EXCAVATIONS OF THE LEUTY AND MCDONALD SITE MOUNDS IN THE WATTS BAR NUCLEAR PLANT AREA

by

Gerald F. Schroedl

with

Burial Analysis

by

Moria Wright

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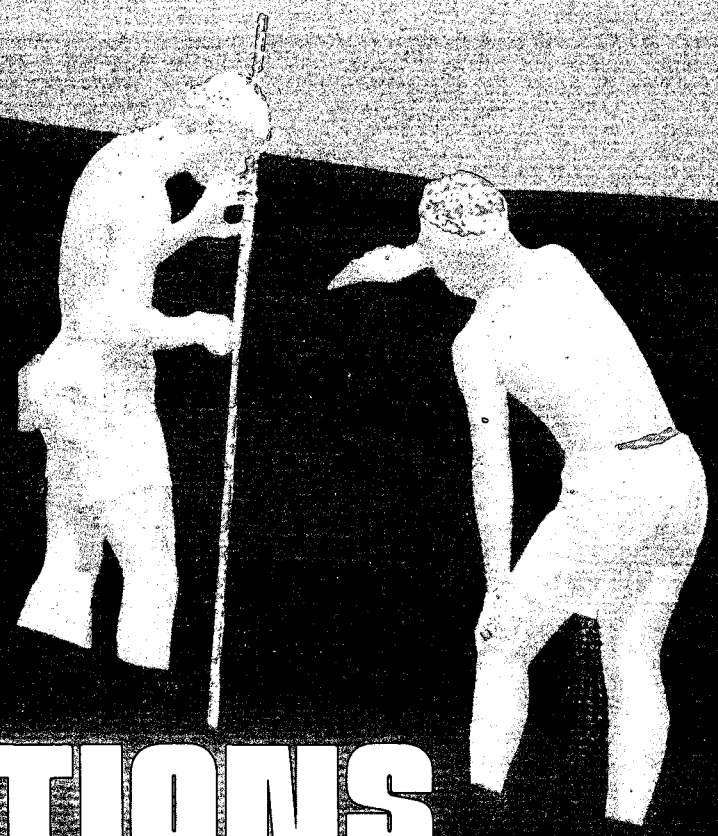

EXCAVATIONS OF THE LEUTY AND McDONALD SITE MOUNDS

by Gerald F. Schroedl
With Bone Analysis by Mary Wright

The University of Tennessee Department of Anthropology/Report of Investigations Number 22
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Dr. Alfred K. Guthe, Director of the Frank H. McClung Museum, University of Tennessee was principal investigator for the Watts Bar Nuclear plant excavations. Mr. J. B. Graham directed the field work with Mr. George F. (Nick) Fielder, Jr. serving as field foreman through September 1971 and Mr. Walter Burnett serving in this capacity to the project's completion. Mr. Graham's extensive field experience and ability to achieve maximum field crew efficiency in a friendly atmosphere made the field work a success. Mr. Fielder's expertise with camera and transit in documenting the work was invaluable to preparing this report.

The project provided summer employment for nine students, thus enabling them to acquire valuable field experience in addition to their earnings. Five locally hired individuals also worked on the project. Field crew members were:

Steve Ahler
Walter Burnett
Dallas Fugate
Gary Henderson
Barry Hopkins
Jack McNutt
Mike Morehead
Carey Oakley
Danny Roberts
Bill Ross
Darrell Wagner
Rick Ward
Dan Weaver
Richard Yarnell
Mary Ann Allison (cook)

Washing, cataloging, and analyzing the skeletal and cultural remains was a group effort directed by Gerald F. Schroedl. Persons participating in this effort included Steve Ahler, Walter Burnett, Tony Cavender, George Fielder, Barry Hopkins, Steve Morrell, and Rick Ward. In addition, Steve Ahler drafted final copies of the excavation plots and profiles and wrote most of the grave goods descriptions. Steven Young drafted Figures 1, 36, 75, 76, and 77. Walter Burnett analyzed and described the Leuty and McDonald site ceramic collections. Patricia Cole did the same for the lithic artifacts. Moria Wright analyzed and described the human skeletal remains which are the primary substance of the McDonald site analysis. Besides his field notes, George Fielder provided written summaries of the excavations which formed the basis for describing site locations, field methods, stratigraphy and feature data.

Line drawings of the lithic and ceramic artifacts were executed by James Word. William Currie printed the artifact and field work photographs; aerial photographs were provided by the Tennessee Valley Authority. Photographic reduction of the line drawings was accomplished by the technical staff of the Tennessee Valley Authority, Maps and Surveys Branch (now Mapping Services). In addition TVA field crews assisted with surveying and mapping the sites.

At the University of Tennessee, Dr. David Etnier, Department of Zoology, identified selected mollusc remains from the excavations. Dr. Paul Parmalee and Mr. Arthur Bogan identified the vertebrate remains. Dr. William M. Bass and Dr. Richard Jantz are gratefully acknowledged for their assistance with the description and analysis of the human skeletal remains. Discussions with Dr. Charles Faulkner, Dr. Jefferson Chapman, Dr. Alfred K. Guthe, and Mr. Richard Polhemus contributed to my understanding burial mound archaeology. Dr. Major C.R. McCollough reviewed the manuscript for the TVA; I appreciate his comments and suggestions. I am, of course, responsible for the content and conclusions presented herein.

Stella Willey designed the report cover. I am especially grateful to Betty Creech for typing a rough draft manuscript and to Paulette Acres for completing the final copy. The report was printed for wide distribution by the Tennessee Valley Authority.

ABSTRACT

During the summer and fall 1971, the Early Mississippian period Leuty mound (40RH6) and five Late Woodland period Hamilton mounds, constituting the McDonald site (40RH7) were excavated in the Watts Bar Nuclear Plant area. Test excavations located two occupation areas on the first river terrace which were subsequently investigated during 1972. The results of the 1972 work are reported elsewhere (Calabrese, 1976).

The Leuty mound was constructed over a former occupation area, most of which is a Middle Woodland period component. Initial Mississippian period occupation is a burned wall trench construction building and associated features at the mound base, dating at about A.D. 1100. The first mound construction stage completely covers the structure. A second structure occurs on the surface of Construction Stage 1, while a third structure lies in a pit excavated from this surface. Both buildings are at the same location and intrude the center floor of the earlier wall trench structure. Construction Stage 2 more than doubled the mound's size. A rectangular single post wall construction building is located on this mound stage. Plowing and erosion, however, destroyed most of the building. Test excavations failed to locate additional occupation areas in the immediate vicinity of the mound.

Each of the McDonald site mounds had been altered by plowing, erosion, and previous excavations. Despite these activities complete construction sequences were recorded for Mounds A and D. Mound A has five construction stages and ten burials. Mollusc shell layers covering the mound surface and log retainers at the mound edges help define the sequence. Mound D has two construction stages and 22 interments; log retainers mark the mound edge. Even though only remnants of Mounds B, C, and E remained for excavation, they contained nine burials. There is no evidence, however, for three mounds previously recorded at the site.

Demographic and mortuary interpretation at the site is limited because of poor bone preservation. Nevertheless, the skeletal population suggests that males were interred more frequently than females and that more adults than subadults received mound burial. Adult males were usually the first mound interments. In Mounds A and B these individuals are extended on the premound surface and enclosed with log cribs. In Mound E the initial burial occurs in a submound pit. Most subsequent burials were placed semiflexed on their sides on the lower mound slope or talus. The most frequent grave goods are small triangular projectile points, drilled conch columellae beads, and small ground stone celts. Only 12 interments, however, contain accompaniments.

A sequence of eleven radiocarbon determinations from Mounds A, B and D, were the first Hamilton burial mound complex dates obtained in nearly 20 years in East Tennessee. These and dates subsequently acquired from site 40RE124 indicate burial mound use from A.D. 700 to

A.D. 1100 or 1200. Evaluating this chronology suggests that the Hamilton burial mound complex began earlier than previously suspected, although its relationship with Connestee Phase and other Middle Woodland occupations in East Tennessee requires further analysis. A terminal date circa A.D. 1100 or 1200 indicates that burial mound use is contemporary with Martin Phase and Hiwassee Island focus occupations, and may represent a mortuary practice for these cultural expressions.

The continued use of burial mounds provides one explanation for the absence of identifiable Hiwassee Island focus interments. This is compatible with the interpretation that the development of Mississippian period culture in East Tennessee is largely due to gradual internal change beginning in Late Woodland times.

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INTRODUCTION

Location

The Watts Bar Nuclear Plant area is located in Rhea County, Tennessee approximately 8 miles southeast of Spring City, Tennessee (Figure 1). The plant area is approximately 2 miles downstream from Watts Bar Dam on the west shore of the Tennessee River Chickamauga Impoundment. It encompasses 967 acres along McDonald Bend from Tennessee River Miles 526.8 to 528.7. The area is bounded by the TVA Watts Bar Steam Plant Reservation to the north, Yellow Creek to the southwest, and low outliers of the River Knobs to the northeast. The locale occurs in the western portion of the Southern section of the Ridge and Valley physiographic province or Great Valley of East Tennessee (Fenneman, 1938:195, 265).

Environmental Setting

Local topography within the plant area is low rolling hills with dissected, but comparatively level, alluvial terraces. Elevations range from the level of Chickamauga Lake at 682.5 feet AMSL to a maximum of 900.0 feet AMSL. Cultivated or formerly cultivated land, supporting a variety of grasses, forbs, and shrubs comprises about two-thirds of the plant area. Most of the remaining acreage supports forests consisting chiefly of oak (*Quercus* sp.), hickory (*Carya* sp.), Virginia pine (*Pinus virginiana*), sweetgum (*Liquidambar styraciflua*), and yellow poplar (*Liridendron tulipfera*) (TVA 1972: I-19-44 and Figure 2.7-6). At higher elevations soils within the plant area are developed from colluvial deposits and weathered shales and limestone. Elsewhere these rocks are covered with deep alluvial sediments which, at the surface, are silt loam and sandy loam soils (TVA 1972: 1.1-4, I-22). The fluvial deposits form two distinct river terraces with a series of aboriginal mounds situated on the second terrace. Archaeological excavations of these mounds and test excavations to locate occupation sites on the first terrace are reported here.

Previous Investigations

C. B. Moore Survey

Clarence B. Moore (1915:399-402) first reported the location of aboriginal mounds in the plant area and adjacent locales. Included in his Viniard Landing Group are eight mounds. He locates two mound clusters each with three mounds approximately one quarter mile from the Tennessee River following the Viniard Landing road. The mounds of the first cluster, forming a triangle adjacent to the road, were designated

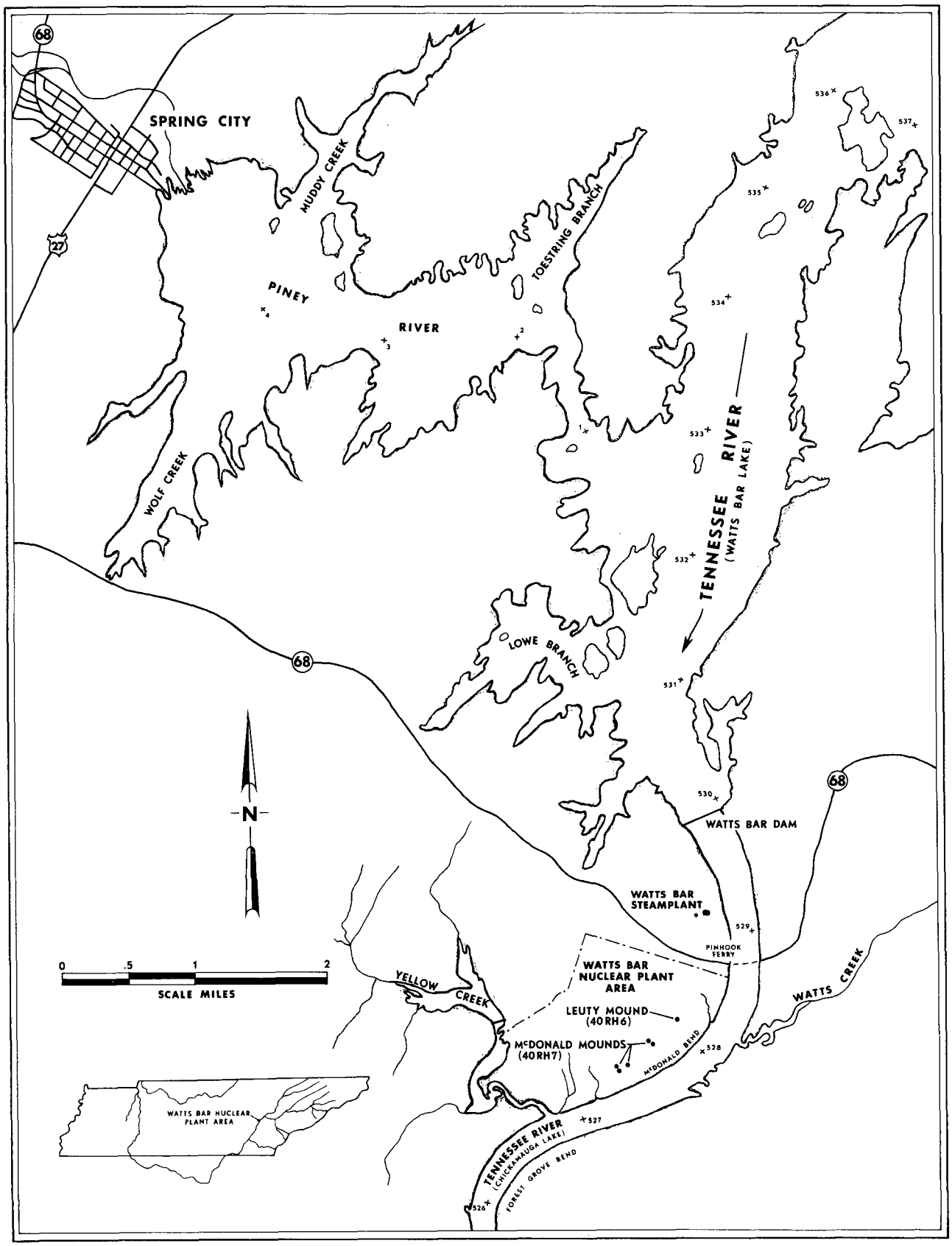

Figure 1. Location map (Adapted from Watts Bar Navigation Chart, Sheet 801 and Chickamauga Reservoir Navigation Chart, Sheet 704)

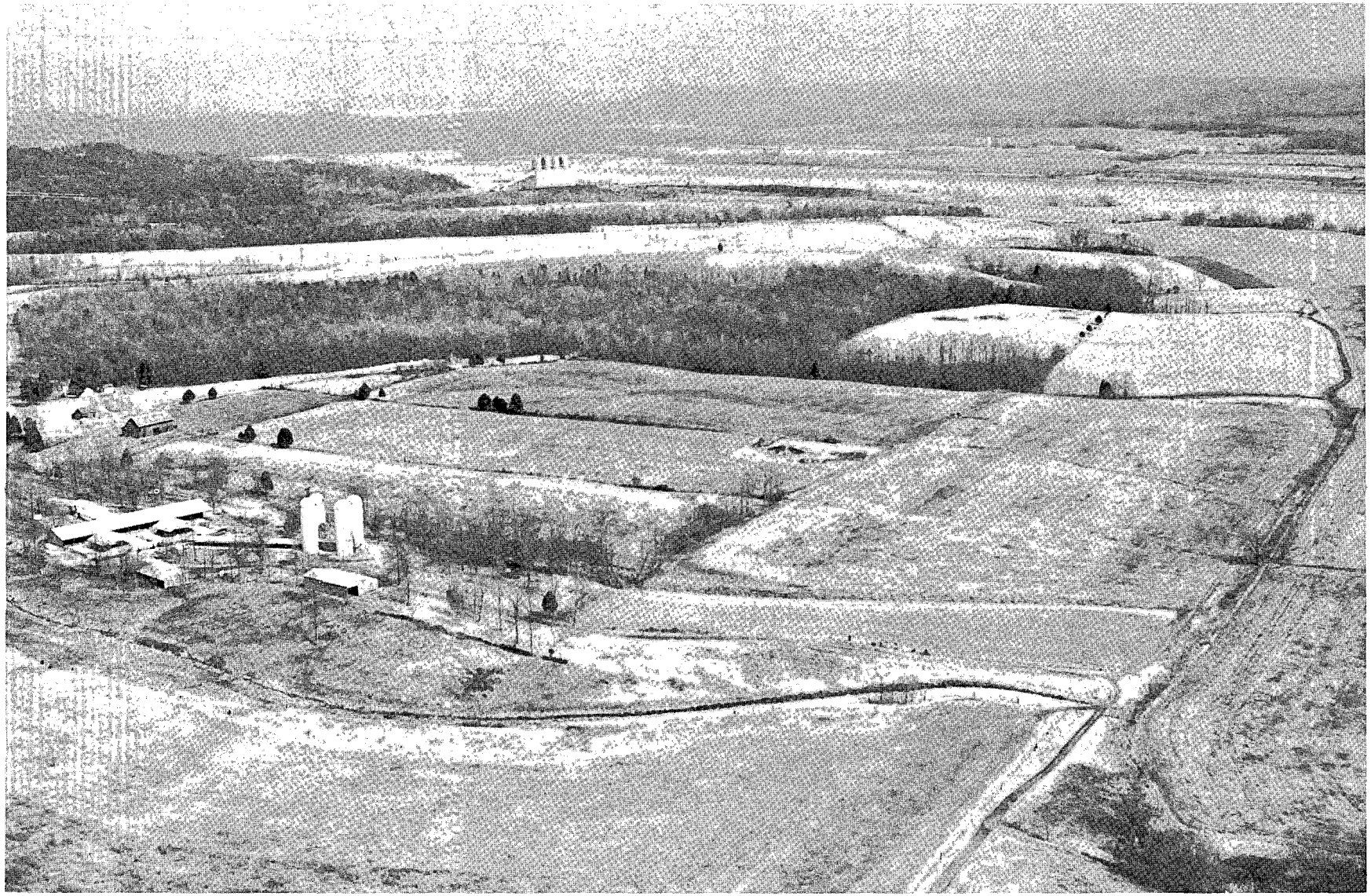

Figure 2. Low oblique aerial photograph of plant area (TVA Negative L113-1)

Mounds A, B, and C; those of the second cluster, situated approximately 300 feet to the east, were designated Mounds D, E, and F. Moore located Mounds G and H approximately one quarter mile northeast from Mounds E and F. The mounds ranged from 5 to 12 feet high and from 35 to 73 feet in diameter. Mounds B, G, and H were intact, Mounds A, D, and F were disturbed by previous digging. Moore's description suggests that the damage was minimal. Larger trenches had been dug into the east sides of Mound C and E, damaging them more extensively.

Table 1. Mound dimensions as reported by C. B. Moore (1915:399-402)

Mound	Height (ft)	Diameter (ft)
A	5	35
B	9.75	60
C	12	73
D	6	42
E	9	50
F	5.3	40-48
G	10.25	65
H	7	50

Moore partially excavated Mounds A, F, and H. Three burials were recovered from an excavation 12 feet wide by 14 feet deep in Mound A. Excavations 12 feet square and from 5 to 8 feet deep produced one burial from Mound F and five burials from Mound H. There were central burial pits at the base of Mounds A and F. Few cultural remains were recovered from the excavations and only Burials 1 and 4 in Mound H contained grave goods. A flint knife and five conch columellae beads were found with Burial 1, while Burial 4 contained a single projectile point.

Moore's Luty Place Mound also is included in the plant area. This mound was 6.5 feet high and 90 feet in diameter. Moore states:

> . . . (as the Mound, which seemed to have had a flat top, presumably had been a domicilary one, and, moreover, seemed practically to form part of a group we had no desire to expend additional time upon) . . . (1915:403)

Since no other mounds are described at the Luty Place, Moore's reference to "a group [of Mounds]" is confusing. Nevertheless it implies an unspecified number of additional mounds possibly within the plant area.

Chickamagua Reservoir Survey

Archaeological reconnaissance of the Chickamagua Reservoir in 1936 included part of the plant area. The survey located seven of Moore's eight Viniard Landing Mounds, designating them RH7 units 9 through 15. There was no attempt to correlate these units with Moore's designations. The mounds ranged from 3.5 to 10.0 feet high and from 40 to 70 feet in diameter (Table 2).

Table 2. Mound dimensions as reported in 1936

Unit	Height (ft)	Diameter (ft)
9	9	60
10	10	75
11	50	40
12	7	50
13	3.5	40
14	7	40
15	8	70

Noting that only 10RH7 had been recently disturbed by relic collectors, the 1936 survey recommended mapping and excavating the mounds. None of this work was accomplished, however, during the Chickamaugua archaeological project.

The Chickamagua survey relocated the Luty Place Mound, designating it 8RH6 and indicating that it was 8 feet high and 100 feet in diameter. A test pit of unspecified size and location in the mound revealed a single burial. Whether the burial was removed is unstated. A second mound 3 feet high and 50 feet in diameter and scattered surface debris, both located approximately 1400 feet north of 8RH6, were designated respectively as 3RH6 and 2RH6. An unspecified number of artifacts were collected in both areas, and the survey noted a human skeleton recently plowed up from the mound. No excavations were conducted at either location.

The 1971 Survey and Site Correlations

Archaeological reconnaissance of the plant area in 1971 located three mounds which correspond to Moore's Viniard Landing Group and to the 1936 survey's site RH7. Excavations produced remnants of two additional mounds belonging to this group. The group was renamed the

McDonald site (40RH7) and the five mounds were assigned letters A through E (Figure 3). Only two mounds can be positively correlated with previous designations. Location and size show that Mounds C and D correspond respectively to Chickamagua Units 14 and 15 and Moore's Mounds H and G. Description and local relief indicate that Mounds A, B, and E probably are Moore's Mounds B, C, and D. Since the 1936 survey failed to record the distances between mounds, it is impossible to be sure which of Moore's designations and the 1971 designations represent units 9 through 13. How mound diameter and height were measured in 1915 and 1936 is unknown, but size alone suggests Mound A (Moore's Mound B) is Unit 9 or 10 and that Mound B (Moore's Mound C) is Unit 11. Land leveling, plowing, erosion, and relic collectors thus completely destroyed some mounds and so altered others that recognizing or relocating them was impossible in 1971. Eight mounds were recognized in 1915, but there were only seven by 1936 and only five by 1971.

Moore's Luty Place Mound, designated 8RH6, was relocated and renumbered as 40RH6. Moore's name for the site was retained but in keeping with the 1936 survey and place names used by TVA, the spelling was altered to Leuty. No associated mounds including 3RH6 found in 1936 were located in 1971. The mound which was located and tested by Burnett and Coverdale in 1973 (1973:6) and designated 40RH6, Unit 3, is probably the mound to which the 1936 survey assigned 3RH6.

Research Objective

Since construction of the Watts Bar Nuclear Plant would destroy the Leuty (40RH6) and McDonald (40RH7) site mounds, the primary objective of the 1971 investigations was to mitigate this impact by excavating both sites. Previous research suggested that the Leuty site was an Early Mississippian Period substructure mound while the McDonald site was a group of Late Woodland period burial mounds. Excavation of the mounds was the first opportunity to investigate sites representing these cultural periods in the Chickamauga Basin in nearly 40 years. Few such sites, in fact, had been investigated in East Tennessee in over 20 years.

Excavations of each McDonald site mound were intended to determine (1) the number, size, and placement of individual construction stages, (2) the number of burials and their arrangement within the mound, (3) the relationship of mound accretion and burial location, and (4) whether the mound covered earlier prehistoric occupations. Burial excavations were intended to identify mortuary practices and to describe the morphology of the skeletal population.

Since the only radiocarbon dated burial mound was the Alford site (40RE4) (Crane and Griffin, 1961:14), a further objective of the McDonald site excavations was the recovery of charcoal samples for radiocarbon dating. Besides determining the age of the mounds and their internal chronology, radiocarbon dates were needed to begin understanding the age span of burial mound use in East Tennessee.

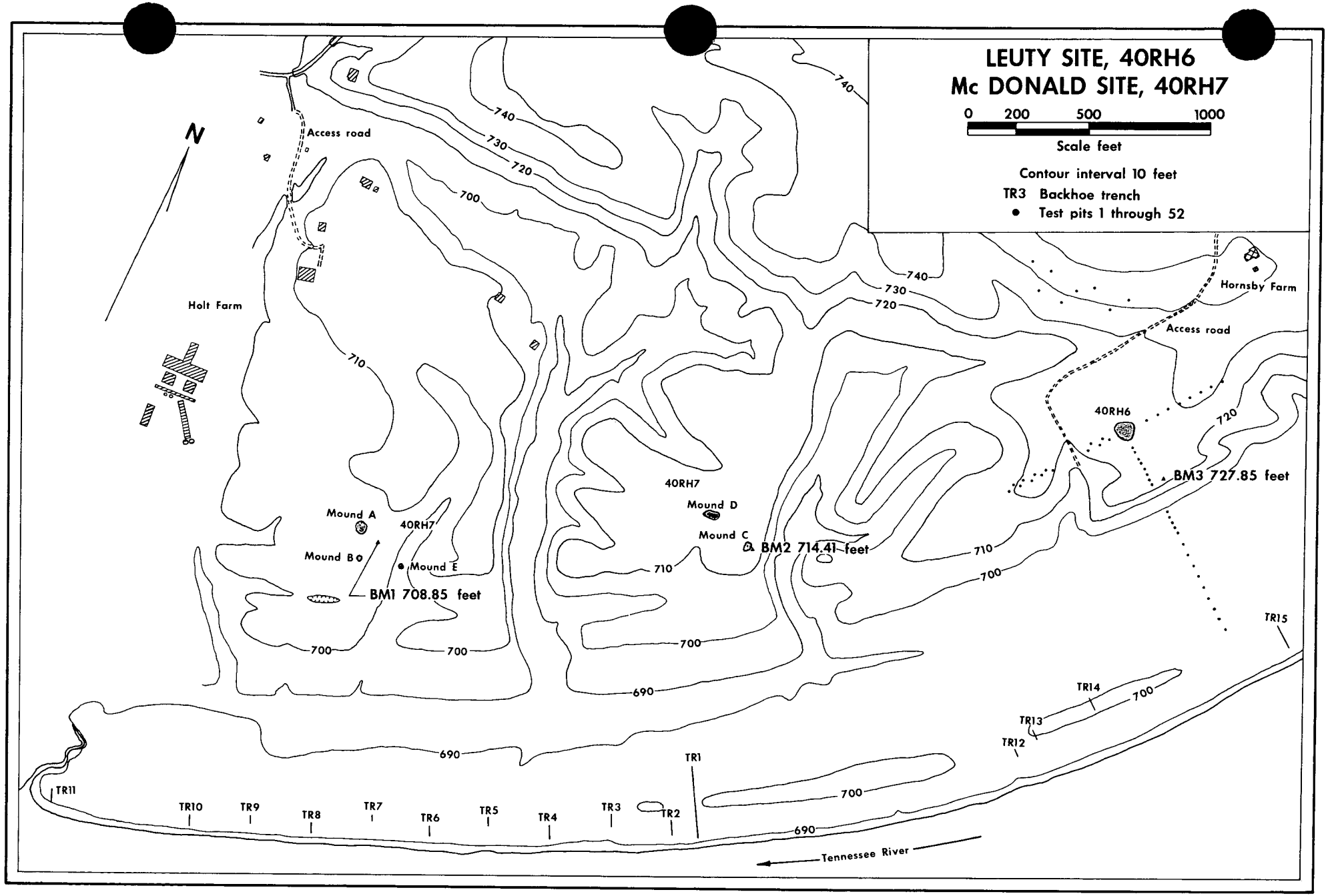

Figure 3. Location of the Leuty (40RH6) and McDonald mounds within the plant area (adapted from TVA Watts Bar Industrial Water Front Map 7-MS-461 P 547-201)

Specific objectives of the Leuty mound excavation were to (1) determine the number of construction stages and their size and placement, (2) determine the number, size and location of the probable associated structures, (3) investigate occupational remains possibly covered and protected by the mound, and (4) recover sufficient samples of cultural remains to identify the archaeological components and sequence of occupation.

The purpose of test excavations in the immediate vicinity of the Leuty mound was to locate, if possible, occupation areas associated with its use. Backhoe test excavations were made along the present river bank to identify additional occupation areas, some of which might be contemporary with the building of the Leuty and McDonald mounds.

THE LEUTY MOUND

Introduction

The Leuty Mound (40RH6) is on the southeast side of the Watts Bar Nuclear plant reservation. The mound is approximately 1170 feet from the west bank of the Tennessee River (Chickamauga impoundment) at River Mile 528.2. The site area is about three quarters of a mile south of the Watts Bar Steam Plant and about one and a quarter miles south of Watts Bar Dam. Mound C at the McDonald site is 1600 feet to the southwest. The Leuty Mound is at 35° 36'00" North latitude, 84° 47'05" West longitude. The mound is on the second river terrace about 250 feet back from the terrace edge. The second terrace is about 750 feet wide. From its edge at about elevation 720.0 feet AMSL the terrace gradually rises north to northeast to about elevation 740.0 feet AMSL. The mound base is about 729.0 feet AMSL, while the summit is about 734.0 feet AMSL. The mound is roughtly 100.0 feet in diameter (Figure 4).

The mound and surrounding area were regularly plowed and cultivated during the 20th century. Since the 1940's the area has been used primarily for pasture and the ground cover, as a result, has helped to stabilize the mound deposits and prevent erosion in recent years. No obvious historic intrustions were visible at the surface, although subsequent excavations revealed a 12 by 20 foot relic collector's pit at the mound center. No evidence of the 1936 test excavation was detected. Because this excavation probably was located near the mound summit, digging by relic collectors undoubtedly destroyed it. The dimensions recorded by Moore and the 1936 survey suggest that plowing and erosion reduced the height of the mound between 2.0 and 4.0 feet by 1971. The excavations indicate that a 2.0 foot loss is probably a more reasonable estimate.

Excavation Methods

A centerline (C/L) was surveyed to bisect the mound on a line oriented N54° 30'W". The zero stake was located 50 feet grid north from the present top center of the mound. Co-ordinates were designated left (L) or right (R) of the center line. Stakes were set to establish 10 feet squares covering the mound immediately beyond its obvious edge. Squares to the right of the centerline are described using the upper right corner stake. Squares to the left of the centerline are described using the upper left corner stake.

The plow zone was removed with a single vertical cut (Figure 5). Thereafter, vertical control was maintained with 0.5 feet arbitrary levels measured from the present surface. Levels were dug parallel with

Figure 4. General view of the Leuty mound (40RH6), view to the east

Figure 5. Initial approach trench at the Leuty mound, view to the northwest

the mound slope until the premound soil was reached. The relict submound A1 soil horizon and associated cultural remains protected by the mound were removed as a single stratigraphic unit. The absolute elevations of occupational features and structures were measured using TVA Benchmark WBNP-6 located approximately 200 feet southeast of the mound and set at 727.865 feet AMSL. None of the fill of the mound or of the occupational features was screened, although flotation samples were taken from several premound refuse filled pits.

Excavations began by dividing the mound into quadrants with two 5 feet wide trenches. One trench was 90 feet long running from 10CL to 100CL between 0 and R5 (Figure 5). The second trench was 110 feet long running from R40 to L70 between 50CL and 55CL. Both trenches subsequently were expanded an additional 5.0 feet and excavated to the mound base to provide a complete stratigraphic profile. The stratigraphy showed two distinct construction stages and a premound occupation, including one corner of a wall trench structure. Once the trench profiles were recorded, the mound fill was horizontally stripped. The plow zone was removed from most of the mound surface, but only the southwest quarter was completely excavated to the premound sediments (Figure 6). Here the first construction stage produced two superimposed structures which when built partly intruded the wall trench house. Beneath the wall trench building were earlier occupational deposits unrelated to mound construction. The partial postmold pattern of a single post wall construction building associated with the second construction stage occurred immediately beneath the plow zone in the northeast quadrant of the mound.

Test Excavations

Extensive testing was conducted to locate additional occupational evidence in the immediate vicinity of the mound. Forty-four 3 by 3 feet test pits were spaced at 25 or 50 feet intervals along the co-ordinates of the two trenches bisecting the mound (Figure 3). Test pits 1 through 8 ran towards the river as far as the edge of the second terrace. From the base of the terrace test pits 31 through 44 were continued towards the river. Test pit 44 was 950 feet from the mound and about 250 feet from the river bank. Test pits 9 through 30 paralleled the edge of the second terrace. Test pits 9 through 16 ran northeast from the mound and Test pits 17 through 30 ran southwest from the mound. Test pits 16 and 30 were respectively 450 feet and 550 feet from the mound center. Eight additional test pits (No's. 45-52) were dug in an area approximately 600 feet north of the mound. All the test pits were dug without vertical control until sterile alluvium was encountered. This was usually at the base of the plow zone no more than about 1.0 foot below the surface. The test pits produced a small sample of lithic artifacts and chipping debris but no ceramics. No undisturbed cultural deposits or occupational features were found that might be associated with the use of the mound. The few lithic artifacts which were recovered are probably associated with the occupation beneath the mound but unrelated to its construction.

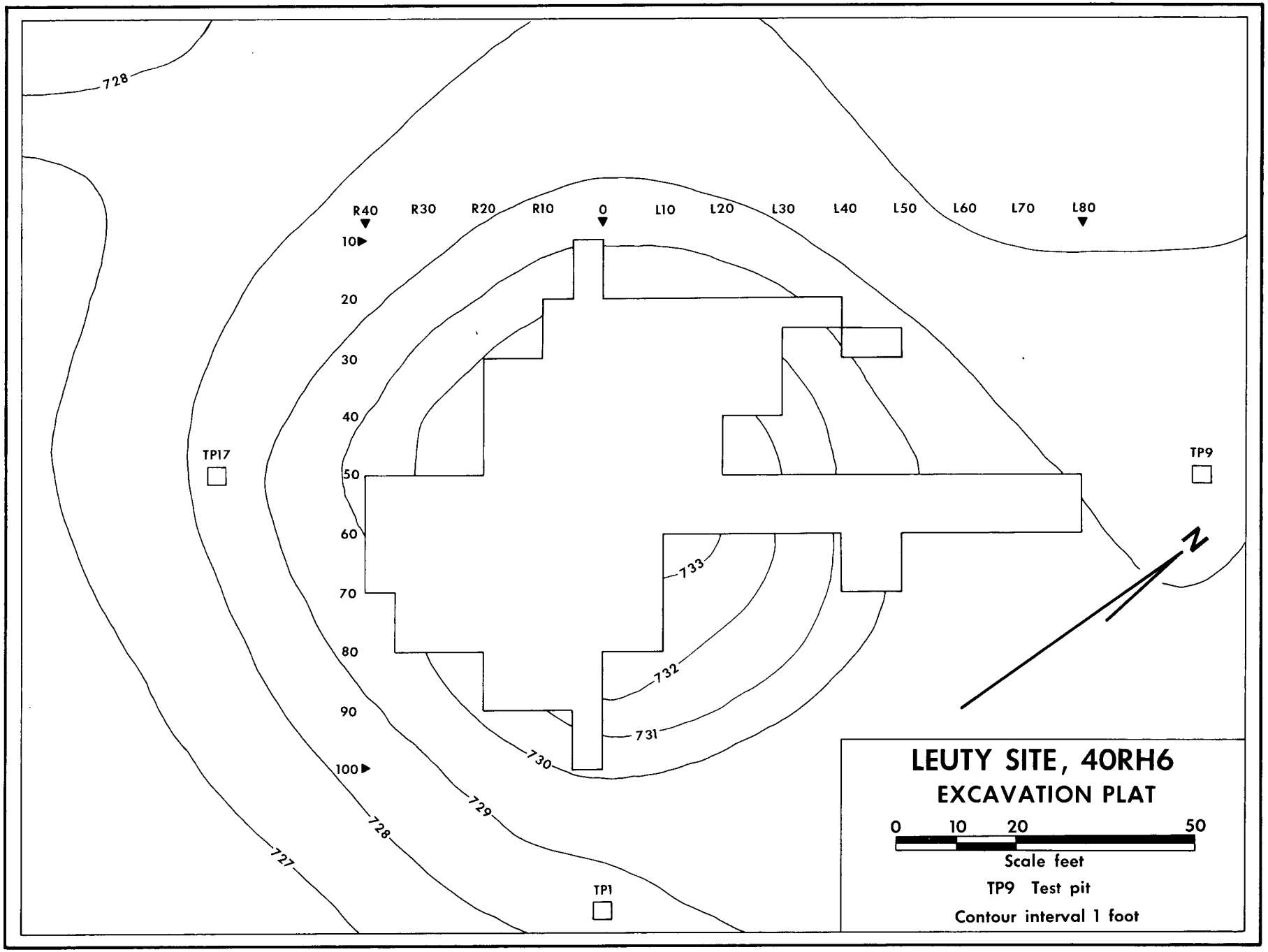

Figure 6. Leuty mound excavation plat

Besides the test pits, 15 backhoe trenches were staggered along the first terrace for about one mile (Figure 3, page 7). The trenches were dug between 31 and 297 feet long and from 4 to 9 feet deep. Trenches 1 through 13 produced no archaeological remains (Table 3).

Table 3. Backhoe test trenches at the Leuty site

Trench	Length (ft)	Depth (ft)	Cultural Remains
1	297	6-9	none
2	57	5	none
3	60	4.5	none
4	55	4.5	none
5	35	4	none
6	60	4.5	none
7	40	4	none
8	40	4	none
9	35	4.5	none
10	50	4.5	none
11	55	7	none
12	50	4.5	none
13	31	4.5	none
14	58	5	ceramics
15	110	5-6	ceramics

Trench 14 situated about 1100 feet from the Leuty Mound produced a single shell tempered sherd. Trench 15 located about 850 feet upstream from Trench 14 revealed a thin occupation layer containing mussel shells, shell tempered ceramics, and firecracked rocks. Vertebrate faunal remains include 12 fragmented bones from white-tailed deer (Odocileus virginianus), a squirrel (Sciurus sp.) mandible, and 15 unidentified mammal bone fragments. The ceramics from Trench 15 indicated a Mississippian Period component while scattered charcoal and firecracked rocks found deeper in the trench suggested a possible Woodland Period occupation. Subsequent investigations in the vicinity of Trenches 14 and 15 during the fall of 1972 confirmed this possibility and defined an occupational sequence in the area (Calabrese, 1976).

Mound Stratigraphy

The plow zone, two mound construction stages, and the premound soil profile are the stratigraphic units at the site. These deposits

are described on the basis of the profile drawings, a brief examination of the site, and a series of soil samples from each recognizable stratum (Figure 7).

The Plow Zone varies from about 0.4 feet thick at the mound center to about 0.9 feet thick at the mound periphery. It is a yellowish brown (10YR5/4 to 5/6, moist) silt loam with occasional charcoal flecks and medium to fine roots. The soil color and texture indicate that the plow zone incorporates the upper portion of the second construction stage as well as erosionally redeposited fill at the mound periphery. There is no evidence that plowing and erosion removed additional construction stages from the mound.

Construction Stage 2 is a mottled yellowish brown (10YR5/4, moist), brown (10YR5/3, moist) silt loam containing distinct localized organic deposits marking individually loaded fill (Figure 8). Soil color and texture suggest that the local B2 soil horizon was used for borrow and that soil from the A1 horizon was rarely included with the fill. Neither the local topography nor excavations indicate the location of the borrow area. The maximum thickness of Construction Stage 2 is about 3.8 feet. Structure 1 occurs on the upper surface of this deposit.

Construction Stage 1 is a yellowish red (5YR5/8, moist) silty clay loam with many prominent brown (10YR5/3, moist) and yellowish brown (10YR5/4, moist) mottles (Figure 9). There are infrequent clay and silt loam inclusions in the fill. This deposit represents almost exclusive use of the B3 and probably C soil horizons for borrow. The Construction Stage 1 summit was stable long enough for a thin, weak organic stain to develop on its surface. Structures 2 and 3 are associated with this surface. The maximum thickness of Construction Stage 1 is 1.8 feet.

The Premound Soil is an A1-B21-B22-B3 soil horizon sequence buried by both mound construction stages. The A1 horizon is a dark brown (10YR4/3, moist) silt loam about 0.4 feet thick; the B2 horizon is a brown (10YR5/3, moist) to yellowish brown (10YR5/6, moist) silt loam about 1.2 feet thick; the B3 horizon is a strong brown (7.5YR5/6, moist) silty clay loam at the base of the profile. The accumulation of cultural debris including Structure 4 is associated with the A1 horizon. Postmolds and refuse filled pits intrude the B horizons. Weak organic layers capping some features indicate at least two distinct occupations beneath the mound. The associated cultural remains support this contention. Away from the protective cover of the mound the cultural deposit and A soil horizon are incorporated in the plow zone.

Occupational Sequence, Structures and Features

Premound Occupation

Occupational features originating within or at the base of the premound cultural deposit are unrelated to mound use (Figure 10).

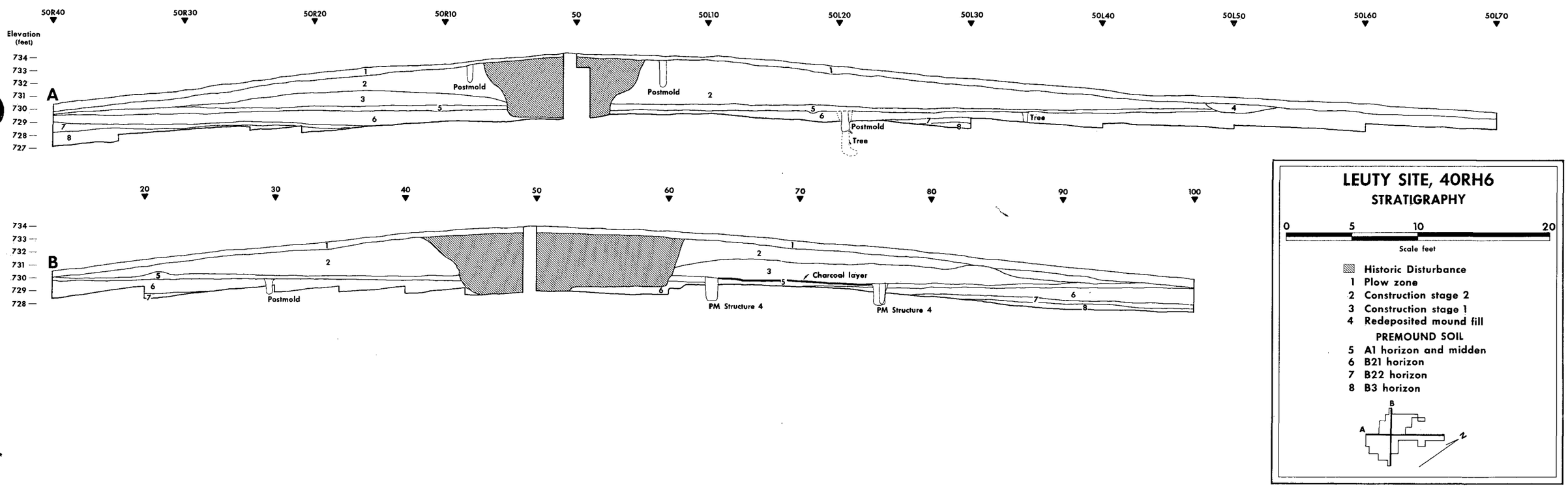

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Figure 7. Leuty mound stratigraphy

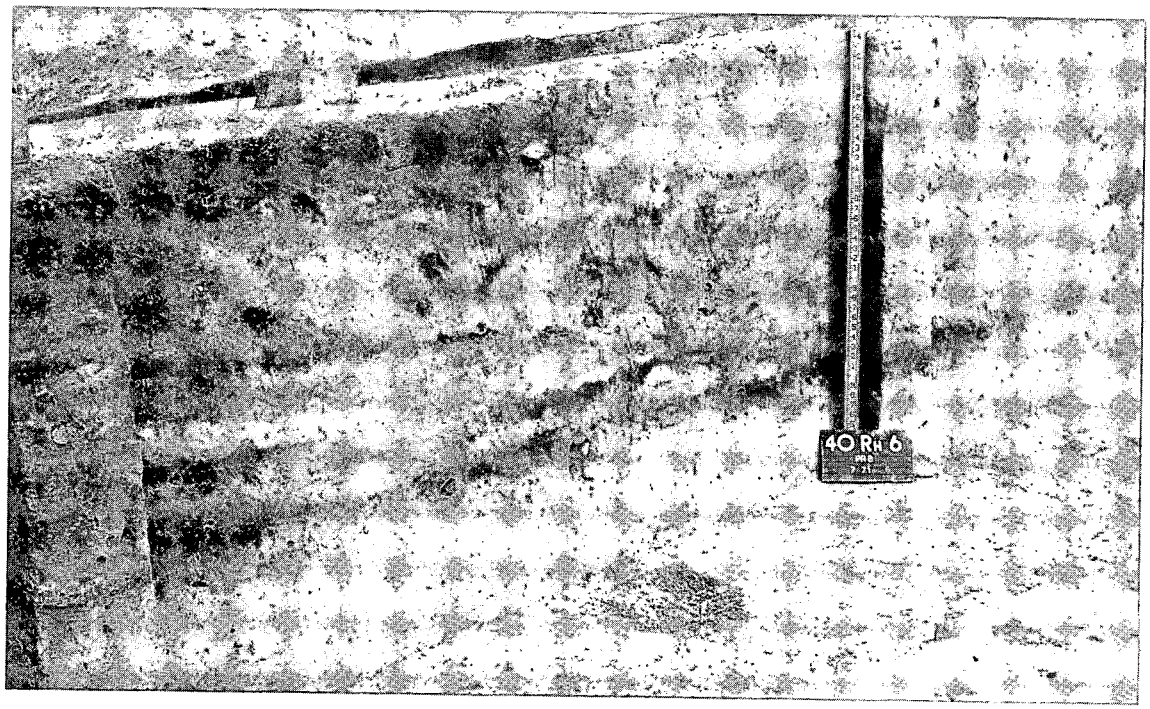


Figure 8. Stratigraphic detail at 50L10-20

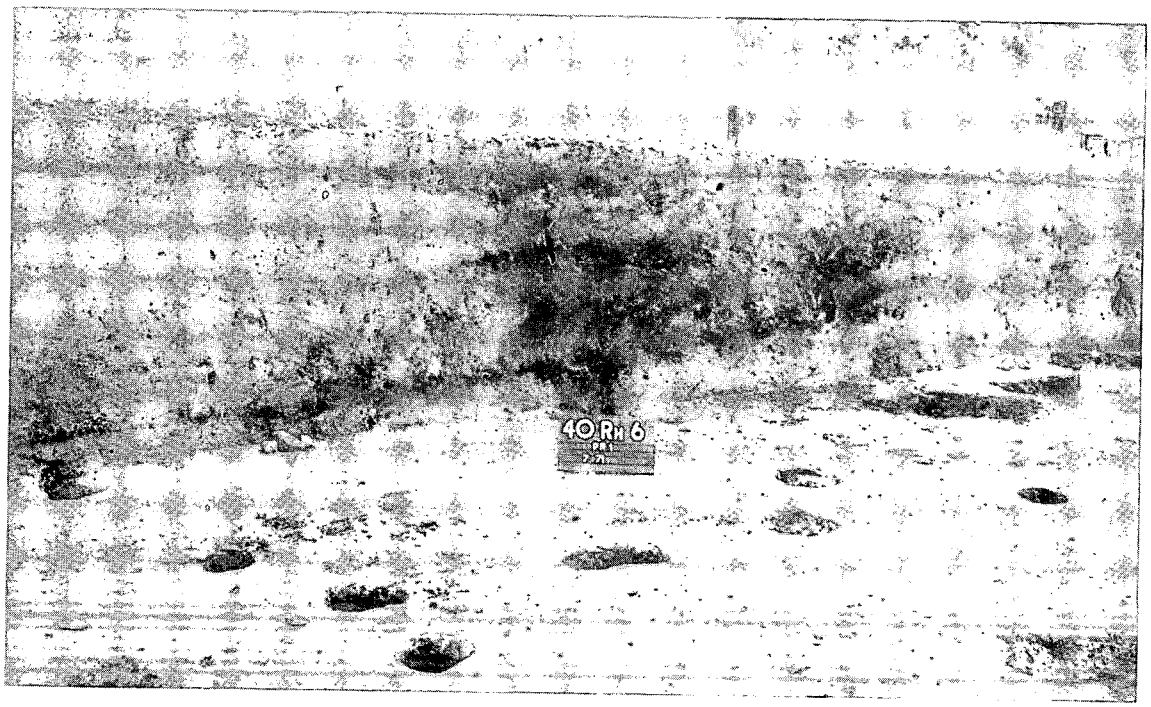


Figure 9. Stratigraphic detail at 70-90CL

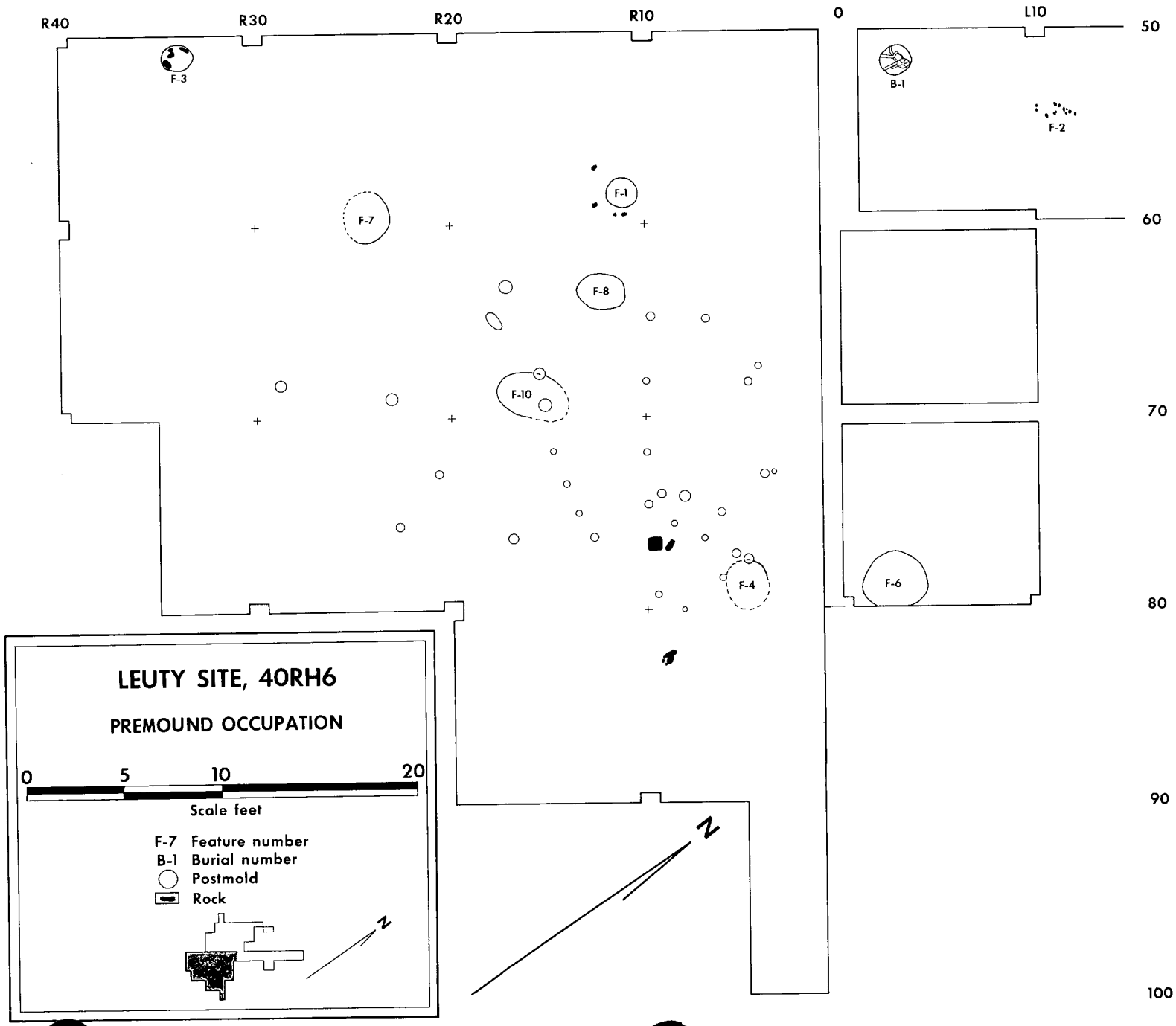


Figure 10. Leuty mound excavation plot with premound occupation features

Features include seven refuse filled pits (Figure 11), a rock filled pit, a concentration of firecracked rocks with associated shell and botanical remains, a burial, and assorted postmolds (Table 4). Only Features 4, 6, and 8 contained ceramics; these are quartz, limestone, or sand tempered sherds. Limestone tempered ceramics from Feature 6 include a large number of simple stamped sherds probably representing one or two vessels. No diagnostic lithic artifacts were found in any of the features.

The remains of a 19 to 25 year old male was the only burial recovered at the site (Figure 12). The partial and disarticulated bones occurred in a small, circular pit 1.5 feet in diameter and 1.5 feet deep. The individual is represented by most of the skull and mandible, and fragments of the right tibia, right femur, left scapula, miscellaneous ribs, two cervical and one thoracic vertebrae, and unidentified arm and leg bones. Since the skeletal material is poorly preserved, additional bones may have disintegrated. The arrangement of the bones suggests, however, that only part of the individual was ever interred. No diagnostic cultural remains were found in the pit fill nor were there any grave goods associated with the burial.

Mound Construction

Mound construction was initiated with a rectangular wall trench structure built at the surface of the premound soil (Figure 13). This building was designated Structure 4. Features 4, 7, and 10 from earlier occupation at the site were partially destroyed by Structure 4. Associated with the use of this structure are shell tempered plain, cordmarked, fabric marked, and red filmed sherds; plain sherds include loop, lug, and strap handles. Once Structure 4 was leveled a low oval mound (Construction Stage 1) approximately 40 by 50 feet and 1.8 feet high, completely covering the building, was deposited over its remains. The center of this deposit is at about grid co-ordinate 70R16. The charred remains of Structure 4 are well preserved suggesting that Construction Stage 1 was probably built in a comparatively short time and not long after the destruction of Structure 4. The uniform character of the fill also supports this interpretation.

Structure 3, a circular building, 18 feet in diameter with single wall post construction, was erected on Construction Stage 1 directly above Structure 4. Postmolds associated with this building penetrated the floor of Structure 4. The floor and contents of Structure 3 were removed by an aboriginally excavated subrectangular pit which was dug through Construction Stage 1. This pit was excavated to about 0.5 feet above the floor of Structure 4, destroying part of its wall and roof remains. Structure 2, a rectangular building with slightly bulging walls, was build within the rectangular excavation. Even though Structure 2 destroyed most of Structure 3, the postmold patterns of both buildings were preserved. The postmold depths, sizes, and intrusive relationships clearly show that Structure 2 was built after Structure 3.

Table 4. Premound occupation features at the Leuty site

Feature No.	Description	Dimensions
1	Shallow oval pit, sloping sides, rounded bottom; approximately 100 firecracked rocks layered and mixed with the pit fill	3.0 feet by 1.9 feet, 0.7 feet deep
2	Concentration of firecracked cobbles, occasional shell and nut fragments associated	2.2 feet by 1.3 feet
3	Shallow oval pit, sloping sides and flat bottom; approximately 60 firecracked rocks and river cobbles associated	1.6 feet by 1.4 feet, 0.5 feet deep
4	Circular pit, vertical sides, flat bottom; chipping debris and chipped stone artifacts associated; intruded by Structure 4 wall trench	2.7 feet long, width undetermined, 1.3 feet deep
6	Oval pit, sloping sides, rounded bottom, contained both limestone tempered plain and simple stamped pottery, bone fragments, charcoal, and lithic artifacts	3.3 feet by 3.0 feet, 1.0 feet deep
7	Circular or oval pit, sloping sides, rounded bottom; intruded by Structure 4 wall trench	2.6 feet long, width undetermined, 0.7 feet deep
8	Oval pit, sloping sides, rounded bottom	2.6 feet by 1.8 feet, 1.1 feet deep
10	Oval pit, steeply sloping sides, flat bottom; intruded by Feature 9 (associated with Structure 4) and a single postmold	length undetermined, 2.3 feet wide, 1.4 feet deep

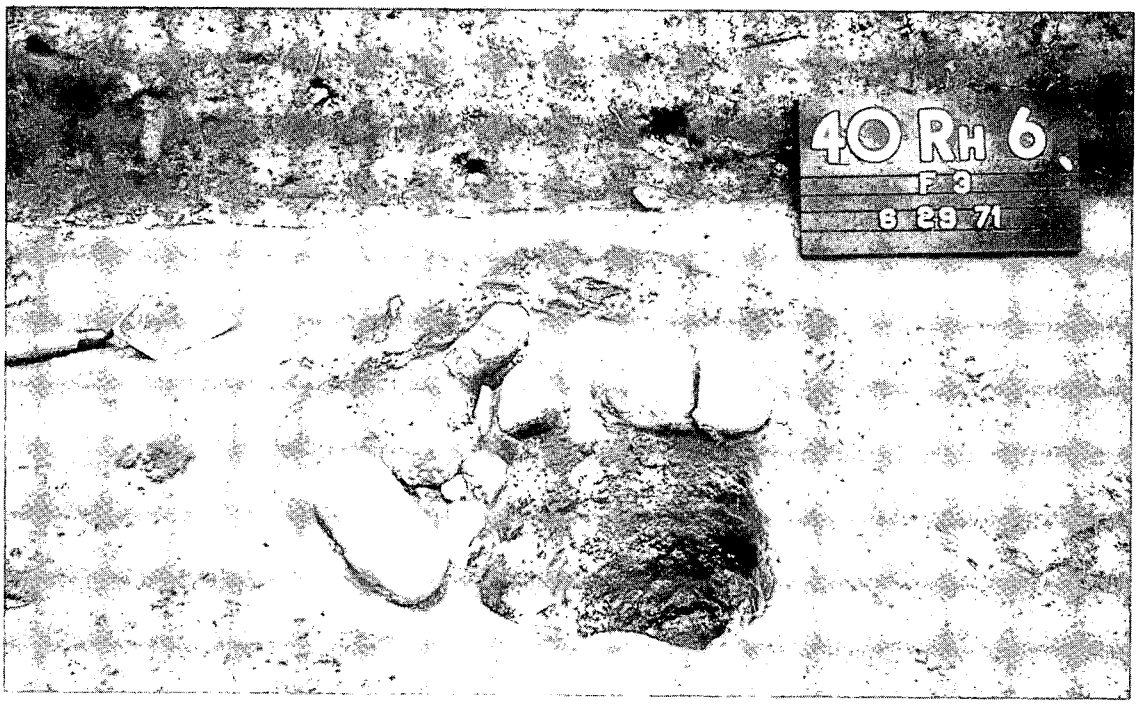


Figure 11. Feature 3, view to the northwest

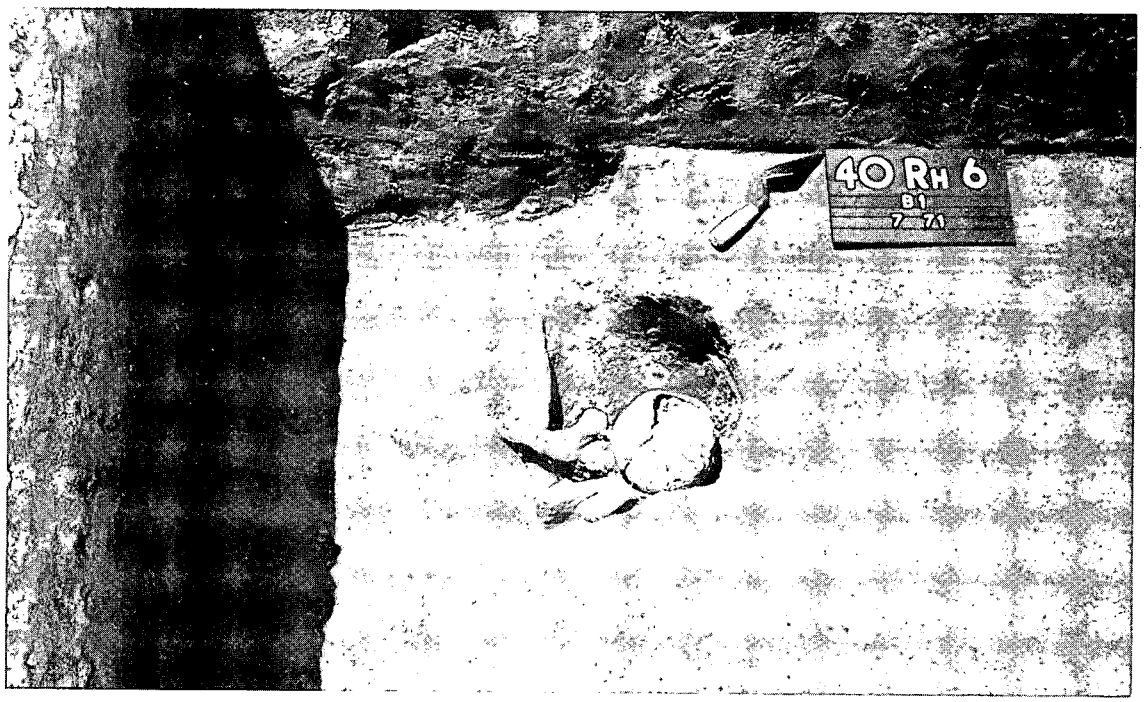


Figure 12. Burial 1, view to the northwest

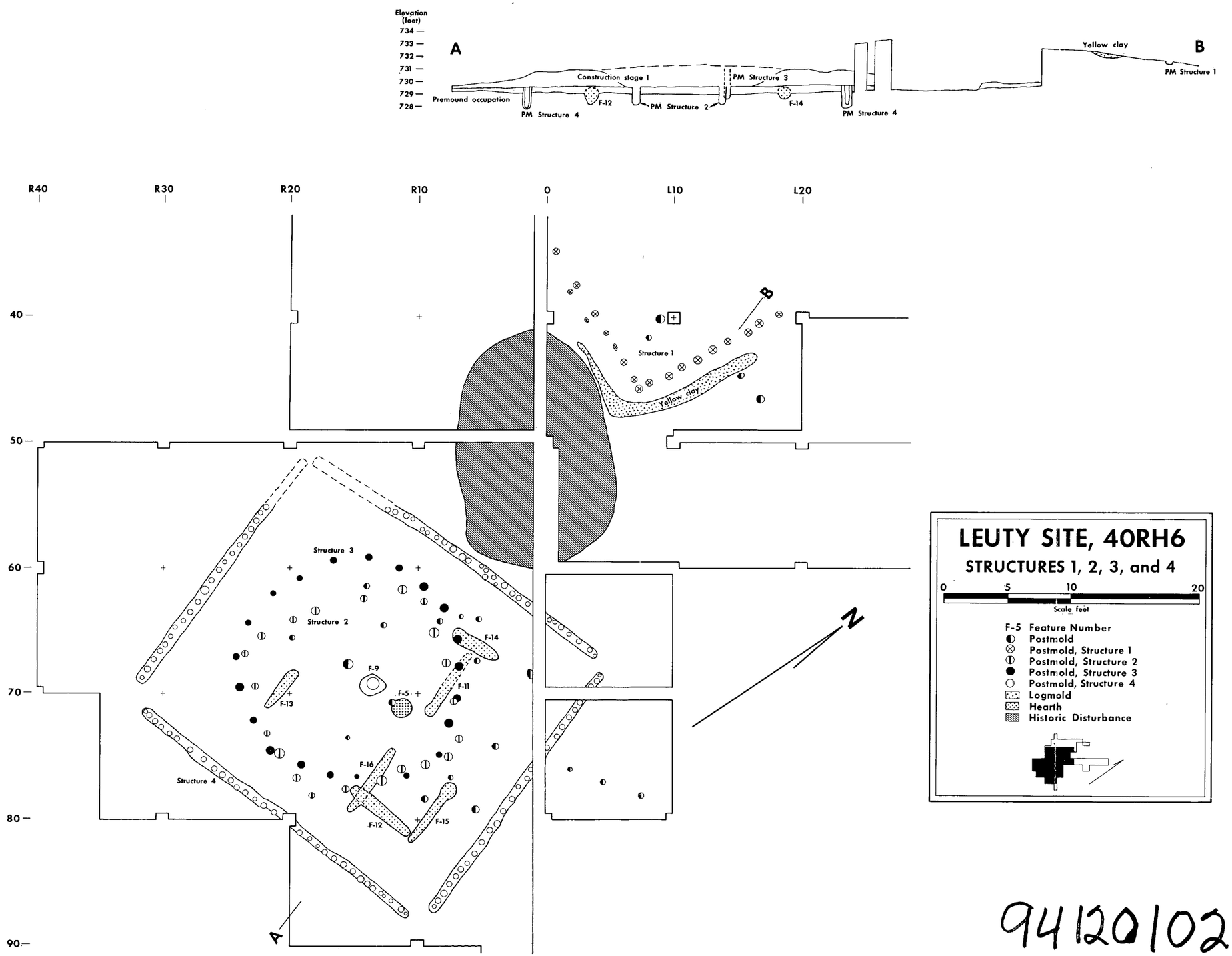


Figure 13. Leuty mound excavation plot with associated structures

The second and final mound building episode filled the depression created by Structure 2 and completely covered Construction Stage 1. Construction Stage 2 was placed asymmetrically over the first mound stage, moving the top center of the mound to about grid co-ordinate 50CL. This raised the mound to between 4.0 and 5.0 feet high. A probable rectangular building with single post wall construction designated Structure 1 was erected on the Construction Stage 2 surface. Erosion and cultivation destroyed the structure floor and all but the corner of two connecting walls. Excavation revealed no additional building on this surface. Furthermore, there is no evidence of construction activities or further mound deposition after the abandonment of Structure 1.

Structures and Associated Features

Structure 1 - Probable rectangular single post wall construction building (Figure 19).

Dimensions: undetermined

Postmolds:

N = 10	Range (ft)	Mean (ft)	Mode (ft)
Diameter	.35 - .62	.51	.50
Depth	.55 - 1.4	1.12	1.30

Associated Features: A shallow clay filled trench (Feature number unassigned)

Description: Structure 1 is the incomplete south and east walls of a probable rectangular building. The walls are single posts set at 1.0 to 2.0 feet intervals. Two small postmolds located outside and adjacent to the south wall probably represent wall repair or braces. Two postmolds inside the building and two others just beyond the east wall are apparently contemporary with Structure 1, but their functional relationship with the building, if any, is undeterminable. Just outside and parallel with the walls is a distinct, shallow trough 0.3 feet deep and 1.0 feet wide filled with sterile yellowish brown clay. Like the postmold pattern, the trough is truncated at the north and west ends by cultivation and erosion. The trough surely represents the structure's drip line.

Structure 2 - Semi-subterranean rectangular single post wall construction building.

Dimensions: Length 16 feet, Width 14 feet

Postmolds:

N = 21	Range (ft)	Mean (ft)	Mode (ft)
Diameter	.45 - .75	.57	.50
Depth	.95 - 1.75	1.36	1.35

Associated Features: None

Description: Structure 2 occurs in a subrectangular pit excavated from the surface of Construction Stage 1. The soil removed from the pit was placed around its edges, but there is no evidence these sediments or additional deposits were banked against the structure walls. The walls conform to the interior pit outline and bulge slightly outward from the center to form rounded corners. The walls consist of individual posts set at 1.5 to 3.0 feet intervals along the interior edge of the pit. Fifteen of the associated postmolds occur in prepared holes .10 to .20 feet larger than the post. The floor is virtually coincident with the floor of Structure 4, but there is no hearth, no interior features, and no recognizable interior supports or entrance. Structure 2 is oriented E 15° S.

Structure 3 - Circular single post wall construction building.

Dimensions: Diameter 18 feet

Postmolds:

N = 21	Range (ft)	Mean (ft)	Mode (ft)
Diameter	.40- .65	.52	.55
Depth	.60-1.5	.89	.65

Associated Features: None

Description: Structure 3 is a circular building with postmolds spaced 2.0 to 3.0 feet apart. The two criteria for distinguishing the structure were overall pattern recognition and postmold depth. Postmolds associated with Structure 3 are consistently shallower than Structure 2 and Structure 4 postmolds. Furthermore, a Structure 2 postmold (No. 45) intrudes a Structure 3 postmold (No. 168), and single Structure 3 postmolds intrude Features 11 and 14 associated with Structure 4. These data clearly show the building sequence. Since Structure 3 originates at the Construction Stage 1 surface, the probable original postmold depths were about 2.3 feet. Structure 2 destroyed all but the lower .90 feet of most Structure 3 postmolds, the floor, and any associated features.

Structure 4 - Open corner rectangular wall trench building (Figures 14 and 15).

Dimensions: Length 30 feet, width 26 feet

Postmolds:

N = 21	Range (ft)	Mean (ft)	Mode (ft)
Diameter	.20- .60	.38	.40
Depth	.60-2.10	1.60	1.65

Associated Features: 5, 9, 11, 12, 13, 14, 15, 16 (Table 5)

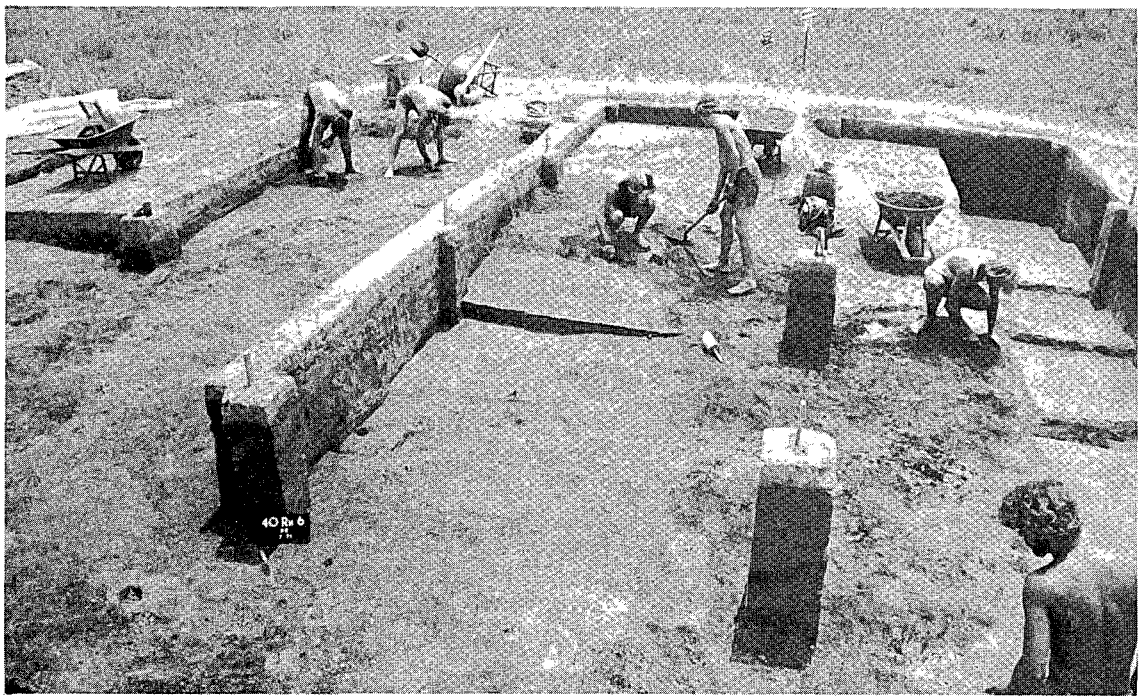


Figure 14. Excavation of Structure 4 in progress, view to the southwest

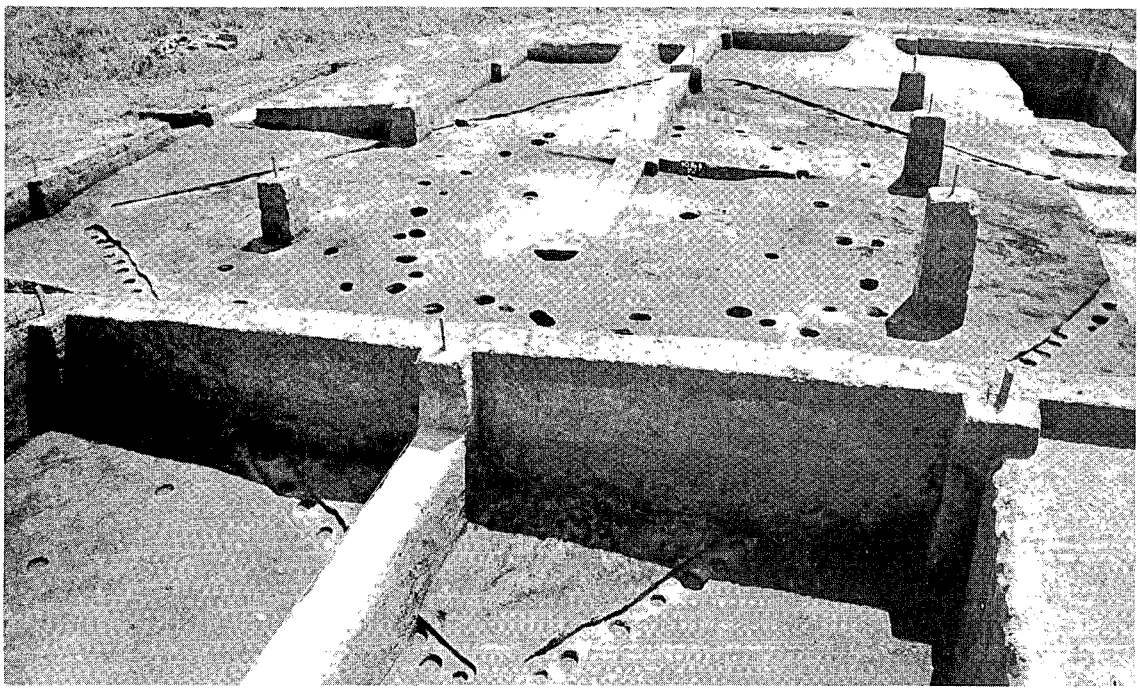


Figure 15. Completed excavation of Structures 2, 3, and 4, view to the southwest

Table 5. Occupation features associated with Structure 4 at the Leuty site

Feature No.	Description	Dimensions
5	Circular fire hearth; rim destroyed by Structure 2, contained charred cane, small twigs, and grasses.	Diameter 1.5 feet, 0.6 feet deep
9	Central posthole and associated postmold; posthole plan oval, mottled clay fill containing approximately 25 firecracked rocks; intrudes premound Feature 10.	Posthole: 2.9 feet by 2.0 feet, 2.97 feet deep Postmold: diameter .90 feet, 2.9 feet deep
11, 12, 13, 14, 15, 16	Horizontal log molds; part of Feature 13 destroyed by Structure 2. One Structure 3 postmold intrudes Features 11 and 14 and one Structure 2 postmold intrudes Feature 16.	Feature 11: 6.0 feet by .92 feet, .68 feet deep. Feature 12: 6.0 feet by 1.1 feet, .92 feet deep. Feature 13: 4.0 feet by 1.1 feet, 1.45 feet deep. Feature 14: 4.3 feet by 1.1 feet, .45 feet deep. Feature 15. 5.8 feet by 1.3 feet, .54 feet deep. Feature 16: 6.0 feet by .90 feet, .55 feet deep.

Description: Structure 4 is an open corner rectangular wall trench building oriented E 20°N. The wall trenches average 1.6 feet deep and 1.0 feet wide. The trench fill is a uniform, compact, yellowish brown clay loam containing virtually no cultural remains. Although irregular, the trench bottoms tend to slope toward the structure interior (Figure 16). The wall posts, most of which are about 0.4 feet in diameter, are evenly spaced at about 1.0 feet intervals (Figure 17). Postmolds at either end of each wall, however, are smaller ranging from 0.2 to 0.3 feet in diameter. Most wall supports rested on the bottom of the trench, although a few were set slightly deeper. Smaller posts which occur adjacent to larger structural members, but do not reach the bottom of the wall trenches, probably represent braces or wall repairs. No trench wedges, which often occur with wall trench buildings (Lewis and Kneberg, 1946:61), were encountered in Structure 4. Feature 9, a large postmold and prepared posthole, is located at the center of the building. Wall and roof debris covering the feature indicate its association with the building. The post's location, diameter (1.0 feet) and depth (3.0 feet) suggest a primary structural function. Although additional postmolds occur within the structure, their positive association with Structures 2, 3, or 4 is undetermined.

A central prepared hearth is situated adjacent to Feature 9. Most of the hearth, however, was destroyed by Structure 2, leaving only a shallow fired clay basin. Two sets of horizontal log molds representing interior partitions divide the structure immeidately east of the hearth (Figure 18). There is access to the hearth between the partitions; additional access within the building is between the outside ends of the partitions and the structure walls. The south partition consists of overlapping or touching log molds forming three sides of a rectangle open to the structures interior. Two logs form a T-shaped partition on the north side. An additional isolated log mold parallels the west wall in the southwest quarter of the building. Besides serving as partitions, the logs may have been used as benches since there is no evidence that they were any higher than a single log. Interior partitions occur with wall trench structures elsewhere in East Tennessee, but more frequently they are alignments of vertically set rather than horizontally laid posts (cf. Lewis and Kneberg, 1946:67-68).

Although the burned remains of Structure 4 were covered with mound fill, most structural debris was removed by the subsequent construction of Structure 2. What charred beams, grass, and split cane remained were confined to the structure's interior. Only small amounts of daub were associated with Structure 4 suggesting that it was a comparatively unimportant material in the building.

Summary

The occupation sequence at the Leuty site can be summarized thus:

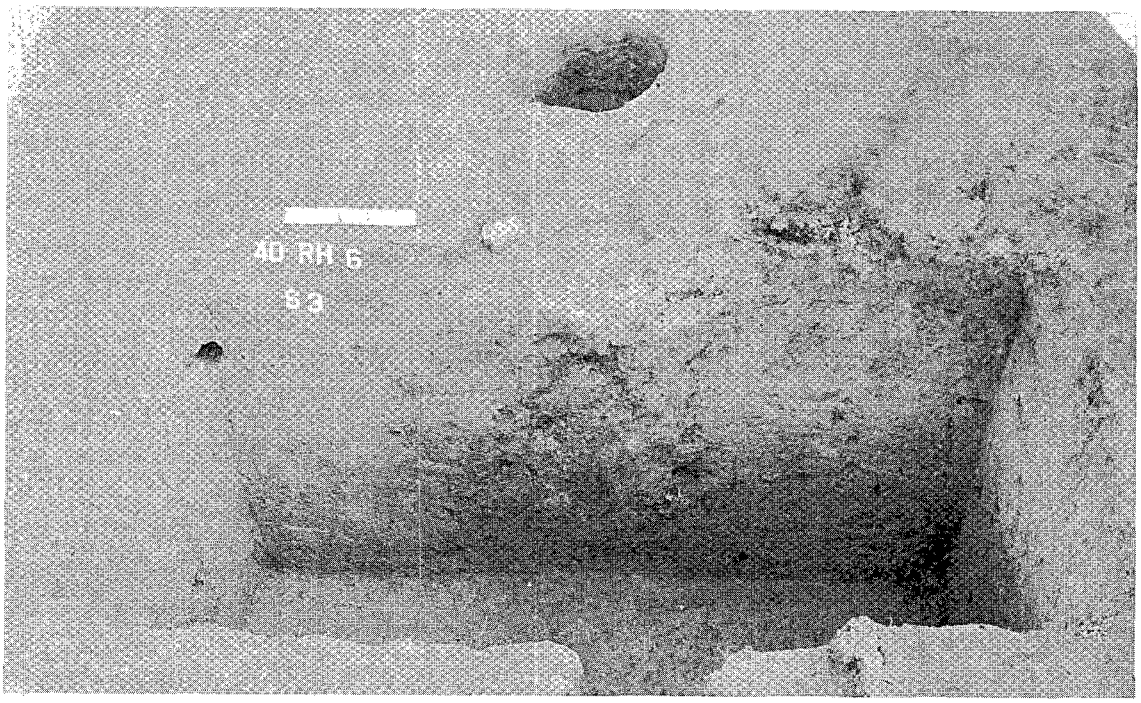


Figure 16. Medial profile of Structure 4 wall trench, view to the north

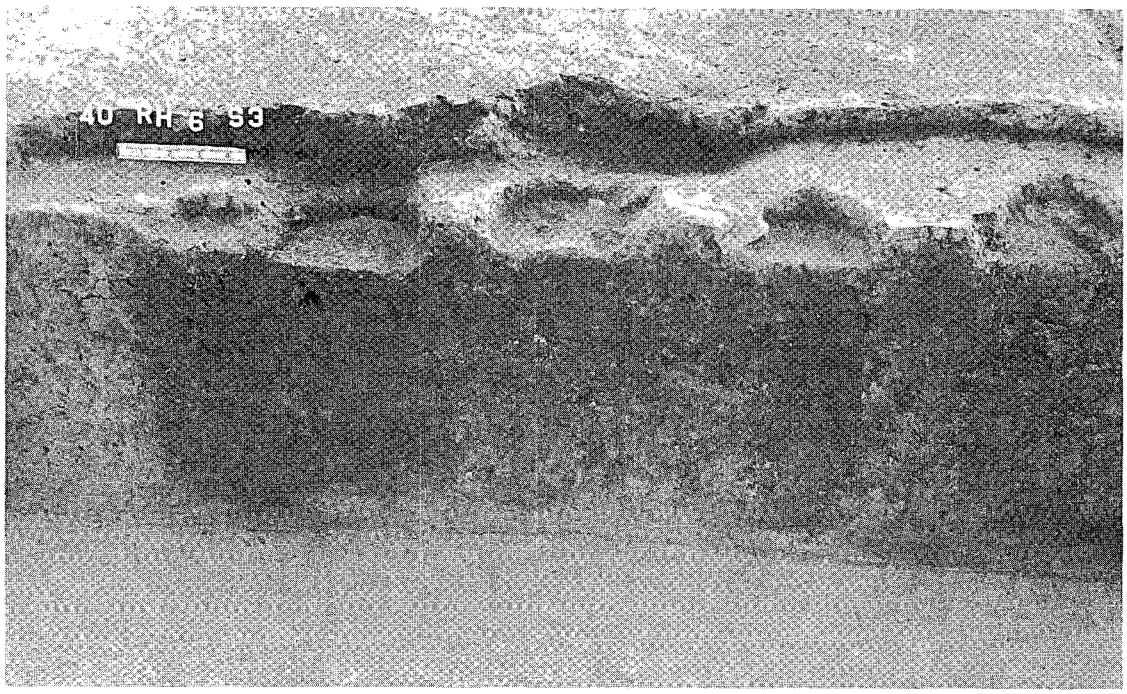


Figure 17. Longitudinal profile of Structure 4 wall trench, view to the east

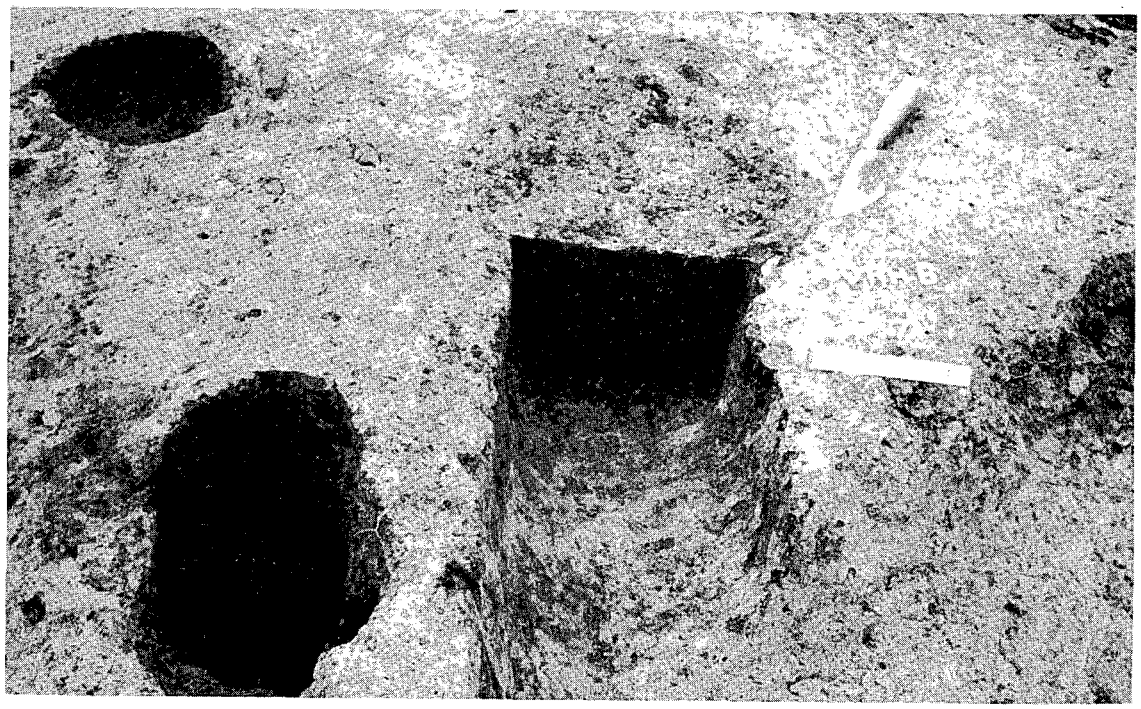


Figure 18. Profile of Feature 11, log mold associated with Structure 4, view to the north

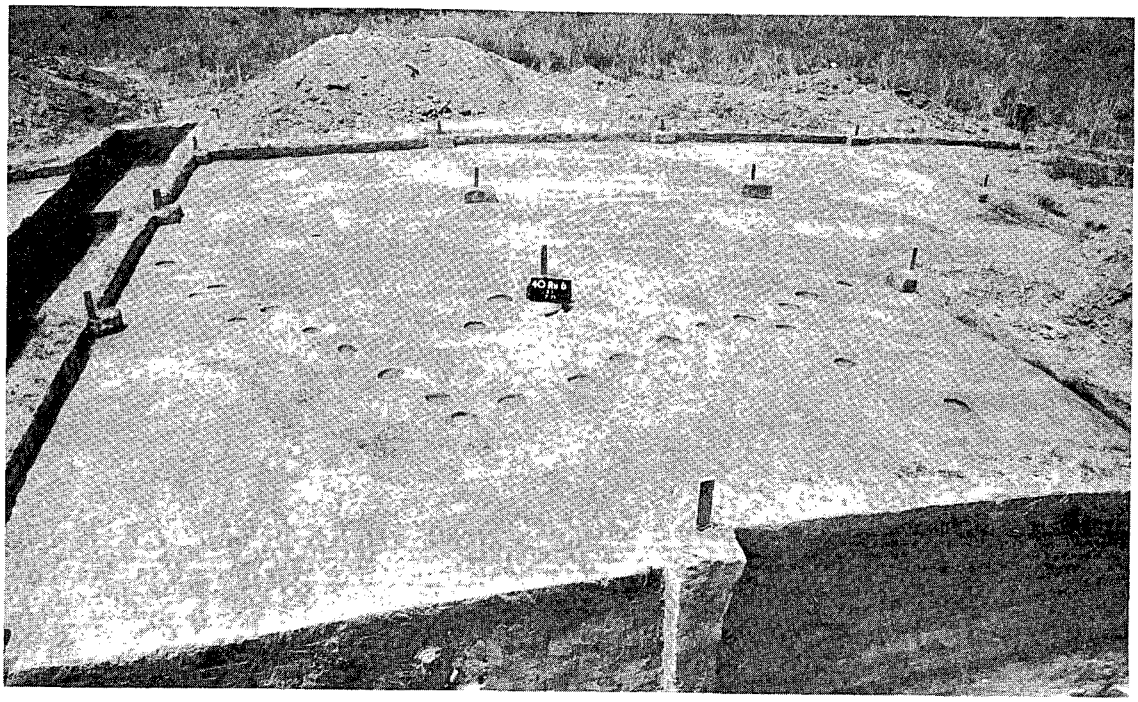


Figure 19. Structure 1, view to the north

1. Open habitation which is unrelated to mound construction
2. Construction, abandonment, and burning of Structure 4
3. Deposition of Construction Stage 1 over the remains of Structure 4
4. The erection of Structure 3 on the Construction Stage 1 surface directly above Structure 4
5. The abandonment of Structure 3
6. The excavation of a subrectangular pit and erection of Structure 2, destroying all but the post pattern of Structure 3 and intruding the central interior floor of Structure 4
7. Abandonment of Structure 2
8. Deposition of Construction Stage 2 filling the depression left by Structure 2 and enlarging the size of the mound
9. The construction of Structure 1 on the north quarter of the Construction Stage 2 surface
10. The abandonment of Structure 1
11. Historic plowing and erosion of the mound destroying most of Structure 1.

Radiocarbon Dates

Single charcoal samples were submitted to Geochron Laboratories to date Structure 1 and Structure 4. The Structure 1 sampled was wood charcoal from Postmold 10 and yielded a date of 1500 ± 100 years B.P. (A.D. 450) (GX2595). This age is unquestionably too old for the structure and the final mound construction stage. The Structure 4 sample was charred roof and wall fall and yielded a date of 850 ± 100 years B.P. (A.D. 1100) (GX2594). This agrees well with dates from Early Mississippian occupations in East Tennessee at Mayfield II (40MR27), Martin Farm (40MR20), Tellico Blockhouse (40MR50), Bowman Farm (40CP2) and DeArmond (40RE12) (Table 6). Figure 20 shows the range and overlap of the dates at one

Table 6. Early Mississippian radiocarbon dates from East Tennessee

Site	Radiocarbon Date	References
Leuty (40RH6)	850 ± 100 years B.P. GX2594	Schroedl, 1973:9
Mayfield II (40MR27)	700 ± 95 years B.P. GX1572	Salo, 1969:179
Martin Farm (40MR20)	930 ± 140 years B.P. GX4209	
(Early Mississippian	930 ± 140 years B.P. GX4210	
components)	755 ± 140 years B.P. GX4211	
	790 ± 130 years B.P. GX4212	
Tellico Blockhouse (40MR50)	1090 ± 65 years B.P. UGa1245	
Bowman Farm (40CP2)	760 ± 150 years B.P. M729	Faulkner, 1967:25
DeArmond (40RE12)	670 ± 150 years B.O. M731	Faulkner, 1967:25

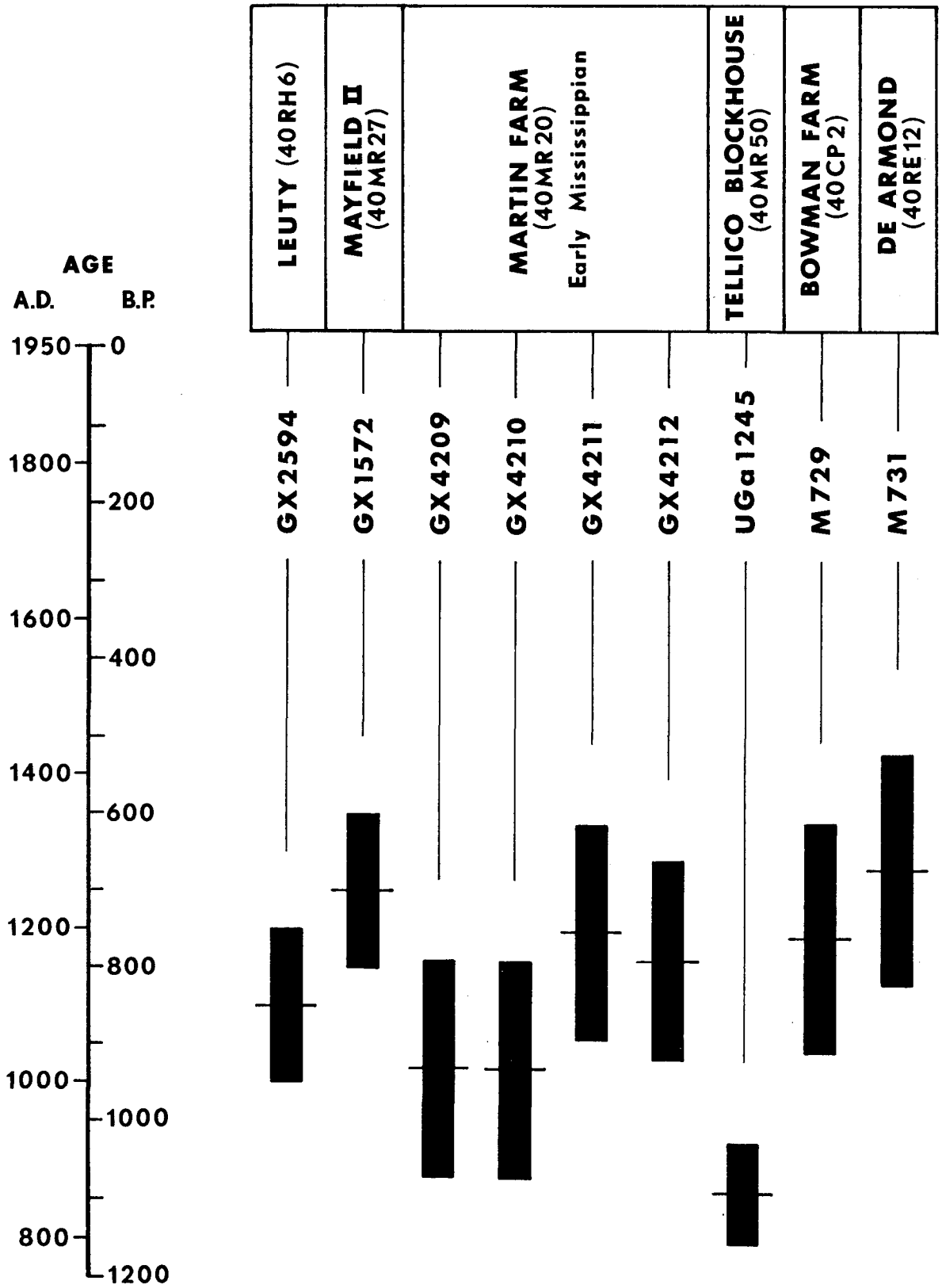


Figure 20. Early Mississippian radiocarbon dates from East Tennessee plotted at one sigma

sigma. The upper limit is 520 years B.P. (A.D. 1430) and the lower limit is 1155 years B.P. (A.D. 795). The dates average 840 ± 125 years B.P. (A.D. 1110 ± 125).

Cultural Remains

Most ceramic and lithic artifacts came from the deposits beneath the mound and are unrelated to mound construction. Cultural remains associated with Structures 2 and 4 also occur in the premound deposits. The content, point of origin, and intrusion of refuse filled pits and other features help distinguish these occupations. Further separation is impossible because there are no distinct stratigraphic differences within the premound cultural deposit. For these reasons the associated cultural remains are divided according to three premound designations. Premound 1 includes remains clearly unrelated to mound construction. Since the floor of Structure 2 is virtually coincident with Structure 4, cultural remains from both buildings are designated Premound 2. Features unquestionably associated with Structure 4 are also included with this designation. The Premound 3 assignment represents the remaining artifacts from beneath the mound. Cultural remains from Construction Stage 1 and Construction Stage 2 are designated as such. Artifacts from the plow zone, backdirt, redeposited mound fill, and historic intrusion are identified as Disturbed Deposit. Remains from Backhoe Trenches 14 and 15 are combined as are those from Test pits 1 through 52.

Ceramics

The ceramic sample contains 1199 sherds of which 1026 (86 percent) are from the premound deposits. Limestone tempered and shell tempered sherds respectively represent 48 percent and 43 percent of the collection. Quartz tempered sherds make up 8 percent of the sample, while sand tempered sherds constitute 1 percent of the collection. Shell and limestone are leached from sherds tempered with these materials and the interior and exterior surfaces are eroded on most sherds.

Temper and surface treatment distinguish the ceramic groups described below. Where these characteristics or other appropriate attributes such as rim and vessel form conform to a ceramic type described for East Tennessee the type name is used. Such names should be regarded first as descriptive and second as temporal and cultural indices. In the latter sense, the view taken here is that ceramic types allow broad comparisons between sites without necessarily specifying a genetic relationship.

Quartz Tempered

Quartz Tempered Plain

Sample: 80 body sherds, 2 rim sherds, 1 pode (Figure 21).

Paste: The paste is usually dark gray and contains a moderate amount of crushed quartz or quartzite, 1-4 mm in size. The texture is moderately coarse with much of the temper exposed on the interior and exterior surface of most sherds.

Surface finish: Surface colors range from brown to a light reddish-brown. Surfaces are smooth, but occasionally uneven. No tool marks are visible. Most vessels were probably scraped or brushed then water smoothed.

Form: The two rim sherds have slightly rounded lips and were formed from the vessel wall without additional clay to thicken the rim. None of the body sherds is large enough to infer vessel shape except one pode which indicates a tetrapodal jar or bowl. Thickness of the sherds ranges from 5 to 9 mm.

Quartz Tempered Residual Plain

Sample: 2 body sherds, 1 rim sherd

Paste: The paste is similar to other quartz tempered sherds in the sample.

Remarks: This category includes quartz tempered sherds so deteriorated that the surface treatment is undeterminable.

Quartz Tempered Simple Stamped

Sample: 3 body sherds, 1 rim sherd (Figure 21).

Paste: The paste is identical to other quartz tempered sherds in the sample. The paste is dark gray with angular tempering particles 1-4 mm in size. The texture is moderately coarse with the temper often exposed on the interior and exterior of most sherds.

Surface: The surface color is brown to buff. Stamped impressions are fine, shallow parallel lines covering the exterior surface. The stamping runs parallel with the rim. The interior surface is scraped and water smoothed.

Form: The single rim sherd is probably from a globular vessel with a constricted neck and straight rim. The lip is slightly flattened and pinched to the outside. A wide, deep groove runs beneath the pinched portion of the rim with the stamped impressions extending up to the rim of the sherd. Body sherds are too small to determine vessel form. The sherds are 5 to 8 mm thick.

Figure 21. Selected quartz tempered and limestone tempered ceramics from the Leuty site (all specimens actual size)

a-b	Quartz tempered plain rim sherds
c	Quartz tempered plain node
d	Quartz tempered simple stamped rim sherd
e-f	Quartz tempered simple stamped body sherds
g	Quartz tempered cord marked body sherd
h-k	Limestone tempered simple stamped rim sherds
l	Limestone tempered simple stamped body sherd

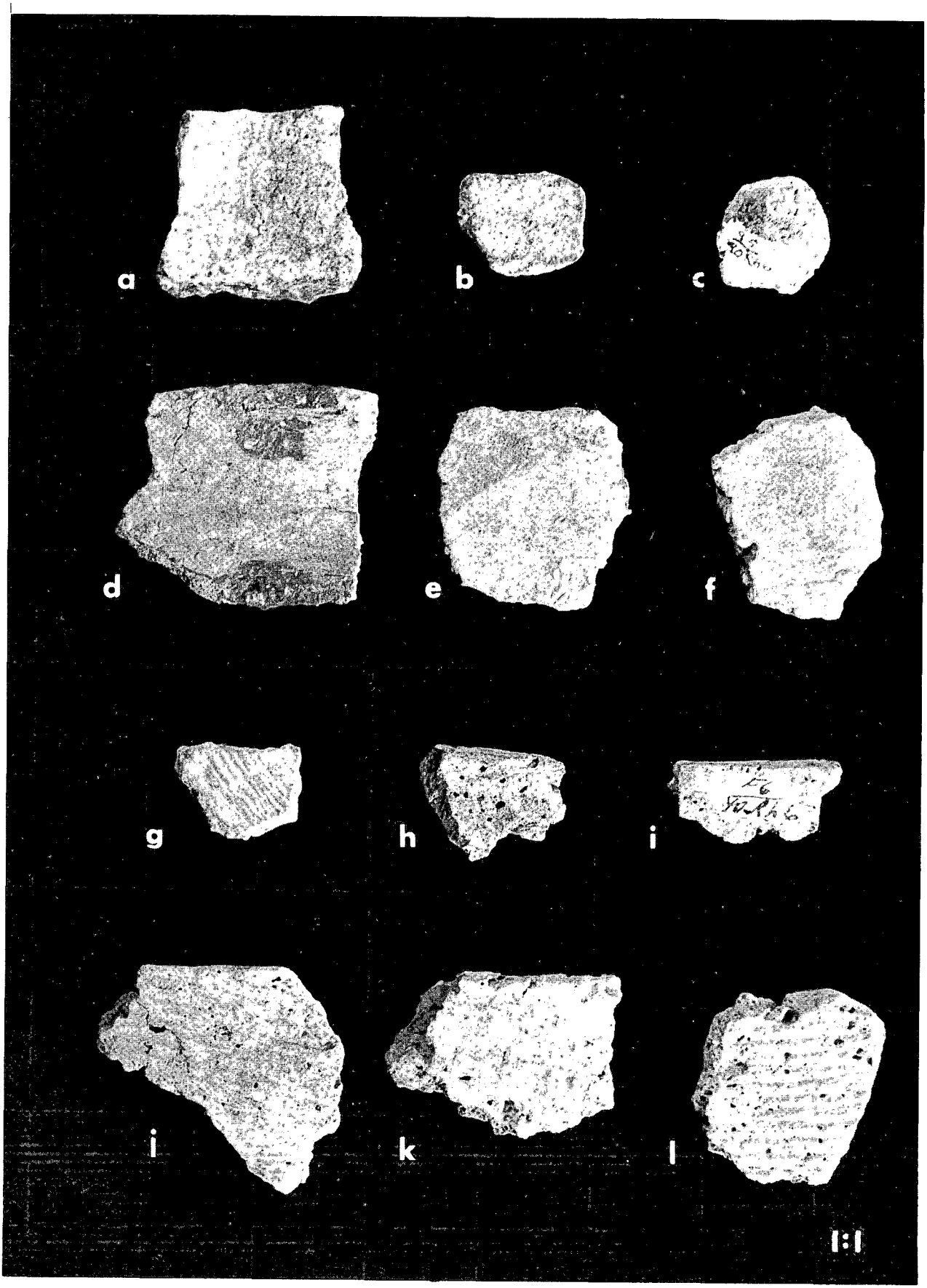


Figure 21

Watts Bar Cord Marked (Lewis and Kneberg, 1957:7)

Sample: 2 body sherds (Figure 21)

Paste: The paste color ranges from gray to buff. The temper is small amounts of angular quartz and quartzite particles, 2-3 mm in size.

Surface treatment: The color is light gray to buff. The cord impressions are approximately 1 mm wide and are evenly spaced and parallel with one another.

Form: The sample is too small to determine vessel form. The sherds are 6 to 7 mm thick.

Limestone Tempered

Limestone Tempered Plain

Sample: 188 body sherds, 6 rim sherds, 1 node (Figure 21)

Paste: The paste ranges from black to buff and has a medium coarse texture. The temper is crushed limestone particles 2 to 4 mm in size which are often badly decomposed or completely leached from the sherds. There are sparse to large amounts of temper included in the paste.

Surface: The interior and exterior surfaces are scraped or brushed and water smoothed. The surfaces vary from nearly black to brown, buff, and light reddish-orange. The leached limestone temper often shows as pits in the surface.

Form: The body sherd sample is insufficient for determining vessel form. The single node indicates a possible handle. The sherds are 6-8 mm thick. Rim sherds are formed from the vessel wall and have both rounded and flattened lips.

Remarks: These sherds are similar to Hamilton Plain and Mulberry Creek Plain (Hagg, 1939:18; Lewis and Kneberg, 1946:103).

Limestone Tempered Residual Plain

Sample: 28 body sherds

Paste: The paste is similar to other limestone tempered sherds in the sample.

Remarks: This category contains sherds so deteriorated that the surface treatment is undeterminable.

Bluff Creek Simple Stamped (Haag, 1939:18)

Sample: 310 body sherds, 8 rim sherds, 1 node (Figure 21)

Paste: The paste is gray to brown and has medium to coarse texture. The temper is irregular crushed limestone particles 1-4 mm in size. The limestone is deteriorated or often completely leached from the sherds.

Surface: Surfaces are light gray to reddish-orange. The exterior surface is simple stamped with evenly spaced parallel grooves 1-1.5 mm wide. The stamping is parallel to the vessel rim and covers the entire exterior surface. A few sherds, however, are over stamped. The interior surface is usually scraped and water smoothed.

Form: The rims are plain and well formed, with flat lips. Two rim sherds suggest globular vessels, and the one node indicates a possible handle. The sherds are 7-9 mm thick.

Remarks: Two-hundred-forty-nine sherds, representing one or two vessels, came from Feature 6.

Limestone Tempered Cord Marked

Sample: 27 body sherds, 2 rim sherds (Figure 22)

Paste: The paste is gray and has a medium texture. The temper is crushed limestone that is finer than that in limestone tempered plain sherds. The temper is angular particles 2-3 mm in size and is leached from most sherds.

Surface: The surface color is nearly identical to the paste. The cord marks are evenly spaced parallel impressions about 1 mm wide covering the entire exterior surface. The cord marks run diagonally to the vessel rim, although this is difficult to determine because the sherds are so small. A few sherds exhibit overlapping impressions. The interior surface is scraped or brushed and then water smoothed.

Form: Rims are vertical with a rounded lip. One rim suggests a possible conoidal vessel. The sherds are 7 to 9 mm thick.

Remarks: Similar to Candy Creek Cord Marked and Hamilton Cord Marked types (Lewis and Kenberg, 1946:102).

Limestone Tempered Fabric Marked

Sample: 1 body sherd

Paste: The paste is reddish brown and has a fine texture. The temper is crushed limestone used in a moderate amount.

Figure 22. Selected limestone tempered, sand tempered, and shell tempered ceramics from the Leuty site (all specimens actual size)
a-b Limestone tempered cord marked rim sherds
c-d Sand tempered plain rim sherds
e-f Shell tempered plain rim sherds

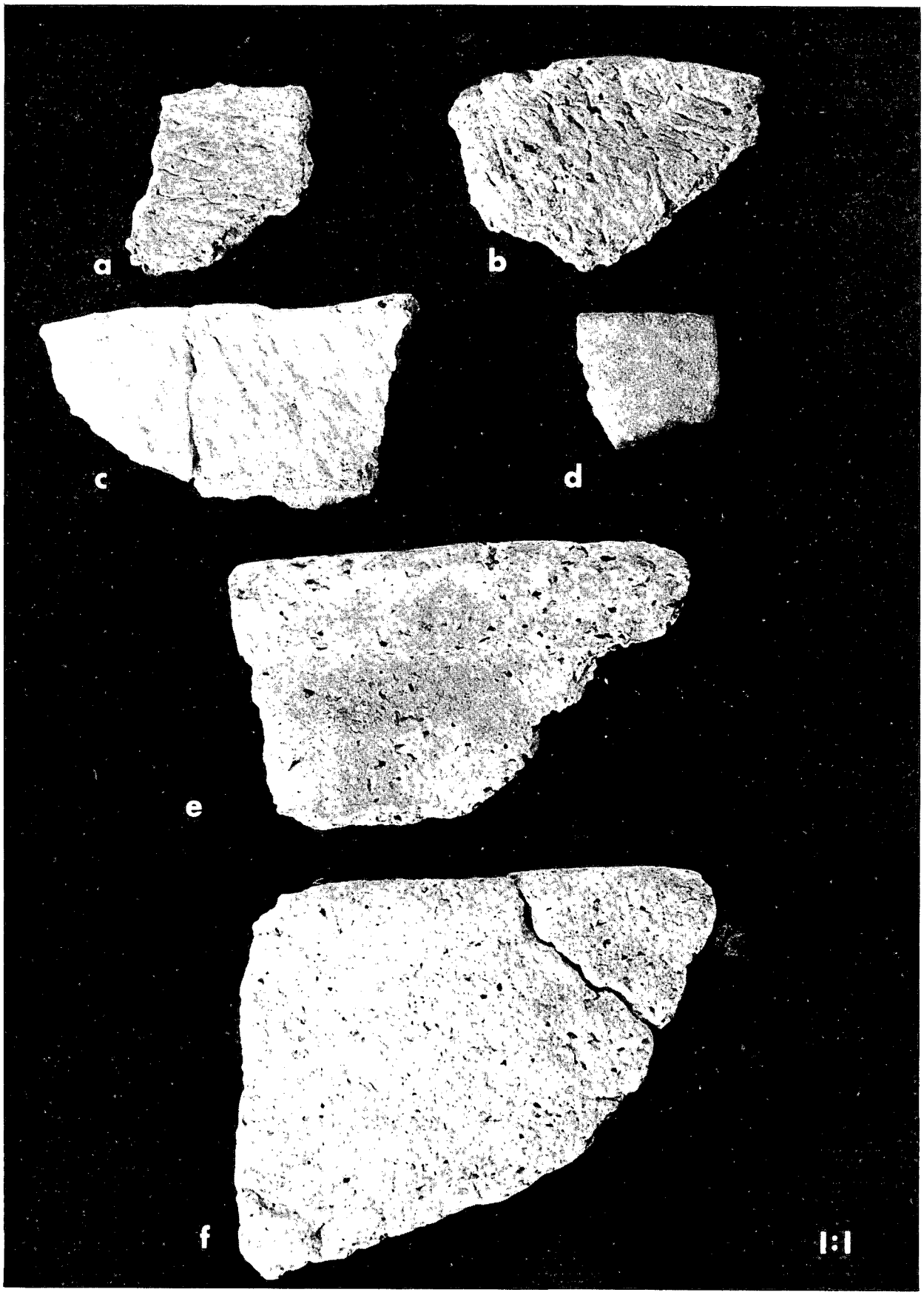


Figure 22

Surface: The surface is reddish brown. Surface impressions indicate a tightly woven coarse fabric. The interior surface is scraped and smoothed.

Form: The sherd is 7 mm thick.

Remarks: Although it is difficult to assign a name to this single sherd, the specimen resembles the Long Branch Fabric Marked type (Haag, 1939:10).

Sand Tempered

Sand Tempered Plain

Sample: 10 body sherds, 1 rim sherd (Figure 22)

Paste: The paste has a fine texture and is black. The temper is fine to moderately coarse sand up to 0.75 mm in size.

Surface: Both the interior and exterior surfaces are scraped or brushed and then water smoothed. No tool marks are visible. The surface is dark brown.

Form: The single rim is plain with a falt lip. Its cross section suggests a globular vessel. No vessel form can be inferred from the body sherd sample. The sherds are 4 to 6 mm thick.

Sand Tempered Residual Plain

Sample: 1 body sherd

Paste: The paste is similar to the other sand tempered sherds in the sample.

Remarks: The sherd is too weathered to determine surface treatment.

Sand Tempered Cord Marked

Sample: 2 body sherds, 2 rim sherds (Figure 22)

Paste: The paste is black or gray and has a fine texture. The tempering is a moderate amount of fine to coarse sand.

Surface: The surface is gray to bright orange. The cord marks are evenly spaced parallel impressions 1 to 2 mm wide running diagonally to the vessel rim. The impressions do not cover the entire exterior surface, indicating that some vessels were smoothed after cordmarking. The interior surface is smooth but uneven.

Form: Rims are uneven and slightly excurvate. Rim lips are usually round. The sample is too small to determine vessel shape.

Shell Tempered

Shell Tempered Plain

Sample: 463 body sherds, 20 rim sherds and 5 loop, 1 lug, 1 strap handles (Figures 22 and 23).

Paste: The paste is light gray, brown, or buff. The texture is fine, with large amounts of fine crushed shell. The temper is leached from virtually all sherds in the sample.

Surface: The surface is gray, brown, buff, or orange-buff. Both the interior and exterior surfaces are brushed or scraped and well smoothed.

Form: The rims are well-formed and excurvate usually with a flat lip, although rounded lips do occur. Several sherds are thickened at the rim with an additional strip of clay. Loop, strap, and lug handles suggest large jars and bowls. The loop handles are oval. None of the appendages is decorated. The sherds are 5-10 mm thick.

Shell Tempered Residual Plain

Sample: 8 body sherds

Paste: The paste and temper are identical to other shell tempered sherds in the sample.

Remarks: The sherds are too weathered to determine surface treatment.

Shell Tempered Cord Marked

Sample: 18 body sherds (Figure 23)

Paste: The paste is buff, orange-buff and has a fine texture. The temper is fine crushed shell used in large amounts. The temper is completely leached from most sherds.

Surface: The exterior surface is black to light orange while the interior is usually light orange. There are two varieties of cordmarking: the first is made with a small twisted cord, approximately 1 mm in diameter, the second is made with a larger twisted cord approximately 2-3 mm in diameter. Impressions from both cords are occasionally found on the same sherd. Interior surfaces are scraped and smoothed.

Figure 23. Selected shell tempered ceramics from the Leuty site (all specimens are actual size)
a-c Shell tempered plain loop handles
d-e Shell tempered cord marked body sherds
f Shell tempered fabric marked rim sherd

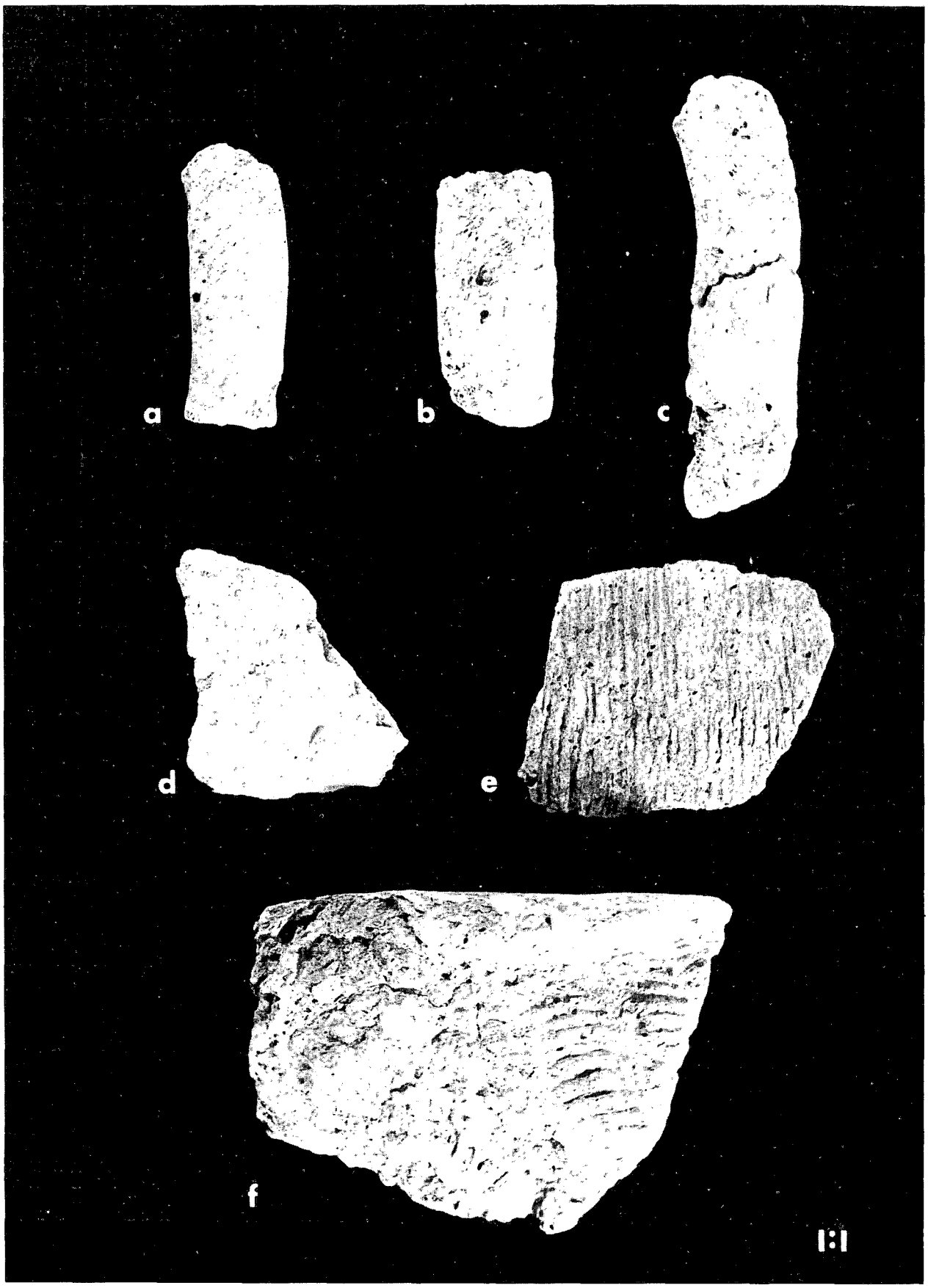


Figure 23

Form: No rim sherds were found. One body sherd is from a vessel with a constricted neck. The sherds are 5-11 mm thick.

Salt Pan Fabric Marked

Sample: 1 rim sherd (Figure 23)

Paste: Paste is gray and has a coarse texture. The temper is fine crushed shell used in moderate amounts.

Surface: The surface is gray on the exterior and orange brown on the interior. The exterior surface is impressed with a coarse loosely woven fabric. The interior surface is scraped and unevenly smoothed. Tool marks are visible.

Form: The rim is thickened with a broad flat lip. The sherd is 11 mm thick.

Hiwassee Island Red Filmed (Lewis and Kneberg, 1946:103-104

Sample: 1 body sherd, 1 rim sherd

Paste: The paste is buff. The texture is very fine and the temper is fine crushed shell used in large amounts.

Surface: The surface is buff on the interior surface. The exterior surface is covered with a dark reddish brown iron oxide film or slip. Both the exterior and interior surfaces are scraped and carefully water smoothed.

Form: The single rim is plain with a rounded lip. The sherds are approximately 6 mm thick.

Discussion

The stratigraphic distribution of the ceramic sample is shown in Table 7. Limestone tempered ceramics especially the plain and simple stamped sherds indicate a probable Middle Woodland period occupation beneath the mound. The few sand tempered sherds are probably associated with this component. The quartz tempered sherds may represent an Early Woodland occupation, but the virtual absence of Watts Bar Fabric Marked and Cord Marked sherds suggest that the plain and simple stamped sherds have a Middle Woodland context. Frequently associated with Watts Bar ceramics in an Early Woodland context are Longbranch Fabric Marked sherds, but this type was not found in the premound deposit.

Shell tempered plain ceramics are particularly abundant in the premound deposit. The comparative frequency of these sherds, and the shell tempered cordmarked, fabric marked, and red filmed sherds show that Structures 2 and 4, and by implication Structure 3, represent an

Table 7. Stratigraphic distribution of ceramics from the Leuty site

Ceramic Category	Premound 1	Premound 2	Premound 3	Construction Stage 1	Construction Stage 2	Test Trenches	Test Pits	Disturbed	Total	Percent
Quartz Tempered										
Residual Plain	-	-	2	-	1	-	-	-	3	1
Plain	2	-	76	2	3	-	-	-	83	
Simple Stamped	1	-	3	-	-	-	-	-	4	1
Watts Bar Cord Marked	1	-	1	-	-	-	-	-	4	1
Limestone Tempered										
Residual Plain	6	1	20	-	1	-	-	-	28	2
Plain	59	6	117	2	7	1	-	3	195	16
Bluff Creek Simple Stamped	293	1	20	2	3	-	-	-	319	27
Cord Marked	-	-	19	2	4	-	-	4	29	2
Fabric Marked	-	-	-	-	-	1	-	1	1	1
Sand Tempered										
Residual Plain	-	-	1	-	-	-	-	-	1	1
Plain	-	-	9	1	1	-	-	-	11	1
Cord Marked	3	-	-	-	-	-	-	-	4	1
Shell Tempered										
Residual Plain	-	-	3	-	5	-	-	-	8	1
Plain	4	21	339	45	39	3	-	39	490	41
Cord Marked	-	2	13	3	-	-	-	-	18	2
Salt Pan Fabric Marked	-	-	1	-	-	-	-	-	1	2
Hiwassee Island Red Filmed	-	-	2	-	-	-	-	-	2	1
Total	369	31	626	57	65	5	-	49	1199	
Percent	31	3	52	5	5	1	0	4		100

Early Mississippian Hiwassee Island component. The occurrence of loop and lug handles supports this interpretation. Ceramics from construction stages 1 and 2 indicate Middle Woodland period and Early Mississippian period deposits were used for mound fill. The small number of ceramics and the color and texture of the mound fill show, however, that undisturbed soil from the B and C soil horizons were preferred for mound construction. Structure 1 also represents a probable Early Mississippian occupation, although there are no ceramics directly associated with the building.

Lithic and Bone Artifacts

Differences in raw material and consistently recurring morphological, stylistic, and technological attributes apparent from visual inspection were used to define 36 artifact categories. The categories are numbered consecutively and are given a descriptive name. The category names and their order of presentation are considered unique to the Leuty site. The distinguishing attributes are described for each category; the sample size and the material from which the artifacts are manufactured are specified. The catalog numbers and dimensions of both complete and fragmented specimens are included with each description. The range and mean are provided only for categories with more than 10 whole examples. Categories containing only fragmented specimens were not measured.

Category 1: Triangular Projectile Points (Figure 24)

Description: Triangular blade, edges concave, base straight to concave, tip acute; cross section planar; bifacially retouched overall, fine pressure retouch along the sides and base; maximum width at base.

Sample: 3 fragments

Materials: 3 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
20	--	17	3
180	--	--	4
185	--	--	2

Comments: Referable to the Hamilton type (Kneberg, 1956).

Category 2: Shouldered, Contracting Stem Projectile Points, Form 1 (Figure 24)

Description: Blade isoceles, tip acute, edges straight to convex; contracting stem, produced by flaking at corners; percussion flaked overall with little or no pressure retouch along the edges; cross section biconvex to plano-convex; maximum width at shoulder; the transition from blade to stem forms a 100 to 135 degree angle.

Sample: 4 whole, 3 fragments

Materials: 7 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
26	43	--	13
74	--	31	8
80	47	26	11
138	55	--	11
147	--	31	15
162	--	27	8
198	40	27	10

Comments: This category is similar to Category 3, but is cruder overall and lacks pressure retouch.

Category 3: Shouldered, Contracting Stem Projectile Points, Form 2 (Figure 24)

Description: Blade isoceles, tip acute, edges straight to convex; contracting stem, produced by flaking at corners; the transition from blade to stem forms a poorly defined convex shoulder; percussion flaked overall with pressure retouch along the edges; biconvex or planar cross section.

Sample: 9 whole, 2 fragments

Materials: 8 cryptocrystalline, 3 quartz

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
30	32	22	10
50	39	27	8
62	32	19	9
106	34	19	8
138	25	17	6
165	26	19	6
168	--	24	10
222	--	21	5
223	20	14	5
251	34	22	9
TP8	39	23	10

Figure 24. Selected projectile points from the Leuty site (all specimens actual size)

a-b Category 1, triangular projectile points

c-e Category 2, shouldered, contracting stem projectile points, form 1

f-l Category 3, shouldered, contracting stem projectile points, form 2

m-o Category 4, contracting stem, lateral barbed projectile points

p-s Category 5, shouldered, expanding stem projectile points

Note: specimens coated white for photography

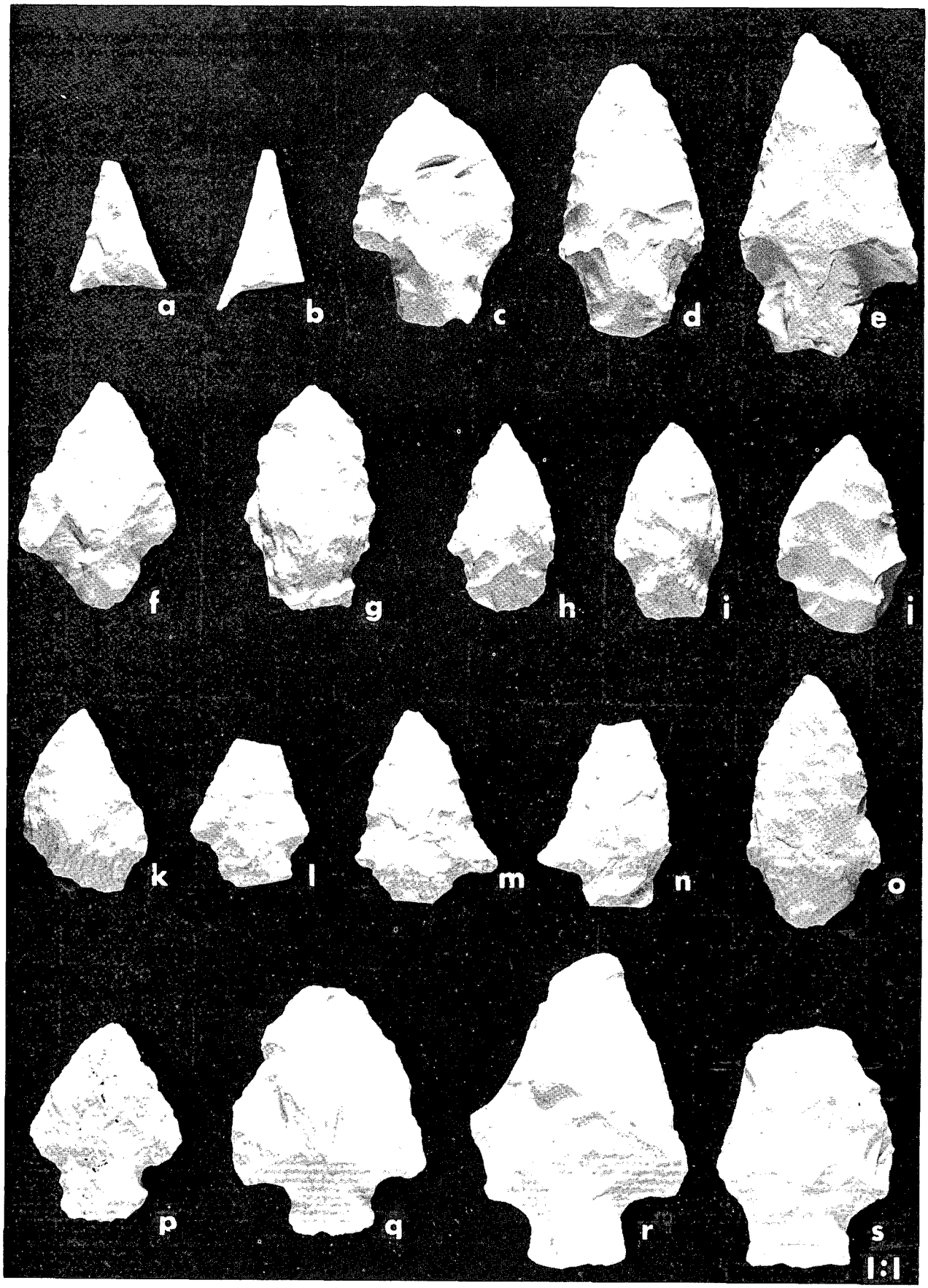


Figure 24

Category 4: Contracting Stem, Lateral Barbed Projectile Point (Figure 24)

Description: Blade isosceles, tip acute; edges straight to convex; straight to contracting stem produced by flaking at the corners; transition from blade to stem forms a definite obtuse shoulder; distinguished by lateral barbs at shoulder; percussion flaked overall with occasional pressure retouch along the edges; cross section biconvex.

Sample: 2 whole, 1 fragment

Materials: 3 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
79	34	25	8
89	--	24	5
195	44	23	7

Category 5: Shouldered, Expanding Stem Projectile Points (Figure 24)

Description: Blade isosceles, edges straight to concave, tip acute; expanding stem produced by flaking at corners; transition from blade to stem defining the shoulder forms a 90 to 100 degree angle; percussion flaked overall with little or no pressure retouch; cross section biconvex; maximum width at shoulder.

Sample: 3 whole, 1 fragment

Materials: 4 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
119	53	39	11
121	43	34	11
199	--	30	10
211	34	27	8

Category 6: Shouldered, Straight Stem Projectile Points (Figure 25)

Description: Blade isosceles, edges straight to convex, tip acute; stem straight to slightly expanding produced by flaking at corners; transition from blade to stem defining the shoulder forms a 90 to 110 degree angle; percussion flaked overall with pressure retouch along the edges, cross section biconvex to planoconvex; maximum width at shoulder.

Sample: 9 whole, 5 fragments

Materials: 14 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
15	32	24	8
50	42	26	8
50	41	28	7
90	52	29	8
90	39	31	6
115	47	27	8
130	29	25	7
137	54	30	7
148	--	26	7
151	--	28	9
170	40	25	7
181	--	27	7
190	--	28	6
192	--	22	8

Category 7: Lanceolate Projectile Points (Figure 25)

Description: Lanceolate blade, edges convex, tip acute; base straight; percussion flaked overall with pressure retouch along the edges and base; cross section biconvex, maximum width at base.

Sample: 8 whole

Materials: 8 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
122	39	21	10
130	--	20	11
132	46	21	7
187	35	17	8
192	50	25	10
196	62	24	9
222	60	24	11
TP3	--	19	10

Category 8: Lanceolate Shouldered Projectile Points (Figure 25)

Description: Blade lanceolate, edges straight to convex, tip acute; straight to expanding stem; transition from blade to stem forms a poorly defined convex shoulder; percussion flaked overall with pressure retouch along the base and edges; cross section biconvex; maximum width at shoulder.

Sample: 2 whole, 3 fragments

Materials: 5 cryptocrystalline

Figure 25. Selected projectile points from the Leuty site (all specimens actual size)
a-d Category 6, shouldered, straight stem projectile points
e-h Category 7, lanceolate projectile points
i-l Category 8, lanceolate, shouldered projectile points

Note: specimens coated white for photography.

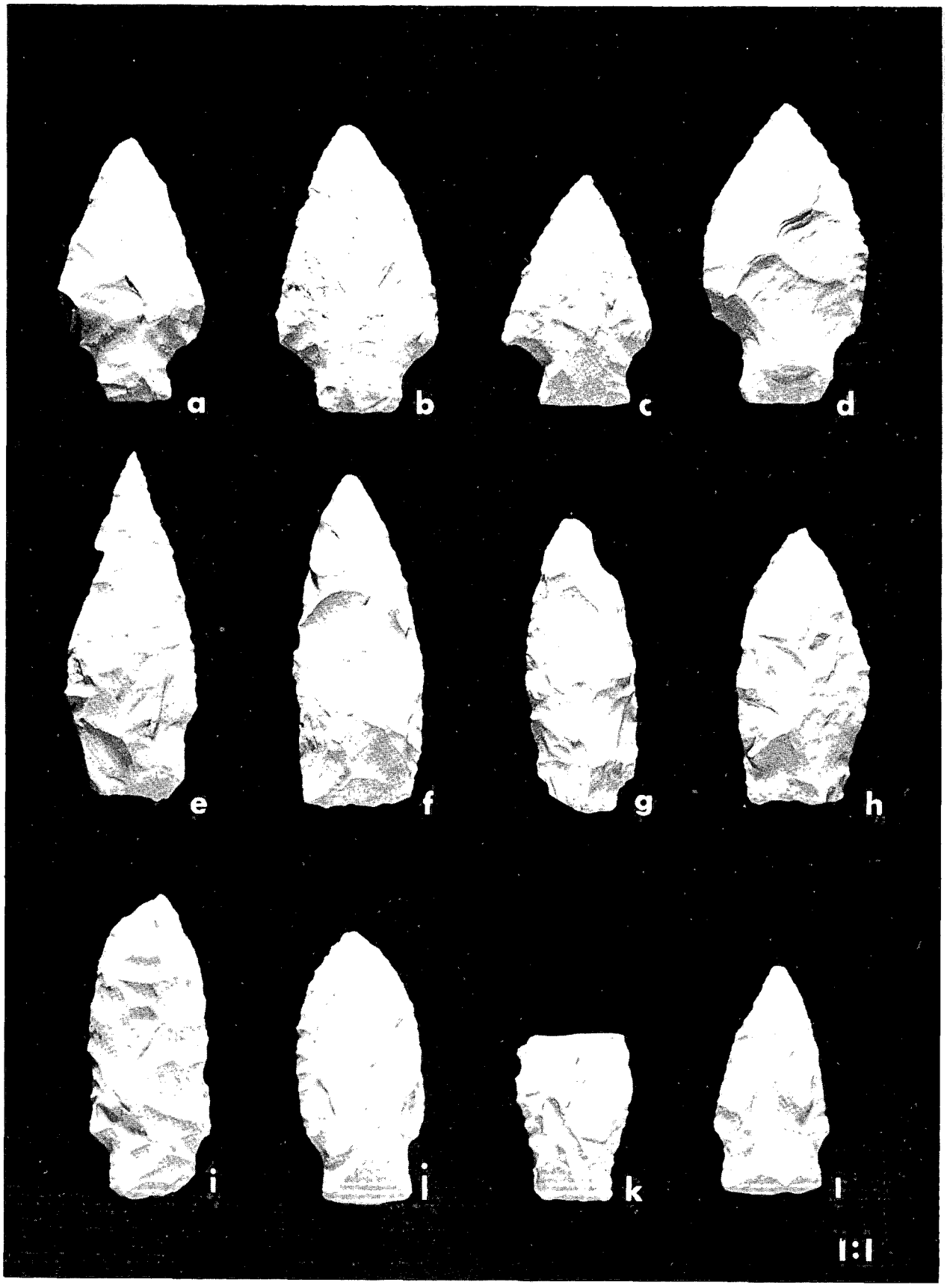


Figure 25

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
37	--	23	9
90	--	22	9
132	--	21	7
196	50	23	7
F4	42	21	7

Category 9: Side Indented Projectile Points (Figure 26)

Description: Blade isosceles, edges straight to convex, tip acute; expanding stem formed by shallow flaking on lower edges; percussion flaked overall with pressure retouch along the edges; cross section biconvex; maximum with at either the base or the shoulder.

Sample: 8 whole, 7 fragments

Materials: 15 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
50	24	18	7
53	--	25	10
61	28	18	7
75	31	18	8
85	--	--	7
87	36	23	10
90	--	18	8
105	39	21	7
111	--	17	9
111	37	17	8
115	40	20	8
132	--	20	9
191	39	21	9
217	--	19	6
222	31	18	8

Category 10: Corner Notched Projectile Points, Form 1 (Figure 26)

Description: Blade isosceles to equilateral, edges straight to convex; tip acute; blade edges serrated; expanding stem formed by corner notching; stems expanding; percussion flaked overall with pressure retouch along the edges; occasional fine retouch on the base; biplano cross section; maximum width at shoulder.

Sample: 1 whole, 2 fragments

Materials: 3 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
191	24	--	5
218	24	--	6
222	52	34	7

Category 11: Corner Notched Projectile Points, Form 2 (Figure 26)

Description: Blade triangular, edges of blade straight to convex, tip acute; stem corner notched, straight to slightly expanding stem; percussion flaked overall with little or no pressure retouch along the edges; cross section biconvex to plano-convex; maximum width at shoulder.

Sample: 1 whole, 4 fragments

Materials: 5 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
30	32	26	7
50	--	27	8
57	--	25	5
80	--	24	8
136	--	20	9

Category 12: Basal Notched Projectile Point (Figure 26)

Description: Blade traingular, edges of blade convex; tip acute; diagonal notches in base form an expanding stem, percussion flaked overall with pressure retouch along the edges; cross section biconvex.

Sample: 1 fragment

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
TP7	41	--	7

Category 13: Narrow, Spike-like Projectile Point (Figure 26)

Description: Elongated diamond outline; blade edges and stem straight, tip acute; stem formed by narrowing from shoulder to rounded base; percussion flaked with pressure retouch along the edges; cross section biconvex.

Sample: 1 whole

Materials: 1 cryptocrystalline

Figure 26. Selected projectile points from the Leuty site (all specimens actual size)

a-j Category 9, side indented projectile points
k-m Category 10, corner notched projectile points, form 1
n-o Category 11, corner notched projectile points, form 2
p Category 12, basal notched projectile point
q Category 13, narrow spike-like projectile point

Note: specimens coated white for photography.

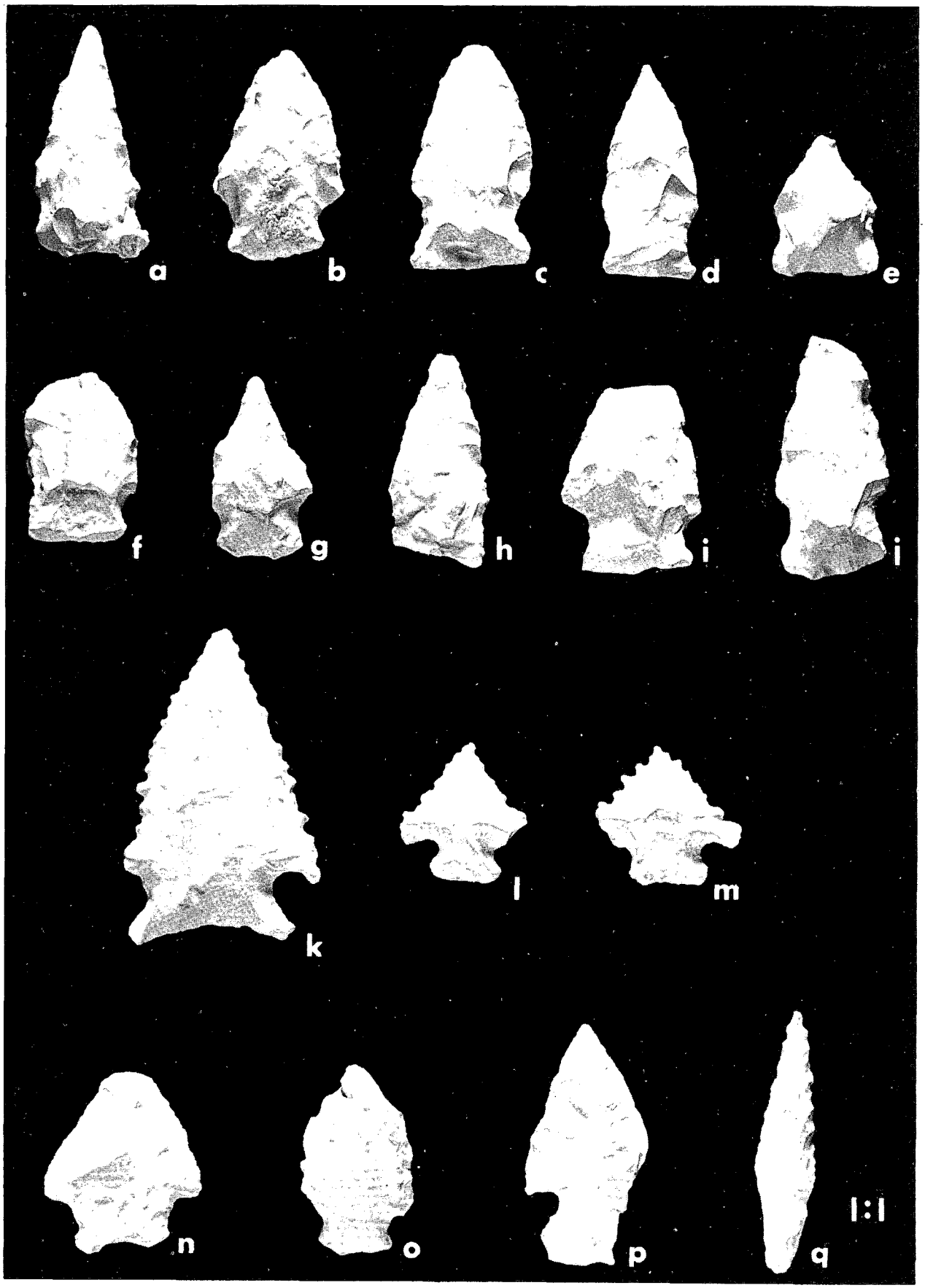


Figure 26

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
193	45	11	5

Category 14: Erratic and Miscellaneous Projectile Points

Description: Projectile points which are poorly made and whose size and shape are too irregular to define a morphologically distinct class.

Sample: 2 whole, 11 fragments

Materials: 12 cryptocrystalline, 1 unidentified metamorphic

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
75	26	--	6
80	--	--	6
90	--	17	7
116	36	--	7
118	--	--	5
165	25	18	-
175	30	--	-
185	36	--	8
191	--	23	9
216	37	22	9
388	40	19	7
F4	47	--	8
PM100	--	24	8

Category 15: Unclassifiable Projectile Point Fragments

Description: Stem, blade, and tip fragments which are too incomplete to be classified with a distinct projectile point category; considered projectile point fragments because of size, and flaking form.

Sample: 70 fragments

Materials: 68 cryptocrystalline, 2 quarts

Measurements: Not measured

Category 16: Triangular Projectile Point Blanks (Figure 27)

Description: Blade isosceles or equilateral; edges straight to convex, tip acute, base slightly rounded; percussion flaked overall with occasional pressure retouch along the edges and base; several specimens have slightly serrated edges; maximum width at base; cross section biconvex to plano-convex.

Sample: 3 whole

Materials: 2 cryptocrystalline, 1 quartz

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
59	28	22	7
85	29	24	9
181	30	21	7

Comments: This category contains projectile point blanks rather than unidentifiable or discarded preforms. The specimens may represent relatively crude triangular projectile points rather than blanks.

Category 17: Triangular Blanks (Figure 27)

Description: Triangular outline, shaped by rough percussion flaking overall, cortex remains on several specimens.

Sample: 4 whole

Materials: 4 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
61	46	25	17
63	55	28	10
90	53	24	14
132	52	32	9

Category 18: Oval Blanks (Figure 27)

Description: Oval outline; ventral surface unmodified except along the edge; dorsal surface percussion flaked overall; plano-convex cross section.

Sample: 4 whole

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
132	35	35	18
210	45	39	8
212	42	33	11
388	34	26	13

Category 19: Knives (Figure 27)

Description: Rectangular or oval outline; corners rounded; percussion flaked bifacially with irregular pressure retouch along the edges; cross section biconvex to plano-convex.

Figure 27. Selected blanks and knives from the Leuty site (all specimens actual size)
a-c Category 16, triangular projectile point blanks
d-f Category 17, triangular blanks
g-h Category 18, oval blanks
i-k Category 19, knives

Note: specimens coated white for photography.

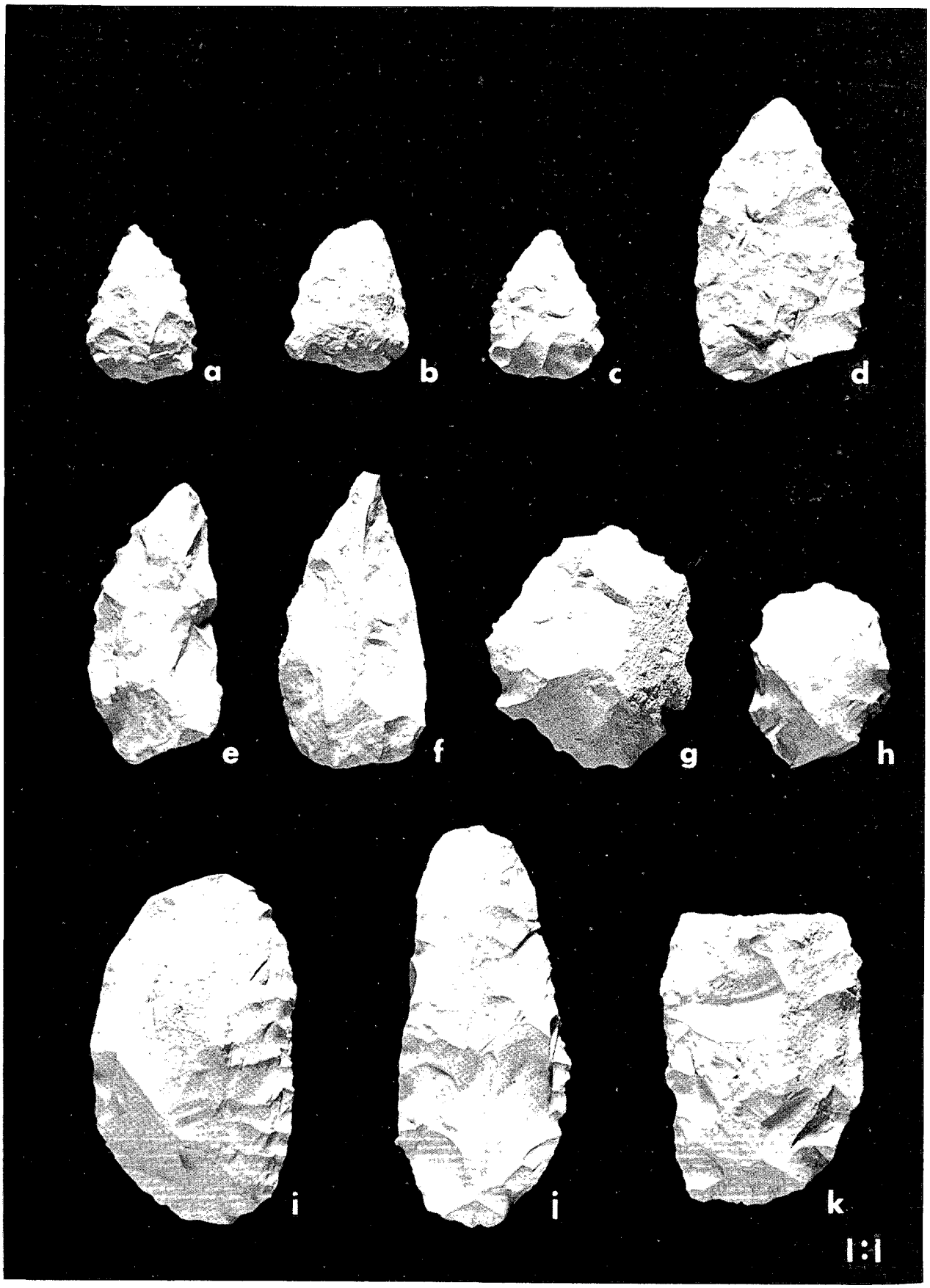


Figure 27

Sample: 3 whole, 2 fragments

Materials: 5 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
90	66	38	13
111	75	33	12
184	--	37	13
196	46	29	8
TP4	--	20	7

Category 20: Stemmed End Scrapers (Figure 28)

Description: Projectile points transversely broken at the midline of the blade and bifacially reworked to form a scraping or cutting bit. Specimens are flaked at the corners to form weak to pronounced shoulders, with a straight to slightly expanding stem and rounded base. One specimen is side indented with a concave base. All examples have biconvex to plano-convex cross sections.

Sample: 7 whole, 4 fragments

Materials: 11 crypotcrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
40	27	26	8
50	20	22	6
75	29	--	6
78	27	26	6
85	28	36	10
138	20	21	7
141	19	27	7
147	29	29	7
215	23	20	7
218	--	33	8
222	18	30	5

Category 21: Drill/Perforator (Figure 28)

Description: A side indented or corner notched projectile point resharpened as a drill/perforator. Blade triangular, edges concave, tip acute; maximum width at shoulder; biconvex cross section.

Sample: 1 whole

Material: cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
126	26	19	8

Category 22: Graver/Perforators (Figure 28)

Description: Triangular outline; edges straight to concave, tip acute; made on a flake with pressure retouch along the lateral edges to form a sharp, fine tip; plano-convex cross section.

Sample: 2 whole

Materials: 2 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
223	21	13	4
F6	19	9	3

Category 23: Utilized Flakes, Form 1 (Figure 28)

Description: Flakes exhibiting use retouch along one or more edges.

Sample: 73 whole

Measurements:

N = 73	Length (mm)	Width (mm)	Thickness (mm)
Range	8-56	6-35	2-7
Mean	23	16	4

Category 24: Utilized Flakes, Form 2 (Figure 28)

Description: Flakes which exhibit unifacial or bifacial retouch along one or more edges.

Sample: 124 whole

Materials: 123 cryptocrystalline, 1 quartz

Measurements:

N = 124	Length (mm)	Width (mm)	Thickness (mm)
Range	8-48	8-36	2-12
Mean	23	18	5

Category 25: Utilized flakes, Form 3 (Figure 28)

Description: Flakes with steep unifacial retouch along one edge. The angle of retouch is near 90 degrees to the dorsal surface of flake.

Figure 28. Selected scrapers, perforators, and utilized flakes from the Leuty site (all specimens actual size)

a-e Category 20, stemmed end scrapers
f Category 21, drill/perforator
g-h Category 22, graver/perforators
i-k Category 23, utilized flakes, form 1
l-m Category 24, utilized flakes, form 2
n-o Category 25, utilized flakes, form 3
p-r Category 26, utilized flakes, form 4

Note: specimens coated white for photography.

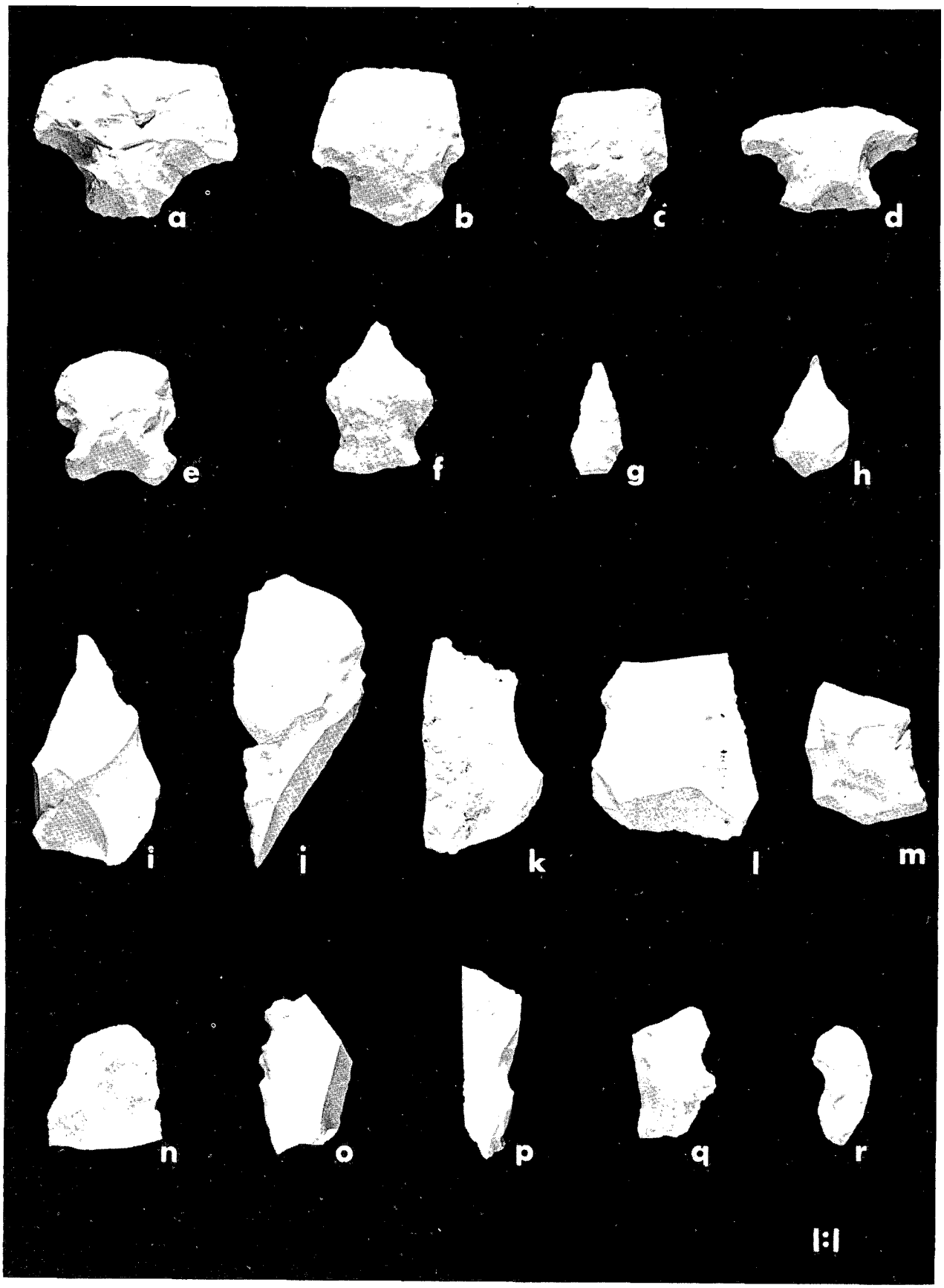


Figure 28

Sample: 7 whole

Materials: 7 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
89	40	23	13
132	25	17	4
132	22	15	7
154	19	12	3
191	40	40	23
195	24	20	6
212	27	16	10

Category 26: Utilized Flakes, Form 4 (Figure 28)

Description: Flakes retouched to form a concave working edge.

Sample: 9 whole

Materials: 9 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
59	25	10	6
79	18	17	7
121	45	21	8
153	27	15	5
162	23	14	4
170	22	15	3
191	17	8	4
195	20	10	2
212	33	10	5

Category 27: Core and Biface Fragments

Description: Broken block fracture and core-like lithics which have been worked or utilized.

Sample: 21 whole

Materials: 19 cryptocrystalline, 1 quartz; 1 unidentified metamorphic

Measurements:

N = 21	Length (mm)	Width (mm)	Thickness (mm)
Range	17-53	13-40	8-24
Mean	33	22	13

Category 28: Polished Celts (Figure 29)

Description: A celt and seven celt fragments include five bits and two polls both of which also are battered. The single whole

specimen is ground on the bit and blade; the poll is battered.

Sample: 1 whole, 7 fragments

Materials: 8 greenstone

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
125	128	55	31

Category 29: Chipped Stone Celt (Figure 29)

Description: Elliptical to rectangular outline; percussion flaked overall; plano-convex cross section.

Sample: 1 whole

Materials: greenstone

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
192	88	56	17

Category 30: End Battered Cobbles

Description: Oblong water rolled cobbles battered at one or both ends.

Sample: 2 whole, 1 fragment

Materials: 2 quartzite, 1 limestone

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
37	--	--	41
192	89	80	49
210	126	94	62

Category 31: Center Battered Cobbles (Figure 29)

Description: Circular water rolled cobbles battered at the center of one side to form a shallow concave depression.

Sample: 3 whole

Materials: 3 sandstone

Figure 29. Selected ground and pecked stone artifacts from the Leuty site

a-b Category 28, polished celts
c Category 29, chipped stone celt
d Category 31, center battered cobble
e Category 32, grinding stone
f Category 33, hematite

Note: specimens coated white for photography.

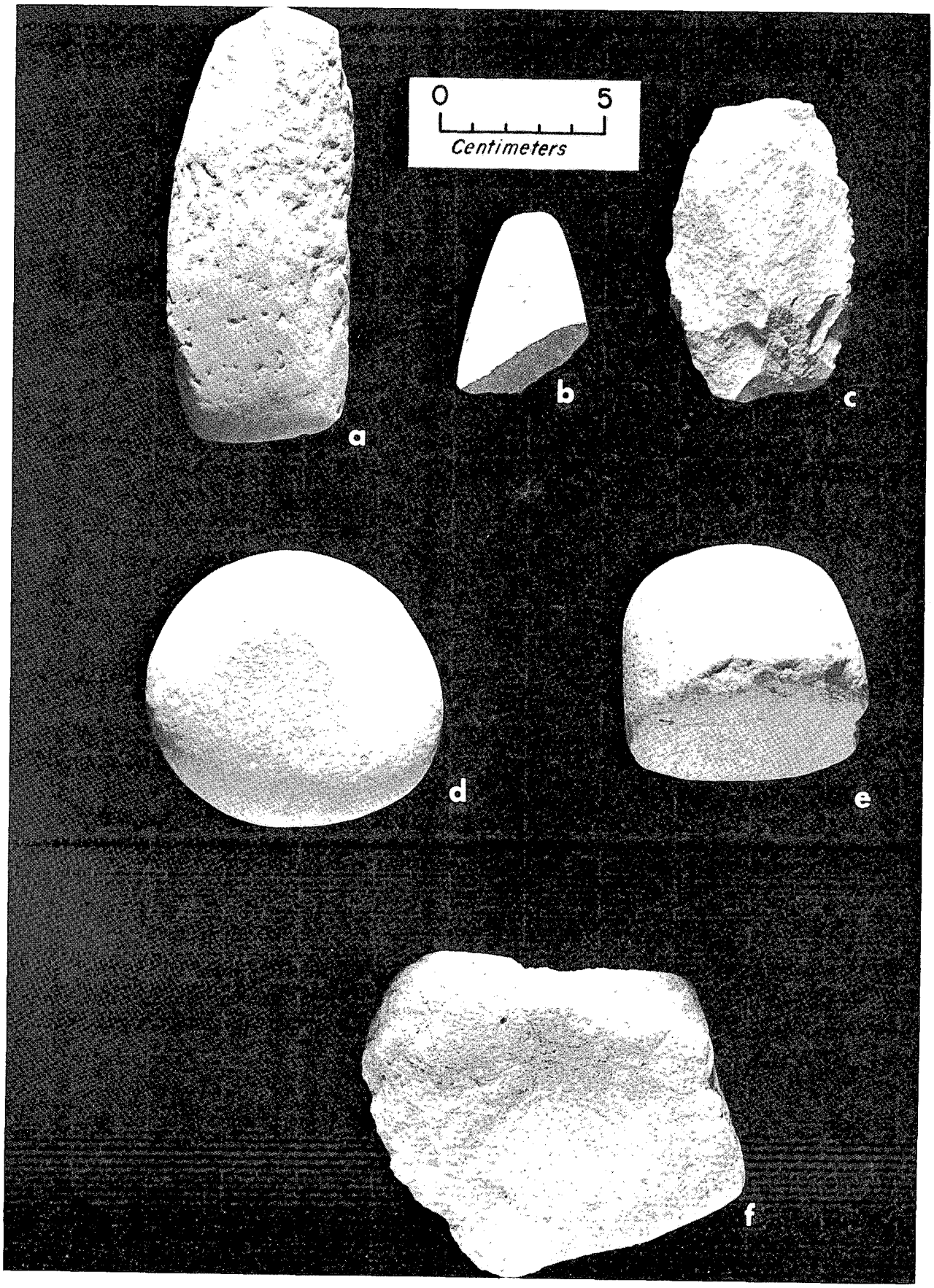


Figure 29

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
78	94	67	58
118	88	82	48
TP5	121	90	49

Category 32: Grinding Stone (Figure 29)

Description: Pyramidal shaped water rolled cobbles with one surface worn by grinding, pounding, or battering.

Sample: 3 whole, 2 fragments

Materials: 4 sandstone, 1 unidentified metamorphic

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
180	88	79	64
153	--	--	--
211	64	65	76
221	120	95	83
388	100	--	53

Category 33: Hematite (Figure 29)

Description: Rectangular pieces of hematite ground smooth on both sides; one specimen has been ground to form a shallow depression on one side.

Sample: 2 whole

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
132	41	29	11
388	102	97	32

Category 34: Pipe fragment

Description: A small fragment from pipe bowl rim about 2 mm thick

Sample: 1 fragment

Material: Steatite

Category 35: Bead

Description: A perforated crinoid fossil segment.

Sample: 1 whole

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
85	6	17	4

Category 36: Splinter Awl

Description: Mammal long bone fragment ground to a sharp point; the specimen is charred.

Sample: 1 whole

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
388	112	16	7

Discussion

Table 8 shows the stratigraphic distribution of the bone and lithic artifacts. So few artifacts came from either the Premound 1 or Premound 2 levels that it is impossible to establish distinct assemblages for these proveniences. Most artifacts had to be assigned to the Premound 3 provenience. No distinct lithic assemblages corroborate the Middle Woodland and Early Mississippian components hypothesized from the ceramic analyses. Since these assemblages are combined in the Premound 3 assignment, only comparative projectile point typology is available to identify them.

Such identification, however, is difficult to make because no projectile points like those which occur most frequently in Middle Woodland period and Early Mississippian period context in East Tennessee occur beneath the mound. Spike-like projectile points and a variety of medium to large triangular points are the predominant Middle Woodland forms, while small tirangular Hamilton-like projectile points are the predominant Early Mississippian forms (cf. Chapman, 1975; Schroedl, 1976). A variety of stemmed and notched projectile points like Categories 2 through 6 and 9 through 12 at the Leuty site are found at sites with closely successive multiple Archaic, Woodland, and Mississippian occupations where aboriginal excavations have mixed the cultural deposits. In these contexts such points are usually considered Late Archaic or Early Woodland types. Comparative point typology alone thus provides little evidence for a Middle Woodland or Early Mississippian premound occupation at the Leuty site, suggesting instead Late Archaic and Early Woodland occupations.

Just as a range of ceramic types defines occupation within a particular cultural period so probably does a range of projectile point types. Like ceramics, projectile points as well as other lithic artifacts seldom have discrete temporal and spatial distributions. Analysis frequently either ignores distributional range in favor of discrete identification or is unable to specify this range.

Table 8. Stratigraphic distribution of lithic and bone artifacts at the Leuty site

Category	Premound 1	Premound 2	Premound 3	Construction Stages 1	Construction Stages 2	Test Trenches	Test Pits	Disturbed	Total
1. Triangular Projectile Points	-	-	-	-	3	-	-	-	3
2. Shouldered, Contracting Stem Projectile Points, Form 1	-	-	3	1	3	-	-	-	7
3. Shouldered, Contracting Stem Projectile Points, Form 2	-	-	2	-	5	-	1	3	11
4. Contacting Stem Lateral Barbed Projectile Points	-	-	1	1	1	-	-	-	3
5. Shouldered, Expanding Stem Projectile Points	-	-	2	-	2	-	-	-	4
6. Shouldered, Straight Stem Projectile Points	-	-	7	-	7	-	-	-	14
7. Lanceolate Projectile Points	-	-	4	-	2	-	1	1	8
8. Lanceolate, Shouldered Projectile Points	1	-	3	1	-	-	-	-	5
9. Side Indented Projectile Points	-	-	9	1	4	-	-	1	15
10. Corner Notched Projectile Points	-	-	2	-	1	-	-	1	3
11. Corner Notched Projectile Points	-	-	2	-	3	-	-	-	5
12. Basal Notched Projectile Points	-	-	-	-	-	-	1	-	1
13. Narrow, Spikelike Projectile Point	-	-	1	-	-	-	-	-	1
14. Erratic and Miscellaneous Projectile Points	1	2	3	1	5	1	-	-	13
15. Unclassifiable Projectile Point Fragments	1	3	41	4	19	-	2	-	70
16. Triangular Projectile Point Blanks	-	-	3	-	-	-	-	-	3

Table 8 (Continued)

Category	Premound 1	Premound 2	Premound 3	Construction Stages 1	Construction Stages 2	Test Trenches	Test Pits	Dis-turbed	Total
17. Triangular Blanks	-	-	3	-	1	-	-	-	4
18. Oval Blanks	-	-	2	-	1	1	-	-	4
19. Knives	-	-	3	-	1	-	1	-	5
20. Stemmed End Scrapers	-	-	6	1	3	-	-	1	11
21. Drill/Perforator	-	-	1	-	-	-	-	-	1
22. Graver/Perforator	1	-	-	-	-	-	-	1	2
23. Utilized Flakes, Form 1	-	7	40	5	21	-	-	-	73
24. Utilized Flakes, Form 2	-	7	59	8	49	-	-	1	124
25. Utilized Flakes, Form 3	-	-	2	1	4	-	-	-	7
26. Utilized Flakes, Form 4	-	-	2	-	7	-	-	-	9
27. Core and Biface Fragments	-	1	8	1	9	1	-	-	20
28. Polished Celt	-	-	3	1	3	1	-	-	8
29. Chipped Stone Celt	-	-	1	-	-	-	-	-	1
30. End Battered Cobbles	-	-	2	1	-	-	-	-	3
31. Center Battered Cobbles	-	-	-	-	2	-	1	-	3
32. Pestles	-	-	1	1	1	1	1	-	5
33. Hematite	-	-	1	-	-	-	-	-	1
34. Pipe Fragment	-	-	1	-	-	-	-	-	1
35. Bead	-	-	1	-	-	-	-	-	1
36. Splinter Awl	-	-	-	-	-	1	-	-	1
Totals	4	20	218	28	157	7	8	9	451

Excavations in the vicinity of Backhoe Trenches 14 and 15 in 1972 isolated Middle Woodland and Mississippian occupation in Occupation Level 8 (Calabrese, 1976:68-87), but too few lithic artifacts were associated to make adequate comparisons with the premound lithic categories. Late Archaic and Early Woodland components were defined respectively for Occupation Levels 5 and 6/7. Although the lithic artifact samples from these levels are small, the projectile points are comparable to most premound point categories.

In summary the premound ceramics suggest Middle Woodland period and Early Mississippian period occupations. No distinct lithic assemblage can be deinfed for these components, although the intensity of these occupations as indicated by the ceramics, features, and structures suggest that much of the lithic assemblage must be associated with them. Few ceramics indicate Early Woodland period occupation beneath the mound. The lithic artifacts, however, suggest that such an occupation as well as a Late Archaic occupation are well represented in the premound sediments. The stratigraphic distributions show that occupations represented by the premound sediments were frequently included in the Construction Stage 2 fill. Small triangular points in this deposit also indicate borrowing from Late Woodland or Early Mississippian occupation areas. Cultural deposits were seldom used for fill in Construction Stage 1.

Summary and Conclusions

The Leuty mound consists of two construction stages and a wall trench structure built over earlier cultural deposits which are unrelated to mound use. The earlier deposits contain occupational features and ceramics indicating a Middle Woodland period component. A distinct lithic assemblage associated with this component cannot be isolated using the site stratigraphy, features, or comparative typology. Instead the lithic artifact sample indicates possible Late Archaic and Early Woodland period use of the premound surface. A small sample of quartz tempered sherds, however, is the only ceramic data corroborating an Early Woodland period occupation beneath the mound. The premound cultural remains are comparable to those recovered in the vicinity of Backhoe Trenches 14 and 15 (Calabrese, 1976). Here stratified Late Archaic period, Early Woodland period, and Middle Woodland period components are represented by Occupation Levels 5, 6, 7 and the lower portion of Occupation Level 8 (Calabrese, 1976:68-82). Shell tempered ceramics from the upper portion of Occupation Level 8 indicate a small Mississippian period component which could be contemporary with mound construction.

Mississippian period occupation and eventual mound construction began with Structure 4, a wall trench structure on the premound surface. Associated with the structure are shell tempered ceramics suggesting a Hiwassee Island Focus affiliation. A radiocarbon date circa A.D. 1100 for the structure is comparable to dates obtained from other Early Mississippian sites in East Tennessee.

The wall trench building or its remains were burned and Construction Stage 1, a low, circular mound about 1.5 feet high was centered to cover the entire structure. The mound fill indicates borrowing from the B and C soil horizons. Structure 3, a circular single wall post building, was erected on the Construction Stage 1 summit directly over the wall trench structure. Structure 3 postmolds were deep enough to penetrate the premound surface. Except for the lower portion of the postmolds, this building and the interior floor of Structure 4 were destroyed by a large rectangular pit excavated to the base of the mound. Structure 2 was erected in this excavation. Once the strucutre was removed the pit was filled and the mound was raised an additional 3.0-4.0 feet by Construction Stage 2. This fill covered the first stage and enlarged the mound to nearly twice its original diameter. Structure 1 was build on the northern summit of the mound. Plowing and erosion subsequently destroyed most of the structure.

Text excavations on the second terrace revealed no occupation areas associated with mound use. The few artifacts from the test pits undoubtedly are related to Archaic period and Woodland period occupations which are undisturbed beneath the mound.

THE MCDONALD MOUNDS

Introduction

The McDonald site (40RH7) consists of five burial mounds forming two mound groups on the second terrace of the Tennessee River between 1200 and 1400 feet from the present river bank (see Figures 2 and 3, pages 3 and 7). Table 9 provides the latitude and longitude of each mound. Mound A, the largest mound at the site, and two smaller mounds, Mounds B and E, form one mound group (Figures 30 and 31). Mound A is about 1300 feet from the river bank. Mound B occurs approximately 100 feet to the southeast in a direct line towards the river, while Mound E is upstream 350 feet southeast of Mound A and 350 feet east of Mound B. The mounds are near the front edge of the terrace with Mounds A and B constructed within the 709.0 feet contour. A shallow gully dissected by seasonal erosion, separates these mounds from Mound E which is constructed at about the 710.0 feet contour (Figure 30). This drainage may have developed contemporary with mound use, but modern agriculture practices are more likely responsible for the present local relief.

Mounds C and D form the second mound group at the McDonald site. They are about 1500 and 1300 feet respectively east-northeast and upstream from Mound A. A large, well developed erosional gully about 250 feet east of Mound E separates the two mound groups. A second well developed erosional gully occurs between 100 and 200 feet east of Mounds C and D. Mound C was built on the 715.0 feet contour near the edge of the second river terrace, while Mound D was constructed on the 714.0 feet contour further back on the terrace about 200 feet to the northwest.

Table 9. Co-ordinates of the McDonald site (40RH7) mounds

Mound	North Latitude	West Longitude
A	35° 35' 38"	84° 47' 39"
B	35° 35' 37"	84° 47' 38"
C	35° 35' 47"	84° 47' 20"
D	35° 35' 48"	84° 47' 21"
E	35° 35' 40"	84° 47' 30"

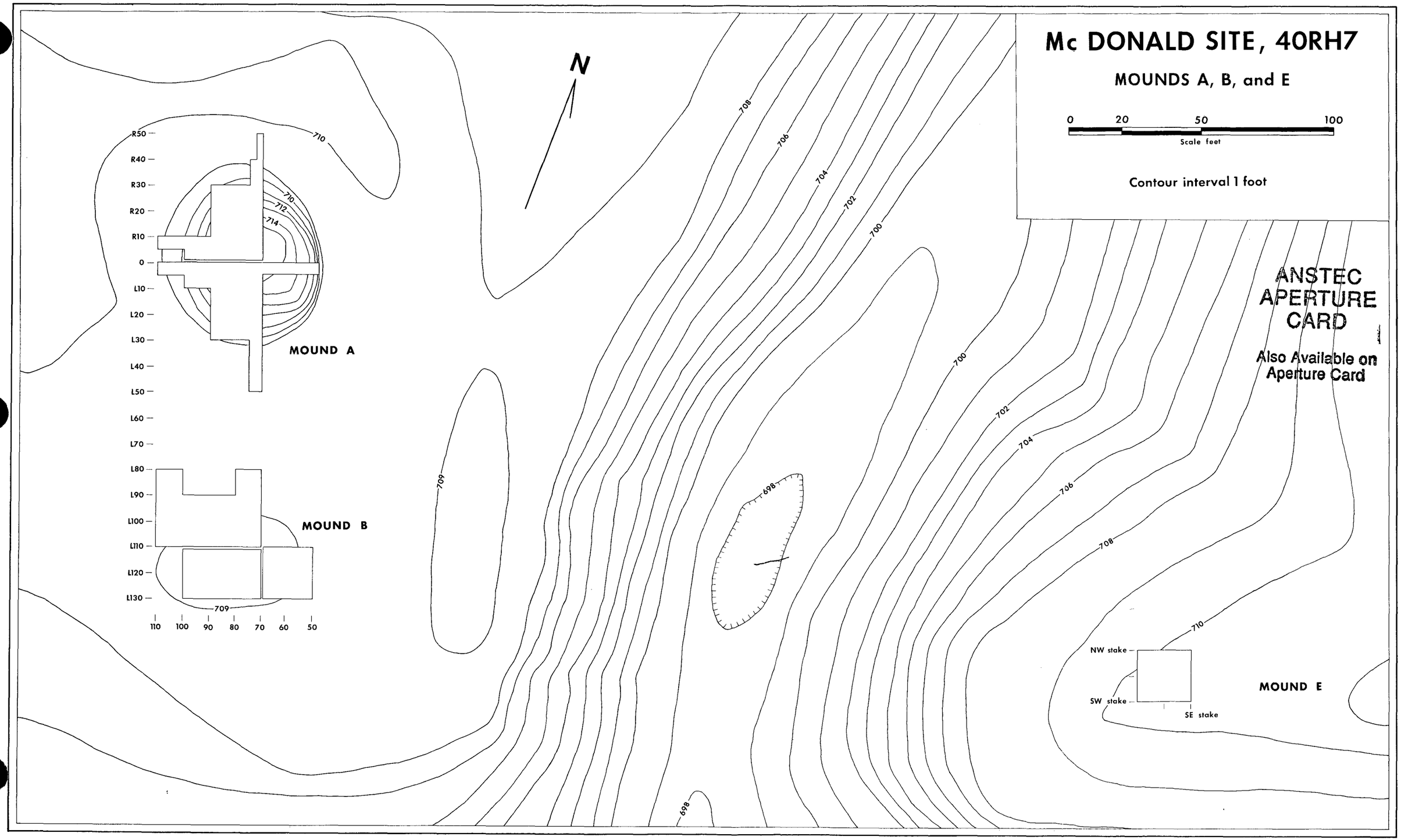


Figure 30. Contour map and excavation plots of Mounds A, B, and E at the McDonald site (40RH7)

The five McDonald site mounds and the surrounding area were regularly plowed and cultivated since at least the early 20th century. These activities and accompanying erosion contributed to reducing the size of the mounds. C. B. Moore's investigations disturbed three mounds. This undoubtedly reduced the size of the mounds and contributed to their further erosion. None of Moore's excavation, however, was large enough to completely level any of the three mounds. Both Moore and the later WPA Survey observed relic collector's pits in one or more mounds. Occasional clandestine excavations surely continued at the site after 1936. No freshly dug holes were observed at the beginning of the 1971 excavations, but shallow surface depressions on Mounds A, C, and D indicated previous disturbances. Excavations of Mound A eventually revealed a large relic collector's pit, intruding to the mound base, and several smaller pits disturbing the upper construction stages. In addition, nearly the entire east half of the Mound was destroyed in the course of machine excavations for burying domestic livestock. (The remains of at least two young hogs (sus scrofa) were recovered from the disturbed fill.) C. B. Moore's excavation left only the periphery of Mound C undisturbed. Mound D showed the least disturbance, although a trench had been dug through the mound deposits. Mounds B and E were recognized only by scattered shells on the surface. Moore's report and the WPA survey data strongly suggest that both mounds were once substantially larger. Plowing, erosion, and unauthorized excavations surely contributed to their destruction. These activities also may have removed three of Moore's eight mounds which were unaccounted for in 1971. The probable complete destruction of these mounds, the condition of Mounds B and E, and the extensive disturbance of Mound A suggest machine leveling of some mounds to facilitate plowing and possibly to provide fill at other locations.

Mound Excavations

Mounds A and B were excavated simultaneously using the same grid and vertical datum. Next Mounds C and D were excavated, using separate horizontal controls but the same vertical datum. Mound E was the last mound investigated, but no grid was established for this excavation. Rather the work was mapped from the co-ordinates of the Mound A and Mound B grid. Burials and features were designated consecutively regardless of the mound in which they occurred.

The presentation in this report, however, is according to the letter designations assigned to each mound. This puts the Mound B burial and feature data out of sequence because the first two burials and the first three features encountered in the field came from this excavation. Mound E is presented last even though its location is described in terms of Mound A and Mound B.

Mounds B and E were so disturbed that only remnants of single construction stages were represented. Moore's data and the WPA survey description suggest that both mounds easily could have contained additional stages. The Mound C stratigraphy also showed only a single construction stage, but the vertical distribution of burials indicate

at least two construction stages. Excavations isolated five construction stages in Mound A and two construction stages in Mound D despite previous disturbances of the mound sediments.

Distinct construction stages in Mounds A and D were defined on the basis of profiles exposed during excavation, further examination of these profiles after the work was completed, and the analysis of soil samples from each recognizable mound deposit. The horizontal and vertical location of burials and features also aided these determinations. The occurrence of log retainers placed at the periphery of both mounds was particularly useful in isolating different construction episodes. In addition, scattered layers of freshwater gastropod and pelecypod shells often separated distinct deposits in Mound A.

Except for Mounds C and E few cultural remains from borrow areas were included in any of the mound deposits. Mound C contained 100 of the 158 lithic artifacts and Mounds C and E accounted for 193 of the 211 pottery sherds recovered from non burial context. Reference is made in the text to these remains where appropriate. Appendices I and II respectively provide detailed descriptions of the lithic and ceramic artifacts.

Acquiring charcoal samples for radiocarbon dating was a primary goal of the excavations and eleven dates were obtained from the site. These include six dates from Mound A, one date from Mound B, and four dates from Mound D. These represent pairs of dates from Construction Stages 1, 3, and 5 in Mound A and from each of two construction stages in Mound D. Although these dates were published previously (Schroedl, 1973:1-11), they are repeated here. Their comparison and interpretation is revised in terms of dates relevant to burial mounds in East Tennessee acquired since 1973. A separate section is devoted in this report to the radiocarbon dates.

Methods of Burial Analysis

With slight modification, burial terminology and descriptions follow the criteria outlined by Sprague (1968). The categories of preservation and manner of disposal were added for descriptive clarification. Specific information not recorded on standard burial forms was determined whenever possible from field notes, drawings, and photographs. The characteristics of each burial including associated grave goods are presented with each mound description. Synthesis, interpretation and intra-site comparisons of the burial population are included as a separate section.

In most instances poor bone preservation limited the amount of demographic information and the number of distinguishing burial characteristics obtained from the skeletal remains. Age and sex often was indeterminable or determined only within a broad range. Some burials, for example, could be classified only as adults or subadults of indeterminate sex. Determining burial position, deposition, orientation, and articulation

was equally difficult from the poorly preserved remains. Each characteristic was identified successfully in 40 to 60 percent of the skeletal sample.

Age estimates for subadults are based on dental eruption (Schour and Massler, 1944) and epiphyseal closure (Krogman, 1962; McKern and Stewart, 1957). Age estimates for adults are based on cranial suture closure (Krogman, 1962) and tooth wear (Bass, 1971; Hrdlicka, 1952). Although these criteria are not always reliable, they are the best means available given the poor bone preservation at the site. Therefore, age estimates, in most cases are limited to a ten year span. Osteophytosis of the vertebral centra also is used here to corroborate age estimates (Steward, 1958). In Burial 12, most of the right pubic symphysis is preserved and this was used to estimate the individual's age (McKern and Stewart, 1957).

In general, reliable sex determinations cannot be made on subadults so only the skeletons of individuals over 18 years are categorized by sex. Sex determinations for adults are based primarily on the morphology of the cranium and long bones. In the few burials where present, pelvic fragments are the main criterion for sex identification. Bass (1971) and Krogman (1962) are the principal references used here for making sex determinations.

All measurements were made according to the techniques described in Bass (1971). Estimates of living stature from long bone measurements is based on the work of Trotter and Gleser (1959) for Mongoloids. Only Burial 12, however, was well enough preserved to estimate the individual's stature.

Mound A

Mound A was the largest mound at the McDonald site, measuring nearly 8.0 feet high and 70 feet in diameter. If the correlation with Moore's Mound B is correct, then Mound A was reduced only about 2 feet over the past half century. This estimate may be too small considering the damage to the mound by relic collectors and probable machine removal and backfilling of the east half. Despite extensive damage, a complete sequence of construction stages was preserved in the mound. Recording this sequence was possible, because, as each new stage was added, the top center of the mound gradually shifted to the east. The amount of damage, however, prevented the recovery of a complete burial sample. This of course seriously limited the interpretation of overall patterns in the burial data.

Field Methods

The mound was gridded into 10 feet squares with squares designated in relationship to centerline (CL) and right (R) or left (L) co-ordinates. The centerline was oriented N 69.5° E bisecting the mound at its highest

point. The top center of the mound occurred at the 70CL co-ordinate. The entire mound was enclosed within a 60 by 100 feet area running from 50-110RO-50 and from 50-110LO-50. Each 10 feet square was excavated in 0.5 feet arbitrary levels as measured from the surface. Horizontal stripping followed the mound slope. The vertical provenience of individual burials and features in addition were calculated using a TVA bench mark set at 708.85 feet AMSL.

The excavation strategy was to divide the mound in quarter sections leaving 1.0 feet balks intersecting near the mound center. Initially a 4.5 feet wide trench, 100 feet long with co-ordinates 70-74.5LO-50 and 70-74.5RO-50 was dug to bisect the mound on a north-south axis (Figure 32). Two trenches 4.5 feet wide were used to bisect the mound on the east-west axis. The first trench ran from 70-100RO-4.5 while the second trench was offset to run from 52-70LO-4.5. Squares adjacent to the axial trenches were opened as necessary to uncover burials and features and expand the excavation. Because the east-west trenches soon revealed extensive damage to the east half of the mound, the southeast and northeast mound quarters were left unexcavated (Figure 33).

Excavations eventually removed almost the entire west half of the mound, producing 10 burials and 5 features. Up to a three 25 pound bag sample was taken from shell layers marking former mound surfaces (See Figures 33 and 34). One such layer received a feature designation, but in most instances the occurrence of shells was recorded only in field notes or stratigraphic profiles. Complete mound profiles were recorded along 70CL from RO-50 and LO-50 and along the centerline from 50-110.

Stratigraphy and Construction Stages

The mound stratigraphy is a cultural deposit representing five sequential building episodes. These deposits cover a developed soil profile unaltered by cultural activities. Except for charred remains of surface vegetation burned in preparation for mound building, there is no occupational evidence beneath the mound. Locally available silt loams and silty clay loams borrowed from the B and C soil horizons were used for fill throughout mound construction. Soil from the A horizon or other organic debris seldom were used for fill. As a result, few cultural remains from borrow areas were included in the mound fill. Only 10 sherds and 13 lithic artifacts were found in non burial contexts.

Figure 35 shows the stratigraphy along perpendicular transects intersecting at the approximate center of the mound. The range of soil color and texture throughout the mound is so similar that segregating distinct deposits on this basis alone is near impossible. Logs laid horizontally at the mound periphery and layers of river mussels placed on different mound surfaces identify most construction stages. Dashed lines in Figure 35 indicate probable stratigraphic breaks not clearly

Figure 31. Low oblique aerial photograph of Mounds A, B, and E, view to the north (TVA Negative L113-14)

Figure 32. Initial approach trench at Mound A, view to the north

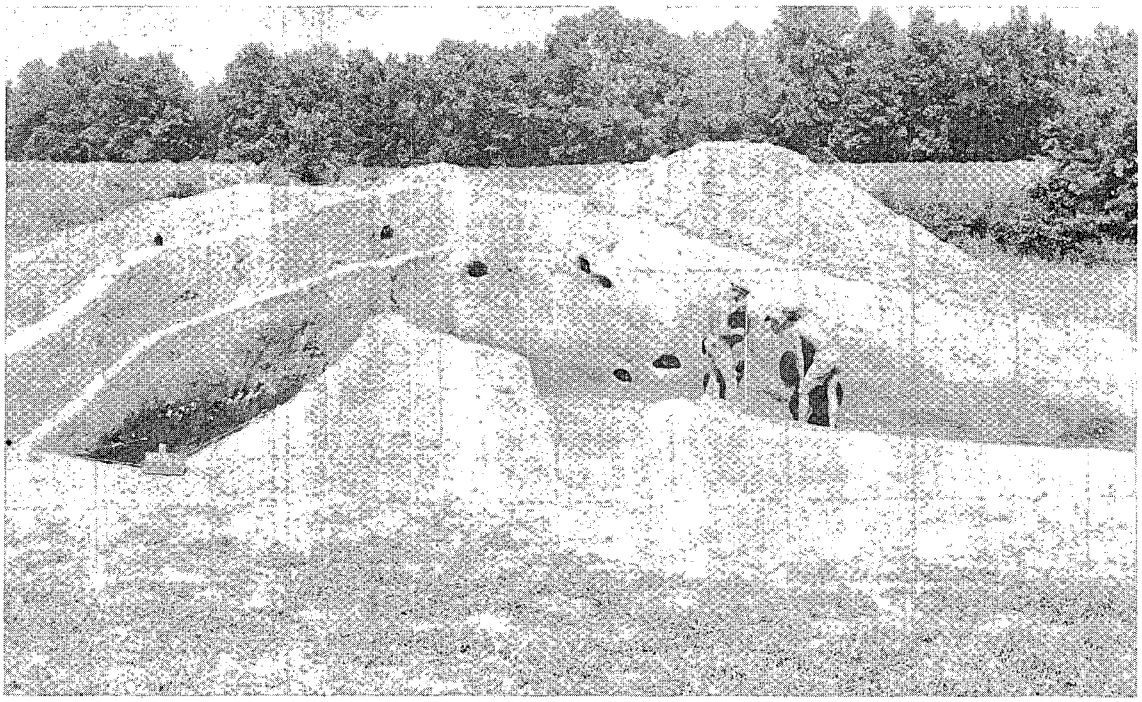


Figure 33. General view of southwest quarter of Mound A, excavations complete, view to the northeast.

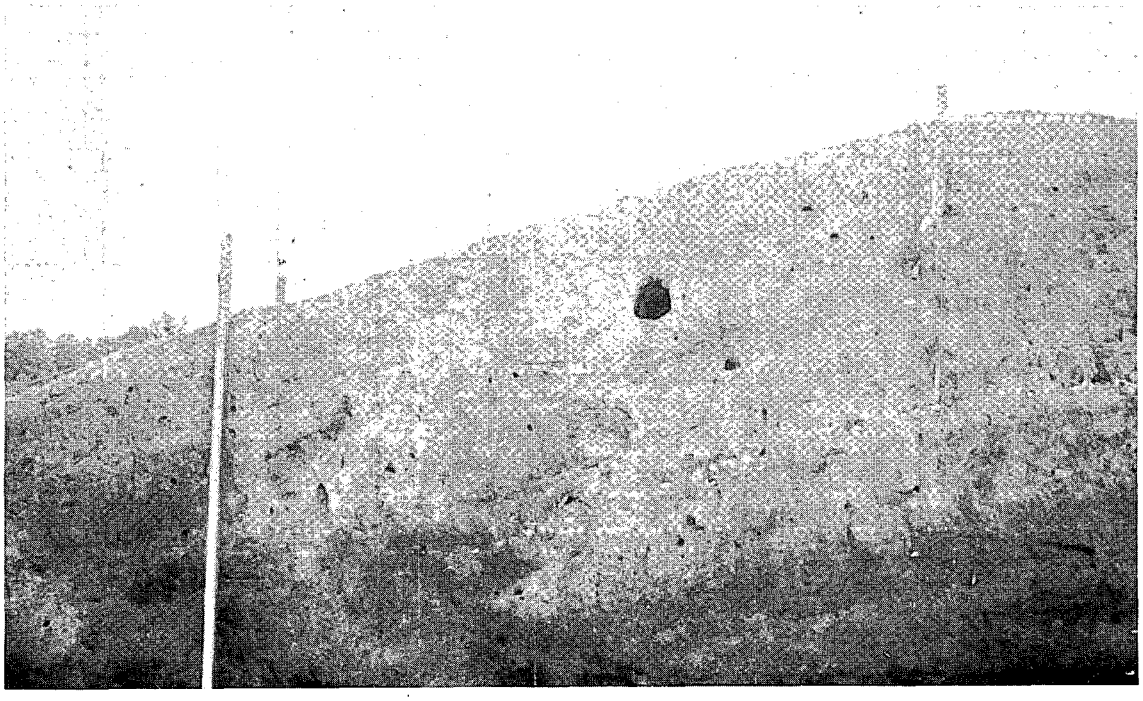
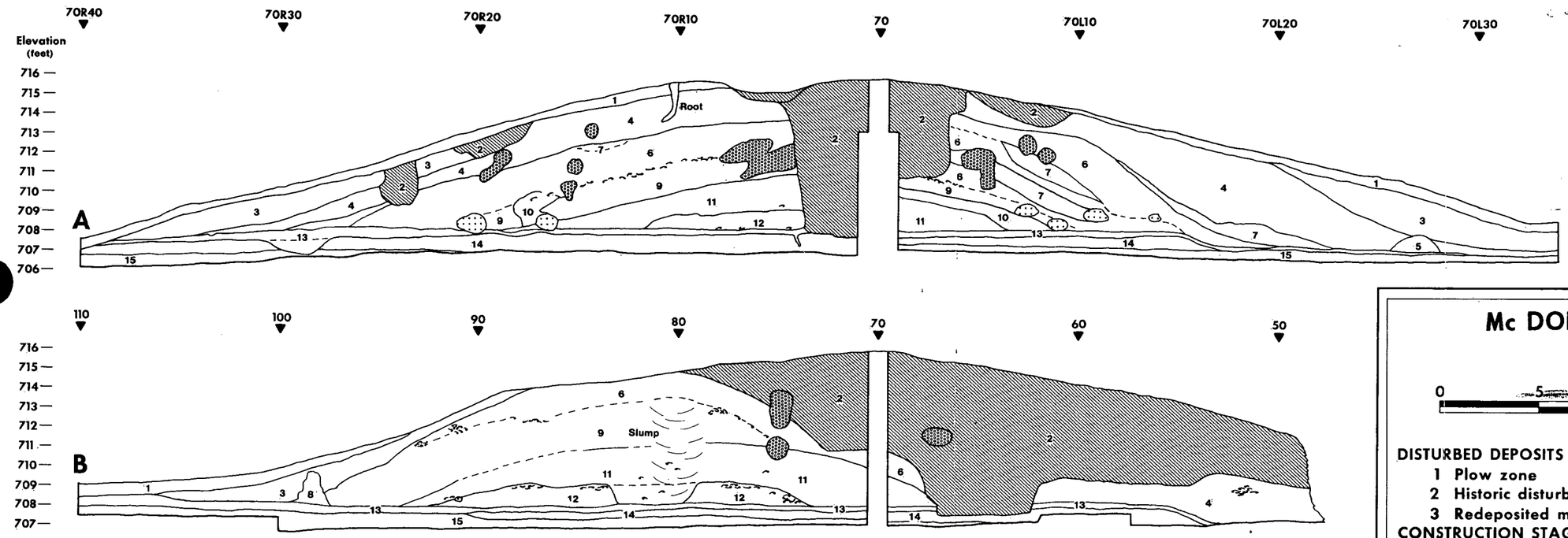


Figure 34. Stratigraphic detail at 70R10-20, shell layer caps Construction Stage 3, view to the east



Mc DONALD SITE, 40RH7
STRATIGRAPHY
MOUND A

0 5 10 20
Scale feet

DISTURBED DEPOSITS
- 1 Plow zone
- 2 Historic disturbance
- 3 Redeposited mound fill

CONSTRUCTION STAGE 5
- 4 Silt loam 1
- 5 Silt loam 2A

CONSTRUCTION STAGE 4
- 6 Silt loam 3A
- 7 Silt loam 4A
- 8 Silt loam 2B

CONSTRUCTION STAGE 3
- 9 Silt loam 3B
- 10 Silt loam 4B

CONSTRUCTION STAGE 2
- 11 Silt loam 5

CONSTRUCTION STAGE 1
- 12 Silt loam 6

PREMOUND SOIL
- 13 A1 horizon
- 14 B2 horizon
- 15 B3 horizon

- Shell
- Logmold
- Krotovina

A B N

Figure 35. Mound A stratigraphy

9412010265-04

visible during profile recording. Within most deposits the variations of individual loading defy detailed recording (see Figure 34), and thus they received only gross description. Descriptions of the mound sediments are provided below. Table 10 and Figure 36 document the size, location, and pattern of mound accretion.

The Plow Zone is a dark brown to brown (10YR4/4, dry; 10YR4/3, moist) silt loam. It includes distrubed sediments from Construction Stages 4 and 5, erosionally redeposited mound fill, and sediments from several large historic disturbances on the mound slope and summit. At the mound periphery the plow zone incorporates the A soil horizon which is protected beneath the mound.

Construction Stage 5 is a dark yellowish brown (10YR4/4, dry) silt loam containing occasional silt and clay concretions, designated Silt loam 1. At least six historic disturbances intrude the deposit. Associated with this stage at the south mound periphery is a mottled yellowish brown (10YR5/8, moist) silt loam (Silt loam 2A) deposit, semi circular in cross section. Just what this represents is undetermined. Perhaps the summit and side slopes were occasionally scraped clean with the soil and vegetation left piled at the mound's edge.

Construction Stage 4 is primarily a yellowish brown (10YR5/4, dry; 10YR5/3, moist) silt loam designated Silt loam 3A. At three places in the profile this stage is a dark brown (10YR3/3, dry), dark yellowish brown (10YR4/4, moist) silt loam designated Silt loam 4A. A log mold marking the mound edge is associated with one of these deposits at about 70L10. Along the centerline profile at about 100CL there is a mottled yellowish brown (10YR5/8, moist) silt loam deposit designated Silt loam 2B. This deposit is virtually identical to Silt loam 2A and may represent spoil from cleaning the Construction Stage 4 surface. Perhaps this was done in preparation for adding the next mound stage. At least six large krotovina honeycomb Construction Stage 4 (Figure 35).

Construction Stage 3 is a yellowish brown (10YR5/4, dry; 10YR5/3, moist) silt loam designated Silt loam 3B. A layer of river mussel shells clearly marks the upper limit of the deposit in the 70CL profile (Figures 34 and 35). Elsewhere the shell layer is irregular and discontinuous. Log molds indicate the mound edge at 70R20 and 70L8. Silt loam 4B, a dark brown (10YR4/4) deposit, is included here as part of Construction Stage 3 between 70 and 70L10. Because of historic disturbance, tracing its limits and articulation with other deposits is difficult. Rather than representing the base of Construction Stage 3, Silt loam 4B instead could be the upper part of Construction Stage 2.

Construction Stage 2 is a mottled dark yellowish brown (10YR4/4, dry; 10YR3/3, 10YR5/6, moist) silt loam designated Silt loam 5. It is a comparatively uniform deposit containing occasional small flecks of carbonized organic material and scattered river mussel shells.

Table 10. Dimensions of the Mound A deposits and related sediments

Deposit	Diameter (ft)	Area (ft^2)	Average Thickness (ft)	Mound Height (ft)
Premound Soil				
A1	-	-	0.3	0
B2	-	-	0.3	0
B3	-	-	0.8+	0
Construction Stage				
1	23	415	1.1	1.1
2	31	755	2.0	3.1
3	35	962	2.2	5.3
4	44	1520	2.5	7.8
5	60	2827	2.0	9.8
Plow Zone	-	-	0.5	10.3

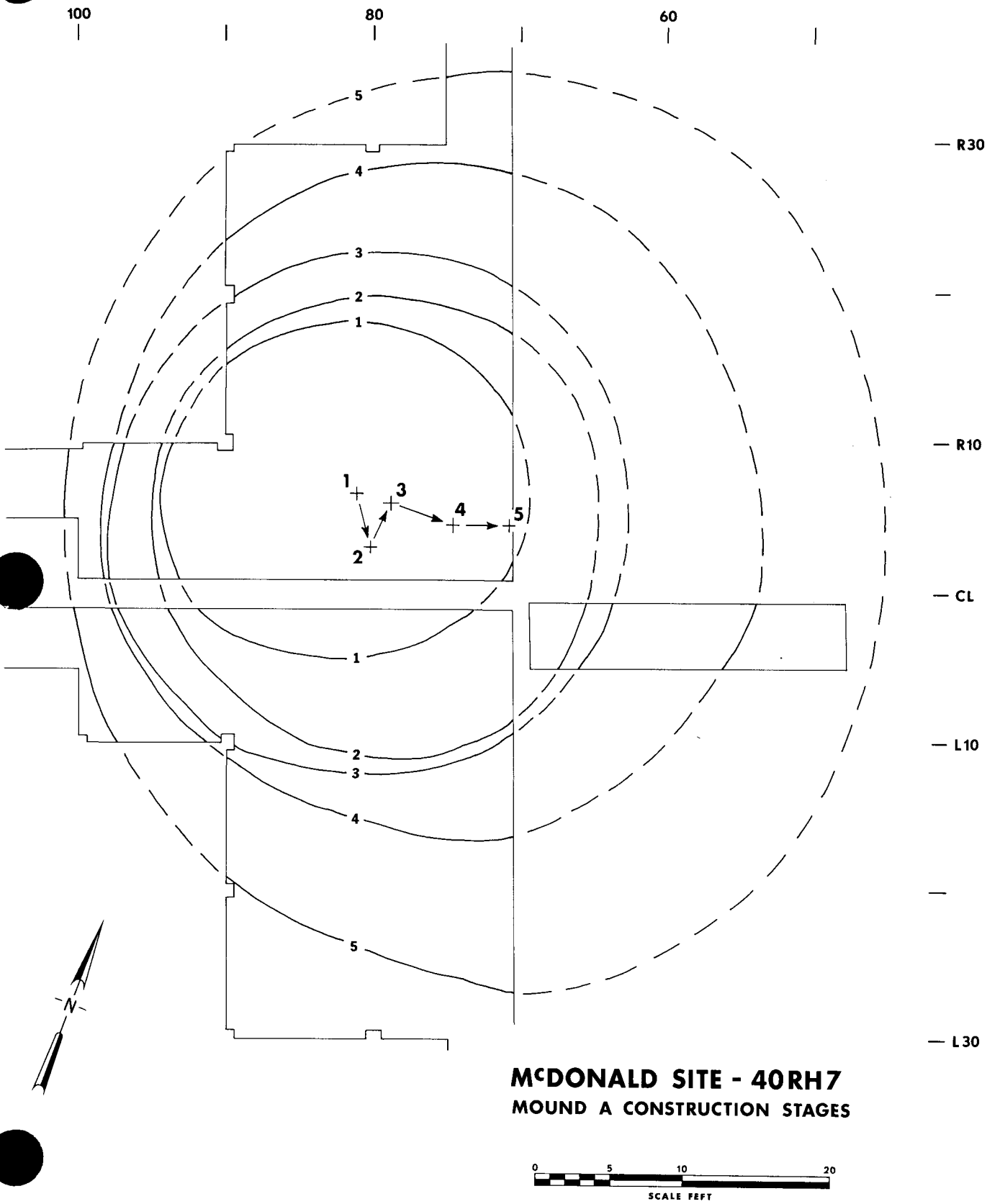


Figure 36. Plan view of Mound A construction stages showing shift in top-mound-center

Construction Stage 1 is a mottled yellowish brown (10YR5/6, dry; 10YR4/3, 10YR3/3) silt loam designated Silt loam 6. It contains occasional small flecks of carbonized organic material and infrequent root casts. Scattered and small clusters of river mussel shells indicate the surface of this Construction Stage.

The Premound Soil is an A1-B2-B3 soil horizon sequence. The A1 horizon is a dark grayish brown (10YR4/2; dry; 10YR3/2, moist) silt loam, with many distinct yellowish brown (10YR5/4, moist) mottles. Scattered charcoal, presumably from burning off the surface vegetation at the time mound building was initiated, occurs on the surface of this horizon. There is an abrupt smooth boundary to a yellowish brown (10YR5/4, dry; 10YR5/5, moist) silty clay loam B2 horizon. This horizon has moderate, medium to coarse subangular, blocky structure and a gradual smooth boundary to the B3 horizon. The B3 horizon is a yellowish brown (10YR5/8, dry; 10YR5/4, moist) silty clay loam. It has moderate coarse granular structure and contains occasional manganese and silt concretions.

Cultural Remains

Chipped stone artifacts recovered from the mound fill include a side indented projectile point, a corner notched projectile point, three projectile point fragments, one blank, and three utilized flakes. Other lithic artifacts are a center battered cobble, a discoidal, a piece of ground hematite, and a finely executed steatite pipe. Two drilled columellae also were found in the mound fill. These 15 artifacts are described in detail in Appendix I.

The artifacts came from all but Construction Stage 2. The side indented projectile point was the only artifact from Construction Stage 1. This point and the corner notched point, recovered from a disturbed deposit, are probable Woodland period styles. Construction Stage 3 contained six artifacts including the steatite pipe. It is unlikely, although possible, that this pipe would have remained unbroken in a refuse deposit and then survived intact when included in the mound fill. The pipe probably is a burial inclusion displaced by rodent activities or associated with a burial so disintegrated that it was unrecognized in the field. Two artifacts including one conch columella came from Construction Stage 4. The second drilled columella, the discoidal, and two other artifacts were found in Construction Stage 5. Both columellae and the discoidal are probable grave goods too, but an associated burial is undetermined.

Nine limestone tempered plain sherds came from the mound fill. One each of these sherds was recovered from Construction Stages 1, 3, and 4 and from disturbed deposits. Four of these sherds were from Construction Stage 5. A single limestone tempered simple stamped sherd also was found in Construction Stage 1. There were no sherds recovered from Construction Stage 2. The ceramic sample represents probable Middle Woodland or Late Woodland period types (Appendix II).

Features

Five features, a large concentration of mollusc shells and four logmolds, were recorded in the mound. Additional shell layers and logmolds were recorded in field notes or in profiles, but received no feature designations. Table 11 summarizes the feature data including three logmolds unnumbered in the field.

Table 11. Features associated with Mound A

Feature*	Description	Dimensions feet	Association (Construction Stage)
4	River mussell shells	5.3 x 4.5 x 1.0	5
5	Log mold	3.0+ x 0.6 x 0.4	1
6	Log mold	7.5 x 0.7 x 0.5	3
7	Log mold	3.8+ x 1.2 x 0.5	4
8	Log mold	4.2 x 0.8 x 0.5	4
unassigned	Log mold	profile only, diameter 0.8	2
unassigned	Log mold	profile only, diameter 1.0	3
unassigned	Log mold	profile only, diameter 1.0	3

*Features 1, 2, and 3 occur in Mound B.

A variety of aquatic pelecypods and gastropods were used in the mound especially to mark the Construction Stage 1 and 3 surfaces. Elsewhere occasional mollusc shells occurred scattered in the mound fill but no shell layers covered burials anywhere in the mound. Table 12 shows the species diversity and their distribution within the mound. The total species composition, however, is undetermined and unquantified, because only a small selected mollusc sample was identified from the mound. Most mussels were recovered as single valves suggesting that the flesh was removed before they were deposited on the mound. Enough unopened mussels with valves still attached at the hinge were found to suggest that fresh individuals also were gathered for inclusion in the mound.

Log molds occurred with the first, second, third and fourth construction stages. None were associated with the final construction stage, but plowing, erosion, and historic disturbance easily could have destroyed them. Although difficult to recognize in plan view, there is no suggestion that logs encircled any construction stages. Single logs were found respectively at the south and north edges of Construction

Table 12. Selected mollusc remains from Mound A

Taxa	Construction Stage 1	2	3	4	5
Gastropoda (acquatic)					
Campeloma sp.	x	-	x	-	-
Eurycaelon sp.	-	x	x	x	x
Io fluvialis	-	x	x	x	x
Leptoxis sp.	x	-	x	-	-
Lithasia geniculata	x	-	-	-	-
Lithasia sp.	x	x	x	x	x
Pelurocera sp.	x	x	x	x	-
Pelecypoda					
Actinonais carinata	x	x	x	x	x
Amblema sp.	-	-	x	-	-
Cyclonaias tuberculata	x	x	x	x	x
Elliptio crassodems	x	-	x	x	x
Elliptio dilatatus	x	-	x	x	x
Fusconaia sp.	x	x	x	x	x
Lampsilis ovata	-	-	-	-	x
Lampsilis sp.	-	x	x	x	x
Megalonaias gigantea	-	-	x	-	-
Obliquaria reflexa	-	-	-	x	-
Obovaria olivaria	x	-	x	-	x
Plethobasis sp.	x	x	x	x	x
Quadrula pustulosa	-	-	-	x	-

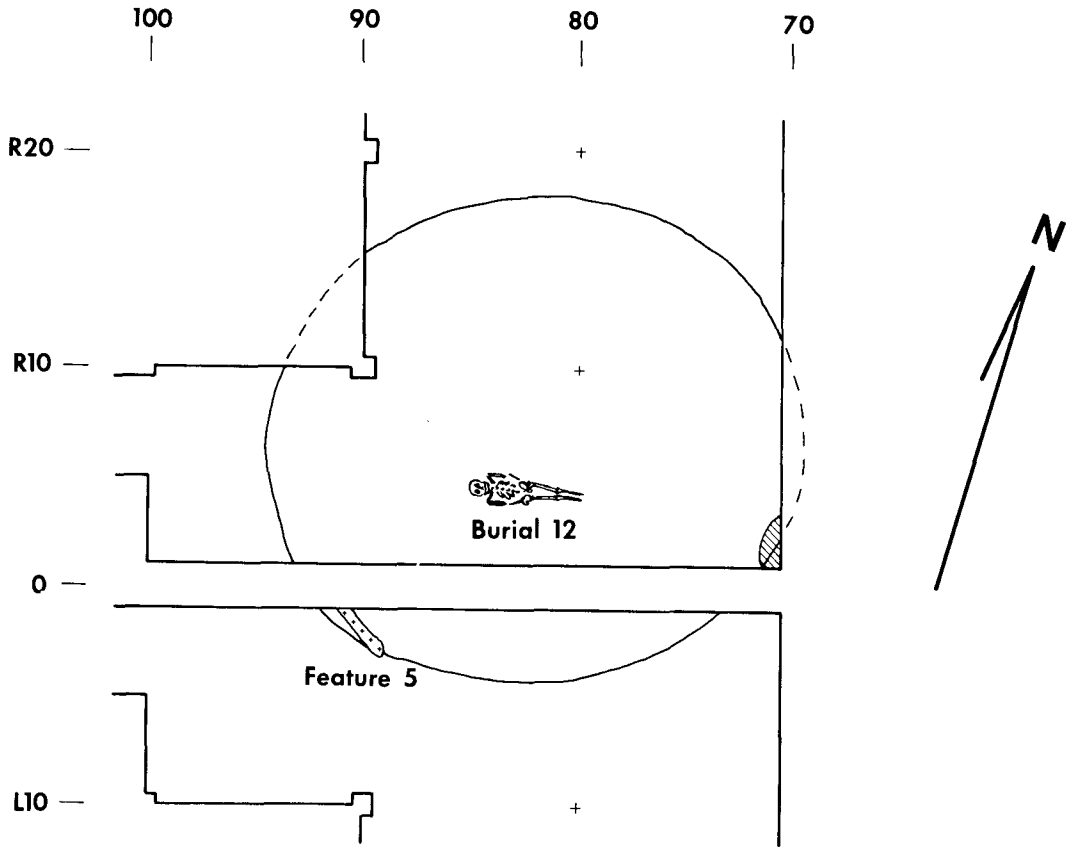
Stages 1 and 2 (Figures 37 and 38). Two logs occurred at the southeast side of Construction Stage 3, while a single log was situated on the north edge of this stage (Figure 39). Construction Stage 4 had two logs lying butt to butt at the southeast mound periphery (Figure 40). Most examples were shorter than 8.0 feet long and smaller than about 1.0 feet in diameter. The outside half inch of the logs were charred, but there was no fired earth or ash in their immediate vicinity. This suggests that burning to remove the bark and outer wood probably occurred elsewhere. The logs probably were placed on the mound as low retainers against erosion.

Burials

Despite the size of Mound A, there were only ten burials recovered from the excavation. Burials 3, 5, 10, and 11 came from Construction Stage 5. Burials 4, 6, and 7 were associated with Construction Stage 4. Burials 8 and 9 were found in Construction Stage 3, and Burial 12 came from Construction Stage 1. No burials were recovered from Construction Stage 2. (Burials 1 and 2 are from Mound B.) Figures 37 through 41 show the plan view and associated features and burials for each construction stage. Except for Burial 12 none of the skeletal remains were well preserved thus limiting morphological and mortuary analyses. Only single primary inhumations are represented in the sample, although it is possible that Burials 8 and 9 were interred together. Burials 3, 4, 8, 9, and 12 contained grave goods.

Burial 12 initiated mound construction and contained the most abundant and elaborate grave goods recovered from the site. It is the only burial from Mound A where body and grave preparation are obvious and where sufficient grave goods were found to recognize patterns in their arrangement. Mound construction began by burning the surface vegetation and laying Burial 12, an adult male 30-35 years old, extended on the back with the arms to the sides on the prepared surface. Nearly 2500 items including 123 lithic artifacts and chipping debris, 66 worked and unworked animal bones, 6 conch columellae beads, and 2231 olivella beads were placed in the grave. The artifact arrangements indicate probable burial garments, personal ornaments worn by the individual, and tool caches placed over and around the body.

Adjacent to the right parietal was a group of 6 deer and turkey bone awls and pins, 39 deer rib fragments, 71 unworked flakes, a drill fragment, and a Copena-like projectile point. This artifact group partially covered a large Y-shaped antler object which may have been part of a headdress. Beneath the artifacts were numerous olivella beads. Adjacent to the right maxilla was a large cyrptocrystalline silica nodule. A large anvil stone with one surface pecked and battered to a shallow depression was approximately 2.0 feet above and to the right of the skull (Figure 42). Two large drilled columellae beads, laying end to end, paralleled the left humerus, while a third drilled columella paralleled the right humerus and a fourth drilled columella covered the lower right ribs (Figure 43). Numerous olivella beads were scattered over the thoracic region suggesting a garment or shroud.



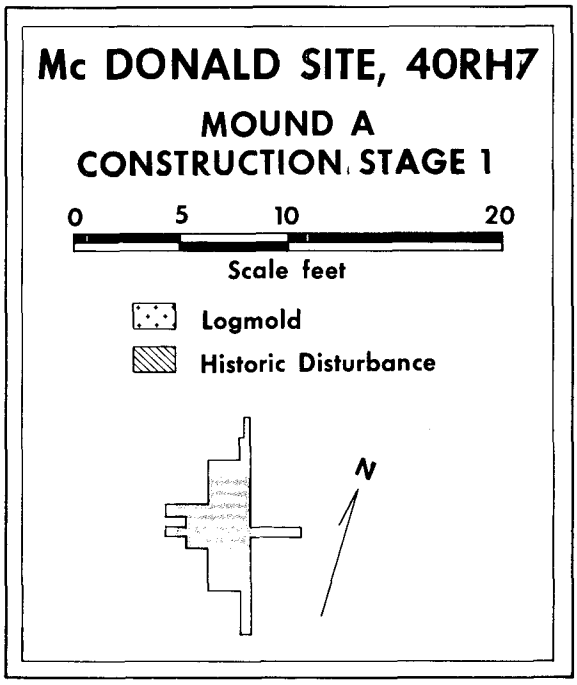


Figure 37. Mound A Construction Stage 1 excavation plot with associated features and burials

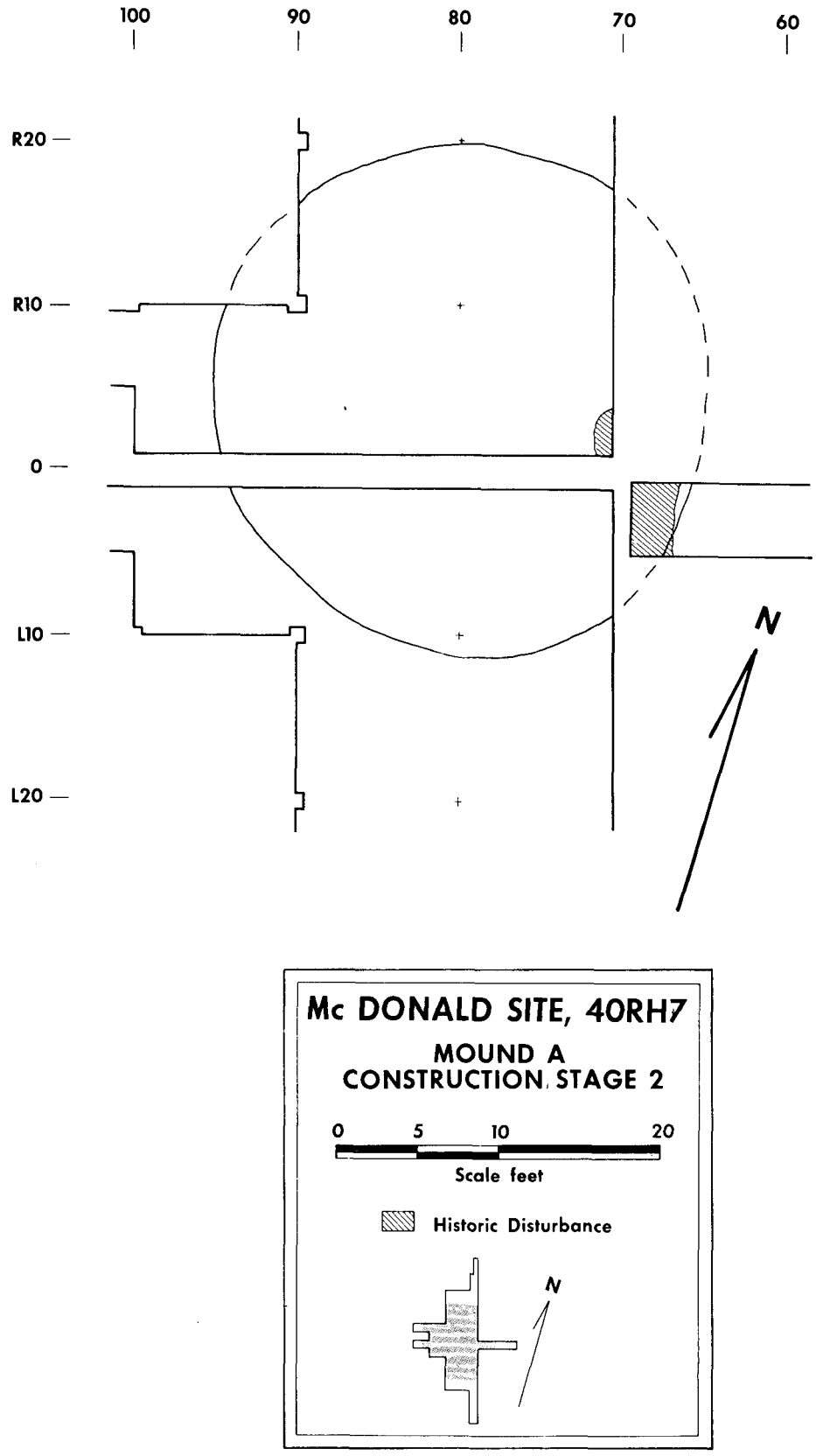


Figure 38. Mound A Construction Stage 2 excavation plot with associated features and burials

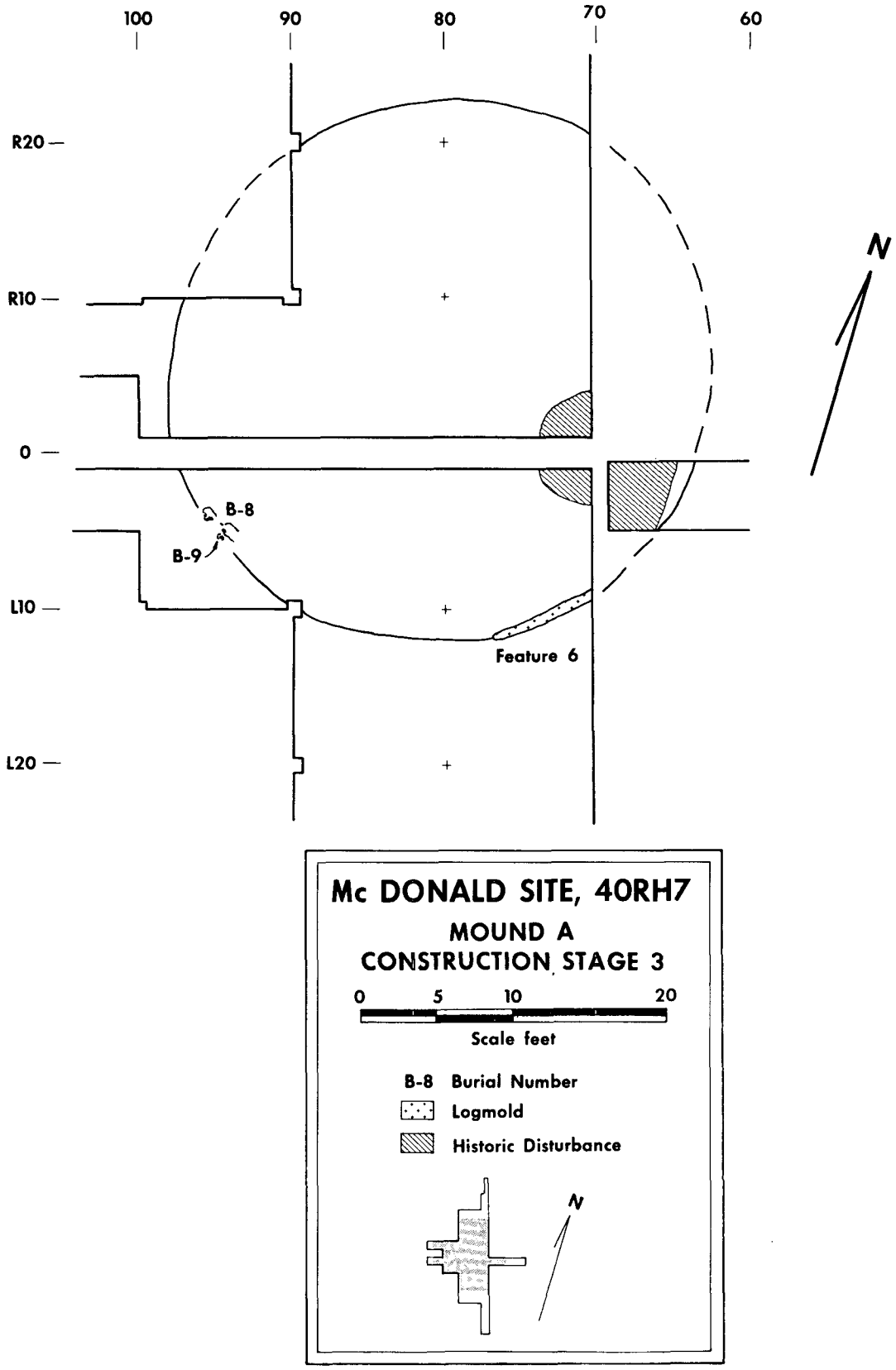


Figure 39. Mound A Construction Stage 3 excavation plot with associated features and burials

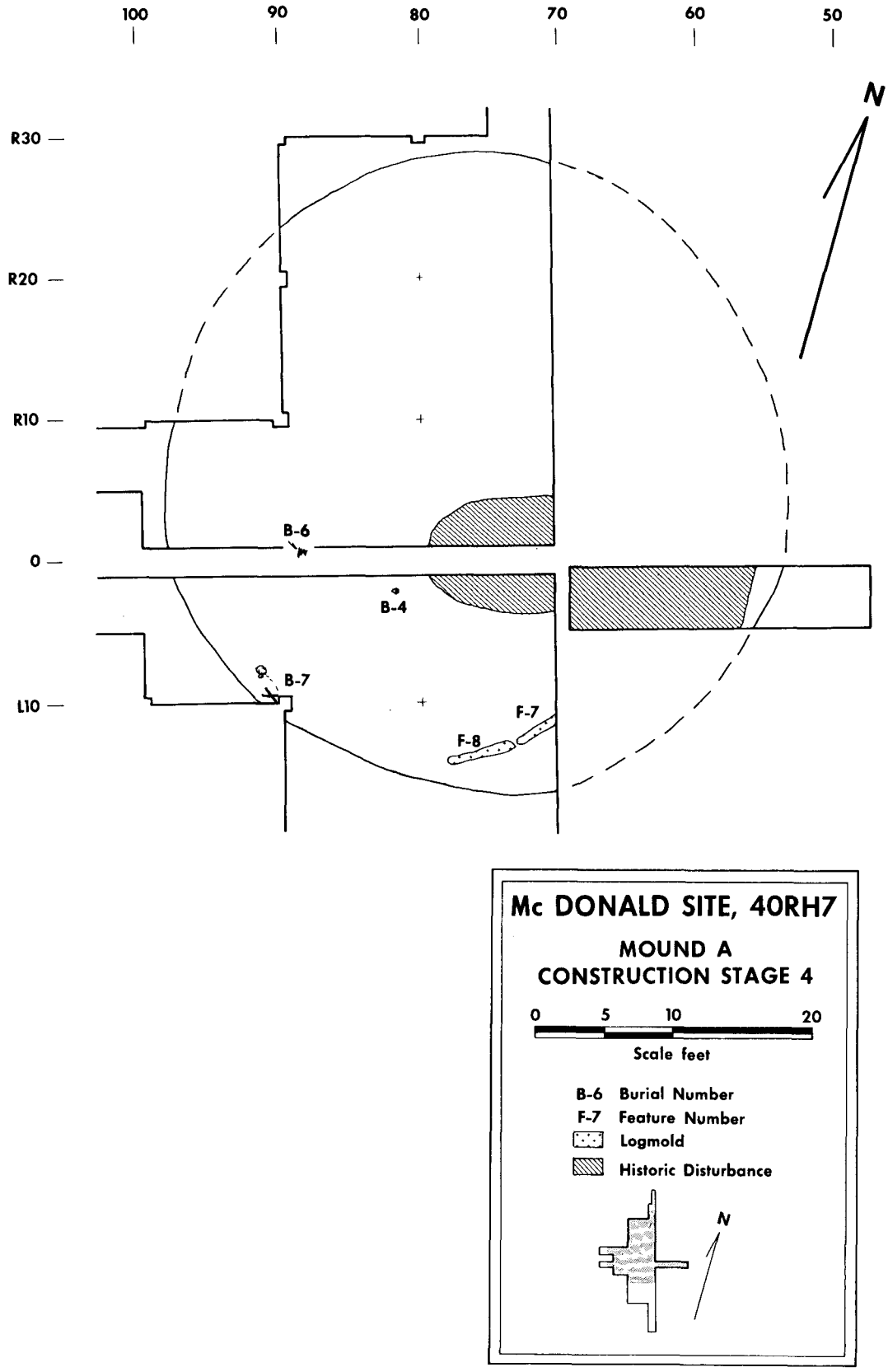


Figure 40. Mound A Construction Stage 4 with associated features and burials

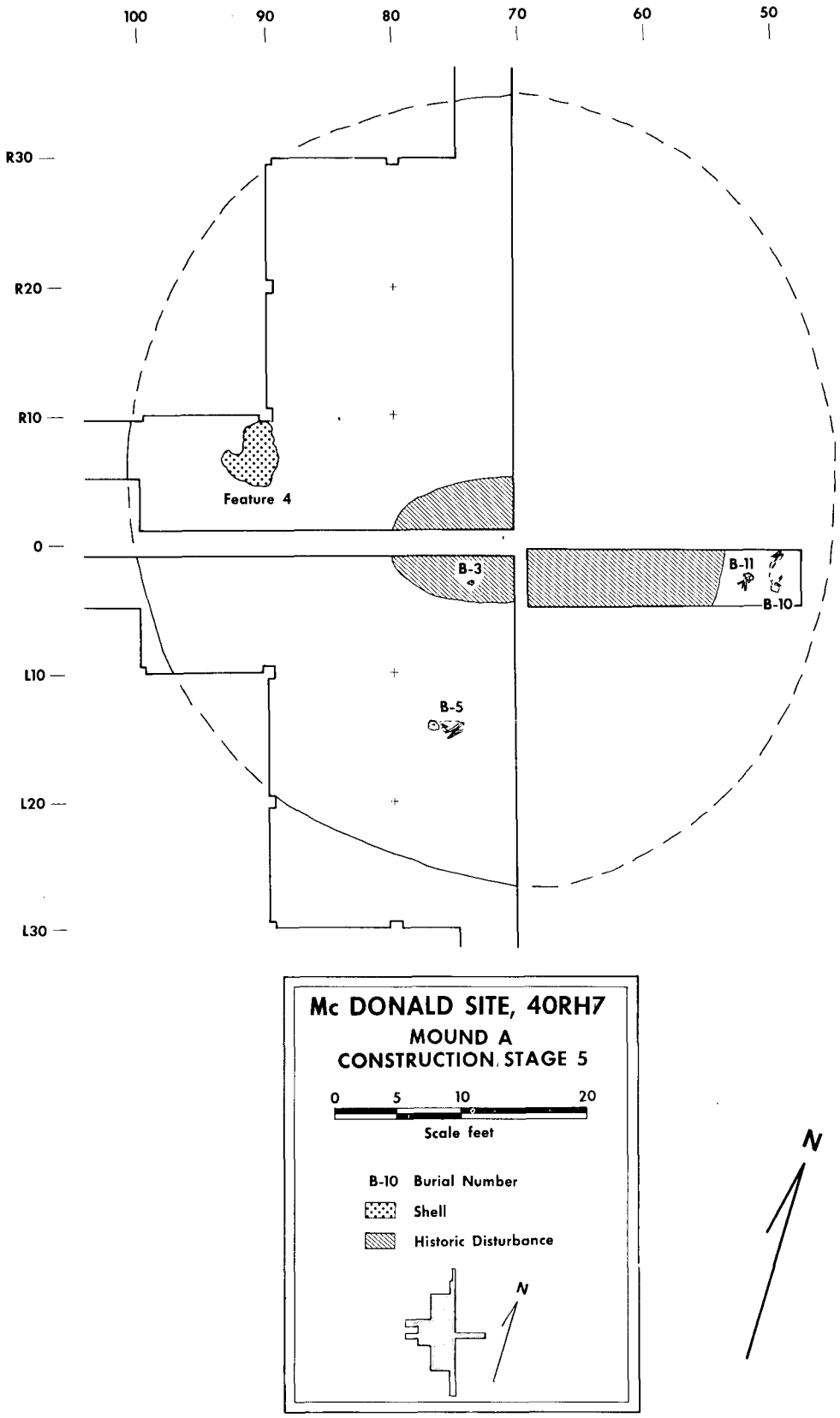


Figure 41. Mound A Construction Stage 5 excavation plot with associated features and burials

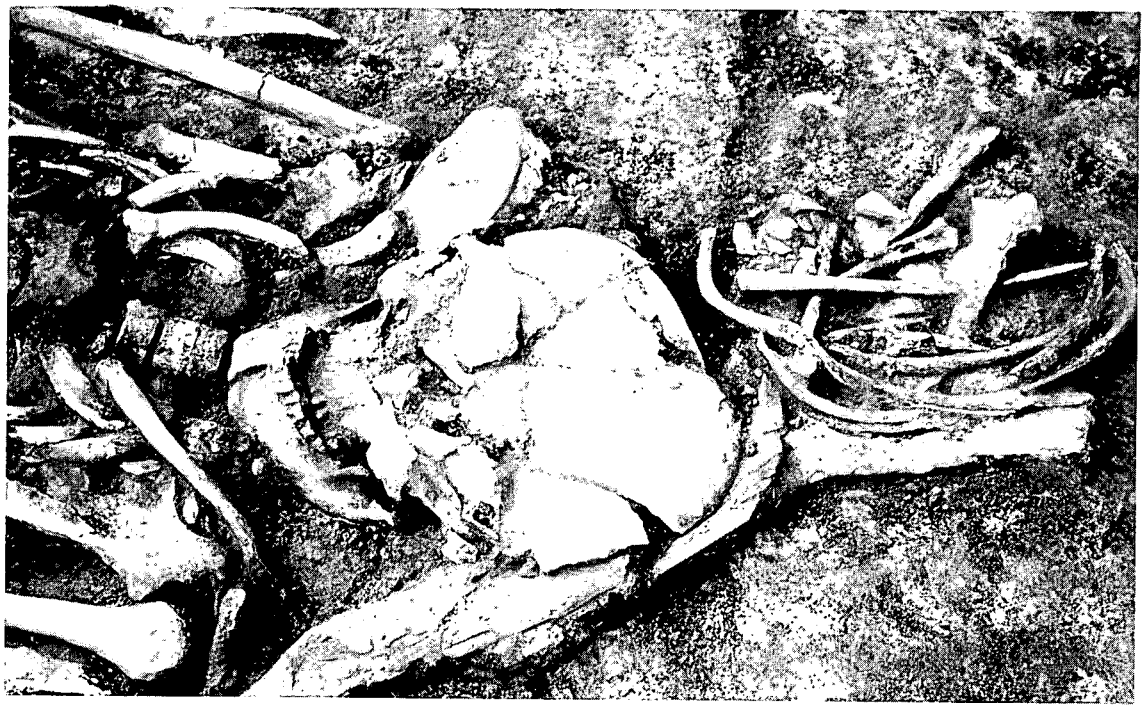


Figure 42. Detail of Burial 12, showing artifact caches above the skull, view to the south

Figure 43. Detail of Burial 12 showing artifacts in the thoracic area, view to the south

A second major artifact group was scattered over, between, and to either side of the upper legs roughly between the knees and pelvis. Among the associated objects were four small triangular projectile points, a large lanceolate knife or projectile point, a perforator, 14 cryptocrystalline flakes, a small celt, two hammerstones, a large unworked quartzite cobble, one cryptocrystalline silica and eight graphite pebbles. There also were two probable bone awl fragments, two rodent incisors, a pair of large drilled columellae beads, and 13 river mussel shells, two of which were drilled and one of which was covered with red ochre. A large number of olivella beads were scattered beneath the lower right leg and a large barrel-shaped discoidal occurred adjacent to the lower left leg. A large unmodified river cobble occurred near the right foot.

The burial and associated grave goods either were placed within a log crib or a crib was built around the individual. Organic stains and charcoal oriented perpendicular to the body indicate such a covering or crib. Slight firing of the surrounding soil, scattered charcoal, and heat discoloration of several lithic artifacts near the feet indicate that the crib was burned soon after or in conjunction with the interment. A second possibility is that the crib was constructed with still smouldering logs.

Once burial 12 was interred it was covered with Construction Stage 1 and capped with a layer of river mussel shells. Construction Stage 2 was added without further burials. Internal mound slumping indicates that Burial 12 and its container deteriorated and collapsed some time after Construction Stage 3 was added to the mound. Despite the elaborate disposal of Burial 12 comparatively few more individuals were buried in the mound. Even allowing for additional burials destroyed by historic disturbance and the possible complete deterioration of other interments it is still suggested that the number of graves in Mound A may not have greatly exceeded ten individuals.

Burial 3

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - 6-7 years
sex - undeterminate
pathologies - none observed

Preservation: extremely poor--only four teeth and two small skull fragments were recovered for laboratory analysis

Articulation: articulated

Position: flexure - indeterminate
arms - indeterminate
head - indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: (Figure 44)

5 Drilled conch columellae beads found at the probable neck region, suggesting that the artifacts represent a necklace.

Catalog Number	Length (mm)	Width (mm)	Perforation Diameter (mm)
3-1/A	27	7	-
3-2/A	54	13	4
3-3/A	45	14	3
3-4/A	47	12	4

1 Shell disk bead, probably cut from conch wall; diameter 18 mm, thickness 4 mm, perforation 6 mm; recovered in neck region.

Comment: Burial 3 was disturbed by both a rodent burrow and a relic collector's pit.

Burial 4

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - infant
sex - indeterminate
pathologies - none observed
observations - deciduous right canine shows moderate shovel-shaping and unerupted loose adult incisor shows lingual shovel-shaping with a tendency towards buccal shovel-shaping

Preservation: extremely poor--only miscellaneous skull fragments, a maxilla fragment with two teeth, and four loose teeth were recovered for laboratory analysis

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Figure 44. Grave goods associated with Burials 3 and 8 (all specimens actual size)
a-c drilled conch columellae beads (Burial 3)
d shell disk bead (Burial 3)
e-v Hamilton-like projectile points (Burial 8)

Note: specimens coated white for photography.

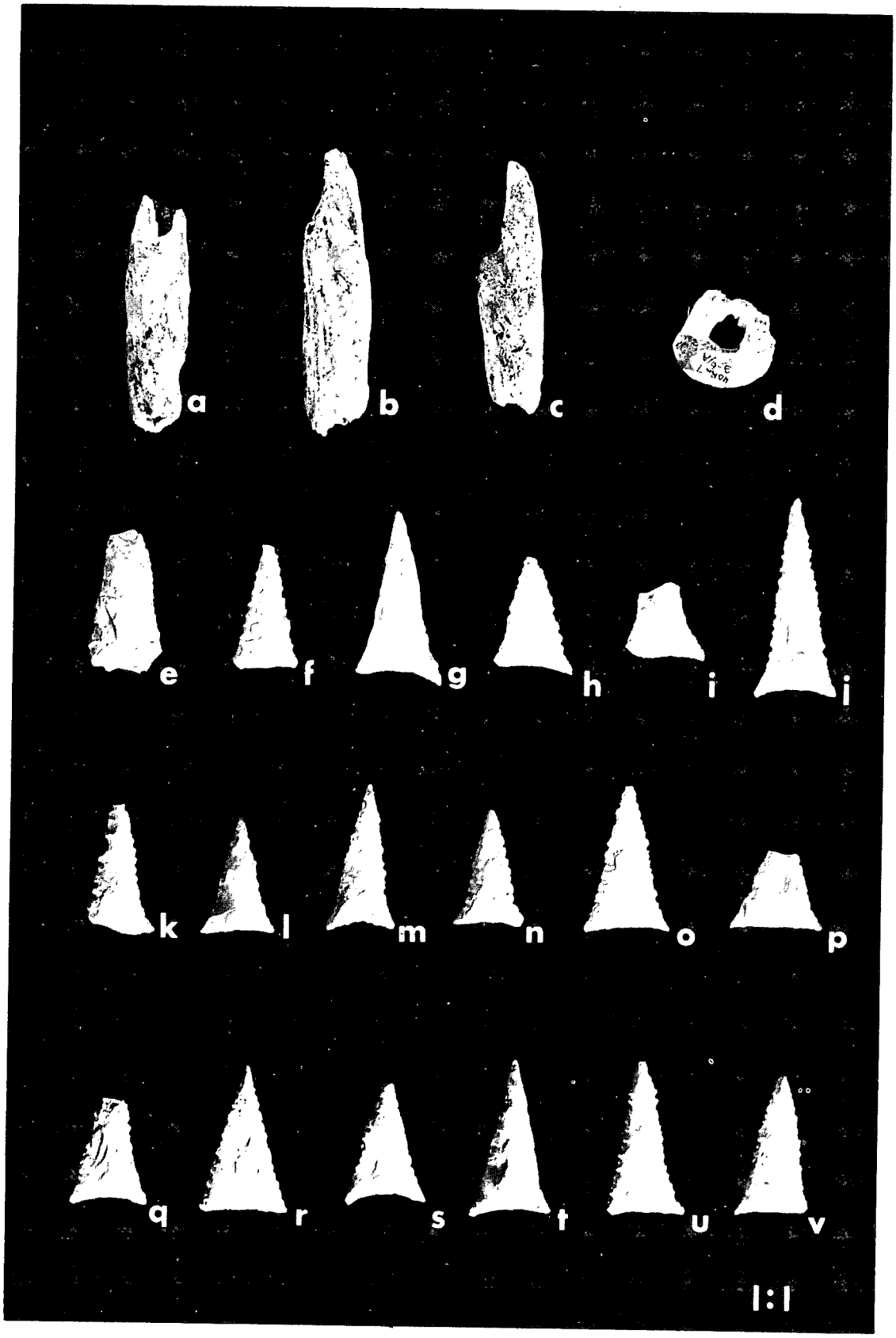


Figure 44

Grave Goods:
1 Badly fragmented river mussel shell (species undetermined). The occurrence of this specimen near the skull suggests its possible intentional inclusion with the burial.
1 Conch columella bead fragment, found approximately 1.5 feet north of the skull and teeth; length 88 mm, diameter 17 mm, perforation 3 mm.

Comment: A rodent burrow had disturbed the burial.

Burial 5

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - 18-25 years
sex - female
pathologies - dental caries on right and left lower first molars

Preservation: poor

Articulation: articulated

Position: flexure - flexed
arms - folded on chest
head - looking straight ahead

Deposition: on right side

Orientation: head to west

Grave Goods: none

Burial 6

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - probable adult
sex - indeterminate
pathologies - none observed

Preservation: extremely poor--five long bone fragments define the burial, but they were so deteriorated that none were recovered for laboratory analysis.

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 7

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: probably placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - 35-45 years
sex - indeterminate
pathologies - none observed

Preservation: very poor

Articulation: indeterminate

Position: flexure - indeterminate
arms - indeterminate
head - looking straight

Deposition: on right side

Orientation: head to northwest

Grave Goods: none

Burial 8

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: placed on the premound surface near edge of Construction Stage 2

Individuality: single interment

Demography: age - 14-17 years
sex - indeterminate
pathologies - none observed

Preservation: very poor

Articulation: indeterminate

Position: flexure - possibly extended
arms - indeterminate
head - indeterminate

Deposition: on back

Orientation: head to northwest

Grave Goods: Because Burials 8 and 9 were found so near one another, it is difficult to determine which of the two individuals had the grave goods described below. Reference to artifact placement is in terms of Burial 8.

18 Hamilton-like projectile points (Catalog Number 8-1/A through 9-12/A and 8-15/A through 8-20/A (Figure 44). Two specimens came from the neck and shoulder area; two specimens were found in the thoracic area; five specimens came from the abdominal and pelvic area; and four specimens were recovered near the right femur. The placement of five additional specimens is undetermined.

2 Projectile point tip fragments (Catalog Numbers 8-13/A and 8-14/A) whose placement is undetermined.

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
8-1/A	27	14	4
8-2/A	23	13	3
8-3/A	30	16	4
8-4/A	21	15	3
8-5/A	--	15	4
8-6/A	36	16	4
8-7/A	--	--	4
8-8/A	21	14	4
8-9/A	26	13	4
8-10/A	21	14	4
8-11/A	27	16	3
8-12/A	--	16	3
8-13/A	--	--	4
8-14/A	--	--	1
8-15/A	--	14	3
8-16/A	27	17	3
8-17/A	21	15	3
8-18/A	28	15	4
8-19/A	28	15	3
8-20/A	25	14	3

Burial 9

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Indivudality: single interment

Demography: age - adult
sex - indeterminate
pathologies - none observed

Preservation: very poor

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: see Burial 8

Burial 10

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: Placed on the premound surface along the edge of Construction Stage 4 and covered with soil. A portion of the existing mound was scooped out for burial.

Individuality: single interment

Demography: age - 25-35 years
sex - probable male
pathologies - none observed

Preservation: poor

Articulation: articulated

Deposition: on right side

Position: flexure - semiflexed
arms - indeterminate
head - looking straight

Orientation: head to the south

Grave Goods: none

Burial 11 (Figure 45)

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - 9-10 years
sex - indeterminate
pathologies - dental caries on occlusal surface of each first adult molar
observations - upper adult central incisors exhibit pronounced lingual shovel-shaping; the lateral incisors are slightly shovel-shaped

Preservation: poor

Articulation: articulated

Deposition: on right side

Position: flexure - flexed
arms - hands to face
head - looking straight

Orientation: head to northeast

Grave Goods: none

Burial 12 (Figure 46)

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on prepared premound surface; log crib placed over the body; body and crib covered with river mussel shells, followed by approximately 1.1 feet of earth fill

Individuality: single interment

Demography: age - 30-35 years
sex - male
pathologies - ear exostosas in the right auditory canal
stature - 5'5" (166 cm) to 5'8" (173 cm)
observations - upper lateral incisors exhibit pronounced shovel-shaping; the central incisors are slightly shovel shaped. Xiphoid foramen.

Preservation: very good

Articulation: articulated

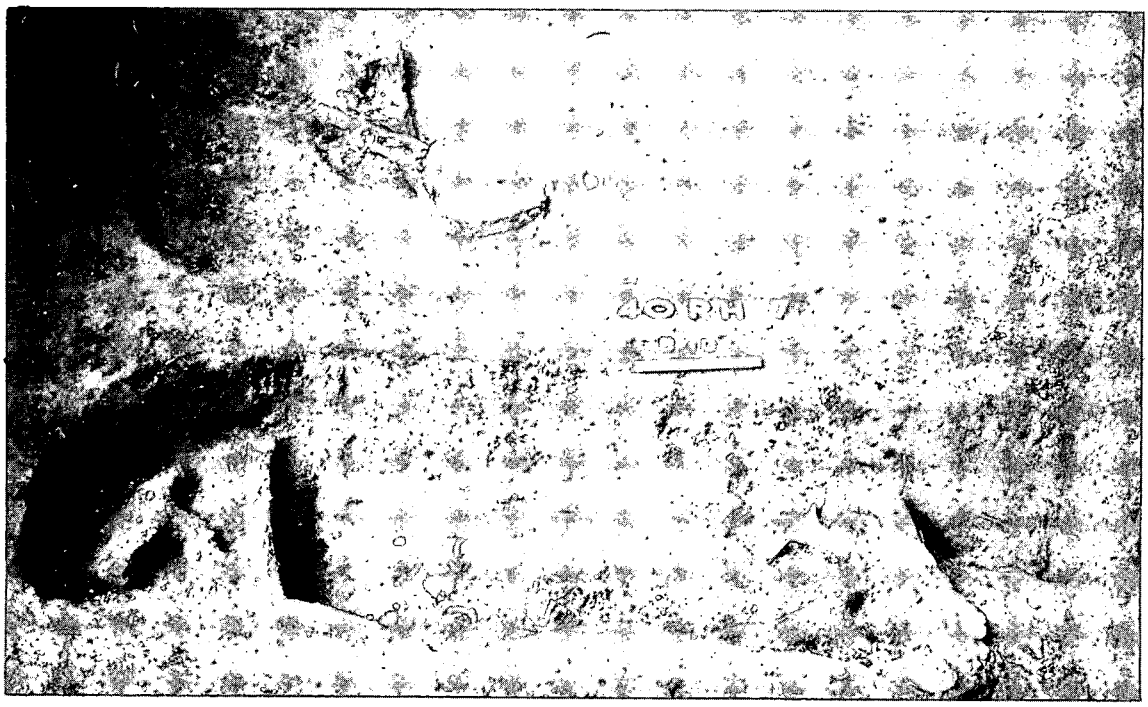


Figure 45. Burials 10 and 11, Mound A, view to the west

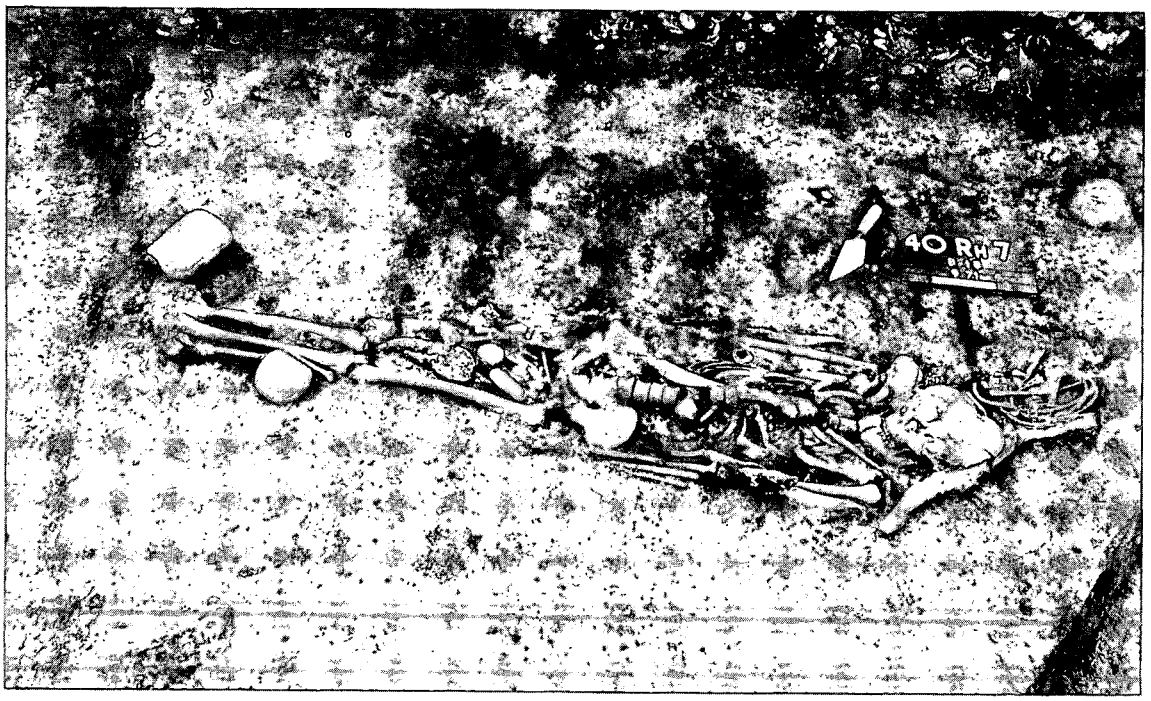


Figure 46. Burial 12, Mound A, view to the south

Position: flexure - extended
arms - along the sides
head - looking straight

Deposition: on back

Orientation: head to west

Grave Goods:

1 Hamilton triangular projectile point, tip broken; length 18 mm, width 17 mm, thickness 4 mm; found beside distal end of the right femur (Figure 47a).

1 Hamilton projectile point; sides have been retouched to form a sharp narrow tip; possibly utilized as a drill or perforator; length 24 mm, width 15 mm, thickness 5 mm; found overlying the proximal right femur (Figure 47c).

1 Hamilton projectile point; length 16 mm, width 16 mm, thickness 3 mm; recovered adjacent to the proximal right femur and beneath the drill described below (Figure 47b).

1 Drill or perforator; expanding base, narrow pointed bit, tip broken; length 38 mm, width 24 mm, thickness 10 mm; recovered adjacent to proximal right femur (Figure 47d).

1 Lanceolate projectile point, tip acute, sides convex, base slightly concave; plano-convex cross section percussion flaked overall with fine pressure retouch along the edges; resembles the Copena Type (Webb and DeJarnette, 1942); length 62 mm, width 27 mm, thickness 5 mm; associated with bone tool cache at top of the skull (Figure 47e).

1 Lanceolate knife or projectile point, base rounded, tip acute, percussion flaked overall with pressure retouch along the edges; cross section biconvex; length 84 mm, width 35 mm, thickness 10 mm; found overlying the mid-shaft of the right femur (Figure 47f).

14 Cryptocrystalline silica flakes; two exhibit use retouch along one edge; range of length 5-40 mm, range of width 3-7 mm, range of thickness 1-4 mm; found scattered over upper right femur.

1 Celt, sides diverging, bit and poll rounded; length 93 mm, width 40 mm, thickness 16 mm, material, greenstone; recovered to the medial side of the proximal left femur (Figure 47g).

1 Worked flake, retouch along one edge; length 29 mm, width 21 mm, thickness 11 mm; recovered 1.5 feet to the right of the right humerus.

1 Cylendrical sandstone hammerstone; battered on one end; length 49 mm, diameter 38 mm; found between the femurs and 0.3 feet distal of the coccyx.

1 Quartzite hammerstone; water rolled cobble shows battering along one edge; length 63 mm, width 49 mm, thickness 37 mm; recovered between the upper portion of the femurs and 0.5 feet distal of the coccyx.

1 Large cyrptocrystalline silica nodule; 6-8 flakes removed along the longitudinal axis; length 139 mm, width 77 mm, thickness 58 mm; recovered adjacent to the right cheekbone (Figure 48).

1 Anvil stone; pecked and battered depression on one surface; length 170 mm, width 162 mm, thickness 132 mm; recovered 2.0 feet right of the skull.
1 Quartzite barrel-shaped discoidal; concave top and bottom; height 80 mm, diameter 107 mm, concavity 3 mm deep, found beside the left fibula (Figure 49).
1 Large unworked water rolled cobble; length 168 mm, width 130 mm, height 113 mm; weight 6 kg; found beside the right foot.
1 Quartzite cobble; length 32 mm, width 32 mm, thickness 19 mm; found medial to the proximal left femur.
1 Quartzite cobble; length 88 mm, width 54 mm, thickness 39 mm; found 2.0 feet lateral of the left fibula.
1 Small water rolled flint nodule; length 42 mm, width 36 mm, thickness 19 mm; found overlying the proximal right femur.
8 Small unworked sperical graphite pebbles; all approximately the same size with an average diameter of 6 mm; recovered medially to the mid-shaft of the right femur.
1 Fragmented piece of green shist; found above and to the right of the skull.
1 Bone awl; made from turkey (Meleagris gallopavo) left distal tarsometatarsus; length 83 mm, width 18 mm; associated with bone tool cache adjacent to the right parietal (Figure 50c).
1 Bone awl; made from turkey (Meleagris gallopavo) right distal tibiotarsus; length 117 mm, width 19 mm; associated with bone tool cache adjacent to right parietal (Figure 50b).
1 Bone awl; made from turkey (Meleagris gallopavo) right proximal tarsometatarsus; length 89 mm, width 22 mm; associated with bone tool cache adjacent to the right parietal (Figure 50e).
1 Bone awl; made from turkey (Meleagris gallopavo) right distal tibiotarsus; length 117 mm, width 16 mm; associated with bone tool cache at top of the skull (Figure 50a).
1 Splinter awl (probably Odocoileus virginianus); narrow splinter cut from long bone shaft shows use wear on the proximal and medial surfaces; length 201 mm, width 12 mm, thickness 8 mm; associated with cache of bone tools at the top of the skull (Figure 50d).
1 Bipointed bone awl or pin; ground and polished overall; length 99 mm, diameter 7 mm; associated with cache of bone tools at the top of the skull (Figure 50g).
39 Deer rib fragments (probably Odocoileus virginianus); found surrounding bone tool cache above and to the right of the skull.
72 Flakes (70 cyrptocrystalline, 2 quartz); all are unutilized except for one specimen which is a perforator or drill fragment; associated with cache of bone tools at the top of the skull.
359 Olivella shell beads; scattered near the right parietal and beneath the bone tool cache.
1 Antler object (probably elk, Cervus canadensis); the rack and two tines have been cut, ground, and polished to form a thin Y-shape; length of shaft 415 mm, length of right branch 121 mm, length of left branch 126 mm; width of shaft 51 mm; thickness 1-2 mm; found beneath the skull and over the left shoulder (Figure 51).

Figure 47. Selected chipped and ground stone artifacts associated with Burial 12 (all specimens actual size)

a-c Hamilton triangular projectile points
d drill or perforator
e Copena-like projectile point
f lanceolate knife or projectile point
g celt

Note: specimens coated white for photography.

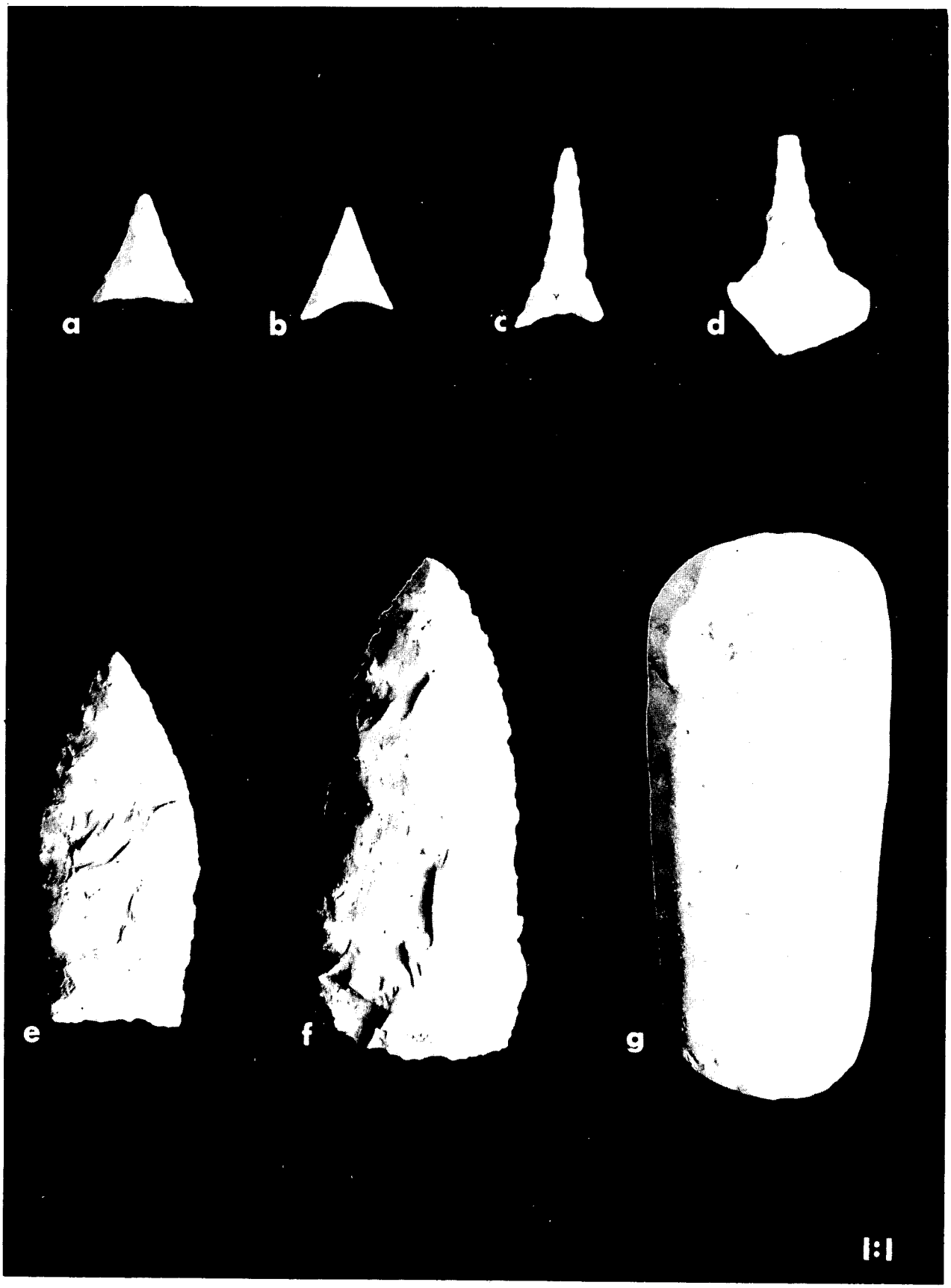


Figure 47

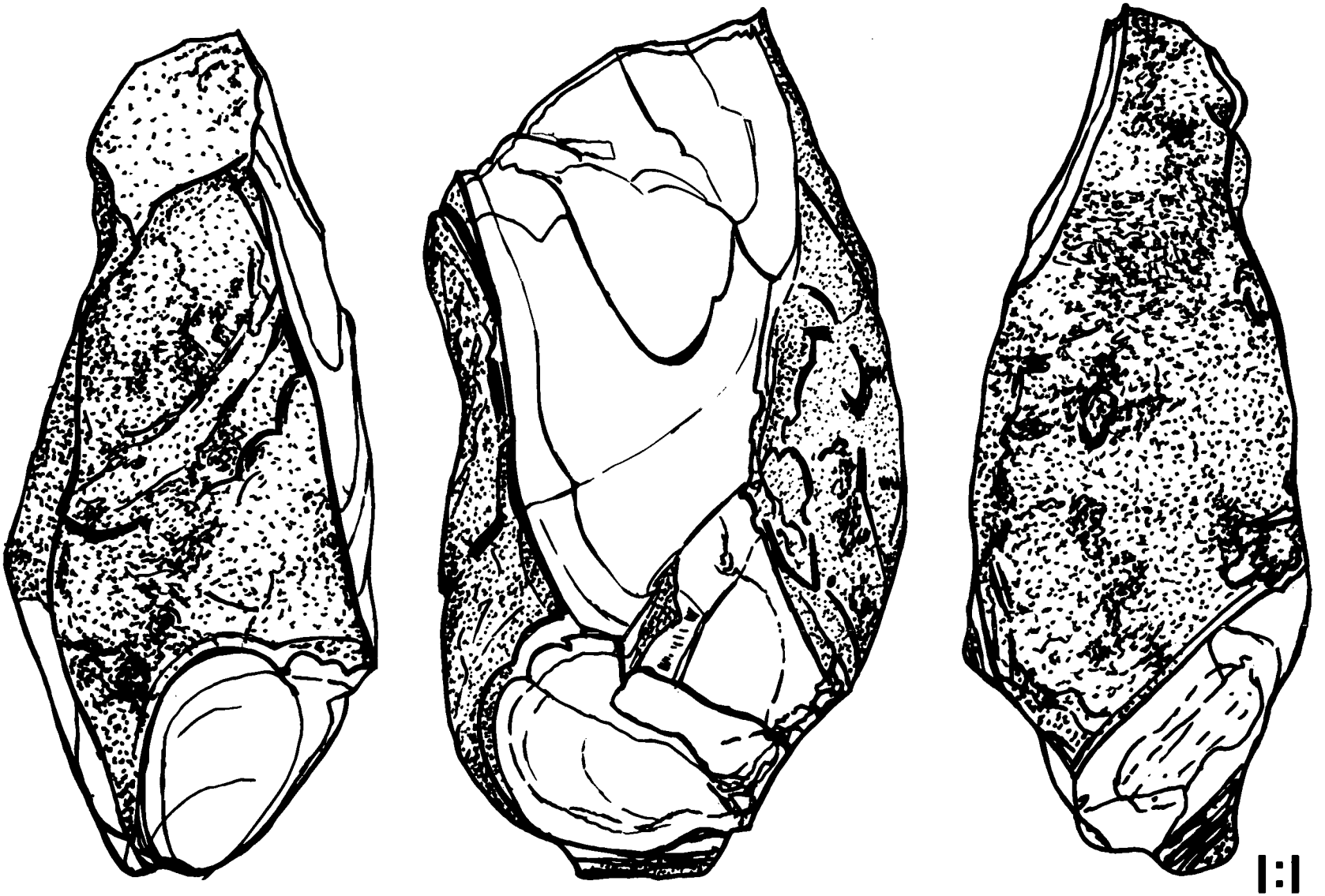


Figure 48. Cryptocrystalline silica core associated with Burial 12 (actual size)

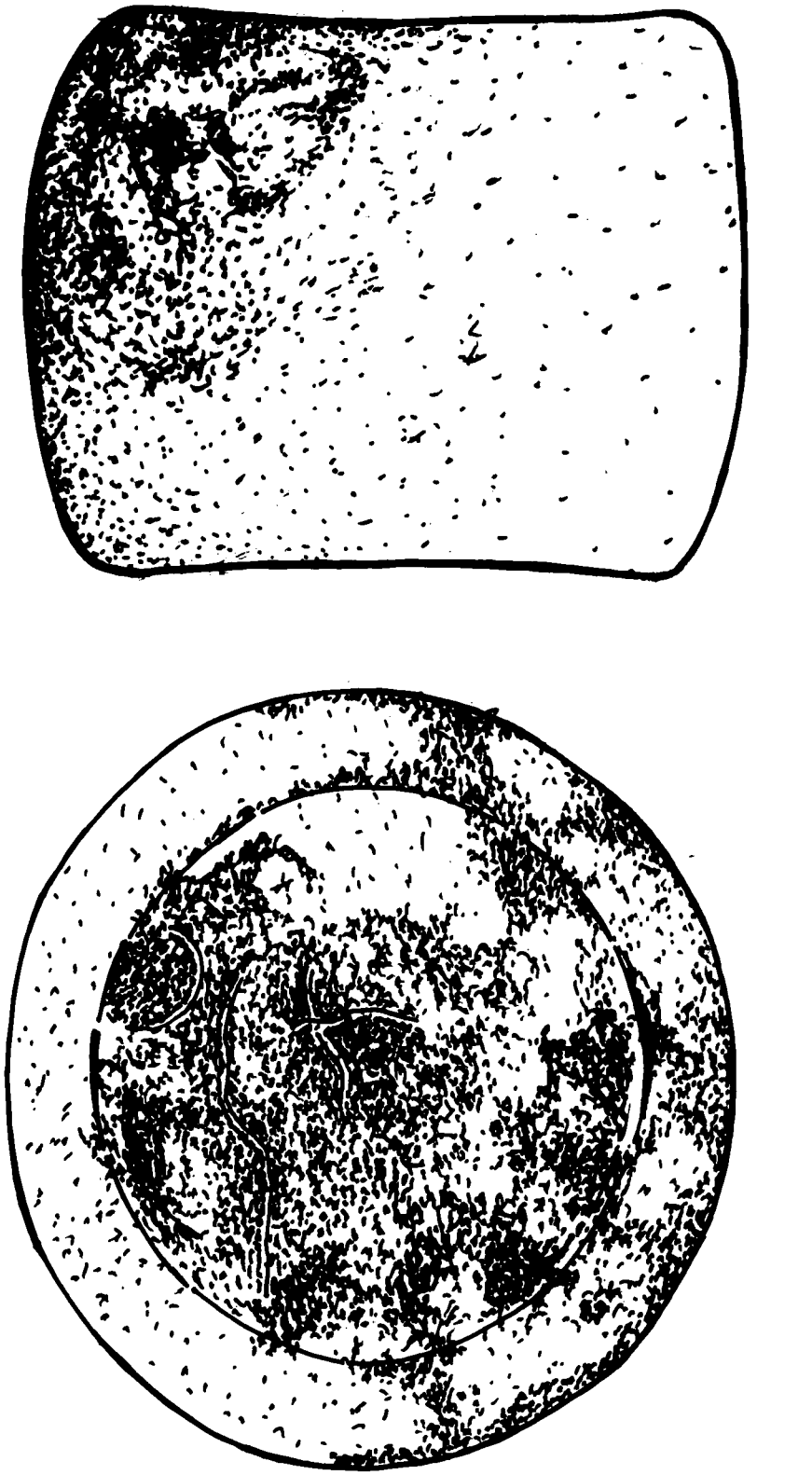


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Figure 49. Barrel-shaped discoidal associated with Burial 12 (actual size)

Figure 50. Selected bone tools associated with Burial 12 (all specimens actual size)

a-c Turkey bone awls
d Splinter awl
e Turkey bone awl
f Bone awl
g Bipointed awl or pin
h Splinter awl

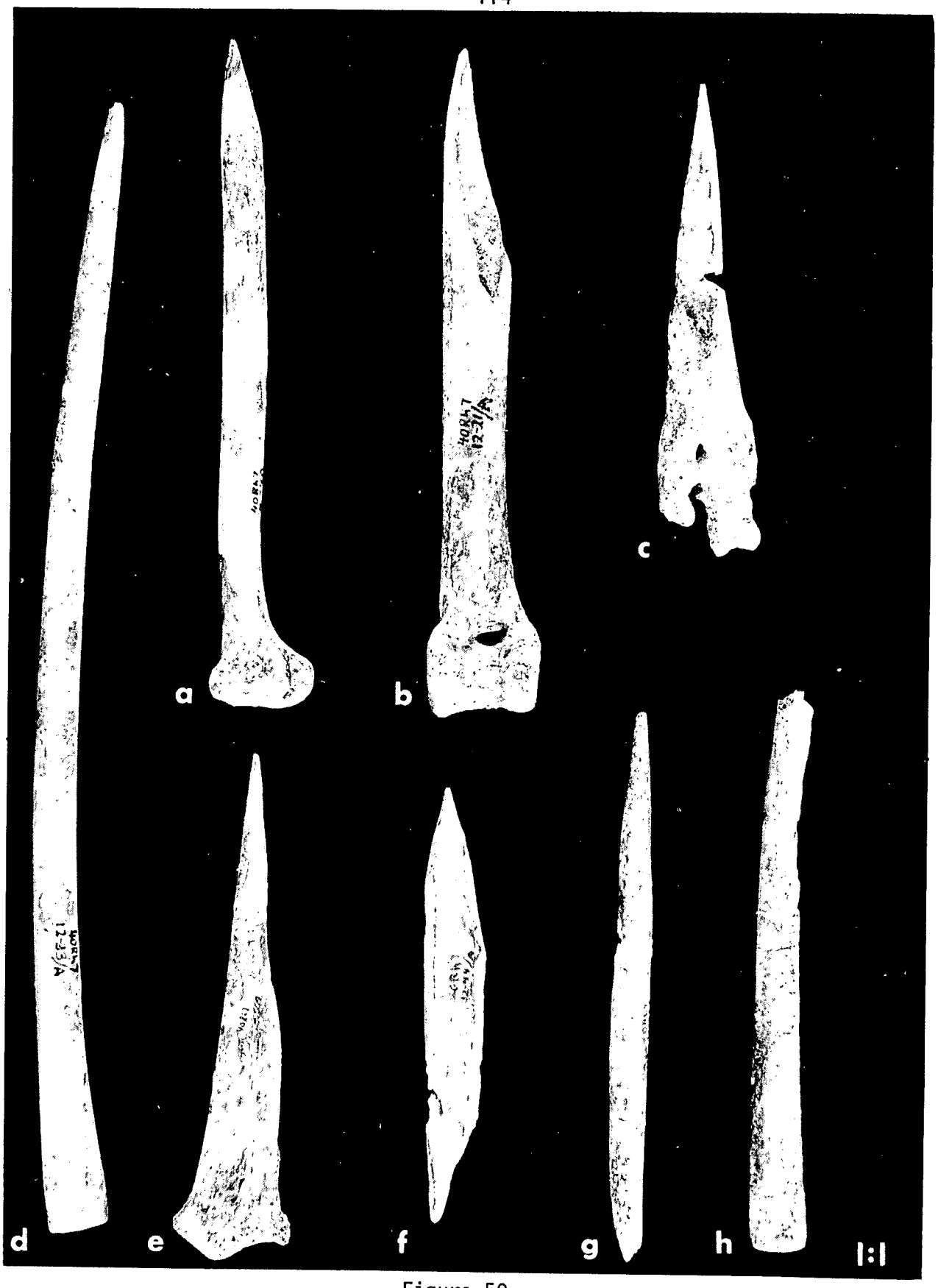


Figure 50

Figure 51. Y-shaped antler artifact associated with Burial 12

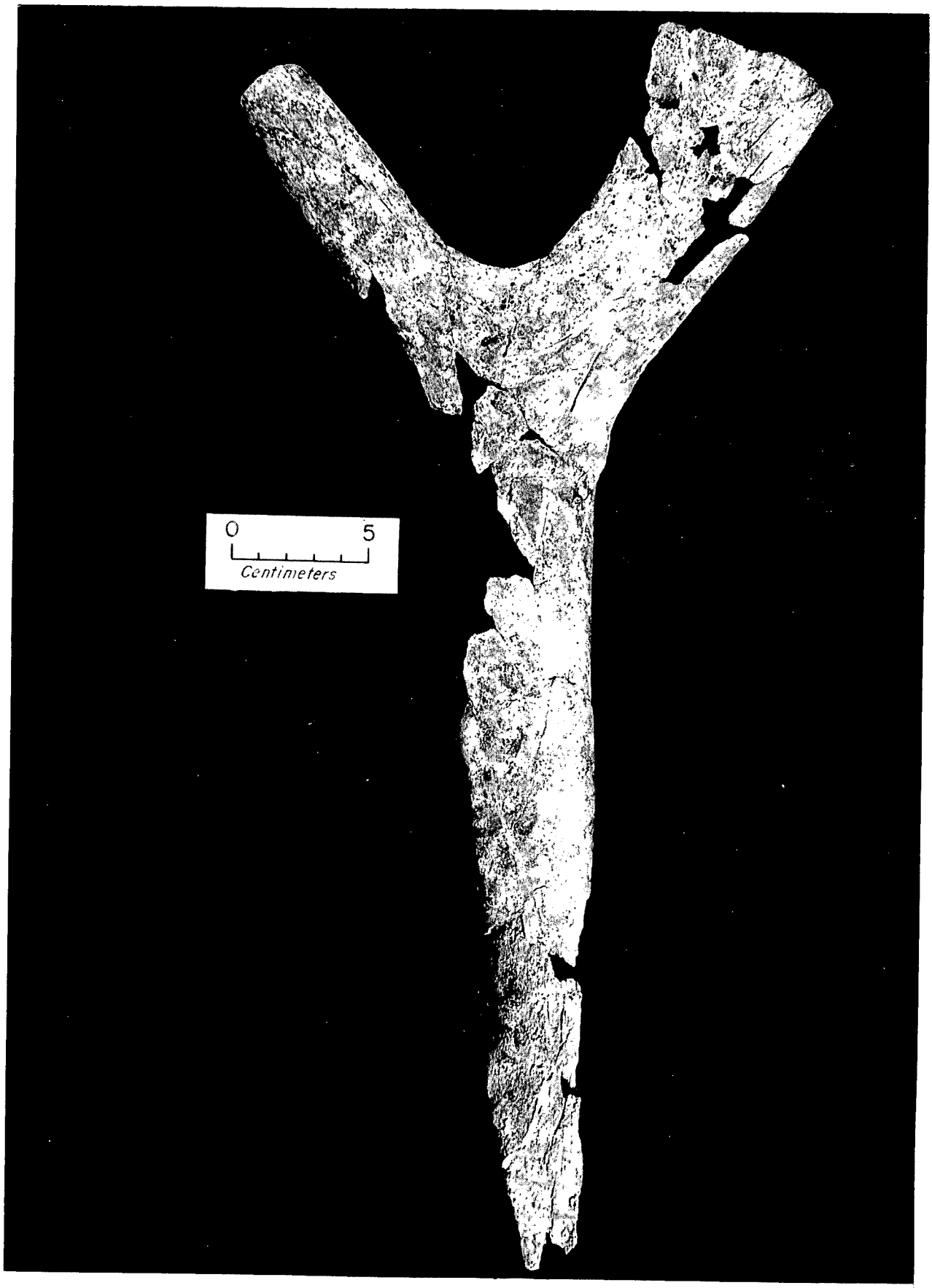


Figure 51

1 Bone awl; made from mammal long bone splinter; length 78 mm, width 11 mm, thickness 2 mm; found parallel to the medial left femur (Figure 40f).

1 Splinter awl (probably Odocoileus virginianus); narrow splinter cut from long bone shaft; broken medially; length 101 mm, width 10 mm; thickness 5 mm; found beside and parallel to the left radius (Figure 50h).

1 Conch columella (Busycon sp.); drilled through the long axis; length 204 mm, diameter 29 mm, diameter of perforation 4 mm; found overlying the distal left humerus (Figure 52c).

1 Conch columella (Busycon sp.); drilled through the long axis; length 211 mm, width 33 mm, diameter of perforation 5 mm; found adjacent and parallel to the left humerus (Figure 52a).

1 Conch columella (Busycon sp.); drilled through the long axis; length 205 mm, width 28 mm, diameter of perforation 4 mm; found adjacent and parallel to the right humerus (Figure 53b).

1 Conch columella (Busycon sp.); drilled through the long axis; length 240 mm, diameter 34 mm, diameter of perforation 5 mm; found overlying the right innominate and lower ribs (Figure 53a).

1 Conch columella (Busycon sp.); drilled through the long axis; length 214 mm, diameter 29 mm, diameter of perforation 5 mm; recovered between the knees (Figure 52b).

1 Conch columella (Busycon sp.); drilled through the long axis; length 168 mm, diameter 28 mm, diameter of perforation 5 mm; associated with conch columella described above (Figure 53a).

1008 Olivella shell beads; occurred as a layer beneath the lower portion of the legs with the beads parallel to the long axis of the body suggesting the remains of a garment.

681 Olivella shell beads; found scattered over the thoracic region.

2 Worked cryptocrystalline silica flakes, retouched along one edge; both specimens measure 3 mm by 2 mm by 1 mm; associated with the Olivella shell beads in the thoracic region.

1 Sperical shell bead; perforated through the center; diameter 10 mm, diameter of perforation 1 mm; found adjacent to the mandible.

1 River mussel shell (species unidentified); found medial to the distal right humerus.

1 Fragmented ochre stained river mussel shell (species unidentified); recovered between the femurs.

1 Fragmentary river mussel shell (species unidentified); found overlying the mid-shaft of the right femur.

24 Deer bones from a single immature animal (Odocoileus virginianus), includes 1 right metatasal and unfused medial condyle and articulating tarsals (T. c+4 and T. 2+3); 1 left metatarsal, epiphysis unfused and articulating tarsals (T. c+4 and T. 2+3); 2 first phalanges (could articulate with either metatarsal); 1 metapodial fragment cut and snapped along one edge; recovered between upper portion of the right and left femurs immediately distal of the pelvis.

1 worked mammal bone fragment (species unidentified); cut and snapped along the exterior edge of one side; length 89 mm, width 9 mm. thickness 5 mm; found overlying the coccyx.

10 Mussel shell fragments (species unidentified); two fragments have a single perforation; associated with deer bones adjacent to the proximal right femur.
2 Unworked rodent incisors (species unidentified); length 44 mm and 38 mm; found between upper portion of femurs

In addition, the following items were recovered in proximity to the burial. Except for the Olivella shell beads, the inclusion of these objects may have been fortuitous.

183 Olivella shell beads.
9 Cryptocrystalline silica flakes.
2 Mammal bone fragments.
2 Mussel shell fragments (species indeterminate).
2 Freshwater gastropod shells (species unidentified).

Mound B

Mound B, approximately 110 feet south-southwest of Mound A, was recognized as a 1.0 feet rise in elevation and scattered river mussel shells on the surface. If the mound is correlated correctly with Moore's Mound C and the WPA surveys Unit 11, then Mound B, using Moore's figures, may have been as much as 12 feet high and 73 feet in diameter. As observed in 1971, plowing, erosion, excavations by relic collectors, and land leveling had nearly destroyed the mound and its associated burials. Even Moore reports, "A large trench had been dug into the eastern side [of the mound] (1915:401)." There is little doubt that the 1971 excavations represent an incomplete mound sequence and that the investigations revealed only a remnant of the earliest mound construction stage.

Excavation Methods

The Mound A grid and datum provided the horizontal and vertical controls for excavating Mound B. Three exploratory trenches dug to the premound soil initiated the Mound B excavations. The first trench bisected the mound on a north-south axis and was 2.0 feet wide by 50 feet long, including co-ordinates 70.5-72.5L80-130. An intersecting trench was dug between L107.5 and L109.5 from CL70-110. The third trench was 2.0 feet wide by 30 feet long and was placed at 70-100L128-130. The second and third trenches provided east-west profiles across the mound. Thereafter the excavations were expanded with 10 feet squares removed in arbitrary 0.5 levels, leaving 1.0 feet balks along 70CL and L110 for recording the mound stratigraphy. Twenty squares were removed, but features and burials were encountered only within a 20 by 30 feet section with co-ordinates 70-100L110-130. None of the sediments were screened.

Figure 52. Selected drilled conch columellae beads associated with Burial 12 (all specimens actual size)

Figure 52

Figure 53. Selected drilled columellae beads associated with Burial 12 (all specimens actual size)

Figure 53

Stratigraphy

The Mound B stratigraphy consists of plowed mound fill and a premound soil (Figure 54). Although no detailed descriptions are available, the sediments are virtually identical to comparable strata in Mound A. In Mound B there are two plow zones (Ap1 and Ap2) covering an A1-B2 soil horizon sequence. The A1 horizon is undistrubed by plowing. Just as Mound A, the surface vegetation was burned in preparation for mound construction. Two burials and three deposits of river mussels were recorded at the surface of the premound A1 soil horizon.

Cultural Remains

Few cultural remains were found in the mound fill. Lithic artifacts include a small triangular Hamilton projectile point, a contracting stem projectile point, an unclassfiable projectile point, an unclassifiable biface fragment, and a hammerstone. A single limestone tempered plain body sherd was the only pottery recovered from the fill. These artifacts indicate the rare inclusion of occupation debris for mound construction.

Features

Three features were recorded on the premound surface (Figure 55). Feature 1 was a probable burrow intruding the fill at an angle such that its length was undetermined. The feature was 1.0 feet wide and 0.8 feet deep and contained the partial remains of an Eastern cottontail (Sylvilagus floridonus). Feature 2 was a concentration of river mussel shells occurring in two heaps. The smaller pile measured approximately 1.0 by 1.5 feet, while the larger pile was about 6.5 by 4.0 feet. The shells are undoubtedly related to the interment of Burial 1. Feature 3 was a small, irregular shaped, isolated group of river mussel shells 2.0 feet long, 1.5 feet wide, by 0.3 feet thick. Table 13 lists the mollusc species identified from Mound B.

Burials

Two primary inhumations were recovered from Mound B (Figure 55). Burial 1 was a 35-45 year old male laid extended with the arms to the sides on the premound surface. The body was oriented perpendicular to the middle of one side of Feature 2, with shells barely touching and covering the top of the skull. A small, thin charcoal layer covered the upper left humerus. Charcoal patches also occurred adjacent to the upper right humerus and about 2.0 feet from the right side of the body.

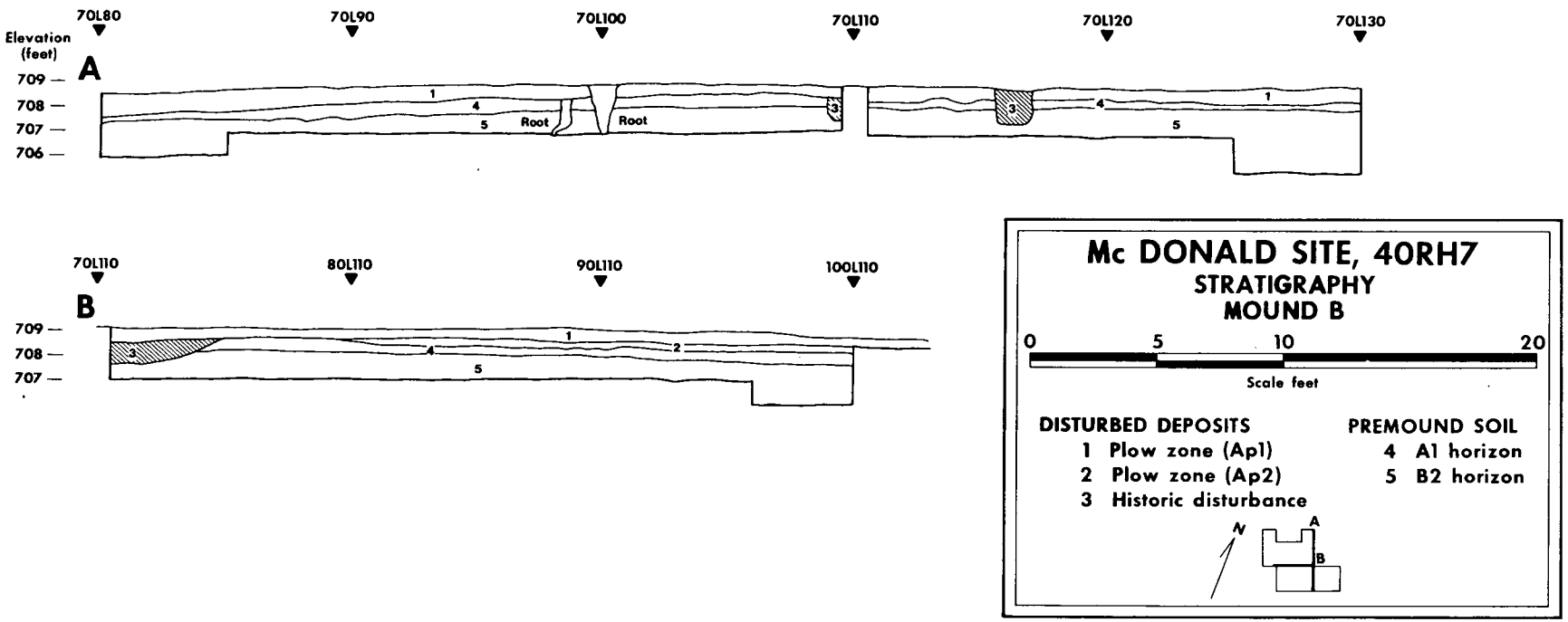
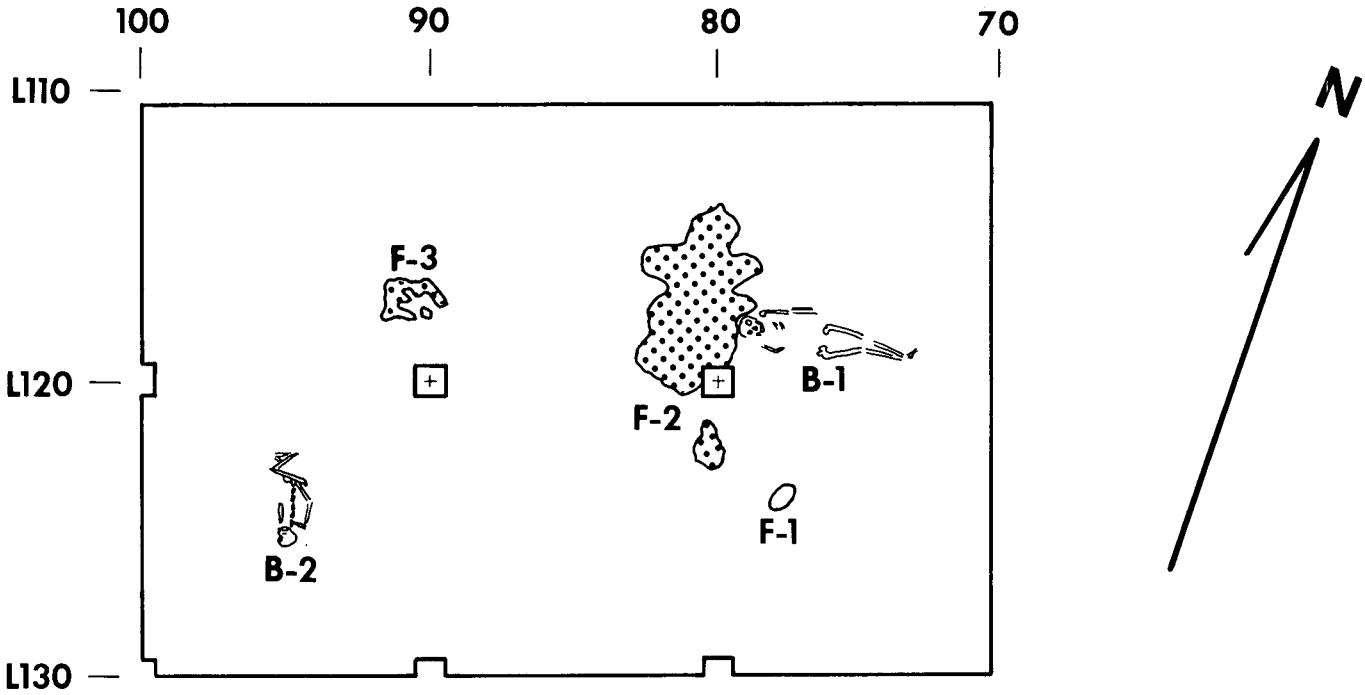


Figure 54. Mound B stratigraphy



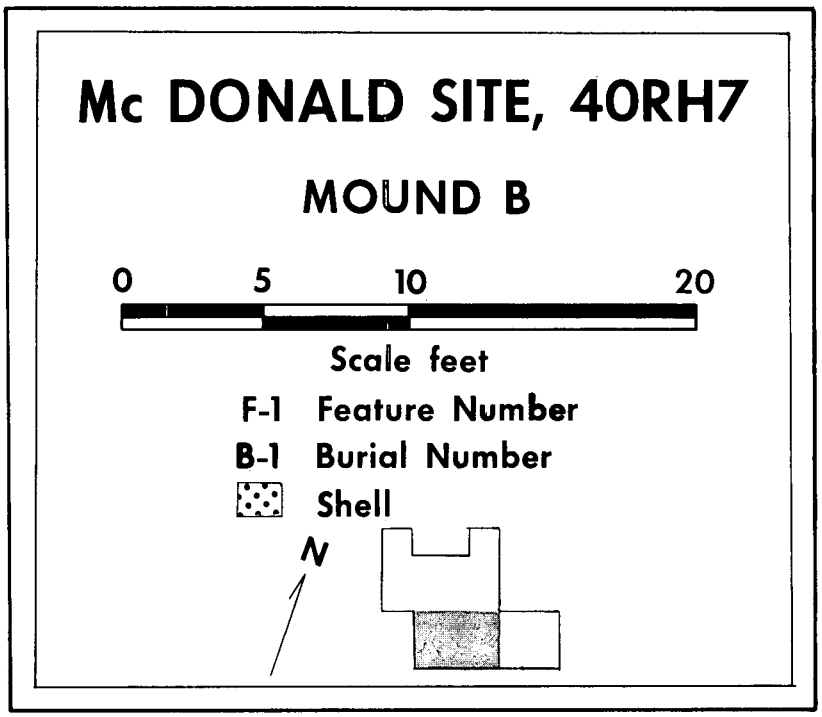


Figure 55. Mound B excavation plot with associated features and burials

Table 13. Selected mollusc remains from Mound B

Gastropoda (acquatic)
Io fluvialis
Lithasia geniculata
Lithasia sp.
Pleurocera sp.
Pelecypoda
Actinonaias carinata
Cyclonaias tuberculata
Elliptio crassidens
Fusconaia ebenus
Obovaria olivaria
Plethobasis sp.

Although none of the charcoal patches formed a pattern in relation to one another or to the body, they indicate a probable wood covering or container for the burial. Although no grave goods were interred with Burial 1, the individuals age, sex and position are comparable to Burial 12 in Mound A. These data suggest that Burial 1 initiated the construction of Mound B. It is impossible however to relate the burial location to a subsequent mound deposit and there is no way to tell if the burial was at the mound center or to one side.

The second burial from Mound B is an adult female age 35-45 years. The individual was semiflexed and had no associated grave goods. This burial could have been interred during the same construction episode as Burial 1. An alternative explanation is that the body was placed at the edge of the mound and covered with a subsequent construction stage.

Burial 1

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on the premound surface and covered with soil and mussel shells (Feature 2)

Individuality: single interment

Demography: age - 35-45 years
sex - male
pathologies - Periostitis of all surfaces of both tibial fragments--distal left tibia, diaphysis and distal right tibia. The left tibial fragment shows some osteophytic growth, pitting of the surface, and general inflammation. There is evidence of cortical thickening and the surface is roughened and irregular. The right tibia shows extensive pitting and bone regeneration. The surface is roughened and some osteophytes are visible on the distal end. The tibia shaft is quite irregular due to bone remodelling.

A fracture of the right humerus had occurred in the region of the deltoid tuberosity. This had healed by the time of death, forming an acute angular deformity, and abnormally large muscle attachments.

Dental carie on the upper right canine.

observations - moderate lingual shovel-shaping on four maxillary incisors with a tendency towards shovel-shaping on the buccal surface of both central incisors.

Preservation: fair

Articulation: articulated

Position: flexure - fully extended
arms - along sides
head - looking straight

Deposition: on back

Orientation: head to west

Grave Goods: none

Burial 2

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on premound surface and covered with soil.

Individuality: single interment

Demography: age - 35-45 years
sex - female
pathologies - none observed

Preservation: poor

Articulation: articulated

Position: flexure - semi-flexed
arms - right arm along side, left arm flexed with hand to face
head - looking straight

Deposition: on left side

Orientation: head to south

Grave Goods: none

Mound C

Mound C was recognized as a gentle rise 2.0-3.0 feet high and about 70.0 feet in diameter located southeast of Mound D (Figure 56). The mound corresponds to C. B. Moore's Mound H and the WPA survey Unit 14. These sources suggest that the mound was once 3.0-4.0 feet higher. Moore contributed to the mound's reduction by digging a 12 feet square at the mound center from which he recovered five burials. According to his description this excavation probably reached the premound soil. Because of erosion and probable subsequent activities by relic collectors, Moore's excavation was recognized in 1971 as a 16 feet circular pit 3.5 feet deep. Although Moore failed to plot burial locations, his descriptions regarding burial position, depth, and associated grave goods add considerable information for interpreting mound construction and burial activities.

Excavation Methods

The mound was divided into 10 feet squares which were designated according to centerline (CL) and right (R) or left (L) co-ordinates. The centerline was oriented magnetic north and bisected the mound. The top center of the mound was at about the 40 CL co-ordinate. Excavated squares were 9 feet on a side so as to leave 1.0 feet baulks along each grid line (Figure 57).

Baulks were maintained between squares in order to relate burial remains with specific mound deposits as accurately as possible. More specifically, this was done to determine, if possible, whether burials were laid on the existing mound slope or whether they were placed on a level platform or step cut into slope before being covered with additional soil.

Eight 9 feet squares within 30-50L0-20 and 30-50R0-20 and a single square with co-ordinates 20-30L0-10 were excavated through the mound sediments. Half squares (4.5 x 9 feet) were removed within grid co-ordinates 20-30R0-5 and 50-60R0-5 (Figure 58). Profiles were recorded along 40.5R20-L20, 20-60L0.5, and 30-50L9.5.

Figure 56. Low oblique aerial photograph of Mounds C and D, view to the east (TVA Negative L113-4)

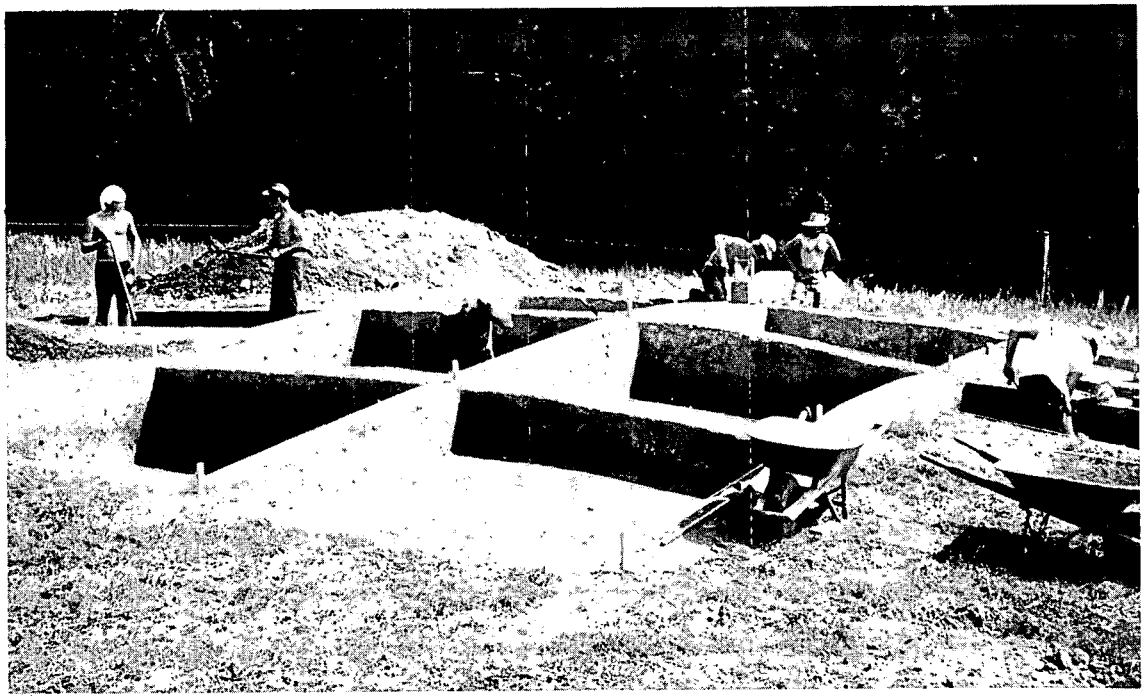


Figure 57. General view of Mound C excavation, note stratigraphic baulks, view to the southeast

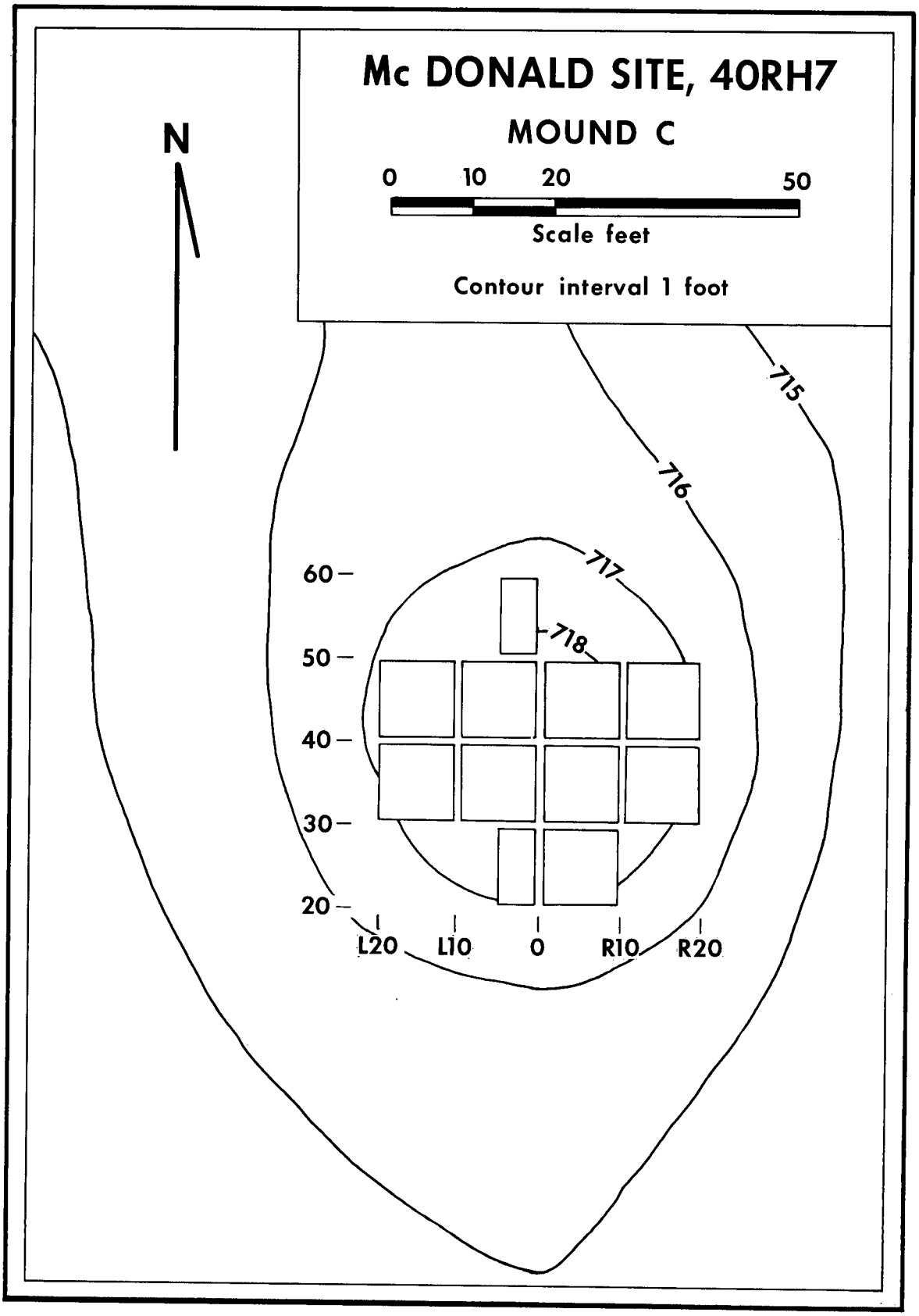


Figure 58. Mound C contour map and excavation plot

Plow disturbed sediments were removed as a single level. Subsequent cuts were 0.5 feet arbitrary levels measured from the surface and removed parallel to the mound slope. None of the sediments were screened. A temporary TVA bench mark at 714.41 feet AMSL was used to calculate the elevations of burials and features.

Stratigraphy

By removing the mound center, Moore's excavation severely limited stratigraphic interpretation in 1971 (Figure 59). The stratigraphy and burial elevations indicate a single construction stage. Moore, however, records burials at 32, 70, 84, 96, and 96 inches below the mound surface. The differences in these depths suggest at least two major building episodes and associated burial activities. There are no stratigraphic breaks in the 1971 profiles, however, which clearly distinguish even a remnant of a second or subsequent construction stage. Mound fill designated Silt loam 1 could be such a remnant, but the difference between this and adjacent sediments is ill defined because these deposits are such mosaics of different soils. Furthermore, it is difficult, if not impossible, to correlate one deposit with another where the fill is truncated by Moore's excavation.

To begin mound construction, the surface vegetation and A1 soil horizon were removed completely from an area larger than revealed by the excavations. Mound sediments were then deposited on the exposed B2 soil horizon. Soil color and texture indicate that soil from the A1 horizon in addition to soil from the B2 and B3 horizons were used for mound fill. A former occupation area surely occurred at the borrow location because a large number of lithic and ceramic artifacts were recovered from the mound deposits. Individual mound deposits and related soils are described below.

The Plow Zone is a yellowish brown (10YR5/4, dry; 10YR5/3, moist) silt loam with common faint yellowish brown mottles (10YR5/6, moist) It contains occasional charcoal flecks, abundant fine roots, and partially decomposed vegetation. The deposit represents disturbed mound fill.

The Mound Fill consists of four distinct silt loam and silty clay loam deposits. Fill designated Silt loam 1 is a yellowish brown (10YR5/8, dry; 10YR5/4, moist) deposit containing occasional charcoal flecks. This deposit ranges from 0.5 to 1.5 feet thick. Silt loam 2 is mottled brown (10YR4/3, dry), dark grayish brown (10YR4/2, moist), strong brown (7.5YR5/6, moist), and yellowish brown (10YR5/6, moist), containing occasional small firecracked rocks and cultural debris. Within the deposit are single lenses of Silt loam 1 and Silt loam 3. Silt loam 3 is yellowish brown (10YR5/8, dry; 10YR5/4, moist), and is similar to Silt loam 1. Silt loam 3, however, has a more uniform color and texture and contains little charcoal. Silty clay loam 1 occurs at three separate places in the profiles. Although a uniform texture, its color is mottled brownish yellow (10YR6/6, dry), yellowish brown (10YR5/8, dry;

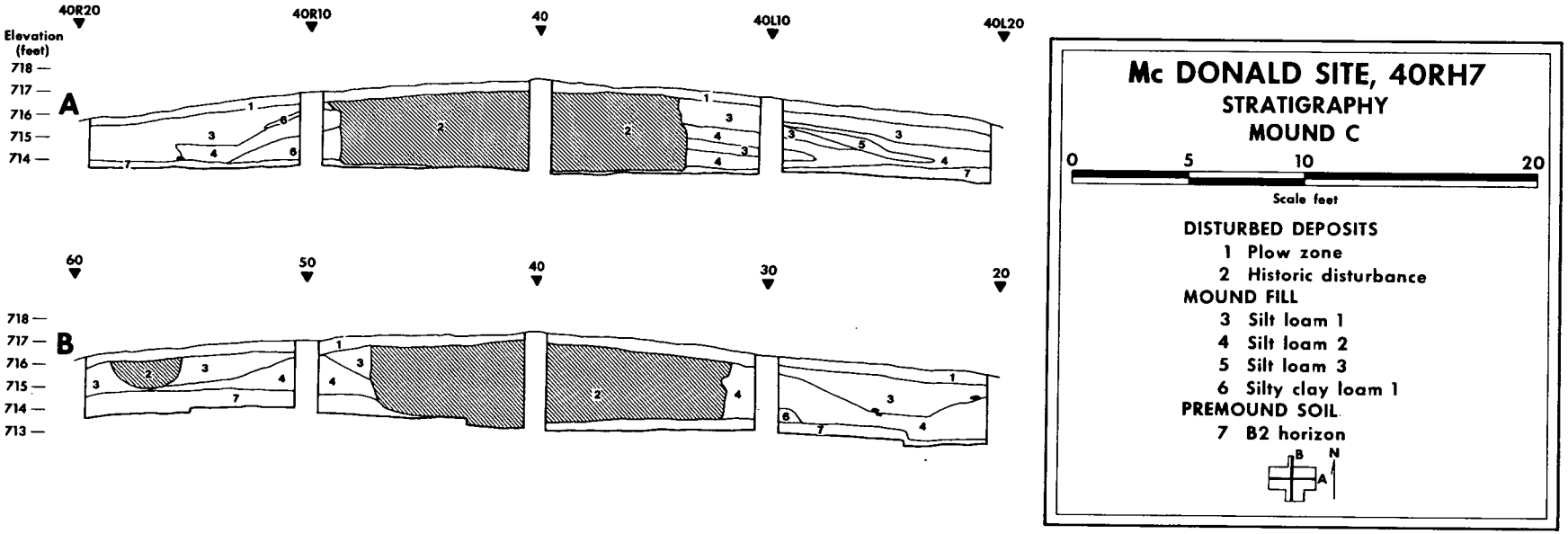


Figure 59. Mound C stratigraphy

10YR5/4 and 5/6, moist), and very pale brown (10YR7/4, moist). There are occasional manganese concretions within the matrix.

The Premound Soil is a well developed B2 soil horizon. It is a strong brown (7.5YR5/8, dry; 7.5YR5/6, moist) silty clay with many prominent light yellowish brown (10YR5/4, moist) mottles. The soil structure is strong medium subangular blocky with common thin clay films on the ped surfaces.

Cultural Remains

In comparison to the other mounds at 40RH7, Mound C contained abundant cultural remains. Lithic artifacts are represented by 65 specimens from undisturbed fill, 32 specimens from historic intrusions, and 3 artifacts whose provenience is unassigned. There are 57 projectile point and projectile point fragments in the sample including six shouldered straight stem, seven shouldered contracting stem, and nine side indented forms. Single examples also were found of small triangular, shouldered expanding stem, lanceolate, and unclassifiable projectile points. Two corner notched examples, and 29 unclassifiable fragments complete the projectile point sample. The identifiable projectile points, except for the single small triangular specimen, are comparable to forms commonly associated with Late Archaic and Early Woodland occupations in East Tennessee (cf. Chapman, 1973; McCollough and Faulkner, 1973). Calabrese (1976) and Schroedl (this report) describe similar occupations at 40RH6 within the Watts Bar Nuclear plant area. The small triangular projectile point from Mound C represents the common Late Woodland period Hamilton type.

Other lithic artifacts from Mound C include four blanks, two knives, a side scraper, a drill/perforator, and 29 utilized flakes. A grooved ax fragment and a drilled gorget fragment were recovered from disturbed deposits. Four end-battered river cobbles came from the mound fill. The above artifacts are compatible with an Archaic or Woodland period context.

Ceramics from Mound C total 77 specimens. Among these are 30 limestone tempered plain sherds, 27 of which came from disturbed deposits. The remaining three specimens came from the mound fill. Forty-five limestone tempered cord marked sherds, comparable to the Candy Creek or Hamilton Cord Marked types were found, but none were from undisturbed fill. Although they suggest a Mississipian period occupation, the context of two shell tempered plain sherds is disturbed deposits.

Features

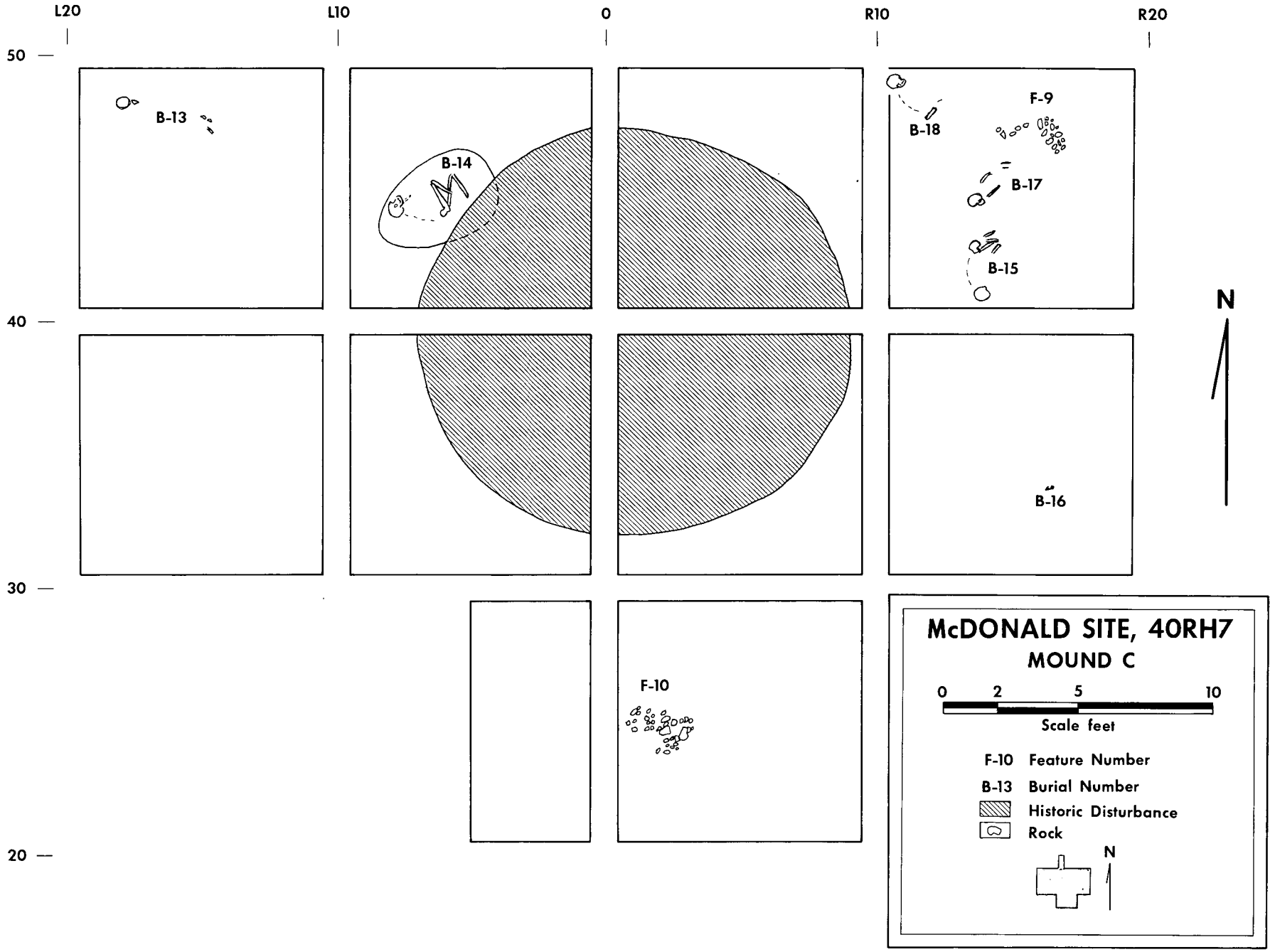
Only two features, both concentrations of firecracked rocks, were recorded in Mound C. Feature 9 occurred in unit 40-50R10-20 in

the vicinity of Burials 15, 17, and 18, and consisted of about 30 firecracked rocks in an area approximately 2.5 feet by 1.3 feet (Figure 60). There were about 50 firecracked rocks as well as a shouldered straight stem projectile point and two projectile point fragments associated with Feature 10. Feature 10 measured 2.8 by 2.3 feet and was located in square 20-30R0-10 (Figure 61). Since the rock concentrations follow the mound slope, the surrounding soil is unburned, and there is no associated charcoal, both features probably were part of the borrow rather than rocks specifically used to cover a mound surface or used in grave preparation.

Burials

There were six simple primary inhumations designated Burials 13 through 18 recovered from Mound C (Figure 60). Most of Burial 13 was destroyed by plowing and provided little information other than that the remains are from an adult. A small celt recovered near the body is a probable burial accompaniment. Burial 14, a female age 25-35 years, was semiflexed in a shallow oval pit intruding the premound soil (Figure 62). Associated grave goods included four undrilled columellae beads found near the left knee and a single triangular Hamilton projectile point recovered near the occiput. Burials 15, 17, and 18 were found in square 40-50R10-20 but were so fragmentary and so distrubed by rodent burrows or plowing that little or no information was recovered regarding the individuals or their interment. The age, sex, and position of Burial 15 is undetermined, while Burial 17 was a probable male age 18-25 years. Neither burial contained grave goods. Burial 18 was a probable male age 45 years or older in a semiflexed position. A canine and two unidentified fragmented teeth, probably from a small carnivore were found near the skull. Their association with the burial, however, may be fortuitous since a large burrow destroyed the thoracic region and ran beneath the skull. Similarly 12 unutilized flakes in the vicinity of the body may be mound fill inclusions rather than grave goods. Although only the teeth and a few skull fragments were found, Burial 16 in square 30-40R10-20 is a child of undetermined sex, age 3-4 years. There were no associated grave goods.

Including Moore's five burials, the Mound C sample numbers 11 interments. Although age and sex are undeterminable, Moore indicates that Burial 1 was extended while Burials 2 through 5 were flexed or semiflexed. Burial 2 may have occurred in a shallow pit. Except for Burials 1 and 4, no grave goods were recovered from the mound. Burial 4 contained a single projectile point near the pelvis, which, according to Moore's description, was a probable Hamilton triangular type. Burial 1 contained a fragmentary knife or projectile point and eight columellae beads, "five at the neck, two at the left elbow and one at the left hand (1915:402)." The position of Burial 1 and associated grave goods is comparable to interments initiating burial activities at other mounds (e.g. Mound A, Burial 12 and Mound B, Burial 1). Moore, however, recovered the burial 32 inches below the surface suggesting that it was associated with a subsequent rather than initial construction stage.



ure 60. Mound C excavation plot with associat features and burials

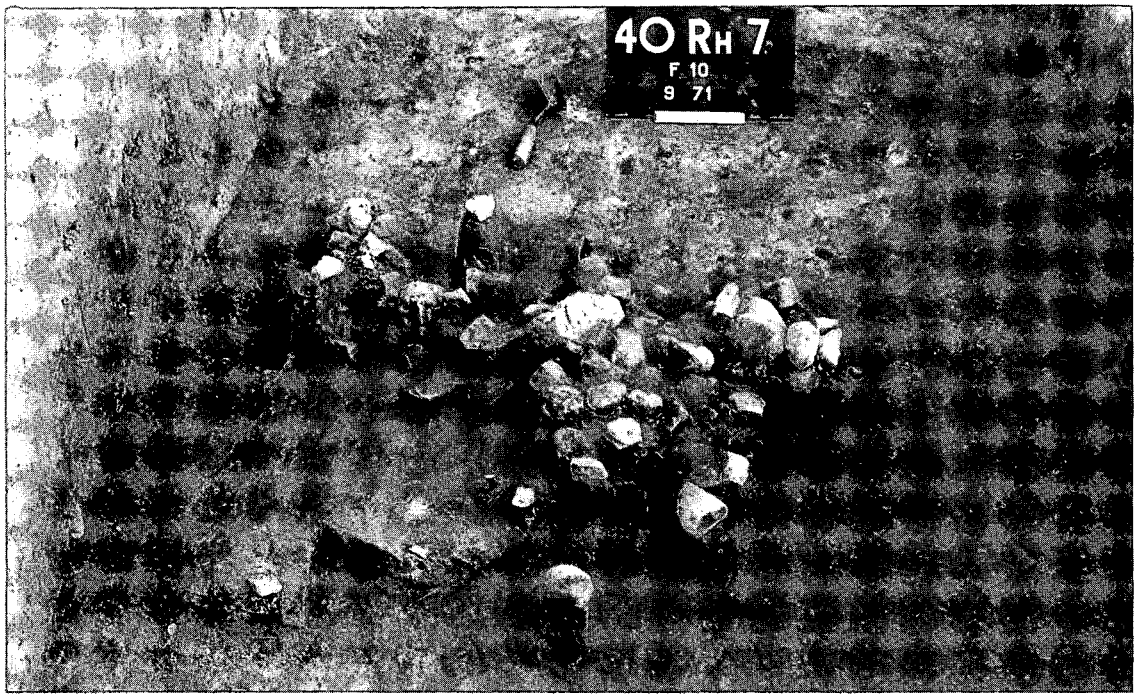


Figure 61. Feature 10, view to the north

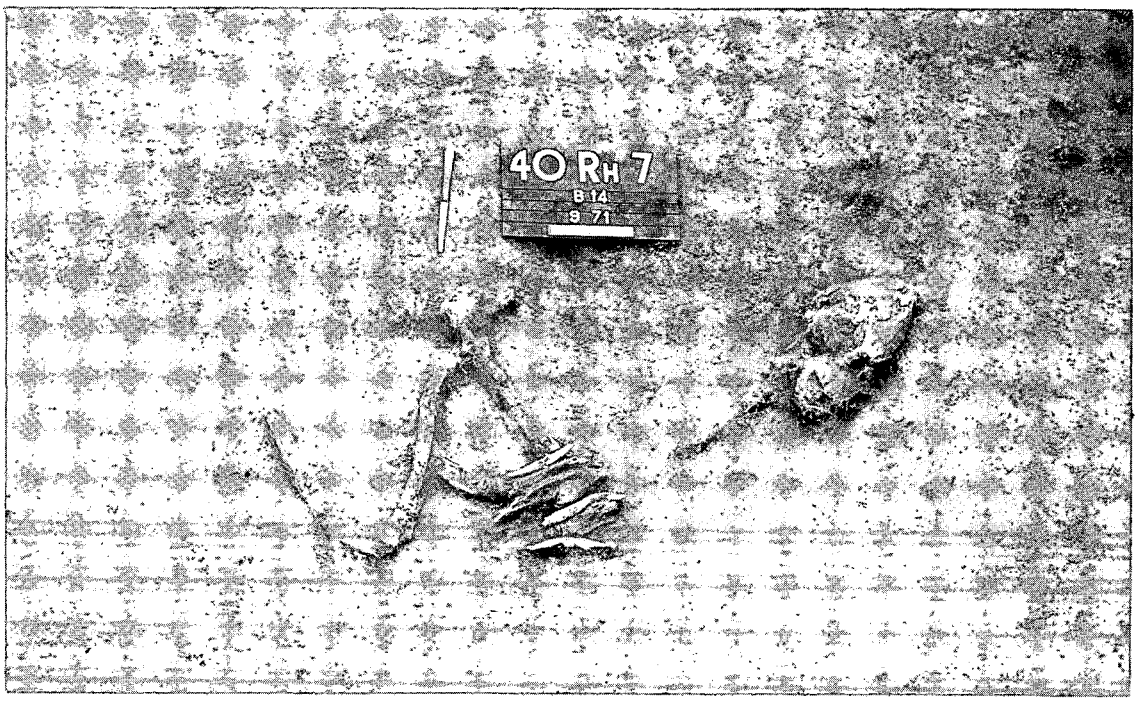


Figure 62. Burial 14, view to the southeast

Burial 13

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - adult
sex - indeterminate
pathologies - none observed

Preservation: extremely poor

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: indeterminate

Grave Goods:
1 Greenstone celt; length 103 mm, width 47 mm, thickness 16 mm; found adjacent to the right side of the skull (Figure 71k).

Burial 14

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed in a shallow oval pit excavated into the premound surface

Pit Dimensions: 5.0 feet by 3.2 feet; 0.7 feet deep

Demography: age - 25-35 years
sex - female
pathologies - dental caries on occlusal surface of the upper left third molar.

Preservation: poor

Articulation: articulated

Deposition: on left side

Position: flexure - semiflexed
arms - at sides
head - looking straight

Orientation: head to southeast

Grave Goods:
4 Undrilled conch columellae, found in the area of the left knee

Catalog Number	Length (mm)	Width (mm)
14-1/C	135	16
14-2/C	122	17
14-3/C	118	13
14-4/C	113	14

1 Hamilton-like projectile point; tip and basal corner broken; length 21 mm, width 15 mm, thickness 3 mm; found beside the occiput

Comment: In addition six unutilized cryptocrystalline flakes and one unutilized quartzite flake were recovered from the burial pit fill.

Burial 15

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: indeterminate

Preservation: extremely poor--the burial was so deteriorated that no bone was recovered for laboratory analysis

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 16

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - 3-4 years
sex - indeterminate
pathologies - dental caries on occlusal surfaces of deciduous upper second molars
observations - Carabelli's cusp on both unerupted adult upper 6 year molars

Preservation: very poor--only the teeth and a few skull fragments were recovered for laboratory analysis

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: head to southeast

Grave Goods: none

Burial 17

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: probably placed on mound slope or talus and covered with soil

Individuality: single interment

Demography: age - 18-25 years
sex - probable male
pathologies - none observed

Preservation: poor

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: head to south

Grave Goods: none

Burial 18

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on slope or talus of mound and covered with soil

Individuality: single interment

Demography: age - 45+ years
sex - probable male
pathologies - large dental caries on mesial and distal surfaces of the lower left second molar at the cemento-enamel juncture

Preservation: very poor

Articulation: articulated

Position: flexure - semi-flexed
arms - indeterminate
head - looking straight

Deposition: on left side

Orientation: head to northwest

Grave Goods: none

Comment: The burial fill contained the canine of a probable small carnivore (species undetermined), two mammal tooth fragments (species undetermined), and eleven cryptocrystalline silica and one quartzite unutilized flakes. These items are considered fortuitous inclusions rather than grave goods.

Mound D

In 1971, Mound D was a circular, gently sloping earthwork about 75 feet in diameter rising about 6.0 feet above the 713.0 feet contour (Figure 63 and 64). No previous or recent excavations were observed on the mound surface, although near the mound center excavations encountered a trench 2.0 feet wide by 18 feet long. The trench had been dug to the premound surface. Except for this trench and plowing and erosion, the mound was intact. Since the mound corresponds with Moore's Mound G and the Chickamauga survey Unit 15, there are data for estimating how much plowing and erosion reduced the mound by 1971. There sources record a height of 10.25 feet in 1915 and 8.0 feet in 1936 thus indicating a loss between 2.0 and 4.25 feet. Although the volume loss represented by redeposited moundfill is uncalculated, enough of these sediments occur at the mound skirt that a reduction greater than 2.0 feet is within reason.

Even though eroded and disturbed by relic collectors, Mound D was the best preserved earthwork at 40RH7. Since the mound produced 22 burials and showed two construction stages, abundant data regarding the skeletal population and burial patterns were recovered from the excavations. Besides poor skeletal preservation, only the complex stratigraphy complicated data interpretation.

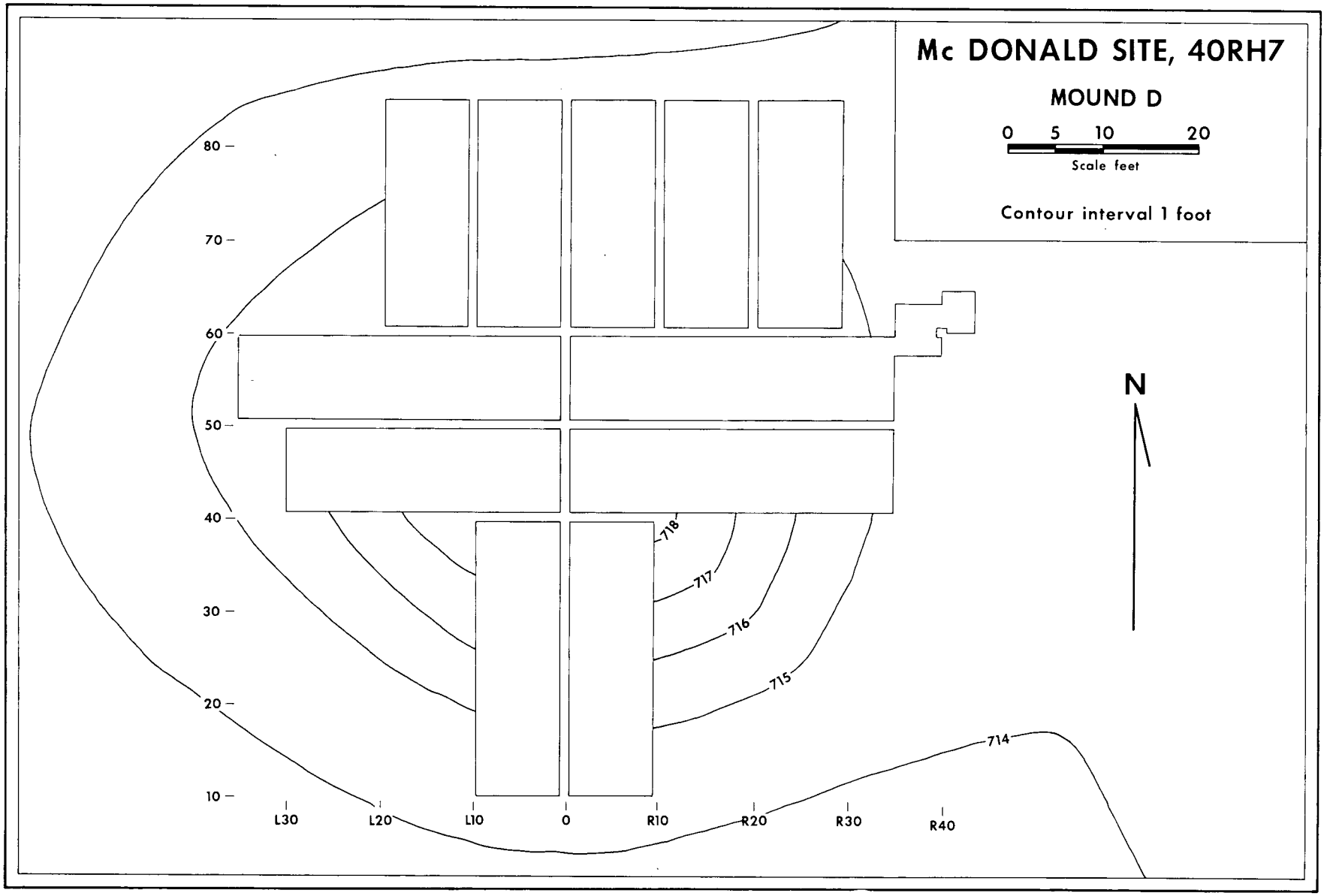


Figure 63. Mound D contour map and excavation plot

Excavation Methods

Just as the other mounds at 40RH7, Mound D was gridded into 10 feet squares using a centerline (CL) and right (R) or left (L) co-ordinates. The centerline was oriented magnetic north and bisected the mound, with the approximate top mound center at 50CL. Right and left co-ordinates were assigned in relationship to the centerline facing north. After stripping the plow zone, vertical control was maintained with arbitrary 0.5 feet levels measured from the mound surface. Levels were removed parallel to the mound slope. Stratigraphic profiles and the absolute elevations of features and burials were recorded using a temporary TVA benchmark set at 714.41 feet AMSL.

A primary excavation objective was to determine the relationship between specific mound deposits and individual burials. On a larger scale, the purpose of defining this relationship was to interpret the pattern of burial activities and mound accretion. Leaving 1.0 feet baulks at 10.0 feet intervals across the mound was considered the best means for delineating these patterns (Figure 63). Although baulks between every square were not preserved, the excavation plan insured that no burial could occur farther than 4.5 feet from the profile. This approach, however, attained only minimum success, because the differences between mound deposits were difficult to distinguish. Furthermore, no uniform fill or other material such as river mussel shells, wood, or stone slabs marked burial locations.

Excavation began by digging a 9 by 35 feet east-west trench and two 9 by 25 feet north-south trenches in the northwest quarter of the mound. Additional excavations opened three 9 by 25 feet north-south trenchs and a 9 by 35 feet east-west trench in the northeast mound quarter. In the southeast quarter a 9 by 35 feet east-west trench and a 9 by 30 feet north-south trench were removed from the mound. Two 9 by 30 feet trenches meeting at a right angle were excavated in the southwest mound quarter. Each trench penetrated the premound soil, and the entire mound was excavated except for small portions of the southwest and southeast quarters. Recorded profiles provide a continuous stratigraphic record along the centerline from 10CL to 85CL and 50R35 to 50L40.

Stratigraphy

The mound is a mosaic of silt loams, silty clay loams, and clay loams deposited on a developed soil profile (Figures 65 and 66). Occasional mollusc remains occur throughout the fill (Table 14), but no where do they mark a mound surface or burial location as in Mounds A and B.

The premound soil was altered in selected locations preparatory to mound construction. Specifically, the surface vegetation was burned over about 80 square feet. The center of this area and much of the A1

Figure 64. General view of Mound D, veiw to the north

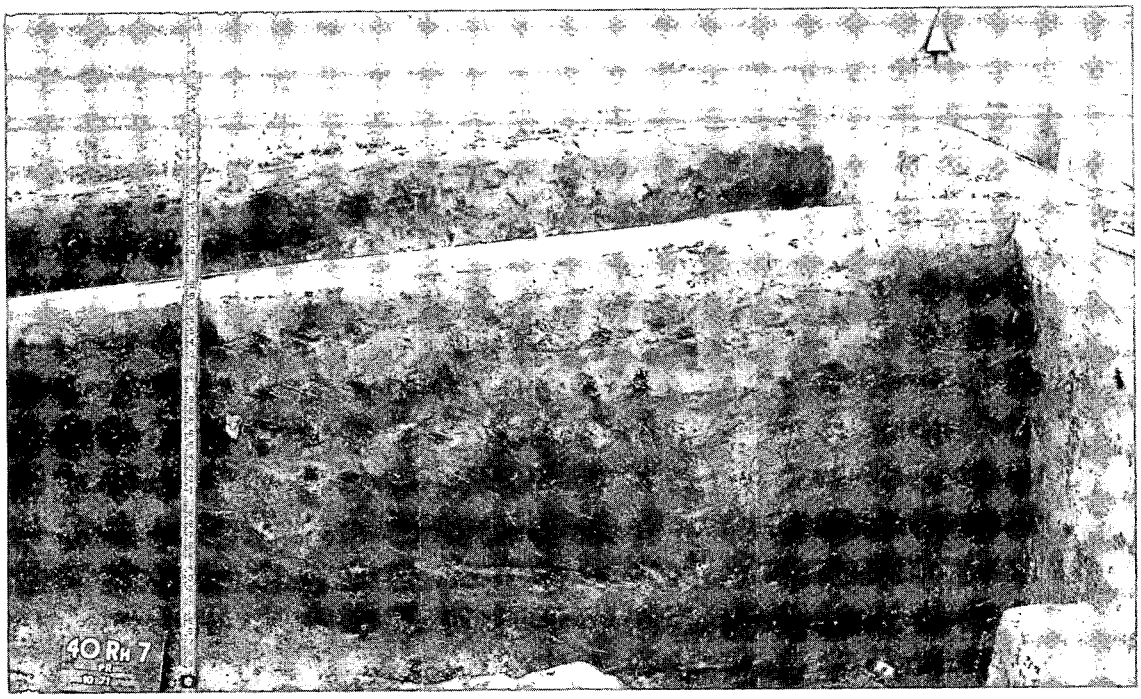
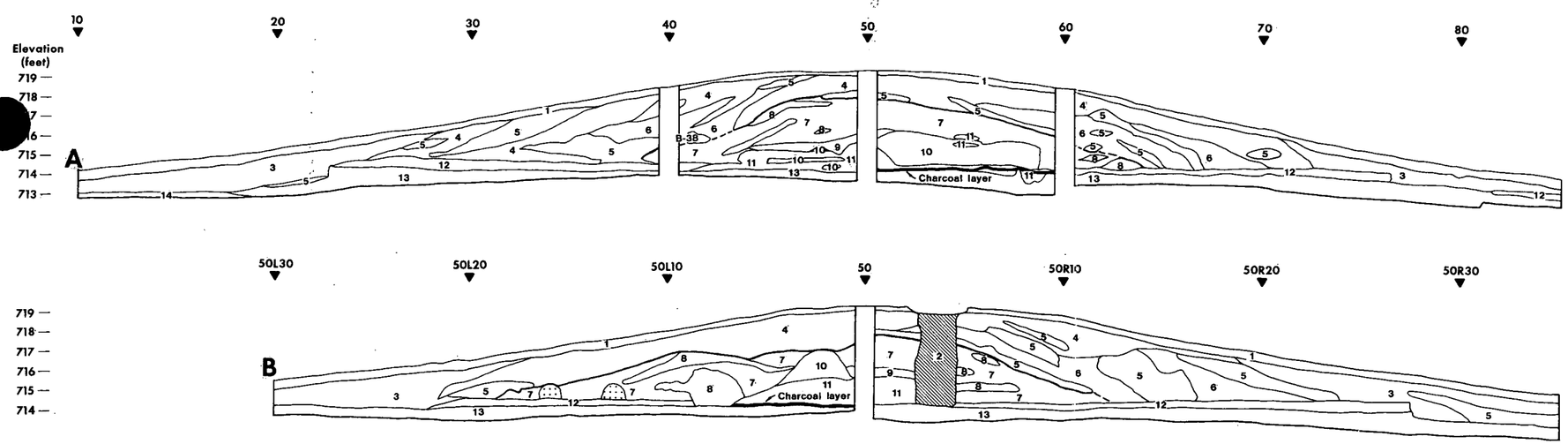


Figure 65. Stratigraphic detail of Mound D at 30-40CL, view to the west



Mc DONALD SITE, 40RH7

STRATIGRAPHY
MOUND D

0 5 10 20
Scale feet

DISTURBED DEPOSITS
1 Plow zone
2 Historic disturbance
3 Redeposited mound fill

CONSTRUCTION STAGE 2
4 Silty clay loam 1A
5 Silt loam 1A
6 Silt loam 2A

CONSTRUCTION STAGE 1
7 Silt loam 2B
8 Silt loam 1B
9 Silty clay loam 1B
10 Clay loam 1
11 Loam 1

PREMOUND SOIL
12 A1 horizon
13 B2 horizon
14 B3 horizon

B-38 Burial Number
Logmold

N

Figure 66. Mound D stratigraphy

9412010265-05

Table 14. Selected mollusc remains from Mound D

Taxa	Construction Stage 1	Construction Stage 2
Gastropoda (acquatic)		
Pleurocera sp.	-	x
Pelecypoda		
Actinonaias carinata	x	x
Cyclonaias tuberculata	x	
Elliptio crassidens	-	x
Fusconaia sp.	-	x
Obovaria olivaria	-	x
Plethobasis	-	x
Truncilla truncata	-	x

horizon beneath it were used to cover Burial 41 and to form a mound approximately 1.5 feet high. A second burial and additional fill covering about 450 square feet and rising to a height slightly greater than 3.0 feet constitute the first mound construction stage (Figure 67). On the west mound periphery two log molds mark the limits of Construction Stage 1. Burial 38 and a uniform silt loam lens (Silt loam 1A) indicate the initial activities associated with Construction Stage 2 on the north, south, and east mound slopes. Additional silt loams and silty clay loams and 10 more burials enlarged the mound to over 5.0 feet high and 45.0 feet in diameter (Figure 68). This completed mound construction. Although plowing and erosion could have removed 2.0 feet or more of the mound, there is no evidence in the profiles for a third building episode.

The Plow Zone is a dark yellowish brown (10YR4/4, dry; 10YR4/3, moist) silt loam containing abundant fine roots and partially decomposed organic remains. The plow zone thickness varies from 0.3 to 0.7 feet depending upon location. It includes plowed mound fill and redeposited mound fill.

Construction Stage 2 is predominately a yellowish brown (10YR5/6, dry; 10YR4/4, moist) silty clay loam designated Silty clay loam 1A. This deposit occurs over most of the mound slope and summit. On the north, south, and east slopes the fill is a mottled dark yellowish brown

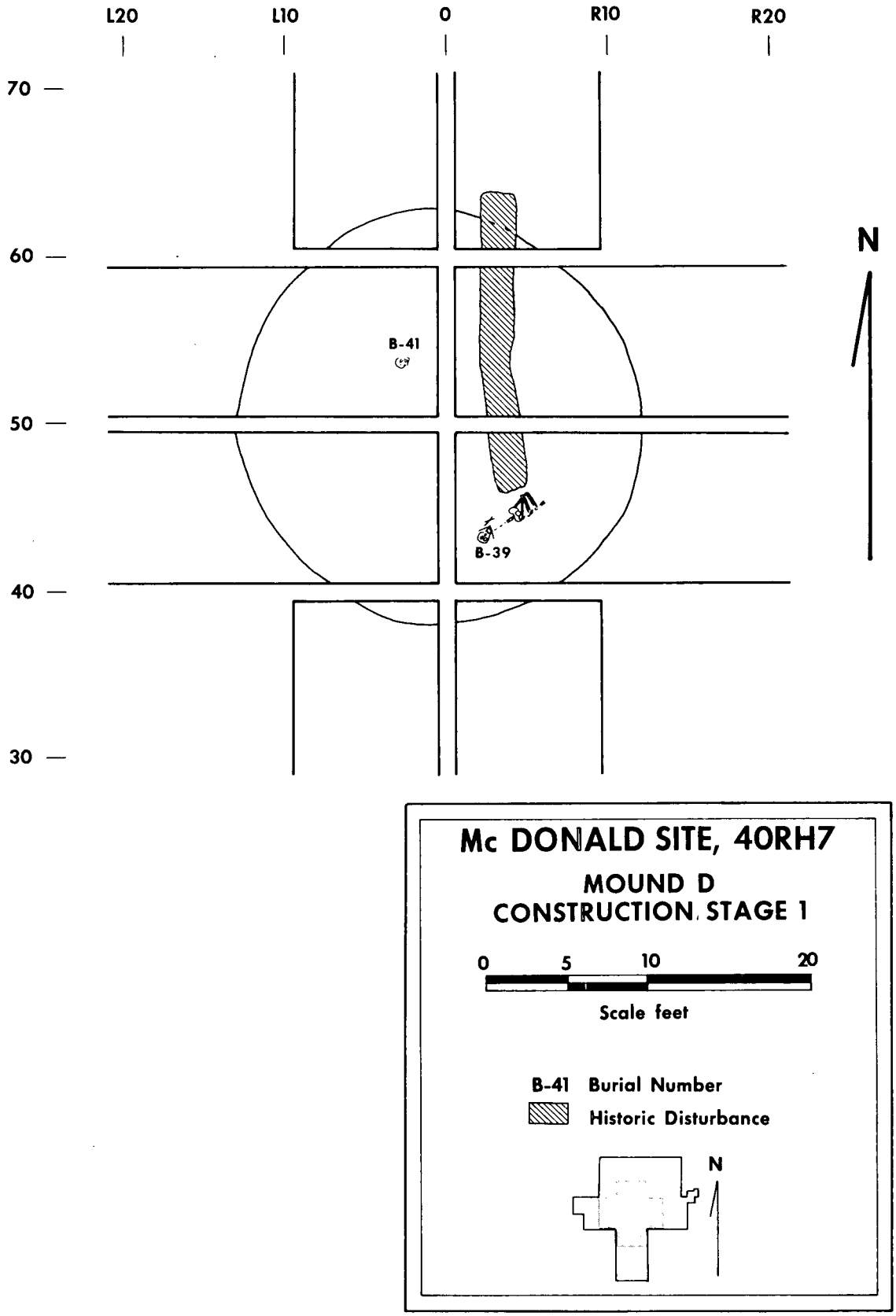


Figure 67. Mound D Construction Stage 1 excavation plot with associated features and burials.

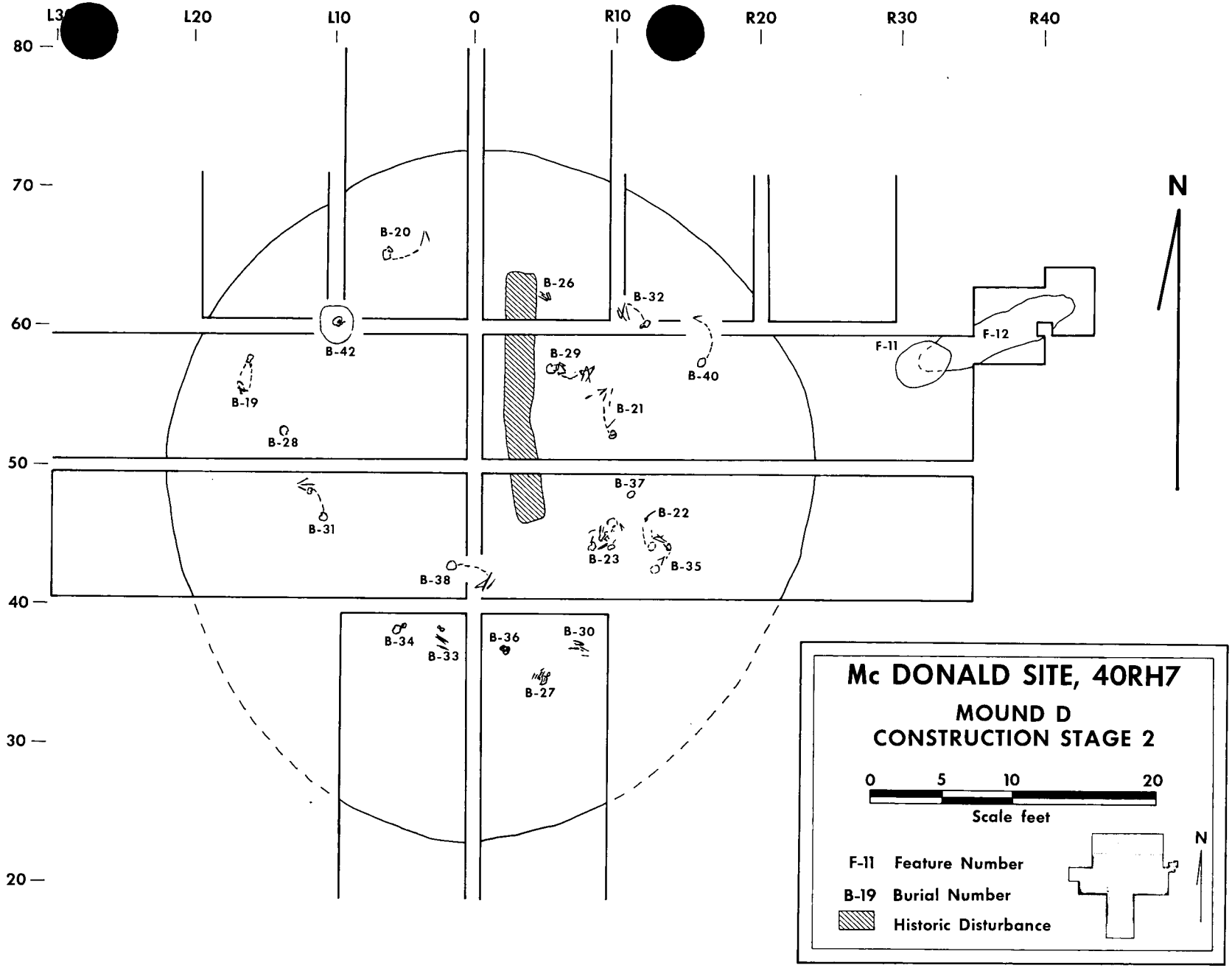


Figure 68. Mound D Construction Stage 2 excavation plot with associated features and burials, Features 11 and 12 are unrelated to mound construction

(10YR4/4, 5/4, dry; 10YR4/3, moist) silt loam designated Silt loam 2A. This fill contains occasional manganese concretions. Silt loam 1A is brown (10YR4/3, dry; 10YR3/3, moist) with few distinct yellowish brown (10YR5/4, moist) mottles. This deposit occurs on the summit and upper mound slope as comparatively thin lenses or pockets sandwiched within or between Silt loam 2A or Silty clay loam 1A. Silt loam 1A also marks the boundary between Construction stages 1 and 2 in specific locations along the profile. On the lower mound slope, Silt loam 1A is often thicker than elsewhere.

Construction Stage 1 includes loam, silt loam, silty clay loam, and clay loam deposits. The primary fill terminating this stage is a mottled dark yellowish brown (10YR4/4, 5/4, dry; 10YR4/3, moist) silt loam designated Silt loam 2B. Within or at the upper surface of this deposit are lenses and pockets of Silt loam 1B which is brown (10YR4/3, dry; 10YR3/3, moist) with few distinct yellowish brown mottles. At 50L9 there is a large irregular mass of this deposit resting on the premound surface and surrounded by Silt loam 2B. The deposits covering both initial mound burials are Loam 1 and Clay loam 1. Clay loam 1 is mottled light yellowish brown (10YR6/4, dry), brownish yellow (10YR6/6, dry) yellowish brown (10YR5/6, moist) and includes wood ash, small pieces of charcoal, and decomposed organic remains. Loam 1 is light brownish gray (10YR6/2) when dry and yellowish brown (10YR5/4) when moist. It contains abundant light gray (10YR7/2, moist) wood ash, but little or no charcoal. The occurrence of Loam 1 and Clay loam 1 suggest that they are facies of a single deposit. These deposits are partially capped with Silty loam 1B which is a yellowish brown (10YR5/6, dry; 10YR4/4, moist) deposit.

The premound soil is an A1-B2-B3 soil horizon sequence selectively altered by mound construction depending on location. Preparatory to the first two interments, the A1 soil horizon was removed leaving a charcoal layer; subsequent mound deposits covered this layer and the B2 soil horizon. Further additions to Construction Stages 1 and 2, however, cover the A1 horizon. The A1 horizon is a dark yellowish brown (10YR4/4, dry; 10YR4/3, moist) silt loam with weak coarse crumb structure. There is a smooth abrupt boundary to the B2 horizon which is a mottled yellowish brown (10YR5/4, dry), brownish yellow (10YR6/6, dry), brown (10YR5/3, moist) silt loam with weak medium subangular blocky structure. Only a small portion of the B3 horizon was profiled by the excavations at the northern edge of the mound where redeposited mound fill replaces the A1 and B2 horizons. Since there are no detailed descriptions or soil samples from this location, designating a B3 horizon at Mound D is postulated from the premound soil profiles at the other 40RH7 and 40RH6 mounds.

The A1 horizon and portions of the B2 horizons are sharply truncated at the mound edge. How this occurred is difficult to explain. One possibility is that early historic plowing cut into the mound leaving a step-like stratigraphic break. Additional mound erosion buried the profile. A former plow zone should have been preserved, but the

stratigraphy shows none. A second explanation is that flooding and wave action cut into the mound. Floods reaching elevation 713.0 feet, the mound base, however, are unknown historically. The highest unrestricted flood to occur in the vicinity of the Watts Bar Nuclear plant reached an estimated 710.0 feet in 1867 (TVA, personal communication 1977).

Activities associated with mound construction are a third possible interpretation. Once the mound diameter was established an encircling area could have been stripped to augment the mound's appearance as well as to provide additional borrow. No proof is available for any one of the three possible explanations, although plowing and flood erosion are the least tenable for the reasons already given.

Cultural Remains

Lithic artifacts from the mound fill include two specimens from the first construction stage, 11 specimens from the second construction stage, and six specimens from disturbed or unassigned contexts. There are 15 projectile points and projectile point fragments including four shouldered contracting stem forms, one shouldered straight stem example, and one corner notched form. The remaining projectile points and point fragments are unclassifiable. Other lithic artifacts include a knife, a utilized flake, a pestle fragment and a piece of ground hematite. The classifiable projectile points have comparable forms in the Mound C lithic assemblage suggesting that the borrow area included probable Archaic and Woodland period habitation sites.

Only seven sherds, all limestone tempered plain, came from Mound D. These include three sherds from each construction stage and a single sherd from a disturbed context. They suggest probable Middle or Late Woodland period cultural affiliations.

Features

Features 11 and 12 were recorded immediately beyond the east mound edge (Figures 68 and 69). Neither feature is associated with the mound or aboriginal activities previous or subsequent to its construction. Instead they represent a historic firebox possibly associated with scalding hog carcasses or processing sorghum for syrup.

Feature 11 was a shallow oval pit 4.3 feet long by 3.1 feet wide and 0.8 feet deep. The pit walls and bottom were fire baked as were approximately 60 angular sandstone and limestone cobbles within the feature. A small unidentified glass fragment was recovered beneath the cobbles. Feature 11 articulates with the east end of Feature 12, an elongated hard yellow fired surface 10.7 feet long and 2.4 feet wide with a low rim about 0.1 feet high along one side. The soil is fired red beneath the yellow surface and between 0.1 and 0.5 feet beyond the

rim and sides. The red fired area is 1.3 feet wide at the west end, while at the east end the fired edge articulates with Feature 11. Associated with Feature 12 were six angular limestone and sandstone cobbles as well as two small patches of charcoal. No historic artifacts were found in Feature 12, but a probable bucket fragment, a half inch square-headed nut, and a small unidentified sliver of iron came from the fill above Features 11 and 12. A three-tined iron fork, recovered elsewhere at the mound edge, probably dates to the late 19th or early 20th centuries, suggesting that a similar date for the firebox is within reason.

Burials

The burial sample includes 22 interments representing 26 individuals. Construction Stage 1 contained two primary inhumations. Burial 41 was the initial mound interment, but preservation was so poor that only the teeth were recoverable. Although these remains were lost in the field, field observation suggests that the individual was an adult. No grave goods were found with the burial. The second interment from Construction Stage 1, Burial 39, was a flexed female age 20-25 years interred near the southwest mound edge. The body was placed on the pre-mound surface and, just as Burial 41, contained no grave goods (Figure 67).

Burials from Construction Stage 2 represent 19 single primary inhumations and a bundle reburial containing at least five individuals (Figure 68). Although body position was determined for only 11 interments, the burials, except for one extended individual, are flexed or semi-flexed. There were sufficient skeletal remains so that 12 primary inhumations were aged; children (2-3 years and 5-6 years), young adults (15-18 years and 18-25 years), and adults (25-35 years, 35-45 years, and 45+ years) are represented in the sample. Although classified adults, three additional individuals are unaged. Only four of these 15 burials, however, could be sexed; there are three males and a single female.

Grave goods were restricted to five interments. Burial 20, a semi-flexed adult of undetermined sex, contained a small celt near the head. Burial 31, a semi-flexed male age 25-35 years, contained a single Hamilton-like projectile point in the thoracic region, while Burial 38 a flexed individual of the same age and sex had artifact caches at the lower arms and near the pelvis and lower back. At the lower back was a small celt, two flakes, a projectile point/knife fragment, and four projectile points. The projectile points include two crude triangular forms, a corner notched specimen, and a Hamilton-like specimen. At the lower arms were two worked flakes, two unworked flakes, a short bone pin or projectile point, and a river mussel shell. The one or two flakes, river mussel shells, or faunal remains found in the vicinity of Burials 21, 22, 30 and 35, are considered fortuitous associations rather than grave goods.

Burials 21, 23, and 42 received special grave or body preparation prior to their interment. Burial 21, an adult of undetermined sex, was interred extended and covered with about 0.5 feet of fill. Upon this fill a substantial fire was ignited baking the soil over the entire body except for the head and feet. The fire extended roughly 1.0 feet to either side of the interment and was intense enough to thoroughly burn the arms and upper body area. No grave goods were included with the body or fired soil.

Burial 23 is a mass bundle reburial containing at least five individuals. Three individuals were recognized in the field and designated Burials 23, 24, and 25 (Figure 70). Subsequent laboratory analysis identified two more individuals; the total sample is described below as Burial 23. Included in the bundle were three males age 35-45 years, one male age 25-35 years, and one 12-15 year old individual of undetermined sex. There were no associated grave goods.

Burial 42 is distinguished by grave preparation and associated artifacts. The individual is a 2-3 year old child of indeterminate sex who was interred in a shallow pit 3.5 feet long, 2.7 feet wide, and about 0.8 feet deep. The pit was dug at the completed edge of Construction Stage 1 into the premound soil. Six large disk shell beads, a large crescent-shape mussel shell fragment, and two unidentified animal claws were found near the skull. Three beads each were found at the top and base of the skull, suggesting a necklace or head ornament. In the chest area were two limestone tempered globular jars. Both vessels have nearly identical shapes and proportions, except that one is almost exactly twice as large as the other. The larger vessel has a plain surface with single horizontal and diagonal rows of punctates on the shoulder. The smaller vessel has a plain neck and shoulder with a finely cord marked body.

Burial 19

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of mound fill

Individuality: single interment

Demography: age - 18-25 years
sex - indeterminate
pathologies - none observed

Preservations: very poor

Articulation: articulated

Position: flexure - flexed
arms - indeterminate
head - looking straight

Figure 69. Feature 12, view to the northeast

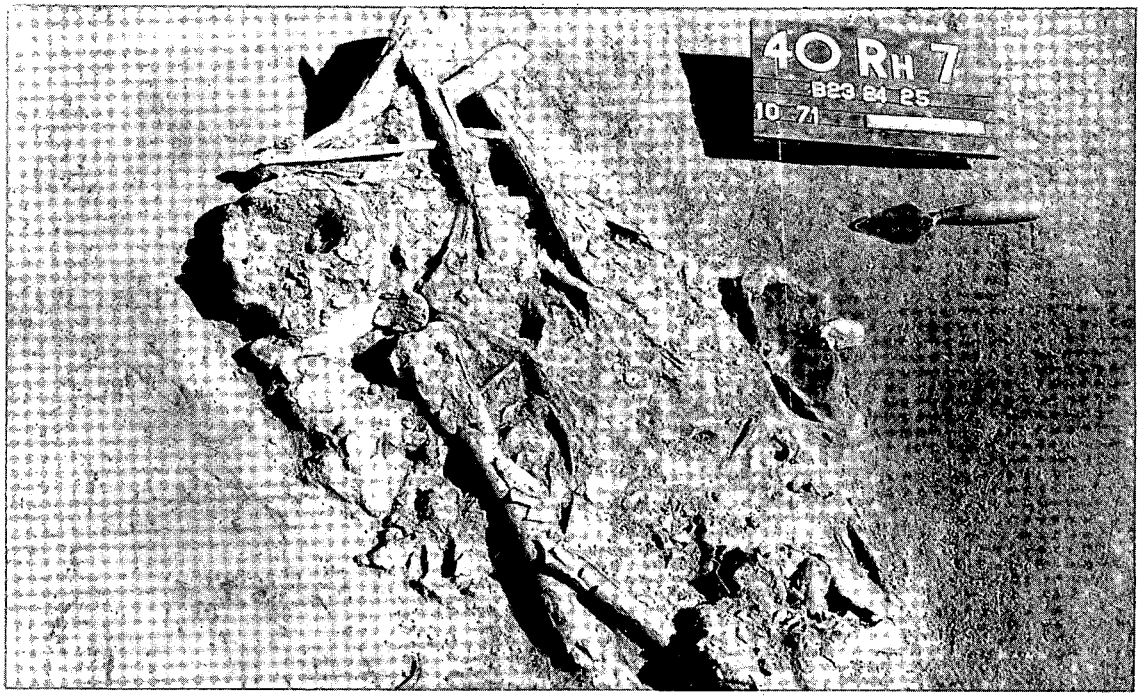


Figure 70. Burial 23, view to the northeast

Deposition: on right side

Orientation: head to north

Grave Goods: none

Burial 20

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of mound fill along the mound periphery

Individuality: single interment

Demography: age - adult
sex - indeterminate
pathologies - none observed

Preservation: extremely poor--only a few fragmented teeth could be recovered for laboratory analysis

Articulation: articulated

Position: flexure - semi-flexed
arms - indeterminate
head - looking straight

Deposition: on left side

Orientation: head to southwest

Grave Goods:
1 Greenstone celt; length 113 mm, width 43 mm, thickness 12 mm; found beside the top of the skull (Figure 71j).

Burial 21

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of the mound fill along the mound periphery

Individuality: single interment

Demography: age - 15-18 years
sex - indeterminate
pathologies - none observed
observations - upper left lateral incisor shows extreme shovel-shaping

Figure 71. Selected grave goods associated with Burial 13 (Mound C) and Burials 20, 31, and 39 (Mound D) (all specimens actual size)

a Hamilton-like projectile point, Burial 31
b Crude triangular projectile point, Burial 38
c Hamilton-like projectile point, Burial 38
d Corner notched projectile point, Burial 38
e Small triangular projectile point, Burial 38
f Bipointed bone awl or pin, Burial 38
f Projectile point or knife blade fragment, Burial 38
h-i Utilized flakes, Burial 38
j Celt, Burial 20
k Celt, Burial 13
l Celt, Burial 38

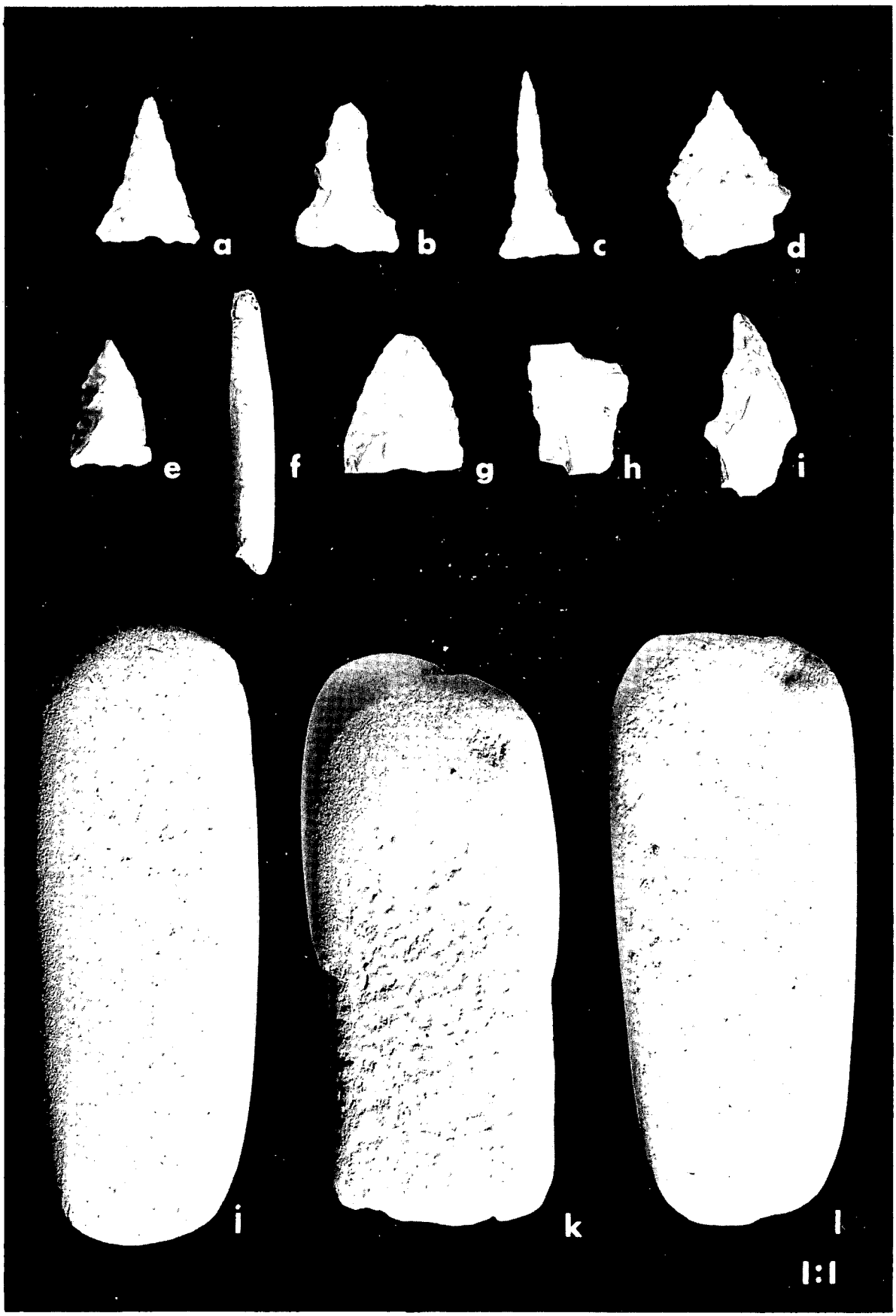


Figure 71

Preservation: very poor

Articulation: articulated

Position: flexure - semi-flexed
arms - folded across the chest
head - looking to the left

Deposition: on right side

Orientation: head to north

Grave Goods: none

Comment: A small mammal tooth fragment and a fish vertebra found in proximity to the burial are considered fortuitous inclusions rather than grave goods.

Burial 22

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: Placed on level surface formed by scooping out a portion of the mound fill along mound periphery. A layer of fired clay (0.4 to 0.5 feet thick) covered the burial, and the thoracic area was charred, indicating that deliberate intense burning followed interment.

Individuality: single interment

Demography: age - adult
sex - indeterminate
pathologies - none observed

Preservation: extremely poor

Articulation: articulated

Position: flexure - extended
arms - at side
head - indeterminate

Deposition: on back

Orientation: head to south

Grave Goods: none

Comment: A single cryptocrystalline flake recovered with the burial is considered a fortuitous inclusion.

Burial 23

Burial 23 consists of a bundle reburial of at least five individuals. During excavation only three skeletons were recognized and these were assigned numbers 23, 24, and 25. Burial 23 referred to the west skull in the bundle, 24 to the north skull, and 25 to the south skull. Laboratory analysis, however, showed that the reburial contained a minimum of five individuals. For the purposes of analysis and recording, one burial number, 23, is assigned to this interment, and each individual is listed as 23A, 23B, 23C, 23D, and 23E.

Form of Disposal: compound disposal, burial and subsequent disinterment, secondary inhumation

Manner of Disposal: bundle placed on level surface scooped out of mound fill along mound periphery

Individuality: mass interment, minimum of five individuals

Demography:
23A age - 35-45 years
sex - male
pathologies - none observed
23B age - 35-45 years
sex - male
pathologies - none observed
23C age - 25-35 years
sex - probable male
pathologies - none observed
23D age - 35-45 years
sex - probable male
pathologies - none observed
23E age - 12-15 years
sex - indeterminate
pathologies - none observed
observations - pronounced shovel-shaping on four upper incisors

Preservation: fair

Articulation: disarticulated (bundle)

Grave Goods: none

Comment: Two gastropod shells, one pelecypod valve (species undetermined), and a utilized flake found in the burial's vicinity are considered fortuitous inclusions rather than grave goods.

Burial 26

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: probably placed on level surface formed by scooping out a portion of mound fill along mound periphery

Individuality: single interment

Demography: indeterminate

Preservation: extremely poor--the historic intrusion partially removed the burial. The few remaining bones were so deteriorated that none could be recovered for laboratory analysis.

Articulation: articulated

Position: flexure - semi-flexed
arms - indeterminate
head - indeterminate

Deposition: indeterminate

Orientation: head to west

Grave Goods: none

Burial 27

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - 2-3 years
sex - indeterminate
pathologies - none observed

Preservation: extremely poor--only a few small skull fragments and two deciduous molars represent the burial

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 28

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - 35-45 years
sex - indeterminate
pathologies - possible case of multiple myeloma; all fragments were heavily pitted with the characteristic "sharply demarcated 'punched-out' areas of lysis of various sizes (Morse, 1969:25)."

Preservation: very poor--only skull, teeth, and first and second vertebrae fragments were recovered for laboratory analysis

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 29

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of moundfill along mound periphery

Individuality: single interment

Demography: age - 45+ years
sex - female
pathologies - possible case of advanced multiple myeloma, present throughout the skeleton. Healed pathological fracture of the left tibia, probably caused by the multiple myeloma. Same condition appears in the fibula shaft fragment. Arthritic lipping present on vertebral bodies.

Preservation: fair

Articulation: articulated

Position: flexure - semi-flexed
arms - hands to the face
head - looking straight

Deposition: on left side

Orientation: head to west

Grave Goods: none

Burial 30

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - indeterminate
sex - indeterminate
pathologies - indeterminate

Preservation: extremely poor--the burial was so deteriorated that no bones could be recovered for laboratory analysis

Articulation: indeterminate

Position: indeterminate

Deposition: indeterminate

Orientation: indeterminate

Grave Goods: none

Comment: Two cryptocrystalline silica flakes (one retouched and one unretouched) found near the burial are considered fortuitous inclusions rather than grave goods.

Burial 31

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on a level surface formed by scooping out a portion of mound fill along the mound periphery.

Individuality: single interment

Demography: age - 25-35 years
sex - probable male
pathologies - possible case of multiple myeloma present in all recovered skull and long bone fragments.

Preservation: poor

Articulation: articulated

Deposition: on back

Position: flexure - semi-flexed
arms - along side
head - looking straight

Orientation: head to southeast

Grave Goods:
1 Hamilton-like projectile point found in chest area; length 27 mm, width 10 mm, thickness 3 mm (Figure 71a)

Burial 32

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of mound fill along the mound periphery.

Individuality: single interment

Demography: age - 25-35 years
sex - male
pathologies - possible case of multiple myeloma present throughout all the skeletal fragments.

Preservation: poor

Articulation: articulated

Deposition: on left side

Position: flexure - flexed
arms - along side (left arm not visible)
head - looking straight

Orientation: head to southeast

Grave Goods: none

Burial 33

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: placed on premound surface along the periphery of Construction Stage 1 and covered with soil.

Individuality: single interment

Demography: age - 18-25 years
sex - indeterminate
pathologies - none observed

Preservation: very poor

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: head to north

Grave Goods: none

Burial 34

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: placed on premound surface along the periphery of Construction Stage 1 and covered with soil.

Individuality: single interment

Demography: age - 35-45 years
sex - indeterminate
pathologies - none observed

Preservation: poor--only the skull was recovered

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 35

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on a level surface formed by scooping out a portion of mound fill along the mound periphery

Individuality: single interment

Demography: age - adult
sex - indeterminate
pathologies - none observed

Preservation: poor

Articulation: articulated

Deposition: on left side

1 Bipointed bone awl or pin, both points broken or crushed; found near the left elbow; length 52 mm, diameter 8 mm (Figure 71f).
1 Projectile point or knife blade fragment; triangular blade, convex edges, percussion flaked overall with pressure retouch along the edges; found beneath the pelvis; length 25 mm, width 22 mm, thickness 8 mm (Figure 71g).
2 Cryptocrystalline silica utilized flakes, found near the lower arms (Figure 71h-i).
2 Cryptocrystalline silica chipping debris; found with two above utilized flakes.
1 Greenstone celt; found near the lower back region; length 108 mm, width 44 mm, thickness 11 mm (Figure 71-l).
2 Cryptocrystalline silica chipping found beneath the pelvis.

Burial 39

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface prepared by scooping out a portion of the mound periphery.

Individuality: single interment

Demography: age - 20-25 years
sex - female
pathologies - none observed

Preservation: fair

Articulation: articulated

Deposition: on back

Position: flexure - flexed
arms - folded to left side of face
head - looking straight

Orientation: head to southwest

Grave Goods: none

Burial 40

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: indeterminate

Preservation: extremely poor--preservation was so poor that no bones were recovered for laboratory analysis

Articulation: articulated

Deposition: on left side

Position: flexure - semi-flexed
arms - indeterminate
head - looking straight

Orientation: head to south

Grave Goods: none

Burial 41

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on the premound surface prepared by removal of vegetation and A1 soil horizon. Interment covered with a layer of ashes and charcoal followed by layer of sterile soil.

Individuality: single interment

Demography: age - adult, indeterminate
sex - indeterminate
pathologies - indeterminate

Preservation: extremely poor

Articulation: articulated

Position: flexure - indeterminate
arms - indeterminate
head - looking straight

Deposition: probably on left side

Orientation: head to northwest

Grave Goods: none

Burial 42

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed in shallow oval pit excavated into the premound surface; pit positioned along the periphery of Construction Stage 1.

Pit Dimensions: 4.5 feet by 2.7 feet; 0.7 feet deep

Position: flexure - semi-flexed

Orientation: head to southwest

Grave Goods: none

Comment: A river mussel valve (species undetermined) found beneath the burial is considered a fortuitous inclusion rather than a burial accompaniment.

Burial 36

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: age - 5-6 years
sex - indeterminate
pathologies - none observed
observations - pronounced shovel-shaping is present on both the upper and lower unerupted adult central incisors.

Preservation: very poor

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 37

Form of Disposal: probable simple disposal, primary inhumation

Manner of Disposal: indeterminate

Individuality: single interment

Demography: indeterminate

Preservation: extremely poor--the burial was so deteriorated that none of the bones could be recovered for laboratory analysis

Articulation: indeterminate

Deposition: indeterminate

Position: indeterminate

Orientation: indeterminate

Grave Goods: none

Burial 38

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed on level surface formed by scooping out a portion of mound fill along the mound periphery.

Individuality: single interment

Demography: age - 25-35 years
sex - probable male
pathologies - enormous caries in lower right first molar; 90 percent of the crown has been eaten away; large carie on the occlusal surface of the upper left third molar.
observations - upper right central and lateral incisors exhibit pronounced shovel-shaping; a small enamel pearl is present on the distal root surface of the upper right third molar.

Preservation: poor

Articulation: articulated

Deposition: on right side

Position: flexure - flexed
arms - left arm semi-flexed at one side, right arm not visible
head - looking straight

Orientation: head to west

Grave Goods:
1 Crude triangular projectile point, percussion flaked overall, tip rounded, edges concave, base straight, cross section plano-convex, found beneath the lower back region; length 27 mm, width 20 mm, thickness 6 mm (Figure 71b).
1 Hamilton-like projectile point found beneath the lower back region; length 34 mm, width 15 mm, thickness 3 mm (Figure 71c).
1 Corner notched projectile point, blade triangular, edges straight, base straight, corner notches form short straight stem, cross section biconvex, found beneath lower back region; length 29 mm, width 22 mm, thickness 5 mm (Figure 71d).
1 Small triangular projectile point, convex edges and straight base, cross section plano-convex; found in pelvic area; length 23 mm, width 15 mm, thickness 5 mm (Figure 71e).

Individuality: single interment

Demography: age - 2-3 years
sex - indeterminate
pathologies - none observed

Preservation: extremely poor--only the teeth were recovered for laboratory analysis

Articulation: indeterminate

Position: flexure - indeterminate
arms - indeterminate
head - looking straight

Deposition: probably on left side

Orientation: head probably to north

Grave Goods:

1 Large crescent shaped mussel shell fragment, found near the top of the skull; length 108 mm, width 92 mm, thickness 5 mm (Figure 72d).

6 Flat disk shell beads, center perforation. The recovery of three specimens near the top of the skull and three specimens at the base of the skull suggests their use as a necklace or some other ornament (Figure 72a-c).

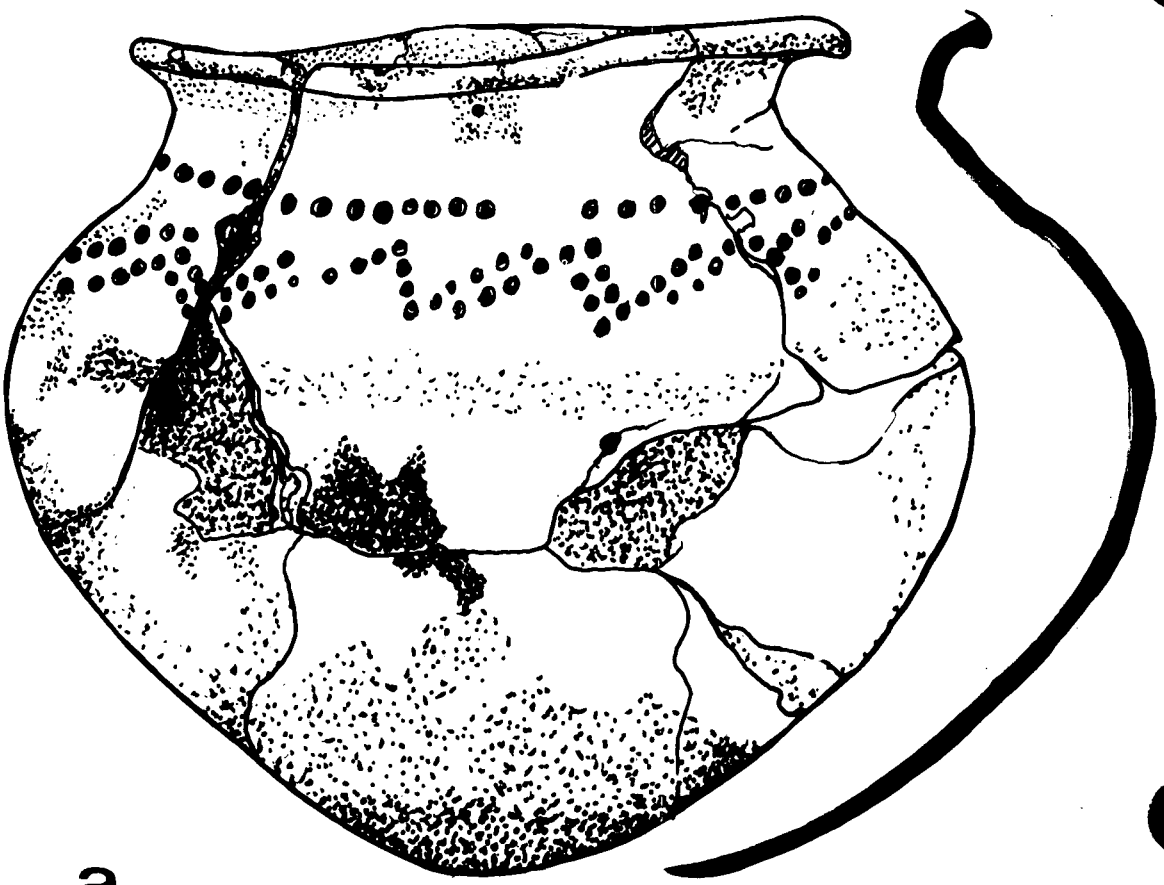
Catalog Number	Diameter (mm)	Thickness (mm)	Perforation Diameter (mm)
42-3/D	15	5	4
42-4a/D	20	7	4
42-46/D	20	7	4
42-5/D	26	5	5
42-6/D	41	11	4
42-7/D	41	11	5

2 Small mammal claws (species undetermined) found between top of skull and shell crescent.

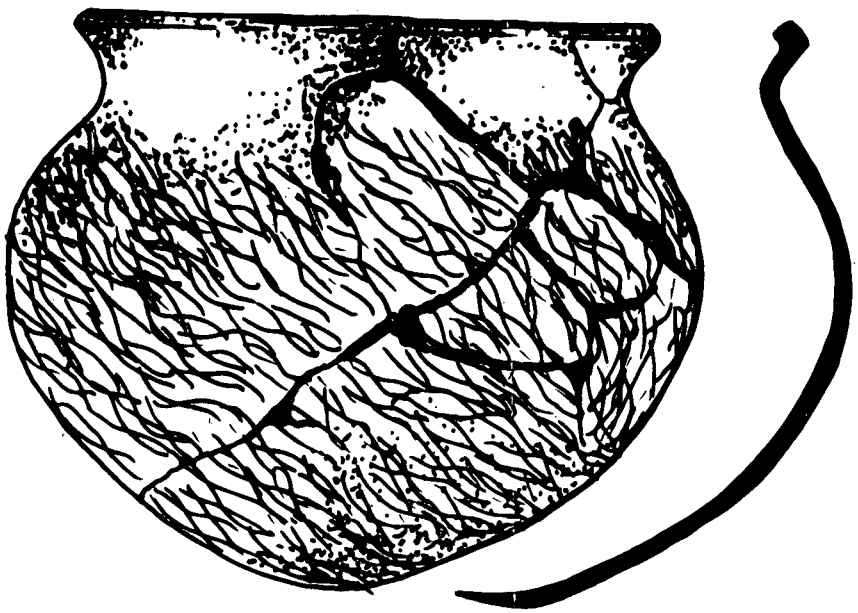
1 Globular jar, fine crushed limestone temper, smooth plain surface, a single row of evenly spaced punctuates circumscribe the vessel neck; short vertical rows of single punctuates circumscribe the shoulder. Connecting rows run diagonally left to right from the bottom of one vertical row to the top of the next vertical row; punctated with a sharp pointed implement; the rim is excurved and the lip rounded, the base is slightly conoidal. The vessel is well made with thin walls (2-4 mm); overall color is black and heavy soot deposits occur on the body; height 101 mm, body diameter 129 mm, mouth diameter 74 mm. Recovered from the chest region (Figure 73a).

Figure 72. Shell and bone ornaments associated with Burial 42 (Mound D) and Burial 43 (Mound E) (all specimens actual size)
a-c Shell disk beads, Burial 42
d Shell crescent, Burial 42
e-f Bear canine pendants, Burial 43

Figure 72



a



b

1:1

Figure 73. Limestone tempered vessels associated with Burial 42:
a. plain vessel with punctated shoulder;
b. cordmarked vessel (both specimens actual size)

1 Globular jar, fine crushed limestone temper, fine cord marked body surface, cord impressions are 1-2 mm wide and run diagonally from right to left at a 45 degree angle, neck and rim smooth plain surface, the rim is excurved and the lip rounded, the base is rounded. The vessel is well made with thin walls (2-4 mm); overall color is black with patches of soot deposits; height 77 mm, body diameter 90 mm, mouth diameter 65 mm. Recovered from the chest region adjacent to the preceding vessel (Figure 72b).

Comment: 1 Small thick cruce biface, percussion flaked overall, cross section thick biconvex, length 27 mm, width 21 mm, thickness 18 mm, was found in the pit fill. This item is considered a fortuitous inclusion rather than a burial accompaniment.

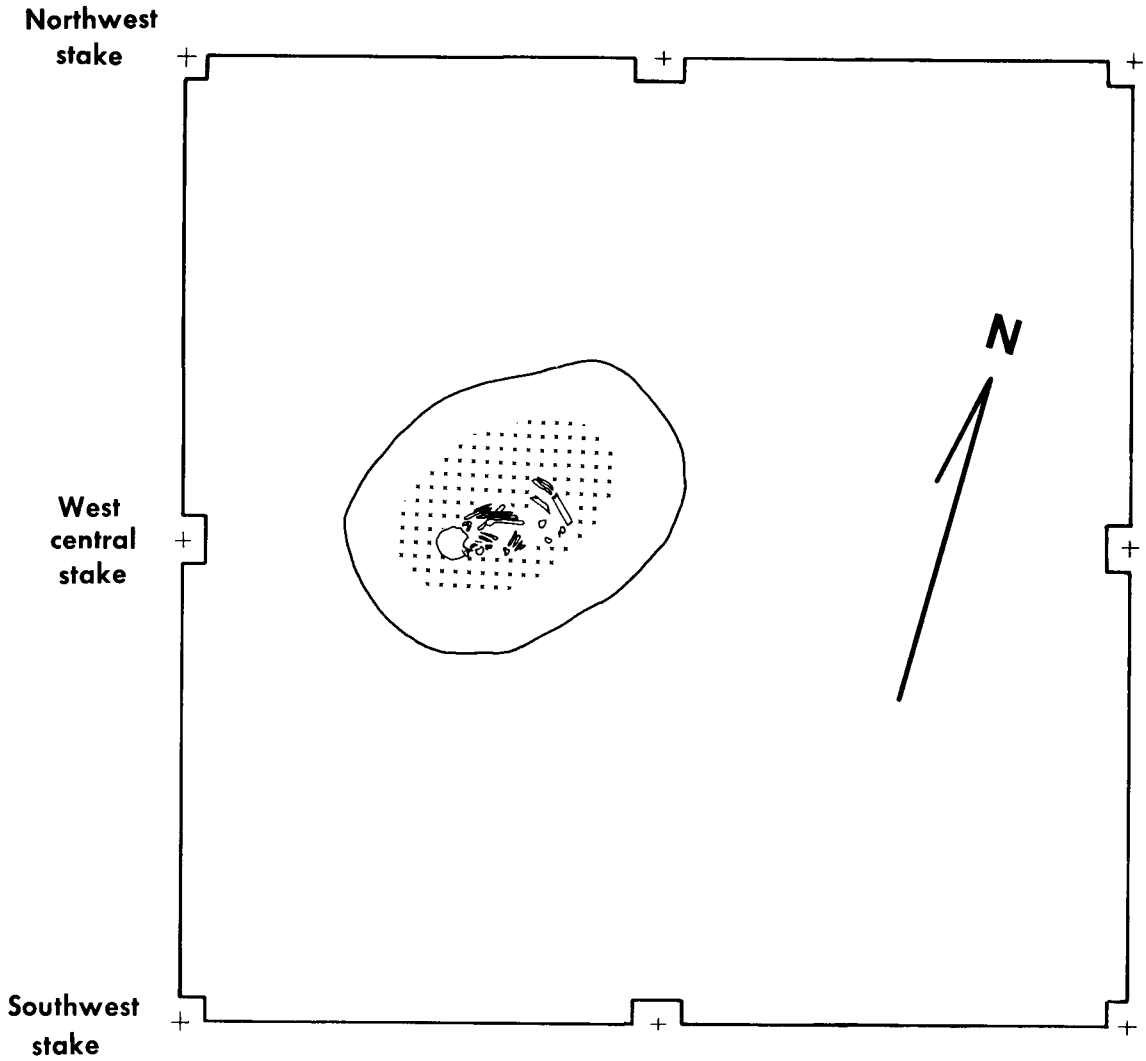
Mound E

Mound E was recognized by fragmented molluscs scattered in the plow zone and exposed at the surface. The shell distribution was a circular pattern roughly 30 feet in diameter. The area was investigated with four 10 feet squares excavated as a 20 by 20 feet test pit (Figure 74). The corner stakes and stakes at the midpoint of each wall were designated by cardinal directions. The excavation location was triangulated from the Mounds A and B grid with the South Mound E stake situated 346 feet N 79.5°E from 70L110 and 382 feet S 84.5°E from 70CL (see Figure 30).

Although no profiles were drawn, field notes indicate that plow disturbed mound fill and possibly basal mound remnants covered an undisturbed premound A1 and B2 soil horizon sequence. The A1 horizon was unaltered prepatory to mound construction. Scattered throughout the fill were numerous fragmented shells suggesting that layers of molluscs were used at various stages in mound construction just as in Mound A and in Mound B. Table 15 lists the mollusc species identified from Mound E.

At the mound base and intruding the premound soil was a large oval pit containing a single primary inhumation. The pit measured 7.2 feet long, 5.3 feet wide, and 1.2 feet deep, and had steep sloping walls and a flat floor 5.0 feet long by 3.0 feet wide. The pit bottom was covered with a uniform layer of shells upon which were the remains of a flexed 45+ years male. Associated with the interment were two bear (*Ursus* sp.) canine pendants at the base of the skull, likely representing a necklace or head ornament.

Numerous lithic and ceramic artifacts were found in the pit fill. Lithic artifacts included an unclassifiable projectile point fragment and nine utilized flakes. Four polished bone fragments also came from the pit fill. Limestone tempered ceramics from this provenience include 38 plain, 25 residual plain, 43 cord marked, and 7 simple stamped sherds.



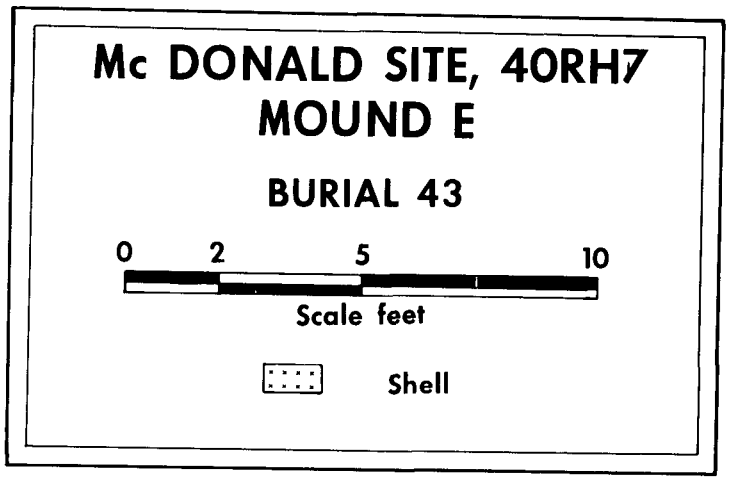


Figure 74. Mound E excavation plot with Burial 43

Pit Dimensions: outside - 7.0 feet by 5.4 feet, 2.4 feet deep
floor - 5.0 feet by 3.0 feet

Individuality: single interment

Demography: age - 45+ years
sex - male
pathologies: severe dental caries (5) in the molars and premolars; fairly extensive lipping on the thoracic and lumbar centra

Preservation: fair

Articulation: articulated

Deposition: on left side

Position: flexure - flexed
arms - folded on chest
head - looking straight

Orientation: head to south

Grave Goods:
2 Bear canine pendants found beside the occipital area of the skull, representing ornaments or part of a necklace (Figure 73e-f).

Skeletal Population and Burial Patterns

The McDonald site excavations produced 41 interments representing 45 individuals. Except for Burial 23 which was a multiple reburial containing at least five individuals, the interments are, or are assumed to be single, simple, primary inhumations. Skeletal preservation was so poor that no bone was recovered from five burials. Demographic data for these interments thus is indeterminable; burial attributes such as position, deposition, and orientation in a few instances were made from available field records. Of the 41 interments, Mound A contained 10, Mound B had 2, Mound C held 6, Mound D contained 22, and a single burial came from Mound E. Table 16 summarizes the burial data. Including the burials which Moore recovered raises the Mound C total to 11 interments. Four additional burials which he recovered from mounds unidentified in 1971 raises the site total to 50 interments. Moore's descriptions, however, are inadequate for detailed analysis; therefore, they are excluded from Table 16 and the synthesis presented below.

Comparisons of the McDonald site burial data are based on studies by Burnett (1972a, 1972b) and Cole (1975a, 1975b). These sources, particularly Cole (1975b), supercede earlier summaries and syntheses which are based on excavations conducted during the 1940's and earlier (Lewis and Kneberg, 1946; Kneberg, 1952; Rowe, 1952; and Whiteford, 1952).

Table 15. Selected mollusc remains from Mound E

Taxa	Mound Fill	Burial 43 Pit Fill
Gastropoda (acquatic)		
Campeloma sp.	-	x
Io fluvialis	-	x
Lithasia sp.	-	x
Pleurocera sp.	-	x
Pelecypoda		
Actinonaias carinata	x	x
Cyclonaias tuberculata	x	x
Elliptio crassidens	x	x
Fusconaia ebenus	-	x
Fusconaia sp.	x	x
Plethobasis sp.	-	x

A single sand tempered complicated stamped sherd also was found within the burial pit. The Mound E ceramic sample represents 55 percent of the sherds from the five mounds investigated at 40RH7. Except for the small number of limestone tempered simple stamped and sand tempered complicated stamped sherds, the sample is comparable to sherds from Mound C. Both samples suggest a Late Woodland period context. Only ten, one, and seven sherds respectively were found in Mounds A, B, and D thus making comparative statements nearly meaningless.

Field notes suggest that Burial 43 is associated with occupation predating mound construction. Since little occupational debris and no other features occurred within the excavations, it is more likely that Burial 43 represents an initial mound interment.

Burial 43

Form of Disposal: simple disposal, primary inhumation

Manner of Disposal: placed in deep oval pit excavated in the original premound surface; side walls straight to slightly sloping; pit floor flat. Prior to buiral the pit floor was covered with a layer of river mussel shells.

Table 16. Summary of the McDonald site burials

Mound/Construction Stage	Burial Number	Disposal	Individ-uality	Age	Sex	Position: Flexure	Position: Arms	Position: Head	Deposition	Orien-tation	Grave Goods
Mound A											
C.S. 1	12	simple/primary	single	30-35	M	extended	sides	straight	back	West	X
C.S. 2	--										
C.S. 3	8	simple/primary	single	14-17	-	extended?	-	-	back	NW	X
	9	simple/primary	single	adult	-	-	-	-	-	-	X
C.S. 4	4	simple/primary	single		-	-	-	-	-	-	X
	6	simple/primary	single	adult	-	-	-	-	-	-	-
	7	simple/primary	single	35-45	-	-	-	straight	right	NW	-
C.S. 5	3	simple/primary	single	6-7	-	-	-	-	-	-	X
	5	simple/primary	single	18-25	F	flexed	folded on chest	straight	right	West	-
	10	simple/primary	single	25-35	M	semiflexed	-	straight	right	South	-
	11	simple/primary	single	9-10	-	flexed	to face	straight	right	NE	-
Mound B	1	simple/primary	single	35-45	M	extended	sides	right	back	West	-
	2	simple/primary	single	35-45	F	semiflexed	right to side left to face	straight	left	South	-
Mound C	13	simple/primary	single	adult	-	-	-	-	-	-	X
	14	simple/primary	single	25-35	F	semiflexed	side	straight	left	SE	X
	15	simple/primary	single	-	-	-	-	-	-	-	-
	16	simple/primary	single	3-4	-	-	-	-	-	SE	-
	17	simple/primary	single	18-25	M	-	-	-	-	South	-
	18	simple/primary	single	45+	M	semiflexed	-	straight	left	NW	-
Mound D											
C.S. 1	39	simple/primary	single	20-25	F	flexed	left to face	straight	back	SW	-
	41	simple/primary	single	adult	-	-	-	straight	left	NW	-
C.S. 2	19	simple/primary	single	18-25	-	flexed	-	straight	right	North	-
	20	simple/primary	single	adult	-	semiflexed	-	straight	left	SW	X
	21	simple/primary	single	15-18	-	semiflexed	folded on chest	left	right	North	-

Burnett's studies provide data compilations from 15 mounds in Rhea, Roane, and Meigs Counties, but provide few substantive conclusions other than an attempted seriation of grave goods. Cole's work relies on a 14 mound sample selected on the basis of preservation, adequate documentation, and geographic location. Included within the sample are eight mounds in Anderson, Roane, and Rhea counties excluded from Burnett's analysis. Cole also used information from recently excavated sites, particularly Mounds A and D at the McDonald site, and site 40RE124 excavated in 1973-1974. Correlation, interpretation, and synthesis of her data are derived from a series of computer assisted statistical programs, thus providing the most sophisticated treatment of East Tennessee burial mounds presently available. Deleting the two McDonald site mounds creates no essential differences in Cole's conclusions, thus providing a valid comparative base for use here.

Age and Sex

Within the McDonald site skeletal population, there are 13 males (28.9 percent), 5 females (11.1 percent), 12 undeterminable adults (26.6 percent), and 10 subadults (22.2 percent). Five burials from which no bone was recovered represent 11.1 percent of the population (Table 17). Ages from infancy through old age occur in the population. Only one infant, however, was recovered suggesting that perhaps little effort was made to inter these individuals in the same manner as the rest of the population. Apart from the indeterminate age group (12 burials, 26.6 percent), the largest single age group are individuals 35-45 years old (17.8 percent), and the smallest number of individuals are in the 6-11 age group (4.4 percent). The 25-35 age group represents the second largest number of individuals within the population (15.6 percent) (Table 17).

Looking at the age group distribution within each mound shows that nearly every age class interval occurs in Mounds A and D (Table 18). The exceptions are no 2-6 year or 45+ year classes in Mound A and no infants in Mound D. The three age groups covering 18-45 years clearly predominate in Mound D, while in Mound A no single class is outstanding. There are too few burials, however, to make meaningful internal comparisons between construction stages. Nevertheless, the overall pattern in both mounds is more adults than subadults. A similar pattern possibly occurs at Mounds B, C, and E, but the burial sample is too small to adequately assess age group distributions. With no exceptions, Cole's (1975b:73) mound sample showed the same pattern even to the point that including the indeterminate burials as subadults made no difference in the predominance of adult burials.

Reviewing the distribution of sex classification at 40RH7 suggests a greater number of male interments (Table 19). Cole (1975b:73) found instances where males occurred five times as frequently as females. Because of poor bone preservation here and at other mounds, there are, however, so many unsexed burials that a clear bias towards male burials is unsubstantiated. The indeterminate burials, if considered females, would reverse the sex ratios at 40RH7.

Table 17. Age and sex composition of the McDonald site burials

	B-2	2-6	6-12	12-18	18-25	25-35	35-45	45+	Indet.	Total	Percent
Male	-	-	-	-	1	6	4	2	-	13	28.9
Female	-	-	-	-	2	1	1	1	-	5	11.1
Adult	-	-	-	-	2	-	3	-	7	12	26.6
Subadult	1	4	2	3	-	-	-	-	-	10	22.2
Indet.	-	-	-	-	-	-	-	-	5	5	11.1
Total	1	4	2	3	5	7	8	3	12	45	100.0
Percent	2.2	8.9	4.4	6.7	11.1	15.6	17.8	6.7	26.6	100.0	

Table 18. Age composition by individual mound at the McDonald site

Mound	B-2	2-6	6-12	12-18	18-25	25-35	35-45	45+	adult	indet.
A	1	-	2	1	1	2	1	-	2	-
B	-	-	-	-	-	-	2	-	-	-
C	-	1	-	-	1	1	-	1	1	1
D	-	3	-	2	3	4	5	1	4	4
E	-	-	-	-	-	-	-	1	-	-
Total	1	4	2	3	5	7	8	3	7	5

Table 16 Continued

Mound/Construction Stage	Burial Number	Disposal	Individ-uality	Age	Sex	Position Flexure	Position Arms	Position Head	Deposition	Orien-tation	Grave Goods
Mound D (cont'd)											
	22	simple/primary	single	adult	-	extended	sides	-	back	South	-
	23A	compound/ secondary	multiple	35-45	M	-	-	-	-	-	-
	23B			35-45	M	-	-	-	-	-	-
	23C			25-35	M	-	-	-	-	-	-
	23D			35-45	M	-	-	-	-	-	-
	23E			12-15	-	-	-	-	-	-	-
	26	simple/primary	single	-	-	semiflexed	-	-	-	West	-
	27	simple/primary	single	2-3	-	-	-	-	-	-	-
	28	simple/primary	single	35-45	-	-	-	-	-	-	-
	29	simple/primary	single	45+	F	semiflexed	to face	straight	left	West	-
	30	simple/primary	single	-	-	-	-	-	-	-	-
	31	simple/primary	single	25-35	M	semiflexed	side	straight	back	SE	X
	32	simple/primary	single	25-35	M	flexed	side	straight	left	SE	-
	33	simple/primary	single	18-25	-	-	-	-	-	North	-
	34	simple/primary	single	35-45	-	-	-	-	-	-	-
	35	simple/primary	single	adult	-	semiflexed	-	-	left	SW	-
	36	simple/primary	single	5-6	-	-	-	-	-	-	-
	37	simple/primary	single	-	-	-	-	-	-	-	-
	38	simple/primary	single	25-35	M	flexed	side?	straight	right	West	X
	40	simple/primary	single	-	-	semiflexed	-	straight	left	South	-
	42	simple/primary	single	2-3	-	-	-	straight	left	North	X
Mound E	43	simple/primary	single	45+	M	flexed	folded on chest	straight	left	South	X

(Webb, 1938:Plate 127). Nevertheless their frequency is comparable to Unit 4 at the Alford Farm site.

Thus bundle burials occur with about 40 percent of the burial mounds, but just as at Mound D, such interments seldom exceed 6 percent of the burials in any one mound. Simple primary inhumations always are the predominant form of disposal. Possible skull burials and cremations are rare in burial mounds (Cole, 1975b). None occurred at 40RH7 unless the burning associated with Burial 12, Mound A, and Burial 24, Mound D, is considered partial cremation in place.

Deposition, Position and Orientation

Body deposition includes burial on the back, on the right side, on the left side, and indeterminate (Table 20). Sixteen burials (40.0 percent) were indeterminate regarding this characteristic. Deposition on the side was most frequent, with the left side (11 burials, 27.5 percent) preferred to the right side (7 burials 17.5 percent). Six individuals (15.0 percent) were buried on the back. There is no apparent age or sex preference regarding deposition. There are too many indeterminate burials to demonstrate deposition preferences for each mound, even though right side deposition is well represented in Mound A and left side deposition is frequent in Mound D. At 40RE124, in descending order, right side, left side, and back deposition was the observed pattern (Cole, 1975a:145). Further comparable data are unavailable because burial deposition is either unrecorded or untabulated for other mounds. Making this identification, in addition, is especially difficult when using only field records.

Table 20. Burial deposition by individual mound at the McDonald site

Mound	Back	Right	Left	Indeterminate
A	2	4	1	4
B	1	-	1	-
C	-	-	2	4
D	3	3	7	8
E	-	-	1	-
Total	6	7	11	16
Percent	12.8	17.9	28.2	41.0

Table 19. Sex composition by individual mound at the McDonald site

Mound	Male	Female	Indeterminate
A	2	1	7
B	1	1	-
C	2	1	3
D	7	2	17
E	1	-	-
Total	13	5	27

Because burials initiating mound construction often received preferential treatment in terms of grave preparation or associated burial goods, an attempt was made to isolate patterns of age and sex classification for these interments (Cole, 1975b:74-75). Only four of 14 initial mound burials including Burial 12 at Mound A were sexed; these were adult males. Eleven interments including Burial 41 at Mound D were adults and three burials were indeterminate. It was tentatively concluded that adult males initiated the construction of most mounds. Burial 1 and Burial 43 which respectively represent the first Mound B and Mound E interments support this conclusion--both individuals are adult males.

Form of Disposal, Individuality and Articulation

The McDonald site burials with one exception are single, simple, primary inhumations. Of the 40 single burials 22 (55 percent) were articulated, while 18 interments (45 percent) were indeterminate because of poor bone preservation. Burial 23 in Mound D was the only disarticulated burial. It is a multiple compound secondary disposal representing the reburial of at least five individuals.

Among 17 mounds containing 10 or more burials analyzed by Cole (1975b) or Burnett (1972a, 1972b), ten mounds contained only primary inhumations, while seven mounds also included bundle reburials. No more than three bundle burials, always comprising less than 6 percent of the total burial sample, were recovered at five of the latter sites. At the Alford Farm Mounds, Unit 4 (40RE4), six bundle burials represent 21.4 percent of the sample. Webb (1938:186-189) suggests that 15 (88 percent) of the 17 interments at the Freel Farm Mound (40AN22) are bundle reburials. The burial descriptions, however, suggest that poor bone preservation may have prompted this conclusion. There are only three (17.6 percent) unquestionable bundle burials at the site

Table 21. Burial flexure by individual mound at the McDonald site

Mound	Flexed	Semiflexed	Extended	Indeterminate
A	2	1	2	5
B	-	1	1	-
C	-	2	-	4
D	4	7	1	9
E	1	-	-	-
Total	7	11	4	18
Percent	17.5	27.5	10.0	45.0

Table 22. Burial sex/flexure correlation at the McDonald site

	Flexed		Semiflexed		Extended		Indeterminate
Mound	Male	Female	Male	Female	Male	Female	sex/flexure
A	-	1	1	1	1	-	7
B	-	-	-	1	1	-	-
C	-	-	1	1	-	-	4
D	2	1	1	1	-	-	16
E	1	-	-	-	-	-	-
Total	3	2	3	3	2	-	27

Degree of leg flexure was indeterminate for 17 burials (42.5 percent). The preferred position was semiflexed (32.5 percent) followed by flexed (15.0 percent) and fully extended (10.0 percent) (Table 21). Table 22 shows sex/flexure preference. As can be seen, no females were buried fully extended whereas two males were placed in this position. Almost equal numbers of both sexes were buried flexed and semiflexed, but 17 burials are indeterminate for sex/flexure. Slightly more adults were semiflexed (8) than flexed (6), while three adults and one subadult were buried extended (Table 23).

In comparison, flexed rather than semiflexed was the most frequent body position at 40RE124 (Cole, 1975a). But there is no correlation with age of death at the site since all but one individual are adults. Nearly an equal number of males and females were flexed, but the combination of sex/flexure was indeterminable for more than half of the primary inhumations. There were no extended burials.

Flexed burials, however, are predominant in only about half as many mounds as semiflexed burials (Cole, 1975b:72). Overall semiflexed interments far exceed the number of flexed burials (Burnett, 1972a, 1972b). Extended burials occur in 11 of 17 burial mounds that contain 10 or more interments. No more than six extended individuals representing a maximum of 28.5 percent of the skeletal population occur in any one mound. Correlations of sex/flexure and age/flexure are unavailable for these mound samples.

It was impossible to determine arm position in 26 burials (65.0 percent) at the McDonald site. Of the determinable burials, the arms were along the sides of five individuals (12.5 percent); three individuals (7.5 percent) had the arms folded on the chest; and three burials (7.5 percent) had their hands to the face. It is difficult to recognize correlation with age and sex since so many burials are indeterminate for arm position. Sexed individuals show no males with hands to the face. The preferred position of the arms among males is to the sides whereas females show no pattern whatsoever. Identifiable subadults have the arms folded on the chest or the hands to the face.

Position of the head includes looking straight, to the left, to the right, and indeterminate. Indeterminate and looking straight each are represented by 19 burials (47.5 percent). One individual (2.5 percent) each was looking left and looking right.

Body orientation is recorded in relation to the cardinal direction the head is pointing. Head to the west and to the south are each represented by six individuals (15.0 percent); four individuals were each oriented to the north and to the northwest (Table 24). Three individuals (7.5 percent) were oriented southwest and one individual (2.5 percent) was oriented northeast. Twelve individuals (30.0 percent) were indeterminate for this characteristic. No burials pointed east. Except for Mound D, the burial populations are too small for recognizing a distinct pattern. The Mound D population, although comparatively large, shows almost a complete range of orientations less east and northeast.

Site 40RE124 as well as Burnett's mound sample show a similar range in burial orientation. Cole indicates, however, that in the second 40RE124 construction stage orientation to the east and west are significantly greater suggesting a relationship to the sun's path. Comparable data are unavailable concerning the internal patterns of burial orientation at other mounds.

Orientation clockwise or counter-clockwise to the mound also was evaluated at 40RE124. Whether individuals looked into or away from the mound and whether individuals looked towards or away from the river (Clinch River) were considered in this analysis. As isolated elements, most individuals were clockwise, looking away from the mound, and looking away from the river, but none of these characteristics by themselves were statistically significant. Overall the same pattern occurs at 40RH7, but the number of indeterminate individuals could reverse the pattern (Tables 25 and 26).

Cross tabulation and factor analysis of the 40RE124 data show, however, a significant number of individuals facing the river in the third construction stage. Although the indeterminate burials make the 40RH7 data inadequate for similar statistical analyses, there is little doubt that burial orientation in East Tennessee mounds is far more complex than suggested by cardinal direction alone.

Grave Goods

Grave goods were found with 12 burials (30.0 percent), while chipping debris, utilized flakes, and miscellaneous faunal remains recovered in the vicinity of six additional burials (15.0 percent) were considered fortuitous associations rather than grave goods. Eight (26.6 percent) of the 30 adults and three (30 percent) of the ten subadults had associated grave goods. Four males but only two females had burial accompaniments. Since three indeterminate adults also had grave goods, it is impossible to segregate a sexual preference for this characteristic. Adults received grave goods equally as often as subadults.

Cole states: "In no case is the correlation of grave goods in general with age or sex significant" (1975b:76). Exceptions to this generalization are reflected in specific geographically defined mound clusters, but the only deviation in the central cluster which includes the McDonald site is a possible correlation of conch columellae beads with subadults.

The most frequent burial accompaniments at 40RH7 are small tra-angular projectile points, drilled columellae shell beads, and small ground stone celts. Alone or in combination these items occurred in ten burials. Burial 38 also contained a bone projectile point or pin and other chipped stone artifacts including a corner notched projectile point. Burial 12 in addition to small triangular projectile points,

Table 23. Burial age/flexure correlation at the McDonald site

Mound	Flexed		Semiflexed		Extended		Indeterminate age/flexure
	adult	subadult	adult	subadult	adult	subadult	
A	1	1	1	1	1	1	6
B	-	-	1	-	1	-	-
C	-	-	2	-	-	-	4
D	4	-	4	1	1	-	11
E	1	-	-	-	-	-	-
Total	6	1	8	1	3	1	21

Table 24. Burial orientation with reference to cardinal direction at the McDonald site

Mound	North	NW	West	SW	South	SE	East	NE	Indeterminate
A	-	2	2	-	1	-	-	1	4
B	-	-	1	-	1	-	-	-	-
C	-	1	-	-	1	2	-	-	2
D	4	1	3	3	2	2	-	-	6
E	-	-	-	-	1	-	-	-	-
Total	4	4	6	3	6	4	-	1	12
Percent	10.0	10.0	15.0	7.5	15.0	10.0	-	2.5	30.0

Table 25. Burial orientation with reference to mound at the McDonald site

Mound	Clockwise	Counter Clockwise	Indeterminate
A	4	-	5
B	-	1	-
C	2	2	2
D	5	4	11
E	-	-	-
Total	11	8	18
Percent	30.5	19.4	50.0

Table 26. Direction burial looking with reference to mound center and Tennessee River at the McDonald site

	Reference to Mound			Reference to River		
Mound	Towards	Away	Indeterminate	Towards	Away	Indeterminate
A	-	4	5	3	1	5
B	-	1	-	-	1	-
C	-	4	2	-	4	2
D	3	6	11	2	7	11
E	-	-	-	-	-	-
Total	3	15	18	5	13	18
Percent	8.3	41.6	50.0	13.8	36.1	50.0

columellae beads and a celt contained an elaborate array of grave goods including a variety of chipped and ground stone artifacts, bone tools and ornaments, unworked bone, and olivella shell beads. There is little doubt that Burial 12 is one of the most well endowed individuals yet excavated and reported from a Late Woodland burial mound in East Tennessee. Among the artifacts recovered with Burial 42 were disk shaped shell beads and two limestone tempered vessels. Records indicate that Late Woodland burial mounds rarely include pottery vessels as grave goods. Burial 43 contained only a pair of bear canine pendants.

Manner of Disposal and Mound Construction

The construction of each mound, except possibly Mound E, began by burning the surface vegetation and removing it and most of the A1 soil horizon from a selected area. In Mounds A and B an extended adult male was placed on the cleared surface and the body probably enclosed with a log crib or covering. In addition, molluscs were used to partly cover the initial Mound B burial. Ash and charcoal laden soil covered the initial Mound D burial, but the position, age, and sex of the individual is indeterminate. The first Mound E interment was an adult male placed flexed on a layer of molluscs in a submound pit. The first Mound C interment undoubtedly was removed by C. B. Moore, but his descriptions are too imprecise to determine which one of five individuals represents this burial.

Second individuals placed flexed or semiflexed on the premound surface occurred with Mounds B and D. Both burials are adult females. In neither case is there any indication whether these interments were made simultaneous with the initial burial or whether the second burial was made at a later time. There is no second individual associated with the first construction stage at Mound A. Here Burial 12 was covered with a low mound which was stabilized at the edge with a log retainer and capped with scattered molluscs. A second construction stage, but no additional burials then was added to the mound.

Stratigraphic profiles indicate that the first construction stage at Mound D was raised 1.0 to 1.5 feet higher and was expanded up to 9.0 feet laterally before more burials were added to the mound. This mound addition, which was not considered a separate stage, was marked by two log retainers at its edge. No shell layers like those in Mound A covered the Mound D surface. Mound B shell layers were used with specific burials rather than for covering the mound surface.

Subsequent additions to Mounds A and D, their associated burials, and the Mound C interments suggest patterns of specific burial placement and how these patterns are interrelated with mound accretion. During the excavation, especially of Mounds C and D, particular effort was made to determine the manner in which burials were added to the mound; to see where and how the body was placed and subsequently covered. The strategy was, if possible, to relate specific fill sequences with isolated burials, hypothesizing that each interment was a small mound and that the intervening fill created a

conical earthwork overall. None of the mounds, however, showed such a pattern.

In Mound A, individuals were laid on the mound slope; usually this was on the lower slope or talus near the mound base. Rarely were burials placed near the mound top. The covering sediments probably were contoured to maintain a comparatively smooth, steep sided, circular mound. The small number of burials in relation to the size of Mound A suggest that considerable fill was added with each burial. Had burials been placed in shallow pits excavated into the mound slope far less fill probably would have been needed to simultaneously cover the interments and maintain the mound's appearance. Log retainers were put at the foot of the second, third, and fourth construction stages. Mollusc shells, in addition, were used to cover most of the Construction Stage 3 surface.

In Mound D and in Mound C (although the pattern is less clear in Mound C) most burials were laid on shallow notches or steps cut into the mound slope. Transit readings show the burials on a near level surface. These burials especially if laid with their backs to the rear of the step would have required comparatively less covering sediments. Individuals with their back to the mound are as a result looking away from the mound center. This situation is prevalent in Mound A as well as Mounds C and D. With no obvious exceptions individuals were set horizontal to the mound slope, thus creating clockwise and counter clockwise orientations. Just as in Mound A, most Mound C and Mound D interments were situated low on the mound slope seldom higher than the midline. In several instances the body may have been deposited at the intersection of the slope and surrounding surface. Burials 14 (Mound C) and 42 (Mound D) were interred in shallow pits excavated at this intersection. Except for Burial 21 (Mound D) on top of which a fire was made, there were no special earth, wood, or rock features associated with interments in Mound C or Mound D. Mollusc shells came from the fill of both mounds, but in neither case did they mark a mound surface or specific burial.

Radiocarbon Dates and Comparative Chronology

The radiocarbon dates and their interpretation have been published already (Schroedl, 1973:3-11). Since 1973 additional excavations and interpretive statements have been made relevant to the chronology of burial mounds in East Tennessee. These include investigations at site 40RE124, a burial mound in the Clinch River Breeder Reactor Plant area, from which was obtained a sequence of seven radiocarbon dates from three construction stages (cf. Cole, 1975a). Additional dates also have been acquired from cultural manifestations believed to precede or succeed the occurrence of burial mounds. Summaries and attempted syntheses of these data also have been made in recent years (Faulkner, 1972, 1975; Keel, 1976). The objective here is to review and reevaluate the 11 McDonald site radiocarbon dates with respect to the most recently available comparative data.

The Dates

Despite numerous burial mound excavations, the Alford site (40RE4) was the only radiocarbon dated burial mound in East Tennessee prior to the McDonald site excavations (Crane and Griffin, 1961; Faulkner, 1967). Increasing the number of burial mound dates, as a result, was a first priority of the McDonald site excavations. A second priority was to determine, if possible, the order in which the mounds were built, while a closely related goal was to derive an internal chronology for Mounds A and D since their excavation defined multiple construction sequences. To meet these objectives two dates each were run on charcoal samples from Construction Stages 1, 3, and 5 at Mound A and Construction Stages 1 and 2 at Mound D. Paired samples were submitted to provide an internal check on dates. A single date was made on charcoal from the base of Mound B (Table 27).

Mound A

Dates from the first construction stage range from A.D. 715 to A.D. 915 (GX2596) and from A.D. 1000 to A.D. 1200 (GX2797). Dates from the third construction stage overlap at one sigma and range from A.D. 1125 to A.D. 1315 (GX2598) and from A.D. 1235 to A.D. 1435 (GX2599). The fifth construction stage provided nearly identical dates of A.D. 1050 to A.D. 1240 (GX2600) and A.D. 1055 to A.D. 1255 (GX2601). Although each pair of age determinations from the third and fifth construction stages is internally consistent, they are stratigraphically inverted with Construction Stage 3 dating slightly later than Construction Stage 5. The first construction stage dates obviously are incompatible at one sigma.

Mound B

The first construction stage yielded a date ranging from A.D. 825 to A.D. 1015 (GX2606). This range is consistent with both first construction stage Mound A dates, but shows a greater overlap with the earlier of the two determinations.

Mound D

The first construction stage dates range from A.D. 670 to A.D. 930 (GX2603) and from A.D. 570 to A.D. 780 (GX2604). These dates share a 110 year span and are consistent with the earliest Mound A date and the Mound B date. At Mound D dates ranging from A.D. 685 to A.D. 925 (GX2605) and from A.D. 1000 to A.D. 1190 (GX2606) came from the second construction stage. The dates do not overlap. The earlier date is consistent with both dates from the first construction stage, the Mound B date and the earliest Mound A date. The latest second construction stage date at Mound D is within the range of the latest date from Construction Stage 1 at Mound A and three of the four dates from Construction Stages 3 and 5 at Mound A, while barely overlapping the Mound B date.

Table 27. Radiocarbon dates from Mounds A, B, and D at the McDonald site

Provenience	Date	
Mound A		
Construction Stage 1	1135 ± 100 years B.P. (A.D. 815 ± 100)	GX2596
	850 ± 100 years B.P. (A.D. 1100 ± 100)	GX2597
Construction Stage 3	730 ± 95 years B.P. (A.D. 1220 ± 95)	GX2598
	595 ± 100 years B.P. (A.D. 1335 ± 100)	GX2599
Construction Stage 5	805 ± 95 years B.P. (A.D. 1145 ± 95)	GX2600
	795 ± 100 years B.P. (A.D. 1155 ± 100)	GX2601
Mound B	1030 ± 95 years B.P. (A.D. 920 ± 95)	GX2602
Mound C		
Construction Stage 1	1150 ± 130 years B.P. (A.D. 800 ± 130)	GX2603
	1275 ± 105 years B.P. (A.D. 675 ± 105)	GX2604
Construction Stage 2	1145 ± 120 years B.P. (A.D. 805 ± 120)	GX2605
	855 ± 95 years B.P. (A.D. 1095 ± 95)	GX2606

Discussion

Because of their range and disparity the McDonald site radiocarbon dates are difficult to interpret. Depending upon which date is accepted construction of Mound A could have begun as early as the 8th Century or as late as the 11th Century. The final construction stage could have been added between the 11th Century and the 15th Century. Mound B construction started between the 9th and 11th Centuries, while Mound D construction began slightly earlier, between the 6th and 10th Centuries. The final Mound D construction stage could have been added as late as the 12th Century.

Overall the dates suggest that Mound D was built first, followed by Mound B, then Mound A. If sample GX2596 is accepted as the initial date for Mound A, the sequence would be Mound D, followed by Mound A, then Mound B. None of the dates, however, clearly demonstrate whether the mounds were used simultaneously or in sequence. Looking at the dates as a group and considering the spans common to the greatest number of dates suggest that mound building most likely began between A.D. 670 and A.D. 930; these activities terminated between A.D. 1000 and A.D. 1255.

This range is compatible with dates from the Alford (40RE4) and 40RE124 burial mounds. The 40RE124 dates range from A.D. 515 to A.D. 1385 with every date overlapping at one sigma except one (Table 28). The Alford site date is A.D. 870 to A.D. 1170 (Crane and Griffin, 1961:114). The span common to the greatest number of determinations from the McDonald, Alford and 40RE124 sites is A.D. 720 to A.D. 1170 (Figure 75). The radiocarbon dates thus far obtained in East Tennessee therefore indicate burial mound use beginning about A.D. 700 and lasting well after A.D. 1000.

Table 28. Radiocarbon dates from 40RE124

Provenience	Date	
Construction Stage 1	1265 ± 170 years B.P. (A.D. 685 ± 170)	GX3463
Construction Stage 2	1030 ± 60 years B.P. (A.D. 920 ± 60)	UGa738
	1020 ± 120 years B.P. (A.D. 930 ± 120)	GX3462
	970 ± 160 years B.P. (A.D. 980 ± 160)	GX3460
	725 ± 160 years B.P. (A.D. 1225 ± 160)	GX3461
Construction Stage 3	1070 ± 180 years B.P. (A.D. 880 ± 180)	GX3459

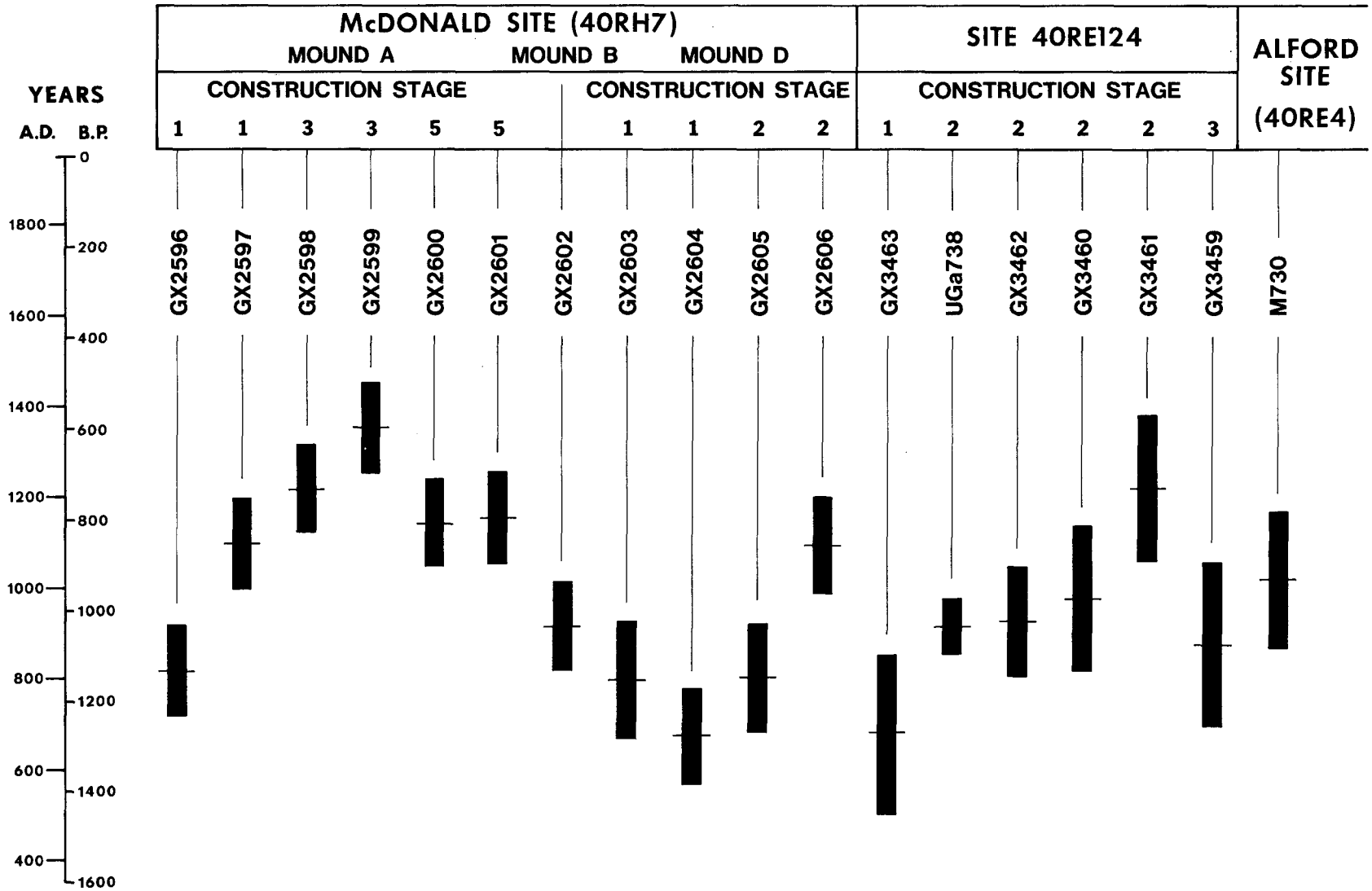


Figure 75. Hamilton burial mound complex radiocarbon dates plotted at one sigma.

Comparative Chronology and Cultural Relationships

Faulkner (1975) and Keel (1976) provide the most recent syntheses regarding the cultural-temporal relationships of Hamilton burial mounds with antecedent and subsequent cultural manifestations. While Keel emphasizes data from western North Carolina, much of his discussion is relevant to East Tennessee. His work along with Chapman's (1973) documents the Middle Woodland period Connestee Phase sites and their external relationships. Faulkner, on the other hand, deals specifically with the relationship between Late Woodland period Hamilton and Early Mississippian period Hiwassee Island phenomena in East Tennessee.

After an exhaustive review of culture remains and numerous radiocarbon dates Keel concludes:

> In spite of the problems that arise from cross dating, it seems likely the Connestee period began by A.D. 200 and very possibly even earlier. The period probably lasted until about 600 A.D., at which time it had evolved into a transition phase which would develop into the Pisgah phase [A.D. 1000-A.D. 1550] (1976:239).

The archaeological expression of this transition in western North Carolina is unknown (Keel, 1976:218). In East Tennessee, Keel suggests that the ceramic assemblages from the Mason site and the Alford site represent this unnamed transition phase. The Hamilton burial mound complex also falls within this period, but Keel (1976:239), using the Alford and McDonald site dates, suggests that these manifestations are no earlier than about A.D. 800. Chapman (1973:137) reached a similar conclusion. As suggested here, using additional dates from 40RE124, a more reasonable date for the beginning of the Hamilton burial mound complex is A.D. 700. This date more closely corresponds with the termination of the Connestee Phase. In fact, dates from Icehouse Bottom of A.D. 585 ± 90 and A.D. 605 ± 90 (Gleeson, 1970:132 and Chapman, 1973:33) considered Late Connestee (Keel, 1976:238) overlap at one sigma with the earliest dates from 40RE124 and from Mound D at 40RH7. These dates tentatively suggest greater chronological continuity between the Connestee Phase and the Hamilton burial mound complex than previously suspected.

Despite Lewis and Kneberg's (1946), Kneberg's (1961), and more recent efforts by McCollough and Faulkner (1973:121-129), little is known about Hamilton occupation sites and the associated cultural assemblages. The characteristics of the Hamilton ceramic complex were outlined long ago (Lewis and Kneberg, 1946:81-88; Kneberg, 1961:3-14) and have received some recent proposed revisions (Salo, 1969; Faulkner, 1968; and McCollough and Faulkner, 1973). Reevaluation and comparison of these data with respect to Middle Woodland manifestations in East Tennessee remains to be done. This, and sorely needed radiocarbon dates from occupation sites, would help resolve the cultural context of the Hamilton burial mound complex.

There are far more data for relating Late Woodland Hamilton manifestations and subsequent Early Mississippian Hiwassee Island culture. Lewis and Kneberg (1946:9) hypothesized the contemporaneity of Late Woodland and Early Mississippian occupation in East Tennessee, but suggested that Hamilton focus peoples abandoned the area as Hiwassee Island focus peoples invaded the region and replaced them. Faulkner's (1975:19-30) exhaustive review found this argument untenable and concluded "the appearance of the Mississippian tradition in the eastern Tennessee Valley can be explained largely by internal culture change (1975:27)." This conclusion is accepted here without restating the evidence. Since 1975, however, additional new data have been collected, particularly from the Martin Farm site (40MR20) in the Little Tennessee River Valley upon which much of Faulkner's argument is based. Further excavations at 40RE124 also produced relevant information concerning the change from Late Woodland to Early Mississippian, as has recent work at Toqua (40MR6) and Tomotley (40MR5) in the Little Tennessee River Valley (Figure 76).

At Martin Farm a component with ceramics exhibiting both Late Woodland and Early Mississippian characteristics was identified as emergent Mississippian (Salo, 1969) and subsequently termed the Martin Phase (Faulkner, 1975). Radiocarbon dates of A.D. 325 ± 180 and A.D. 410 ± 115 were considered unacceptable when comparative analysis of the cultural remains indicated an age of approximately A.D. 900 for the component (Salo, 1969:179-180). Additional excavations were made at the site in 1975 to clarify the complex cultural stratigraphy, to increase the available artifact sample, and secure additional radiocarbon dates (cf. Schroedl, 1975:15-18). Preliminary analysis suggests no essential differences between the cultural assemblages reported in 1969 and those recovered in 1975. The 1975 excavations, however, clarified the stratigraphic relationship of the Martin Phase component with subsequent occupations, identifying probable early and late Hiwassee Island components. Six radiocarbon dates, all of which overlap at one sigma, were obtained from these occupations (Table 29). The dates indicate Martin Phase occupation at about A.D. 1000 spanning the period A.D. 770 to A.D. 1145. The succeeding Hiwassee Island components range between A.D. 1000 and A.D. 1100 with a maximum span of A.D. 880 to A.D. 1340. These estimates agree with the available Early Mississippian dates from the Leuty, Mayfield II, Tellico Blockhouse, Bowman Farm, and DeArmond sites (Leuty site radiocarbon dates this report). The greatest number of dates cluster between A.D. 880 and A.D. 1345 with a maximum range of A.D. 795 to A.D. 1430. As Figure 77 shows, the Martin Phase, the Hamilton burial mound complex, and the Hiwassee Island focus share a considerable amount of time.

Based on the available radiocarbon dates and the apparent absence of identifiable Hiwassee Island focus burials, the writer hypothesized in 1973 that "at least some burials presently identified as Late Woodland Hamilton may represent Hiwassee Island Focus interments. . . . and the proximity of Hamilton mounds to Hiwassee Island occupations may indicate simultaneous use (Schroedl, 1973:10)." Radiocarbon dates obtained since 1973 support these ideas. Tomotley and 40RE124 provide additional supporting data.

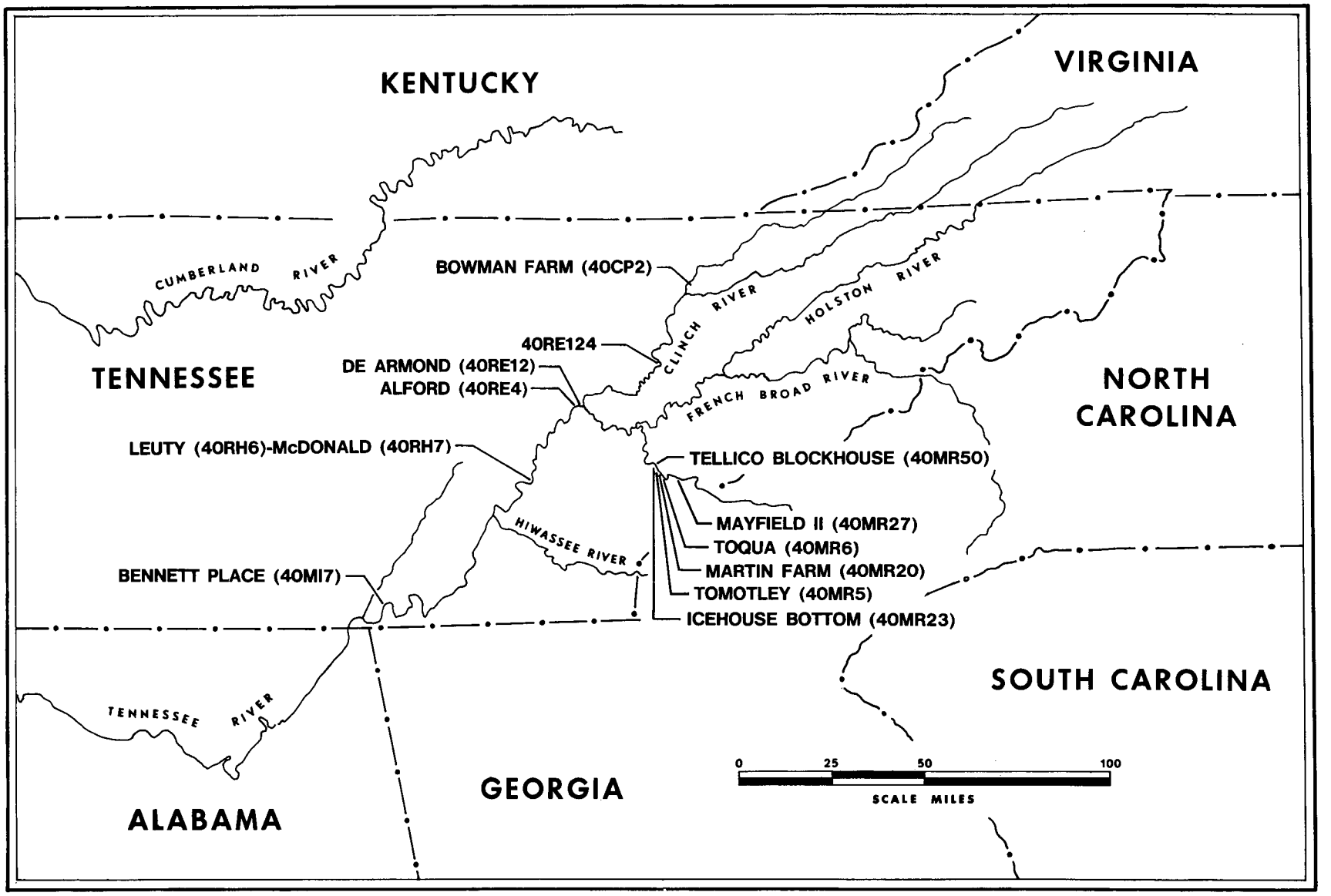


Figure 76. Location of sites relevant to Late Woodland period chronology in East Tennessee

Table 29. Radiocarbon dates from three components at the Martin Farm site (40MR20)

Component	Date	
Martin Phase	960 ± 120 years B.P. (A.D. 990 ± 120)	GX4213
	935 ± 130 years B.P. (A.D. 1015 ± 130)	GX4208
Early Hiwassee Island	930 ± 140 years B.P. (A.D. 1020 ± 140)	GX4209
	930 ± 140 years B.P. (A.D. 1020 ± 140)	GX4210
Late Hiwassee Island	790 ± 130 years B.P. (A.D. 1060 ± 130)	GX4212
	755 ± 140 years B.P. (A.D. 1195 ± 140)	GX4211

At 40RE124 a single burial from the final construction stage contained three complete and four partial shell tempered vessels. These included a hooded water bottle and a red filmed bowl, vessel styles frequently associated with Hiwassee Island occupations. Although recovered near the surface, there is no indication that the burial was intrusive into the mound (Schroedl, 1973b). Adjacent to the mound were deposits containing shell tempered plain and salt pan fabric impressed sherds. Subsequent excavations (in 1975) showed that these remains and limestone tempered plain and cord marked ceramics were redeposited instead of representing a buried occupation as previously suggested (Schroedl, 1974; Cole, 1975). Nevertheless, stratigraphic profiles indicate that these culture bearing sediments were deposited adjacent to the mound shortly after, if not before, the mound was completed and abandoned. The occupation area from which the remains come was not located during the excavations.

While investigating the 18th century Overhill Cherokee town of Tomotley, located less than 1200 feet downstream from the Martin Farm site, a complex of probable burial processing pits and pits containing disarticulated secondary disposals was encountered near the edge of the second Little Tennessee River terrace. Excavations investigated slightly more than half the complex. Sixteen processing pits containing no cultural or skeletal remains formed a ring approximately 38 feet in diameter. Immediately inside this ring were five pits with human skeletal remains. Although bone preservation was poor, two pits contained unquestionable secondary burials. The best preserved burial represented at least seven individuals (Magennis, 1976; Jones, 1976). Cultural remains associated with this burial and the other graves included small triangular Hamilton projectile points and a small number of limestone tempered and shell tempered plain ceramics. None of the sherds, however, were large or well preserved.

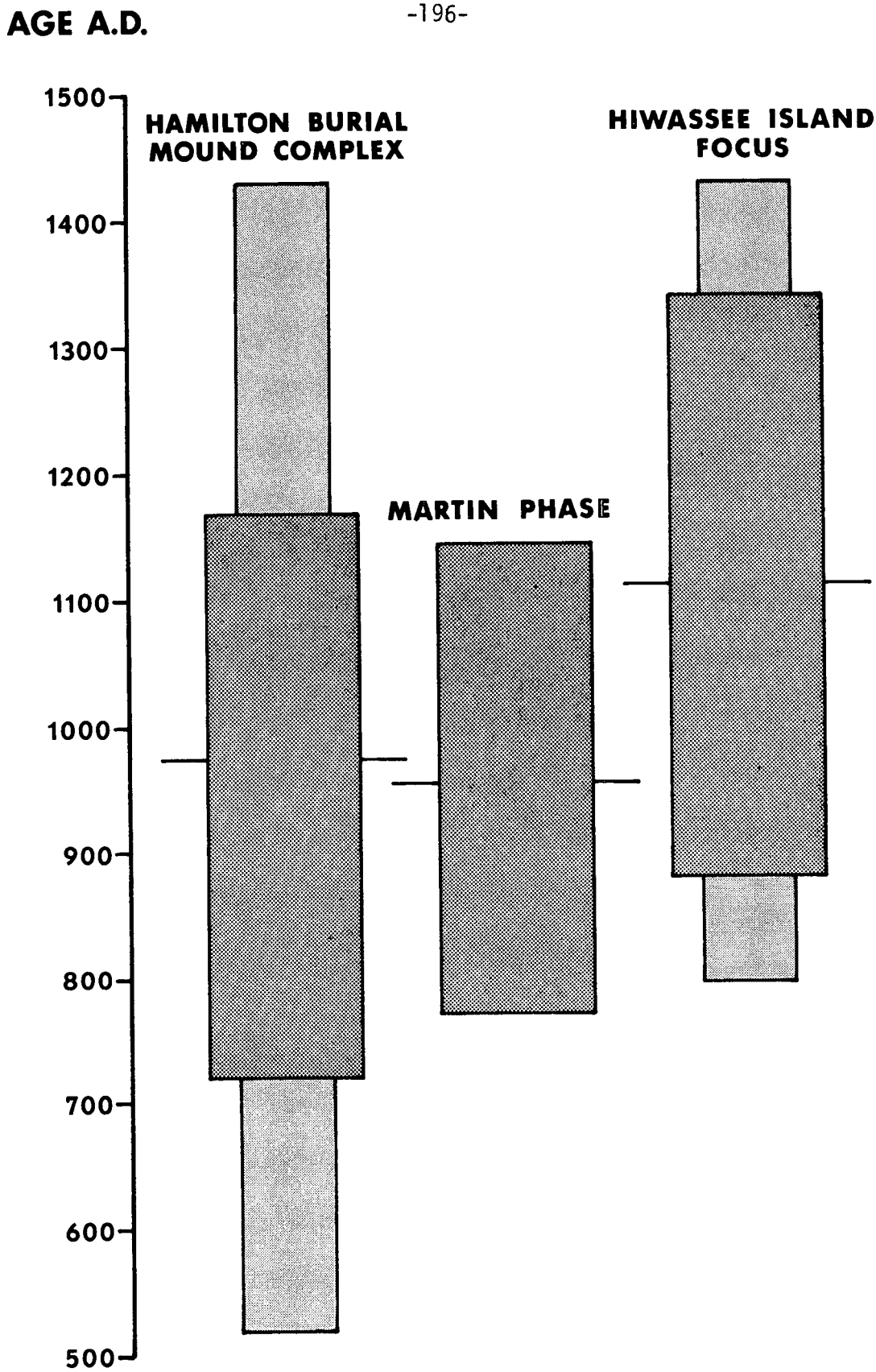


Figure 77. Comparative radiocarbon chronology for the Hamilton burial mound complex (18 dates), the Martin phase (2 dates), and the Hiwassee Island focus (9 dates), showing mean date, range common to the greatest number of dates, and maximum age range

The circular plan of the processing and burial pits suggests that the area may have been covered with a mound. Thomas (1894:379-380) shows three mounds at Tomotley, but based on his descriptions none coincide with the mortuary area excavated in 1976. If there was a mound, deep plowing and a probable Anglo-American corral destroyed it just as Thomas' three mounds are also now obliterated. Related occupation areas in the immediate vicinity include at least three probable Mississippian period structures. But the only identifiable Early Mississippian feature was a large bell-shaped storage pit. The configuration of burial and processing pits, the associated artifacts, and the proximity to the Martin Farm site and similar occupation areas at Tomotley strongly suggests a Martin Phase or Early Mississippian mortuary area rather than a Hamilton mound. No excavated mounds cleraly identified as Hamilton exhibit similar characteristics.

Lewis and Kneberg (1946:10) suggested that Hiwassee Island focus peoples utilized a special mortuary structure or charnel house, but identified no such structures in East Tennessee. Citing Moore (1915: 338-351), Faulkner and Graham (1966:135) suggested a possible charnel house at the Bennett Place (40MI7). Faulkner (1975:25) reemphasized the possibility of such Hiwassee Island focus mortuary structures, and a probable charnel house recently was identified with the earliest Mississippian village occupation at Toqua (40MR6) (Schroedl and Polhemus, 1977:32).

Although incompletely investigated, the building at Toqua was greater than 36 feet long and contained a pile of disarticulated human bones representing 20 or more individuals. Stratigraphic evidence suggests that the structure may have stood on a low mound. Cultural stratigraphy and preliminary analysis of the associated ceramics indicate an age circa A.D. 1300 to A.D. 1400 for the structure (Richard Polhemus, personal communication, 1977).

In summary, charnel houses are a likely Hiwassee Island focus characteristic. Such structures however are infrequent and may be a late Hiwassee Island feature (Faulkner, 1975:20). The Tomotley mortuary area indicates a Martin Phase or early Hiwassee Island affiliation. The 40RE124 data suggest Hiwassee Island burial mound use as do the available radiocarbon dates. Identifying Hamilton burials has in the past relied on gross mound morphology and associated grave goods. Fewer than a third of the Hamilton burials at 40RH7, 40RE124, and the mounds tabulated by Burnett (1972a, 1972b), however, contained grave goods. Mortuary patterns, such as those documented at 40RE124 (Cole, 1975a, 1975b) are equally, if not more, important criteria in the taxonomy of burial mounds. Much of the late Woodland period internal cultural change that culminated in the Early Mississippian period surely was gradual. Not all cultural expressions developed simultaneously and there is no reason that burial mound use suddenly ended at a particular time. The differences between Hamilton and Hiwassee Island mound interments may be as subtle as body position, orientation, the frequency of grave goods, or only time. Mortuary areas, such as at Tomotley, and mortuary structures, such as at Bennett Place and Toqua, may represent alternative mortuary expressions. More likely they reflect the intermediate and final transformations in the gradual sequence of culture change from Late Woodland to Early Mississippian in East Tennessee.

Summary and Conclusions

Five burial mounds were located and excavated at the McDonald site. Three additional mounds previously reported at the site probably were leveled in conjunction with agricultural development of the area. These activities, C. B. Moore's excavations (1915:400-403), and the work of relic collectors altered the extant mounds. Mounds B, C, and E, as a result, represent remnants of what were once larger earthworks. Although a complete construction sequence was recorded for Mound A, about half the deposits had been removed and refilled. Mound D showed the least disturbance.

The construction of each mound, except possibly Mound E, began by removing the surface vegetation and uppermost soil horizon from a selected location. Similar ground preparation is recorded at other burial mounds, but most examples show no such activities (Cole, 1975b:70). In Mounds A, B, and D the first mound interment was placed on the prepared surface. In Mound E the initial burial was deposited in a submound pit. Comparative data are unavailable for Mound C. Subsequent mound deposits and burials indicate five construction stages for Mound A and two building episodes for Mound D. It is probable that Mounds B, C, and E also had multiple construction stages.

Mound fill surely came from the surrounding area, although no borrow pits were found in the vicinity. Some of the fill for the second construction stage at Mound D may have been acquired adjacent to the mound. Culturally sterile soil from the B and C horizons rather than the A horizon was favored for mound construction. Ceramic and lithic artifacts were found within the fill at each mound, but their numbers indicate that only Mound C and possibly Mound E contained substantial fill from an occupation area. Mollusc shells and logs also were used in mound construction and in two instances for grave preparation at the McDonald site.

In Mound A layers of mollusc shells mark the first and third construction stage surfaces. Short horizontal log retainers occur at the edge of the first, second, third and fourth stages. But nowhere do logs encircle the mound, even though in one instance posts were laid end to end. Except for Burial 12 which was placed in wood crib, neither logs nor mollusc shell layers cover individual burials. In Mound B, a log crib and mollusc shells cover the initial interment. Additional shells may have covered the mound surface. Burial 43 was placed on a shell layer covering the bottom of a submound pit at Mound E. Scattered shells and occasional small concentrations of shells were found in Mounds C and D, but none indicate a mound surface or burial location. Just as at Mound A log retainers are associated with the first Mound D construction stage.

The mound excavations recovered 41 interments representing 45 individuals. Mound A produced ten interments, Mound B contained two, Mound C held six, Mound D had 22, and one came from Mound E. Except for one bundle rebuiral with five individuals, the burials are simple,

single, primary inhumations. Despite poor skeletal preservation the burials suggest both demographic and mortuary patterns. First, males tend to occur more frequently than females, and adults received mound burial more often than subadults. Second, adult males, where identified, were the first mound interments. In Mounds B and D adult female burials may have accompanied the initial adult male interments. Most burials were placed semiflexed on their side, oriented clockwise or counter clockwise to the mound, facing away from the mound center. This orientation and head rotation is a result of the body being laid horizontal with the spinal column against the mound slope.

In Mound A most burials probably were placed directly on the slope. In Mound D and possibly Mound C a shallow notch was cut into the mound so that the burial rested on a near level surface. Burial in this fashion probably required less covering fill and made it easier to maintain the mound's overall conical shape. Burials tend to occur on the lower slope or mound talus. In several instances burials may have been deposited at the intersection of the slope and surrounding surface. Two burials were interred in shallow pits excavated at this intersection.

Only twelve burials contained grave goods. Small triangular projectile points, drilled conch columellae beads, and small ground stone celts, alone or in combination, occurred with 10 burials. Two of these interments contained additional artifacts, with Burial 12 having a wide assortment of stone, bone, and shell accompaniments. One burial contained only a pair of bear canine pendants while another contained disk-shaped shell beads and two limestone tempered vessels.

Perhaps the most important contribution of the McDonald site to regional prehistoric research are the 11 radiocarbon dates obtained from three of the five mounds. Reviewing these dates and comparing them with dates obtained at the Alford site (40RE4) and 40RE124 suggests that burial mound use in East Tennessee began about A.D. 700 and may have lasted until A.D. 1100 or A.D. 1200. Much of this time span coincides with the occurrence of Early Mississippian Hiwassee Island focus occupations. Internal Late Woodland period culture change best explains the development of Early Mississippian period culture. The chronology suggests that during this development burial mound use continued well after other cultural expressions had been altered. This accounts for the absence of burials in Hiwassee Island occupation sites. At the same time, the continued use of burial mounds is compatible with gradual culture change and the occurrence of alternative mortuary patterns such as charnel houses.

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APPENDICES

APPENDIX I

LITHIC, BONE, AND SHELL ARTIFACTS FROM NON BURIAL CONTEXT AT THE McDONALD SITE

The 158 lithic, bone, and shell artifacts recovered from the fill of Mounds A through E are described below. Table 30 gives the artifact distributions by mound and mound construction stage. Cultural remains from the plow zone, redeposited mound fill, and relic collectors' pits are included under "disturbed deposits." Unassigned specimens footnoted in Table 30, although from an undisturbed context, cannot be assigned to a specific construction stage.

The means for ordering the artifacts into 31 descriptive categories are the same as used elsewhere in this report for describing the Leuty site lithic and bone artifacts. Recurring form and presumed function based on visual inspection are the guiding criteria. Although the format and presentation also is similar to the Leuty site descriptions, categories that are descriptively comparable may have independent designations.

Category 1: Triangular Projectile Points (Figure 78)

Description: Triangular blade, edges concave, tip acute; base straight to concave, cross section planar; pressure retouched overall, maximum width at base.

Sample: 2 fragments

Materials: 2 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
161	--	15	3
209	--	--	3

Comments: Referable to the Hamilton Type (Kneberg, 1956)

Category 2: Souldered, Contracting Stem Projectile Points, Form 1 (Figure 78)

Description: Blade isosceles, tip acute; edges straight to conves; contracting stem produced by falking at corners; percussion flaked overall with little or no pressure retouch along the edges; cross section biconvex to plano-convex; maximum width at shoulders; the transition from blade to stem forms a 100-135 degree angle.

Sample: 5 whole, 5 fragments

Materials: 10 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
194	--	32	11
207	--	28	10
226	57	32	13
235	--	30	9
236	54	27	9
237	--	29	11
249	54	25	15
269	00	26	8
318	54	27	15
321	34	26	18

Comments: This category resembles Category 3, but is cruder overall and lacks pressure retouch along the edges and base.

Category 3: Shouldered, Contracting Stem Projectile Points, Form 2 (Figure 78)

Description: Blade isoceles, tip acute; edges straight to convex; contracting stem produced by flaking at corners; transition from blade to stem forms poorly-defined convex shoulder; percussion flaked overall with pressure retouch along the edges; biconvex or planar cross section.

Sample: 2 whole

Materials: 1 cryptocrystalline, 1 quartz

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
172	28	21	10
372	37	23	7

Category 4: Shouldered, Expanding Stem Projectile Point (Figure 78)

Description: Blade isoceles, edges straight to concave, tip acute; expanding stem produced by flaking at corners; transition from blade to stem defining the shoulder forms a 90-100 degree angle; percussion flaked overall with little or no pressure retouch; cross section biconvex; maximum width at shoulder.

Sample: 1 fragment

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
203	--	30	12

Table 30. Distribution of lithic, bone, and shell artifacts from non burial context at the McDonald site

Category	MOUND A							MOUND B	MOUND C			MOUND D			MOUND E				Total
	1	2	3	4	5	Disturbed Deposit	Sub-Total		Mound Fill	Disturbed Deposit	Sub-Total	1	2	Disturbed Deposit	Sub-Total	Midden	Burial Pitfill	Sub-Total	Test Pits	
1. Triangular Projectile Points	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	2
2. Shouldered, Contracting Stem Projectile Points, Form 1	-	-	-	-	-	-	-	-	6	1	7	-	3	-	3	-	-	-	-	10
3. Shouldered Contracting Stem Projectile Points, Form 2	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-	2
4. Shouldered, Expanding Stem Projectile Points	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	1
5. Shouldered, Straight Stem Projectile Points	-	-	-	-	-	-	-	-	4	2	6	-	-	1	1	-	-	-	1	8[a]
6. Lanceolate Projectile Points	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1
7. Side Indented Projectile Points	1	-	-	-	-	-	1	-	5	4	9	-	-	-	-	-	-	-	-	10
8. Corner Notched Projectile Points	-	-	-	-	-	1	1	-	1	1	2	-	-	-	1[b]	-	-	-	-	4[b]
9. Basal Notched Projectile Points	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
10. Erratic and Miscellaneous Projectile Points	-	-	-	-	-	-	-	1	-	1	1	1	1	-	2	-	-	-	-	4
11. Unclassified Projectile Point Fragments	-	-	2	-	1	-	3	-	18	11	29	-	4	1	7[c]	-	1	1	3	43[c]
12. Triangular Projectile Point Blanks/Preforms	-	-	-	-	-	-	-	-	1	2	3	-	-	-	-	-	-	-	-	3
13. Triangular Blanks	-	-	-	1	-	-	1	-	1	-	1	-	-	-	-	-	-	-	-	2
14. Knives	-	-	-	-	-	-	-	-	1	1	2	-	1	-	1	-	-	-	-	3
15. Side Scraper	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1
16. Drill/Perforator	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1
17. Utilized Flakes, Form 1	-	-	1	-	1	-	2	-	9	1	10	-	-	-	-	-	5	5	-	17
18. Utilized Flakes, Form 2	-	-	-	-	-	-	1[a]	-	11	7	18	1	-	-	1	-	2	2	1	23[a]
19. Utilized Flakes, Form 3	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	1
20. Utilized Flakes, Form 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	2

Table 30 (Continued)

	MOUND A			MOUND B	MOUND C			MOUND D			MOUND E				
	1 2 3 4 5	Disturbed Deposit	Sub-Total		Mound Fill	Disturbed Deposit	Sub-Total	1 2	Disturbed Deposit	Sub-Total	Midden	Burial Pitfill	Sub-Total	Test Pits	Total
21. Core Fragment	- - - - -	-	-	1	-	-	-	- -	-	-	-	-	-	-	1
22. Grooved Ax Fragment	- - - - -	-	-	-	-	1	1	- -	-	-	-	-	-	-	1
23. End Battered Cobbles	- - - - -	-	-	1	4	-	4	- -	-	-	-	-	-	2	7
24. Center Battered Cobbles	- - 1 - -	-	1	-	-	-	-	- -	-	-	-	-	-	-	1
25. Grinding Stone Fragment	- - - - -	-	-	-	-	-	-	- 1	-	1	-	-	-	-	1
26. Discoidal	- - - - 1	-	1	-	-	-	-	- -	-	-	-	-	-	-	1
27. Hematite	- - 1 - -	-	1	-	-	-	-	- 1	-	1	-	-	-	-	2
28. Drilled Gorget Fragment	- - - - -	-	-	-	-	1	1	- -	-	-	-	-	-	-	1
29. Pipe	- - 1 - -	-	1	-	-	-	-	- -	-	-	-	-	-	-	1
30. Miscellaneous Polished Bone	- - - - -	-	-	-	-	-	-	- -	-	-	-	1	1	-	1
31. Drilled Conch Columella	- - - 1 1	-	2	-	-	-	-	- -	-	-	-	-	-	-	2
Totals	1 - 6 2 4	1	15	5	65	32	100	2 11	3	19	1	10	11	8	158

[a]One Mound A specimen unassigned; [b]One Mound D specimen unassigned; [c]Two Mound D specimens unassigned.

Figure 78. Selected projectile points from the McDonald site (all specimens actual size)

a-b Category 1, triangular projectile points
c-e Category 2, shouldered, contracting stem projectile points, form 1
f Category 3, shouldered, contracting stem projectile point, form 2
g Category 4, shouldered, expanding stem projectile points
h-j Category 5, shouldered, straight stem projectile points
k Category 6, lanceolate projectile points
l-p Category 7, side indented projectile points
q-r Category 8, corner notched projectile points

Note: specimens coated white for photography

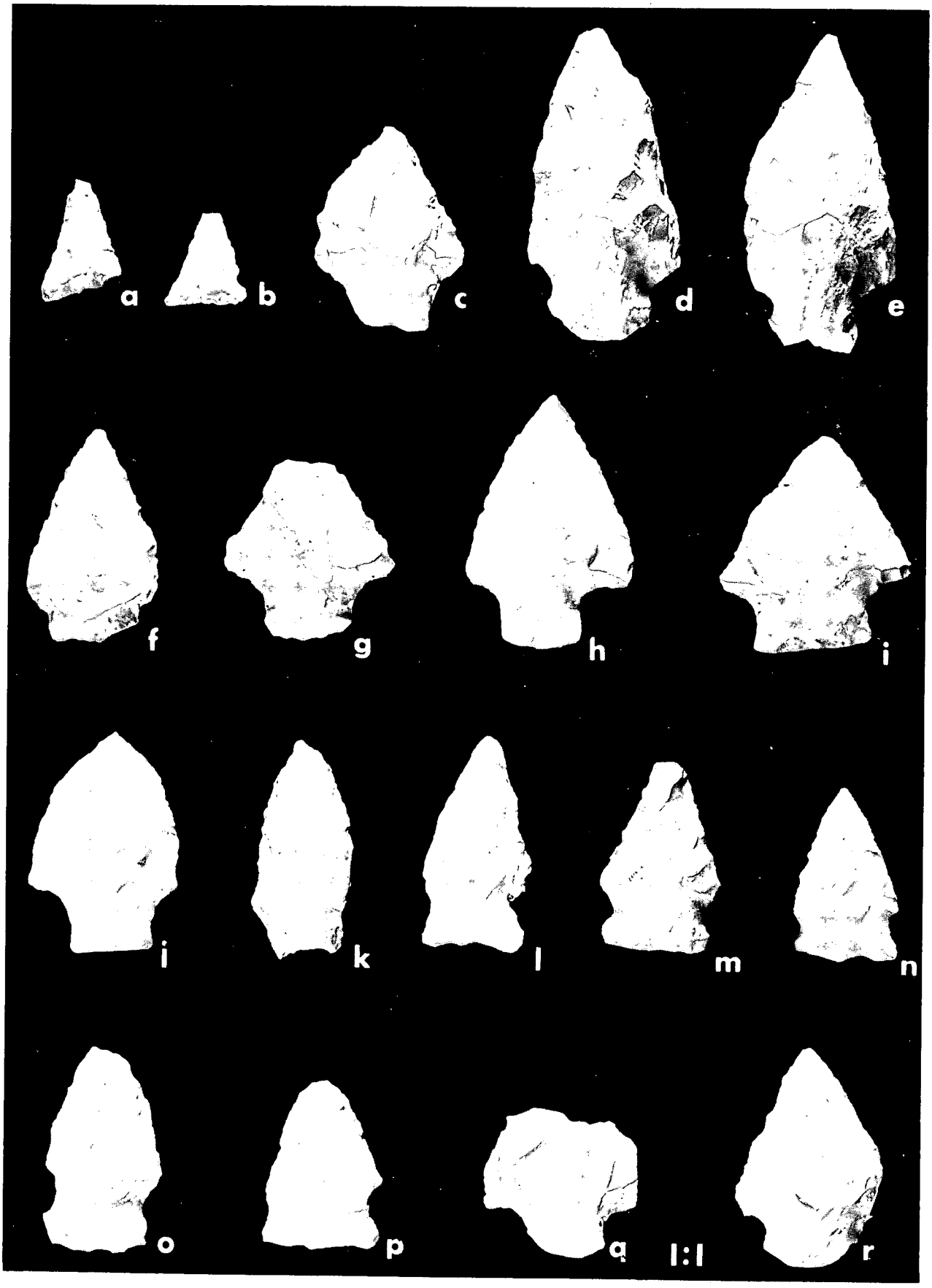

Figure 78

Category 5: Shouldered, Straight Stem Projectile Points (Figure 78)

Description: Blade isoceles, edges straight to convex, tip acute; stem straight to slightly expanding produced by flaking at corners; transition from blade to stem defining the shoulder forms a 90-110 degree angle; percussion flaked overall with pressure retouch along the edges; cross section biconvex to plano-convex; maximum width at shoulder.

Sample: 6 whole, 2 fragments

Materials: 8 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
195	--	23	8
196	54	35	9
227	37	34	8
235	44	29	9
235	49	24	9
382	--	--	10
TP9	43	24	6
F10	38	26	8

Category 6: Lanceolate Projectile Point (Figure 78)

Description: Lanceolate blade, edges convex, tip acute; base straight; percussion flaked overall with pressure retouch along the edges and base; cross section biconvex; maximum width at base.

Sample: 1 whole

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
234	37	16	8

Category 7: Side Indented Projectile Points (Figure 78)

Description: Blade isosceles; edges straight to convex, tip acute; expanding stem formed by shallow flaking on lower blade edges; percussion flaked overall with pressure retouch along the edges; cross section biconvex; maximum width at either the base or shoulder.

Sample: 6 whole, 4 fragments

Materials: 10 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
75	25	20	7
193	36	19	7
203	--	20	8
205	--	21	8
205	67	22	9
209	29	20	7
209	30	18	6
213	--	21	7
223	--	20	9
249	36	20	5

Category 8: Corner Notched Projectile Points (Figure 78)

Description: Blade triangular, edges of blade straight to convex, tip acute; corner notched, straight to slightly expanding stem; percussion flaked overall with little or no pressure retouch along the edges; cross section biconvex to plano-convex; maximum width at shoulder.

Sample: 1 whole, 3 fragments

Materials: 4 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
151	--	23	7
234	23	22	7
239	37	--	10
378	--	27	8

Category 9: Basal Notched Projectile Point

Description: Blade triangular, edges of blade convex; tip acute; diagonal notches in base form an expanding stem; percussion flaked overall with pressure retouch along the edges; cross section biconvex.

Sample: 1 fragment

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
TP40	--	--	7

Category 10: Erratic and Miscellaneous Projectile Points

Description: Projectile points which are poorly made and whose size and shape are too irregular to define a morphologically distinct class.

Sample: 1 whole, 3 fragments

Materials: 4 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
157	36	23	7
228	30	--	9
326	27	--	-
366	32	--	13

Category 11: Unclassifiable Projectile Point Fragments

Description: Stem, blade, and tip fragments which are too incomplete to be classified with a distinctive projectile point category; considered projectile point fragments because of size and flaking.

Sample: 43 fragments

Materials: 41 cryptocrystalline, 2 quartz

Measurements: Not measured

Category 12: Triangular Projectile Point Blanks/Preforms (Figure 79)

Description: Blade isosceles or equilateral; edges of blade straight to convex, tip acute; percussion flaked overall with occasional pressure retouch along the edges and base; several specimens have slightly serrated edges; maximum width at base; cross section biconvex to plano-convex.

Sample: 3 whole

Materials: 3 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
209	35	24	6
218	18	20	6
222	24	22	8

Comments: This category contains projectile point blanks rather than unidentifiable or discarded blanks. The specimens may represent triangular projectile points rather than blanks or preforms.

Category 13: Triangular Blanks (Figure 79)

Description: Triangular outline shaped by rough percussion flaking overall; cortex remains on both specimens.

Sample: 1 whole, 1 fragment

Materials: 2 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
81	42	30	10
199	--	31	10

Category 14: Knives (Figure 79)

Description: Rectangular or oval outline; corners rounded; percussion flaked bifacially with irregular pressure retouch along the edges; cross section biconvex to plano convex.

Sample: 2 whole, 1 fragment

Materials: 3 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
207	55	30	14
230	--	31	10
277	137	47	16

Category 15: Side Scraper (Figure 79)

Description: Rectangular outline; unifacially worked along two edges; percussion flaked with pressure retouch; cross section plano-convex.

Sample: 1 whole

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
243	52	27	11

Category 16: Drill/Perforator (Figure 79)

Description: Bulbous biconvex base, narrow diamond-shape bit; percussion flaked overall with bit pressure retouched from alternate sides.

Figure 79. Selected blanks, knives, scrapers, and perforators from the McDonald site (all specimens actual size)

a-b Category 12, triangular projectile point blanks/preforms
c-d Category 13, triangular blanks
e-g Category 14, knives
h Category 15, side scraper
i Category 16, drill/perforator

Note: specimens coated white for photography.

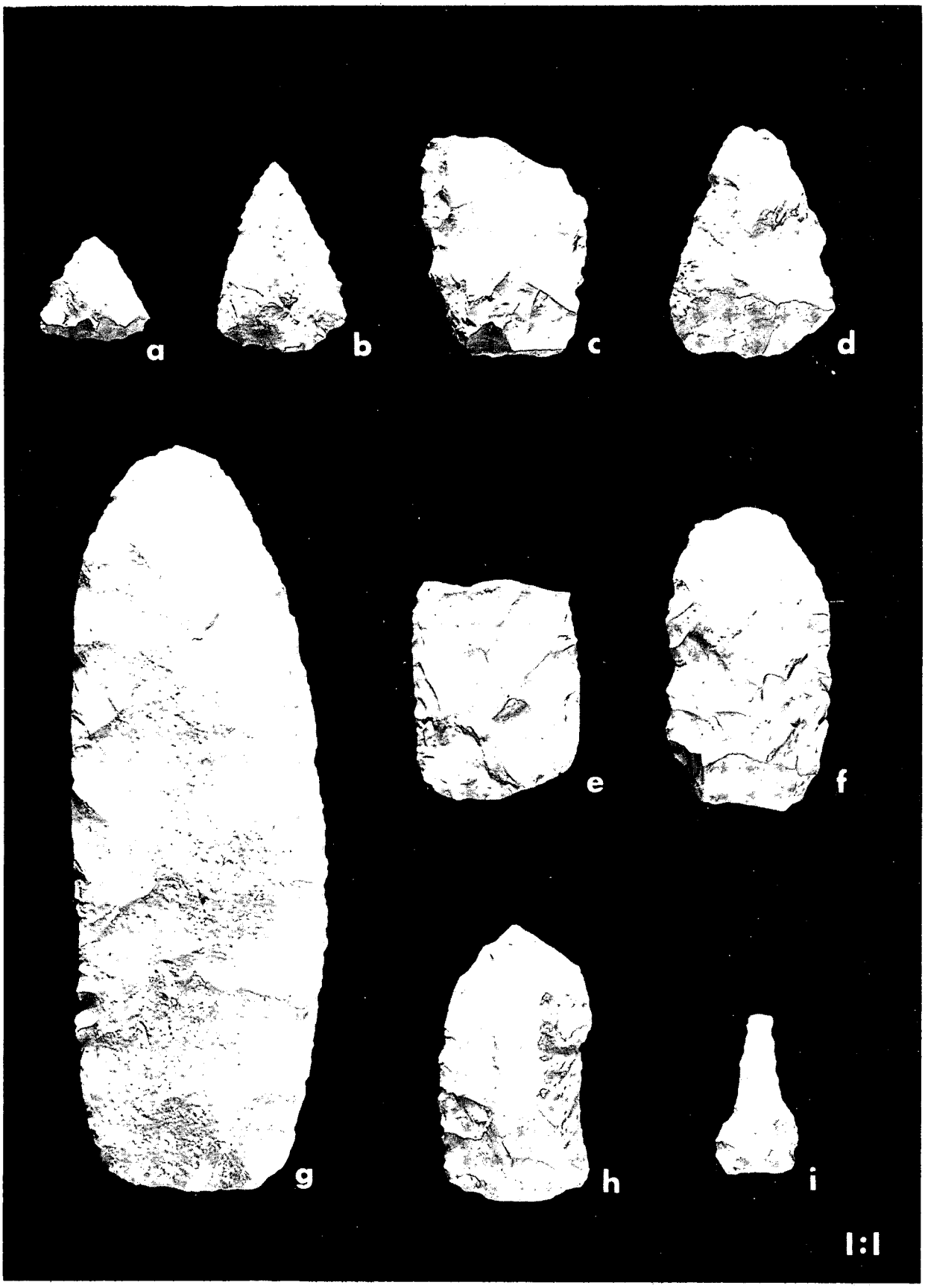

Figure 79

Sample: 1 fragment

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
235	--	16	9

Category 17: Utilized flakes, Form 1 (Figure 80)

Description: Flakes exhibiting use retouch along one or more edges.

Sample: 17 whole

Materials: 17 cryptocrystalline

Measurements:

N = 17	Length (mm)	Width (mm)	Thickness (mm)
Range	15-40	9-22	2-6
Mean	24	16	4

Category 18: Utilized flakes, Form 2 (Figure 80)

Description: Flakes which exhibit unifacial or bifacial retouch along one or more edges.

Sample: 23 whole

Materials: 23 cryptocrystalline

Measurements:

N = 23	Length (mm)	Width (mm)	Thickness (mm)
Range	20-45	10-41	3-13
Mean	30	21	6

Category 19: Utilized flakes, Form 3

Description: A single flake is unifically retouched along one edge near 90 degrees to the dorsal surface.

Sample: 1 whole

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
234	43	23	11

Category 20: Utilized flakes, Form 4

Description: Flakes retouched along one edge to form a concave working edge.

Sample: 2 whole

Materials: 2 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
385	40	14	11
389	33	16	14

Category 21: Core fragment

Description: A core-like fragment which has been worked or utilized along one edge.

Sample: 1 fragment

Materials: 1 cryptocrystalline

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
178	25	24	16

Category 22: Grooved Ax Fragment (Figure 80)

Description: A poll and blade fragment from a fully grooved ax; the groove is 30 mm below the poll.

Sample: 1 fragment

Materials: Unidentified

Measurements: Not measured

Category 23: End Battered Cobbles

Description: Oblong water rolled cobbles battered at one or both ends.

Sample: 5 whole, 2 fragments

Materials: unidentified metamorphic and sedimentary rocks

Figure 80. Utilized flakes, ax fragment, and gorget fragment from the McDonald site (all specimens actual size)
a-d Category 17, utilized flakes, form 1
e-h Category 18, utilized flakes, form 2
i Category 22, grooved ax fragment
j Category 28, drilled gorget

Note: specimens coated white for photography.

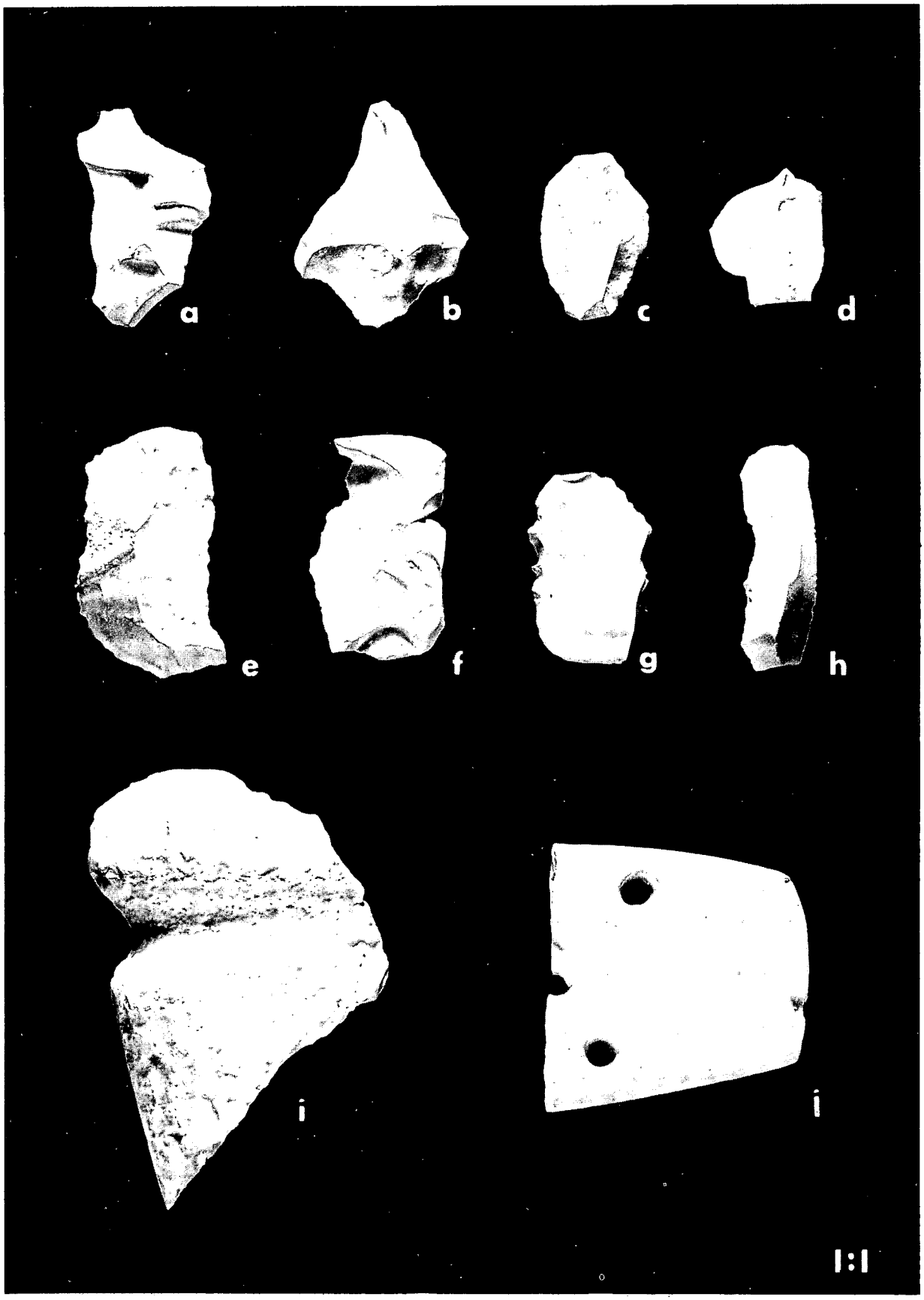

Figure 80

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
169	--	58	40
197	115	58	57
213	84	62	43
236	47	32	30
F-9	105	45	39
TP27	--	51	50
TP38	128	83	60

Category 24: Center Battered Rock

Description: A circular water rolled cobble battered at the center of one side to form a shallow concave depression.

Sample: 1 fragment

Materials: 1 sandstone

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
128	--	70	54

Category 25: Grinding Stone Fragment

Description: A small fragment from the working surface of a grinding stone.

Sample: 1 fragment

Materials: 1 sandstone

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
270	--	--	54

Category 26: Discoidal

Description: Cylindrical profile, slightly bulging sides, flat top and base.

Sample: 1 whole

Materials: 1 limestone

Measurements:

Catalog Number	Height	Diameter
2	68	81

Category 27: Hematite

Description: Unground Hematite Pebbles

Sample: 2 whole

Materials: hematite

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
33	54	40	25
315	50	50	30

Category 28: Drilled Gorget Fragment (Figure 80)

Description: Trapezoidal fragment of ground stone gorget; two holes drilled near the lateral edges, a portion of a third hole occurs at the midpoint of the borken edge; zigzag design scratched into one side.

Sample: 1 fragment

Materials: slate

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
209	--	49	10.5

Category 29: Pipe (Figure 81)

Description: Round bowl 25 mm diameter, 36 mm tall; plain stem thinning slightly from bowl to tip; stem has biconvex cross section and is approximately 90 mm long; lines forming an irregular cross hatched pattern are scratched on stem; an irregular zigzag pattern is scratched on the bowl.

Sample: 1 whole

Material: steatite

Category 30: Miscellaneous Polished Bone

Description: Polished bone fragments too small to identify the tool or ornament which they represent.

Sample: 4 fragments

Measurements: Not measured

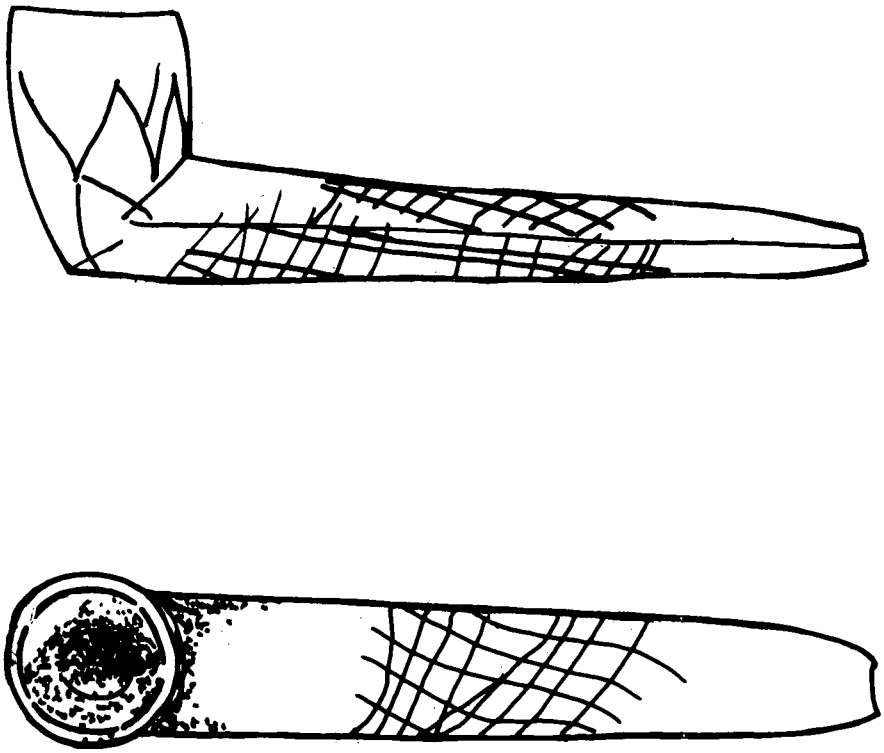

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Figure 81. Steatite pipe from Mound A (actual size)

Category 31: Drilled Conch Columellae

Description: Inner conch core (cf. *Busycon* sp.) drilled longitudinally from opposite ends.

Material: shell

Measurements:

Catalog Number	Length (mm)	Width (mm)	Thickness (mm)
5	60	13	12
15	607	15	13

APPENDIX II

CERAMICS FROM NON BURIAL CONTEXT AT THE McDONALD SITE

Described below are the 211 sherds recovered from the fill of Mounds A through E. The largest number of sherds as well as the greatest range of types, representing 55 percent of the ceramic sample, were found in Mound E (Table 31). The sherds except for two specimens came from the pit fill for Burial 43. Mound C contained the next largest number of sherds. Here 77 specimens representing 37 percent of ceramic sample were recovered, but only three specimens were from undisturbed mound fill. Sherds from Mounds A, B, and D respectively represent 5 percent, less than 1 percent, and 3 percent of the collection. Most sherds in the collection are small, seldom exceeding 50 mm on a side, and, although well weathered, surface treatment is recognizable on most specimens. Only four rim sherds were found, but none are large enough to determine vessel morphology.

Limestone tempered plain sherds were found in each mound, while limestone tempered cord marked sherds were restricted to Mounds C and E, and limestone tempered simple stamped sherds were found only in Mounds A and E. A single sand tempered complicated stamped sherd was recovered from Mound E, and Mound C produced two shell tempered plain sherds, although from disturbed deposits.

Limestone tempered plain sherds are frequently designated Mulberry Creek Plain (Haag, 1939:9; Heimlich, 1952:15-17) or Hamilton Plain (Kneberg, 1961) in eastern Tennessee. Limestone tempered cord marked ceramics in eastern Tennessee are referable to Candy Creek (Lewis and Kneberg, 1946:102-103) Hamilton (Lewis and Kneberg, 1946:103) or undesignated (transitional) types (Salo, 1969:123-125). Although the taxonomic distinctions among the three types are far from completely resolved (cf. Faulkner, 1968:26, 28), most analysts agree that limestone tempered cord marked ceramics are Middle Woodland period, Late Woodland period, or Late Woodland/Early Mississippian period indicators, depending on the thickness and arrangement of the cord impressions and other associated types and contextual data (cf. Kneberg, 1969:3-14; Salo, 1969:123-125; McCollough and Faulkner, 1973:121).

Comparatively high frequencies of limestone tempered plain and cord marked sherds usually define a Late Woodland period Hamilton complex, especially when stamped types are rare (Kneberg, 1961:3-14). Kneberg found this particularly true among sites in Roane and Rhea counties, Tennessee (1961:8). The McDonald site ceramic collections, specifically the Mound C and Mound E samples, are compatible with Kneberg's analysis. Identifying a ceramic complex for Mounds A, B, and D is unjustified because ten or fewer sherds came from these proveniences. There are no striking contrasts with Mounds C and E; only the sample sizes are too small for adequate comparison.

Table 31. Distribution of ceramics from non burial context at the McDonald site

Ceramic Category	Mound A Construction Stage 1	2	3	4	5	*	Mound B *	Mound C Fill	*	Mound D Construction Stage 1	2	Mound E Burial Fill	*	Total	Percent
Limestone Tempered															
Plain	1	-	1	1	4	2	1	3	27	4	3	38	2	87	41
Residual Plain	-	-	-	-	-	-	-	-	--	-	-	25	-	25	12
Cordmarked	-	-	-	-	-	-	-	-	45	-	-	43	-	88	42
Simple Stamped	1	-	-	-	-	-	-	-	--	-	-	7	-	8	4
Sand Tempered															
Complicated Stamped	-	-	-	-	-	-	-	-	--	-	-	1	-	1	.4
Shell Tempered															
Plain	-	-	-	-	-	-	-	-	2	-	-	--	-	2	1
Subtotal	2	-	1	1	4	2	1	3	74	4	3	114	2	211	
Total/Percent	10/5%						1/1%	77/37%		7/3%		116/55%			100%

*Disturbed deposits.

Limestone Tempered

Limestone Tempered Plain

Sample: 85 body sherds, 2 rim sherds (Figure 82)

Paste: The temper is fine to coarsely crushed angular limestone particles occurring in moderate to abundant amounts and subsequently leached from most specimens. The sherds are medium to coarse texture with the cores ranging from gray to brown.

Surface: The interior and exterior surfaces are scraped or possibly brushed, ranging from a well smoothed to uneven finish. Both surfaces are predominantly brown.

Form: Both rims are plain and excurvate with rounded lips. One rim is thickened and slightly flaring. Both specimens are 5-12 mm thick. Neither sherd is large enough to determine vessel morphology.

Limestone Tempered Residual Plain

Sample: 25 body sherds

Comment: Sherds classified as residual plain are too poorly preserved to determine surface treatment if any. In all other respects, these sherds fall within the range of the limestone tempered plain sample.

Limestone Tempered Cord Marked

Sample: 86 body sherds, 2 rim sherds (Figure 82)

Paste: The temper is fine crushed angular limestone particles about 1-3 mm on a side, included in moderate amounts throughout the paste. The paste colors are black, brown, and buff.

Surface: The interior surfaces are scraped and water smoothed, and are black to brown. The exterior surfaces have fine parallel cord impressions most of which are approximately 1 mm wide. Occasionally the cord impressions overlap one another. In this sample, the entire vessel surface probably was cord marked.

Form: The two rim sherds are straight with flat lips, but neither is large enough to determine vessel morphology.

Limestone Tempered Simple Stamped

Sample: 8 body sherds (Figure 82)

Paste: The temper is fine crushed angular limestone particles; stamped impressions are approximately 1 mm wide.

Form: No rim sherds were recovered, and the few body sherds are too small to determine vessel morphology.

Sand Tempered

Sand Tempered Complicated Stamped

Sample: 1 body sherd (Figure 82)

Paste: The temper is fine sand occurring in moderate but evenly distributed amounts throughout the paste. The sherd core is brown.

Surface: The interior and exterior surfaces are brown. The interior surface is well smoothed, while the exterior surface has an incomplete curvilinear design.

Form: The sherd is too small to determine vessel morphology.

Comment: Although the design element is incomplete, it suggests a Swift Creek-like motif.

Shell Tempered

Shell Tempered Plain

Sample: 1 body sherd, 1 rim sherd

Paste: The temper is fine crushed shell occurring in abundant amounts, most of which is leached from the sherds. The paste core is light brown to light reddish brown.

Surface: The interior and exterior surfaces are scraped and water smoothed. Both surfaces are light brown to brown.

Form: The single rim sherd is incurvate with a flat and slightly flared lip, but is too small to determine vessel morphology.

Figure 82. Limestone tempered and sand tempered ceramics from the McDonald site (all specimens actual size)

a-b Limestone tempered plain rim sherds
c Limestone tempered cord marked rim sherd
d-e Limestone tempered cord marked body sherds
f Limestone tempered simple stamped body sherd
g Sand tempered complicated stamped body sherd

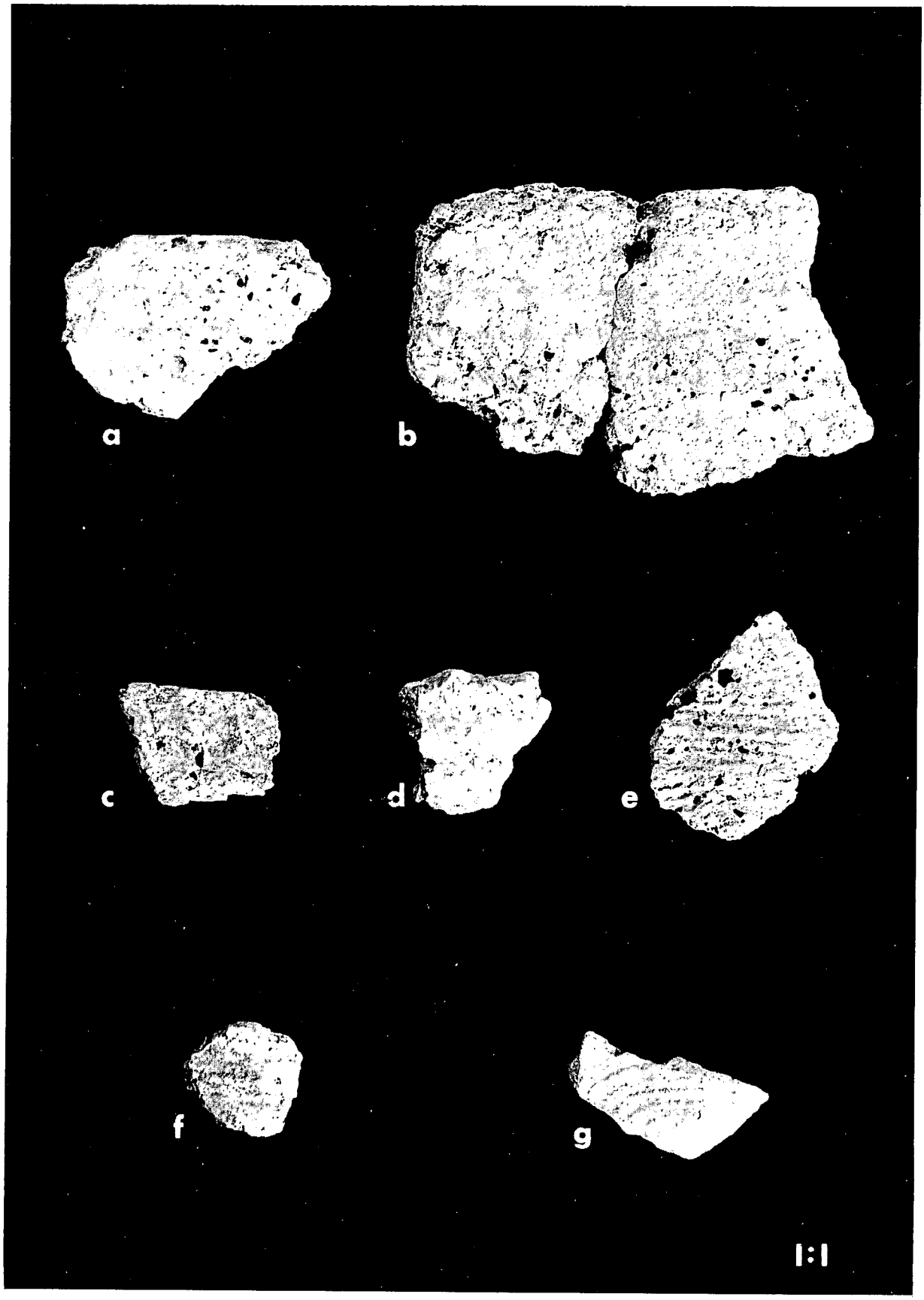

Figure 82