

EXCAVATIONS AT 40RH6,
WATTS PAR AREA
RHEA COUNTY,
TENNESSEE

by

F. A. Calabrese

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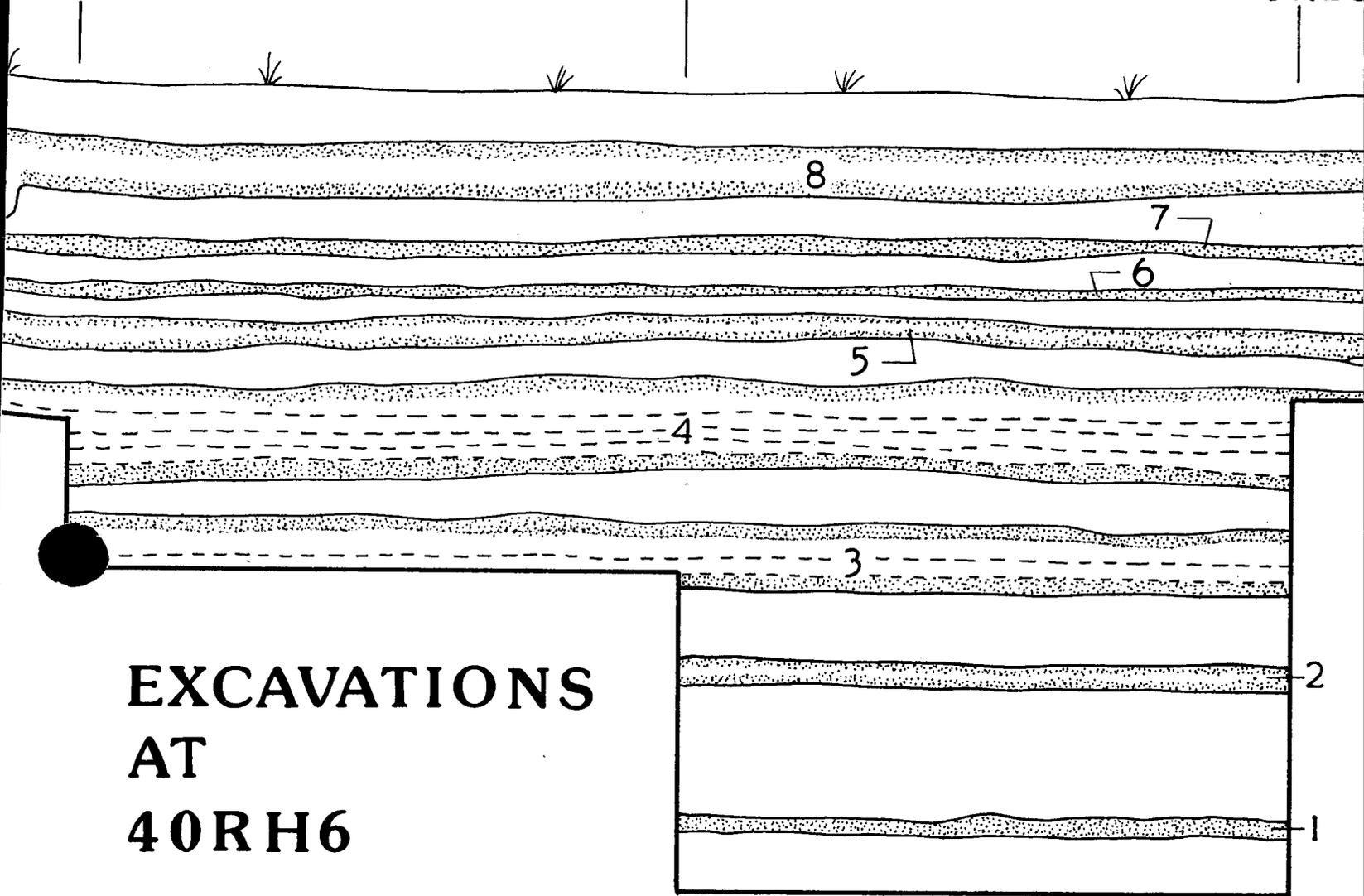
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**EXCAVATIONS
AT
40RH6**

**WATTS BAR AREA
Rhea County, Tennessee**

by
F. A. Calabrese

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INTRODUCTION

The preparation of this report and the success of the preceding field season was a result of the cooperation of many people. The contracting agents, crew, and various members of the local community all contributed directly or indirectly to the work at the Watts Bar Nuclear Power Plant and specifically 40RH6. The project was conducted under the general direction of the author, then Assistant Professor of Anthropology, University of Tennessee at Chattanooga, with the excavations under the direct supervision of Mr. J. B. Graham. Commitments to teaching precluded my direct supervision of the field operation. Through the cooperative agreement, the Tennessee Valley Authority provided funds (Contract TV-37351A) for the project with personnel and laboratory facilities provided by the University of Tennessee at Chattanooga.

In 1971, under the direction of Alfred Guthe and field supervision of J. B. Graham, the University of Tennessee at Knoxville tested and excavated several archeological sites in the Watts Bar Power Plant area. Other research commitments precluded Guthe from continuing as project director at Watts Bar.

Prior to the 1972 work at Watts Bar, the University of Tennessee at Chattanooga had never undertaken a major archeological research project. An excursion into the field and the development of a research project are often time-consuming and painstaking endeavors for those responsible for

administrative and logistical aspects of the project. In effect, the University of Tennessee at Chattanooga was simultaneously developing a research facility and program while undertaking a major project. Negotiations for the contract began in August of 1972, but it was not until late September that procedural problems were solved and excavations were underway. My warmest thanks are extended to Mr. Corydon Bell, Assistant to the Director for Water Control Planning and Dr. Allen Dunn, then Environmental Scientist of the Tennessee Valley Authority, for their assistance in the initiation of this project. Initiation of the contract by the University of Tennessee at Chattanooga was capably assisted by Dr. Richard G. Thurston, Dean Jane W. Harbaugh and then Vice Chancellor Floyd I. Brownley. Excavations continued through mid-December with field operations hampered by an above average amount of precipitation throughout the fall.

J. B. Graham coordinated and supervised all aspects of the field investigations. The crew who participated in the excavations included Don Moore, Richard Yarnell, Gordon Thurman, Mitchell Rodgers, Danny Roberts, Carl Ray, James McNatt, Carl Folmar, Dallas Fugate, John Coverdale, Kenneth Brown and James Brown. Walter Burnett served as a capable field assistant to J. B. Graham.

The laboratory preparation of the artifacts for analysis was carried out from December of 1972 through June of 1973, with the assistance of Janice Cheek, Vic Hood and Janie Ashley. Interruption by continued field work during the

summer of 1973 followed by my subsequent move to the Midwest Archeological Center precluded early completion of the analysis. Work on analysis of the material continued in November, 1974.

The presentation of these data would be somewhat less than complete without the assistance of several individuals. The identification of various archeological remains is beyond the capabilities of the author. Mr. Carl R. Falk and Mike Ruppert of the Midwest Archeological Center, Lincoln, Nebraska, identified the fauna. Dr. William Bass, University of Tennessee at Knoxville identified the human remains. Dr. Robert L. Wilson, Department of Geology, University of Tennessee at Chattanooga provided the analysis of mollusk remains. Robert Nickel, Midwest Archeological Center, provided an analysis of the floral remains.

Without the help of these individuals the data reported here would be considerably less complete. Responsibility for presenting and interpreting, of course, remains the obligation of the author.

BACKGROUND

Rhea County, Tennessee, is on the western border of the southern section of the Ridge and Valley province of the Appalachian Highlands division of North American (Thornbury 1965: 72,113). The lowland portion of the Ridge and Valley province is known as the Great Valley of which the Valley of the Tennessee is a local manifestation (Thornbury 1965:109). The Valley of the Tennessee is principally drained by the Tennessee River. To the east, the Ridge and Valley province is bordered by the Southern Blue Ridge section of the Blue Ridge province of the Appalachian Highlands (Thornbury 1965: 102-104). Commonly this is referred to as the Southern Appalachians or Unaka Mountains (Braun 1950: 195). To the west of the Valley of the Tennessee is Waldon Ridge, the eastern border of the Cumberland Plateau section of the Appalachian Plateau province (Thornbury 1965:131).

The underlying geologic strata in the Watts Bar area are composed of elements of the Cambrian and Ordovician series. The predominant Cambrian series includes the Rome formation, consisting of sandstone, siltstone, dolomite and limestone and the Conasuaga group consisting of limestone and shales (Rodgers 1953: 43,47). The Ordovician series is composed of the Knox group of dolomite and Chickamauga limestone (Rodgers 1953: 53, 65-67). Structurally, these strata have been altered by a series of anticlinal folds and thrust faults leaving the bedrock dipping generally to the southeast (Anonymous 1949: 279).

The underlying strata heavily influence the local surface geography. In the Watts Bar area, east of the Tennessee River, are a series of narrow parallel ridges separated by broader intervening valleys. The ridges and valleys trend northeast to southwest. The ridges consist of resistant sandstone and limestone and the valleys of less resistant shales and limestone (Anonymous 1949: 272; Rodgers 1953: 15; Safford 1869: 44-45). West of the Tennessee River the ridge and valley topography is presently north of the Watts Bar Dam. South of the dam and west to the Walden Ridge escarpment, the landscape may be characterized as long, low hills separated by stream gaps at half-mile to mile intervals (Rodgers 1953: 16; Safford 1869: 45-46).

The climate is temperate and continental. The winters are moderate with short periods of acute coldness and the summers are warm but rarely hot. The mean annual temperature is 59.1° F. The spread between the average summer and winter temperature is 35.6° F. The highest recorded temperature is 108° F. and the coldest -20° F. Intermittent periods of freezing and thawing are characteristic of the late fall. The average length of the growing season is 192 days. The last killing frost occurs from early to mid-April, and the first killing frost in mid-October.

Maximum precipitation occurs during the winter and spring. It is driest during the late summer and fall. The average yearly precipitation is 54.19 inches. Snow fall is generally light, averaging 8.7 inches per year. Air movement is

of low average velocity and severe weather conditions such as hailstorms and tornadoes are infrequent (Hasty 1940: 7-9).

The southern portion of the Valley of the Tennessee is part of the oak-pine forest region (Braun 1950: 275-276). Major tree communities include varieties of oak, loblolly pine, chestnut oak, chestnut and dogwood (Braun 1950: 271). Northward, in the Valley of the Tennessee and to the east, in the southern Appalachians, the oak-chestnut forests are predominant. The term oak-chestnut is retained for the forest cover, although most of the chestnut has been eliminated by blight (Braun 1950: 192 and 197). In the Valley of the Tennessee the transition from oak-chestnut to oak-pine is gradual with loblolly pine occurring more frequently on the hills and ridges of the southern portion of the Valley (Braun 1950: 276).

The Cumberland Plateau supports a mixed mesophytic forest (Braun 1950: 49, 87, 97). In addition to oak, hickory, chestnut and pine are stands of maples, tulip trees, basswood, sweet buckeye, hemlock, silverbell, black cherry, ash and sour gum (Braun 1950: 41).

The major forest zones are defined on the basis of major stands of trees. The frequency of stands varies with local environmental factors including precipitation, kind of soil and soil cover, drainage and available ground water. In addition to the major trees which define the forest region are a variety of bushes, flowering plants and grasses.

The eastern woodlands, including the interior waterways, harbor a variety of edible flora and fauna. A plethora of edible ferns, weeds, roots, grasses, seeds, nuts, berries and mushrooms occur (Fernald, Kinsey and Rollins: 1953). Large mammals include white-tailed deer, wapiti, bobcat, mountain lion and bear. Small mammals such as opossum, shrew, rabbit, chipmunk, squirrel, beaver, wolf, fox, raccoon, weasel, mink, skunk and otter abound (Hall and Kelson, 1959). The streams and rivers, especially the Tennessee, offered refuge for a variety of aquatic species which were also exploited prehistorically (Caldwell 1958).

40RH6

SITE DESCRIPTION, OBJECTIVES AND EXCAVATIONS

40RH6 is located on McDonald Bend on the right or west bank of the Tennessee River in Rhea County, Tennessee. It is 1.4 miles south of the Watts Bar Dam at river mile 528.25. Site number 40RH6 designates two units, a mound complex (40RH6-mound) on the second terrace (Fig. 1) and habitation site (40RH6-Unit 1) on the first terrace and adjacent to the Tennessee River. The geographic coordinates for 40RH6-Unit 1 are latitude 35° 36' 00" north and longitude 84° 45' 55" west.

The 40RH6 mound complex was excavated during the summer of 1971 by the University of Tennessee at Knoxville. A report of the mound excavation is currently underway (Jerald Schroedl, personal communication). This report is restricted to a description and analysis of the excavations and data for 40RH6-Unit 1.

Prior to completion of the 1971 excavations, a series of backhoe trenches were strategically placed on the terrace immediately adjacent to the Tennessee River. Backhoe trenches 14 and 15 revealed indications of occupation along the terrace. The intake channel for the proposed Watts Bar Nuclear Power Plant threatened these remains. The 1972 excavations centered in the areas of backhoe trenches 14 and 15.

The 1972 excavations were designed to mitigate the impact to the stratified components observed in backhoe trenches 14 and 15. The material remains recovered from those two backhoe trenches, especially backhoe trench 15, suggested a sequence of Early Woodland occupation. It was thought that

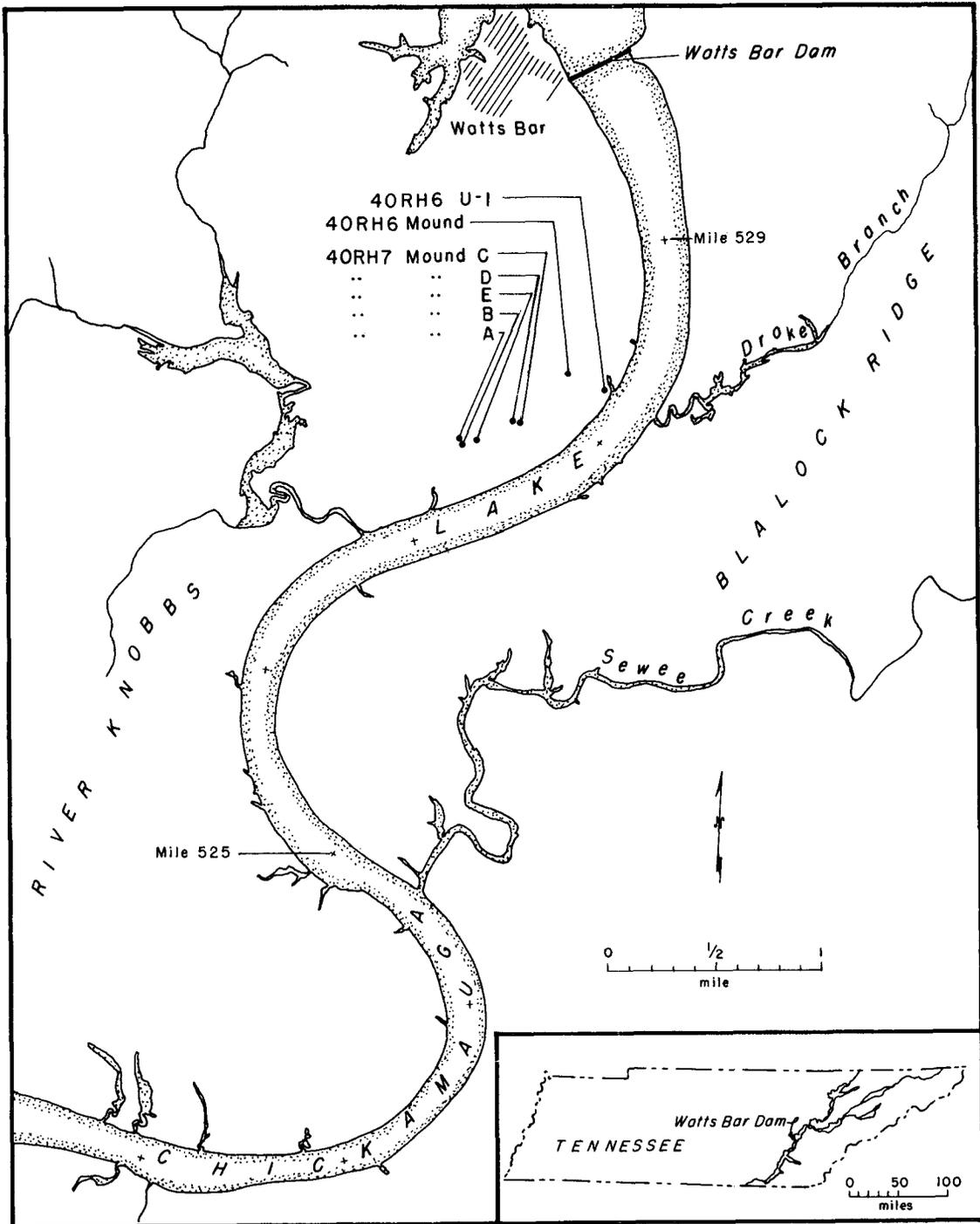


Figure 1. Location of 40RH6

the quartzite- and limestone-tempered pottery recovered from the backhoe trench were from different strata. In effect, excavation of this site might assist in unraveling the Early Woodland sequence in the eastern Tennessee Valley, a problem for which we now have some plausible hypotheses (McCollough and Faulkner 1973: 93) but no apparent solutions. The objectives were to provide cultural-historical and chronological information by defining the local sequence, and evaluating the relationship of the ceramic complexes.

In addition to answering cultural-historical questions, excavations were designed to provide maximum information about local occupational and subsistence patterns. Large areas were mechanically opened to allow evaluation of living levels and recovery techniques were designed to provide a consistent sample of floral and faunal remains. The success of these techniques in this case were limited by the paucity of remains. To a (lesser) degree, some of the initial questions raised were answered by the excavation and are considered in the discussion.

The 1972 excavations began in the area of backhoe trench 15. The 0 (Zero) center line (CL) stake was placed ten feet from the present river bank (Fig. 2) and the center line was established. At ten foot intervals along the center line, a series of stakes were set extending 200 feet inland from the river bank. The 200-foot stake on the center line was tied into TVA datum WBNP-6 (Fig. 2). A grid system of ten foot squares was generated from the center base line.

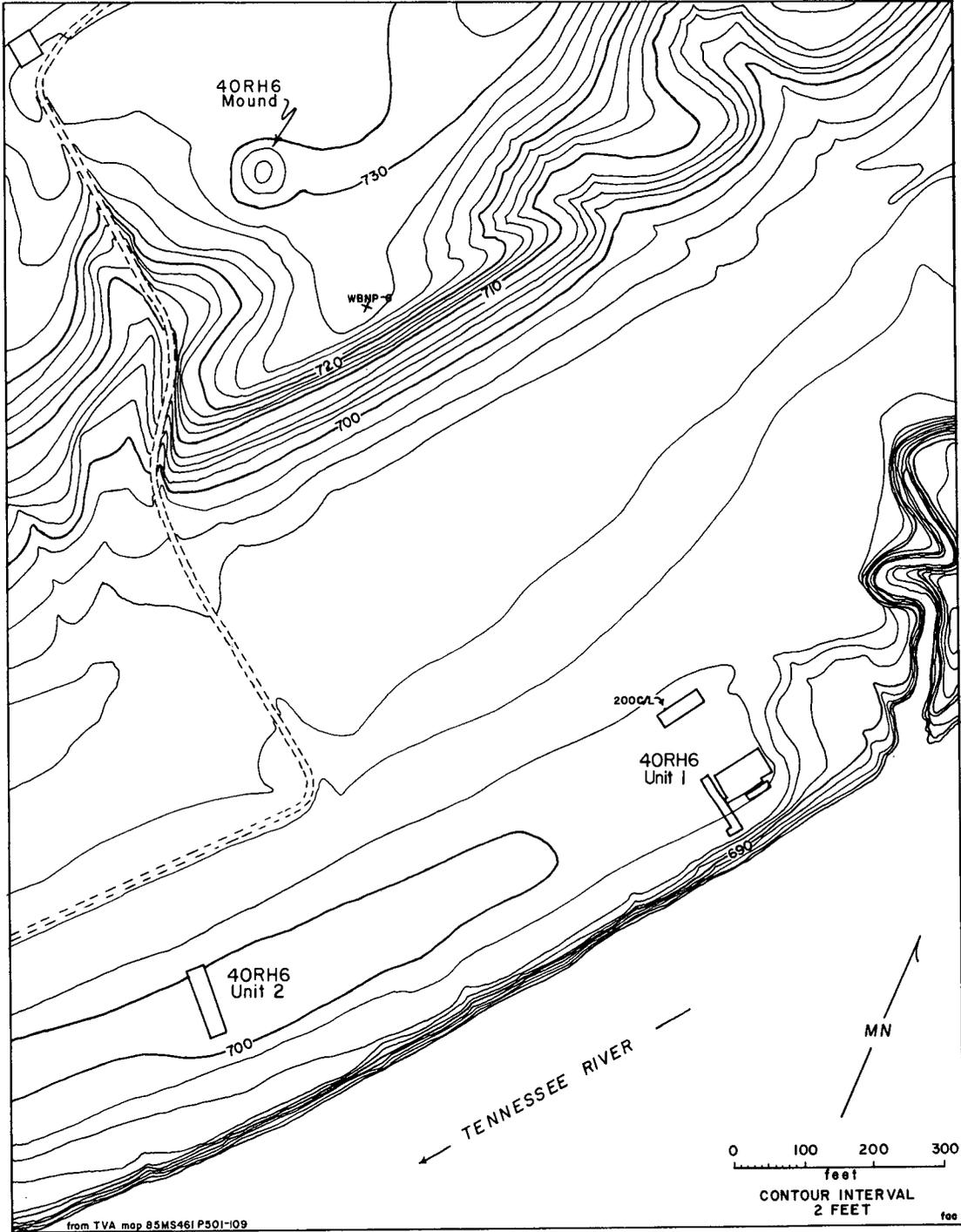


Figure 2. Excavations at 4ORH6

All units to the left of base line are designated grid left, e.g. L10, L20 etc. All units to the right of the base center line are designated grid right e.g. R20, R30, etc. Unit designations then utilize the maximum distance from the 0 stake on the center line (10, 20, etc.), and the reference of maximum right or left of the center line (R20, L20, L40, etc.), resulting in designations such as 10R20, 100R50 etc.

Initial excavations began in Units 10L10 and L0L20, then shifted to 30L10 through 60L10 (Fig. 3). Vertical control was maintained initially by excavating in arbitrary 0.5 foot levels, measured from ground surface. Two levels were removed in this manner to a depth of 1.0 foot. Thereafter excavations continued using arbitrary 0.5 foot levels, but all measurements were taken from an archeological datum point tied to WBNP-6 (Table 1) and are mean sea level elevations. The trim cut (from the first two 0.5-foot cuts to mean sea level 0.5-foot cuts) for most units correlates at 1.0-697.7 (Table 1). Deviations from this are encountered in units 30R50, 50R60, 60L10 and 70L10 which start at a higher elevation (1.0-698.7) and 40L10 where the trim cut is at 1.0-697.2.

Excavations continued in 10L10 through 90L10 (Fig. 3). The heaviest concentration of material was found in 30L10 through 60L10 and excavations then shifted to the east half of units 50R10 through 40R60. These units were excavated to various depths (Fig. 4), until a clear definition of the stratigraphy was apparent in the profiles.

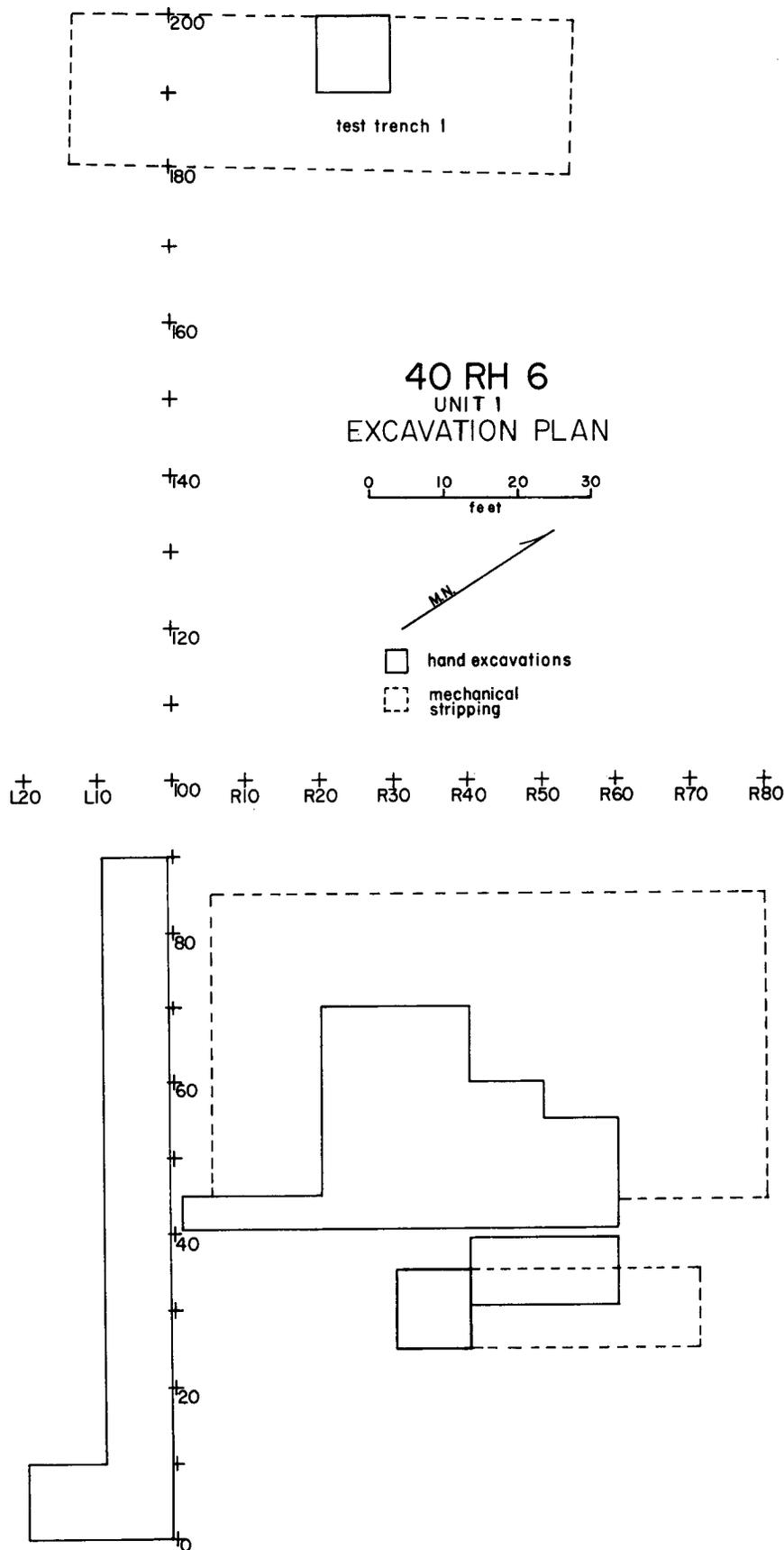


Figure 3. Excavation Plan for Unit 1, 40RH6

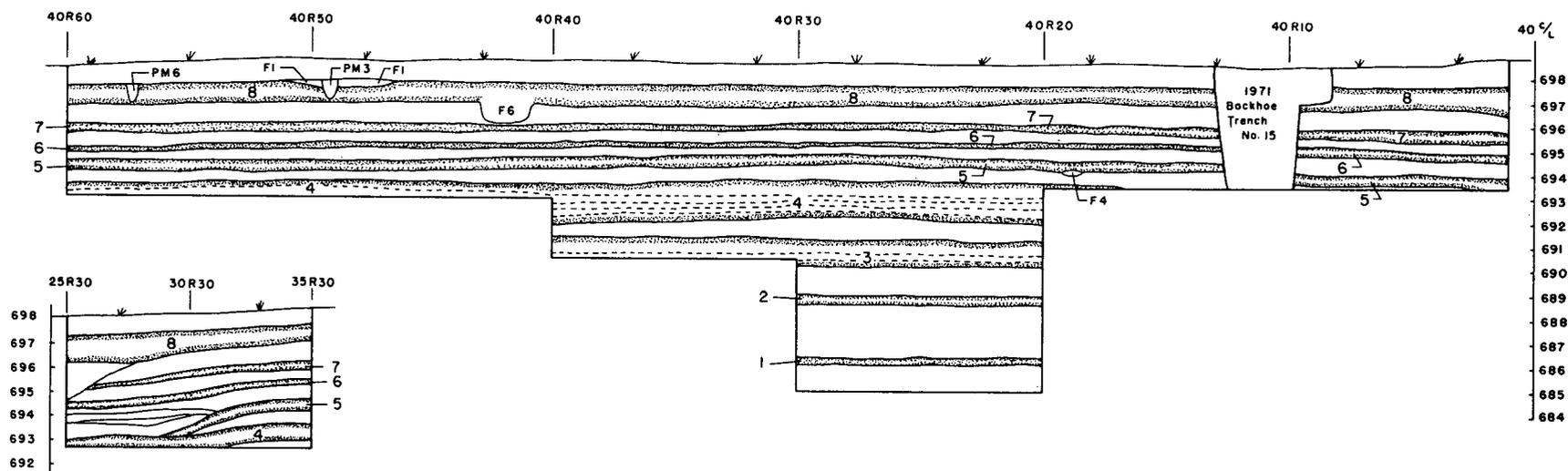


Figure 4. Profile, 40CL to 40R60 at 40RH6

Cultural Level 8 consistently yielded a meager amount of material and it was decided to sacrifice this level to obtain material from Cultural Level 7. A Case 450 front loader was used to remove the overburden from units 45 through 85 CL and R15 through R60. The first mechanical cut was taken to an elevation of 696.4 feet above mean sea level (hereafter designated as AMSL). Excavations continued by hand in 50R30, 40R40, 50R50, 50R60, 60R30, 60R40, 60R50 and 60R60 from elevation 696.14 to 695.7 feet through the strata of Occupational Level 7. The soil from these units, Cultural Level 7, was water-screened through 1/4 inch mesh. In unit 50R20 excavations continued by hand from ground surface to an elevation of 685.2 feet.

Again the front loader was employed to remove the overburden from an elevation of 695.7 to 694.7 feet, exposing Occupational Level 5. Occupational Level 6 (Fig. 4) was too thin (0.2 foot) and intermittent to justify extensive excavations. Occupational Level 5 was excavated by hand in units 50R30, 50R40, 50R50, 60R40, 70R30 and 70R40. A sample of Occupational Level 5 was screened through 1/4 inch mesh, but soil composition and excessive moisture precluded continued screening of the complete levels for each unit. Heavy equipment was used to strip unit 50R40 to the lowest intermittent level of Occupational Level 4, at an elevation of 692.2 feet.

A ten-foot wide trench at 35R30 through 35R70 was stripped with the front loader to Occupational Level 7 (Fig. 3). Two five- by ten-foot units in 40R50 and 40R60 were

excavated through Occupational Level 7. Excavations in these two units were discontinued and five- by ten-foot portions of units 30R40 and 40R40 were excavated to an elevation of 692.7 feet to define the stratigraphy toward the river (Figs. 3 and 4).

Unit 1 test trench 1 (Fig. 3) was cut by the front loader between 180 and 200 CL and between L13 and R54 to a depth of 1.5 feet (696.7 AMSL). Square 200R30 was excavated by hand from 696.7 to 693.7 feet. Light occupation was encountered in the backdirt of the mechanically stripped area. No evidence of occupation was observed below 696.7 feet.

The 1971 backhoe trench 14 also revealed suggestions of occupation. 40RH6 Unit 2 was placed 100 feet north of backhoe trench 14 (Fig. 2). Unit is an area 26 feet by 100 feet which was mechanically stripped to a depth of 1.5 feet. Feature 23 was encountered at a depth of 1.5 feet. Light occupation was encountered only to a depth of 1.5 feet. Excavations continued to a depth of 2.5 feet, but no additional evidence of occupation was noted.

STRATIGRAPHY

The river terrace deposits at 40RH6 are comprised of a series of relatively fine-grained alluvial sediments consisting primarily of sands and silts. From an archeological perspective, the stratigraphy at 40RH6 revealed eight major strata containing significant remains and/or suggestion of human occupation. These eight occupational levels are separated by a series of sterile strata (Fig. 4). The lower two occupational levels were differentiated from the sterile

levels by darker soil color and minimal inclusions of flecks of charcoal. The upper six levels contained fire-cracked rock, artifacts and features.

The following is an outline of the characteristics of the occupational levels. These may be correlated to Table 1 and Fig. 4.

Occupational Level 1: Varies from 0.2 to 0.4 foot thick at an elevation of 686.5 to 686.1 feet. Artifacts were not recovered from this level. Flecks of charcoal and darker soil color were the only distinguishing characteristics (Arbitrary levels 686.7-685.7).

Occupational Level 2: 0.4 foot thick at an elevation of 689.0 to 688.6 feet. Artifacts were not recovered from this level. Flecks of charcoal and darker soil color were the distinguishing characteristics (Arbitrary levels 689.2-688.2).

Occupational Level 3: 1.0 foot thick between elevations 691.5 and 690.2 feet. Artifacts and Feature 22 were recovered from this level. The level is interrupted between 690.7 and 690.5 feet AMSL by an intermittent layer of sterile soil (Fig. 4). The two sub-levels, while apparent in the profile (Fig. 4), could not always be segregated in the excavation of other units (Arbitrary levels 691.7 to 690.2).

Occupational Level 4: 1.7 feet thick between elevation 693.7 and 692.1 feet. Artifacts were recovered from this level. The level is interrupted from 693.0 to 692.8 feet and 692.6 to 692.4 feet by intermittent layers of sterile

soil (Fig. 4). The three sub-levels, while apparent in the profile could not always be segregated in the excavation of other units (Arbitrary levels 693.7-691.7).

Occupational Level 5: Varies from 0.5 to 0.4 foot thick between elevations 694.7 and 694.2 feet. Artifacts and features were located in this level (Arbitrary levels 694.7-693.7).

Occupational Level 6: Varies from 0.3 to 0.2 foot thick between elevations of 695.4 and 695.2. Fire-cracked rock and flecks of charcoal were observed in the profile (Fig. 4). This occupational level, apparent in the profile, was not well-defined in other units to the north (Arbitrary Levels 695.7-695.2).

Occupational Level 7: Varies from 0.3 to 0.4 foot thick between elevations 696.4 and 695.8. Artifacts and features were observed in this level (Arbitrary Levels 696.7-695.7).

Occupational Level 8: Varies from 0.7 to 0.8 foot thick between elevations of 696.7 and 696.9 feet. Artifacts and features were observed in this level (Arbitrary Levels 697.7-696.7).

TABLE 1
CORRELATION OF LEVELS

ARBITRARY LEVELS	OCCUPATIONAL LEVELS	ELEVATIONS OF OCCUPATIONAL LEVELS
0.0' - 0.5' Below Surface		
0.5' - 1.0' Below Surface		
1.0' Below Surface-697.7' AMSL		
697.7 - 697.2' AMSL	8	697.7 - 696.9'
697.2 - 696.7' AMSL		
696.7 - 696.2' AMSL		
696.2 - 695.7' AMSL	7	696.4 - 695.8'
695.7 - 695.2' AMSL		
695.2 - 694.7' AMSL	6	695.4 - 695.2'
694.7 - 694.2' AMSL		
694.2 - 693.7' AMSL	5	694.7 - 694.2'
693.7 - 693.2' AMSL		
693.2 - 692.6' AMSL	4	693.7 - 692.1'
692.7 - 692.2' AMSL		
692.2 - 691.7' AMSL		
691.7 - 691.2' AMSL		
691.2 - 690.7' AMSL	3	691.5 - 690.2'
690.7 - 690.2' AMSL		
690.2 - 689.7' AMSL		
689.7 - 689.2' AMSL		
689.2 - 688.7' AMSL	2	689.0 - 688.6'
688.7 - 688.2' AMSL		
688.2 - 687.7' AMSL		
687.7 - 687.2' AMSL		
687.2 - 686.7' AMSL		
686.7 - 686.2' AMSL	1	686.5 - 686.1'
686.2 - 685.7' AMSL		
685.7 - 685.2' AMSL		

FEATURES

Features located during the excavations at 40RH6 include post molds, hearths, pits and one burial.

Six post molds were encountered in the upper portion or zone of Occupational Level 8. A distinct pattern of post molds is not apparent. Features 1, 23 and the burial are also associated with the upper portion of Occupational Level 8. On the basis of ceramics found with Feature 1, it appears that the upper zone of Occupational Level 8 represents Mississippian occupation.

Features 2 and 6 were encountered at the base of Occupational Level 8. However, diagnostic artifacts were not found in association with these features.

Feature 7 was first observed at an elevation of 696.74. It was encountered during the mechanical stripping of levels 697.7 to 696.4. The elevation at which Feature 7 was first discovered is well above the top of Occupational Level 7. The elevation at which this feature occurs suggests a definite association with the lower zone of Occupational Level 8. Considering the ceramics which occur in arbitrary levels that correlate with the lower zone of Occupational Level 8 as well as the ceramics in Feature 7, there is little doubt that the lower zone of Occupational Level 8 represents Woodland occupation. On the basis of minimal comparative data it is suggested that the lower zone of Occupational Level 8 represents Middle Woodland occupation (see discussion chapter).

Features 8 through 13 and 21, consisting of fire basins and pits, occur in Occupational Level 7. Associated artifacts indicate Early Woodland occupation.

Feature 5, detected during mechanical stripping operations from elevations 695.7 to 694.7, was first observed at an elevation of 694.8 feet. This is just above the upper portion of Occupational Level 5 and below Occupational Level 7. Occupational Level 7 was excavated by hand, but Feature 5 was not detected. On the basis of these data, it is suggested that Feature 5 was most probably associated with Occupational Level 6. This is substantiated to some degree by the artifacts associated with Feature 5.

Features 3, 4 and 14 through 20 consisting of hearths and pits occur in Occupational Level 5. Artifacts and radiocarbon dates suggest that Occupational Level 5 is a Late Archaic manifestation. One post mold (7) was found in Occupational Level 5.

Pertinent data for these features are outlined below.

Feature 1: An irregularly shaped area of burned orange clay representing an area of firing. Feature contents include burned bone fragments.

Dimensions: 4.50 ft. E-W
 2.70 ft. N-S
 0.35 ft. deep
 Location: 39.0 to 46.7R46.5 to 51.0
 Level: 698.0

Occupational Level: 8 upper zone
 Cultural affiliations: Mississippian
 Associations: Post mold 3 intrudes into
 Feature 1 (Fig. 4).

Feature 2: An oval shaped pit with sloping sides and flat bottom containing ten fire-cracked cobbles and chips.

Dimensions: 2.60 ft. NE-SW
 1.90 ft. NW-SE
 1.50 ft. diameter at base
 1.10 ft. deep
 Location: 30.95 to 33.1R32.5 to 35.15
 Level: 697.20, point of origin
 possibly higher
 Occupational Level: 8, lower zone
 Cultural affiliations: Middle(?) Woodland
 Associations: Post mold 5

Feature 3: An oval area of burned red clay representing an area of firing. Feature contents include fire-cracked cobbles and flakes.

Dimensions: 3.45 ft. NW-SE
 2.00 ft. SW-NE
 0.75 ft. deep
 Location: 23.0 to 25.0R19.2 to 22.65
 Level: 694.70
 Occupational Level: 5
 Cultural affiliations: Late Archaic
 Associations: Intrudes into Feature 14 and
 Feature 17 (Fig. 5)

Feature 4: A shallow circular basin-shaped pit surrounded by a circle of fire-cracked sandstone cobbles. The feature contained charcoal and ash.

Dimensions: 1.60 ft. in diameter
 0.25 ft. deep
 Location: 40.5 to 41.3R17.4 to 19.0
 Level: 694.4
 Occupational Level: 5
 Cultural affiliations: Late Archaic
 Associations: (See Fig. 5)

Feature 5: A circular area of burned orange clay representing an area of firing. Clear definition of the area boundaries is not possible. Clear evidence of firing occurred in an area of

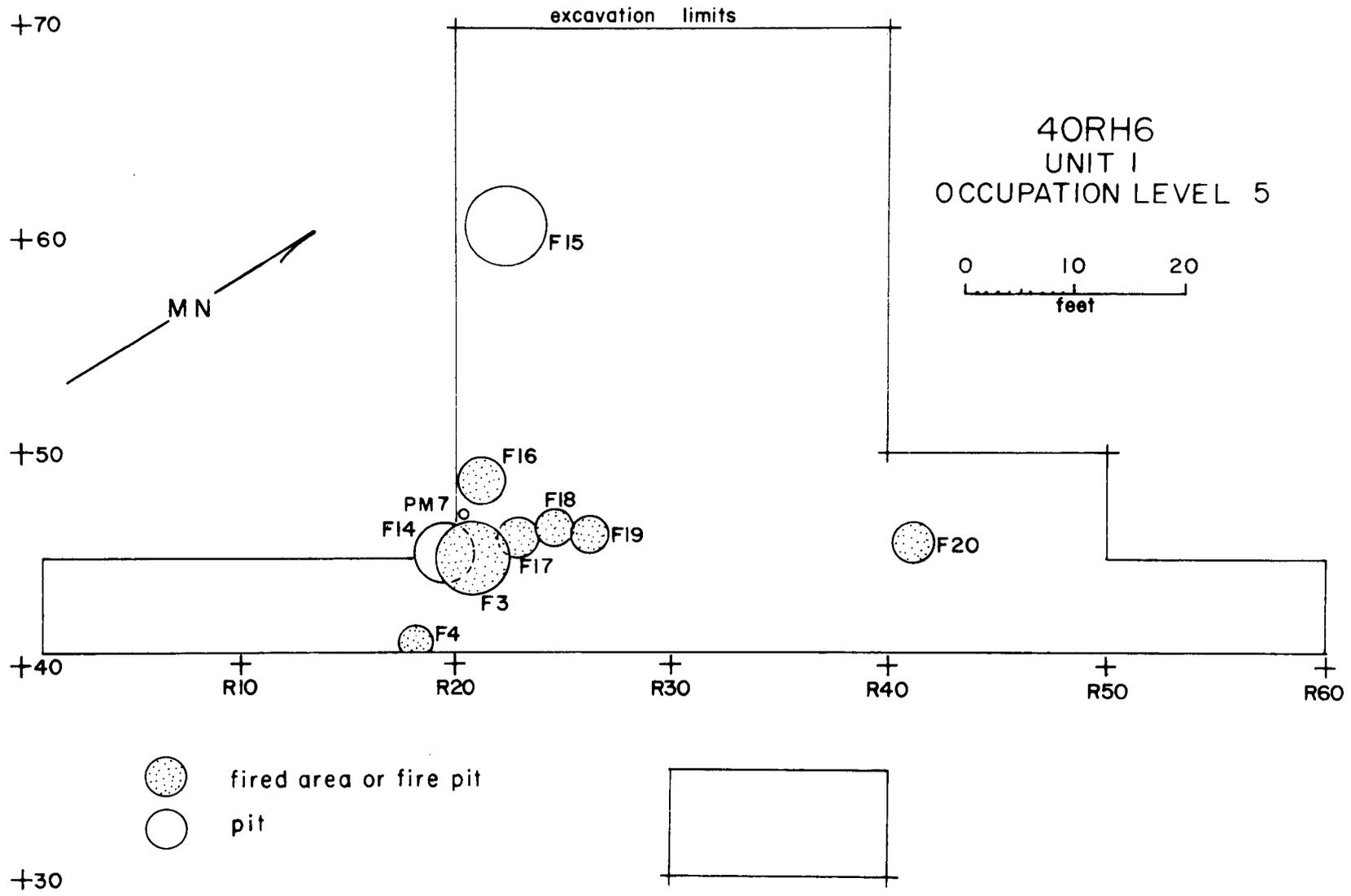


Figure 5. Excavation Limits and Features, Occupational Level 5, 40RH6

5.0 feet in diameter. Several fire-cracked cobbles occurred within the inner circle.

Dimensions: 3.00 ft. in diameter
0.35 ft. deep
Location: 41.0 to 43.9R28.5 to 31.5
Level: 694.8

Occupational Level: 6
Cultural affiliation: Early Woodland
Associations: None

Feature 6: A shallow circular pit with sloping walls merging into a rounded bottom. The feature contained flakes and shell. No evidence of firing was noted.

Dimensions: 2.40 ft. in diameter
0.80 ft. deep
Location: 40.5 to 42.4R40.7 to 43.1
Level: 697.2

Occupational Level: 8, lower zone
Cultural affiliations: Middle(?)Woodland
Associations: None

Feature 7: An oval pit with straight walls and a flat bottom. The lower 0.5 foot of pit fill consists of burned orange clay indicating firing. The pit was detected during stripping operations and the point of origin was higher than the point of detection. The pit contained pottery, flakes, bone and shell.

Dimensions: 4.20 ft. NW-SE
3.75 ft. NE-SW
1.33 ft. deep
Location: 45.3 to 49.5R42.15 to 45.8
Level: 696.74

Occupational Level: 8, lower zone
Cultural affiliations: Middle? Woodland
Associations: None

Feature 8: A circular area of burned orange clay representing a surface fire. The feature contained five fire-cracked sandstone cobbles and burned bone.

Dimensions: 2.60 ft. in diameter
0.20 ft. deep
Location: 45.7 to 48.3R33.35 to 35.9
Level: 696.20

Occupational Level: 7
Cultural affiliations: Early Woodland
Associations: (See Fig. 6)

Feature 9: A circular area of burned orange clay representing a surface fire. The feature contained three fire-cracked sandstone cobbles and charcoal.

Dimensions: 2.00 ft. in diameter
0.25 ft. deep
Location: 59.65 to 61.8R24.9 to 27.05
Level: 696.14

Occupational Level: 7
Cultural affiliation: Early Woodland
Associations: (See Fig. 6)

Feature 10: An oval area of burned clay representing a surface fire. The feature contained twenty-five cracked sandstone cobbles and flakes.

Dimensions: 1.80 ft. NW-SE
1.10 ft. NE-SE
0.20 ft. deep
Location: 57.35 to 59.15R31.4 to 32.5
Level: 696.20

Occupational Level: 7
Cultural affiliation: Early Woodland
Associations: (See Fig. 6)

Feature 11: An oval area of burned orange clay representing a surface fire. The feature contained three fire-cracked sandstone cobbles.

Dimensions: 1.90 ft. NW-SE
 1.35 ft. NE-SW
 0.15 ft. deep
 Location: 55.45 to 57.35R36.7 to 38.2
 Level: 696.20

Occupational Level: 7
 Cultural affiliation: Early Woodland
 Associations: Features 9 and 10 (See
 Fig. 6)

Feature 12: An oval area of burned orange clay representing a surface fire. The feature contained fourteen fire-cracked sandstone cobbles.

Dimensions: 3.65 ft. NE-SW
 2.70 ft. NW-SE
 0.25 ft. deep
 Location: 46.7 to 49.4R18.6 to 22.3
 Level: 696.11

Occupational Level: 7
 Cultural affiliation: Early Woodland
 Associations: Feature 13 (Fig. 6)

Feature 13: An oval area of burned orange clay representing a surface fire. Associated with the feature were seven fire-cracked sandstone cobbles.

Dimensions: 2.70 ft. NE-SW
 2.20 ft. NW-SE
 0.20 ft. deep
 Location: 48.95 to 51.5R22.7 to 25.4
 Level: 696.11

Occupational Level: 7
 Cultural affiliation: Early Woodland
 Association: Feature 12 (Fig. 6)

Feature 14: An oval, straight-walled flat-bottomed pit with a thin level of burned orange clay at the bottom. The feature also contained seventy fire-cracked sandstone cobbles, flakes and burned bone.

Dimensions: 2.45 ft. NE-SW
 1.00 ft. deep
 Location: 45.0 to 46.6R18.5 to 20.6
 Level: 694.7

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Associations: Features 3 and 16, Post mold 7
 (Fig. 5)

Feature 15: A circular, straight-walled, flat-bottomed pit. The pit was filled with 875 fire-cracked cobbles (85% sandstone, 5% quartzite) but the walls and base of the pit showed no indication of firing. Also found within the pit were a steatite vessel section, projectile points, hammerstone fragments and charcoal.

Dimensions: 3.80 ft. in diameter
 1.65 ft. deep
 Location: 58.65 to 63.0R20.55 to 24.35
 Level: 694.52

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Association: (See Fig. 5)

Feature 16: A circular area of burned orange clay representing a surface fire.

Dimensions: 2.30 ft. in diameter
 0.25 ft. deep
 Location: 47.5 to 49.7R20.05 to 22.4
 Level: 694.7

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Associations: Feature 14, Post mold 7 (Fig. 5)

Feature 17: A shallow, oval, basin-shaped pit with the bottom discolored by firing. The feature contained fifteen fire-cracked sandstone cobbles and flakes.

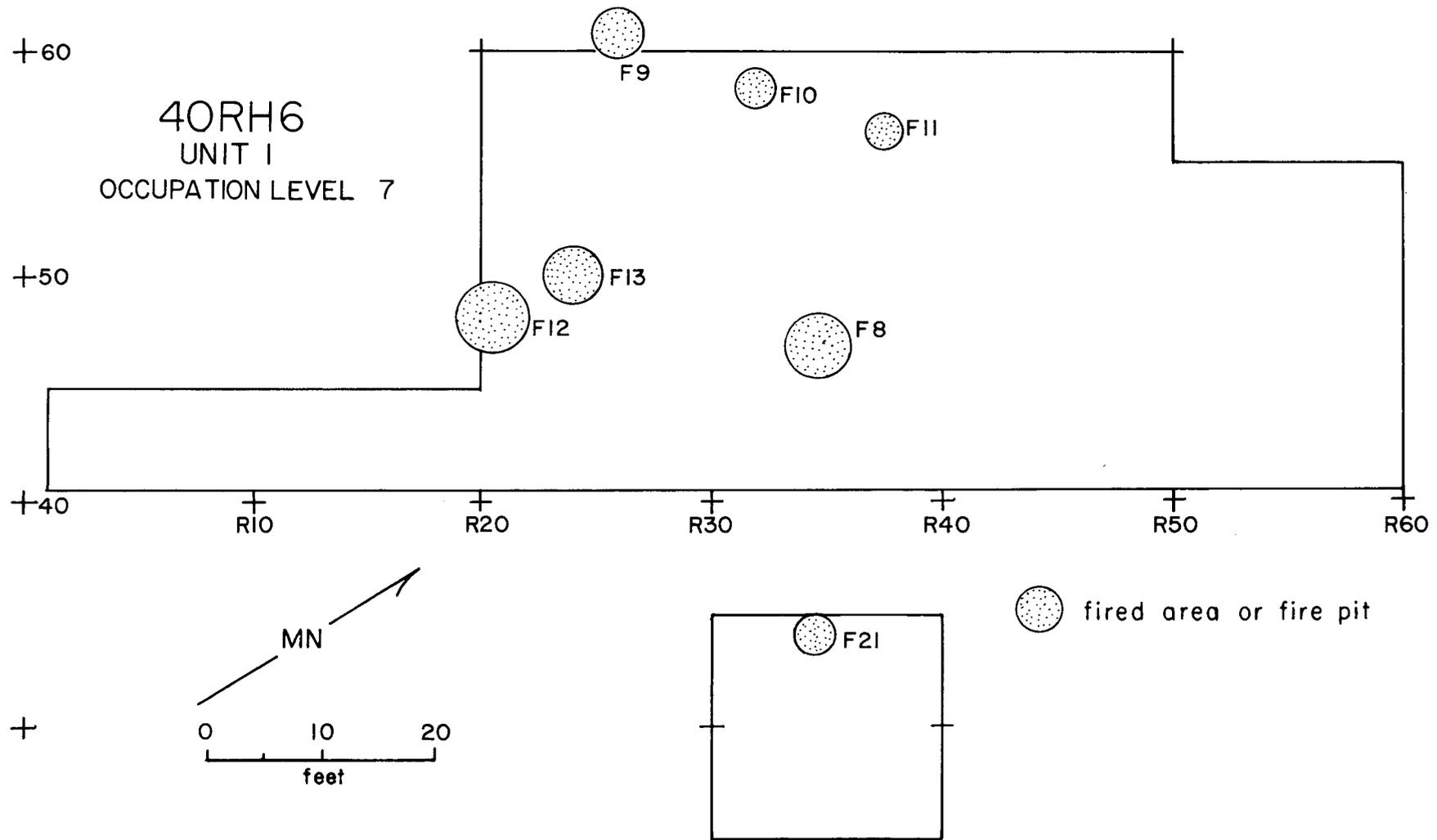


Figure 6. Excavation Limits and Features, Occupational Level 7, 4ORH6

Dimensions: 2.30 ft. N-S
 1.60 ft. E-W
 0.35 ft. deep
 Location: 45.0 to 46.9R21.8 to 23.95

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Association: Features 18 and 3 intrude
 into Feature 17 (Fig. 5)

Feature 18: A circular, shallow, basin-shaped pit with a burned orange clay base. The feature contained ten fire-cracked sandstone cobbles.

Dimensions: 1.50 ft. in diameter
 0.25 ft. deep
 Location: 45.7 to 47.2R23.8 to 25.4
 Level: 694.67

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Association: Intrudes into Feature 17,
 Feature 19 intrudes into
 Feature 18 (Fig. 5)

Feature 19: A circular area of burned orange clay representing a surface fire.

Dimensions: 1.90 ft. in diameter
 0.20 ft. deep
 Location: 45.05 to 46.9R25.25 to 27.2
 Level: 694.67

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Association: Intrudes into Feature 18
 (Fig. 5)

Feature 20: A shallow, basin-shaped pit with the soil at the bottom of the pit burned orange colored clay. The feature contained five fire-cracked sandstone cobbles, flakes and charcoal.

Dimensions: 2.00 ft. in diameter
 0.25 ft. deep
 Location: 44.8 to 46.55R40.25 to 42.2
 Level: 694.41

Occupational Level: 5
 Cultural affiliation: Late Archaic
 Association: (See Fig. 5)

Feature 21: An oval, basin-shaped pit containing 51 sandstone and three quartzite fire-cracked cobbles. Soil in the bottom of the pit showed little evidence of firing.

Dimensions: 2.10 ft. NE-SW
 1.50 ft. NW-SE
 0.35 ft. deep
 Location: 33.2 to 34.8R33.4 to 36.5
 Level: 696.1

Occupational Level: 7
 Cultural affiliation: Early Woodland
 Association: (See Fig. 6)

Feature 22: An oval area of burned orange colored soil representing a surface fire.

Dimensions: 1.90 ft. NW-SE
 1.50 ft. NE-SW
 0.20 ft. deep
 Location: 41.18 to 43.65R31.0 to 32.45
 Level: 691.50

Occupational Level: 3
 Cultural affiliation: Archaic
 Association: None

Feature 23: A large irregularly-shaped area of charcoal and burned-orange colored soil containing pottery, flakes and five fire-cracked sandstone cobbles.

Dimensions: 5.85 ft. NE-SW
 4.35 ft. NW-SE
 0.50 ft. deep
 Location: Unit 2
 12.6 to 16.95 North of unit wall.
 5.6 to 9.8 East of unit wall.
 Level: 697.88

Occupational Level: 8
 Cultural affiliation: Mississippian
 Association: None

TABLE 2
POST MOLD DIMENSIONS AND ATTRIBUTES

POST MOLD NUMBER	LOCATION	LEVEL	DIAMETER	DEPTH	OCCUPATIONAL LEVEL
1	42.4R4.90	697.88	0.6	0.55	8
2	43.2R5.25	697.87	0.5	0.75	8
3	40.5R48.70	698.10	0.5	*	8
4	34.9R50.50	697.85	0.5	0.90	8
5	46.2R39.75	698.70	0.5	1.00	8
6	40.5R57.30	697.90	0.4	0.85	8
7	42.2R20.20	694.70	0.5	0.50	5

* Intrudes into Feature 21.

A series of post molds were encountered in Occupational Levels 8 and 5. No distinct patterns were apparent. Pertinent data on post molds are presented in Table 2.

Burial 1: The remains of one human, designated as Burial 1, were found at 42.8R55.8 at an elevation of 697.79 in Occupational Level 8. Remains consist of a series of badly decomposed mandibular fragments and teeth. Data are presented elsewhere.

CHIPPED STONE

The following description and classification attempts to present as many attributes as possible for each artifact. Wherever possible, the data are compiled into tabular form. The procedures for establishing classes of chipped stone tools are based primarily on formal descriptive attributes, meeting the criteria of tool types as defined by Krieger (1944). The resulting classes are primarily based on style, shape and technical modes of flaking practices. For comparative purposes, wherever possible, projectile point categories are related to typologies proposed by Cambron and Hulse (1964), Bell (1958, 1960), Perino (1968) and others. But typological comparisons are here neither considered important nor necessary when enough metric data are available for quantitative analysis.

The terminology for the description of projectiles is extracted and modified from Binford's (1963) proposed attributes for projectiles. Three major factors are considered

in the classification of projectiles: the haft element, which includes the stem and base; the blade morphology including outline, transverse and longitudinal sections; and the techniques of chipping in the preparation of the artifacts.

For the remainder of the artifact assemblage, the classification is based on a series of attributes unique to those artifacts and discussed in the definitions. The terms used in the descriptions are compiled and modified from Binford (1963), White (1963), Witthoft (1965; 1966), and Oakley (1949), but they also include commonly used terms to denote geometric forms and outlines.

The limited time available for this analysis and the size of the sample preclude complete quantitative and qualitative evaluation of these tool classes. But the data presented (especially those for projectiles) are available for future researchers. For almost every class of projectiles presented, varied analyses could be performed, yielding a variety of different results and observations (e.g. Ahler 1972; Calabrese 1972). The author also recognizes the potential for further functional analyses of other classes of chipped stone tools (Wilmsen 1968a; Frison 1968).

Retouched flakes are defined on the basis of the occurrence, and the degree or steepness of retouch. Placement of retouch on a flake is described in terms of the orientation of the lateral edge relative to the longitudinal axis of the flake. The proximal end (with bulb of percussion) is the point of reference. Referring to several other attributes, the flake need not always

be complete to determine the form (Oakley 1949: 14-19).

Steepness of retouch is the angle at which the flakes have been removed from the piece, using the striking platform as the horizontal from which the angle is measured (Wilmsen 1968b: 983). In the tabular presentation of flake data, the degree of retouch is given to allow further analysis. Left, right, proximal or distal edges are indicated. For this determination, the flake is held with the proximal end toward the observer and the ventral surface downward. Retouch on the proximal end usually occurs on the bulb of percussion itself. The retouch placement cannot be determined for retouched segments or fragments.

Dimensions and data are given in Tables 5 and 6. They provide the maximum width, length and thickness for a given artifact. Also given in these tables are the provenience, and remarks pertaining to that single artifact. All measurements are given in millimeters.

The dimensions provided for projectiles follow those devised and utilized by Ahler (1972: 21-24) and are repeated below. Measurements on projectile forms not encountered by Ahler (1972: 23, Fig. 4) are outlined here in Fig. 8.

a. Total Length. Measured perpendicularly from the baseline to the distal blade tip. In instances of fractured specimens, this measurement (and all other measurements) is estimated on the assumption that the artifact is bilaterally symmetrical. Estimated dimensions are noted in Table 3.

b. Basal Contact Width. The maximum distance between points of tangency on the baseline.

c. Basal Center Point Length. The distance from the baseline to the basal haft element margin, measured along the centerline.

d. Proximal Haft Element Width. The distance between the two points, one on each lateral haft element margin, most proximally positioned and at which the orientation of the lateral haft element margin is most nearly parallel to the centerline, measured parallel to the baseline.

e. Proximal Haft Element Length. The average perpendicular distance from the baseline to the two points on the lateral haft element margins defined in d.

f. Distal Haft Element Width. The distance between two points, one on each lateral haft element margin, which are more distally located than the proximal haft element points d, and at which the orientation of the lateral haft element margin is most nearly parallel to the centerline, measured parallel to the baseline.

g. Distal Haft Element Length. The average perpendicular distance from the baseline to the two points on the lateral haft element margins defined in f.

h. Blade Base Width. The distance between the two points, one on each lateral blade margin, nearest the baseline, measured parallel to the baseline.

i. Blade Base Length. The average perpendicular distance from the baseline to the two points defined in h.

j. Maximum Width. The greatest distance, measured parallel to the baseline, between any two points on the artifact.

k. Maximum Width Length. The average perpendicular distance from the baseline to the two points defined in j.

Projectile Points

Unnotched Triangular Projectiles, Incurvate Edges: Small triangular points with incurvate blades and convex bases. Retouch is generally fine with stepped lamellar triangular and expanding flake scars present on both surfaces. Occasionally a portion of the ventral surface of the original flake is present (Fig. 11, a-e).

These points are most similar to Hamilton projectiles (Cambron and Hulse 1964: 58).

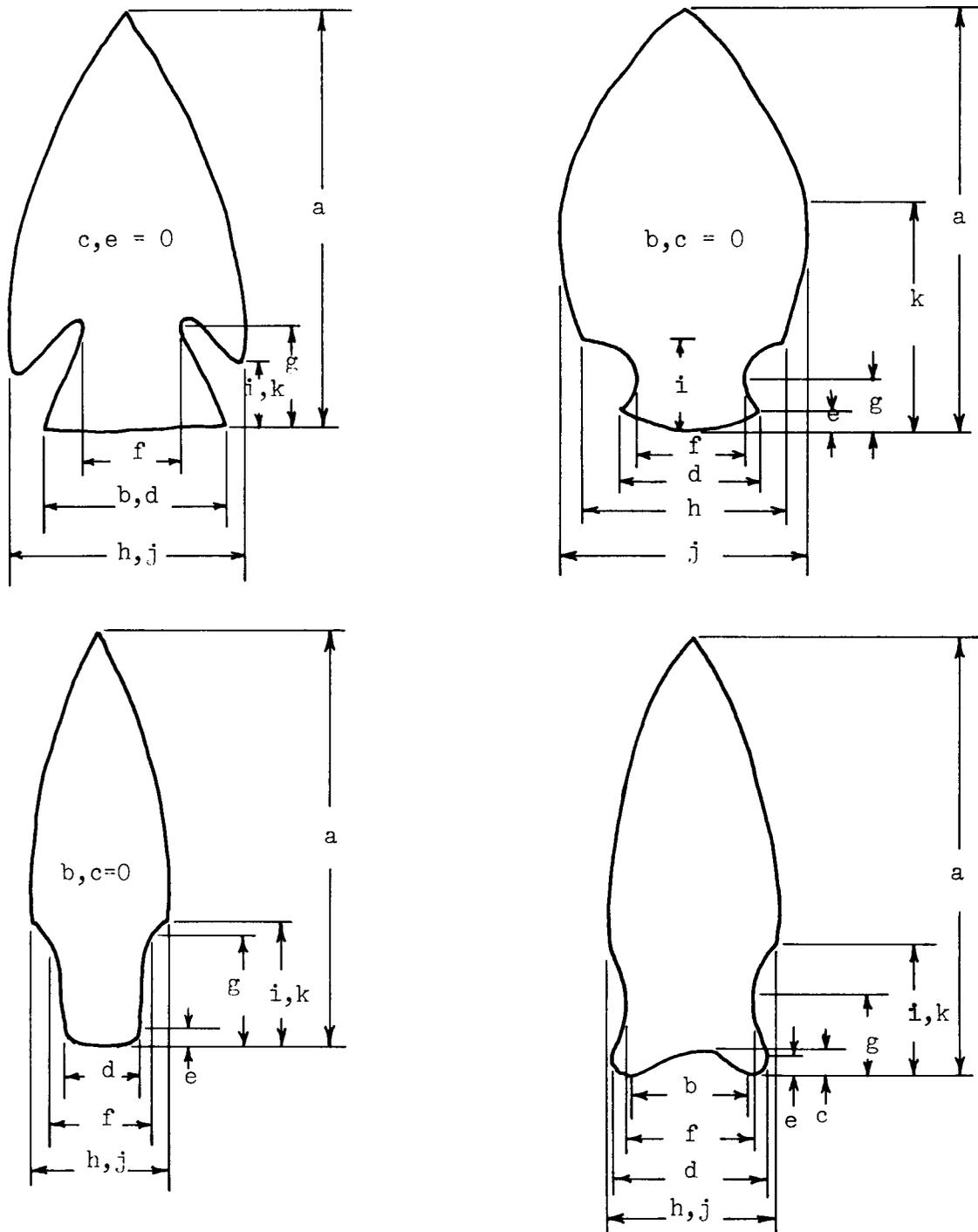


Figure 7. Examples of measurements for larger projectiles (from Ahler 1972).

Unnotched Triangular Projectiles: Small projectiles with a general triangular outline with straight to excurvate lateral edges and convex or concave bases. Overall bifacially flaked with stepped lamellar expanding and conchoidal flake scars present (Fig. 11, f-g). These projectiles lack the incurvate lateral edges characteristic of the preceding category.

Unnotched Ovate Projectiles: Small projectiles with straight to excurvate lateral edges merging into a rounded convex base. These are overall bifacially flaked with expanding and conchoidal flake scars present (Fig. 11, i-j).

The following categories are represented by one specimen each. They are overall bifacially flaked with expanding and conchoidal flake scars present. Variation in form is outlined below and dimensions are presented in Table 3.

Unnotched Straight Stemmed Projectile, Small: A projectile with a triangular blade edge, straight to incurvate stem edge and a straight base (Fig. 11, k).

Side Notched Projectile, Small: A projectile with triangular blade edges and two shallow U-shaped notches cut into the lateral edges creating a short stem. The base is convex (Fig. 11, h).

Side Notched Projectile, Large: A projectile with triangular to excurvate lateral blade edges with two shallow U-shaped notches cut into the lateral edges creating a short stem. The base is convex (Fig. 12, g).

Unnotched Triangular Projectile, Large: A projectile with excurvate lateral edges and a straight base (Fig. 12, h).

Contracting Stem Projectiles: Projectiles with contracting stems and straight to excurvate blade edges (Fig. 11, l-m). In cross and longitudinal sections they are bi-convex. Bases of two specimens are straight to convex. The

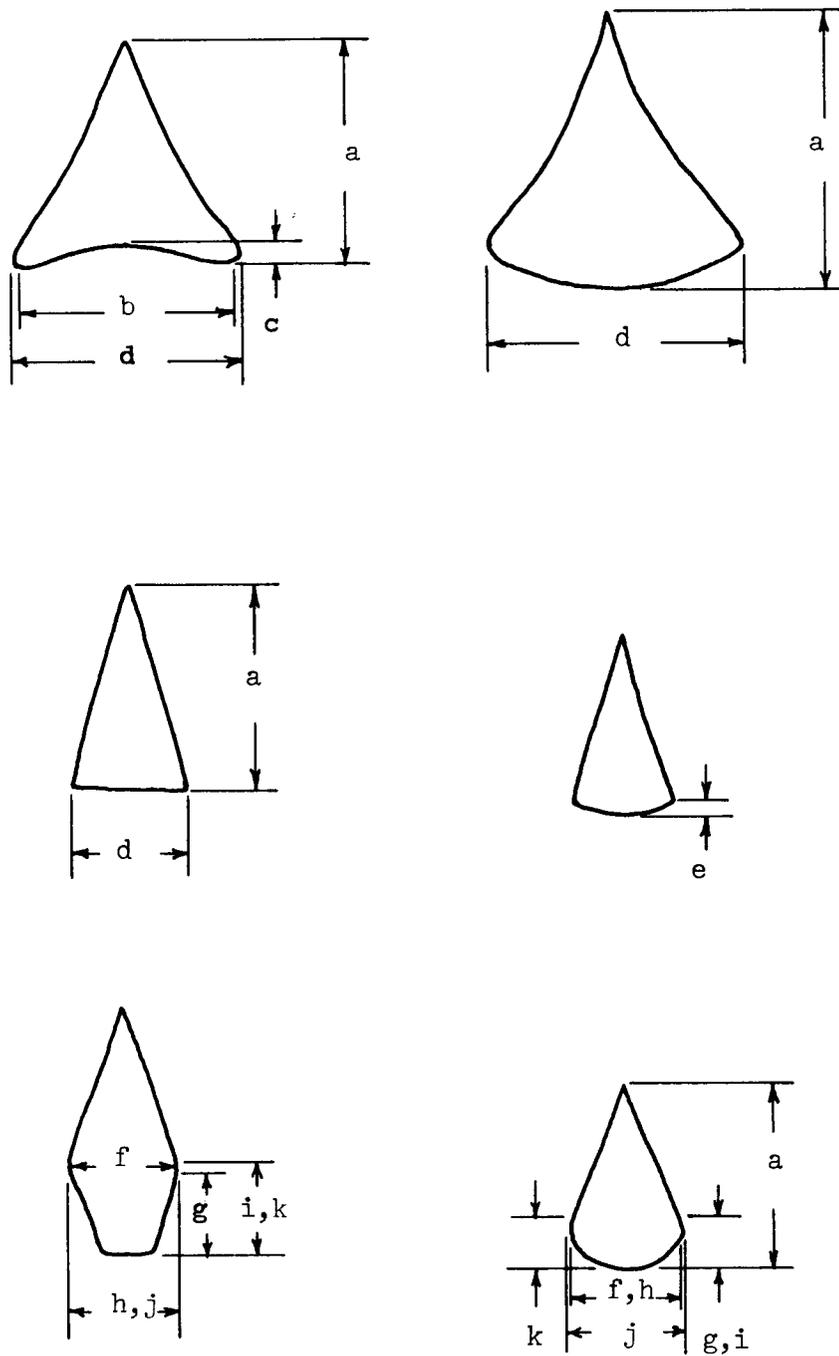


Figure 8. Examples of measurements for smaller projectiles (from Ahler 1972 and Calabrese 1972).

base of the third specimen is unworked. They are overall bifacially flaked with shallow expanding and conchoidal flake scars present.

The three specimens are similar to Elora types (Cambron and Hulse 1964: 40).

Corner Notched Projectiles, Straight to Expanding Stems:

Projectiles which have straight to excurvate lateral edges. Notches in the corners of the blade create horizontal shoulders and a straight to slightly expanding stem (Table 3). Bases are generally convex. Projectiles are bifacially flaked with expanding and conchoidal flake scars present (Fig. 11, n-r).

Corner Notched Projectiles, Expanding Stems: Projectiles with straight to excurvate lateral edges. Notches in the corner of the blade create horizontal, inversely tapered, tapered or barbed shoulders (Fig. 12, a-f). Stems are expanding with straight, convex or concave bases. Projectiles in this category are overall bifacially flaked with conchoidal and expanding flake scars present.

Considerable variation occurs within this category. Most specimens do not appear to be similar to defined types.

Projectile Fragments and Segments: Fragments are broken specimens which retain at least one end of the original artifact. Segments are broken specimens with only mid-sections remaining.

Eleven fragments appear to be tips of small, thin projectiles (Table 4). The remaining appear to be fragments

TABLE 3
DIMENSIONS AND ATTRIBUTES OF PROJECTILES

Catalog Number	Unit	Level	Occupational Level	a	b	c	d	e	f	g	h	i	j	k	Remarks	Figure	Type Designation
<u>Unnotched Triangular Projectiles, Insurvate Edges</u>																	
151	80L10	0.0 - 0.5		23.5	14.0	0.5	16.5										
88	50R60	696.2-695.7	7	24.3	10.0	0.5	13.0									11,a	Hamilton
59	50R30	0.5 - 1.0		24.5	15.2	0.5	18.7									11,e	Hamilton
146	40L10	1.0-697.2	8	20.0*	0.0	0.0	18.5									11,b	Hamilton
112	50R50	698.2-697.7		20.0*	14.0	3.0	18.7								Distal tip missing		Hamilton
93	50R50	0.5 - 1.0		19.0*	13.0	0.5	14.8								Distal tip missing	11,d	Hamilton
71	50R20	0.5 - 1.0		----	21.5	2.0	24.5								Distal tip missing		Hamilton
141	40L10	0.5 - 1.0		17.0	----	----	----								Distal tip missing	11,c	Hamilton
22	40R50	0.5 - 1.0		17.5	----	----	----								Lateral edges missing		Hamilton
															Lateral edges missing		Hamilton
<u>Unnotched Triangular Projectiles, Small</u>																	
131	40L10	694.7-694.2	5	36.5*	0.0	0.0	12.0	3.0	14.0	13.0	14.0	13.0	14.5	15.0	Distal tip missing	11,f	
110	50R40	696.2-695.7	7	31.0	7.0	0.8	13.0	0.0	0.0	0.0						11,g	
<u>Unnotched Ovate Projectiles, Small</u>																	
71	50R20	0.5 - 1.0		32.0	0.0	0.0	0.0	0.0	----	8.0	----	8.0	----	16.5	Lateral edge broken	11,h	
133	50L10	1.0-697.7		33.0	0.0	0.0	0.0	0.0	----	11.8	----	11.8	19.3	13.0	Lower lateral edge broken	11,j	
<u>Unnotched Straight Stemmed Projectile, Small</u>																	
24	40R50	0.0 - 0.5		27.5	17.0	0.0	17.0	0.0	16.5	10.8	16.5	11.5	16.5	11.5		11,k	Nolichucky
<u>Side Notched Projectile, Small</u>																	
116	50R40	0.5 - 1.0		----	0.0	0.0	12.4	2.0	12.0	9.0	15.2	10.0	15.2	10.0	Distal tip missing	11,h	Swan Lake
<u>Contracting Stem Projectiles</u>																	
111	50R40	697.7-697.2	8	47.0	0.0	0.0	14.0	1.5	18.5	12.5	31.0	15.5	31.0	15.5		11,m	Elora
113	50R50	696.2-695.7	7	38.0	0.0	0.0	13.2	0.5	21.5	11.0	31.0	15.5	31.0	15.5		11,l	Elora
109	50R60	694.7-694.2	5	40.2	0.0	0.0	17.5	0.0	16.0	10.5	21.5	15.0	21.5	15.0			Elora

- Dimension not available, specimen fragment or segment
a Dimension after break and retouch

* Estimated dimension
5/6 5 or 6

TABLE 3
DIMENSIONS AND ATTRIBUTES OF PROJECTILES
(Continued)

Catalog Number	Unit	Level	Occupational Level	a	b	c	d	e	f	g	h	i	j	k	Remarks	Figure	Type Designation
<u>Corner Notched Projectiles, Straight to Expanding Stems</u>																	
26	60R50	694.7-694.2	5	60.5	0.0	0.0	10.5	2.5	10.5	9.5	----	8.3	----	8.3	Barb missing, straight stem	11,n	Little Bear Creek
55	50R30	694.2-693.7	5	52.0	0.0	0.0	17.2	4.2	18.0	11.2	31.0	14.0	31.0	14.0		11,p	
86	50R40	695.2-694.7	5/6	----	0.0	0.0	14.0	2.0	15.0	9.0	14.5	10.8	14.5	10.8	Distal end missing	11,r	
16	Unit 2	Backdirt	-	----	0.0	0.0	14.0	2.0	15.0	14.5	26.5	10.0	27.0	22.0	Distal end missing.	11,q	
4	80R30	Base of stripped area		44.0	0.0	0.0	13.0	3.5	12.5	10.5	26.0	12.5	26.0	12.5		11,o	
<u>Corner Notched Projectiles, Expanding Stems</u>																	
95	50R50	694.7-694.2	5	----	----	----	----	---	15.8	8.4	28.5	10.5	28.5	10.5	Distal end and stem tip miss.	12,b	
86	50R40	695.2-694.7	5/6	40.5	0.0	0.0	14.0	3.0	12.0	7.5	22.0	11.8	22.0	11.8	Ventral surface of original flake present.	12,a	
33	F 15		5	34.3	0.0	0.0	15.0	4.5	12.3	11.0	24.0	14.5	24.0	14.5		12,d	
133	50L10	1.0-697.7		44.7	0.0	0.0	14.2	2.8	11.3	8.0	----	10.0	----	10.0	Barb missing.	12,e	
20	70R30	695.2-694.7	5/6	37.0 ^a	16.0	0.0	16.0	0.0	12.0	9.0	22.7 ^a	8.0 ^a	22.7	8.0 ^a	Distal tip and barb broken and retouched.		
96	60R50	694.7-694.2	5	43.0	0.0	0.0	15.8	5.8	14.0	14.0	20.0	17.5	20.0	17.5	Barb broken and retouched?		
84	50R30	693.2-692.7	4	46.0	12.0	1.5	18.0	3.0	16.0	11.0	22.5	14.5	22.5	14.5	Barb broken and retouched?	12,c	
27	60R30	695.2-694.7	5/6	41.0	0.0	0.0	17.2	2.0	17.0	5.5	27.8	11.5	29.0	15.5	Base unretouched.	12,f	
<u>Side Notched Projectile, Large</u>																	
27	60R30	695.2-694.7	5/6	53.0	0.0	0.0	20.0	2.5	14.5	8.5	19.5	12.0	19.5	12.0		12,g	
<u>Unnotched Triangular Projectile, Large</u>																	
31	60R40	696.2-695.7	7	50.0	0.0	0.0	14.5	2.5								12,h	

- Dimension not available, specimen fragment or segment
a Dimension after break and retouch

* Estimated dimension
5/6 5 or 6

and segments of thicker and larger projectiles rather than other types of bifacial tools (Table 4).

Bifaces

Ovate Bifaces, Large: Two specimens have convex lateral edges. One has a rounded end; the basal end of the second is straight (Fig. 12, i). They are overall bifacially flaked with deep expanding and conchoidal flake scars present. Lateral edges are battered and rounded on one specimen. The other specimen has small scalar and triangular flake scars with a discontinuous distribution along the lateral edges. Triangular sections are bitriangular or biconvex for the two specimens. Longitudinal sections are asymmetrically excurvate or biconvex.

Rectangular Biface: One specimen has parallel lateral edges with one straight and one oblique end. The specimen is overall bifacially flaked with expanding conchoidal flake scars present. Retouch scars are lamellar and have discontinuous distribution on the parallel lateral edges. The oblique end has steep retouch with conchoidal flake scars and crushing or nibbling apparent (Fig. 12, j). The transverse section is plano-triangular and the longitudinal section is biplano. This is similar to tools defined as picks (Lewis and Lewis 1961: 65).

Ovate Biface, Small: One specimen with overall bifacial flaking creating a general ovate outline. The bulb of percussion (including cortex) of the original flake is present. Portions of the edges are battered and crushed (Fig. 12, i).

TABLE 4
ATTRIBUTES OF PROJECTILE FRAGMENTS AND SEGMENTS

Catalog Number	Unit	Level	Occupational Level	Width	Thickness	Remarks
<u>Fragments and Segments of Small Projectiles</u>						
71	50R20	0.5 - 1.0		----	2.5	Distal tip.
72	50R30	697.2-696.7	8	----	3.0	Distal tip.
97	50R50	0.0 - 0.5		----	3.5	Distal tip.
98	50R60	0.0 - 0.5		----	3.5	Distal tip.
150	70L10	1.0-698.2		----	2.0	Distal tip.
151	80L10	0.0 - 0.5		----	3.0	Distal tip.
119	60L10	0.5 - 1.0		----	3.5	Distal tip.
21	40R40	695.7-695.2	6	----	3.0	Distal tip.
93	50R50	0.5 - 1.0		----	3.0	Distal tip.
51	F 7			----	2.0	Distal tip.
51	F 7			----	3.0	Distal tip.
<u>Fragments and Segments of Large Projectiles</u>						
67	50R10	695.2-694.7	5/6	26.0	9.0	Distal tip.
12	Test Tr.	Backdirt	-	----	.5	Distal tip.
103	50R40	695.7-695.2	6	----	6.4	Distal tip.
77	50R10	0.5 - 1.0		----	7.2	Distal tip.
128	60L10	0.0 - 0.5		----	5.2	Distal tip.
124	70L10	697.7-697.2	8	----	5.8	Distal tip.
93	50R50	0.5 - 1.0		----	6.2	Distal tip.
147	30L10	696.7-696.2	7	----	3.0	Distal tip.
1	200R30	695.7-695.2	6	----	9.2	Blade segment
136	80L10	0.5 - 1.0		----	5.0	Blade segment
119	60L10	0.5 - 1.0		----	8.8	Blade segment
81	50R30	693.7-693.2	4	----	14.0	Blade segment
134	70L10	698.2-697.7		----	11.0	Blade segment
151	80L10	0.0 - 0.5		----	9.0	Blade segment
89	50R60			----	4.5	Blade segment
110	50R40	696.2-695.7	7	----	3.5	Blade segment
125	70L10	0.0 - 0.5		----	3.2	Blade segment
93	50R50	0.5 - 1.0		----	5.7	Blade segment
134	70L10	698.2-697.7		25.0	9.0	Basal fragment unfinished point(?)
71	50R20	0.5 - 1.0		27.0	8.0	Blade segment
33	F 15			24.0	11.0	Blade segment
33	F 15			----	8.0	Blade segment
40	F 5			----	10.0	Blade segment
51	F 7			----	6.5	Blade segment

TABLE 5
DIMENSIONS AND ATTRIBUTES OF BIFACES

Catalog Number	Length	Width	Thick-ness	Unit	Level	Occupational Level	Remarks
<u>Ovate Bifaces, Large</u>							
12	74	47	37.5	Test Trench	Backdirt		Figure 12,i
74	87	56	20.0	50R10	696.2-695.7	7	Figure 12,i
<u>Rectangular Biface</u>							
16	66.5	21.2	11.5	Test Trench	Backdirt		Figure 12,j
<u>Ovate Biface, Small</u>							
86	40.0	32.0	13.5	50R40	695.2-694.7	5/6	Figure 12,k
<u>Square Bifaces</u>							
141	19.0	19.8	8.3	40L10	0.0 - 0.5		Figure 12,m
134	20.0	19.5	6.0	70L10	698.2-697.7		
<u>Triangular Biface</u>							
66	43.0	30.0	12.0	50R30	0.0 - 0.5		Figure 12,o
<u>Irregular Bifaces or Cores</u>							
150	54.0	18.0	17.5	70L10	1.0 - 698.2		Figure 12,l
86	33.0	18.2	15.0	50R40	695.2-694.7	5/6	

() Incomplete

TABLE 5
 DIMENSIONS AND ATTRIBUTES OF BIFACES
 (Continued)

Catalog Number	Length	Width	Thick-ness	Unit	Level	Occupational Level	Remarks
<u>Drills(?)</u>							
97	----	19.5	8.0	50R50	0.0 - 0.5		Base, Figure 12,n
129	----	5.0	4.0	10L10	0.5 - 1.0		Tip only
<u>Bifacial Fragments and Segments</u>							
86	----	(82)	13.5	50R40	695.2-694.7	5/6	Manufactured from slate
71	----	----	9.0	50R20	0.5 - 1.0		Distal fragment, pointed tip
76	----	----	16.0	50R10	0.0 - 0.5		Fragment, rounded end
53	----	----	8.0	50R30	695.2-694.7	5/6	Segment
3	----	(25)	12.0	200R30	696.7-696.2	7	Segment
150	----	----	12.0	70L10	1.0-698.2		Segment
150	----	----	9.0	70L10	1.0-698.2		Segment
146	----	----	7.5	40L10	1.0-697.2	8	Segment
89	----	----	12.0	50R60	0.5 - 1.0		Fragment, rounded end
117	----	----	11.0	50R40	694.2-693.7	5	
150	----	----	12.0	70L10	1.0-698.2		Segment

() Incomplete

The transverse section is asymmetrically ovate and the longitudinal section is asymmetrically excurvate.

Square Bifaces, Small: Two specimens appear to be reworked or reshaped from a larger tool and/or specifically worked into a square shape. One specimen has a portion of the ventral surface of the original flake still apparent. The second is completely bifacially flaked with stepped lamellar, conchoidal and expanding flake scars present (Fig. 12, m). The transverse and longitudinal sections are biplano to biconvex.

Triangular Biface, Small: One specimen with excurvate lateral edges and an oblique base is overall bifacially flaked with expanding and conchoidal flake scars present (Fig. 12, o). The transverse section is asymmetrically biconvex and the longitudinal section is asymmetrically ovate.

Irregular Bifaces: Two specimens are thick with asymmetrical bitriangular transverse and longitudinal sections. They are bifacially flaked but have patina present on small sections of the specimen. These may have served as bifacial tools or may be core remnants (Fig. 12, l). Flake scars are conchoidal, expanding and lamellar.

Drills: One flake fragment is bifacially retouched with steep retouch along incurvate lateral edges (Fig. 12, n). In outline it is similar to a projectile point with a straight base. However, the thickness of the specimen and steepness of retouch on the lateral edges suggest it may have been a drill or perforator. A second fragment appears to be the

distal tip of a drill. It is 5 mm. wide and 4 mm. thick and overall bifacially flaked.

Bifacial Fragments and Segments: Fragments and segments of bifaces for which little can be said or inferred about their original form (Table 5). One large fragment appears to be a portion of a large ovate biface. It is manufactured from a slate with a high iron content rather than chert.

Retouched and Utilized Flakes: Flakes with evidence of retouch or utilization on one or more edges. Retouched flakes lack the continuity of retouch characteristic of unifacial scrapers. Retouch or nibbling may occur on the dorsal or ventral surface and is noted in Table 6. Retouch or utilization in a notch represents flakes which have retouch occurring or placed to create a semi-circular or crescentic notch or an elongate notch.

Flakes retouched to a point consist of flakes with one or more edges having shallow to steep retouch to a point of the edge of the flake. Retouch extends up to a point, as opposed to retouched flakes which have marginal retouch but not so specifically placed as to produce a point. When a notch or point occurs, it is noted in Table 6.

Utilized flakes exhibit crushing, battering, nibbling, serration or other indications of utilization along one or more edges of the flake. They do not show scars from purposeful symmetrical retouch but indicate use through this irregular modification.

TABLE 6
DIMENSIONS AND ATTRIBUTES OF FLAKE TOOLS

Catalog Number	Length	Width	Thick-ness	Left	Right	Distal	Unit	Level	Occupational Level	Remarks
<u>Utilized Flakes</u>										
92	28.0	11.5	2.5				50R40	691.7-691.2	3	
55	38.2	18.0	3.0	XD	XD		50R30	694.2-693.7	4	
53	36.0	16.3	3.5		XD		50R30	695.2-694.7	5/6	
86	35.0	22.0	8.0	XD	XD		50R40	695.2-694.7	5/6	
16	33.5	32.0	3.0	XD			Unit 2 Backdirt			Nibbling in a notch
22	26.5	16.2	4.5	XD			40R50	0.5 - 1.0		
75	47.0	23.5	4.0	X	XD		50R20	696.2-695.7	7	
5	28.0	11.0	2.2	XD	XD	XD	Post Mold 3			
24	24.3	10.5	3.5		XD		40R50	0.0 - 0.5		
76	22.0	13.5	2.3		XD		50R10	0.0 - 0.5		
93	15.0	13.0	7.0			X	50R50	0.5 - 1.0		
144	15.0	11.0	3.0	XD			60L10	1.0 - 697.7		
144	23.0	14.0	3.0	XD	XD		60L10	1.0 - 697.7		
28	13.0	15.0	2.0			XD	40R60	0.0 - 0.5		
35	30.0	17.5	5.5		XV		Feature 6			
141	7.5	12.5	2.6			XD	50L10	0.5 - 1.0		Retouch to a point
101	30.0	16.0	3.0			XD	50R40	1.0 - 697.7		
<u>Utilized Flake Fragments and Segments</u>										
71	----	21.0	12.0	XD			50R70	0.5 - 1.0		
99	----	21.0	5.0			XD	50R60	696.2-695.7	7	
119	----	(18.2)	4.5	XD		XD	60L10	0.5 - 1.0		Nibbling in notches
150	----	24.5	6.5	XD	XD		70L10	1.0 - 697.7		Nibbling on break

X - Present
D - Dorsal

V - Ventral
N - Nibbling

TABLE 6
DIMENSIONS AND ATTRIBUTES OF FLAKE TOOLS

Catalog Number	Length	Width	Thick-ness	Left	Right	Distal	Unit	Level	Occupational Level	Remarks
40	----	9.0	3.0	XD			Feature 5			
28	----	----	2.0	XD			40R60	0.0 - 0.5		
53	----	21.0	6.0	XD	XD		50R30	695.2-694.7	5/6	
151	----	11.0	3.5	XD			80L10	0.0 - 0.5		
23	----	30.0	6.5	XD			40R40	694.2-693.7	5	Nibbling in notches
<u>Retouched Flakes</u>										
147	23.0	19.0	5.0	62V			30L10	696.7-696.2	7	
98	23.0	21.0	8.0		74D		50R60	0.0 - 0.5		Retouch creating a notch
98	30.5	26.0	7.5	66V	66V		50R60	0.0 - 0.5		
129	15.0	17.0	3.0	49D	44D	62D	10L10	0.5 - 1.0		
77	14.5	23.6	4.2			53D	50R10	0.5 - 1.0		
15	41.0	18.5	4.0			77D	Unit 2 Backdirt			Retouch creating a notch
89	18.3	18.5	5.0		71D		50R60	0.5 - 1.0		
116	26.0	19.0	8.5	N		65D	50R40	0.5 - 1.0		
22	24.5	14.0	5.5		62D	68V	40R50	0.5 - 1.0		
6	21.0	15.0	4.0	65V	56V		200R30	694.7-694.2	5	
<u>Retouched Flake Fragments and Segments</u>										
141	----	15.0	4.0		49D		40L10	0.5 - 1.0		
147	----	8.0	2.0	63D			30L10	696.7-696.2	7	
6	----	17.0	3.5		56D		200R30	694.7-694.2	5	
123	----	21.0	3.0			60V	90L10	0.5 - 1.0		

X - Present
D - Dorsal

V - Ventral
N - Nibbling

CERAMICS

The following pottery descriptions conform to those traditionally employed in defining wares and types in the southeast, with the wares representing groupings of pottery on the basis of paste characteristics (predominantly temper) and types differentiated on the basis of surface treatment and form. The additional data provided here are observations made on the sample of sherds from the Watts Bar site, 40RH6 and pertain only to that sample. Munsell Colors are used for color determinations and Moh's scale is used for hardness. These data are presented to hopefully better define the variation between groups of ceramics from this and similar assemblages.

Quartzite-Tempered Ware:

Temper: Predominantly angular particles of crushed quartzite ranging in size from less than 1 mm. to greater than 3 mm., with a mode of about 1 mm. Moderate to heavy amounts are used, comprising from ten to twenty percent of the paste. Tempering particles are occasionally visible on the interior and exterior surfaces of the sherds.

Hardness: Ranges from 3 to just over 4 with a mode of 3.5.

Color: Exterior and interior sherd surfaces range from very dark grey (2.5YR N3/0) to light red (2.5YR 6/8) with the majority light reddish brown (5YR 6/3). Interior and exterior surface color variation indicates considerable variation in firing time and temperature.

The color of the sherd cores has the same color range as the exterior or interior surfaces. Occasionally a distinct grey (5YR 6/1) core occurs, indicating incomplete vessel firing.

Thickness: Body sherds range from 7 mm. to 12 mm. in thickness, with a mode of 8 mm.

Surface Treatment: Fabric marked, with coarse fabric impressions covering the exterior surface of each sherd (Fig. 13, j). Individual impressions are 2 mm. to 4 mm. (mode, 3 mm.) long and 5 mm. to 8 mm. (mode, 7 mm.) wide. From impression center to impression center they occur about 4 mm. apart (along the long axis) to form a row of impressions. Within each impression small striations are apparent. Rows of impressions are parallel with a slight (1 mm. to 2 mm. wide) ridge between rows. Individual impressions are either parallel or oblique relative to the line of the row. Partial obliteration of the impressions is apparent on several sherds. Interior surfaces are smoothed.

Rim Form: Undetermined for this sample. One small rim sherd (from Occupational Level 7) is present. The lip is flattened and smoothed with an angular exterior and a rounded interior lip-rim juncture. Rows of fabric impression are apparent and parallel to the lip surface.

Comments: Conforms to typological descriptions for Watts Bar Fabric Marked pottery (Lewis and Kneberg 1957:7).

The following sherd has the same temper, hardness, color and thickness range as described above. However, it differs in terms of surface treatment.

Surface Treatment: Cord marked with a series of cord impressions which are parallel and/or occasionally intersect and cross (Fig. 13,i). Individual impressions are 1 mm. to 2.5 mm. wide and are 4 mm. to 8 mm. apart.

Comments: Conforms to typological descriptions of Watts Bar Cord Marked (Lewis and Kneberg 1957:7).

Shell Tempered (Leached) Ware:

Temper: Generally a series of thin, flat, angular-shaped holes ranging in size from less than 1 mm. to 4 mm. (mode, 2.5 mm.) long and generally less than 1 mm. thick. Cores appear compact and laminated, with temper holes usually aligned parallel to the interior and exterior sherd surfaces. These holes frequently appear on the eroded surfaces (Fig. 13,2-d). The forms and thickness of the holes suggest that they represent sherds with crushed shell temper with the shell subsequently leached away. One sherd has a series of small inclusions of shell 0.6 mm. or less in size indicating finely ground shell also being used as temper. Several other sherds have a hole pattern indicating the use of finely crushed shell temper. Moderate to heavy amounts of shell are used, comprising from ten to twenty-five percent of the paste.

Color: Exterior and interior surfaces are generally light reddish brown (5YR 6/3) and occasionally reddish yellow (5YR 6/6). The color of the sherd cores is generally the same as the exterior and/or interior surfaces.

Occasionally a distinct grey (5YR 6/1) core occurs.

Thickness: Body sherds range from 4 mm. to 8 mm. in thickness with a mode of 5 mm. to 6 mm.

Surface Treatment: Sherds show no apparent indication of surface treatment. The leaching of the temper has resulted in a series of sherds with soft, eroding exterior and interior surfaces.

Rim Form: Three small rim sherds were recovered. One appears to be a rim of a bowl or larger vessel which has a short rim (18 mm. high) merging into a gently rounded shoulder (Fig. 13, a). A second specimen represents the remains of a vessel with a flaring rim (Fig. 13,c). The third rim represents a vessel with a straight rim (Fig. 13,b). A cylindrical object appears to be a segment of a loop handle (Fig. 13,d), similar to those from Hiwassee Island shell tempered pottery (Lewis and Knebert 1946: Plate 48A).

Comments: These sherds appear to represent Mississippian Plain types (Phillips 1970), but are poorly preserved and a definite typological assessment is difficult.

Limestone (Leached) Tempered Ware:

Temper: Generally a series of irregular, angular-shaped holes ranging in size from less than 1 mm. to more than

3 mm. with a mode of 2.5 mm. Temper holes in this sample lack the flatish characteristic of the holes in the leached shell tempered sherds. The tempering agent is leached away in 95 percent of the sample. Moderate to heavy amounts of limestone were used, comprising from ten to twenty percent of the paste. Cores appear compact. The temper holes occur at various angles within the core with no apparent lamination pattern as found in the shell (leached) tempered sherds. Temper particle holes appear on both the interior and exterior surfaces of the sherds.

Hardness: Ranges from 1.5 to 3.5 with a mode of 2.5 on less weathered sherds.

Color: Exterior and interior surfaces are usually brown (7.5YR 5/2) to reddish brown (5YR 5/3) with a range from red (2.5YR 5/6) to dark grey (5YR 4/1). The colors of the sherd cores are generally the same as the exterior and interior color at that area of the sherd. Occasionally a distinct grey (5YR 6/1) core color occurs indicating incomplete vessel firing.

Thickness: Body sherds range from 4 mm. to 16 mm. thick with a mode of 8 mm. to 10 mm. The thicker sherds, ranging from 13 mm. to 16 mm. appear to be sections of vessel bases.

Surface Treatment: Coarse fabric impressions cover the exterior surface of each sherd. Individual impressions are 2 mm. to 4 mm. (mode, 3 mm.) long and 5 mm. to 8 mm.

(mode, 7 mm.) wide. From center to center the impressions occur about 4 mm. apart (along the long axis) to form rows of impressions. Rows of impressions are parallel with a ridge (1 mm. to 2 mm. wide) between rows (Fig. 13,g). Impressions are either parallel or oblique relative to the line of the row. Partial obliteration of impressions by smoothing is apparent on many sherds. Interior surfaces are smoothed.

Rim Form: None reported.

Comments: These sherds conform to the Long Branch Fabric Marked (Haag 1939: 10; Heimlich 1952:17).

The following groups of sherds have the same temper, hardness, color and thickness range as described above. However, the surface treatment differs.

Surface Treatment: A series of cord impressions which are either parallel or cross at various angles (Fig. 13,k). Cord impressions are frequently partially obliterated by smoothing. Plasticine impressions of the sherds reveal that both S- and Z-twist cordage was used. Determination of the frequency of each is impossible because of surface smoothing and/or preservation condition of the sherd. Interior surfaces of the sherds are smoothed.

Comments: Typologically, the cord-marked pottery is comparable to Candy Creek Cord Marked (Lewis and Kneberg 1946:102-103). Division into one of the three variants proposed by Faulkner (1968:26); McCollough and Faulkner (1973:89,121) is not possible with this sample.

Surface Treatment: Smoothed, plain surfaces with no other apparent surface treatment (Fig. 13,e-f). Interior surfaces of these sherds are also smoothed.

Rim Form: One rim section represents a vessel with a rounded lip and flaring rim. The rim section is smooth suggesting it may represent a Mulberry Creek Plain vessel (Fig. 13,f).

Comments: Sherds with this surface treatment and temper conform to the type Mulberry Creek Plain (Haag 1939:9; Heimlich 1952:15-17).

Surface Treatment: Rectangular impressions 4 mm. wide and 4 mm. to 5 mm. long separated by ridges 1 mm. to 2 mm. wide (Fig. 13,h). Impressions are partially obliterated by smoothing. Interior surface of this sherd is smoothed.

Comments: This sherd conforms to the type Wright Check Stamped (Haag 1939:12). Only one specimen was found in Feature 7.

Surface Treatment: Simple stamping represented by broad parallel grooves less than 1 mm. deep and averaging 4 mm. in width with ridges 4 mm. to 5 mm. wide between the grooves. Smoothing almost completely obliterates the simple stamping (Fig. 14,a). In fact if it were not for larger sherds, this surface treatment would go undetected. Smaller sherds of vessel sections with smoothed-over simple stamping found in Feature 7 would have been classified as plain if they were not associated with the simple stamped vessel section.

Comments: Conforms to the Bluff Creek Simple Stamped type (Haag 1939:18; Heimlich 1952:18).

Vessel Form: One large vessel section representing Bluff Creek Simple Stamped has a flat lip merging into an incurved rim representing a section of a bowl (Fig. 14,a). A second Bluff Creek Simple Stamped rim sherd section (lip area) is probably part of a flaring rim. A second large body sherd appears to be a portion of the vessel represented by this rim, although no point of articulation is apparent. Together, however, the two pieces would suggest a vessel with a flaring rim merging into a gently rounded shoulder.

The following are very small limestone tempered lip-rim sections. Typological identification is indicated where possible. It is not possible to determine rim form from these specimens. One rim segment with a rounded lip may be the rim of a Candy Creek Cord Marked vessel (Fig. 13,e). Three lip sections, two flat and one rounded lip, cannot be identified as to type of pottery because of their fragmentary nature (Fig. 13,e,f).

A series of limestone tempered sherds with smoothing over either cord impressions, simple stamping or check stamping are reported in Table 7. Size of the sherds and degree of smoothing preclude exact determination of principal surface modification. Sherds with limestone temper too small and/or eroded to determine their surface treatment are classified as residual and presented in Table 7.

TABLE 7
DISTRIBUTION OF POTTERY BY LEVEL

Occupational Level	Arbitrary Level	Quartzite Temper										
		Watts Bar Fabric Marked	Watts Bar Cord Marked	Long Branch Fabric Marked	Candy Creek Cord Marked	Mulberry Creek Plain	Wright Check Stamped	Bluff Creek Simple Stamped	Residual	McKelvey Plain	Swift Creek Complicated Stamped	Mississippian Plain
	0.0- 0.5					2			2	1		
	0.5- 1.0				14	7			19	10*	1	7
	1.0-698.2				14	3		1	2	4		1
	698.2-697.7				6	5			5	4		1
8	697.7-697.2			1	1	1			5	1		1
	697.2-696.7	1			2	10			9	1 ^a		
7	696.7-696.2	2		1	1	1			2			
	696.2-695.7	51*	1		1				2			
6	695.7-695.2			1								
	695.2-694.7				1 ^a				1			
Totals		54	1	3	40	29		1	47	21	1	10

* Includes one rim

^a Rim fragment

TABLE 8
DISTRIBUTION OF POTTERY BY FEATURE

Occupational Level	Feature	Quartz-ite Temper		Limestone Temper								
		Watts Bar Fabric Marked	Watts Bar Cord Marked	Long Branch Fabric Marked	Candy Creek Cord Marked	Mulberry Creek Plain	Wright Check Stamped	Bluff Creek Simple Stamped	Residual	McKelvey Plain	Swift Creek Complicated Stamped	Mississippian Plain
8	1				1	1			2	1		41 ^a
6	5				8							
								15 ^a				
					21	9*	1	6 ^b 16 ^c	10*			
5	15	2+										

@ Includes three rims and handle segment

* Includes one rim

^a Body sherds and rim representing one vessel

^b Body sherds representing a second vessel

^c Body sherds and one rim representing a third vessel

+ Small sherd fragments considered to be intrusive in this feature

8 See discussion section, lower zone

Clay Tempered Ware:

Temper: Predominantly angular particles of clay, possibly crushed sherd temper. Particles range in size from less than 1 mm. to 3 mm., and seldom larger than 2 mm. Light amounts are used, comprising less than ten percent of the paste.

Hardness: Mode, 2.5.

Color: Exterior and interior surfaces range from weak red (2.5YR 5/2) to red (2.5YR 5/8) with the majority weak red (2.5YR 5/2). The color of the sherd cores is generally the same color as the exterior or interior surfaces of the sherd. Occasionally a distinct grey (5YR 6/1) core occurs.

Thickness: Body sherds range from 6.5 mm. to 9 mm. thick with a mode of 7 mm.

Surface Treatment: Smoothed, plain exterior surfaces with no apparent other surface modification. Interior surfaces are also smoothed.

Comments: Conforms typologically to descriptions of McKelvey Plain (Haag 1939:14; Heimlich 1952:21).

Sand Tempered Ware:

One small sherd has fine-grained sand temper, a hardness of 3.5 and is dark reddish grey (10R 4/1). The sherd is small and stamp pattern faint and difficult to distinguish with certainty. A rectangular stamp pattern is suggested. Typologically it may represent Swift Creek Complicated Stamped pottery (Haag 1939:1).

GROUND STONE

The terminology used here conforms to a series of descriptive classes with names implying modes of function which have been demonstrated ethnographically by analogy or conventional descriptive terms denoting attributes of size, shape and material consistently utilized in southeastern archeology. Wherever possible, quantitative data are given in Table 9. To avoid inclusion of attributes or dimensions useful or unique to only one artifact, some dimensions are included in the descriptions.

Quantities of unmodified rock were counted and discarded on the site. However, all were first inspected and rock which might have been utilized in any way was returned to the laboratory for inspection.

Steatite Vessel Sections: Two pieces of steatite were recovered. Both have smoothed concave inner surfaces prepared by pecking or grinding and finished by smoothing and polishing (Fig. 13,1). The exterior surfaces show a series of coarse irregular striations 1 mm. to 4 mm. wide and 1 mm. to 2 mm. deep. Both appear to be portions of vessels.

Greenstone Celt: One complete ground stone celt was recovered. The poll end is partially ground on one surface and chipped on the other. The edges expand from the poll end toward the sharpened distal end. The broad faces and lateral edges show evidence of pecking to shape the object. However, portions of the broad faces appear to be eroded away. The distal edges are ground smooth and to a point (Fig. 14,c).

TABLE 9

DIMENSIONS AND ATTRIBUTES OF GROUND STONE ARTIFACTS

Catalog Number	Unit	Level	Occupational			Th	Remarks/Color
			Level	L	W		
<u>Steatite (Vessel) Sections</u>							
33	F15		5	-	-	19	light reddish brown (2.5YR 6/4) to light grey (5YR 7/1)
16	Trench 1 Backdirt		-	-	-	15	(2.5Y 7/0) light grey
<u>Greenstone Celt</u>							
59	50R30	0.5 - 1.0		89	46	20	(5FY 5/1) greenish grey
<u>Greenstone Fragment</u>							
94	50R40	694.7-694.2	5	41	-	10	(5GY 6/1) greenish grey
<u>Greenstone Chisel(?)</u>							
47	F14		5	115	-	15	(5GY 4/1) dark greenish grey
<u>Hoe or Celt</u>							
27	60R30	695.2-694.7	5/6	141	91	19	(10YR 6/4) light brownish grey
<u>Paintstones</u>							
53	50R30	695.2-694.7	5/6	-	20	3	(5YR 4/2) grey streak, one surface striated
88	50R60	696.2-695.7	7	-	-	2	(7.5YR 5/2) weak red streak, piece not worked
35	F15		5	48	47	20	(7.5YR 5/2) weak red streak, one smoothed surface

L Length
W Width
Th Thickness

Dimensions in millimeters
- Dimension not available, specimen incomplete
* Incomplete dimension

TABLE 9

DIMENSIONS AND ATTRIBUTES OF GROUND STONE ARTIFACTS
(Continued)

Catalog N Number	Unit	Level	Occupational Level	L	W	Th	Remarks/Color
<u>Grinding Implements</u>							
33	F15		5	64	56	27	regularly shaped with two ground surfaces
58	50R20	694.7-694.2	5	64	56	27	one ground surface
103	50R40	695.7-695.2	6	-	-	55*	one ground surface
100	50R40	696.7-695.7	7	-	-	27*	one concave ground surface
<u>Hammerstones</u>							
27	60R30	695.2-694.7	5/6	20	56	40	oval shape, sandstone
60	60R30	695.7-695.2	6	56	50	40	oval shape, sandstone
53	50R30	695.2-694.7	5/6	91	67	54	oval shape, sandstone
102	50R60	698.2-697.7		77	57	48	oval shape, sandstone
18	50R40	696.2-695.7	7	114	75	50	oblong, quartzite

L Length
W Width
Th Thickness

Dimensions in millimeters
- Dimension not available, specimen incomplete
* Incomplete dimension

Greenstone Fragment: One small fragment of greenstone shows evidence of grinding and polishing. The function or form of this piece cannot be determined.

Greenstone Chisel(?): A greenstone implement showing evidence of pecking and grinding to produce two smoothed surfaces which taper to a rounded but polished lateral edge. The opposite lateral edge is not present. Portions of the two ends of the implement are present. These are rounded and polished. The remains appear to represent an implement with an ovoid elongate form with rounded ends and excurvate lateral edges (Fig. 14,b).

Hoe or Celt: One complete section of a hoe or celt was recovered. The siltstone specimen has two broad faces showing evidence of grinding and smoothing. The specimen is sub-rectangular to ovoid in outline. One lateral edge is rounded and ground. The second lateral edge and poll end are unmodified. The distal end is sharpened to a point (Fig. 14,j).

Paintstones: Three pieces of stone which leave a distinct streak are considered to probably have been collected and/or utilized for their color properties.

One specimen is a fragment with well-defined striations occurring on one surface (Fig. 14,i). The material appears to have a lamination pattern similar to shale, but exact identification of the material has not been made.

A second specimen is a piece of hematite with one surface ground and polished smooth (Fig. 14,d).

The third specimen is a small fragment of hematite but does not have any indication of modification. It may or may not have been used.

Grinding Implements: Tools in this category are sandstone cobbles with either amorphous shapes or intentionally formed into blocks. Each share in common at least one surface showing evidence of grinding. Only one specimen appears to have been pecked into a sub-rectangular shape (Fig. 14,e). The remaining pieces are either incomplete or amorphous in shape (Fig. 14,f-h).

Hammerstones(?): Five pieces of quartzite or sandstone appear to have one or more facies battered or pecked suggesting use as hammerstones.

RADIOCARBON DATES

Two radiocarbon dates were obtained from charcoal samples collected from features. Both samples were processed by Geochron Laboratories. The samples submitted consisted of charcoal in a clay matrix. Pre-treatment of the samples consisted of digestion in hot HCl to remove carbonates then roasting in oxygen to recover organic carbon for analysis.

The first sample, GX2915, is 3280 ± 190 C¹⁴ years B.P. Sample GX2915 is from Feature 15 in Occupational Level 5, Unit 70R30 at an elevation of 694.5 feet. The second sample, GX2916 is 3020 ± 260 C¹⁴ years B.P., is from Feature 20 in Occupational Level 5, in Unit 50R50 at an elevation of 694.41 feet.

TABLE 10

RADIOCARBON DATES

Lab No.	Provenience	Radiocarbon Years	Standard Conversion	Ralph et. al. Conversion
GX2915	F15	3280 \pm 190	1330 B.C.	1510 - 1550 B.C.
GX2916	F20	3020 \pm 260	1070 B.C.	1220 - 1240 B.C.

TABLE 11

FLORAL REMAINS

Catalog No. Unit or Feature Level	Occupational Level	Remarks
43 60R50 696.2 - 695.7	7	<u>Juglans cinerea</u> , butternut, six charred shell fragments
20 70R30 695.2-694.7	5/6	<u>Juglans cinerea</u> , butternut, two charred shell fragments
34 Feature 15	5	<u>Carya</u> sp. hickory (?) (not pecan) one charred shell fragment

The sample ages overlap within their error limits. The larger error for the younger sample resulted from its small size and necessity to count it in a smaller counter (Pardi: personal communication). Standard conversion and conversions based on the work by Ralph, Michael and Hann (1973) are presented in Table 10.

VERTEBRATE FAUNA

Bone at 40RH6 was not well preserved. Bone tools were not recovered and the majority of the bone encountered was too poorly preserved to allow meaningful identification, analysis and comparison. Larger specimens were separated and prepared for identification. The results of this work are presented in Table 12. The remaining minute fragments recovered are tabulated by loci of occurrence and are presented in Table 13. Identifiable specimens are primarily Deer; one avian is also represented.

FLORAL REMAINS

Floral remains recovered include only sections of nut shell. These data are presented in Table 11.

HUMAN REMAINS

The human remains encountered in Burial 1 are in as poor condition as other faunal remains from the site. Remains recovered are reported as follows: "Child,⁹ 5 - 6 years -- Deciduous teeth especially canines and molars show slight to medium wear with the molar cusps being worn away but the dentine is not exposed. The crown of three adult six year

SUMMARY OF IDENTIFIED FAUNA 12

Catalog No. Unit or Feature Level	Identification
14 Feature 1	1 specimen, fragmented; unidentifiable (probably Deer)
14 Feature 1	1 distal tarsometatarsus shaft; avian (Turkey-sized bird)
39 Feature 1	1 specimen, fragmented; unidentifiable (probably Deer)
51 Feature 7	2 specimens, fragmented; unidentifiable (Deer and unidentified small mammal represented)
121 50L10 696.7-696.2	1 specimen, fragmented; unidentifiable (probably Deer)
146 40L10 1.0-697.2	1 rib body fragment; probably Deer
147 30L10 696.7-696.2	2 specimens, fragmented; unidentifiable (probably Deer)
	1 left-lateral mandibular fragment; White-tailed Deer
149 40L10 697.2-696.7	3 specimens, fragmented; unidentifiable (Deer and unidentified small mammal represented)
	1 right scapula, fragmented; White- tailed Deer
	1 right acetabulum; White-tailed Deer (deep cuts noted on posterior lip of this element)
	1 left-proximal ulna; White-tailed Deer (deep transverse cuts noted on semi- lunar notch; olecranon removed)
	1 right-distal femur (lateral condyle); White-tailed Deer
	1 rib, fragmented; probably Deer

TABLE 13
UNIDENTIFIABLE BONE FRAGMENTS

Unit/Feature													Arbitrary Level		Occupational Level	
40L10	90L10	40R60	50R30	50R40	50R50	60R40	60R50	F 1	F 7	F 14	F 15	F 17				
														0.0 - 0.5		
	1	1						1						0.5 - 1.0		
1														1.0 - 697.2		
1									4*					697.2 - 696.7	8	
1														696.7 - 696.2		
						1								696.2 - 695.7	7	
														695.7 - 695.2	6	
			1							2*				695.2 - 694.7		
					3*		1				1*	1		694.7 - 694.2	5	
			1											694.2 - 693.7		

*Burned

TABLE 14

DISTRIBUTION OF FRESHWATER SHELLFISH

Occupational Level	Arbitrary Level	Pelecypods					Gastropods		
		<u>Tritigonia verrucosa</u>	<u>Elliptio dilatata</u>	<u>Quadrula obliqua</u>	<u>Unio merus sp.</u>	Fragments	<u>Compeloma subsolidum</u>	<u>Anglitrema verrucosa</u>	<u>Pleurocera canaliculatum</u> Say
	0.0 - 0.5	1			1			1	
	0.5 - 1.0	1	1	30	25	53	2	1	
	1.0 - 697.7	4	12	15	13	50	8	5	1
8	697.2 - 696.7		7	7	3	25	1	1	
7	696.7 - 696.2		3	8	7	23		2	
	696.2 - 695.7				1				
8	F 1					5			
8	PM 2	1			2	17		1	

molars (First molars) have developed but the child died before the teeth had erupted or the roots had formed. The adult molar crowns of other adult teeth (upper incisors, canines and some premolars) are present with no root formation suggesting that they had not erupted at the time of death. No cavities were noted on the deciduous teeth." (William M. Bass: Personal communication).

FRESH WATER SHELLFISH

Fresh water Pelecypods recovered include Tritigonia verrucosa, Elliptio dilatata, Quadrula obliqua and Unio merus sp. The Gastropods include Campeloma subsolidum, Angltrema verrucosa, Pleurocera canaliculatum Say and Io spinosa Lea. The frequency and location of shellfish within the site are presented in Table 14.

DISCUSSION

Site 40RH6 is located on McDonald Bend on the west bank of the Tennessee River in Rhea County, Tennessee. The site number designates two major units, a mound complex on the second terrace (Fig. 2) and a multi-component habitation site on the first terrace adjacent to the river. The occupational site area was initially tested in 1971 by a University of Tennessee at Knoxville field party. Subsequent investigations were made by the University of Tennessee at Chattanooga under the general supervision of the author and field supervision of J. B. Graham.

The 1972 University of Tennessee at Chattanooga excavations centered on an area adjacent to the river where excavations were undertaken in Units 1 and 2. Excavations were conducted using shovels and trowels with vertical control maintained in 0.5 ft. levels correlated to mean sea level in a series of 10-foot squares. Heavy equipment was used to selectively remove overburden. Excavations of Occupational Levels continued by hand with water screening of various units of Levels 7 and 5. Soil composition of the lower levels precluded dry or water screening.

Eight distinct zones, defined as Occupational Levels, were encountered during the excavations. The definition of the stratigraphy and Occupational Levels is based on the stratigraphic profile exposed along the 400/L through 40R60 (Fig. 4), presented in the discussion of the stratigraphy and synthesized in Table 1.

The horizontal extent of occupation at 40RH6 can be discussed with some degree of reliability. The 1971 mound excavations (Fig. 2) indicate the presence of a Woodland component, on the basis of ceramics recovered from just below the mound (Jerald Schroedl, Personal communication). The Woodland occupation represented below the mound is undoubtedly that represented by the lower portion of Occupational Level 8 (see later discussion). To the southwest (Fig. 2), testing in Unit 2 failed to reveal cultural material below the upper Mississippian zone of Occupational Level 8. Strata to the southeast, along the river, dips off

rather rapidly (Fig. 4, smaller profile), but the exact extent and nature of the occupation in this area is difficult to define on the basis of these data. The strata to the northeast and across the culvert from Unit 1 is defined in Unit 3 (Burnett and Coverdale 1973) and correlates with the strata in Unit 1. CH-1 appears to correlate with Occupational Level 8 in Unit 1. CH-2 and CH-3 defined by Burnett and Coverdale (1973:29) in the 1973 excavations correlate with Occupational Levels 7 and 6 respectively, while CH-4 correlates with Occupational Level 5 (Burnett and Coverdale 1973: Plate 12).

In sum, the site extends from the mound on the northwest, to the river on the southeast and between Unit 2 and to southeast of the culvert (Figs. 1 and 2).

Occupational Levels 1 and 2 (Fig. 4) are identified and defined on the basis of soil coloration and inclusions of charcoal flecks within the matrix of the level. Both levels are less than .5 ft. thick and were exposed and encountered only in Unit 50R20, a 10-ft. by 10-ft. square. Artifacts were not encountered in either of these two levels. The occurrence of charcoal and soil color suggest human occupation and are not considered to have resulted from natural forces such as a natural forest or grass burn or redeposition of burned material.

Occupational Level 3 is also defined primarily on the basis of a distinct soil coloration and the inclusion of charcoal within the level. However, a well-defined area of

burned discolored soil, suggesting a surface fire, was encountered (Feature 22). Fourteen flakes were found in arbitrary level 691.2 - 690.7 and eighty-one flakes, including one utilized flake, were encountered in arbitrary level 691.7 - 691.2 which contained the upper 0.3 foot of Occupational Level 3. Artifacts which could assist with the definition and cultural affiliation of this level are not present.

Occupational Level 4, roughly 1.8 feet thick, occurs from 693.7 to a depth of 692.1. Three sub-strata of this level could be distinguished in the 40CL - 40R60 profile, but they could not always be segregated in the excavations of other units. Features were not encountered in this level. One corner-notched expanding stem projectile (Table 3) was recovered from arbitrary level 693.2 - 697.7, in Occupational Level 4.

Unfortunately, clearly diagnostic artifacts were not discovered in Occupational Levels 1 through 4. The one projectile point from Level 4 is similar to a variety of types which occur and persist throughout the Archaic Tradition in the southeast. The flecks of charcoal within each level and the fire area in Level 3 did not produce enough charcoal or other material to allow radiocarbon dating of these levels. In effect, the lower three levels may be considered at best suggestive only of Archaic occupation at the site. Clearly, on the basis of the radiocarbon dates from Level 5, occupation predating 1000 to 1500 B.C. is indicated for Occupational Levels 1 through 4.

The thinness of the deposits in these levels and absence of artifacts suggest that these levels represented brief encampments, and/or, most probably, continual flooding and erosion on the river terrace removed, mixed and/or transported evidence of human occupation shortly after deposition.

Similar thin, poorly preserved Archaic complexes are present in the lower levels of Zone D at the Westmoreland-Barber site (40MI11) in the Nickajack reservoir area (Faulkner and Graham 1966a:120-121), and Stratum VII and VI at the Higgs site, 50LO45 (McCollough and Faulkner 1973:45). Stratum VI represents a small Archaic hunting/fishing encampment; however, the data are meager here also (McCollough and Faulkner 1973:50-54). Radiocarbon dates from Stratum VI conflict with the occurrence of the level within the strata of the site and the debris are again too thin to determine definite cultural affiliations. The authors argue for an occupation represented by Stratum VI of 1000 to 4000 B.C. (McCollough and Faulkner 1973:56).

Occupational Level 5 is the lowest strata with well-defined remains present. Features 3, 4 and 14 through 20, consisting of a series of fire basins and pits (Fig. 5), represent the remains of a living floor area. Feature 15 contains ceramics, but these two pieces are extremely small sherds and are considered intrusive, most probably interjected into the feature by rodent activity.

The radiocarbon dates from Occupational Level 5 are comparable to those from other terminal or Late Archaic sites in the eastern Tennessee Valley. A date of 2705 ± 155 (GX0572) radiocarbon years B.P. from Feature 37 at the Westmoreland-Barber site (40MI11) dates the terminal Archaic

component (Faulkner and Graham 1966a:113) in lower Zone C and/or upper Zone D. A date from a firepit (Feature 78) of the Late Archaic component at 40MR23, Monroe County, Tennessee, on the Little Tennessee River is 3112 ± 140 (GX2115) radiocarbon years B.P. (Gleeson 1970:132-133).

Three dates are reported from the Higgs site (McCollough and Faulkner 1973:66). The date of 2730 ± 110 radiocarbon years B.P. (CWRU27) from Feature 12 and 2850 ± 85 radiocarbon years B.P. (UGa517) from Feature 11 are considered consistent determinations that date the shelter floor in Stratum IV, or Late Archaic occupation of Stratum IV. A second date of 2100 ± 85 (CWRU30) also from Feature 11, is considered inaccurate (McCollough and Faulkner 1973:66).

Two radiocarbon dates from Feature 15 and Feature 20 are 3280 ± 190 B.P. and 3020 ± 260 B.P. (Table 10), suggesting a date of occupation for this level roughly between 1230 and 1530 B.C. using conversions according to Ralph et al. (1973).

Chipped stone artifacts occurring within Occupational Level 5 include one unnotched triangular projectile point, a contracting stem projectile, a series of five corner notched projectile points with expanding or straight stems (Tables 3, 4 and 5), projectile point fragments, bifacial fragments, and retouched and utilized flakes.

The artifacts from Occupational Level 5 are comparable to those from other terminal or Late Archaic components. The artifacts from Stratum IV of the Higgs site include stemmed and notched projectile points, or knives, biface projectile or drill fragments, hammerstones, ground and unground hematite, a bifacial backed knife, abrading

implements, an anvil or mortar and a quartzite cobble hammerstone (McCollough and Faulkner 1973: 59, 64-65 and Plate III, IV). All are well within the range of materials from Occupational Level 5 at 40RH6.

Artifacts from the Late Archaic component at 40MP23 on the Little Tennessee River include a series of pits filled with fire-cracked rock, steatite bowl sections and chipped stone tools. However, diagnostic projectiles were not recovered from the Archaic Level (Gleeson 1970:47).

The terminal Archaic complex at 40Mill, The Westmoreland-Barber site, consists of a variety of straight and expanding stemmed as well as notched projectile points, two-hole gorgets, hematite plummets, tabular sandstone saws, tubular pipes and steatite bowls (Faulkner and Graham 1966a). Faulkner and Graham (1966a: 51 and 72) note that the appearance of expanding straight stemmed projectile points, although undifferentiated, have affinities with points in other Late Archaic contexts in the Tennessee Valley, i.e., the Big Sandy phase at Eva (Lewis and Lewis 1961) and Stanfield-Worley, Zone A (DeJarnette, Kurjak and Cambron 1962:79). Similar projectile types predominate at Russel Cave in Layer E (types P-1 and P-2) and are considered to be Late Archaic (Griffin et. al. 1974: 38, Fig. 29 and 30). They are projectile points with excurvate blade edges with corner notches cut into the blade to create a straight to expanding stem. In other words, a variety of straight to expanding stemmed projectile points are quite frequent in Late Archaic Components of the

Tennessee River Valley. Steatite appears in the Terminal Archaic and continues through the Early Woodland (Faulkner and Graham 1966a:125).

Ground stone implements in Occupational Level 5 include a Greenstone chisel and fragment, a steatite vessel section, hematite and two grinding implements with either single or multiple grinding surfaces (Table 9).

Identifiable fauna or shell remains were not encountered in Occupational Level 5. One charred nut shell fragment (Carya sp.), possibly hickory, was recovered from Feature 15. Fragments of burned but unidentifiable bone occurred in Features 15 and 17 as well as the general levels of several units (Tables 11, 12 and 13).

At Higgs, food remains found in association with Feature 11, a roasting pit, included charred cultivated sunflower seeds, chenopod and acorns. Faunal remains were poorly preserved at Higgs also. The preponderant majority of identifiable bone was deer (McCullough and Faulkner 1973:60-61). A variety of small terrestrial and aquatic mammals were also exploited as well as fish and shellfish (see appendices II, III and IV by Brewer, Parmalee and Charles in McCullough and Faulkner 1973). Despite the presence of cultivated sunflower seeds and structural remains at Higgs (McCullough and Faulkner 1973:60-61), the majority of the assemblage of artifacts, flora and fauna still suggest a small encampment and a subsistence consisting primarily of hunting and collecting at

both Higgs and 40RH6 during the Late Archaic; most probably with a Central-Based Wandering community patterning (Beardsley et al. 1956:133-154).

Occupational Level 6 varies from 0.2 ft to 0.3 ft. in thickness. The level was apparent in the profile of 40C/L to 40R60 but was not well defined throughout the site. While excavations in this level were conducted by hand (e.g. the units of the 50CL - 50R60) in certain portions of the site, this level was mechanically stripped away to reach Occupational Level 5 in all other portions of the site (see discussion of excavations).

Lithic materials definitely associated with Occupational Level 6 include only projectile point fragments and flakes (Tables 3 and 6). Ground stone tools include a grinding implement and a possible hammerstone (Table 9).

The ceramics recovered from this level include only Long Branch Fabric Marked and Candy Creek Cord Marked sherds (Tables 7 and 8); however, the frequency of occurrence is too low to be of significance in interpreting the relative temporal placement and cultural affiliation of the level. The occurrence between Level 5 and Level 7 suggest Early Woodland occupation for Level 6.

Feature 5, detected during mechanical stripping operations from elevations 695.7 to 694.7, was first observed at an elevation of 694.8 feet. This was just above the upper portion of Occupational Level 5 and below Occupational Level 7. Level 7 was excavated by hand, but Feature 5 appears to be

associated with Occupational Level 6. This is substantiated by the similarity of remains from Feature 5 and Occupational Level 6.

Occupational Level 7 is the second major well-defined living floor represented at 40RH6. Features 8 through 13 and 21 appear to represent the remains of a series of surface fires.

Ceramics recovered from the general levels of Occupational Level 7 include quartzite-tempered Watts Bar Fabric Marked and Watts Bar Cord Marked types and limestone-tempered Candy Creek Cord Marked, and Mulberry Creek Plain types (Tables 7 and 8).

Chipped stone tools associated with Level 7 include small unnotched triangular projectile points, contracting stem projectile points, projectile fragments and segments, an ovate biface, bifacial fragments and segments and utilized and retouched flakes (Tables 3, 4, 5 and 6). Ground stone includes hematite and a concave grinding implement (Table 9).

Vertebrate faunal remains include small fragments of deer and various burned and unburned fragments which were not identifiable. Floral material includes butternut shell fragments (Table 11).

The material cultural remains from Level 7 suggest that this level also represents Early Woodland Occupation. The material is comparable to that from sites which have been defined as part of the Watts Bar Focus of the Upper Valley aspect (Lewis and Kneberg 1946:4). Other comparable Early

Woodland assemblages occur at the Westmoreland-Barber site (Faulkner and Graham 1966a) the Moccasin Bend site 40HA63, Area A (Graham 1964) and Pittman-Alder, 40MI5 (Faulkner and Graham 1965). The most recent and thorough synthesis of the Watts Bar cultural complex is presented by McCollough and Faulkner(1973:84-99).

Comparative data presented by Lewis and Kneberg (1946:4) indicate that limestone-tempered pottery postdates the quartzite-tempered wares. Kneberg (1961:6) suggests that assemblages of the Watts Bar complex should be subdivided by placing assemblages composed of 67 percent to 99 percent Long Branch Fabric Marked limestone-tempered pottery in a Greenville ceramic complex.

McCollough and Faulkner (1973:93) proposed a three-phase division for the Watts Bar complex on the basis of a ceramic seriation based on data from a series of sites in the eastern Tennessee Valley. The problem of shifting from the McKern to the Willey and Phillips taxonomic systems without consideration of the entire Watts Bar cultural system should be considered. For a discussion of a similar problem encountered in Plains prehistory, see Krause (1969:82-89). The shift is necessary but should be reconsidered in light of the total cultural complex. This task is beyond the scope of this paper and properly left to someone more familiar with eastern Tennessee prehistory than I. However, their hypothesis seems to have some merit on the basis of available radiocarbon dates and ceramic assemblages.

A Watts Bar phase of the Early Woodland tradition in the upper Tennessee Valley is posited as characterized by the presence of exclusively quartz- or sand-tempered fabric and cord-marked pottery wares. Two sites with components which have the requisite characteristics are reported. They are the lower stratum at 40CK11 (Smith n. d.) and the Watts Bar Zone at the Bacon Bend site 40MR25 (Salo 1969).

The Greenville phase of the Early Woodland tradition is hypothesized as including sites which have both Watts Bar quartz-tempered and Long Branch limestone-tempered wares, but with the quartz-tempered predominant. The only component recognized as belonging to this phase is the upper zone at 40CK11 (Smith n. d.).

The Long Branch phase of the Early Woodland tradition is posited as following the Greenville phase. The Long Branch phase is comprised of sites with components where Long Branch Fabric Marked, a limestone-tempered ware predominates. This is characterized by the Camp Creek Site (Lewis and Kneberg 1957).

Dates are available for the Watts Bar Zone of the Bacon Bend site (CX1570), 2430 ± 180 radiocarbon years B. P. and the Camp Creek site (M316) 2050 ± 180 and (M508) 1940 ± 200 radiocarbon years B. P. (Faulkner 1967:19; McCollough and Faulkner 1972:79).

The dates from Stratum II at the Higgs site span an entire millennium and present a confusing picture. Two dates from Feature 18 are 1660 ± 80 (CWRU28) and 2355 ± 85 (UGa 515) radiocarbon years B. P. A date from posthole 9 with a

point of origin in Stratum II is 1310 ± 110 (CWRU26) and the date from Feature 3, a cooking pit with a point of origin near the top of Stratum II is 1700 ± 135 B.P. (CWRU31). The authors are more willing to accept dates as late as the third century A.D. for a late Watts Bar cultural phase (McCollough and Faulkner 1973:79-80).

The ceramic sample from Level 7 of 40RH6 is small. Utilizing the data from the two arbitrary levels reported to represent Occupational Level 7 (695.7-696.2 and 696.2-696.7) and the associated features, there are 5 Watts Bar sherds, 2 Candy Creek sherds, 1 Mulberry Creek Plain, precluding any meaningful comparison on the basis of sherd frequencies. On the basis of these few sherds, it would appear that Level 7 would best be included in the Watts Bar phase. This, however, creates a problem since Level 6 predates Level 7 and has predominantly limestone-tempered pottery. This may suggest that the hypothesized early occurrence of quartzite-tempered pottery, predating limestone-tempered wares, may be valid for sites to the north, such as Higgs, Camp Creek and 40CK11 on the upper Tennessee drainage, but may not be valid for 40RH6 and sites south of this area (see also Griffin et al. 1974:99-100).

Faunal material from Stratum II at the Higgs site includes turtle, deer and beaver (McCollough and Faulkner 1972:95-98; Parmalee 1973:148) and a series of unidentifiable bone fragments. Naiades occur in Stratum II at a low frequency (Charles 1973:149-157), and hickory and walnut are associated with features in Stratum II (Brewer 1973:144). Floral and faunal materials from 40RH6 Occupational Levels 6 and 7 are not well preserved nor present in quantity. Shellfish do not occur in Occupational Level 6 and 7.

The native flora and fauna were selectively exploited by the American Indian, both before and after the innovation of agriculture. Exploitation patterns vary from culture to culture and place to place through time. The importance played by hunting and gathering, specialized collection, and horticulture in shifting subsistence and cultural patterns in the eastern United States has been synthesized by Caldwell (1958). Little can be added here from the floral and faunal data from 40RH6.

For the Archaic and Woodland occupants of the Watts Bar locality, a variety of wild plants and animals were available and within easy reach. Each of the major physiographic zones, the Tennessee Valley, the uplands of the Cumberland Plateau to the west and the Southern Appalachians to the east are within easy walking distance. Although occupation in the Tennessee Valley along the river in general suggests exploitation of the riverine environment, it cannot be assumed that exploitation was restricted to the valley and river. In fact, given a simple dual division of labor in a band level of society, any three of these major zones could be exploited simultaneously with little village or community movement necessary. This is probably the case at Higgs, where structural remains are present. It is probably also the case at sites where storage pits and hearths suggest some pattern of permanence, and a Central-Based wandering community pattern as previously suggested.

Occupational Level 8 consisted of lenses of charcoal, most probably representing Middle Woodland Occupation at the bottom and Mississippian Occupation at the top. Artifacts were recovered in this level during the hand excavations of units 50C/L through to 50RH60. The remainder of this level was removed by power equipment, and consequently, only a small sample of material is available.

As previously discussed, it appears the point of origin of Feature 7 occurred above Occupational Level 7 and at the base of Occupational Level 8. The ceramics from this level and the arbitrary levels in which Occupational Level 8 occur include predominantly Candy Creek Cord Marked, Mulberry Creek Plain, McKelvy Plain and Bluff Creek Simple Stamped types; they would argue strongly for Middle Woodland occupation for this level (Tables 7 and 8).

The occurrence of Feature 1, 2 and 23 at the top of this level lead the field investigators to interpret the entire level as representing Mississippian occupation. Most of the Mississippian shell-tempered pottery comes from Feature 1, the remainder from the arbitrary levels above Occupational Level 8. It is most probable that the Mississippian occupation occurred on the terrace and upon the earlier Middle Woodland living level. On the basis of the occurrence and frequency of these types of pottery in Feature 7 and the arbitrary levels associated with Occupational Level 8, it would appear that the lower zone of Occupational Level 8 post-dates the Long Branch phase of Stratum II at the Higgs site

where limestone-tempered types predominate (McCollough and Faulkner 1973: 85, 93-94).

The lower zone of Occupational Level 8 would seem comparable to the Candy Creek Focus of the Uper Valley Aspect (Lewis and Kneberg 1946:4, 7-8; Rowe 1952:199-201). The material remains are also similar to the Middle Woodland occupation at the Icehouse Bottom site, 40MR23, where a Candy Creek component, albeit with the addition of foreign influence, dates from the late sixth to early seventh century (Chapman 1973:33, 131).

At the Clinch River Breeder Reactor site 40RE108 , Early and Middle Woodland components are present. The Middle Woodland component ceramics are similar to those from the lower zone of Occupational Level 8. The Middle Woodland level at 40RE108 dates from the fourth century A. D. (Gerald Schroedl, personal communication).

The Mississippian occupation has been tested and exposed during the 1971 excavations and will be reported elsewhere with a manuscript in preparation at the University of Tennessee Frank H. McClung Museum (Gerald Schroedl, personal communication).

A date from the Mississippian Structure at the 40RH6 mound excavated by Graham in 1971 is 830 ± 100 (GX2594) Radio-carbon Years B. P. (Gerald Schroedl, personal communication).

SYNTHESIS AND CONCLUSIONS

The University of Tennessee at Chattanooga 1972 field investigations centered on the excavation of a multicomponent habitation site (40RH6) on McDonald Bend of the Tennessee River, 1.4 miles below the Watts Bar Dam in Rhea County, Tennessee. The objectives of the research were designed to provide cultural-historical, chronological, subsistence and community pattern data. Excavations in Unit 1 revealed eight Occupational Levels separated by sterile strata. The remains observed and material recovered from these levels was sparse but suggest intermittent Late Archaic, Early and Middle Woodland occupation.

Occupational Levels 1, 2, 3 and 4 are defined primarily on the basis of the occurrence of charcoal lenses considered to represent human occupation. Cultural materials were not encountered in Levels 1 and 2. Insufficient amounts of charcoal concentrations were found to provide samples for radiocarbon dating. A single hearth and a number of flakes occur in Occupational Level 3. One projectile occurs in Occupational Level 4. Other tools which could assist with the definition and cultural affiliation of these levels are not present.

In sum, the lower four occupational levels are represented by thin lenses of charcoal and few artifacts which can assist with cultural identification. On the basis of the dates obtained from Occupational Level 5, it is suggested that Occupational Levels 1 through 4 predate 1000 to 1500 B. C., suggesting at least Archaic occupation for these levels.

Occupational Level 5 is the lowest well-defined strata with cultural remains present. A series of features consisting of fire basins and pits represent the remains of a living floor area. Radiocarbon dates from features 15 and 20 suggest occupation between 1220 and 1550 B. C. for this level, roughly contemporaneous with Late Archaic occupation at the Westmoreland-Barber (40MI11), and Higgs (40LO45) sites. The domestic remains (features), artifact assemblages, floral and faunal remains from these Late Archaic components suggest a series of small encampments of people, most probably following a hunting and collecting mode of subsistence. Data from Higgs suggests incipient domestication of sunflower.

Occupational Level 6 is represented by a thin level of charcoal and debris. The ceramics recovered from this level include Long Branch Fabric Marked and Candy Creek Cord Marked types, suggesting Early Woodland Occupation. There was insufficient charcoal to allow radiocarbon dating of the level.

Occupational Level 7 is a second major well-defined strata, with a series of surface fires representing a living level. The ceramics recovered from Occupational Level 7 consist of Watts Bar, Candy Creek and Mulberry Creek types and compare to remains from similar Early Woodland components at the Westmoreland-Barber, (40MI11) Moccasin Bend (40HA63), Pittman-Alder (40MI5), Higgs (40LO45), Bacon Bend (40MR25), Camp Creek (40CK11), and Russell Cave sites. Comparative data suggests that the Early Woodland ceramic sequence proposed by Faulkner and McCollough may be valid for sites on the

northern and eastern Tennessee drainage but may not be valid for 40RH6 and those sites to the south. Little floral and faunal material were recovered from Occupational Level 7 at 40RH6 and little can be added to the discussion of subsistence presented by McCollough and Faulkner (1973).

A potential problem is developing with respect to the archeological taxonomy for the eastern Tennessee valley. A shift from the McKern to the Willey and Phillips taxonomic system is occurring without thorough consideration of the entire cultural system.

For both the Late Archaic and Early Woodland peoples at the Watts Bar locality, a variety of wild plants and animals were available within easy reach in each of the three major physiographic zones, the Tennessee valley, the Cumberland Plateau and the Unaka or Southern Appalachian Mountains. Groups of people with a band level of socio-cultural integration, a simple, dual division of labor along sexual lines could successfully exploit any of these three major zones simultaneously with little community or individual family movement necessary.

Occupational Level 8 has a Middle Woodland zone represented at the bottom and Mississippian zone at the top. The ceramics from the lower zone of this level represent Candy Creek Focus occupation. Material remains are similar to those from the Icehouse Bottom site (40MR23) and the Clinch River Breeder Reactor Site (40RE108). Occupation during the fourth through seventh century A. D. is suggested. The upper zone

of Occupational Level 8 represents Mississippian occupation and will be reported elsewhere in more detail. Dates from the Mississippian mound and structure at 40RH6; define occupation at the site at about 1100 A. D.

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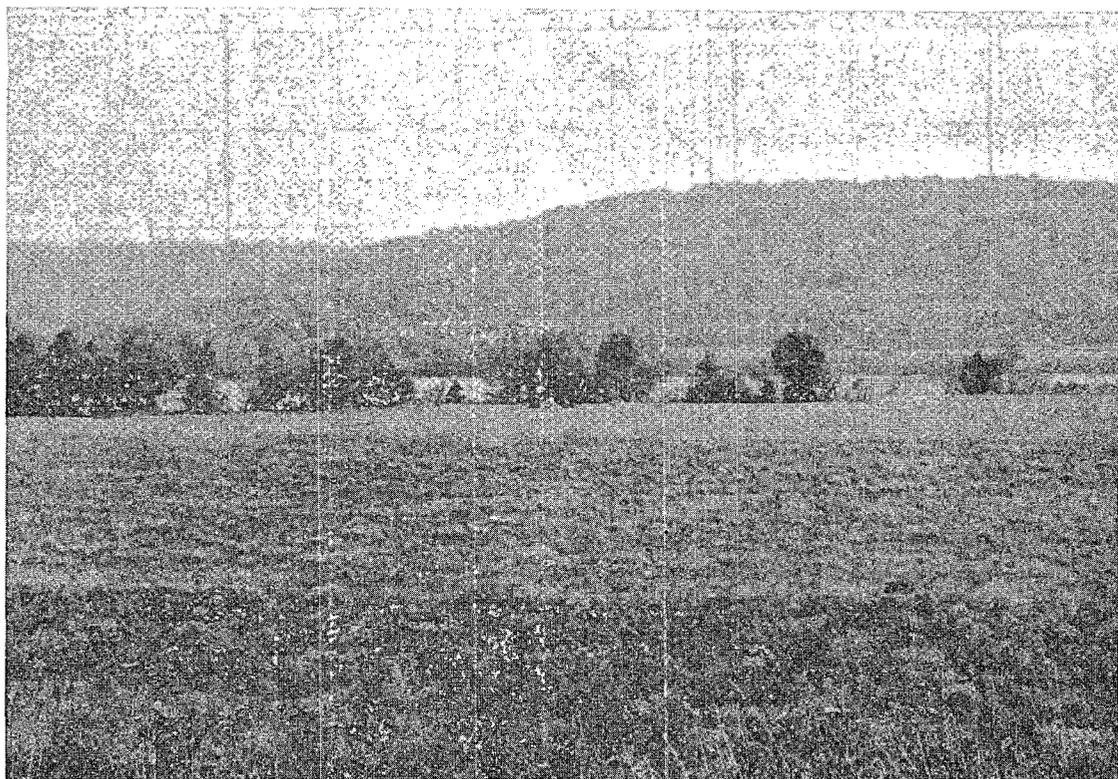
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a



b

Figure 9. a, 4ORH6, view northeast; b, 4ORH6 during excavations.

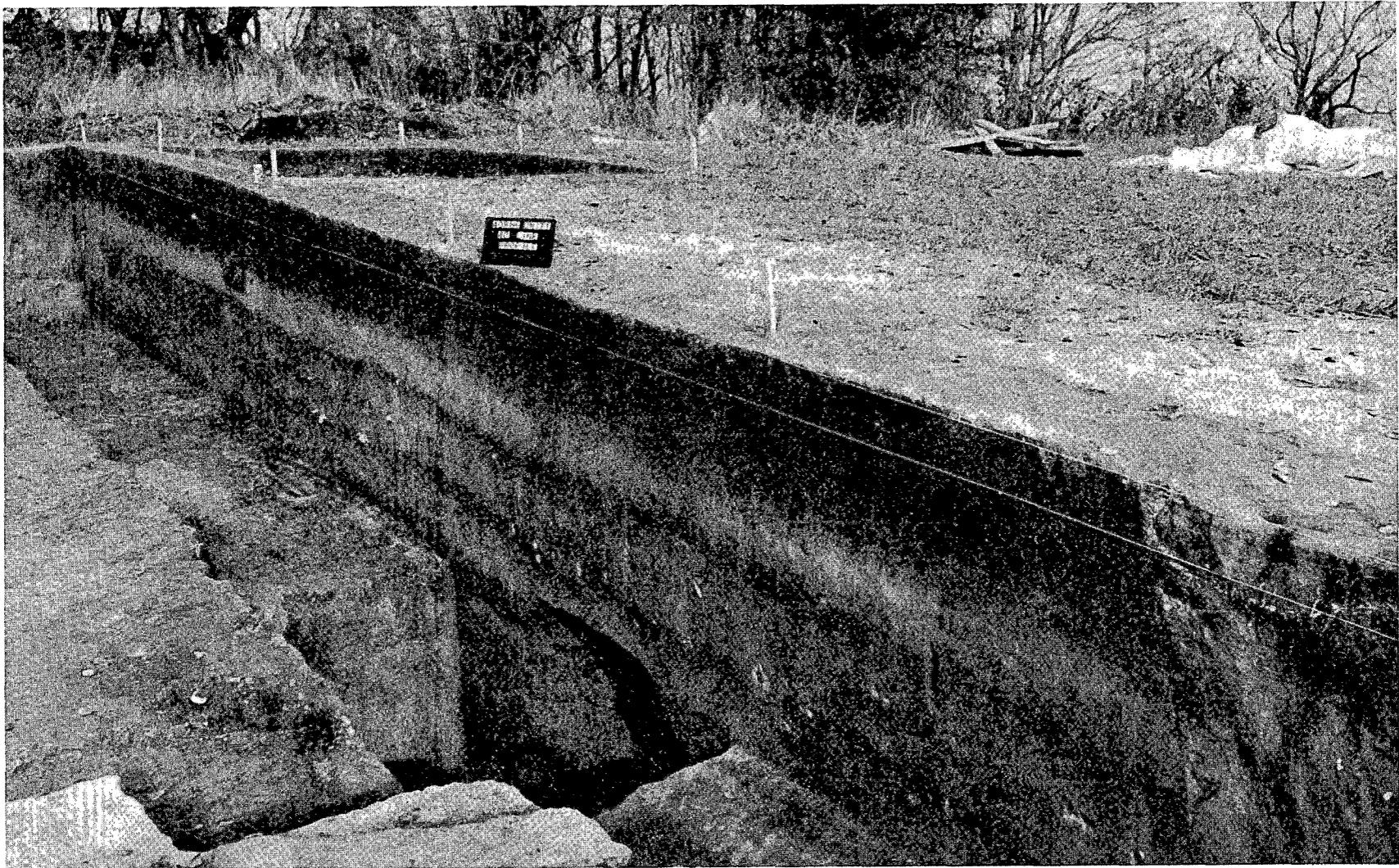


Figure 10. Profile, 40CL to 40R60 at 40RH6

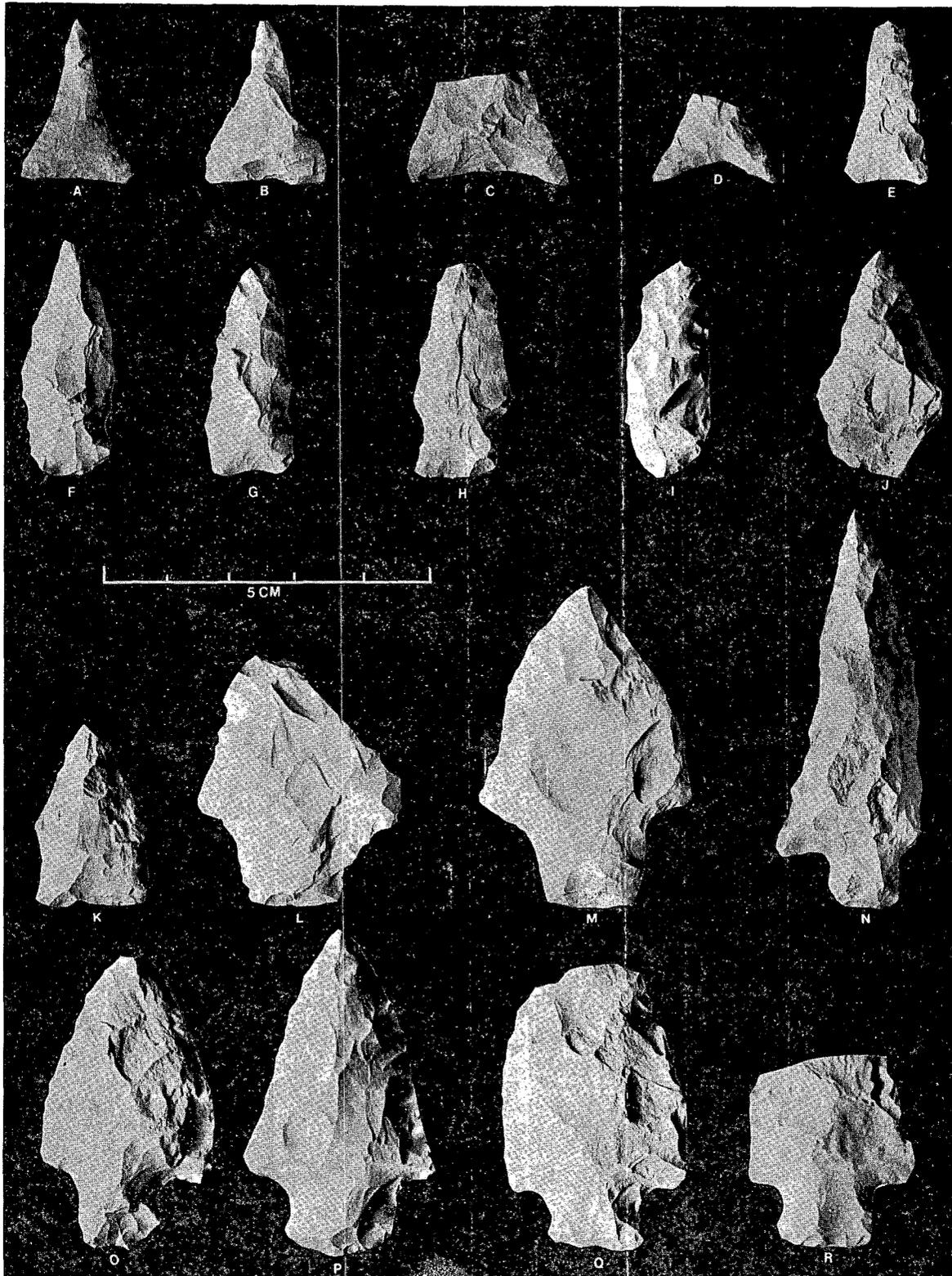


Figure 11. a-e, Unnotched Triangular Projectiles, Incurvate Edges; f-g, Unnotched Triangular Projectiles, Small; h, Side Notched Projectile, Small; i-j, Unnotched Ovate Projectiles, Small; k, Unnotched Straight Stemmed Projectile, Small; l-m, Contracting Stem Projectiles; n-r, Corner Notched Projectiles, Straight to Expanding Stems.

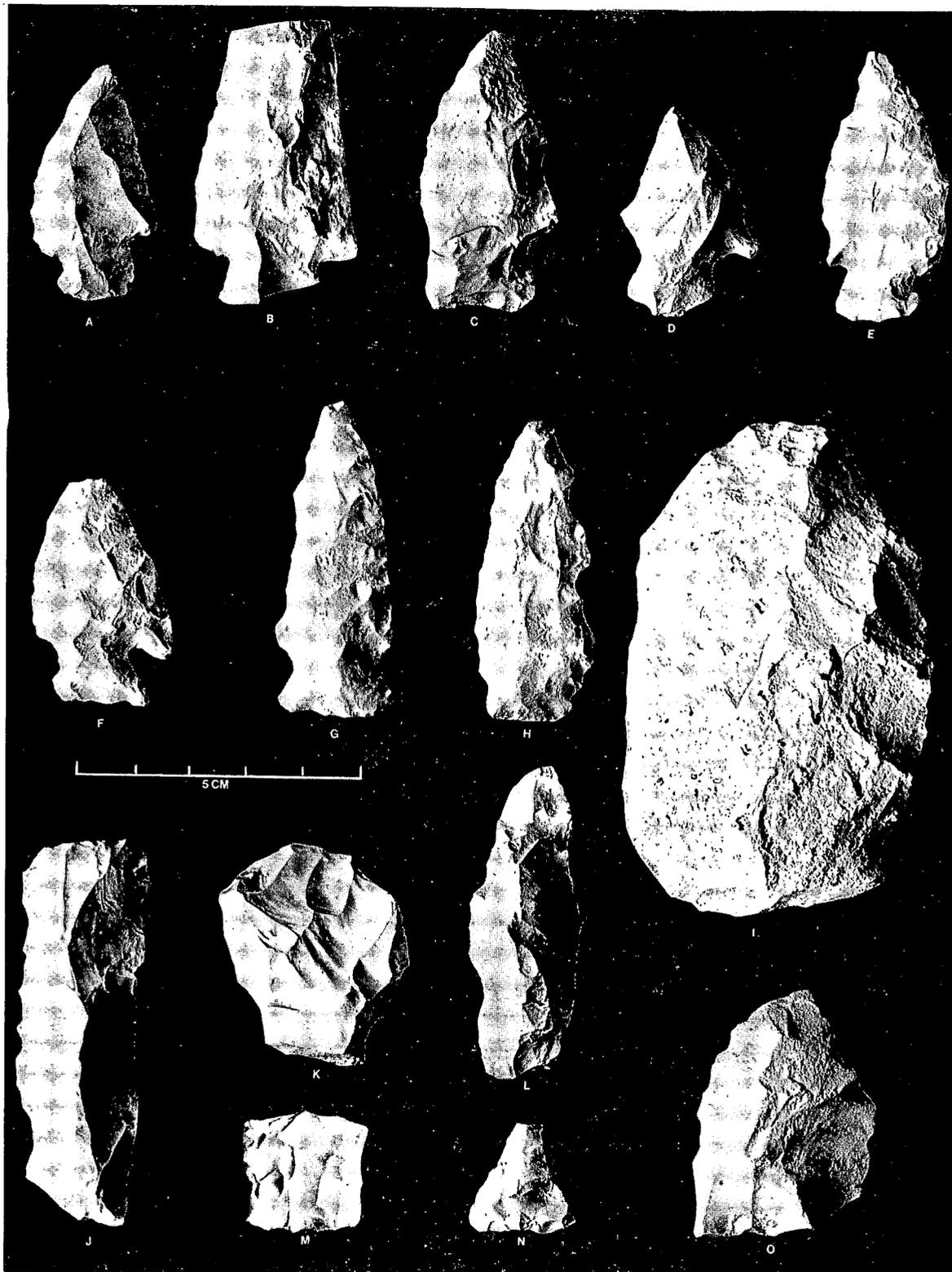


Figure 12. a-f, Corner Notched Projectiles, Expanding Stems, g, Side Notched Projectile, Large; h, Unnotched Triangular Projectile, Large; i, Ovate Biface, Large; j, Rectangular Biface; k, Ovate Biface, Small; l, Irregular Biface or Core; m, Square Biface; n, Drill (?); o, Triangular Biface.

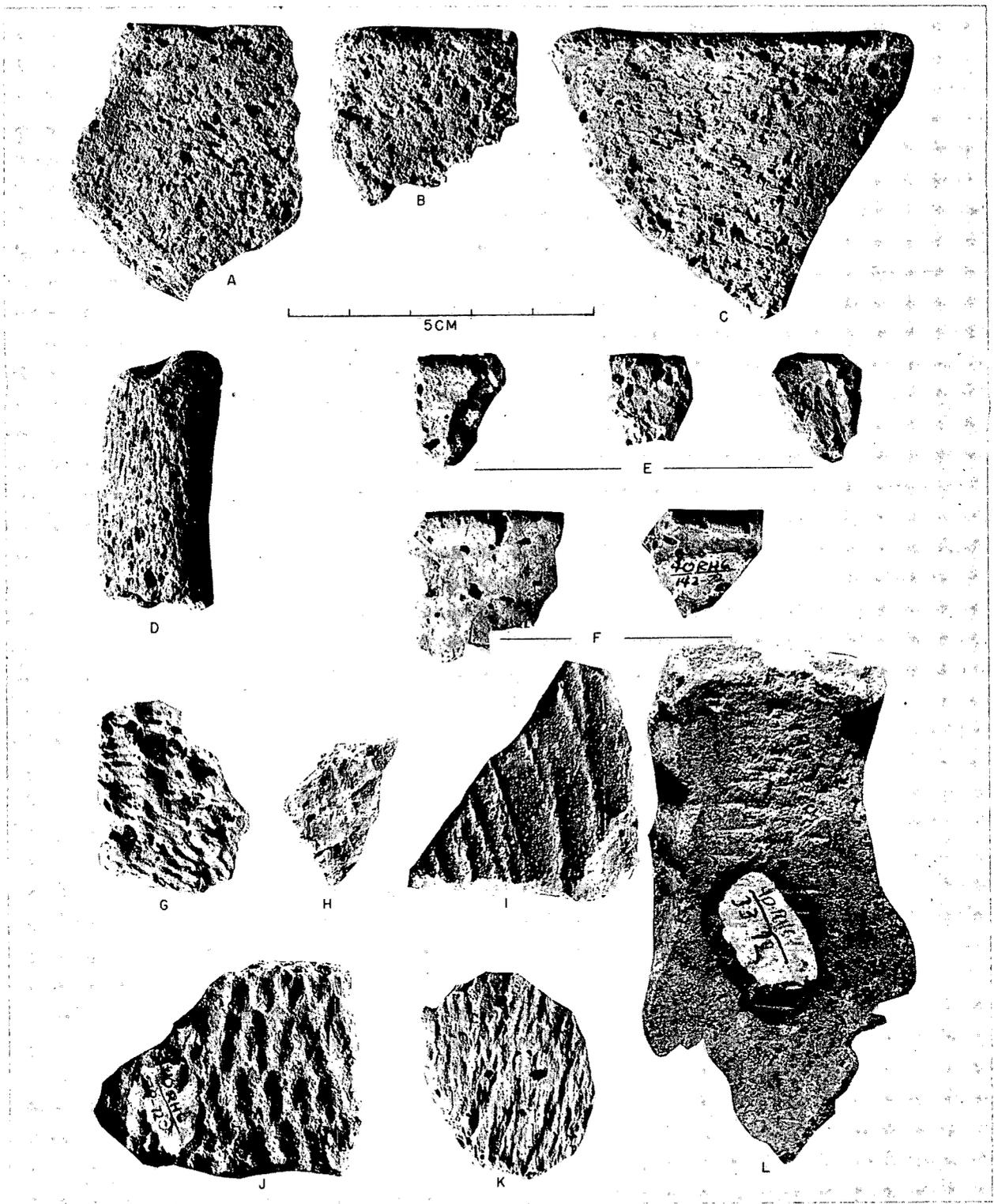


Figure 13. a-d, shell-Tempered Ware, Rims and Handle Segment; e-f, Limestone-Tempered Ware Rims; g, Limestone-Tempered, Long Branch Fabric Marked; h, Limestone-Tempered, Wright Check Stamped; i, Quartzite-Tempered, Watts Bar Cord Marked and, j, Watts Bar Fabric Marked; k, Limestone-Tempered Candy Creek Cord Marked; l, Steatite Vessel Section.



Figure 14. a, Limestone-Tempered, Bluff Creek Simple Stamped, Vessel 1; b, Greenstone Chisel; c, Greenstone Celt; d, Hematite with one ground surface; Grinding Implements; e, Shaped; f, Concave Surface; g-h, One Modified Surface; i, Hematite; j, Hoe or Celt.