

ARCHAEOLOGICAL INVESTIGATIONS IN THE
CLINCH RIVER BREEDER REACTOR PROJECT AREA
1981-82

By
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1982

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Nashville, Tennessee

ACKNOWLEDGEMENTS

The 1981-1982 archaeological investigations of the CRBRP project area were funded by the CRBRP Project Office and managed by the Cultural Resources Program, Tennessee Valley Authority. John C. Coverdale of the Cultural Resources Program provided supplies, reports, maps and aerial photographs. Ken E. Yates and Joseph A. Woodruff of the CRBRP Project Office provided project maps and environmental information.

Robert Newman served as the Principal Investigator and handled all administrative aspects of the project. The crew for the first four weeks of the project consisted of Mike Griffin (Field Assistant), Colleen Hamilton and Mark Febbo. After inclement weather delayed field work, the following served on the crew: Mike Griffin (Field Assistant), Jerald Ledbetter (Backhoe Consultant), Jean Spencer and Mark Febbo. Maps and figures were drafted by Marion Drescher Newman and ethnobotanical remains were examined by Andrea Shea Brewer.

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I. INTRODUCTION

A cultural resources survey was conducted of the Clinch River Breeder Reactor Plant project area (Figure 1) during the winter of 1981-1982 by Building Conservation Technology. The purpose of the work was to determine if any sites were eligible for inclusion to the National Register of Historic Places.

Portions of the CRBRP area were previously surveyed for cultural resources and a number of historic and prehistoric sites recorded and tested (Schroedl 1972; Fielder 1975). Schroedl's work focused on relocating and excavating sites previously recorded within the project area in 1941 by Charles Nash and Fielder's work [

Exempted from Disclosure by Statute

]. All sites extensively investigated, with the exception of 40RE124, [

Exempted from Disclosure by Statute

]. The uplands and portions of the bottomlands were not investigated at that time since no sites were previously recorded there.

This survey focuses on the identification of archaeological resources within the uninvestigated areas. The architectural resources within the project area had been previously identified and recorded (Schroedl 1974c). The areas previously investigated by Schroedl (1972) and Fielder (1975) were not resurveyed.

Through the use of a shoreline survey and deep testing program in the riverine areas and a shovel cut testing strategy in the upland areas, 17 previously unrecorded sites were discovered. In addition, three

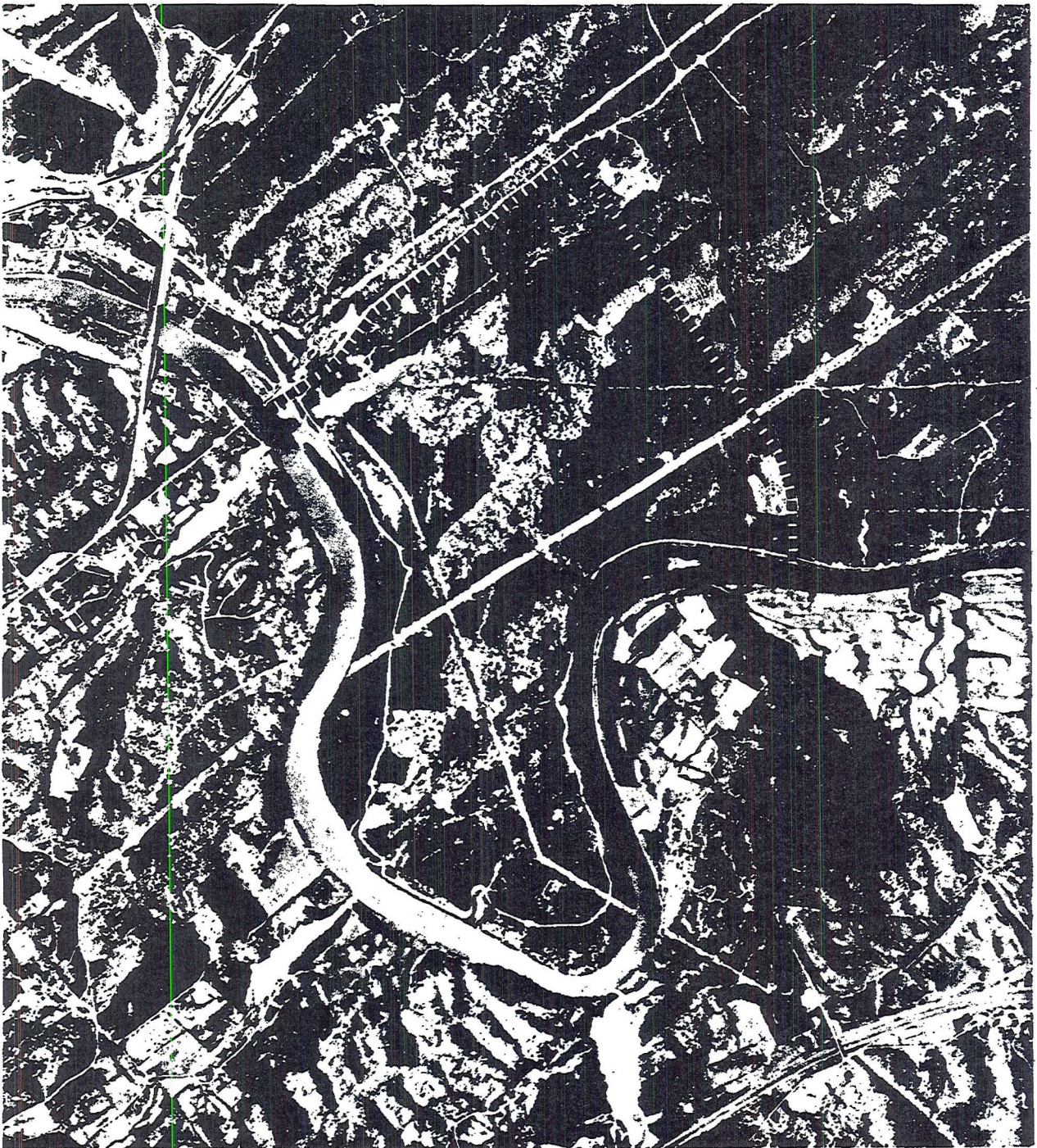


Figure 1. Aerial photograph of project area.

previously recorded sites were redefined and 20 artifact loci recorded. No significant archaeological resources were found within those areas of the CRBRP project boundary which are presently subject to direct impact.

II. ENVIRONMENTAL CONTEXT

The project area is located in [Exempted from Disclosure by Statute] the Ridge and Valley Physiographic Province (Fenneman 1938). The terrain is rugged and varies from rolling hills to mountains (DOE 1981: 2.4-2). The province is characterized by parallel ridges and valleys that run in a northeast-southwest direction. This orientation is the result of folding and fracturing that occurred 230 to 260 million years ago (Miller 1974:3).

The CRBRP is located on a meander of the Clinch River between river miles 14.5 and 18.6. The headwaters of the Clinch River are in southwestern Virginia. The Clinch River, a southwesterly flowing stream, is a tributary of the Tennessee River. [Exempted from Disclosure by Statute]

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The project area is underlain by sedimentary rocks of Ordovician age (DOE 1981: 2.4-1). Rock types in the immediate vicinity consist primarily of siltstone and limestone. Most of the ridges are underlain by cherty dolomite, shale or sandstone (Swann et al. 1942:2).

The topography of the project area is primarily uplands and valley slopes. Over 60 percent of the land has a slope greater than 20 percent and over 40 percent has a slope greater than 30 percent (DOE 1981:2.7-21). Elevation ranges from 740 to 1120 feet AMSL.

Soil types of the CRBRP area have developed from residuum, colluvium, and alluvium (DOE 1981:2.7-2). The major soils are Clarksville, Talbot and Fullerton and the lesser soils are Pope, Wolftever, Colbert, Upshur, Sequatchie, Roane, Lehew and Nolichucky. These soils are not well suited for agricultural purposes.

The climate of the project area corresponds to Koppen's (1931) designation of a humid, mesothermal, subtropical climate. The mean annual rainfall is 53.5 inches and the mean temperature is 57.9°F (U.S. Atomic Energy Commission 1974). The average frost free period is 196 days (Swann et al. 1942:7).

The project area is located in the Ridge and Valley section of the Oak-Chestnut Forest Region (Braun 1950:192). Oak communities dominate the mountain slopes and the main valley floor and mesophytic hemlock communities occur in the mountain valleys. This forest region has also been called the oak-deer-chestnut faciation (Shelford 1963:38). This biotic community has been destroyed by lumbering and the chestnut blight (Shelford 1963:38-39). The forest region has been so altered that its original composition can be determined only by the presence of dead chestnut trees in the areas most recently invaded by the chestnut blight (Braun 1950:192).

Nearly six-hundred taxa of vascular plants have been recorded in the project area (DOE 1981: 2.7-7). A list of sixty-two species of potential food plants has been compiled for the Upper Tennessee River Valley (McCollough and Faulkner 1973:23), all of which are found in the vicinity of the project area (Olsen et al. 1966).

The project area is included in the Carolinian Biotic Province (Dice 1943:16), which is characterized by a rich faunal assemblage. Cleland (1966: Appendix G) lists 303 vertebrates, excluding fish, that occur in this biotic province. White-tailed deer and turkey are abundant and constitute the most important animal species of the area (Shelford 1963:28). At least 116 species of fish are presently known in the Upper

Tennessee River system (McCollough and Faulkner 1973:14). Ten species of turtles , forty species of pelecypods and 32 species of aquatic gastropods are known to occur in East Tennessee (Hickman 1937; Carr 1952).

III. PREVIOUS ARCHAEOLOGICAL WORK

Synopsis

The first recorded archaeological investigations in the Clinch River Valley occurred during the late nineteenth century. Cyrus Thomas (1894: 364-366) conducted an archaeological survey of part of the lower Clinch River and recorded mound complexes [Exempted from Disclosure by Statute](40RE27) and [Exempted from](40RE28). No sites were recorded by Thomas within the CRBRP area.

Further archaeological work in the Clinch River Valley was not undertaken until the construction of Norris Dam in 1933-34. Norris Dam inundated portions of the upper Clinch River and the lower Powell River. This work, conducted under the auspices of the WPA archaeological program, resulted in the recording and excavation of a large number of sites, including the total excavation of four Woodland burial mounds (Webb 1938).

In 1941, an archaeological survey of the lower Clinch River from the mouth to river mile 28 was conducted by Charles Nash in conjunction with the construction of Watts Bar Reservoir. The Nash survey concentrated on locating sites [Exempted from Disclosure by Statute] and upland areas were not examined. Sites were not excavated and a report was not prepared because of the outbreak of World War II. Five archaeological sites (40RE104, 40RE105, 40RE106, 40RE107 and 40RE108) were located and recorded within the proposed CRBRP area. Nash recorded one of the sites as a village and mound, three as large villages and one as a small site with unknown cultural type.

The Melton Hill Dam, located on the lower Clinch River at river mile 23 was completed in 1963. Archaeological survey and excavations were

conducted within the reservoir prior to the completion of the dam. A number of sites were recorded and tested; however, only two were excavated (McNutt and Fischer 1960; McNutt and Graham 1961). One of the excavated sites was a possible Late Woodland burial mound (Cole 1975:9).

An archaeological survey of the CRBRP area was conducted in 1972 for the Tennessee Valley Authority. All five of Nash's previously recorded sites were relocated and tested (Schroedl 1972:4). Four historic Euro-American settlements and an historic Euro-American cemetery were recorded. These sites include the remains of three historic farm houses, an isolated log structure and a cemetery (Schroedl 1972:4). Two of these historic sites, 40RE120 and 40RE121, were mapped the following year (Thomas 1973). Both sites were occupied in the latter part of the nineteenth and early twentieth centuries. Additional historic sites survey was conducted in 1974. The 1974 survey attempted to locate structures shown on a 1940 TVA property map (Schroedl 1974c). A number of these structures were relocated, however, no site numbers were assigned. Although archival research was not conducted, a late nineteenth to early twentieth century occupation date was suggested for all historic structures (Schroedl 1974c:28).

An additional three prehistoric sites (40RE138, 40RE139 and 40RE140) were recorded within the CRBRP area during the survey for the proposed Exxon Nuclear Facility (Fielder 1975) and a survey of the Oak Ridge Reservation (Fielder 1974). Archaic and Woodland components and one cave site were identified within the CRBRP area as a result of this work. A number of other prehistoric and historic sites have been recorded in the adjacent areas (Fielder 1974, 1975; Fielder et al. 1977).

Schroedl's 1972 survey of the CRBRP site was followed by extensive testing and excavation (Schroedl 1973a, 1973b, 1973c, 1973d, 1974a, 1974b, 1975a, 1975b). Work focused on the excavation of 40RE124, a Late Woodland burial mound and 40RE108, a multi-component shell midden. The excavation of 40RE108 has not been formally reported; however, the excavation of 40RE124 has been incorporated into a Masters Thesis on the Hamilton Mortuary Pattern in East Tennessee (Cole 1975). The excavation of the mound suggested a relationship between Late Woodland and Early Mississippian cultural development (Cole 1975:19).

Additional work in the region includes investigations at an Early Mississippian site [Exempted from Disclosure by Statute] (Hood 1977) and excavation of a Dallas phase platform mound [Exempted from Disclosure by Statute] (O'Brien 1976). The most recent work conducted was a cultural resources survey of the meander bend [Exempted from Disclosure by Statute] (GAI 1981).

Previously Recorded Sites Within the CRBRP Project Area

A total of sixteen sites had been previously recorded within the CRBRP area. These include four historic houses, one historic cemetery, ten prehistoric habitation sites and one cave site with both prehistoric and historic components. The following is an inventory of these sites.

40RE104 This upland site was recorded by Nash in 1941. He described the site as a small village or camp (100 feet in diameter) and assigned it to an unknown cultural type. The site was tested by Schroedl in 1972 and no further work recommended. Schroedl's (1972:4,6) investigations, consisting of six test units, recovered only one flake.

40RE105 This site, [Exempted from Disclosure by Statute] was surveyed in 1941 by Nash. He recorded a large village (1500 by 200 feet) and a mound (50 by 5 feet). The site was categorized as a Middle Valley component. The village portion of the site was relocated and tested by Schroedl in 1972. Eleven test units were excavated and only one flake recovered. The mound was relocated the following year and assigned a separate site number (40RE124).

40RE106 This site, [Exempted from Disclosure by Statute] was recorded by Nash in 1941. He recorded a village (1200 by 200 feet) with a surface scatter of mussel shell and pottery. The site was categorized as Upper and Middle Valley Woodland. In 1972, the site was resurveyed and tested. A total of fourteen test units was excavated and only one wire nail recovered (Schroedl 1972:6). Since most of the site had been destroyed by grading and bulldozing, no further work was recommended.

40RE107 Charles Nash recorded 40RE107 in 1941. The site, [Exempted from Disclosure by Statute] was originally recorded as being 1,000 feet long and 200 feet wide. The site was categorized as Upper Valley Woodland. 40RE107 was relocated and tested in 1972. Since initial testing suggested that undisturbed cultural deposits occurred below plow zone, additional testing was recommended (Schroedl 1972:7). Additional testing, consisting of backhoe trenches and hand excavated units, was subsequently conducted (Schroedl 1975a, 1975b). Since undisturbed cultural deposits were not encountered, no further work was recommended.

40RE108 '[

Exempted from Disclosure by Statute

] It was recorded by Nash in 1941. A shell concentration was recorded and the site categorized as Upper and Middle Valley Woodland. The site was relocated and tested in 1972. Woodland ceramics were recovered and an eroded shell midden recorded (Schroedl 1972:7). Two additional shell middens were located on this site the following year (Schroedl 1973d:1-2). All three middens were excavated (Schroedl 1973c, 1973d, 1975a, 1975b). A Mississippian period cultural affiliation was suggested for one of the middens (Schroedl 1975a:1).

40RE119 This site number was originally assigned to the Hensley Cemetery, a Euro-American early twentieth century site (Schroedl 1972:9). The site number was later reassigned to Fort Southwest Point (Thomas 1977).

40RE120 This is an historic site, [Exempted from Disclosure by Statute] consisting of a limestone fireplace, a limestone lined root cellar and a brick lined well or cistern (Schroedl 1972:9). The site was mapped and photographed the following year (Thomas 1973).

40RE121 This historic site, [Exempted from Disclosure by Statute] consists of a well, a cellar and two small outbuildings (Schroedl 1972:9). The site probably dates to the middle of the nineteenth century. The following year two additional structures, a well house and barn, were located and the site mapped (Thomas 1973).

40RE122 This historic site consists of a wood frame house, a well house and a shed (Schroedl 1972:12; Schroedl 1974c:23). The site probably dates to the early twentieth century.

40RE123 The site consists of a single isolated log structure. The absence of windows and fireplaces suggests that the structure was utilized as a storage facility (Schroedl 1972:12). The half-dovetail construction technique suggests that the building dates to the second half of the nineteenth century (Schroedl 1972:12). The site was destroyed by vandals before the structure could be mapped (Schroedl 1973b).

40RE124 This mound was originally located by Nash in 1941 and was recorded as part of 40RE105. The mound was given a separate site number by Schroedl in 1973. The mound was tested the same year and was recommended for complete excavation (Schroedl 1973a). Complete excavation of the mound yielded thirty-four burials and revealed three mound construction stages (Cole 1975:18). The mound was radiocarbon dated to the Late Woodland period (A.D. 700-900).

40RE125 [

Exempted from Disclosure by Statute

] It was recorded during Fielder's 1974 survey of the Oak Ridge Reservation. The presence of limestone tempered cord-marked ceramics indicates a Woodland period cultural affiliation (Fielder 1974:50,112). No further work at the site was recommended (Fielder 1974:50).

40RE128 This site was recorded by Schroedl in 1972; however, it was not included in his survey report (Schroedl 1972). The site was recorded as a "camp" and mussel shells and one corner notched projectile point/knife were recovered from the surface. Testing was not deemed necessary at 40RE128.

40RE129 This "site" was recorded during the 1974 survey of the Oak Ridge Reservation (Fielder 1974:53). [

Exempted from Disclosure by Statute

] The site is a mound three to four meters high. The mound was tested and determined to be an Anglo-American feature dating to the first half of the twentieth century (Schroedl 1974b:3).

Exempted from Disclosure by Statute

40RE139 This site, [] consists of a lithic scatter. No diagnostic artifacts were recovered from the site. The site was recorded during a survey of the proposed Exxon Nuclear Facility (Fielder 1975). The site was not investigated by Schroedl, probably because no recommendations for further work were suggested by Fielder (1975:31).

40RE140 This is a cave site with prehistoric and historic occupations. The site was located and tested during a survey of the proposed Exxon Nuclear Facility (Fielder 1975:33). A Late Archaic and Early Woodland cultural affiliation was assigned to the site. The

historic occupation, consisting of fruit jars, iron barrel hoops and corroded sheet iron fragments suggests a moonshine still (Fielder 1975:33).

IV. LITHIC RESOURCES

Chert outcrops within the CRBRP project area on ridges situated in the center of the project area (Figure 2). Chert occurs in both nodular and tabular form and is usually covered by a thin layer of residual soil.

Chert occurs in two major geologic units, the Knox Group and the Chickamauga Group (Burns and Roe 1980:2.5). There is a wide range of variation within the Knox and Chickamauga Groups; however, the two groups are distinct from one another. Knox chert is colored white, pink, brown or grey and is medium grained. Some examples are characterized by red oxide crystalline inclusions. Knox chert is nodular and tabular in form. Chickamauga chert is colored light grey, dark grey or black and ranges from coarse to fine grained. Fine grained examples are lustrous and translucent. Some examples of Chickamauga chert are characterized by blue and white crystalline inclusions.

River cobbles are another source of chert. Although no river cobbles were collected in the field, a number of archaeological specimens had cortex characteristic of river worn cobbles.

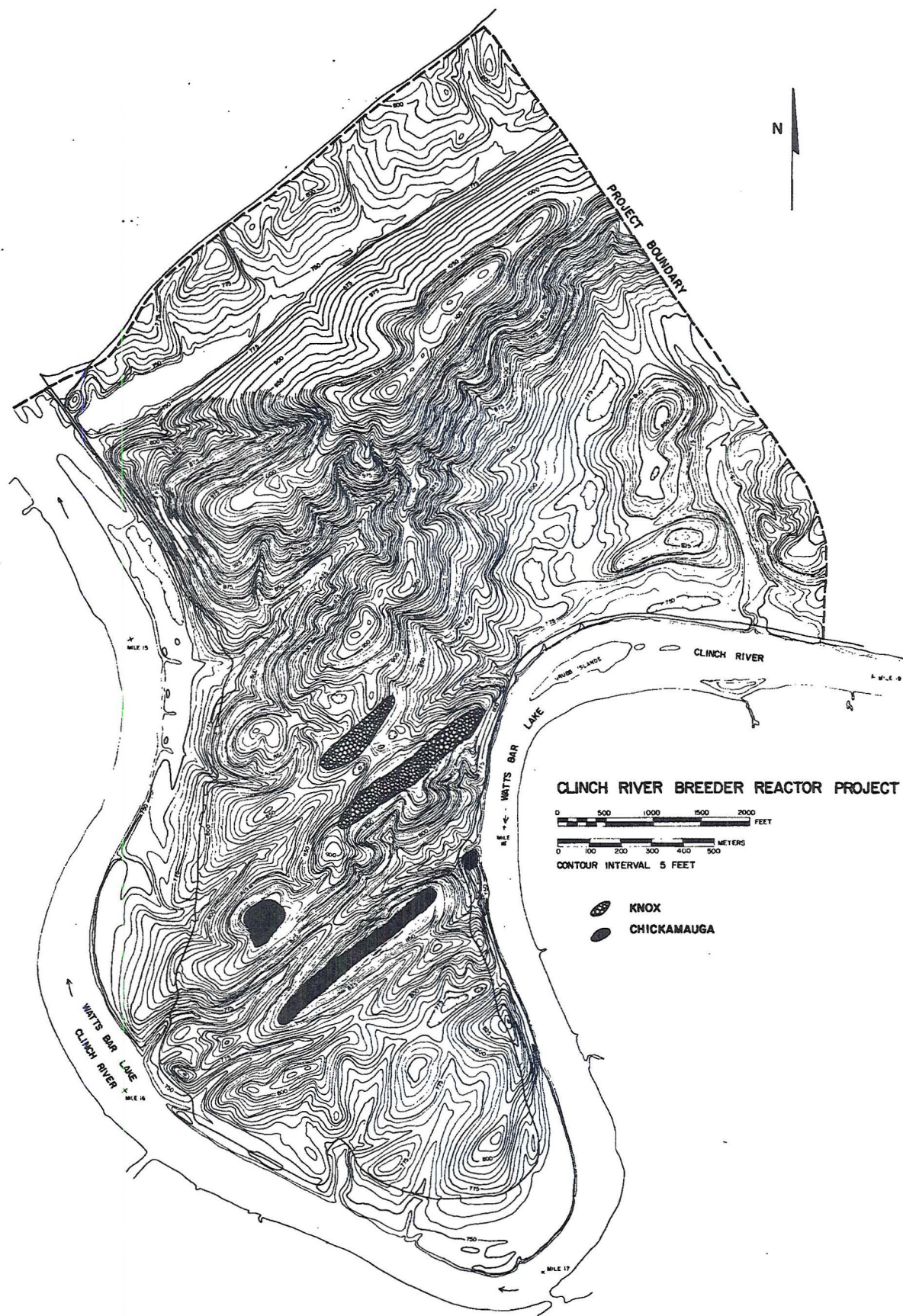


Figure 2. Location of chert resources.

V. LITHIC TYPOLOGY

A lithic typology was formulated using morphology, lithic reduction sequences, manufacturing techniques and macroscopic wear patterns as distinguishing criteria. The typology for debitage uses lithic reduction sequences and manufacturing techniques while the typology for tool classes uses morphological characteristics and macroscopic wear patterns.

A typology incorporating lithic reduction sequences aids in determining lithic processing activities at a site. Lithic reduction sequences also reflect the size, kind and availability of raw material sources utilized. Lithic typologies established for Middle Tennessee (Faulkner and McCollough 1973:63-159) and East Tennessee (Schroedl 1978:159-175; Chapman 1979:183; Kimball 1980:84-85) have in most instances used lithic reduction as a criteria for flake categories; however, in no instance has it been used for core categories. Three core categories were established to measure the degree to which raw material was processed: limited flake cores, random flake cores and core nuclei. Limited flake cores represent the first stage of core reduction, random flake cores the intermediate stage and core nuclei the final stage. More importantly, these core categories may reflect site function. For example, a high incidence of limited flake cores would be expected at lithic extraction sites.

The typology used for tool classes is comparable to other Middle and East Tennessee typologies (cf. Faulkner and McCollough 1973; Kimball 1980). Definitions for the tool classes used herein can be found in these reports. Since the debitage categories used by this investigator vary from other typologies, each category will be defined.

Flake Categories**Decortication**

Flakes that exhibit cortex on the outer surface.

Flat

Flakes that do not exhibit cortex on the outer surface.

Bifacial thinning/resharpening

Flakes that have been removed from a biface during manufacture or resharpening. These flakes are characterized by a faceted striking platform, a convex profile and previous bifacial flake scars on the outer flake surface.

Core trimming flake

Flakes that were detached from a core to prepare a new striking platform. These flakes are generally thicker than flat flakes and are characterized by a well defined striking platform.

Shatter

Flakes that have no striking platform or bulb of percussion.

Burin Spalls

Waste flakes produced during the manufacture of burins. These flakes are characteristically thick and triangular in cross-section.

Bipolar

Flakes produced by the bipolar technique. These flakes are characterized by crushed ends and abrupt hinge fractures.

Core Categories**Limited Flake**

Cores that have a limited number of flakes removed (less than five) and retain over 75% cortex. These unreduced cores were probably discarded because of poor knapping properties.

Random Flake

Cores, irregular in form, that display no patterned removal of flakes and can not be categorized as limited flake cores or core nuclei.

Core Nucleus

Cores that are exhausted. No additional flakes can be removed or platforms prepared.

Blade

Cores from which blades are struck.

Bipolar

Cores produced by the bipolar technique. These cores are characterized by two opposing platforms. The platforms are shattered or crushed and the flakes removed display abrupt hinge fractures.

Core Fragments

The remnants of cores that were shattered.

VI. FIELD METHODS

Introduction

A multitude of factors must be taken into consideration when designing any archaeological survey. These factors will differ with the nature of the archaeological resources, the size and homogeneity of each survey universe, the research design, the research objectives, the field conditions and economic considerations (cf. Schiffer et al. 1978).

Visibility and accessibility are factors that most affect the reliability and efficiency of archaeological surveys in the Eastern Woodlands. Only one of these variables (i.e., visibility) presented a problem with the application of survey techniques to the Clinch River Breeder Reactor project. The presence of extensive vegetation and the possibility of buried sites precluded a conventional surface survey. Consequently, three discovery techniques were employed. These were: 1) a shovel cut testing program; 2) a shoreline survey and 3) a buried sites reconnaissance.

Shovel Cut Testing

The shovel cut testing program was used in areas that had extensive vegetation cover (i.e., forested areas). These areas encompassed the majority of the project area [

Exempted from Disclosure by Statute

](Figure 3). A recent overview of site discovery techniques has indicated that shovel cut testing is the best site discovery technique for forested environments (Chartkoff and Chartkoff 1980).

Previous investigations of upland areas in East Tennessee have indicated that many upland sites are small and contain sparse debris densities (cf. McIlhaney 1977; Davis 1980). Since similar sites were anticipated for the CRBRP area, a discovery technique sensitive to the detection of small discrete sites had to be employed. The Chartkoff's study (1980:98-120) distinguished three different shovel cut techniques: the shovel probe, the shovel divot and the shovel scrape. The shovel probe and shovel divot techniques both consist of excavating shovel cut holes. The difference between the two is that dirt from the shovel probe method is screened through 1/4-inch mesh while dirt from the shovel divot method is inspected with a trowel. The shovel scrap technique consists of removing vegetation and the top layer of soil by shovel scraping. The shovel probe technique, the most sensitive of the three shovel cut techniques, was selected for the CRBRP project.

Transects were placed in all high probability areas (i.e., flat areas and ridge tops) and shovel cuts excavated at twenty-five meter intervals. Each unit was the size of a shovel width (33 cm.) and was excavated to subsoil. All excavated dirt was screened through 1/4 inch hardware cloth. A total of twenty-six transects was completed and 335 shovel cut tests excavated. An additional 160 shovel cut tests were excavated to determine site dimensions. The shovel cut technique was successful in discovering fourteen previously unrecorded archaeological sites. A total of 15 one meter square test units was excavated to subsoil at eight of these sites. The purpose of this additional testing was to determine site stratigraphy and obtain an artifact sample to access site function and site significance.

Exempted from Disclosure by Statute – Withheld Under 10 CFR 2.390(a)(3)

**Figure 3. Location of shovel cut transects and [Exempted from
Disclosure by
Statute] survey.**

Shoreline Survey

A pedestrian survey of uninvestigated portions of the shoreline was conducted (Figure 3). [

Exempted from Disclosure by Statute

] Three previously unrecorded sites were located using this survey approach and two previously recorded sites redefined.

Buried Sites Reconnaissance

A buried sites reconnaissance was conducted (Figure 4). Chapman (1978) has formulated a model predicting the occurrence of buried sites in the Tellico Valley. [

Exempted from Disclosure by Statute

] Aspects of Chapman's model were used at CRBRP; however, dense stands of trees and terrain prohibited backhoe access to all such identified locales. A total of 8 backhoe trenches was excavated. All backhoe trenches were at least 5 meters long and at least 1.2 meters deep.

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Figure 4. Location of backhoe trenches.

VII. RESULTS OF THE SURVEY**Introduction**

A total of 17 previously unrecorded sites was discovered (Figure 5), three previously recorded sites redefined, and 20 loci recorded (Figure 6). A site was defined as any area of human activity for which a boundary could be established. The minimum requirements for a site were three items of cultural debris within a 50 square meter area. A locus was defined as any occurrence of less than three items of cultural debris. Late nineteenth and twentieth century historic occupation were categorized as loci also.

Tables 1, 2 and 3 provide detailed descriptions of the materials recovered from each site and each locus. A generalized description of the artifacts is included in each site description. The site inventories include the location, dimensions and work conducted at each site.

Site Descriptions**40RE151**

[Exempted from Disclosure by Statute]

[

Exempted from Disclosure by Statute

]

Site Dimensions:	145 meters (NE-SW) by 50 meters (NW-SE)
Work Conducted:	Surface collection of disturbed areas 9 shovel cut tests 3 test units (1 x 1 meter)
Cultural Types:	Undetermined prehistoric
Cultural Material	1 unifacial perforator 2 utilized/retouched flakes 70 flakes 5 cores and core fragments

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Figure 5. Location of newly recorded archaeological sites.

Exempted from Disclosure by Statute – Withheld Under 10 CFR 2.390(a)(3)

Figure 6. Location of loci.

Table 1. Cultural material recovered from each site.

	TOOLS									DEBITAGE										
	Bifacial			Unifacial			Cobble			Flakes							Cores			
	Projectile Points/Knives	Thin Biface/Knives	Thick Biface/Preforms	Retouched/Utilized Flake	Unifacial Perforator	Blade-like Flake	Pitted Hammerstones	Notched Netsinkers	Steatite Bowl Sherds	Decortication	Flat	Bifacial Thinning	Core Trimming	Shatter	Bipolar	Limited Flake	Random Flake	Core Nucleus	Bipolar	Core Fragments
40RE151				2	1					7	24	5		33	1	1				4
40RE152				8		2				12	45	5		37		2		1	1	4
40RE153				3						4	3		1	11		4	1		1	5
40RE154	1			7						15	20	1	2	42	1	2	1		1	8
40RE155											1	1		4						1
40RE156				4						85	19		4	83		11	8			37
40RE157				2						3	3		2	4		3	1			3
40RE158				15						126	47	1	7	87	1	10	7	1		17
40RE159				10		1				24	15		2	42			1			4
40RE160				1						5	9	2		16						5
40RE161										2	3			3						
40RE162				1							2			6						
40RE163				2						2	1			13		1				
40RE164				1						3	5		1	3	2					2
40RE165	3			2	1		2			37	22	7	3	28	1		3			9
40RE166	2	2					1	1	1	4	4		1	2			2		1	
40RE167	1	1								2	1		1	1			1			1
40RE106	1	5		3							8	1		1			1			
40RE125		1		1				2						1						
<hr/>																				
Total=1290	7	7	3	62	2	3	3	1	3	331	232	23	24	417	6	34	26	2	4	100

*weight in grams

Comments: The cultural material recovered indicates that this was a habitation site.

40RE152

Location:

[

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]

Site Dimensions: 100 meters (E-W) by 50 meters (N-S)

Work Conducted: 11 shovel cut tests
2 test units (1 x 1 meter)

Cultural Type: Undetermined prehistoric

Cultural Material: 2 blade-like flakes
8 utilized/retouched flakes
99 flakes
8 cores and core fragments

Comments: The cultural material recovered indicates that this was a habitation site.

40RE153

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions: 100 meters (SW-NE) by 25 meters (NW-SE)

Work Conducted: 4 shovel cut tests

Cultural Type: Undetermined prehistoric

Cultural Material: 3 retouched/utilized flakes
19 flakes
11 cores and core fragments

Comments: Chickamauga chert occurs at this locale. One hundred percent of the cultural material recovered was Chickamauga chert. The occurrence of locally derived chert and the high incidence of cores suggests a lithic extraction site.

40RE154

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions:

150 meters (NW-SE) by 60 meters (NE-SW)

Work Conducted:

17 shovel cut tests
4 test units (1 x 1 meter)

Cultural Types:

Undetermined prehistoric

Cultural Material:

1 thin biface/knife fragment
7 retouched/utilized flakes
81 flakes
12 cores and core fragments
1 burnt sandstone

Comments:

The cultural material recovered suggests a habitation site.

40RE155

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions:

25 meters (NW-SE) by 10 meters (NE-SW)

Work Conducted:

3 shovel cut tests

Cultural Type:

Undetermined prehistoric

Cultural Material:

6 flakes
1 core fragment

Comments:

An undetermined portion of this site was destroyed by road construction. The aforementioned site dimensions reflect the portion of the site that was undisturbed.

40RE156

Location:

[

Exempted from Disclosure by Statute

]

[
Exempted from Disclosure by Statute
]

Site Dimensions: 20 meters (NW-SE) by 20 meters (NE-SW)

Work Conducted: 8 shovel cut tests
1 test unit (1 x 1 meter)

Cultural Type: Undetermined prehistoric

Cultural Material: 4 retouched/utilized flakes
191 flakes
56 cores and core fragments

Comments: Knox chert outcrops at this locale. The presence of 98.4% Knox chert in the lithic assemblage and a high incidence of decortication flakes, shatter and limited flake cores suggest a lithic extraction site.

40RE157

Location: [

Exempted from Disclosure by Statute
]

Site Dimensions: 90 meters (NE-SW) by 45 meters (NW-SE)

Work Conducted: Surface collection of disturbed areas
7 shovel cut tests

Cultural Type: Undetermined prehistoric

Cultural Material: 2 retouched/utilized flakes
12 flakes
7 cores and core fragments

Comments: Knox chert occurs at this locale. The sample of cultural material recovered is small; however, the presence of 95.2% Knox chert in the lithic assemblage and a high ratio of decortication flakes, shatter and limited flake cores suggests a lithic extraction site.

40RE158

Location: [

Exempted from Disclosure by Statute
]

Site Dimensions: 150 meters (NE-SW) by 25 meters (NW-SE)

Work Conducted: 7 shovel cut tests
1 test unit (1 x 1 meter)

Cultural Type: Undetermined prehistoric

Cultural material: 15 retouched/utilized flakes
269 flakes
35 cores and core fragments

Comments: Knox chert outcrops at this locale. The high percentage of this chert (98.1%) in the lithic assemblage and a large percentage of decortication flakes, shatter and limited flake cores suggest a lithic extraction site.

40RE159**Location:**

[

Exempted from Disclosure by Statute

]

Site Dimensions: 180 meters (NE-SW) by 20 meters (NW-SE)

Work Conducted: Surface collection of disturbed areas
16 shovel cut tests
1 test unit (1 x 1 meter)

Cultural Type: Undetermined prehistoric

Cultural Material: 1 blade-like flake
10 retouched/utilized flakes
73 flakes
5 cores and core fragments

Comments: Chickamauga chert outcrops at this locale. The high percentage of Chickamauga chert in the lithic assemblage (94%) and the high ratio of decortication flakes and shatter suggests a lithic extraction site.

40RE160**Location:**

[

Exempted from Disclosure by Statute

]

Site Dimensions: 85 meters (SW-NE) by 15 meters (NW-SE)

Work Conducted: 9 shovel cut tests
2 test units (1 x 1 meter)

Cultural Type: Undetermined prehistoric
Cultural Material: 1 retouched/utilized flake
32 flakes
5 core fragments
Comments: The cultural material recovered suggests a habitation site.

40RE161

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions: 50 meters (NW-SE) by 10 meters (NE-SW)
Work Conducted: 3 shovel cut tests
Cultural Type: Undetermined prehistoric
Cultural Material: 8 flakes
Comments: This appears to have been a small habitation site.

40RE162

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions: 10 meters by 10 meters
Work Conducted: 7 shovel cut tests
Cultural Type: Undetermined prehistoric
Cultural Material Recovered: 1 retouched/utilized flake
8 flakes
Comments: This appears to have been a small habitation site.

40RE163

Location:

[

Exempted from Disclosure by Statute

]

[

Exempted from Disclosure by Statute

]

Site Dimensions: 10 meters (E-W by 5 meters (N-S),
Work Conducted: 4 shovel cuts
Cultural Type: Undetermined prehistoric
Cultural Material: 2 retouched/utilized flakes
16 flakes
1 core
Comments: This appears to have been a small habitation site.

40RE164

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions: 100 meters (N-S) by 25 meters (E-W)
Work Conducted: Surface collection of disturbed area
3 shovel cut tests
1 test unit (1 x 1 meter)
Cultural Type: Undetermined prehistoric
Cultural Material: 1 retouched/utilized flake
14 flakes
2 core fragments
2 burnt sandstone
Comments: The cultural assemblage indicates a habitation site.

40RE165

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions: 100 meters (NW-SE) by 25 meters (NE-SW)
Work Conducted: [Exempted from Disclosure by Statute] survey
2 backhoe trench excavations

Cultural Type: Early Archaic and Late Archaic

Cultural Material:

- 1 Kirk Corner Notched projectile point/knife
- 1 Iddins Undifferentiated Stemmed projectile point/knife (cf. Chapman 1981:77)
- 1 fragmented projectile point/knife haft element
- 2 pitted hammerstones
- 1 unifacial perforator
- 2 retouched/utilized flakes
- 98 flakes
- 12 cores and core fragments

Comments: The excavations conducted at this site are discussed in the following section of the report. The above artifact listing includes those recovered during excavation.

40RE166

Location: [

Exempted from Disclosure by Statute

]

Site Dimensions: 750 meters (NW-SE) by 50 meters (NE-SW)

Work Conducted: [

Exempted from Disclosure by Statute

] survey

- 1 backhoe trench

Cultural Type: Middle Archaic, Terminal Archaic, and Middle Woodland

Cultural Material:

- 1 Stanly Cluster projectile point/knife (cf. Chapman 1977:34-35)
- 1 Haywood Triangular projectile point/knife (cf. Keel 1976:132-133)
- 1 steatite bowl sherd
- 1 pitted hammerstone
- 1 notched netsinker
- 2 thick bifaces/preforms
- 11 flakes
- 3 cores

Comments: A six meter long and two meter deep backhoe trench was excavated at this site. Although the trench was placed where the [Exempted from Disclosure by Statute] survey indicated the greatest debris density, no cultural remains were encountered.

A moderate amount of fire-cracked rock and a sparse amount of lithic debitage were present [Exempted from Disclosure by Statute] Middle Archaic, Terminal Archaic and Middle Woodland components are represented. A Middle Archaic occupation is evidenced by a Stanly Cluster projectile point/knife. (cf. Chapman 1977:34-35); a terminal Archaic component is evidenced by a steatite bowl sherd and a Middle Woodland occupation is suggested by a Haywood Triangular projectile point/knife (Keel 1976:157).

40RE167

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions:

200 meters (NW-SE) by 50 meters (NE-SW)

Work Conducted:

[Exempted from Disclosure by Statute] survey

Cultural Type:

Early Archaic, Woodland and Mississippian

Cultural Materials:

1 Kirk Corner Notched projectile point/knife
1 limestone tempered plain sherd
1 shell tempered plain sherd
1 thick biface/preform
5 flakes
2 cores and core fragments

Comments:

Early Archaic, Woodland and Mississippian components are present at this site. A moderate amount of fire-cracked rock and a light amount of lithic debitage occur [Exempted from Disclosure by Statute]

PREVIOUSLY RECORDED SITES

40RE125

Location:

[

Exempted from Disclosure by Statute

]

Site Dimensions:

200 meters (NE-SW) by 25 meters (NW-SE)

Work Conducted:

[Exempted from Disclosure by Statute] survey

Cultural Types: Terminal Archaic and Woodland

Cultural Material:

- 2 steatite bowl sherds
- 1 limestone tempered residual sherd
- 1 thin biface/knife
- 1 retouched/utilized flake
- 1 flake

Comments: This site was previously surveyed and tested by Fielder (1974:50, 1975:19-23) and Archaic, Woodland and Historic period components recorded.

40RE106

Location: [Exempted from Disclosure by Statute
[Exempted from Disclosure by Statute

Site Dimensions: 275 meters (NE-SW) by 25 meters (NW-SE)

Work Conducted: [Exempted from Disclosure by Statute
1 backhoe trench

Cultural Types: Woodland

Cultural Material:

- 2 Long Branch Fabric Marked (Figure 7a)
- 1 Watts Bar Cord Marked (Figure 7b)
- 3 Candy Creek Cord Marked (Figure 7c)
- 7 Mulberry Creek plain
- 1 sand tempered residual
- 1 fragmented haft element of a projectile point/knife
- 5 thin biface/knife fragments
- 3 retouched/utilized flakes
- 10 flakes
- 1 core

Comments: A moderate amount of cultural material, including fire-cracked rock, was present on the surface of this site. The presence of Watts Bar Cord Marked and Long Branch Fabric Marked ceramics suggest an Early Woodland cultural affiliation.

Nash recorded this site in 1941 as a village with a surface scatter of mussel shell and pottery. Schroedl (1972:6) excavated fourteen test units at the site but failed to recover any prehistoric remains. Since the site appeared to be extensively disturbed, no further work was recommended. The site was resurveyed two years later and a cultural horizon below the plow zone discovered. (Fielder 1974:41). Since potential for a buried site existed, a five meter long and

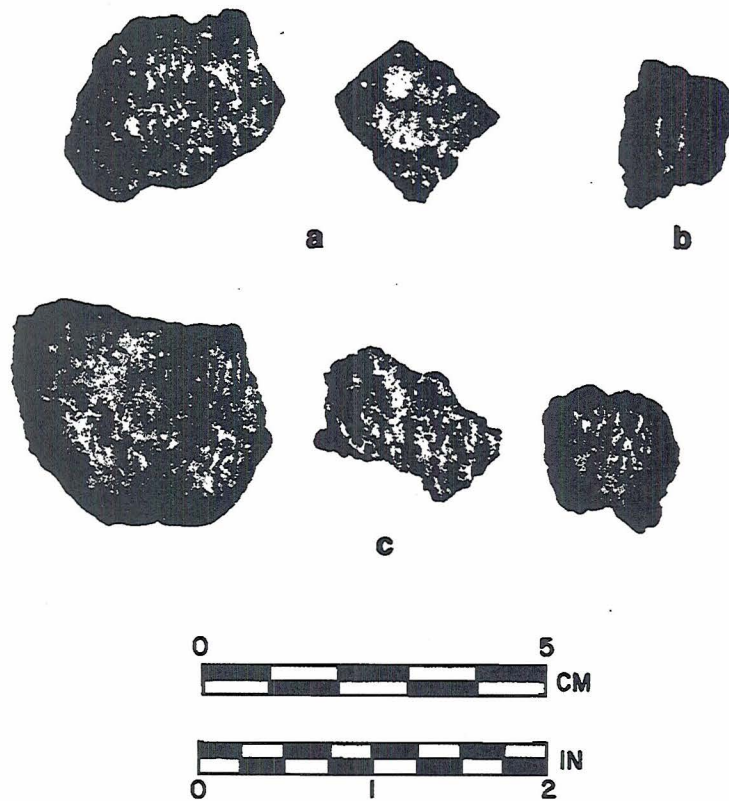
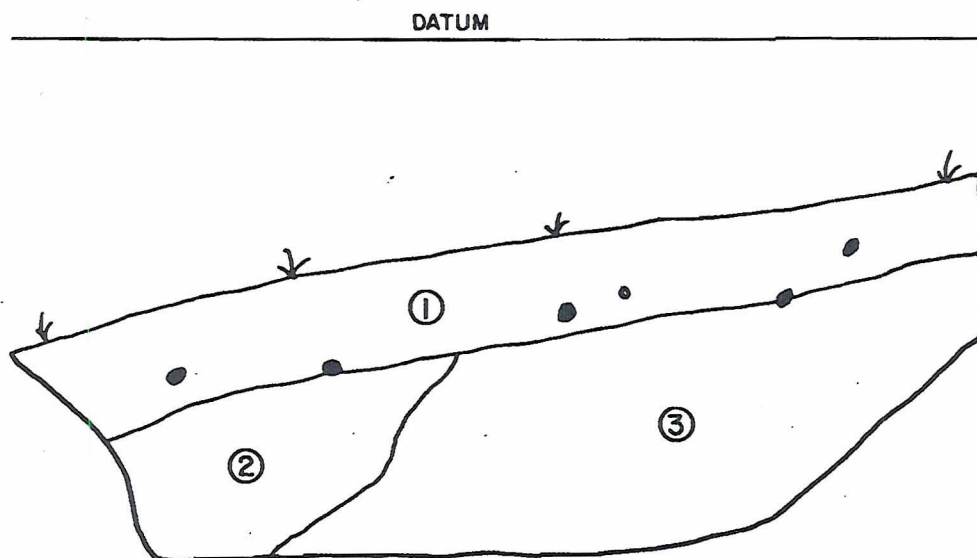


Figure 7. Ceramics recovered from 40RE106: a) Long Branch Fabric Marked; b) Watts Bar Cord Marked; c) Candy Creek Cord Marked.

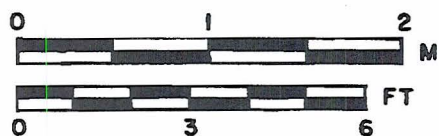
1.7 meter deep backhoe trench was excavated. Cultural material (i.e., flakes and fire-cracked rock) was present in the plow zone and dark brown loam with charcoal mottling was observed below the plow zone (Figure 8). [

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] Similar deposits were recorded at 40RE108 (Schroedl 1974a:3).



CLINCH RIVER BREEDER REACTOR PROJECT
40 RE 106



WEST PROFILE

- ① PLOWZONE
- ② DARK BROWN LOAM WITH CHARCOAL MOTTLING
- ③ LIGHT BROWN SILT
- FIRE CRACKED ROCK
- LITHIC DEBITAGE

Figure 8. West profile of Backhoe Trench 4 (40RE106).

Loci descriptions**Prehistoric Loci****No. 1**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 flat flake****1 bipolar flake**

Exempted from
 Disclosure by
 Statute

[]

No. 2

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 decortication flake****No. 3**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 limited flake core****No. 4**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 flat flake****No. 5**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 flat flake****No. 6**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 decortication flake****No. 7**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 random flake core****No. 8**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 core fragment****No. 9**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 flat flake****No. 10**

Location:
Discovery Technique:
Cultural Material:

Exempted from
 Disclosure by
 Statute

[]

Shovel cut testing**1 flat flake**

Table 2. Cultural material recovered from prehistoric loci.

[illegible]

No. 11

Location:

Discovery Technique:

Cultural Material:

[Exempted from
Disclosure by Statute] survey
1 bifacial thinning flake

No. 12

Location:

Discovery Technique:

Cultural Material:

[Exempted from
Disclosure by Statute] survey
1 St. Albans Side Notched
projectile point/knife
1 core fragment

Comments: [

Exempted from Disclosure by Statute

]

Historic Loci

No. 13

Location:

Discovery Technique:

Cultural Material:

Exempted from
Disclosure by
Statute
[]
Shovel cut testing
4 undecorated whiteware
1 aqua bottle glass

No. 14

Location:

Discovery Technique:

Cultural Material:

Exempted from
Disclosure by
Statute
[]
Shovel cut testing
4 undecorated whiteware
49 glass (43 clear and 6 purple-
tinged)
1 machine cut nail
1 metal bolt
1 washer

Comments: This locus represents the previously recorded property of [Exempted from Disclosure by Statute] heirs (Schroedl 1974c:13). The two limestone chimneys depicted in Figure 12 (Schroedl 1974c:16) are still standing. An examination of the building debris indicated that both machine cut and wire nails were used in construction, suggesting a late nineteenth to twentieth century occupation.

No. 15

Location:

Discovery Technique:

Cultural Material:

Comments:

Exempted from
Disclosure by
Statute
[]
Shovel cut testing
1 corroded wire
This shovel cut was located next to a
small twentieth century dump.

No. 16

Location:

Discovery Technique:

Exempted from
Disclosure by
Statute
[]
Shovel cut testing

Table 3. Cultural material recovered from historic loci.

LOCUS	CERAMICS		GLASS			METAL									
	Whiteware					Nails			Hardware						
	Undecorated	Annular	Clear	Aqua	Purple-tinged	Machine Cut	Wire	Corroded	Bolts	Washers	Wire			Coal	Cinder
13	3	1		1											
14	4		43		6	1			1	1					
15											1				
16			2		1		1	1						4	1
17	2		3		1										
18			11												
Total	9	1	59	1	8	1	1	1	1	1	1			4	1

79

Cultural Materials: 3 glass (2 clear, 1 purple-tinged)
 1 wire nail
 1 corroded nail
 4 coal
 1 cinder

Comments: Cut limestone slabs and machine-made brick were present on the surface of this locus, suggesting the presence of a historic structure. The machine-made brick and wire nail suggests a late nineteenth to twentieth century occupation.

No. 17

Location: [Exempted from Disclosure by Statute]
Discovery Technique: Shovel cut testing
Cultural Materials: 2 undecorated whiteware
 4 glass (3 clear and 1 purple-tinged)

Comments: This locus measured less than five meters in length, suggesting a historic dump.

No. 18

Location: [Exempted from Disclosure by Statute]
Discovery Technique: Shovel cut testing
Cultural Material: 11 clear glass

Unassigned

No. 19

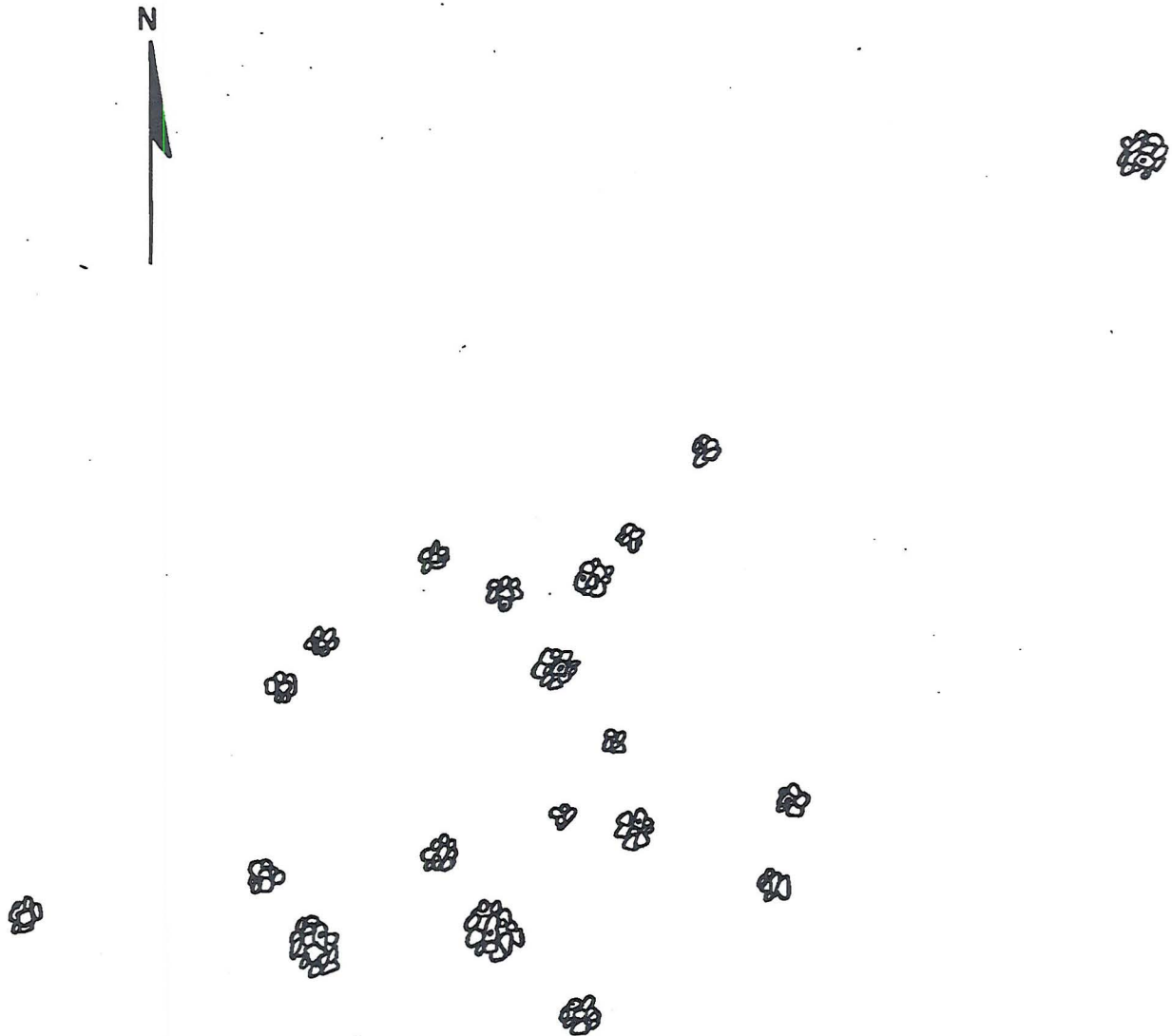
Location: [Exempted from Disclosure by Statute]
Discovery Technique: Surface Survey
Cultural Materials: None

Comments: This locus consists of a cluster of nineteen stone mounds (Figure 9). The mounds cover an area 60 meters (N-S) by 80 meters (E-W) and vary in height from .4 to 1 meter (Figure 10). The mounds consist of cherty-limestone rock mixed with little or no soil. Since the rock mound cluster was outside the impact area, testing was not conducted.

This locus may be a cluster of prehistoric burial mounds. The mounds are similar to prehistoric burial mounds excavated in the [Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute] Alabama (Oakley 1975). Like the prehistoric stone mounds [Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute] are not associated with prehistoric occupational debris (Webb 1938:363). On the other hand, this locus may represent historic collections of rock gathered from plowed fields. However, there is no evidence that this area was cultivated and it would be disadvantageous for a farmer to clear his field by randomly piling rock over a relatively large area (cf. Oakley 1975:264).



CLINCH RIVER BREEDER REACTOR PROJECT
LOCUS 19

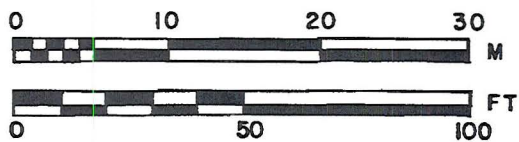


Figure 9. Locus 19 rock mounds.



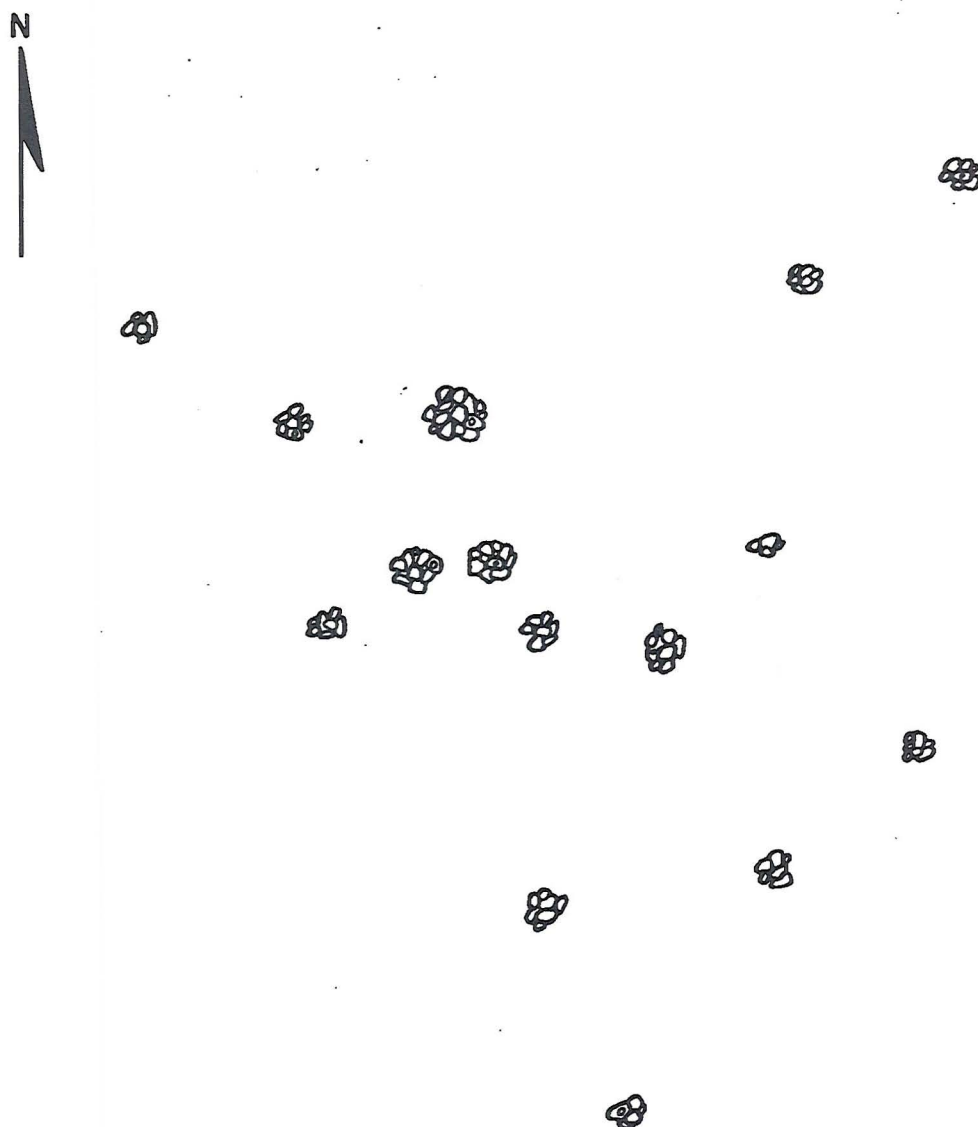
Figure 10. Locus 19 rock mound.

The evidence remains inconclusive. The dating and function of these mounds can be determined only by further investigation. Since it is not known whether these rock mounds are a significant prehistoric site or an insignificant historic feature, a permanent site number was not assigned.

No. 20**Location:****Discovery Technique:****Cultural Material:**Exempted from
Disclosure by
[Statute]**Surface survey****None**

Comments: This locus consists of fifteen stone mounds (Figure 11). The mounds cover an area 65 meters (N-S) by 55 meters (E-W) and vary in height from .5 to 1 meter. The mounds consist of cherty-limestone rock mixed with little or no soil.

The same problem with determining the function and assigning a cultural affiliation for Locus 19 applies to this locus. Since these factors remain unknown, a permanent site number was not assigned.



CLINCH RIVER BREEDER REACTOR PROJECT
LOCUS 20

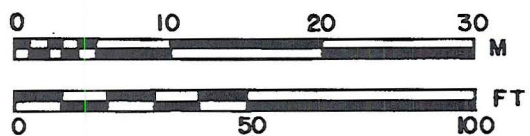


Figure 11. Locus 20 rock mounds.

VIII. BACKHOE EXCAVATIONS AT 40RE165

A backhoe test trench was excavated at 40RE165 (Figures 12 and 13), [Exempted from Disclosure by Statute] After prehistoric cultural material was encountered [Exempted from Disclosure by Statute] the excavations were expanded and Backhoe Trench 8 excavated (Figure 14). A horizontal datum was established so that excavated levels of the backhoe trenches could be correlated. Figure 15 illustrates the profiles of both backhoe trenches and Table 4 provides provenience data on the cultural material recovered.

A 1.3 by 1 meter unit was excavated in Backhoe Trench 6. Two 10 centimeter levels were screened through 1/4 inch mesh. Lithic debitage was sparse and fire cracked rock light to moderate in these levels. The last five centimeters of Level 7 were sterile, indicating that the cultural zone was less than 20 centimeters thick.

Two features were defined in Backhoe Trench 6 (Figure 16). Feature 1 was a concentration of fire cracked rock and Feature 3 was an oval shaped pit. Two pitted hammerstones were recovered from Feature 1 and one Kirk Corner Notched projectile point/knife (Figure 17a) was recovered from Feature 3.

Backhoe Trench 8 was excavated eight meters to the east of Backhoe Trench 6. The purpose of this trench was to determine the areal extent of the buried cultural deposits discovered in Backhoe Trench 6. The floor of this trench was excavated in one meter square units. Four levels were excavated in Unit A, one in Unit B and one in Unit C. Each unit was hand excavated in 10 centimeter levels and all dirt screened through 1/4 inch mesh. An Iddins Undifferentiated Stemmed projectile point/knife (Chapman

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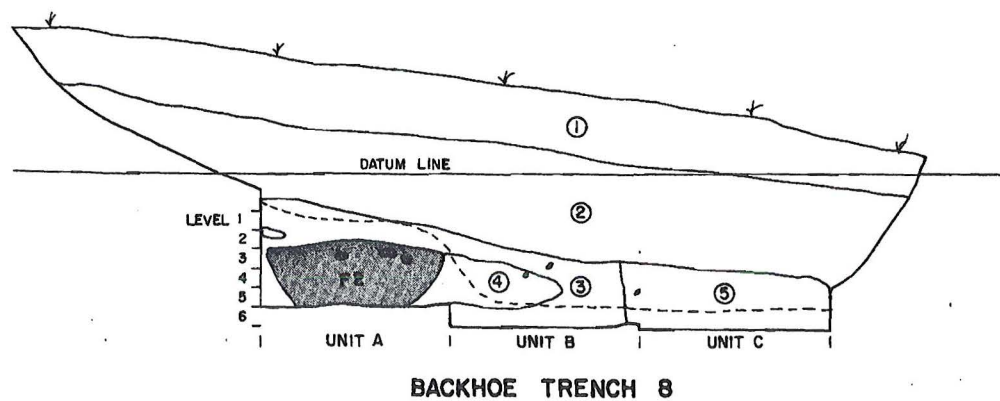
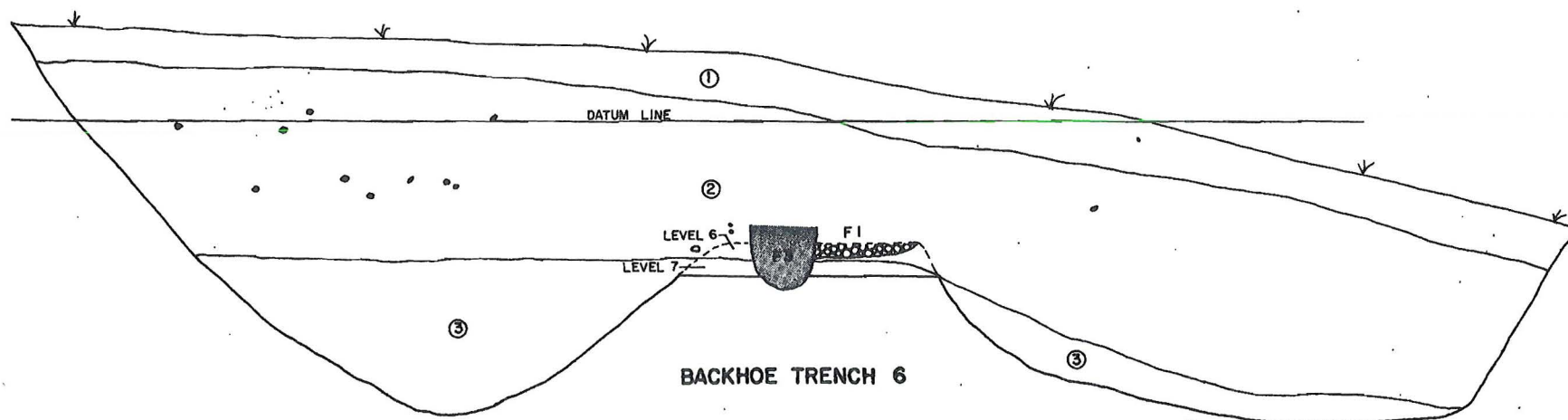
Figure 12. View of 40RE165 [Exempted from Disclosure by
Statute]



Figure 13. Backhoe Trench 6 (40RE165).

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Figure 14. Backhoe excavations at 40RE165.



CLINCH RIVER BREEDER REACTOR PROJECT 40 RE 165



SOUTHEAST PROFILE

- ① PLOWZONE
- ② YELLOW/BROWN SILTY CLAY
- ③ YELLOW/BROWN COMPACT CLAY
- ④ MEDIUM BROWN CLAY
- ⑤ MEDIUM BROWN COMPACT CLAY
- BEGINNING OF HAND EXCAVATIONS
- LITHIC DEBITAGE
- ◊ FIRE CRACKED ROCK

Figure 15. Backhoe trench profiles (40RE165).

Table 4. Cultural material recovered from 40RE165.

Provenience	TOOLS							DEBITAGE												
	Bifacial			Unifacial			Cobble	Flakes							Cores					
	Projectile Points/Knives	Thin Biface/Knives	Thick Biface/Knives	Retouched/Utilized Flakes	Unifacial Perforators	Blade-like Flakes	Pitted Hammerstones	Notched Netsinkers	Decortication	Flat	Bifacial Thinning	Core Trimming	Shatter	Bipolar	Limited Flake	Random Flake	Core Nucleus	Bipolar	Core Fragments	Fire Cracked Rock*
Surface	1			1					3	3	2		4						1	
Trench 6																				
Level 6										1			1							580
Level 7									1											2652
Feature 1							2													8628
Feature 3	1																			
Trench 8																				
Unit A																				
40 cm																				
below																				
surface	1																			
Level 1									4	1			1							166
Level 2									1	3			6	1						89
Level 3									16	6	2	3	8		2			6		751
Feature 2				2					7	4	2		5		1			2		80
Unit B																				
Level 6									1				3							3
Unit C																				
Level 6									4	4	1									34
Total=118	3			2	1		2		37	22	7	3	28	1	3			9		

*weight in grams

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Figure 16. Plan view of Features 1 and 3 (40RE165).

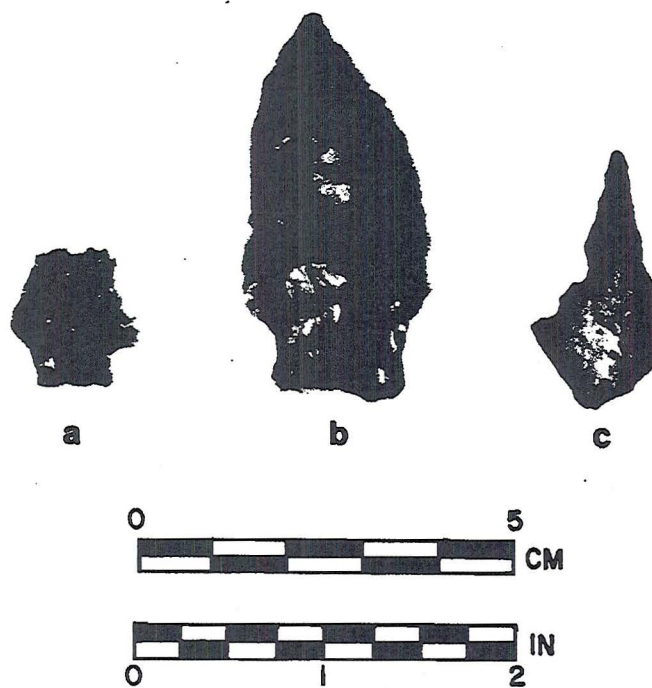


Figure 17. Selected lithic artifacts recovered from 40RE165: a) Kirk Corner Notched projectile point/knife; b) Iddins Undifferentiated Stemmed projectile point/knife; c) unifacial perforator.

1981: 77) [

Exempted from Disclosure by Statute

] in Unit A. A

medium brown clay soil zone adjacent to the feature may be midden.

A small sample of ethnobotanical remains was recovered from the excavations and analyzed by Andrea Shea Brewer. The sample includes two hickory nut fragments (Backhoe Trench 8, Levels II and III) and one persimmon seed (Feature 1).

The two diagnostic projectile points/knives suggest an Early Archaic and a Late Archaic occupation. The majority of cultural remains in both backhoe trenches occur at approximately the same depth from the surface and are in the same soil horizon, [

Exempted from Disclosure by Statute

[Exempted from Disclosure by Statute

], This suggests that the cultural zones of the two trenches were deposited at the same time. The presence of one Kirk Corner Notched projectile point/knife and feature types known to date to the Early Archaic period in East Tennessee (Chapman 1977:97-107) suggests an Early Archaic affiliation for this horizon.

40RE165

FEATURE DESCRIPTIONS

Feature 1

Description: Concentration of fire-cracked rock with minor charcoal mottling
Dimensions: .6 x .5 meters
Contents: 2 pitted hammerstones
8,628 grams of fire cracked rock

Feature 2

Description: Basin shaped pit with organically stained fill and charcoal mottling
Dimensions: .8 x .8 x .3 meters
Contents: 2 retouched/utilized flakes
21 lithic debitage
79 grams of fire cracked rock

Comments: Approximately one-half of this feature was excavated; [Exempted from Disclosure by Statute]
[Exempted from Disclosure by Statute].

Feature 3

Description: Oval pit with organically stained fill and minor burnt clay and charcoal mottling
Dimensions: .4 x .4 x .4 meters
Contents: 1 Kirk Corner Notched projectile point/knife

Comments: Approximately one-half of this feature was excavated; [Exempted from Disclosure by Statute]
[Exempted from Disclosure by Statute].

IX. LITHIC ANALYSIS

A total of 1304 lithics was recovered from 19 sites and 12 loci. The sample includes bifacial, unifacial and cobble tools, steatite bowl sherds and lithic debitage. Table 5 provides data on the type of lithic resources utilized at each site.

Less than 1% (N=10) of site debitage is bipolar. The majority of the bipolar debitage (N=8) is from habitation sites. This suggests that the bipolar technique was not extensively used at lithic extraction sites; however, temporal differences in the use of bipolar industries in the Little Tennessee River Valley of East Tennessee have been discerned (Chapman 1977: 89) and the age of the lithic extraction sites located within the CRBRP project area is not known.

Five <sup>Exempted from
Disclosure by
Statute</sup> [] sites can be defined as lithic extraction sites (40RE153, 40RE156, 40RE157, 40RE158 and 40RE159). Knox or Chickamauga chert outcrops at all five sites. These sites are identified as lithic extraction by lithic assemblages that consist primarily of local chert and by a high ratio of decortication flakes, shatter and limited flake cores. The presence of lithic extraction sites in all locales known to have chert deposits suggests extensive exploitation of this resource.

The lithic sample is biased towards Knox chert because of the one meter square test units excavated at two Knox chert extraction sites. Thus, generalized statements about differential utilization of chert resources cannot be made. However, preliminary statements on utilization of chert types for tool classes (Table 6) can be made. The sample suggests no differential utilization for unifacial tools but a possible preference of Chickamauga chert for bifacial tools.

Table 5. Lithic resources utilized at each site.

	Sample Size	Knox	Chickamauga	Unidentified Chert	Quartz	Sandstone	Steatite
A							
40RE151	78	23.1%	55.1%	18.0%	3.8%		
40RE152	117	9.4%	45.3%	44.4%	.9%		
40RE153	33		100.0%				
40RE155	7	28.6%	42.8%	28.6%			
40RE156	251	98.4%	.8%	.8%			
40RE157	21	95.2%		4.8%			
40RE158	319	98.1%	1.3%	.6%			
40RE159	99	3.0%	94.0%	3.0%			
40RE160	38	28.9%	36.9%	34.2%			
40RE161	8	25.0%	12.5%	62.5%			
40RE162	9	22.2%	33.3%	44.4%			
40RE163	19		63.2%	36.8%			
B							
40RE154	101	18.8%	48.5%	31.7%	1.0%		
40RE164	17	23.5%	47.1%	29.4%			
C							
40RE106	20	25.0%	60.0%	15.0%			
40RE125	5			60.0%			40.0%
40RE165	118	39.0%	24.6%	34.7%		1.7%	
40RE166	21	38.1%	28.6%	19.0%		9.5%	4.8%
40RE167	9		44.4%	55.5%			
Total	1290	55.1%	28.6%	15.3%	.4%	.2%	.2%

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Table 6. Tool classes by lithic resource type.

	Sample Size	Knox	Chickamauga	Unidentified Chert	Quartz
Projectile Points/Knives	7	0	4	3	0
Thin Bifaces/Knives	7	2	3	2	0
Thick Bifaces/Preforms	3	1	1	1	0
Retouched/Utilized Flakes	62	22	27	13	0
Unifacial Perforator	2	0	1	1	0
Blade-like Flakes	3	0	2	1	0
Totals:	84	25	38	21	0

Most investigators pigeonhole flakes into a retouched or utilized flake category without considering the flake type. A previous study of West Tennessee utilized/retouched flake types has indicated that a relatively high percentage of flakes (30%) were utilized because of limited raw material resources and that certain flake types (i.e., flat and bifacial thinning) were intentionally selected for utilization (Jolley 1981:45). The CRBRP sample suggests that flat flakes were selected for utilization (Table 7). The low percentage of retouched/utilized flakes (6%) recovered from the CRBRP project area in comparison to Hatchie River, West Tennessee retouched/utilized flakes relates to a greater availability of lithic resources in the CRBRP area.

Table 7. Retouched/utilized flakes by flake type.

Decortication	14	22.6%
Flat	29	46.8%
Bifacial Thinning	1	1.6%
Core Trimming	3	4.8%
Shatter	15	24.2%
Bipolar	<u>0</u>	0.0%
	62	

	Unutilized Flakes	Retouched/ Utilized Flakes	Percentage of Utilized/ Retouched Flakes
	<hr/>	<hr/>	<hr/>
Decortication	331	14	4.2%
Flat	232	29	12.5%
Bifacial Thinning	23	1	4.3%
Core Trimming	24	3	12.5%
Shatter	417	15	3.6%
Bipolar	<u>6</u>	<u>0</u>	<u>0.0%</u>
Total	1,027	62	6.0% (average)

X. RECOMMENDATIONS

A total of 17 previously unrecorded sites and two potentially significant loci was recorded. Sufficient documentation and analysis permit preliminary recommendations for National Register eligibility. Table 8 provides a summary listing of major site components and recommendations.

Site 40RE165 is a significant cultural resource. It is the first buried Early Archaic (8,000 - 6,000 B.C.) site discovered in the Clinch River Valley. The site contains undisturbed cultural deposits. Three features (two pits and a concentration of fire cracked rock) were discovered. Ethnobotanical specimens were recovered from the excavations. The site contains data relevant to Early Archaic settlement and subsistence in the Clinch River Valley. The site will not be impacted by the proposed CRBRP construction plans.

Two clusters of rock mounds are a potentially significant resource. Since it could not be determined whether they are a significant prehistoric resource or an insignificant historic feature, permanent site numbers were not assigned. Prehistoric stone mounds with burials have been excavated in the adjacent Powell River drainage (Webb 1938). The two mound clusters within the CRBRP project area are similar to prehistoric mounds (Webb 1938:363); however, they may represent historic collections of rock gathered from plowed fields. The dating and function of these mounds can be determined only by site excavation. Since both rock mound clusters are outside of the impact area, the sites were not tested.

TABLE 8. Site components and recommendations.

Site Number	CULTURAL COMPONENTS						RECOMMENDATIONS
	Archaic	Woodland	Mississippian	Unassigned Prehistoric	Historic	Unassigned	
40RE151				X			1
40RE152				X			1
40RE153				X			1
40RE154				X			1
40RE155				X			1
40RE156				X			1
40RE157				X			1
40RE158				X			1
40RE159				X			1
40RE160				X			1
40RE161				X			1
40RE162				X			1
40RE163				X			1
40RE164				X			1
40RE165	X						3
40RE166	X	X					2
40RE167	X	X	X				2
<u>Potentially Significant Loci</u>							
L-19						X	2
L-20						X	2

Key For Recommendations

1. No further work necessary.
2. Further evaluation necessary if the proposed construction plans are altered and the site is impacted.
3. Significant resource eligible for inclusion to the National Register of Historic Places.

The proposed plans for the CRBRP, as outlined in the CRBRP environmental report (DOE 1981) and indicated on detailed site plan maps dated 3/3/81 and boring location maps dated 8/25/81, will have no adverse impact on cultural resources that are eligible for inclusion to the National Register of Historic Places. If construction plans are altered and any of the archaeological sites recommended for further evaluation affected, then the aforementioned recommendations apply. It is further recommended that an archaeologist monitor construction activities proposed [Exempted from Disclosure by Statute] (see Site Plan Map dated 3/6/81 by Burns and Roe). Dense stands of trees prevented deep testing of this area. Although no significant archaeological sites were recorded here during the [Exempted from Disclosure by Statute] survey, a significant buried site may be present.

XI. SUMMARY AND CONCLUSIONS

A total of 17 previously unrecorded archaeological sites and 20 loci was discovered. All sites and 12 of the loci were prehistoric, 6 loci were historic and two loci unassigned. The prehistoric resources date from the Early Archaic to Mississippian periods and the historic resources date to the late nineteenth and twentieth century. Twelve of the prehistoric sites were habitation and five lithic extraction.

A shovel cut testing program was used to discover 14 sites and 16 loci. Shovel cut tests screened through 1/4 inch mesh and placed at 25 meter intervals proved to be an effective site discovery technique. The effectiveness is demonstrated by the discovery of four sites with dimensions of 25 meters or less. All sites and loci visible on the surface, including small historic dumps, were detected by the shovel cut testing program. Critical to the discovery of the sites was the use of 1/4 inch mesh. Considering the sparse debris densities and the small flakes recovered, few of these sites would have been discovered without screening the shovel cuts. Other investigators working in the Western Tennessee River Valley and Little Bear Creek Reservoir, Alabama have found screened shovel cuts to be a successful discovery technique (Doug Prescott, personal communication and Guy Weaver, personal communication).

The intensity of survey coverage and the effectiveness of the methods suggest that most if not all archaeological sites located within the project area have been recorded. This provides an opportunity to examine prehistoric utilization of the meander bend. A grand total of 27 prehistoric sites has been recorded within the project area (Figure 18). These include: 20 open habitation, 5 lithic extraction, 1 sheltered

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Figure 18. Prehistoric site types within the project area.

habitation (cave) and 1 burial/ceremonial site (mound). [Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

Table 9 provides data on site type and elevation and distance to nearest water source. These data suggest that elevation above water and distance to nearest water source (either temporary or permanent) were significant variables for habitation sites. [Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

The data recovered from the CRBRP project area can be used to predict the location of other sites in the region. However, the results of a recent survey of the meander bend downstream from the site of the CRBRP are not consistent with our survey results. [Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute]

[Exempted from Disclosure by Statute] These inconsistencies may be the result of different environments or the use of different survey methods. The environments are

Table 9. Relation of site types to nearest water.

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the same with the exception of sandstone ridges [Exempted from Disclosure by Statute]. The survey coverage and the survey methods were not the same. Only 25% of the [Exempted from Disclosure by Statute] was subjected to a shovel cut testing program at [Exempted from Disclosure by Statute] and the survey methods did not include screening of shovel cuts. Consequently, valid comparisons of site distribution and density between the two meander bends cannot be made.

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