	5	3.0
3	36	22.0
4	23	14.0
5	15	9.1
6	60	36.6
7	3	1.8
8	3	1.8
10	1	0.6
11	1	0.6
14	2	1.2
17	2	1.2
28	2	1.2
60	1	0.6
76	1	0.6
80	1	0.6
116	1	0.6
138	<u>6</u>	3.6
Total	164	

TABLE B.18  
 SITE 40RE125  
 ARTIFACT ASSEMBLAGE

Classification	Artifact Type No.	Artifacts Recovered	%
Lithic	3	2	50.0
	6	1	25.0
	28	<u>1</u>	25.0
	Total	4	
Ceramic	Limestone-tempered Cord-marked	3	

TABLE B.19  
 SITE 40RE126  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%	Artifact Type No.	Artifacts Recovered	%
2a	2	0.8	14	2	0.8
2c	1	0.4	18	4	1.6
2d	16	6.6	23 <sup>1</sup>	1	0.4
3	22	9.1	25	2	0.8
4	5	2.1	26	1	0.4
5	2	0.8	27	3	1.2
6	66	27.2	28	4	1.6
7	4	1.6	31	2	0.4
8	6	2.5	43	3	1.2
10	16	6.6	44	1	0.4

TABLE B.19--Continued

Artifact Type No.	Artifacts Recovered	%	Artifact Type No.	Artifacts Recovered	%
45	2	0.8	101	1	0.4
46	1	0.4	109	1	0.4
47	1	0.4	112	1	0.4
50	1	0.4	114	1	0.4
56	1	0.4	115	1	0.4
62	1	0.4	116	6	2.5
66	2	0.8	122	2	0.8
67	1	0.4	123	3	1.2
70	1	0.4	124	2	0.8
71	2	0.8	125	3	1.2
73	1	0.4	129	1	0.4
78	2	0.8	131	1	0.4
80	2	0.8	138	13	5.3
84	1	0.4	139 (101) <sup>2</sup>	1	0.4
86	1	0.4	149	1	0.4
88	1	0.4	154	2	0.8
89	1	0.4	159	1	0.4
90	5	2.1	160	1	0.4
91	2	0.8	Supplemental <sup>3</sup>	3	1.2
96	1	0.4			
99	2	0.8	Total	243	
100	3	1.2			

<sup>1</sup>Unifacial end scraper with stem formed bifacially at bulb of force.

<sup>2</sup>Bifacial end scraper on reworked Type 101.

<sup>3</sup>Projectile point/knife: large; slightly excurvate blade; barbed; short expanded stem; incurvate base; wide blade; length--?; width--39 mm; thickness--9 mm; stem length--10 mm.

Projectile point: medium; excurvate, serrated blade; barbed; broken base; length--36 mm; width--28 mm; thickness--9 mm.

Projectile point: small-medium; wide, recurvate, serrated blade; short, rounded base; length--27 mm; width--30 mm; thickness--7 mm.

TABLE B.20  
 SITE 40RE127  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	1	33.3
3	1	33.3
144	<u>1</u>	33.3
Total	3	

TABLE B.21  
 SITE 40RE131  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
3	1	11.1
4	4	44.4
5	1	11.1
8	1	11.1
74	1	11.1
149	<u>1</u>	11.1
Total	9	

TABLE B.22  
 SITE 40RE132  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%	Artifact Type No.	Artifacts Recovered	%
1	1	0.5	19	2	1.0
2d	8	3.9	25	1	0.5
3	67	32.8	27	3	1.5
4	37	18.1	28	2	1.0
5	22	10.8	45	1	0.5
6	38	18.6	74	1	0.5
7	1	0.5	101	1	0.5
8	5	2.5	138	4	2.0
10	5	2.5	162	1	0.5
11	2	1.0			
15	1	0.5	Total	204	
18	1	0.5			

TABLE B.23  
 SITE 40RE133  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
2d	5	26.3
3	5	26.3
6	7	36.8
18	2	10.5
Total	19	

TABLE B.24  
 SITE 40RE134  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
1	2	3.7
2d	3	5.6
3	11	20.4
4	14	25.9
6	16	29.6
8	2	3.7
19	1	1.9
23 <sup>1</sup>	1	1.9
25	1	1.9
62	1	1.9
78	1	1.9
141	1	1.9
Total	54	

<sup>1</sup>End and side scraper, spokeshave, and graver.

TABLE B.25  
 SITE 40RE135  
 ARTIFACT ASSEMBLAGE

Artifact Type No.	Artifacts Recovered	%
107	1	100.0

APPENDIX C  
CLIMATOLOGICAL DATA FOR  
OAK RIDGE, TENNESSEE

TABLE C.1  
 MONTHLY CLIMATIC SUMMARY FOR THE OAK RIDGE  
 AREA BASED ON A 20-YEAR RECORD

Month	Temperature (°F)			Precipitation (in.)	
	Mean	Maximum	Minimum	Rain	Snow
January	37.9	48.8	28.8	5.3	3.4
February	40.9	51.2	30.6	5.3	2.6
March	47.5	58.7	36.3	5.6	1.3
April	59.0	71.1	46.9	4.4	0.01
May	66.8	79.1	54.5	3.6	0.0
June	74.0	85.2	62.7	4.0	0.0
July	76.9	87.3	66.4	5.6	0.0
August	76.0	86.7	65.2	3.8	0.0
September	70.1	81.5	58.7	3.3	0.0
October	59.3	71.3	47.2	2.7	0.0
November	46.9	57.8	35.9	4.2	0.5
December	<u>39.7</u>	48.8	30.6	<u>5.7</u>	<u>2.5</u>
Annual	57.9			53.5	10.3

SOURCE: U.S. Atomic Energy Commission 1974, Table A.1.

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