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# ARCHEOLOGY AT BROUGHAM LAKE

TIMOTHY C. KLINGER  
STEVEN M. IMHOFF  
ROY J. COCHRAN, JR.

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ARCHEOLOGY AT BROUGHAM LAKE

POPULAR REPORT

by  
Timothy C. Klinger  
Steven M. Imhoff  
and  
Roy J. Cochran, Jr.

Historic Preservation Associates  
P.O. Box 1064  
301 West Mountain Street  
Fayetteville, Arkansas 72702

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#### ABSTRACT

Data recovery at Brougham Lake (3CT98) was undertaken pursuant to the Memphis District, Corps of Engineers cultural resources responsibilities for sites eligible for the National Register of Historic Places. Evidence representing Late Archaic, Ichula, Baytown and Mississippi Period activities was found along with at least seven Baytown, one indeterminate Mississippi and two Middle Mississippi structures. Association of corn with both the Baytown and Mississippi Period occupations is clear. All records and artifacts generated as a result of these investigations are available for further study at the University of Arkansas Museum, Fayetteville, Arkansas.

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## INTRODUCTION

This report generally presents the results of archaeological investigations at the Brougham Lake site (officially designated 3CT98). The site is situated within and adjacent to the right-of-way of the Big Creek Enlargement and Diversion, Item 1, Crittenden County, Arkansas (Figure 1). The construction project included the channelization of Brougham Lake and the construction of a diversion dam. The Memphis District, Corps of Engineers sponsored the data recovery program (see the section on Definition of Terms for a discussion of this and other phrases used in the text) in accordance with the Archeological and Historic Preservation Act of 1974 and the National Historic Preservation Act of 1966.

Between April of 1978 and June of 1980, 3CT98 was visited several times by professional archeologists to evaluate its potential for the National Register of Historic Places. All concluded that the site was significant and recommended various mitigation alternatives. Since construction plans could not be altered to avoid the site, a program of subsurface data recovery was initiated.

## ENVIRONMENTAL AND CULTURAL SETTING

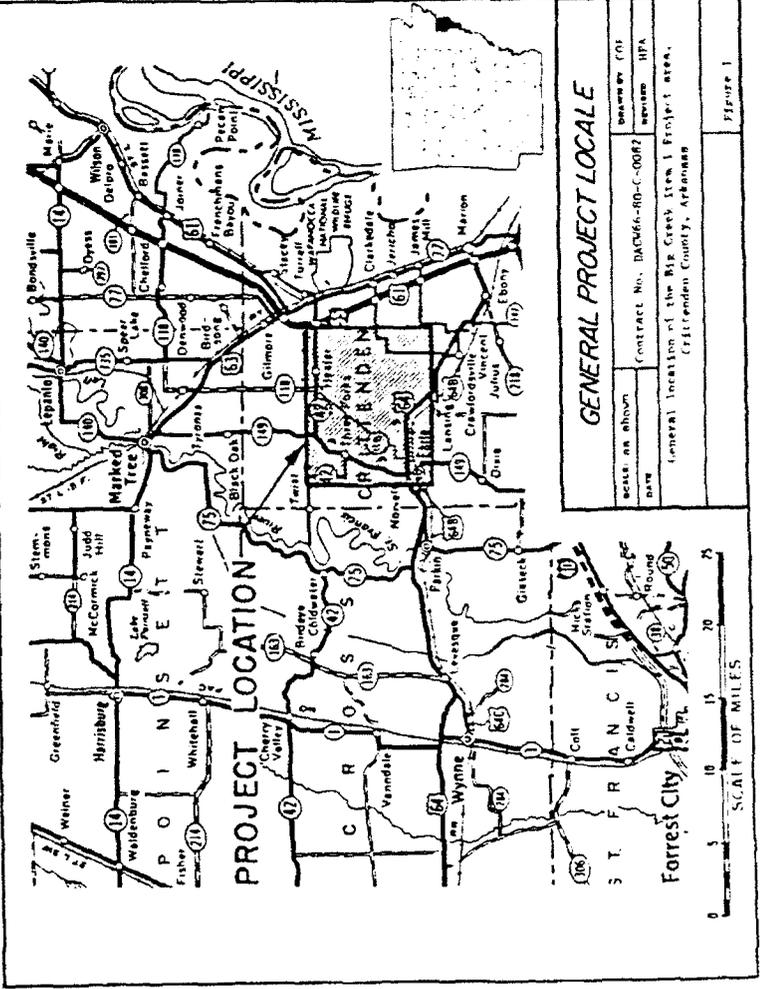
### NATURAL ENVIRONMENT

The Brougham Lake site is situated northeast of Earle, Arkansas, which is approximately 26.5 miles west of Memphis via Highway 64 and Interstate 55, and 6 miles east of Parkin on Highway 64. The site lies on the east bank of Brougham Lake, north of its confluence with Gibson Bayou. Water from Gibson Bayou drains into the Tyronza River, which in turn flows into the St. Francis River at Parkin. The site sits on levee deposits that are associated with an extinct course of the Mississippi River. Brougham Lake itself flows into Gibson Bayou which occupies an oxbow loop of this relict channel. The Mississippi River is believed to have used this channel between 2,500 and 6,000 years ago.

When viewed from the south, 3CT98 appears as a prominent rise in an otherwise table-top landscape, and is known locally as an Indian mound. While Brougham Lake is not a mound in the sense of those at more well known sites such as Parkin, it is a small prehistoric site strategically placed in the environment. At the time fieldwork was in progress, a small portion of the top of the site was overgrown with weedy vegetation and was occupied by a frame house and the various outbuildings associated with a farming operation.

### CULTURAL ENVIRONMENT

Below is a summary of the known prehistory of the area as gathered through archeological research conducted over the last 100 years. The traditional cultural periods represented at Brougham Lake are outlined.



**GENERAL PROJECT LOCALE**

SECTION SHOWN	CONTRACT NO. DAC66-10-C-0087	ISSUANCE (OS)
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General location of the Big Cane Creek & Project area, Crittenden County, Arkansas		

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SCALE OF MILES

FIGURE 1

Late Archaic Period (3,000-500 B.C.)

Northeast Arkansas was intensively inhabited during Late Archaic times. While hunting and gathering was the chief means of subsistence, there are indications of incipient horticulture east of the Mississippi at this time. Artifacts representative of this period include square stemmed projectile points, grooved axes, engraved beads, pendants and small baked clay balls.

Tchula Period (500-0 B.C.)

At present, the Tchula Period in northeast Arkansas is not well known. Changes in climate or cultural developments may have drawn peoples from the area. Artifacts of this period are characterized by grog tempered ceramics, primarily plain, but with some cord marking or fabric impressions.

Baytown Period (A.D. 500-900)

Baytown remains are abundant in northeast Arkansas, particularly in the St. Francis Basin. During these times, horticulture was apparently becoming more important and settlements more permanent - circular or oval houses were being built. Artifacts representative of this period are plain grog tempered ceramics (Baytown Plain), but also include stamped, cord marked and net impressed ceramics. Projectile points have expanding bases and were probably mounted on darts or short spears.

Mississippi Period (A.D. 900-1700)

The Mississippi Period (divided into three substages) is marked by the advent of intensive maize horticulture and is characterized by the appearance of shell tempered ceramics and small arrow points.

Early Mississippi (A.D. 700-1050)

The Early Mississippi in the Eastern Lowlands (the area between Crowley's Ridge and the Mississippi River) is well documented in the Big Lake Phase. Typical artifacts include shell beads, Sequoyah arrow points and ceramics which are primarily plain, rectangular villages with rectangular house patterns and large storage pits.

Middle Mississippi (A.D. 1050-1400)

Little is known about the Middle Mississippi in northeast Arkansas, despite the presence of numerous associated sites. General markers are stemmed, triangular and side notched arrow points. Ceramics are shell tempered and predominantly undecorated (Neeley's Ferry Plain). The Lawhorn Phase is characteristic of this period in the vicinity and is identified by Shugtown and Scallorn arrow points and decorated ceramics, including incising and/or punctating, as well as a red on buff film. Both small farmsteads and large sites with mounds have been recorded.

Late Mississippi (A.D. 1550-1700)

The best marker for Late Mississippi in northeast Arkansas is the willow leaf shaped Nodena point. One Late Mississippi phase has been identified in the vicinity -- the Parkin Phase. Principal diagnostic artifacts include Nodena points and Parkin Punctate ceramics. Other ceramics exhibit more frequent and detailed forms of decoration, such as incisions, nodes, appliques and vessels colored red or red on white. The type site for the phase, Parkin (3CS29), consists of a rectangular habitation mound, covering approximately 17 acres with a large pyramidal mound on its western edge. Parkin may be the Capital of Casqui visited by DeSoto in 1541.

Following the De Soto expedition, Mississippian culture apparently experienced a dramatic decline, possibly due to the introduction of European diseases or the depletion of food and seed grain supplies by De Soto's troops. By 1673, when Joliet and Marquette travelled the Mississippi River, the large villages described in the De Soto accounts were no longer present.

#### PROJECT OBJECTIVES AND METHODOLOGY

Data recovery through surface collection, excavation and analysis are the principal tools of the mitigation program at Brougham Lake. There were several basic questions about 3CT98 which our mitigation program sought to answer, including: When was the site used in the prehistoric past?, What was the site used for?, During what seasons was it used?, and How do the recovered data fit into the established regional framework?

Field methods used during the 1980 excavations at Brougham Lake were aimed toward providing a complete and detailed documentation of the archeological deposits at the site. To this end, field strategies were oriented toward improving surface collection conditions as well as the recovery of as much subsurface data as possible.

#### Surface Collections

Prior to the initiation of fieldwork in July 1980, 3CT98 was overgrown with dense vegetation and could not be efficiently surface collected. To remedy this situation, the entire site area was thoroughly disked with a farm tractor. Following this, a grid of 5 m x 5 m squares oriented with the project right-of-way was superimposed over the site and the entire area sprinkled with four oscillating sprinklers. Each sprinkler was left in place for a period of four hours, depositing the equivalent 3.02 inches of rain. All squares within 50 feet of the construction right-of-way were intensively investigated and the material recovered cataloged by grid unit. This included 110 units encompassing 2,690.5 square meters on the west side of the site and 81 encompassing 1,872 square meters on the east side. In the central corridor, outside of the right-of-way, 17 units encompassing 425 square meters (a 15% sample) were collected.

Plowzone Test Units

Twenty 1 m x 1 m test units were excavated to obtain plowzone samples. Material was collected from the surface of each unit and cataloged separately from material recovered from the surrounding 5 m x 5 m unit. The plowzone was then excavated and was found to extend to depths of 6 to 14 centimeters below the surface.

Profile Trenches and Auger Tests

Two 2 m wide trenches were excavated into the west end of the levee with shovels and mattocks. These showed that undisturbed deposits did not extend over the edge of the bank and exposed the natural stratigraphy of the levee. Profile drawings were made of both trenches and a soil sample was taken from each stratum. Ten auger tests were excavated to a depth of one meter. Eight of these were excavated at 10 m intervals along the western right-of-way of the diversion dam and two were excavated along the crest of the levee within the diversion dam right-of-way.

Plowzone Removal

The plowzone was removed from portions of the site within 50 ft of the construction rights-of-way using a road grader (Figure 2). Stripping proceeded downslope from the crest of the levee, and usually required four to five passes before subplowzone features were exposed. Each feature was assigned a number, its location and size were recorded and it was marked for future reference. Stripping proceeded smoothly with the exception of the crest of the levee on the west side where the compactness of the soil prohibited mechanical removal. As a result, this portion of the site (approximately 450 m<sup>2</sup>) had to be stripped by hand using flat bladed shovels.

Feature Excavation

Feature excavation was accomplished with a variety of tools as required by the size and shape of each feature and ranged from dental picks to trowels and shovels. Each feature was drawn in planview and profile and at least one soil sample was collected and a standard color reading recorded with notes and any comments thought relevant by the excavator. Most excavated material was water screened through window mesh, but portions of some larger features were processed through 2 inch mesh hardware cloth.

## RESULTS

## FEATURE EXCAVATION

Five hundred twenty-eight cultural and noncultural disturbances were assigned numbers or subnumbers (476 numbers plus 52 subnumbers) during the course of excavations, of which 125 were excluded from the analysis of the data recovered from features (Figure 3). These include 18 historic features (all probably related to the farming operation), 84 noncultural disturbances (i.e., disturbances which were the result of





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natural events or cultural activities other than prehistoric human behavior) and 23 numbers that were duplicates. This leaves 351 prehistoric features and 52 subfeatures. Three hundred thirty-eight features and 23 subfeatures yielded cultural material; 11 features contained no artifacts.

Fifteen prehistoric features and two midden samples are located on the east side of 3CT98 within the eastern right-of-way. The remaining 368 features and 23 midden samples are situated on the west side of the site within the western right-of-way.

#### Functional Categories and Cultural Assignment of Features

The Brougham Lake features have also been classified into general functional categories, based on content (or lack thereof), morphological characteristics (size, horizontal and vertical configuration), and association with other features (i.e., presence in a postmold pattern). While three features were classified as burials these contained insufficient information to enable assignment to a cultural period. One hundred thirty features have been classified as pits. The precise function of most of these (101) is not known but they probably represent storage facilities of some sort since they are, generally, too large and/or too shallow to be postmolds and too small to be refuse pits. Sixteen pits definitely appear to have provided storage, while one other appears to have served as a refuse pit as well. Five pits have been classified as refuse pits, and the remaining two are clay-lined and served an unknown purpose (Figure 4). Structural features include 223 postmolds and 12 wall trenches or portions thereof.

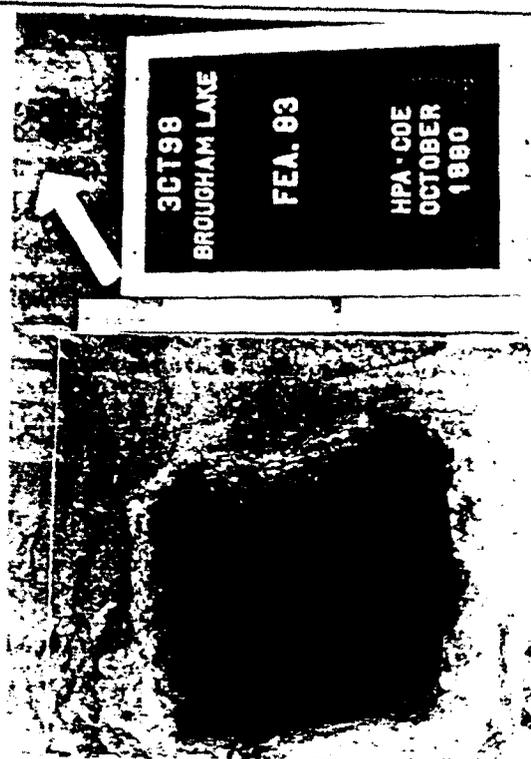
Features were assigned to cultural periods based primarily on artifact content or association with identifiable structures. In general, features were assigned to the most recent cultural period indicated by the artifacts recovered.

#### Baytown Period Features at 3CT98

One hundred forty-one features on the west side of 3CT98 are associated with the Baytown component. One hundred eight of these are associated with seven possible Baytown structures. Evidence of these structures consists of circular or oval patterns of postmolds -- partial patterns in some instances.

Seven complete or partial circular and oval patterns of postmolds have been isolated at 3CT98 that may be indicative of Baytown structures (our numbers 1, 2, 3, 4, 5, 6 and 8 in Figure 5). They range in size from 12.6 m<sup>2</sup> to 26.9 m<sup>2</sup>, with an average of 19.96 m<sup>2</sup>. An average of 18 features comprise these structures and include 13 postmolds and five pits. These figures do not accurately reflect the actual number of features originally associated with the structures, since there are 2 partial structures and a number of other features have undoubtedly been lost to erosion.

The postmolds (78) are circular, oval or irregular in outline and are primarily basin shaped in profile. They range in size from 10 cm in diameter to 22 cm x 27 cm, with an average of 15.4 cm x 16.3 cm. Depth of the postmolds ranges from 2 cm to 58 cm, with an average of 15.9 cm. If the depths are corrected to take into account the estimated loss of



FEATURE EXCAVATIONS	
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the original ground surface, they range from 12 cm to 68.3 cm and average 31.0 cm.

As a general rule, few artifacts were recovered from the postmolds; only 32 of them contained materials other than small fragments of lithics, charcoal, bone and burned clay. Wood that may have been used for posts includes white oak, hickory, elm and birch.

Most of the 27 pits are basin shaped in profile, but some are cylindrical, truncated cones or irregular. They range in size from 22 cm in diameter to 80 cm x 135 cm, with an average of 31.1 cm x 37.6 cm. Depth of the pits ranges from 3 cm to 58 cm, with an average of 17 cm. If the depths are corrected to take into account loss of the original ground surface, they range from 17 cm to 68 cm, with an average of 26 cm. On average, the pits contain more cultural material than do the postmolds (adjusted for volume), indicating that they may have at least begun their use life as storage facilities. In some instances they were filled with secondary refuse.

#### Mississippi Period Features at 3CT98

One hundred fifty-one features on the west side of 3CT98 belong to the Mississippian component, 91 of which are associated with three Mississippian structures (our numbers 7, 9 and 10 in Figure 5). One of these is oval and the other two are rectangular.

#### Structure 7

Structure 7 is small and oval, having interior dimensions of 3 m x 4.4 m (10.6 m<sup>2</sup>). The structure is defined by 16 features, including 13 postmolds and four pits. Due to the unique nature of the ceramics recovered from features associated with Structure 7 (tempering with both shell and grog), it was possible to isolate other features at the site that may be associated with it. These include 11 additional postmolds, nine pits and two for which the function is uncertain.

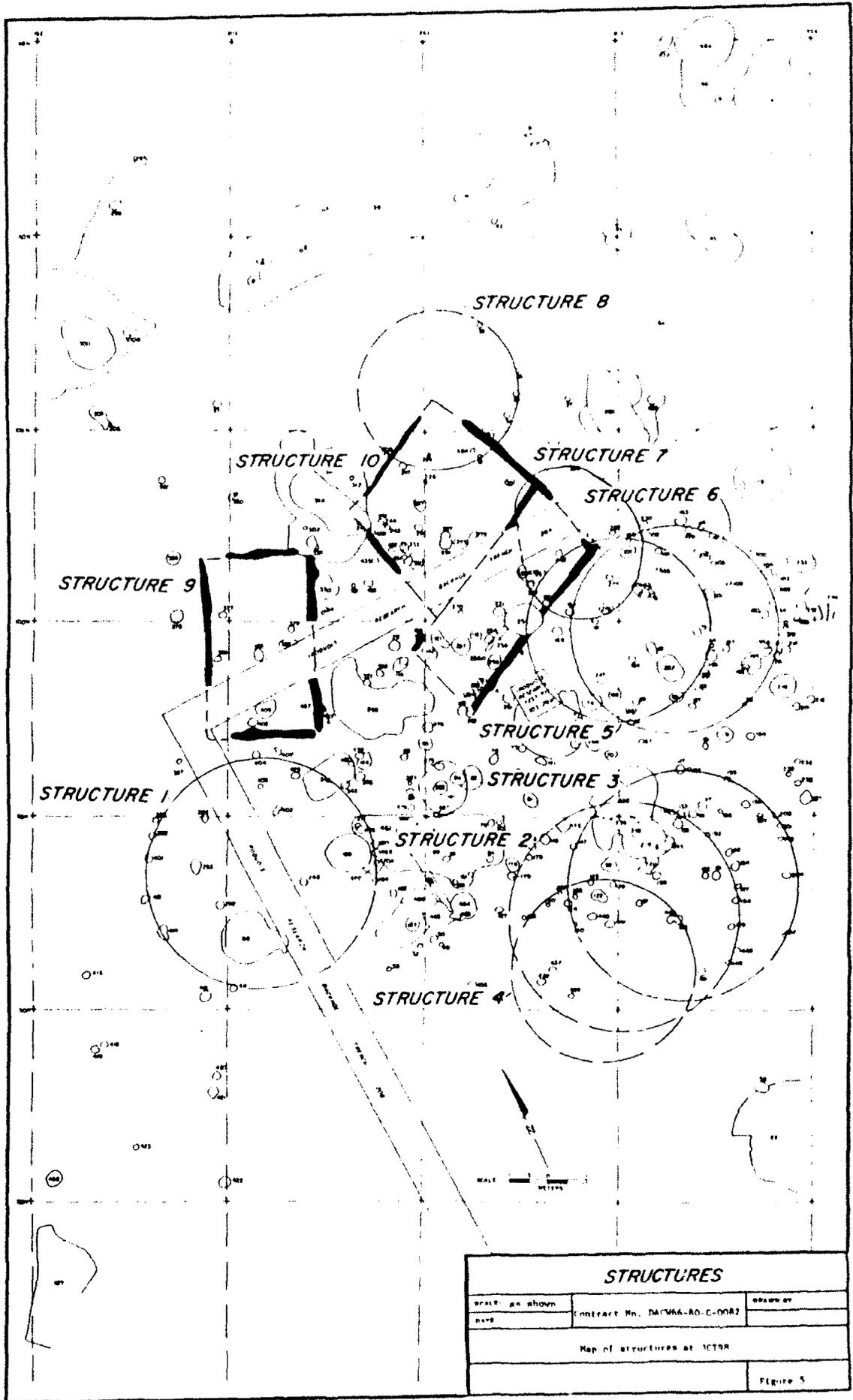
#### Structure 9

Structure 9 is a rectangular wall trench house which measures 2.4 m x 4.4 m (10.6 m<sup>2</sup>) on the interior. This structure is defined by 25 features including five wall trenches, two pits, 15 postmolds and one for which the precise function is not known. Twelve of the postmolds are associated with wall trenches.

#### Structure 10

Structure 10 is a Mississippian wall trench house which consists of two rooms comprising a total area of 23.3 m<sup>2</sup>. The lack of a wall in the western end of the south room suggests the possibility of a porch-like addition to a standing structure. This structure is composed of 46 features, including 26 postmolds, seven wall trench features, 12 pits and one for which the function is uncertain.

Unlike structural features associated with the Baytown structures, the majority (75%) of those associated with the Mississippian structures contain a good deal of cultural material. Wood possibly used for structural members includes white oak and hickory.



The remaining Mississippian features on the west side of 3CT98 are not associated with any of the three structures in an obvious manner. These include 17 postmolds, 18 pits and three others.

#### SYNTHESIS OF THE PREHISTORIC OCCUPATIONS

The features excavated at Brougham Lake reflect a primary occupation of the site during the Baytown Period, although considerable activity has been documented to have also occurred during the Mississippi Period. In addition, artifacts representative of Archaic and Tchula times were recovered, possibly indicating activities at the site during these periods as well.

Several subsistence activities are indicated by the artifacts, faunal and floral data recovered. These include the cultivation of corn, foraging, fishing and diversified hunting. Most of these data, however, were recovered from Baytown and Mississippian features, making inferences on site function during earlier occupations more difficult.

##### Late Archaic Period

Several artifact types which may be attributed to the late Archaic (3,000-500 B.C.) were recovered, including biconical Poverty Point objects (or clay balls) and projectile points similar to the Big Creek, Gary and other types (see generally Figure 6).

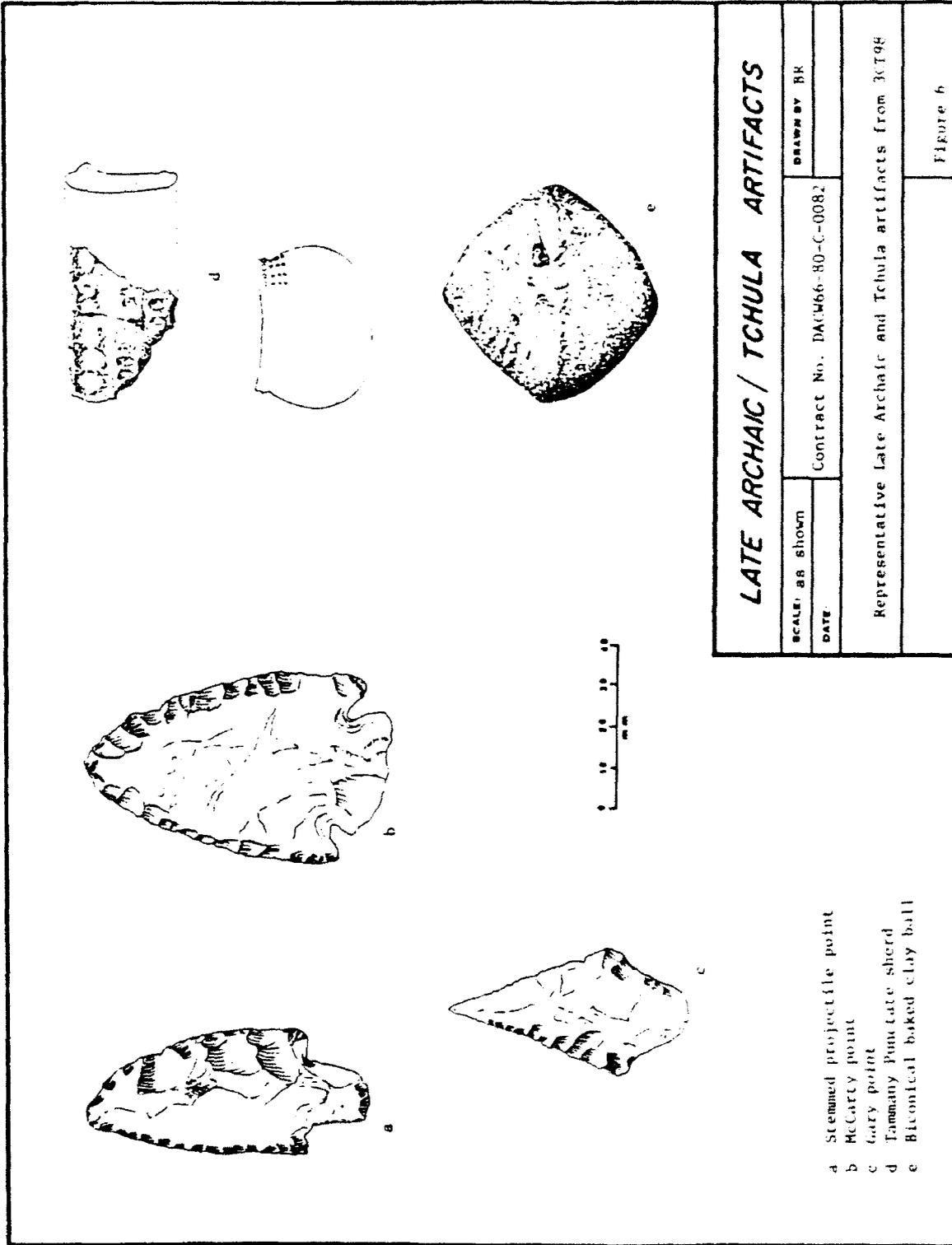
##### Tchula Period

There is little evidence of a Tchula occupation at Brougham Lake, but there is an undeniable link of the site with activities occurring during this period (500-0 B.C.). This consists of a fragmentary O'Neal Plain or Tammany Punctated vessel. Other sherds similar to Tammany Punctated and Tchefuncte Stamped were also recovered as were Tchefuncte Plain sherds. A McCarty point was also recovered from the site, as were numerous whole and fragmentary baked clay balls (see generally Figure 6). None of the features producing these artifacts, however, are characterized by undisturbed Tchula deposits.

##### Baytown Period

Baytown Plain is the principal ceramic type recovered from 3CT98, indicating substantial use of the site during the Baytown Period (A.D. 500-900). Other Baytown ceramic types found include Mulberry Creek Cord Marked, Evansville Punctated, Larto Red, Indian Bay Stamped, Yates Net Impressed, Oxbow Incised, Alligator Incised and Kersey Incised (Figure 7). A clay-lined pit containing Baytown Plain sherds was radiocarbon dated to A.D. 780  $\pm$  80.

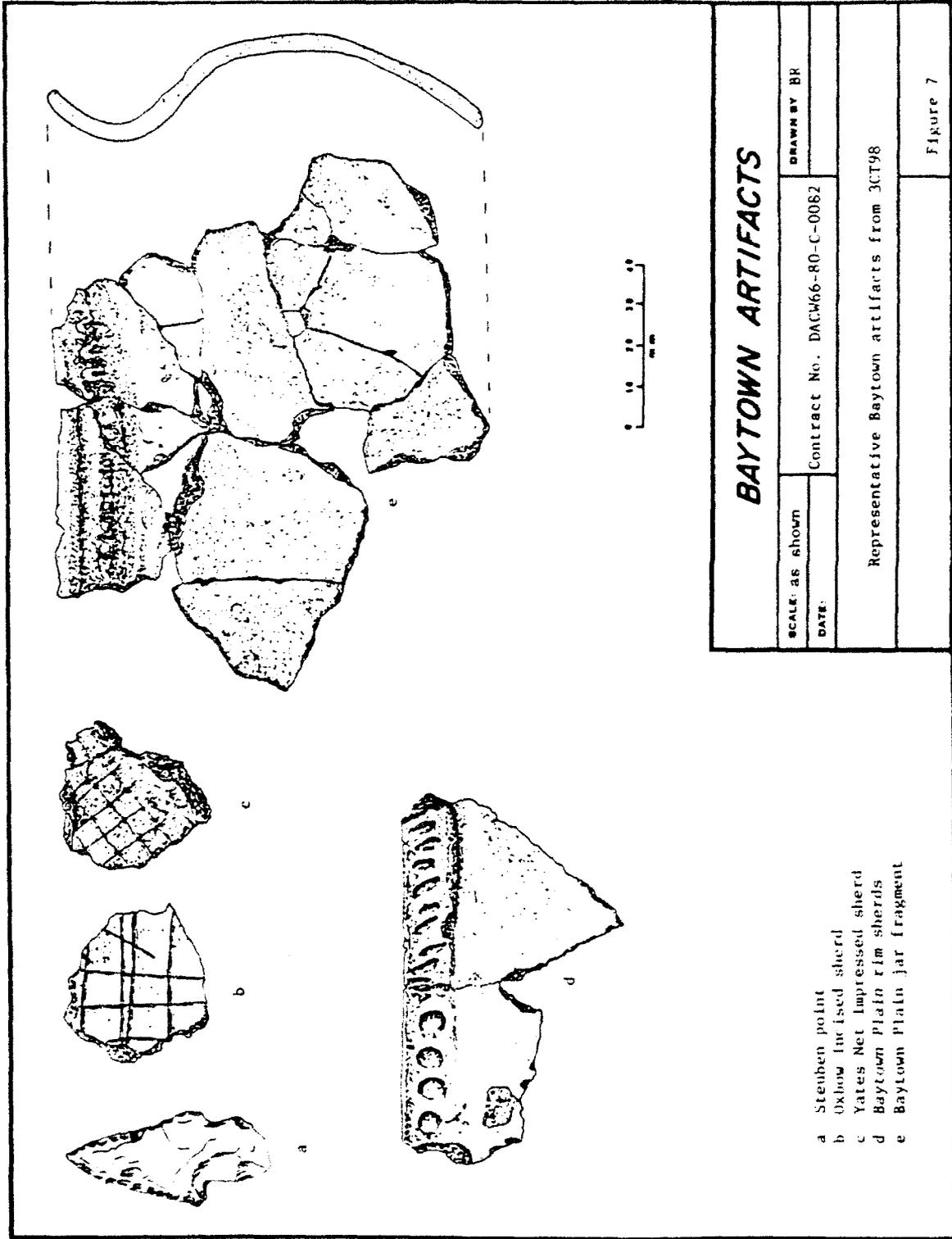
At least seven Baytown structures were constructed and their distribution over the site suggests that only a few could have been occupied at the same time. Subsistence data from the associated features shows considerable evidence for use of the site from spring through late fall; considerably less evidence of winter activity was recovered. The Baytown occupation of Brougham Lake probably functioned as a farmstead with some cultivation of corn taking place. It would



- a Stemmed projectile point
- b McCarty point
- c Garry point
- d Tammany Punctate sherd
- e Biconical baked clay ball

**LATE ARCHAIC / TCHULA ARTIFACTS**

SCALE: as shown	Contract No. DACW66-80-C-0082	DRAWN BY BK
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Representative Late Archaic and Tchula artifacts from 3T98		
		Figure 6



- a Steuben point
- b Oxbow Incised sherd
- c Yates Net Impressed sherd
- d Baytown Plain rim sherds
- e Baytown Plain jar fragment

have been the location of family-based settlements that were occupied year-round or at least through several seasons.

An examination of the 42 rim sherds from Baytown features indicates that plain (straight or slightly inward curving) forms predominate (66%) with decreasing percentages of flared (22%), folded (9%) and rolled rims (3%) also represented. It is generally assumed that plain and folded rims are found on bowls and flared and rolled rims on jars. If this is the case, then 75% of the Baytown vessels would be bowls and the remaining 25% jars. The Baytown ceramic assemblage is composed almost entirely of Baytown Plain. The majority of vessels are probably round-based bowls, a small proportion of which had a folded rim treatment. The remaining vessels, a sizeable minority, consisted of round-based jars with a well-defined neck. Rim decoration is not common and consists primarily of a series of nicks and notches on or below the lip. A single notched applique strip or a row of nodes below the lip is sometimes found with this decoration. Projectile points occur infrequently and many of them may have been recycled from earlier occupations.

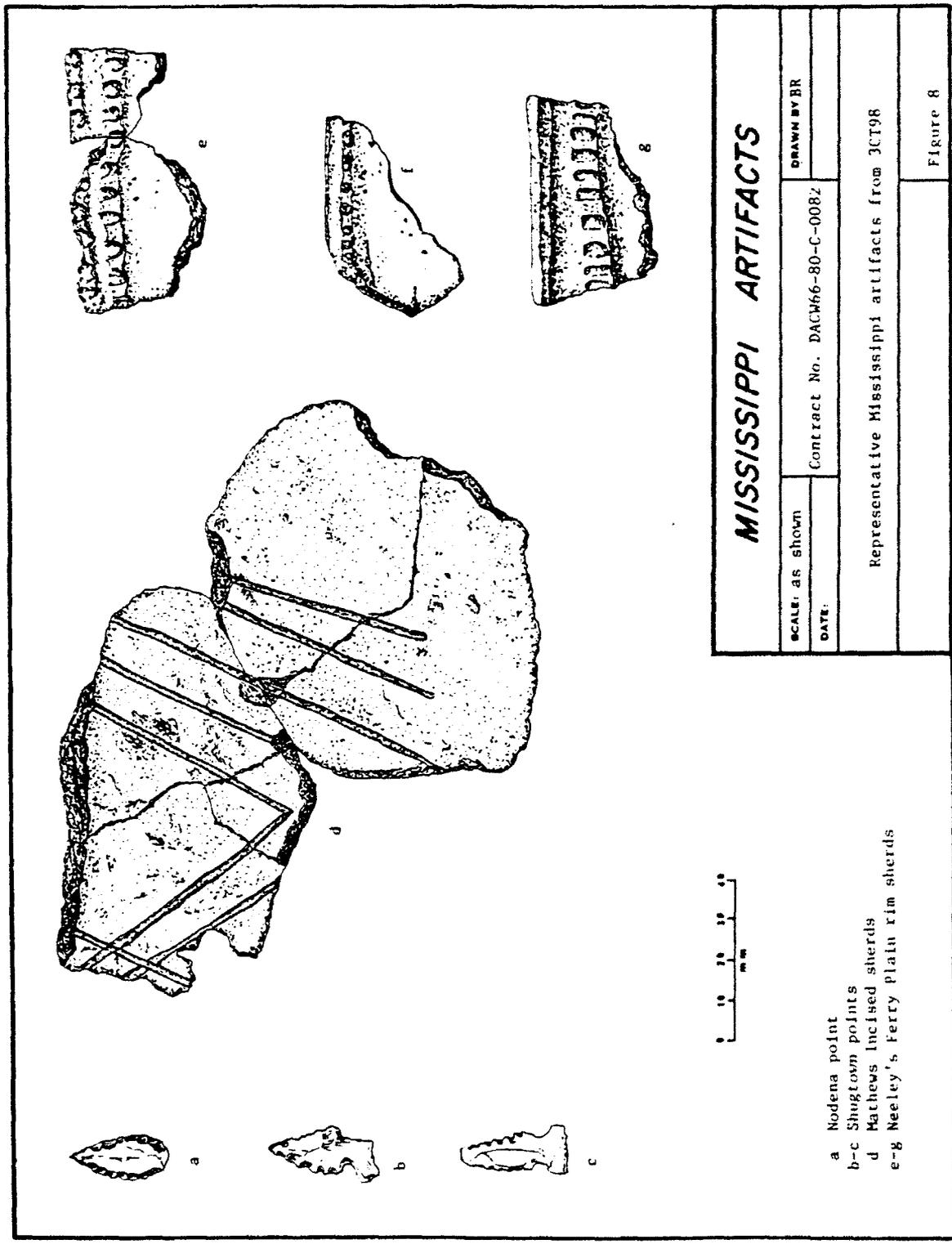
#### Mississippi Period

Three distinct occupations have been isolated at 3CT98 which belong to the Mississippi Period (A.D. 900-1700). The first consists of a concentration of mixed shell and grog tempered ceramics in and around Structure 7. These artifacts (Figure 8) may actually fall within a large Mississippian occupation of the site or may evidence a Baytown-Mississippian transition in this vicinity.

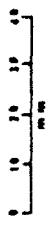
#### Indeterminant Mississippi

If a separate occupation occurred at 3CT98 which was characterized by combined shell and grog tempered ceramics, then at least one structure (our number 7) was occupied during that time. Structure 7 may have served as a simple fieldhouse (a structure adjacent to agricultural fields occupied only during the growing season). A close examination of ceramics from associated features, however, revealed a number of sherds exhibiting combined shell and grog temper. All ceramics from the site were examined with a binocular microscope and, as a result, 48 features were found to contain 223 combined temper sherds. This combination is an intermixture of a somewhat coarse shell and grog; no shell was observed in the grog.

Of the 47 features containing combined temper ceramics, 44 also contained Baytown Plain and 15 contained Neeley's Ferry Plain. All but four of the features containing Neeley's Ferry Plain ceramics were found within the Structure 10 area (which intrudes Structure 7). This suggests that combined temper ceramics pre-date Neeley's Ferry Plain at Lake. Baytown Plain appears to be more closely associated with combined temper ceramics. While 64% of the ceramics recovered in these features were Baytown Plain, that type comprised only 54% of the ceramics from features which also contained Neeley's Ferry Plain.



- a Nodena point
- b-c Shugtown points
- d Mathews Incised sherd
- e-g Neeley's Ferry plain rim sherds



## MISSISSIPPI ARTIFACTS

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DATE:	Representative Mississippi artifacts from 3CT98		
			Figure 8

## Middle Mississippi

It is most likely that two Middle Mississippi structures (our numbers 9 and 10) were occupied at 3CT98 and date to A.D. 1280+100. Their orientation suggests that they were not both used at the same time. The amounts and types of refuse recovered in the associated features indicate these were farmsteads occupied most, if not all of the year. Neeley's Ferry Plain ceramics are the predominant artifacts from this component, although Scallorn and Shugtown points were also recovered.

Middle Mississippi artifacts were recovered from 67 features on the west side. A total of 1,542 Neeley's Ferry Plain sherds were found of which 12% were rims and 1% were red filmed. Decoration occurs on 18% of the rims and 4% of all shell tempered ceramics recovered from Mississippi features. Rims are primarily flared (49%) or plain (43%). From these data, it appears that the ceramic assemblage at 3CT98 during the middle Mississippi was composed of a relatively even number of jars and bowls. All vessels had rounded bases and most (96%) were undecorated. When decoration occurs, it is most commonly a rim treatment (i.e., nicking, notching, applique) or a thin red film.

## Late Mississippi

A limited use or occupation of 3CT98 appears to have occurred during the Late Mississippi (A.D. 1350-1700). A large Matthews Incised sherd was recovered from a pit on the east side of the site. A Nodena point and two basalt tool fragments were also recovered on the surface from this portion of the site. There are few data which indicate late Mississippi Parkin Phase activities at 3CT98. The presence of a Nodena point in the collections represents the strongest evidence, as this type is widely accepted as a late Mississippi marker. While basalt has been identified in tool assemblages in northeast Arkansas as early as the Archaic Period, the strongest association is with the late Mississippi.

## WHY THE BROUGHAM LAKE SITE IS IMPORTANT

There are hundreds of prehistoric archeological sites on record in this part of Arkansas' Mississippi Valley yet 3CT98 was found to be of special interest. It was in danger of being destroyed by the Corps of Engineers channelization project. It could not be avoided by a redesign of the construction corridor (which could have resulted in its in place preservation), it was determined important by the state and federal government and therefore it was the focus of the program of excavation (data recovery or mitigation) discussed in this report.

We were able to learn many new pieces of information relating not only to 3CT98 itself but also relating to how it fits in to what is already known about prehistoric human activities in northeast Arkansas. Baytown occupations at Brougham Lake are different (possibly later) than those at the DeRossitt site (located just north of Interstate 40) and therefore yield new rather than simple comparative data. Several structures were delineated with a good degree of reliability and corn was found in unquestionable Baytown context.

The Middle Mississippi component at 3CT98 also provides new primary data to the region and adds more evidence to the regional model of farmstead occupation during this period. A continuity from Baytown through Middle Mississippi, however, is observed for the first time at Brougham Lake. Vessel forms and decorations are nearly identical for these components, though the proportions vary through time.

Not only did the Baytown and Mississippi peoples who occupied 3CT98 have similar vessel forms, their way of using their environment in and around the site was substantially the same as the way people use the area today. The levee remnant on which the site was established was exactly the same kind of spot found useful for an historic house site and farm headquarters. People living there a thousand years ago fished out of Brougham Lake, hunted in the surrounding lowlands and farmed the richly fertile adjacent soils -- just as they do today. What we have learned about the prehistoric past at 3CT98 has told us much about where we have been. It may help us just a little to see more clearly where we are going.

DEFINITION OF TERMS

**Big Creek Enlargement and Diversion, Item 1:** the construction project conducted by the Memphis District of the Corps of Engineers to improve drainage along Big Creek.

**Data Recovery/Mitigation:** lessening or eliminating the destructive effects of construction activities on archeological sites, usually carried out by professional archeologists who preserve and/or recover the archeological resources.

**Feature:** an area which demonstrates evidence of human activity, such as fire pits, storage pits, house floors and postmolds.

**Grog tempered ceramics:** pottery such as Baytown Plain typical of the Ichula through Baytown Periods which has been strengthened by adding fired clay (possibly crushed sherds) into the paste prior to firing.

**Hunting and gathering:** a subsistence economy which is based on hunting animal foods and gathering undomesticated vegetable foods.

**Incipient horticulture:** the production of domesticated vegetable foods by a hunting and gathering society.

**Lithics:** artifacts which are made of stone by grinding, polishing and/or chipping, including arrow points and projectile points.

**Midden:** soil which is stained a dark color and incorporates a number of artifacts as a result of episodes of refuse accumulation and decay.

**Mounds:** artificially elevated areas which are the result of the purposeful dumping of soil or accumulations of midden.

**National Register of Historic Places:** a register of districts, sites, buildings, structures and objects of national, state and local significance administered by the National Park Service.

**Pit:** an excavation in the ground which was used for storage, burials, fires and/or refuse dumping.

**Plowzone:** that area below the surface of the ground which has been disrupted by agricultural cultivation.

**Postmold:** a post hole which has been filled with midden or other soil which contrasts with the ground in which the hole was dug.

**Pottery names:** categories which describe the temper used in the paste and decoration (if any) and which are often associated with specific periods of prehistoric activity.

**Projectile point names:** categories such as Nodena or Gary which describe bifaces used on spears, darts and arrows and which are associated with specific periods of prehistoric activity.

**Secondary refuse:** materials which are carried away from their point of origin or use for discard.

**Shell tempered ceramics:** pottery typical of the Mississippi Period such as Neeley's Ferry Plain which has been strengthened by adding mussel shell into the paste prior to firing.

**Surface collection:** collecting artifacts exposed on the surface of a site by cultivation or erosion.

**3CT98:** The official designation for the Brougham Lake site composed of three parts: 3 stands for Arkansas, CT for Crittenden County, and 98 for the 98th recorded site in the county.

**Wall trench:** a shallow excavation which was used to help support the walls of a rectangular house or other structure.

**Water screen:** the collection of artifacts, bone and carbonized vegetal material from excavated soil by washing it through a fine screen.

FOR FURTHER INFORMATION CONTACT

Hester A. Davis, State Archeologist, P.O. Box R, Fayetteville, Arkansas 72702. Phone (501)-575-3457.

Arkansas Archeological Society, P.O. Box 1222, Fayetteville, Arkansas 72702. Phone (501)-575-3556.

ALSO SEE

Indians of Arkansas, by Charles R. McGimsey III, and What is Archeology, by Hester A. Davis (1969). Arkansas Archeological Survey Popular Series No. 1. Fayetteville, Arkansas.

Archaeology of the Central Mississippi Valley, by Dan F. Morse and Phyllis A. Morse (1983). Academic Press, New York.

Brougham Lake: Archeological mitigation of 3CT98 along the Big Creek Enlargement and Diversion, Item 1, Crittenden County, Arkansas, by Timothy C. Klinger, Steven M. Imhoff and Roy J. Cochran, Jr. (1983) Historic Preservation Associates Reports 83-7. Report submitted to the Department of the Army, Memphis District, Corps of Engineers, in accordance with Contract No. DACW66-80-C-0082.

## ABOUT THE AUTHORS

**ROY J. COCHRAN, JR.** has an M.A. in anthropology (University of Arkansas at Fayetteville, 1979) and a B.S. in computer science (University of Arkansas at Fayetteville, 1983). Mr. Cochran assisted in the fieldwork and processing and analysis of the collections and authored various portions of the technical and popular reports. Mr. Cochran has participated in cultural resources studies in Missouri, Kentucky, Louisiana, Alabama and Arkansas and is a registered professional archeologist with the Society of Professional Archeologists.

**STEVEN M. IMHOFF** has an M. A. in anthropology from the University of Arkansas at Fayetteville. Mr. Imhoff served as field director during the excavations, assisted in the analysis of the collections and authored various portions of the technical and popular reports. Mr. Imhoff has conducted cultural resources studies in Oklahoma, Louisiana, Missouri and Arkansas and is a registered professional archeologist with the Society of Professional Archeologists.

**TIMOTHY C. KLINGER** has an M. A. in anthropology (University of Arkansas at Fayetteville, 1977) and a J. D. from the University of Arkansas School of Law (1982). Mr. Klinger served as principal investigator, participated in all phases of the data recovery program and authored various portions of the technical and popular reports. Mr. Klinger has participated in cultural resources studies in Michigan, New Mexico, Kentucky, Louisiana, Missouri and Arkansas, is registered by the Society of Professional Archeologists and is a licensed attorney at law in Arkansas.