# SEGMENTED AND ASCENDANT CHIEFDOM POLITY AS VIEWED FROM THE DIVERS SITE

BY

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DISSERTATION

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## ABSTRACT

This study contributes to our understanding of the nature of political control exerted by the Mississippian Cahokia polity over small rural villages in the southern American Bottom. Currently two models, which I call the Segmented and Ascendant Chiefdoms, respectively, provide contrasting explanations of the nature and amount of Cahokia control over rural villages. I examine the fit of these models against archaeological data from the Divers and other regional sites. The analyses range over several main topics, including populations, labor requirements, nonlocal artifacts, provisioning, and rituals.

I find that the archaeological patterns expressed at the Divers site best fit a Segmented Chiefdom model wherein political control is decentralized and rural villages retain a high degree of political autonomy. Cahokia, as the American Bottom's main Mississippian town, has the largest population, physical size, elite status items, and monumental construction which I describe as material domination and political dominance. Political dominance requires manipulation of local leaders and their followers for political and social control and this manipulation was expressed through ritual materials and rituals performed at Cahokia and other mound towns. The Cahokia elite created new rituals and associated material expressions through collective action and attempted to gain control of existing commoner ritual performances and symbols but these and political autonomy largely remained with the commoners who occupied small villages like Divers.

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# Table of Contents

LIST OF FIGURES……....vi

LIST OF TABLES…… ……ix

CHAPTER 1: INTRODUCTION ..... 1

CHAPTER 2: ARCHAEOLOGICAL BACKGROUND AND THEORETICAL APPROACHES..... 8

Chiefdom Models ..... 12
Theoretical Foundations ..... 26
Chiefdom Models, Nodal Sites, and the Divers Site Analysis ..... 51

CHAPTER 3: THE DIVERS SITE (11MO28) ..... 56

CHAPTER 4: LATE WOODLAND PATRICK PHASE OCCUPATION ..... 70

Patrick Phase ..... 70

CHAPTER 5: TERMINAL LATE WOODLAND OCCUPATIONS ..... 97

Range Phase ..... 97
Early Terminal Late Woodland Component ..... 105
George Reeves Phase ..... 114
Lindeman Phase ..... 123
Terminal Late Woodland Household Patterns ..... 139

CHAPTER 6: MISSISSIPPIAN OCCUPATIONS ..... 208

Lohmann Phase ..... 209
Stirling Phase ..... 222
Surface and Plow Zone Artifacts ..... 234
Mississippian Household Patterns ..... 235

CHAPTER 7: A SMALL VILLAGE PERSPECTIVE ON MISSISSIPPIAN POLITY 275

The Divers Site ..... 275
Divers as a Nodal Site ..... 288
More on Site Hierarchies ..... 292
Segmentary and Ascendant Chiefdoms ..... 293
Conclusions ..... 314

REFERENCES CITED.....……..... 323

## List of Figures


| Figure | | Page |
|---|---|---|
| 1 | The American Bottom | 54 |
| 2 | Divers Site and Selected American Bottom Sites | 55 |
| 3 | Divers Site Location on Fish Lake and Hill Lake Meander Loops | 67 |
| 4 | Divers Site Location on Fish Lake | 68 |
| 5 | Divers Site Excavation Units and Unexcavated Features | 81 |
| 6 | Patrick Component Feature Distribution | 85 |
| 7 | Key to Divers Site Rim Profiles | 90 |
| 8 | Selected Patrick Component Jars and Bowls | 91 |
| 9 | Selected Patrick Component Pipes, Pipe Stems, and Discoidals | 96 |
| 10 | Selected Range Component Pit: Feature 71 | 142 |
| 11 | Selected Range Component Pit: Feature 78 | 143 |
| 12 | Selected Range Component Pit: Feature 76 | 144 |
| 13 | Range Component Feature Distribution | 146 |
| 14 | Selected Range Component Jars | 150 |
| 15 | Selected Range Component Bowls and Pipe Stem | 153 |
| 16 | Early Terminal Late Woodland Component Structure: Feature 13 | 155 |
| 17 | Early Terminal Late Woodland Component Structure: Feature 121 | 156 |
| 18 | Early Terminal Late Woodland Component Structures: Features 120 and 135 | 157 |
| 19 | Selected Early Terminal Late Woodland Pit: Feature 55 | 160 |
| 20 | Early Terminal Late Woodland Component Feature Distribution | 161 |

21 Selected Early Terminal Late Woodland Jars and Bowls ..... 165
22 George Reeves Component Structure: Feature 26 ..... 169
23 George Reeves Component Structure: Feature 61 ..... 170
24 George Reeves Component Structure: Feature 75 ..... 171
25 George Reeves Component Feature Distribution ..... 173
26 Selected George Reeves Component Jar, Bowl, and Stumpware ..... 178
27 Lindeman Component Structure: Feature 36 ..... 182
28 Key to Feature 36 Floor Artifact Piece Plot and Feature 36 Artifact Piece Plot .... 183
29 Lindeman Component Structure: Feature 50 and Feature 50 Profiles ..... 185
30 Lindeman Component Structure: Feature 49 ..... 187
31 Lindeman Component Structures: Features 65 and 64 and Feature 65 Profiles ..... 188
32 Key to Feature 65 Floor Ceramics and Feature 65 Floor Ceramics ..... 190
33 Lindeman Component Structure: Feature 117 ..... 192
34 Lindeman Component Structures: Features 125, 125A, and 128 ..... 193
35 Selected Lindeman Component Pits: Features 72 and 130 ..... 194
36 Lindeman Component Feature Distribution ..... 195
37 Selected Lindeman Component Jars ..... 200
38 Selected Lindeman Component Bowls ..... 204
39 Selected Lindeman Component Stumpware ..... 205
40 Selected Lindeman Component Stumpware and Disks ..... 206
41 Selected Lindeman Component Artifacts ..... 207
42 Lohmann Component Structure: Feature 16 ..... 240
43 Lohmann Component Structure: Feature 24 ..... 241

44 Lohmann Component Structure: Feature 91 ..... 242
45 Lohmann Component Structure: Feature 94 ..... 243
46 Lohmann Component Structures: Features 96, 111, and 114 ..... 244
47 Lohmann Component Structure: Feature 105 ..... 245
48 Lohmann Component Feature Distribution ..... 246
49 Selected Lohmann Component Jars ..... .250
50 Selected Lohmann Component Bowls ..... 252
51 Selected Lohmann Component Ceramics ..... 253
52 Stirling Component Structure: Feature 1 ..... 256
53 Stirling Component Structure: Feature 15 ..... 257
54 Stirling Component Structure: Feature 85 ..... 258
55 Stirling Component Structure: Feature 124 ..... 259
56 Stirling Component Structure: Feature 126 ..... 260
57 Stirling Component Feature Distribution ..... 261
58 Selected Stirling Component Ceramics: Feature 1 Floor ..... 263
59 Selected Stirling Component Ceramics: Feature 138 ..... 264
60 Selected Stirling Component Ceramics ..... 265
61 Selected Stirling Component Jars and Seed Jar ..... 266
62 Selected Stirling Component Bowls and Stumpware ..... 267
63 Selected Stirling Component Ceramics ..... 268
64 Selected Stirling Component Ceramics ..... 269

## List of Tables


| Table | | Page |
|---|---|---|
| 1 | Divers Site 1 km Catchment Area | 69 |
| 2 | Divers Site Radiocarbon Dates | 69 |
| 3 | Patrick Component Curvilinear Pit Attributes | 83 |
| 4 | Patrick Component Body Sherds and Limestone. | 84 |
| 5 | Patrick Component Vessel Types | 87 |
| 6 | Patrick Component Vessel Surface Treatment | 88 |
| 7 | Patrick Component Jar Types and Temper | 89 |
| 8 | Patrick Component Bowl Types and Temper | 95 |
| 9 | Range Component Pit Attributes | 141 |
| 10 | Range Component Body Sherds and Limestone | 145 |
| 11 | Range Component Vessel Forms | 147 |
| 12 | Range Component Vessel Surface Treatment | 148 |
| 13 | Range Component Jar Types and Temper | 149 |
| 14 | Range Component Bowl Types and Temper | 152 |
| 15 | Early Terminal Late Woodland Component Structure Attributes | 154 |
| 16 | Early Terminal Late Woodland Body Sherds and Limestone | 158 |
| 17 | Early Terminal Late Woodland Exterior Pit Attributes | 159 |
| 18 | Early Terminal Late Woodland Vessel Forms | 162 |
| 19 | Early Terminal Late Woodland Vessel Surface Treatment | 163 |
| 20 | Early Terminal Late Woodland Jar Types and Temper | 164 |

21 Early Terminal Late Woodland Bowl Types and Temper ..... 166
22 George Reeves Component Structure Attributes ..... 167
23 George Reeves Component Pit Attributes ..... 168
24 George Reeves Component Body Sherds and Limestone ..... 172
25 George Reeves Component Vessel Forms ..... 175
26 George Reeves Component Vessel Surface Treatment ..... 176
27 George Reeves Component Jar Types and Temper ..... 177
28 George Reeves Component Bowl Types and Temper ..... 179
29 Lindeman Component Structure and Ramada Attributes ..... 180
30 Lindeman Component Pit Attributes ..... 180
31 Lindeman Component Body Sherds and Limestone ..... 181
32 Lindeman Component Vessel Forms ..... 197
33 Lindeman Component Vessel Surface Treatment ..... 198
34 Lindeman Component Jar Types and Temper ..... 199
35 Lindeman Component Bowl Types and Temper ..... 203
36 Lohmann Component Structure Attributes ..... 238
37 Lohmann Component Pit Types and Attributes ..... 238
38 Lohmann Component Body Sherds and Limestone ..... 239
39 Lohmann Component Vessel Forms ..... 247
40 Lohmann Component Vessel Surface Treatment ..... 248
41 Lohmann Component Jar Types and Temper ..... 249
42 Lohmann Component Bowl Types and Temper ..... 251
43 Stirling Component Structure Attributes ..... 254

44 Stirling Component Body Sherds and Limestone ..... 255
45 Stirling Component Circular Pit Types and Attributes ..... .262
46 Stirling Component Vessel Forms ..... 270
47 Stirling Component Vessel Surface Treatment ..... 271
48 Stirling Component Jar Types and Temper ..... 272
49 Stirling Component Bowl Types and Temper ..... 273
50 Stirling Component Beaker, Short Neck Water Bottle, and Pan Attributes ..... 274
51 Divers Site Structure and Interior Pit Summary ..... 318
52 Divers Site Exterior Pit Summary ..... 319
53 Divers Site Body Sherd Temper and Surface Treatment Summary ..... 319
54 Divers Site Vessel Forms Summary ..... 320
55 Divers Site Jar, Beaker, Pan, and Short Neck Water Bottle Summary ..... 320
56 Divers Site Jar Temper Summary. ..... 321
57 Divers Site Bowl Types and Temper Summary ..... 321
58 Divers Site Non-Local Artifact Summary ..... 322

## CHAPTER 1

# INTRODUCTION

The Terminal Woodland and Mississippian cultures in the American Bottom and surrounding uplands are the focus of much archaeological research. Most researchers agree that Cahokia was the preeminent Mississippian site where a rapid cultural transformation occurred about A.D.1050 (but contrast Milner 1998). This transformation resulted in the rise of a complex polity, regional population increases, monumental construction projects, a shift to wall trench structures, and the use of shell tempered ceramics, among other attributes.

The degree of local and regional control exerted by this Cahokia polity is an active area of research producing contrasting models (e.g., Milner 1991, 1996, 1998, 2003, 2008; Pauketat 1994, 1997, 2004, 2007). These models have benefited from earlier and contemporary models which are presented for a historical perspective. An evolutionary explanation for the rise of Cahokia include Kelly's (1980, 1990b) "Integration Model". Milner (1990), building upon earlier hierarchical models, examines the cultural adaptation of Terminal Late Woodland and Mississippian societies to the local ecosystem and establishes the basis for his alternative model. Pauketat (2001b, 2002) proposes a fourth-generation synthesis of Cahokia archaeology based upon historical-processualism which shifts the explanations for Cahokia development from its precursors to the Cahokians themselves. The use of rituals are used by Kelly (2002, 2006) to examine social-political relationships and the basis for power in the American Bottom and by Byers (2006) to explain the development of Cahokia. Alt (2001, 2002), Emerson (2002), and Pauketat (2003) discuss the importance of migrations in the

development of American Bottom Mississippian and invoke cultural pluralism as an important element in formulating these new social responses, as opposed to the evolutionary explanations favored by earlier researchers. Investigators have also examined the roles that the control of trade and trade routes may have played in the development of Cahokia (Kelly 1991; Peregrine 1992). These trade models have been challenged by Emerson et al. (2002, 2003), Pauketat and Emerson (1997), Schroeder (1997), and Roper et al. (2010). Finally, Mehrer (2000) using the concepts of the built environment and heterarchy has examined the development of rural Mississippian communities, the roles that such communities played in American Bottom society and Mississippian development, and the relationships that such communities forged with Cahokia. The constructs, developmental processes, and interpretations of Mehrer's model have been questioned by Pauketat (2000).

This dissertation's main focus is on two views of the cultural landscape within which small villages like Divers thrived for a time and on the nature and structure of the Mississippian world within which these villagers lived. I call these views the Segmented Chiefdom and Ascendant Chiefdom models. It is important that one does not read too much into these names. They are simply convenient handles by which to refer to two ends of a continuum of perspectives on Mississippian polities in the American Bottom (following similar names used by Milner 1998 and Welch 2006); as such, their usage is specific to this dissertation and they are not intended to imply similar terms used by other researchers. While I focus most attention on the interpretive value of the Segmented and Ascendant Chiefdom models as frameworks within which to understand the archaeology of the Divers site, other perspectives are drawn upon where they are clearly relevant to

the discussion. Nevertheless, the result does not pretend to be a comprehensive examination of every perspective reflected in the rich literature of American Bottom archaeology.

To briefly summarize the theoretical perspectives developed in Chapter 2, the Segmented Chiefdom model is best represented by the work of George Milner. In his synthesis and interpretation of the Mississippian archaeology of the southern American Bottom, Milner (1990, 1991, 1998, 2003, 2008) views a system wherein there was a decentralized and segmented structure with a high degree of local autonomy. This autonomy was expressed by locally important centers of various sizes and time duration, each of which was governed by a chief whose authority extended to the community's outlying villages and hamlets. The political organization was expressed through social alliances, which, in part, accounts for the homogeneity of Mississippian traits in the American Bottom. These alliances were inherently unstable and could and did shift through time and location. Cahokia, the most important regional center in the American Bottom, controlled the immediately surrounding towns and sites, but beyond that area it had diminished power, which was largely maintained through connections with affiliated subsidiary chiefs.

The Ascendant Chiefdom model is best represented by the work of Timothy Pauketat up through the late 1990s, who takes a very different view. Pauketat (1994, 1997, 2004, 2007) proposes that around A.D. 1050, a central authority developed at Cahokia and reordered social life across the American Bottom and into the adjacent uplands. The presence of this central authority explains the high degree of archaeological homogeneity that researchers report from large areas of the American Bottom; however,

there was not uniform sharing even where elites achieved "control over" commoners (Emerson 1997a; Pauketat 2000). This homogeneity resulted from subjective co-optation by negotiation and the accommodation of existing cultural expressions that were critical processes of the occurrence and spread of Mississippian cultural traits. New Mississippian ideology emanating from Cahokia was presented to existing outlying populations in a manner which they found socially acceptable or if required, by the use of force; thus these populations were subjectively co-opted into a Mississippian sphere of social control and cultural homogeneity that emanated from Cahokia. In his recent work, Pauketat (2007) takes issue with the term "chiefdom" (and the emphasis on domination) and describes the Mississippian culture emanating out from centers such as Cahokia as a "civilization", a reclaimed term but with a new meaning, that of an "ongoing historical process, not an evolutionary phenomenon" (Pauketat 2007:16-17).

Before going farther, it is important to note that the characterizations made here of opposing views of the nature of Mississippian chiefdoms in the American Bottom necessarily emphasize important differences in approach and perspective to be found in both families of models. My approach purposefully sets aside consideration of the common ground that they share. As such, no proponent of either model may agree entirely with my identification of salient characteristics, but one should bear in mind the deliberate emphasis placed on differences. Mere summaries of both views, regardless how nuanced and balanced they may be, would be of little use in an analytical examination of the extent to which the key concept of such models facilitate the interpretation of real cases like the Divers site.

This is also a good point at which to explain my use of the term "chiefdom" to describe the Cahokia polity. Over the past half century, Cahokia has been variously described as a state (O'Brien 1989, 1991), state-like (Pauketat 2007), and a theater state (Holt 2009), among other things. However, the most commonly applied term in the 1990s was that of "chiefdom" (Emerson 1997a, 1997b; Emerson and Pauketat 1997, 2002; Milner 1991, 1996, 1998, 2003; Pauketat 1994, 1997).

Among these labels, "chiefdom" is, I believe, the most commonly applied, generally, it seems, with a connotation that approximates Fried's (1967) concept of "ranked society". However, one could argue, as some do (Pauketat 2007), that the entire notion of chiefdom is insufficient to capture the social dynamics of any such historical development. This dissertation has nothing of merit to say about the latter point and the term "chiefdom" is used throughout because it is that which is most commonly applied in American Bottom archaeological literature for the past half century (a point contested by Pauketat 2001a, 2001b, 2007). My concern lies not with labels, but solely with questions that center on the extent to which the premier polities of the American Bottom inserted themselves into the lives of common people in outlying small villages.

The application of any technical term to a real case implies certain underlying conditions or qualities. In the case of Cahokia, as noted above, archaeologists are beginning to question the appropriateness of such assumptions and, by extension, the interpretive utility of applying the term "chiefdom" to this polity. I agree with Holt (2009) that, important though the theoretical implications of such terms may be, they are "idealized—no actual case in the real world will perfectly fit the type. The type is a hypothesis we can test with real data…" (Holt 2009:254). Given this view, and since I

find it necessary to call Cahokia and the American Bottom Mississippian something, I use the term "chiefdom" throughout this dissertation in the same way that most researchers have applied it to this polity in American Bottom archaeological literature. The appropriateness of the term (and its underlying assumptions) is not at issue here and is an open area of research best left to be resolved in a different forum.

This dissertation's main objective is to examine a small outlying Terminal Late Woodland and Mississippian site in the southern American Bottom—the Divers site (11Mo28)—and assess the extent to which interpretations of its archaeological remains are informed by one or both of these models. In each case, the central questions to be answered are, first, does the archaeological patterning at Divers fit a given model's expectations with respect to the central authority exerted by chiefs and the local autonomy of villagers, and second, what implications does this comparative analysis hold for the interpretive utility of these models as frameworks within which to understand the nature of Mississippian polity in the American Bottom?

My emphasis is on understanding the development of a small village, the kind of place that was home to many of the inhabitants of the American Bottom. It is not an attempt to hammer the square peg of a village into the round hole of theoretical issues concerning the rise of Mississippian towns and central places. *Rather, my critical focus on these models is on their ability to inform the interpretation of a real case—the ultimate acid test of a theoretical construct.*

Throughout my research on Divers and its relation to the two competing chiefdom models, Mark Mehrer's (1995) research on household archaeology of small outlying Mississippian sites has also been particularly relevant for several reasons. First, viewed

archaeologically, small domestic households are the basic building blocks of human societies. Second, Divers is representative of the small outlying Mississippian villages that once populated the American Bottom. Third, Mehrer's focus on houses, pits, site patterns, and site plans provides an analytical framework that draws on the strengths of the Divers site materials. Fourth, Mehrer clearly establishes the vital "middle-range" theory links that enable us to ground theories of cultural evolution in the archaeological patterning revealed by the analysis of small site domestic debris. These links, in turn, form the basis for accurate social, political, and economic reconstructions and greatly facilitates the interpretation and understanding of these aspects of the development of Mississippian culture in the American Bottom.

The next chapter covers relevant background information that sets the stage for the description and analysis of Divers site archaeological remains that comprise the main body of this dissertation. I begin by reviewing the history of American Bottom archaeological research that bears on the rise and fall of local chiefdoms. This leads into a discussion of the Segmented and Ascendant Chiefdom models and their theoretical underpinnings. The chapter ends with an examination of the part that the Divers site excavations can play in evaluating the interpretive value of the chiefdom models and lays out in detail the main thesis that is explored in the main body of this work.

## CHAPTER 2

# ARCHAEOLOGICAL BACKGROUND AND THEORETICAL APPROACHES

The American Bottom encompasses the Mississippi River and its adjacent floodplain and bluffs roughly between Alton and Chester, Illinois, a distance of approximately 125 km (Figure 1). Archaeologists divide this large floodplain into a northern portion, which stretches from near Alton southward about 45 km to around Dupo, where the valley narrows. Contained within this large subregion are Cahokia and hundreds of smaller Mississippian sites. The southern portion covers the remaining 80 km of a much narrower valley to its end near Chester. The Divers site is located in the southern American Bottom about 4.5 km southwest of the Lunsford-Pulcher site and about 33 km southwest of the Cahokia site (Figure 2). Although it was a small village that never figured as a major voice in American Bottom Mississippian events, it provides a useful opportunity to examine the interpretive value of contrasting views of the possible impacts of such major sites as Cahokia on small villages in the southern part of the valley.

To date, most archaeological research has focused on the northern American Bottom (Kelly 1990a, 1990b; Milner 1998; Pauketat 1994, 1997). In the southern American Bottom, where much remains to be learned about the region's prehistory, the FAI 270 project conducted important investigations in the vicinity of Dupo, Illinois (Bareis and Porter et al. 1984). Limited surveys and test excavations have been conducted further south on both sides of the Mississippi River, most notably by the early 1970s

Historic Sites Survey (Kelly 1990b, 2002; Milner 1998; Porter 1972; Schroeder 1997). Beginning in the late 1990's work in the uplands east of Cahokia by Alt (2002, 2006) and Pauketat (2003, 2007) provided valuable insight into a little known Cahokia sphere of influence that lies outside of the American Bottom as it is defined here.

The long and storied history of American Bottom archaeology is well-reviewed by Fowler (1989), Kelly (1993), Mehrer (1995:9-12), Milner (1998:3-10), and Pauketat (1994:66-73), among others, and it need not be repeated here. What is of significance is that, beginning in the mid-1970s, the main focus of American Bottom archaeological research shifted from the Cahokia site and its locality to selected outlying areas. The shift was driven less by changing theoretical concerns and questions than by the demands made by state and federal-sponsored cultural resource management (CRM) projects, especially highway salvage projects. The availability of CRM funds and research opportunities gave rise to an unprecedented number of full site excavations and multidisciplinary analysis (Bareis and Porter 1984). With these riches also came a vast amount of artifacts and many site reports, surveys, test excavations, and other reports of investigations.

Among the drawbacks of American Bottom CRM research were its narrowly defined goals, most of which necessarily responded to non-archaeological information needs. Consequently, CRM projects, while individually making significant contributions to the scientific understanding of American Bottom prehistory, have played little role in the development of syntheses and comparative analyses of the rich body of archaeological information that these projects generated (Milner 1998:xi-xii).

Some attempts at explanation were made by CRM researchers in the 1980s (Kelly 1990a, 1990b), but it remained until the mid-1990s when more regional syntheses began to address this problem. In particular, drawing upon selected elements from the vast amount of CRM data and other sources, Emerson (1997b), Mehrer (1995), Milner (1991, 1998, 2003), and Pauketat (1994, 1997, 1998, 2002, 2004, 2007), constructed regional models of Terminal Late Woodland and Mississippian polity in the American Bottom. These models were largely built upon the regional chronologies; temporal and spatial changes in prehistoric community, subsistence, and land use patterns; fluvial geomorphology and environmental reconstructions; and a vast amount of prehistoric technology data, with special emphasis on pottery, storage facilities, and vernacular architecture, nearly all of which was derived from the CRM investigations.

One result of these investigations, mostly stemming from the FAI 270 highway project, was the redefining of the archaeological periods and phases. The archaeological period from ca. A.D. 800 to A.D. 1050 was labeled "Emergent Mississippian" and has been used extensively in the archaeological literature (Bareis and Porter 1984:128). Fortier and McElrath (2002:171) recently questioned the continued use of this term to adequately describe this archaeological period. They argue that the term "Terminal Late Woodland" more accurately describes events occurring at this time. I will follow Fortier and McElrath (2002) in this dissertation and use Terminal Late Woodland to refer to Divers site materials from this time interval. Emergent Mississippian will not be used except in direct quotations or where the context of the dissertation requires the term for historical reasons.

As archaeologists' understanding of the cultural history of Terminal Late Woodland and Mississippian societies gradually unfolded in the American Bottom, models designed to explain the role of the Cahokia polity became a central focus for many researchers. One of the influential early contributions was Fowler's (1974) description of two alternative models for Mississippian polity and settlement patterns—one composed of a series of hierarchically stratified communities and one based upon population nucleation.

The community stratification model, which assumed the contemporaneity of all community types, envisioned a hierarchy of four tiers of settlements with Cahokia as the only first-tiered site. Second-tier sites consisted of multiple-mound settlements such as Mitchell, St. Louis, East St. Louis, and Lunsford-Pulcher. Third-tier sites consisted of single mound communities. The fourth-tier sites were moundless hamlets, villages, and farmsteads.

Fowler's second model, that of population nucleation, considered the possibility that not all community types were contemporaneous and assumed that that the first and second-tier sites were occupied during the Stirling and Moorehead phases. Subsequent research revealed that many fourth-tier sites existed during these two phases, and that this part of Fowler's model was inadequate to explain observed archaeological patterning. It was also found that population nucleation was an important process in the rise of the Mississippian polity during the preceding Lohmann phase.

At the time Fowler proposed these models he lacked the benefit of the refined chronologies, special studies, and environmental research needed to assess their

interpretive value. He also did not address processual issues, which left unanswered the key questions of how and why these cultural changes happened.

The community stratification model provided the basis for elaboration and refinement by more recent archaeologists to explain the social, political, and economic structure and organization of Cahokia society. Cahokia is the only first-tier site and thus the apex of a hierarchy of site types. With its large population, size, monumental architecture, craft specialization, and status burials and goods, Cahokia is uniformly assumed to have been the dominant community in American Bottom Mississippian society (Milner 1998:10-12; Pauketat 1994).

Given this brief introduction to past American Bottom research on the development of Mississippian societies and resulting Cahokia polity there are divergent models and interpretations, let us now examine the Segmented and Ascendant Chiefdom models in detail.

## Chiefdom Models

Given the complexities of the models involved, I will discuss each of them separately. This will enable the reader to gain a clearer understanding of their relative strengths and weaknesses before I examine the Divers site data against their implications. The Segmented and Ascendant Chiefdom models share some common elements. They assume that Cahokia was the foremost American Bottom Mississippian site in terms of size, population, monumental architecture, status burials and goods, and social complexity. It was also the main center of a polity that exercised considerable power and authority. It developed around A.D. 1050 when large Terminal Late Woodland villages

with courtyard groups were abandoned and replaced by Mississippian temple towns, small villages, some of which researchers call nodal sites, and dispersed farmsteads.

Regional Terminal Late Woodland antecedents for some of this cultural transformation, such as increasing populations, larger and more complex villages, and stratified societies, are sufficient to rule out contact-migration models as a possible explanation for its origin (Hall 1991; Kelly 1990b). However migrations from outside of Cahokia and American Bottom have been proposed by Alt (200l, 2002, 2006), Emerson (1997b), Emerson and Pauketat (2002), Hall (2006), Kelly (1990b), and Pauketat (2004, 2005, 2007). Some view the outside movements as explanations for the occurrence of nonlocal ceramics in American Bottom sites (Kelly 1990b: Pauketat 2004), some as the source of rituals (Hall 2006), and some as the source of cultural diversity and pluralism that played important roles in the rapid rise of Cahokia (Pauketat 2004, 2005, 2007). Most agree the movements resulted in a rapid population increase at Cahokia and a realignment of northern floodplain and upland settlements (Alt 2001, 2002, 2006; Emerson 1997a, 1997b; Mehrer 1995; Pauketat 2003, 2004, 2005, 2007).

The adoption of maize agriculture is also insufficient to explain the rise of Mississippian Cahokia because it was added to the existing subsistence base prior to A. D. 1050 (Kelly et al. 2007:229, 478; Parker 1992; Pauketat 1997:50-51). While important to the production of a food surplus and storage facilities, maize agriculture is increasingly viewed from the perspective of how this surplus interacted with sociopolitical factors for centuries before and after A. D. 1050 (Mehrer 1995).

The main area of disagreement between the Segmented and Ascendant Chiefdom models is the degree, structure, and organizational control emanating from the Cahokia

chiefdom and how these factors manifest themselves in the archaeological record of small outlying villages like the Divers site. The next few sections closely examine both models and place them into the context of similar American Bottom research.

***Segmented Chiefdoms***

The Segmented Chiefdom model is based upon the spatial and temporal patterns formed by the distribution of ceramics, exotic items, households, and communities. The model assumes relatively small population estimates and correspondingly small labor requirements for mound building and other construction projects. Such assumptions are particularly significant because it is often held that causal relationships may exist between large populations/labor requirements and the development of complex social and political institutions (Erasmus 1965; Milner 1998; Pauketat 1994, 2007; Pauketat and Lopinot 1997; Pauketat and Emerson 1997).

The Segmented Chiefdom model is sometimes referred to as a bottom-up approach (Milner 2003:134) that concentrates on patterns and decisions made by common people in households at small sites meeting daily social requirements. At the same time it attempts to identify the social and natural conditions that set the stage for complex sociopolitical systems. When the archaeological patterns of ceramics, exotic items, households, and communities are examined, they are interpreted to represent a polity wherein a segmented chiefdom resided at Cahokia and had control over this site and nearby locations, but outlying sites had a degree of autonomy and were aligned to the Cahokian chiefdom through alliances in which political, ritual, and social power were negotiated and shared, not mandated by the chiefdom based at the premier site of the region.

Milner (1998:10-13) argues the Segmented Chiefdom model takes into account three weaknesses that its proponents attributed to the Ascendant Chiefdom model as it was described in the 1970's through the early 1990's. First, except for some of its major monuments, all of the archaeological patterning found in or around Cahokia is also found elsewhere in the American Bottom. Second, the Ascendant Chiefdom model makes assertions and assumptions that are insufficiently supported by hard archaeological evidence. Parenthetically, however, the extreme positions represented by the Segmented and Ascendant Chiefdom models can legitimately claim this of each other. Third, archaeological evidence cited as proxy measures of great social complexity in the Ascendant Chiefdom model are also consistent with simpler forms of sociopolitical organization and structure and with smaller resident populations than some researchers estimate to have been present in Terminal Late Woodland and Mississippian Cahokia (Pauketat and Lopinot 1997). This weakness is obviously not entirely divorced from the preceding one, but its implications are of such profound significance in the differing views represented by these models that it is important to bring it into the foreground of the discussion.

Population estimates for the Cahokia site and the American Bottom figure as key variables in models designed to explain the rise of Mississippian societies in this region. The relevance of such estimates is, once again, obvious. As in most explanations of the development of complex societies, population size is assumed to correlate with sociopolitical organization, large populations tend to have complex sociopolitical organization and small populations tend to have relatively simple sociopolitical organization. Early estimates of Cahokia and American Bottom Mississippian

populations tended to be very large (Greg 1975) and were later questioned by Griffin (1993) and others. More recent estimates, which are based on considerably more and better information than the early ones, yield much smaller total populations (Milner 1998:120-125), but these estimates are at odds with others (Pauketat 1997, 2003, 2005, 2007; Pauketat and Lopinot 1997). If one assumes that the smaller population estimates are true, as proponents of the Segmented Chiefdom model do, then one can profitably examine the hypothesis that the organizational structure and institutions of American Bottom Mississippian were diffuse and decentralized, and that, by implication, Cahokia played an important but not necessarily a dominant social, economic, or political role in the region.

Milner (1998:13) addresses these issues and proposes an alternative model of Mississippian sociopolitical organization and structure. The decentralized model is socially, politically, and geographically segmented into quasi-autonomous components organized into districts of various sizes under the control of a local chief. The Cahokia district, centered on Monks Mound was the largest and most powerful but that power was largely restricted to Cahokia and nearby sites. The various districts were united by alliances, which are inherently unstable, and thus could and did shift through time.

This interpretation is in sharp contrast with the Ascendant Chiefdom model, which, having been constructed from different underlying fundamental assumptions, views the rapid occurrence of new ceramic styles, monumental construction at Cahokia, population increases, the collapse of existing social and political units in outlying portions of the American Bottom, new iconography, and other cultural changes as the result of the rise of a Ascendant chiefdom at the Cahokia site. This chiefdom dominated

the entire American Bottom and surrounding areas (Emerson 1997b; Pauketat 1994; Pauketat and Emerson 1997). This interpretation has recently been modified from a dominant hierarchical chiefdom to a heterarchical society (Pauketat 2007). The difference, which is more than merely terminological, is discussed in the next section.

The Segmented Chiefdom model is based upon the analysis of qualitative and quantitative archaeological data from the length of the American Bottom derived from museum and university collections. The collections from the southern American Bottom were derived from surface surveys and some limited site testing and provided the data on Late Woodland through Mississippian ceramics, some lithics, exotic items, site locations, and site environmental settings (Milner 1990, 1998). The latter was refined by a reconstruction of the American Bottom floodplain environment (Milner 1998) and further developed by the work of Schroeder (1997) for a part of the area. The American Bottom was divided into 10 km wide units and sites were divided into mound and non-mound types. The ceramics found at these sites were further classified temporally into Late Woodland, Emergent Mississippian, and Mississippian components based upon vessel shape, surfaces, temper, and paste characteristics (Milner 1998:58-59).

In Milner's (1998, 2003) view, the Cahokia Central-Administrative district was a very important community – in fact, the dominant one in the valley – but it did not exert consistently effective and all-dominating central power and authority over the American Bottom. Given the assumption that Cahokia and the American Bottom had a much smaller population than many archaeological estimates suggest, there is little justification to interpret most American Bottom Mississippian sites as contemporary. And, except for the Cahokia site itself, power and authority and thus social control, were shifting due to

the inherently unstable nature of alliances and the self-sufficiency of outlying sites. The homogeneity of the material culture throughout the American Bottom can be explained, at least in part, as a reflection of these shifting and fluid alliances. Status symbols such as exotic goods and certain ceramic types were used to create and sustain these alliances and thus appear in outlying sites as a reflection of their importance. Goods and services need not flow into Cahokia as tribute, and the construction of monumental architecture did not require large numbers of men and women to provide corvée labor. That said, Cahokia did have the largest amount of construction and nonlocal goods of all American Bottom sites. This resulted in a gradient of status goods and ceremonial architecture throughout the American Bottom and suggests that ranking was a question of degree rather than kind. In short, the archaeological patterning found in the Cahokia site locality can also be found elsewhere in the American Bottom but on a smaller scale.

Cultural variations and differences do seem to occur and are expressed by changes in the frequency and stylistic differences expressed mostly by ceramics (Milner 1998:55-64). The nature and extent of these boundaries in the southern American Bottom are not well known because, unlike the northern portions of the valley, there are few excavated sites in the southern part. Nevertheless, there are minor differences in vessel temper and surface treatment as one goes down the valley, ending abruptly at the southern end of the American Bottom where Cahokia-style pottery shifts to a ceramic style centered on the Ohio-Mississippi confluence (Milner 1998).

The Segmented Chiefdom model is eloquent in its simplicity. And, by virtue of its simplicity, one can readily generate archaeological expectations that should be true if this model is a fair representation of the nature of everyday life out in “the Hinterlands”

described by the many researchers who contributed to Emerson and Lewis (1994). Divers, as a small outlying village in the southern American Bottom, offers an appropriate case by which these expectations can be examined.

### *Ascendant Chiefdoms*

The Ascendant Chiefdom model is based upon a new paradigm–historical processualism–rich in agency, communities, ideology, and practice. Elements of the model include local and regional population movements that created diversity and pluralism, which, in turn, required negotiation that produced hybridization. The result was the reinvention of cultural elements. The material expressions of these processes in the archaeological record are manifested in new ceramics, architecture, monuments, ritual paraphernalia , iconography and other cultural expressions and at the correct time and place result in a new and dynamic culture. Cahokia at ca. A. D. 1050 was the right time and place and resulted in the "New Cahokia" (Pauketat 1994, 1997, 2000, 2001a, 2001b, 2002, 2004, 2005, 2007; Pauketat and Emerson 1999). Once this central authority was established, it spread outward as "Mississippianization" (Pauketat 2007).

Early on, Pauketat referred to the "New Cahokia" as a dominant hierarchical chiefdom in which a small group or subset of elites gained control of the means of production and distribution of goods and services, especially some exotic items and rituals, and established a powerful central authority which is reflected in new construction, ceramics, iconography, and technology (Pauketat 1994, 1997; Pauketat and Emerson 1997). Pauketat (2007) recently repudiated the political-economic models attached to the hierarchical chiefdom view and argued that Cahokia is more accurately interpreted as a heterarchical "civilization".

The traditional hierarchical view (Blitz 2010:4-6) of the Cahokia polity is a centralized political economy organized as a pyramidal political hierarchy dominated and administered by a leader [citing Emerson and Pauketat 2002], but a variation of this single level of power is multiple levels. An alternative on a centralized perspective is the production of ideology as a source of power [citing Pauketat 2007]. This dominant ideology requires materialization, therefore labor, materials, and surpluses to fund rituals and produce crafted symbols are under the centralized control of the elite [citing Emerson 1997b:176-192; Pauketat 2004:100-110].

The heterarchy view (Blitz 2010:5-6) is a decentralized view that places greater emphasis on segmentary or horizontal organization of corporate groups and/or nonkin associations and how these social groups may be recognized in community plans and artifacts. Such a view could be interpreted as characteristic of both the Segmented and Ascendant Chiefdom models. The focus is on ideology as a source of political power. Materialization is not elite-based but structured by kinship, nonkin associations, and group identity. This serves as checks and balances on elite activities and suggests that the assignment of value and meaning to production and distribution were negotiated, contested, and fluid [citing Alt 2006].

Pauketat (2007:62-63) follows Crumley's (1995:3) use of heterarchy which she defines as "the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways". Pauketat (2007:62-63) cautions that heterarchy is not a substitute for hierarchy; they are not evolutionary or intermediate stages; and they are not explanations but are "dimensions of

all social formations that can only be understood by studies of the contingent histories of the peoples involved".

Pauketat's (2007) recent reassessment of the Cahokia polity offers important insight to the level and nature of elite authority. On site planning and construction of the Grand Plaza, "…it now seems plausible that Cahokians deconstructed much of this old settlement when they rebuilt Cahokia as a capital city. There are hints in the disappearance of pre-Mississippian courtyards that the deconstruction involved a top-down phasing out of old-kin based collectivities" (Pauketat 2007:147). This change, which was accompanied by new housing rules and structures, "…also included segregation of high-status kin groups from low-status ones" (Pauketat 2007:149). The new plans also extended to rural areas where Emerson's (1997b) "replacement hypothesis" explains that northern American Bottom settlements were abandoned and "…the area then quickly repopulated according to new Cahokian rules of location and order" (Pauketat 2007:149).

As one moves away from Cahokia proper, the new pattern appears to break down (Pauketat 2007:150-151), but "The new rural countryside was probably planned to more efficiently extract food resources from the reorganized agricultural landscape" [citing Emerson 1997a, 1997b and Pauketat 1998] (Pauketat 2007:151,

Pauketat's descriptions of the Cahokia polity suggest a powerful underlying central authority. Cahokia was the location of a "compelling series of large, elaborate "communal" political-religious rites and ghastly mortuary ceremonies that speak to a new kind of "societal" (or ideological) power…exercised by persons who manipulated, maintained, and reproduced the symbols by which groups with different cultural

orientations were integrated within a larger societal umbrella" (Pauketat 2007:152). Relations with populations to the north and south of the American Bottom suggest that "…Cahokia and allied parties maintained peace and order in the upper Mississippi valley…through tactical strikes against populations who might have, from a Cahokia viewpoint, stepped out of line …"(2007:156). Cahokia did not control or influence everywhere, political or cultural boundaries existed but within boundaries of control or influence "…Cahokians might have sought to oversee agricultural production, extract provisions, monitor debts, and impose their sense of normalcy" (Pauketat 2007:159, citing O'Brien 1994).

The model provides an important new view and interpretation of a central authority, which arose as a one of the most interesting and dynamic events in American Bottom prehistory (Pauketat 1994, 1997, 2004, 2007). Like the Segmented Chiefdom model, it makes assumptions about prehistoric population estimates and labor requirements required to construct the sites and mound groups that define American Bottom Mississippian. It too assumes that a relationship existed between population size, the organizational demands of corvée labor, and the rise of complex societies, but differs from the Segmented Chiefdom model by assuming that the population and the demands on their labor were both large and causally related to the development of an Ascendant chiefdom at Cahokia.

Pauketat (1994, 1997, 2004) has proposed a centralized authority evolving and established at Cahokia at A.D. 1050. Initially his work was based upon the analysis of residential architecture, domestic garbage, and elite monuments at Cahokia and selected floodplain sites near Cahokia (Pauketat 1994:6) but was later expanded to include

archaeological data from the Richland Complex (Pauketat 2004:98-99). From this research, he proposed "…that the regional consolidation of a Cahokia polity was based upon the political actions of a restricted number of high-ranking people over a relatively short period of time. I [Pauketat] further propose that under the historical circumstances the political economy of the American Bottom was initially accompanied by expanded and transformed production-and-exchange activities superimposed by the elite Cahokia patrons" (Pauketat 1994:6).

Pauketat's approach in 1994 was based upon an examination of the Cahokia political economy that contrasts with the traditional approach of a subsistence economy to examine and explain the events and changes occurring at this time. The political economy is described as "…the local and supralocal configurations of human interactions and ideologies as these form the historic landscape of the American Bottom and beyond" (Pauketat 1997:30).

The great cultural change at A.D. 1050 is not viewed as gradual but is a "disjuncture in the historical trajectory" (Pauketat 1997:141, 2004:94, 2007). Once established, this centralized power maintained and expanded its political economy by creating alliances through marriage, trade, gifts of exotic items, better diet, violent acts (including warfare and executions), controlling craft production, and ritual displays of various kinds (Pauketat 1997:20-21, 27, 32-34, 35, 2004:107-108, 2007). This resulted in a regional consolidation of political authority and in the establishment of a complex chiefly hierarchy (Pauketat 1994:32) or heterarchy (Pauketat 2007) at Cahokia.

The new Cahokia ideology resulted not only in the rise of a centralized Mississippian power and culture but also in nucleation as outlying populations moved

into or near Cahokia and other mound centers and with population growth (Emerson 1997a, 1997b; Pauketat 1997:174, 2004:97). The population nucleation resulted in the abandonment of smaller outlying sites at A.D. 1050. Collectively, this resulted in a dramatic increase in the population of Cahokia (estimated to be 10,200 to 15,300 during the Lohmann Phase) and creating a "Central-political-administrative complex at and around Cahokia" (Pauketat 2004:68, 106, 107).

The consolidation and spread of the new Cahokia ideology, or the "Big Bang" (defined by Pauketat as "a consequence of the rapid consolidation of political or regional control presumably by some subset of the high-ranking Emergent Mississippian population") (Pauketat 1997:31-32, 1998, 2002, 2004) was represented by a new class of symbols and iconography expressed in the controlled and subsidized production of pigments, ceramics, cloth, beads, burials, chunkey stones, axes, monumental construction (plazas, mounds, woodhenge, community buildings, and space, etc.), and fire clay figurines (Emerson 1989; Emerson and Pauketat 2002:112; Pauketat 2004:65, 78, 79). This spread was successful by "co-opting" (Pauketat 2000; Pauketat and Emerson 1997) the old order and replacing it with the new resulting in a "hegemonic" and "hierarchical" (Pauketat 2004:94, 164) or heterarchical (Pauketat 2007) society.

The ceramic types Ramey Incised (Emerson 1989; Pauketat 2007; Pauketat and Emerson 1991) and Monks Mound Red are viewed as material expressions of the new ideology and iconography. Both types are seen as being produced by controlled craft specialists in certain locations (Cahokia and Lunsford-Pulcher, respectively) and being distributed with foodstuffs, medicines, blessings, and provisions to people from outlying sites who attended rituals held at Cahokia or other mound centers. Thus these types are

found at outlying sites but in small numbers which is interpreted as a centralized authority controlling the production and distribution of these particular ceramic types (Pauketat 1994:161-162, 1997:40, 2004:83, 86). Emerson (1989:66-67) suggests that Ramey Incised was manufactured in several locations at various times of the year for renewal rituals. In general, the ceramics become increasingly formalized and segmented as reflected by the tempers and manufacturing techniques after A.D. 1050. Examples of the latter changes can be seen in the Lunsford-Pulcher and Washausen site assemblage, which consisted of limestone tempered bowls, jars, and seed jars prior to A.D. 1050, but after that date limestone tempering was almost exclusively used for bowls and seed jars while shell tempering was used for jars (Pauketat 2004:83).

Pauketat (2004:62, 86; Emerson and Pauketat 2008:176-178) states that one important ritual conducted at Cahokia was the chunkey game which attracted or compelled people from outlying locations to attend and afterwards could have been one basis for the redistribution of Ramey Incised jars. Based upon the known distribution of these artifacts, Cahokia and the major floodplain towns had chunkey stones but after A.D. 1050 floodplain farmers did not have them except at sites in the eastern uplands beyond the American Bottom.

Pauketat (1997:32) proposes the floodplain regional settlement pattern prior to A.D. 1050 consisted of a two-tier hierarchy with Cahokia and Lunsford-Pulcher being the dominant settlements or local centers of minimally centralized political units (Pauketat does not speculate on the relationship of these two centers). Other sites on the floodplain were unevenly distributed and single house farmsteads were few. This pattern changed after A.D. 1050 with the rise of the Cahokia complex when a three-tiered settlement

hierarchy appeared in the northern American Bottom. The central Cahokia complex was surrounded by lesser towns (including Lunsford-Pulcher) and several modest size single-mound towns. The relationship of these towns and the center is not known at this time. At about A.D. 1050 a series of pre-Mississippian villages and hamlets on the northern floodplain were abandoned with the populations moving to Cahokia or to new secondary towns. But Pauketat (2004:97) suggests that some movement from the villages could have been part of a shift to a series of new floodplain farmsteads and upland villages (Alt 2001, 2002, 2006; Pauketat 2003).

The domestic architecture and associated features changed at A.D. 1050 with a shift to wall trench construction, along with changes in building location and orientation, building size, and function. Pits associated with houses changed with an increase in the number of pits and a shift in location from external to internal. Pauketat (1994:137, 2004:103) suggests the change in storage technology, especially the change in pit location from external to internal, reflects appropriation of domestic production or attempts to avoid the appropriation of production by hiding stored goods.

## Theoretical Foundations

The Segmented and Ascendant Chiefdom models seek to explain the rise of the Cahokia central authority and its influence over outlying sites. As has been seen in the preceding sections, these models are based upon different theoretical constructs, which yield different interpretations. Since this dissertation's main goal is to examine the influence of a Cahokia chiefdom over outlying sites and not a theoretical examination of

both models, this section merely summarizes the theoretical underpinnings of both models.

Milner does not label his approach but there are the common elements of people, economy, and environment, with the environment and how people organize their daily lives getting the most attention, prompting his critics to label it as the old processual cultural ecology and cultural evolution (Pauketat 2002:149-150). In all fairness Milner does assert that "the natural environment did not somehow cause an organizationally complex society centered on Cahokia to develop. It did, however, play a role in what happened and why politically important places arose in some places but not in others" (Milner 1998:viii). People throughout the social hierarchy are viewed as decision makers, especially the commoners who are not viewed as "automatons" but as important decision makers of their own destiny who played an important role in the rise of Cahokia. Social, political, and subsistence economic factors are important variables to which people adjusted their lives by making decisions with "imperfect knowledge" and which can be considered to be "economic in nature" (Milner 2003). Therein lies the basis for critics' view that Milner is a processualist who emphasizes cultural ecology and a view of culture as evolutionary, materialistic, and adaptive.

Pauketat's recent work advocates a post-processual historical approach to better explain the development of a Cahokia chiefdom. This approach was developed in reaction to evolutionary and ecological models to explain the rise and power of chiefdoms, which had been largely based upon the redistribution of surplus goods for a growing population. In short, he suggests that one should examine the political economy in addition to the subsistence economy to explain

the rise of the Cahokia chiefdom. At the center of the Ascendant Chiefdom approach are the dynamics of chiefdoms and the historical actions and roles that individuals play at various times and places. It is best viewed as a political economic approach based upon a theory of practice.

Fortier and McElrath (2002) describe Pauketat's historical approach in the following terms:

> "Historical processional is founded in practice and agency theory and recognizes social change as stemming from the actions and interactions of individuals in the multifaceted contexts of social traditions (Pauketat 2001a, 2001b) as opposed to abstract groups of individual behavioral responses to exogenous factors of environment, subsistence, population pressure, and so on (Pauketat 2001a). The goal of historical processual research is to establish genealogies of homologous practices (Pauketat 2001a, 2001b; see also Smith 1990) to identify what happened and how, rather than why social change is effected" (Fortier and McElrath 2002:173).

Pauketat, on the other hand, refers to his approach as a "fourth-generational" synthesis which he describes as:

> "Theoretically speaking, the fourth-generational view is a return to a historical perspective, but one that now highlights human agency and the two-way "negotiations" of culture (i.e. acculturation). Practically speaking, the fourth-generation synthesis deemphasizes the explanatory power of "Emergent Mississippian" culture (a gradualist construct) and promotes some version of a "Big Bang" theory of Cahokia beginnings (a historical construct). This approach returns us to a greater appreciation of Mississippian as a process wherein the burden of explanation rests squarely on the Cahokians themselves rather than on their precursors" (Pauketat 2002:150).

In this view, the Cahokia authority is the result of a person or small group who presented a new ideology and achieved a degree of political and social domination in the American Bottom. It is not evolutionary or ecological and does use elements of these approaches.

Milner (2003:135) takes issue with this approach, which he characterizes as a "top-down" perspective of "…the development of the Cahokia chiefdom as a direct result of the purposeful actions of puissant leaders who put into place and artfully maintained beliefs and customs that simultaneously augmented and legitimized their exalted status and authority". Such would-be leaders, at Cahokia and elsewhere in the Mississippian world, manipulated ideological values and symbols that resonated among the common people, with the goal of enhancing the leadership status and legitimacy of elite groups to which these leaders belonged. The product, at least in the American Bottom, was the emergence of Cahokia as a dominant place in political, ritual, and economic aspects of Mississippian life, and as a place in which the reins of power were held by few hands.

Milner (2003:137) goes on to say that privileged and social hierarchies are supported by customs and beliefs with accompanying symbols but, just because they occur together, it does not mean that the social hierarchies and ideologies cause positions of authority.

The identification and use of nodal sites in Cahokia sociopolitical reconstructions figure in both chiefdom models and are used by their supporters. Nodal sites only appear during the Mississippian Lohmann to Moorehead phases and are identified by unique features. They are interpreted to have fulfilled social needs between isolated farmsteads and the multiple mound towns. The Divers site has nodal characteristics during the Lohmann and Stirling phases, however the concept and interpretation of nodal sites has questionable application and will be examined before discussing supporting research for the Segmented and Ascendant Chiefdom models.

***Nodal Sites and the Nodal Concept***

Emerson (1995, 1997a, 1997b) and Mehrer (1995) made extensive use of the nodal concept to describe and explain features that tend to be anomalous or fall outside of existing or established household and community patterns. According to Mehrer (1995:112):

> "Nodal points, or nodes, are households with additional special purpose facilities. The notion of small nodal settlements was introduced by Riordan (1975) and latter discussed by Muller (1978) in reference to the Kincaid settlement system in Southern Illinois. The concept became useful in the American Bottom after work there uncovered the numerous small settlements in this study (Milner and Emerson (1981; Emerson and Milner 1981, 1982). Two different types of nodal points are distinguished in the following analysis. Civic-ceremonial nodes are more complex than other households. They have accumulations of exotic debris, contain more buildings of distinctive types, and are laid out differently. Mortuary/temple nodes have a pair of rectangular buildings with exterior pits and a graveyard; exotic paraphernalia may also be present".

Nodal features or sites occur at four of the seven sites Mehrer (1995:Table 24) used in his analysis: Range, Julien, BBB Motor, and Florence Street.. These sites have features that tend to fall outside the patterns for buildings and cemeteries which occur at other sites or in portions of these four sites. Mehrer (1995:133,134) suggests these nodes functioned in "a rural settlement hierarchy as focal points of dispersed communities and the nodal settlements had only interior storage pits".

Both Emerson and Mehrer provide functional, chronological, and sociopolitical explanations for the nodal occurrences. They tend to agree on function (node type), disagree on chronological placement of some nodes, and tend to agree on the sociopolitical explanation. Both suggest that nodal settlements functioned in a hierarchical political system by providing a level of sociopolitical integration between

temple mound centers and the rural isolated households. They disagree on the amount of political control exerted by Cahokia over these nodal settlements. Mehrer (1995:134, 145) advocates a degree of autonomy and that the nodal householder was probably not a formal leadership role whereas Emerson (1997a:250) states a high degree of domination existed in part because they only appear in the archaeological record during the Lohmann and Stirling phases or when Cahokia was influencing much of the social and political aspects of the American Bottom.

Emerson (1997a:174-175) defines at least four types of nodal settlements or combinations of these four basic types to characterize some outlying sites:

- Nodal households appear to represent a family residence but with the important presence of artifactual and architectural evidence indicating the occurrence there of suprafamily-level activities and possible community functions. Such evidence might include large numbers of bowls suggesting communal feasting, granaries, or other storage facilities or prestige artifacts.

- Civic nodes reflect the specialized material expressions of community or centralized political and social power. Such nodes may include multiple, functionally differentiated buildings, have a high content of ritual or prestige artifacts or both, specialized architecture (e.g., sweat houses), or large-scale storage facilities. Such nodes are also reflected in buildings that might have functioned as men's houses or served for communal gatherings.

- Ceremonial nodes are sites involved in ritual and mortuary activities. They are notable for their exotic ceramic assemblages, stone figurines, burials, ritual plants, and specialized architecture (e.g., temples, sacred fire enclosures, store houses).

- Mortuary nodes are sites with mortuary features.

Emerson (1997a:176-178) defines nodal settlements occurring during the Lohmann phase at the Julien, Range, and BBB Motor sites. Mehrer (1995) does not define Lohmann phase nodal occurrences due to a conflict in the chronological placement of elements of these sites and the lack of some site data available to Mehrer.

Stirling phase nodal sites are common and include Range, Labras Lake, Julien, Sponemann, and the BBB Motor sites (Emerson 1997a:179). The archaeological evidence used to define nodal sites includes complex wall trench structures, status goods, Ramey Incised and Monks Mound Red ceramics, circular structures (sweathouses), exotic minerals, courtyards, large communal storage facilities, fire-clay, and evidence for the use of the hallucinogenic weed *Datura*. The nodal function and the degree of complexity vary with the size of the individual site (Emerson 1997a:178, 179, 181, 182). These civic-ceremonial nodes are interpreted to represent the work and location of specialists–political, religious, and mortuary (Emerson 1997a:184).

Paul Welch (2006) has reexamined the use of this concept in the American Bottom and suggests that the Emerson and Mehrer "interpretations of nodes derive from an overly simplified social model and an inappropriate ethnographic analogy. In their place, I [Welch] offer an interpretation of American Bottom Mississippian nodal settlements based on the structure of ceremonialism among the Dhegihan-speaking groups" (Welch 2006:215). Welch (2006:217) suggests the model used by many, but best expressed by David Anderson (1994), is based upon the assumption of "matrilineal inheritance of ascribed chiefly offices that come with real political power" and that the model tends to ignore ethnographic evidence wherein commoners can achieve status which can be expressed archaeologically. Welch (2006:216) recommends that attempts to explain the variation in the archaeological record may be examined by two approaches; first by examining the "archaeological models of social structure and derived expectations about the sort of variation that they implicitly or explicitly predict" and

second “to examine ethnographic analogies” drawn from Native American groups are viewed as possible descendents of Midwest Mississippian societies.

Welch (2006:217-220) indicates that the settlement variation may occur due to the family growth cycle, the proliferation of cadet lineages (lines of descent from previous chiefs), the presence and power of town councils and or “principals”, the presence of priests and or shamans, and the occurrence of menstrual huts or women’s houses. These social constructs provide not only unique archaeological features and settlements but variation that is “normal” and provides leadership and other social roles held by individuals whose function was not “to funnel directives downward from the chief but are roles either that act at a local level or that act to represent the local level in a wider context”.

Welch states that American Bottom researchers have strayed from the original concept of a nodal site used by Riordan (1975:116) in the Black Bottom Mississippian period to describe large non-mound settlements centrally located with respect to smaller household sites. In the American Bottom the characteristics of nodes are used but the criteria have changed from site size and location to site contents where a node can be “any cluster of buildings or features at a non-mound site that looks different from the households of normal farming families of the same time periods” (Welch 2006:215-216).

Welch (2006:226, 228, Table 11-2) reexamines some of the archaeological data used by Mehrer (1995) and Emerson (1997a, 1997b) and suggests a very different interpretation of the data. He suggests some of the nodal locations represent “households of mature families” and that such nodal features are still functionally important to socially integrate these households but these functions were conducted “not by officials

appointed by and serving at the pleasure of the Ascendant chief but rather by commoners who had achieved positions of prominence in sodalities" (Welch 2006:229-230). Welch (2006:230), drawing upon Osage ethnographic analogies, also rejects Mehrer's interpretation that the isolated rural ceremonial settlements (nodes) were socially disengaged from Cahokia because the importance of rituals varied; some were conducted at the local level while others could only be conducted at higher locations.

Welch concludes that it may be too simplistic to have power and authority "descending from a singular chief through one or two subchiefs". Instead he proposes:

> "Rather, an organizational chart for some Mississippian societies might require a pair of chiefs, a council, and a complex hierarchy of priestly offices, with possibly extensive overlap between the composition of the council and the priestly hierarchy. Within such an organizational structure, power and authority may be diversified into partially separate spheres, and the boundaries of those spheres may be flexible and variable over time. The "Big Bang" at Cahokia (Pauketat 1997), for example, may have been directed by a council of priests rather than a single dominant chief or chiefly lineage. Thus, the organizational chart of at least some Mississippian societies may have been not a tidy pyramid of power but a tangle of multiple heads and interwoven lines of authority. To put it in practical terms, in some Mississippian societies the request "take me to your leader" might elicit multiple responses" (Welch 2006:230).

In addition, the notion that commoners were an "undifferentiated mass" is probably not correct, but there existed social means by which individuals could achieve sodality offices and by such achievement they, their families, and their households would be distinguished from others. Also, priests or shamans who conduct important social rituals are viewed as commoners located throughout society, not as elites serving chiefs. They conducted rituals in both rural locations and temple towns, thus not all "leadership came from the chiefs above; some of it came from below" (Welch 2006:230-231). This could occur at various times and

locations and thus could account for diversity in the archaeological record and may offer a better explanation of the activities and sociopolitical interpretations of "nodal points".

This reexamination of the nodal concept has important implications for the presentation of the Divers site which has nodal characteristics during the Lohmann and Stirling phases. If the interpretation of the Divers site nodal occurrences follows that of Pauketat, Emerson, and Mehrer, the site would be viewed as a third tier site and serving as a focal point providing ceremonial activities for surrounding farmsteads but aligned with a nearby multiple mound group. The Segmented Chiefdom model and the work of Mehrer view the nodal sites as having a fair degree of social and political autonomy. Mehrer (1995:164) suggests that while *relative* social power declined at low levels, *absolute* power increased. This low level increase occurred in rural family-level domestic affairs which were deemed unimportant to regional elites and in private matters, such as wealth accumulation, which were kept secret. In short, as power increases at the top, it tends to decrease at the bottom. Proponents of the Ascendant Chiefdom model and Emerson view the nodal sites with local leadership but under the control of Cahokia. Welch would view the sites as not dominated by an Ascendant Chiefdom but not as autonomous as he thinks Mehrer would suggest. In Welch's view, variation in the archaeological record is normal; the sites did serve a social function between the multiple mound towns and the isolated farmsteads, and they represent the means by which rural commoners could achieve and hold powerful offices at the local and higher level localities. This position aligns his model most closely to the Segmented Chiefdom model and provides a fuller interpretation of the model by defining social roles and relationships

within and between sites. Welch does not address why nodal sites only occur during the Lohmann and Stirling phases.

In Welch's model the Divers site would be viewed as in the middle or late stage of a family cycle, have a fair degree of political autonomy, be aligned with the nearby Lunsford-Pulcher town, and still have some social and political relations with a Cahokia chiefdom.

Welch's model provides an alternative view of "nodal sites" wherein there exists not a single dominating central power but a complex web of social organization and power. Such a view describes a structure that one could call a heterarchy.

The Segmented and Ascendant Chiefdom models under discussion both draw support from the work of other researchers, some of which requires examination. The next section describes the work of three researchers whose work has a direct influence on the Segmented and Ascendant Chiefdom models and the Divers site analysis and interpretation.

***Supporting Models***

Proponents of both the Segmented and Ascendant models cite considerable supporting research that has direct utility in the Divers site analysis.

The Segmented Chiefdom model is supported by Sissel Schroeder's (1997) research in the southern American Bottom, which examined the complex social and political issues that surround the development of the Cahokia chiefdom. Based upon work begun by Milner (1998; Milner and Oliver 1999), limited previous surveys and testing and her own extensive site survey and some mound coring, Schroeder pursed three lines of inquiry: the origins of Mississippian sociopolitical complexity, the

settlement patterns and changes in these patterns for the Cahokia locality, and finally the level, size, and scale of the Cahokia polity (Schroeder 1997:iv). Of particular importance to her work are the environmental conditions of Terminal Late Woodland and Mississippian settlements in the southern American Bottom. She views the accurate reconstruction and interpretation of these conditions as key for understanding the very complex issues related to food production and ultimately to food surpluses which, when redistributed, are important to the origins and delineation of positions of power. However, she does not view redistribution of food surplus as the sole criterion for the rise of complex societies, whether at Cahokia or elsewhere (Schroeder 1997:32-37, 226-228, 235).

Schroeder (1997:160-165, 209-213, 235) delineated three key floodplain landforms to which the Late Woodland and Mississippian societies responded and adapted: deep wetland, shallow wetlands, and dry land. Each landform provided diverse foodstuffs. However, the location and amounts of these landforms varied significantly along and across the American Bottom. In addition, each landform posed ecological and social risks that played a role in the Terminal Late Woodland and Mississippian settlement patterns.

Schroeder divided her settlement pattern analysis into mound and non-mound sites. For non-mound sites (which would include the Divers site), Schroeder (1997: 236, 254-255) concluded that site locations remain the same over time but that later sites may be located on slightly higher floodplain elevations, similar to the northern American Bottom sites, but she lacked detailed elevation measurements for southern sites to verify this shift to higher floodplain elevations. The spatial distributions of non-mound sites do

not change over time and population nucleation toward local mound centers was "short-lived", but, lacking a fine grained ceramic chronology, it was impossible to identify such movements in the southern American Bottom. Furthermore, there was no decrease in the number of sites in the southern American Bottom during Terminal Late Woodland and Mississippian times, suggesting that people living on the floodplain were not flocking north to the Cahokia or Lunsford-Pulcher sites. Finally, based upon her analysis of the material culture, the site settings, and the spatial distribution of sites, Schroeder concludes that southern American Bottom villagers enjoyed considerable local autonomy from Cahokia in terms of sociopolitical and economic activity, but that participation in an asymmetric exchange network with the region's premier site was important in their daily lives.

Schroeder's (1997:41) settlement model is consistent with the Segmented Chiefdom model as expressed by Milner (1990, 1991, 1998, 2003) with one modification. Milner suggested that small outlying non-mound sites and populations would shift locations with the waxing and waning of mound centers. Schroeder (1997:235-236) believes that her surface-collection data indicate that the non-mound sites in the southern American Bottom were not depopulated by nucleation to mound centers during Terminal Late Woodland and early Mississippian times and that the social and political relationships that influenced the choice of settlement location during Late Woodland did not disappear after the rise of a Mississippian polity. Site locations did change through time but the factors determining the locations remained constant. I suggest that such stability, if true, is a necessary adaptation to the risks of floodplain agriculture where limited agriculture land is available. If a particular location (and site) is suitable for

agriculture, then it remains in use for as long as possible regardless of the locations of power in the American Bottom.

Schroeder's research has a direct bearing on defining and delineating the Divers site occupations, environmental setting, the settlement system, and on addressing the focus of this work: the structure and organization of the Cahokia polity as viewed from the Divers site. Two inherent problems in Schroeder's work are the coarse ceramic chronologies available and the lack of site excavation data. Both problems can only be solved by additional fieldwork. It is also worth noting here that Schroeder's and Milner's (1998) analysis of the Divers site is based on a museum collection of 198 Terminal Late Woodland and Mississippian vessels. Had she conducted field investigations at Divers, Schroeder would have found that there is currently no compelling evidence of a Mississippian mound at this site and would not have considered it as a mound site in her analysis. Fortunately, this mistake has no bearing on the conclusions that she draws from her analysis.

The Ascendant Chiefdom model is supported by the work of Tom Emerson (1995, 1997a, 1997b) who examines the effects of Cahokia domination over outlying settlements in the American Bottom between A.D. 1050 to A.D. 1350, the period spanning the rise and fall of Cahokia. He questions earlier and then current sociopolitical reconstructions which he characterizes as "a number of competing polities that display a diachronic flux of political coalescence and dissolution" (Emerson 1997a:167-168). His focus is on "one small manifestation of Cahokia's political power as reflected in the ability of the Cahokia elite to exert hegemonic control over the smallest population segment within the settlement hierarchy-the scattered rural population living outside the

highly organized towns and villages"(Emerson 1997a:197). Emerson postulated "that if the Cahokia polity is actually dominant over the surrounding countryside that variations in rural settlements should closely correlate chronologically and functionally with changes at Cahokia. Conversely, rural autonomy should be reflected in little or no correlations between changes at Cahokia and in the countryside"(1997a:176).

Emerson (1997a) delineated two patterns of rural settlements—direct and sequential:

> "In systems of direct articulation, small rural sites, such as farmsteads, hamlets and small villages are directly linked to mound centers. While such sites may vary in size, they are virtually interchangeable in function (usually food production), they lack any evidence of internal hierarchy, and they played no specific political, religious or community roles within the settlement system. The sequential pattern of articulation, however, rural sites were internally differentiated in regard to function. They showed clear evidence of lateral integration through rural ceremonial or civic-ceremonial nodal sites into dispersed villages and through such nodes, vertical integration with mound centers. I have suggested that both forms of articulation are present in the Cahokia region during different time periods" (Emerson 1997a:174).

The pre-Mississippian rural settlement system "consisted entirely of isolated farmsteads and hamlets with little or no status differentiation and linked to and controlled by central mound towns where simple chiefdoms resided" (Emerson 1997a:176, 189). Late in the Terminal Late Woodland period nucleated villages disappear and are replaced in rural areas by dispersed farmsteads, nodal households, and small nodal, communally oriented, civic and ceremonial sites.

The Mississippian Lohmann phase countryside is characterized as having the first evidence of rural status differentiation based upon lineage control over maize storage, exotic artifacts, and high densities of material goods. Occurring for the first time are

specialized architecture, marker posts, and mortuary facilities, all of which are characteristics of nodal sites (Emerson 1997a:178).

The Stirling phase is viewed as a florescence marked by "numerous specialized facilities and evidence of the appearance of their attendant functionaries throughout the rural area" (Emerson 1997a:178-179).

It is during the Lohmann and Stirling phases that Emerson sees the greatest amount of Cahokia influence on the rural settlements. He characterizes the rural settlement pattern as "unitary, centralized, hierarchically structured, stratified, and, perhaps, even contractually organized" (Emerson 1997a:188).

During the Moorehead and Sand Prairie phases, there was a decline in population, shifts in nodes, the disappearance of sweathouses, temple and mortuary complexes, and the reappearance of community structures at small rural nodal sites where the structures are interpreted to represent the rise of local authority without specialists as Cahokia declines (Emerson 1997a:185-186, 187). Emerson's research supports Pauketat's (1994, 1997, 2004) general model and is important to fully define the Ascendant Chiefdom model.

The work of Mark Mehrer (1995) presents clear differences that tend to support the Segmented Chiefdom model. Mehrer (1995:26) examined Late Woodland through Mississippian period regional settlement and social systems in the American Bottom from the perspective of outlying settlements, or what has been labeled "household archaeology". These outlying settlements are the locations of the Late Woodland and Mississippian "commoners" who were the basic building blocks of these societies. Mehrer's "reconstruction of spatial organization is based in cultural terms rather than

simply in terms of the demand and limitations imposed by the natural environment" (Mehrer 1995:15). His database is derived from excavations at seven Cahokia countryside sites (Mehrer 1995:Figure 2).

The social and political effects associated with the rise of Cahokia and regional ceremonial centers around A.D. 1050 are viewed as critical factors in the rise of complex stratified societies and are reflected in the small rural sites (Mehrer 1995:l6, 17). As part of the rise of this complex society, social, political, and economic changes occurred at all levels of these societies, including outlying small settlements (Mehrer 1995:15). Thus, the analysis of these physically isolated households and settlements is necessary to fully comprehend the community and regional settlement systems and the changes that occurred in these systems in response to the rise of a complex society.

Mehrer (1995:17-18) builds his model on three working assumptions. First, chronological change in the cultural environment of complex societies will affect people at small settlements. Second, increasing social complexity at small rural sites is evident by changes in the distribution of debris, facilities, and buildings. Third, the dedication of space to various craft activities will vary among households and fluctuate through time but full time craft specialists are not expected at small settlements.

Mehrer's model of Mississippian settlement is based upon answers to three questions which reflect his research objectives, theory, and the artifacts used from the seven sites. First is the effect of major social and economic trends on small-settlement layout. He suggests that changes in the social and economic conditions can be inferred from changes in the waxing and waning in the popularity of special activity areas and facilities, the patterns of architecture, household organization, and community planning.

Second, he questions "how changes in production, storage, and redistribution of subsistence commodities correlated with changes in the local organization of socioeconomic groups, the hierarchical organization of civic or ceremonial religious authority" (Mehrer 1995:20). He suggests that these "correlations are evident over time in the spatial organization of economic activity areas, storage pits, granaries, cemeteries, meeting houses, cult houses, sweatbaths, and households within and among communities" (Mehrer 1995:20). Mehrer (1995:9) states that the production of storable surpluses of food is a key notion to understand the social relations among large and small societies, but he views this in the context of energy flow which would determine social constructs and "there was a complex mechanism of social interactions and evolution driven by a whole set of new ways of channeling information and controlling energy" (Mehrer 1995:19). Third, he questions how gender-based division of labor, craft specialties, civic-ceremonial functions, and subsistence activities are expressed in vernacular architecture. He suggests that the cultural rules or norms were expressed in the "patterned distributions of activity areas, hearths, benches, prepared floors, storage pits, refuse pits and other features within and among buildings of various sizes, shapes, and construction" (Mehrer 1995:20).

These questions are addressed by examining the "artifactual distribution; debris distribution; feature design, arrangement, and content; building design and composition; and household organization to "reveal patterns of behavior…for rural dwellers"(Mehrer 1995:61). The results of the analysis produced recognizable patterns for the Terminal Late Woodland and Mississippian phases which clearly reflect changing social and political conditions in the American Bottom and have utility for the analysis of the Divers

site settlement patterns during the Terminal Late Woodland and Mississippian occupations.

The spatial patterns and locations of pits, buildings, and household organization are crucial elements in delineating the sociopolitical shifts occurring during the Terminal Late Woodland and Mississippian periods. During the late Terminal Late Woodland period Edelhardt and Lindeman phases there are external pits in dense random clusters but in the Mississippian Lohmann phase the exterior pits form patterns with certain styles of household organization. When Lohmann phase isolated farmsteads appear, the structures are larger, relatively isolated from each other, and comprise three distinct identifiable household patterns (Mehrer 1995:106-108). The Stirling phase ordinary households also formed three patterns with 15-20 exterior pits occurring away from the structures. During the Lohmann and Stirling phases the rise of the Cahokia site and surrounding towns occurred and resulted in the decline of the earlier nucleated villages. To meet the social needs of isolated farmsteads, the nodal sites begin to appear (Mehrer 1995:112, Figure 60). During the final Moorehead and Sand Prairie phases, the features had little patterned variety (Mehrer 1995:132-133).

Terminal Late Woodland houses typically had no interior storage and varied little; Stirling phase houses had interior storage and were more variable than their predecessors; and Moorehead and Sand Prairie houses were variable, but with less interior storage. Mehrer (1995:133) suggests this shift represents the appearance of the nodal household as part of a rural settlement hierarchy wherein the nodal households functioned as focal points for dispersed communities. Late Woodland building patterns are an early stage in a continuum of architectural change that extended through the Terminal Late Woodland

and Mississippian periods, but the change to interior pits in the Stirling phase represents a shift from the communal storage patterns of earlier times (Mehrer 1995:129, 130, 132).

The Stirling phase shift from exterior to interior pit locations is a key element for the interpretations of Mark Mehrer and Timothy Pauketat. Pauketat (1994:137; 2004:103) suggests this shift reflects the growing power of Cahokia over hinterland settlements and is an attempt by households, which are themselves changing in composition during this time, to conceal or hide storable foodstuffs. Mehrer (1995:165) views this shift as a response to

> "…increased production in support of public works-each farm family would have had to micromanage their holding with special emphasis on local environment, family labor pool, and the needs of their immediate neighbors. They probably would not have been able to manage increased production from limited resources in a political climate where daily affairs were influenced by regional policy makers. Undoubtly, a substantial surplus flowed from the countryside into the temple-towns, but that was probably not accomplished by routine interference by regional planners in intensely productive domestic labor".

The abundance of private storage during the Stirling phase is interpreted by Mehrer as reflecting "potential autonomy over domestic subsistence matters and a need for privacy" (Mehrer 1995:145). Thus the shift from communal village storage to private family storage implies "different scales for coordinating production and concealing inequalities in production." or "…differences of material wealth or well-being between individuals within families are obscured by pooling the family's resources; differences between families are obscured by private family storage" (Mehrer 1995:145, citing Root 1984:149).

During the Lohmann and Stirling phases, as the multiple mound towns emerged,

there was also an increase in the number of isolated farmsteads (Mehrer 1995:133, 134, 144). Mehrer suggests these isolated farmsteads had relative independence from communal affairs but with the nodal sites fulfilling a social gap between the temple towns and the isolated farmsteads (Mehrer 1995:133, 135).

Mehrer (1995:134) also states some Mississippian site locations have a degree of stability previously unknown, as indicated by evidence of continuous occupation but with structure rebuilding or replacement within precise limits. The rebuilding of Mississippian structures is in part related to their longevity. Milner (1986) proposes a life span of three to five years for a single construction episode, longer if rebuilding episodes occur, for Mississippian domiciliary structures. Pauketat (1989, 1997, 2003, 2005, 2007) uses a longer time span based on his study of pottery accumulations and sequences of houses at Cahokia and other Mississippian sites in the region. Thus, at stable settlements, rot and infestation would have required some replacement or rebuilding. This stability, based on family rights to land, may also account for the appearance of private interior storage and the rise of isolated farmsteads. Both could be a reflection of increased sedentism in rural locations and large towns. Schroeder, discussed earlier in this section, provides an additional explanation for this stability. The locations for sites in the southern American Bottom are limited and some locations (e.g., those with deep wetlands, shallow wetlands, and dry land) are prime locations (Schroeder 1997:160-165, 209-213, 235). These locations attracted settlers throughout the Mississippian period.

To summarize Mehrer's model of the development of Mississippian household patterns, settlement nucleation and intensification resulted in permanent, communal, relatively egalitarian settlements during the Late Woodland Patrick phase (Mehrer

1995:136-138). The Terminal Late Woodland Dohack and Range phases are characterized by rather formal hut compound settlements developed around courtyards, within which there are often clusters of storage pits, a central pole, or one or more large buildings. During the later George Reeves, Merrell, Lindeman and Edelhardt phases, this hut compound settlement system, specifically at the Range site, evolved into complex nucleated villages with multiple courtyards. This elaborate settlement plan is not found at smaller nearly sites, such as George Reeves, Robinson Lake, and Marcus (Mehrer 1995:138-140). Mehrer (1995:9, 138) suggests that the growing importance and intensification of floodplain maize agriculture was a prime mover in this sociopolitical shift but these are social responses to the increased energy flow provided by the addition of maize as the basis for increasingly complex sociopolitical systems. The presence of the communal storage facilities and the settlement plan of the complex nucleated villages do not imply the presence of a complex centralized political leadership, it could have been a headman or Big Man, or a simple chiefdom (Mehrer 1995:140).

Mehrer (1995:141) views the Edelhardt phase BBB Motor site as a unique or special case because of its proximity to the Cahokia site, the mortuary component, and unique artifacts (see also Emerson 1995, 1997a, 1997b). Regarding the domestic structures, it is a nodal site of moderate size but lacks the hut compound and complex village patterns present at the Range site. The BBB Motor site had interior storage pits and small storage buildings. Smaller settlements lacked communal storage.

Private storage is viewed by Mehrer as a result of geographical isolation from nucleated villages where the leadership resided and communal storage was the pattern even though private storage may have been an "outgrowth of a new political economy

based on surplus maize production in the context of increasingly large-scale centralization of social power" (Mehrer 1995:141).

The Mississippian Lohmann and Lindhorst phases mark a dramatic shift in the sociopolitical trajectory in the American Bottom. A hierarchical settlement pattern of large temple-town complexes developed at Cahokia and outlying towns such as the Lunsford-Pulcher site, but the Lindeman phase nucleated villages disappeared as people migrated to the new temple-towns or to the isolated farmsteads. The type site for this pattern of dramatic change is the Range site where the large nucleated villages of the George Reeves and Lindeman phases are replaced by four clusters of households (Hanenberger 2003; Kelly et al. 2007). As Mehrer (1995:142-143) explains:

> "So far there are no nucleated nonmound Mississippian villages known in the American Bottom such as there are in nearby regions (e.g. Price and Griffin 1979). There is also no evidence for a type of community organization intermediate in level between the new temple-town and the isolated households, such as seen in the succeeding Stirling phase. This was probably a time of accelerating population growth; it was certainly a time of continuing population nucleation.
>
> Regional centralization of power at temple-towns proceeded at the expense of village-level organization. This trend is apparent in the nucleation of temple-towns, the absence of *small rural villages* [emphasis mine] and the isolation of individual farmsteads".

Individual site settlement patterns also change dramatically. Small Lohmann phase sites had larger buildings, the households were more isolated, the outdoor activity areas consisted of small rings of exterior pits flanking open areas, and there are no small storage-type buildings (Mehrer 1995:143). Large exterior pits are common. Mehrer (1995:107, Figure 59, Table 24, 110) defines three households patterns based upon six structures from three sites for the Lohmann phase.

The decline of the complex nucleated villages and the rise of the temple towns and isolated farmsteads results in a political polarization with the isolated farmsteads having increased autonomy over domestic affairs but with some degree of affiliation with a close temple-town (Mehrer 1995:144).

A three-tiered settlement hierarchy emerges during the Stirling phase with the Cahokia site as its central-administrative complex (Pauketat 2004:68), medium sized temple-towns such as Lunsford-Pulcher, small villages, some of which become nodal sites, and isolated farmsteads. However, Milner (1998:101) suggests the nodal sites and surrounding farmsteads form a "dispersed community". As such, there is a three tiered settlement hierarchy but composed of Cahokia, the outlying temple towns, and the dispersed communities. There is also one known single-mound site, the Lohmann site (Mehrer 1995:144-145) and probably more in the southern American Bottom (Milner 1998:102-106). This phase marks the occurrence of an increase in interior storage pits, one of the key elements used by Pauketat (1994:137, 2004:103) to indicate reluctance by the outlying sites to provide Cahokia with surplus foodstuffs. However, as discussed previously, Mehrer (1995:141, 145) states the interior pits may have been in response to risk management, the lack of communal storage facilities, and to mask social differences between families. Although there is a dramatic increase in the number of interior pits beginning in the Stirling phase, it tends to mask the fact that exterior pits still occur in substantial numbers and above ground storage facilities probably existed in larger sites in the form of Mehrer's type MC2 building (Mehrer 1995:52, Table 3, Table 13, 146).

Circular structures are viewed as a hallmark of Stirling phase civic-ceremonial nodes (Mehrer 1995:147-150, Table 26). These nodes functioned as a new level of social

organization between the temple-towns and the isolated households. Mehrer (1995: Table 24, 112, Figure 60) defined three configurations for ordinary Stirling phase households which are comparable to earlier Lohmann phase households, especially at the Range site because of unusual household configurations defined there.

Mehrer (1995:150-151) states the Moorehead phase is characterized by a regional population decline, based upon country-side households, of up to 40% (citing Milner 1986), but rural households remain dispersed with modified nodal sites and interior storage. Hinterland sites tend to be located on higher floodplain elevations, perhaps due to an increased threat of flooding (Mehrer 1995:153, 161; Milner 1998; Pauketat 2004). Moorehead phase ordinary households display considerable variety but two patterns emerged in Mehrer's analysis. The first is a continuing complex of pit-related activities, either outside or inside buildings, with exterior pits ringing small clear areas as occurred in earlier phases. The second pattern is a single structure with few exterior pits. Nodal structures occur at the Julien site (Mehrer 1995:118).

The final Sand Prairie phase is not well known but there are some nodal and non-nodal sites in rural locations. Regional integration was rapidly waning and the nodal sites no longer acted as a medium for social integration of the few isolated households at the regional level (Mehrer 1995:153).

Mehrer (1995:165) states that planning at rural communities was not of the same order as centralized planning at Cahokia during the Mississippian period. Rural planning was done to suit family needs and general social expectations with structures oriented to the natural landscape, not cardinal directions or monuments, and privacy became a necessity to mask social differences. "Trends of rural household organization and

building design trace the development of regional cultural complexity. As regional systems become more complex, rural families organized their domestic space and their neighborhoods in new ways. They became increasingly isolated on the landscape and they began to incorporate useful new types of facilities into spatial schemes that were widely shared throughout the region" (Mehrer 1995:165).

The household patterns defined by Mehrer (structure types, structure placement, associated interior and exterior pit locations and patterns, and exotic artifacts), the community patterns, the regional settlement patterns, and shifts in these patterns that reflect sociopolitical complexity will be used in the Divers site analysis to define the Divers site occupational history, for intersite and intrasite comparisons, and sociopolitical interpretations.

At the time they wrote, neither Mehrer nor Emerson had the benefit of more recent research on the rural upland farming district designated the Richland Complex (Alt 1999, 2001, 2002; Pauketat 2003, 2007). The Mississippian component of the Richland Complex is interpreted to be a Cahokia-inspired intrusion to expand the agricultural base and provide other goods and services to Cahokia proper.

## Chiefdom Models, Nodal Sites, and the Divers Site Analysis

The preceding sections examine the interpretations, theoretical underpinnings, and data of the Segmented and Ascendant Chiefdom models. I stressed the main implications of both models for the interpretation of small outlying sites like Divers and the role they played in the Cahokia polity. Here I follow Emerson (1997b) and Mehrer (1995) in stressing the importance of the rural sites in defining the Cahokia polity.

At a Plains-Midwest Archaeological Conference some years ago, I chaired a session on Cahokia – Plains Relationships. I opened the session with a comment that "one's view of Cahokia depended upon whether or not one was standing atop Monks Mound looking down or standing at the bottom looking up". In much the same vein, I have taken in this dissertation a bottom-up approach in the analysis of the Divers site materials. However, having done so, I remain convinced that we need to look both ways, take the tested best aspects of each approach, and work them into an interpretation that enables us to understand more about such sites and about the nature and development of American Bottom Mississippian. The Divers site offers no revolutionary data by itself, but, when combined with the data from similar American Bottom sites, it offers the opportunity to examine contrasting elements of the Segmented and Ascendant Chiefdom models.

The primary focus of this research is to answer the question, "which of the two competing models of American Bottom chiefdom best enables us to interpret and understand the archaeological patterning of the Divers site?" The answer, it is argued, carries with it greater implications for the further understanding of outlying Mississippian settlements across the southern American Bottom.

The next three chapters describe several Divers site data sets that are used to examine the contrasting elements of the Segmented and Ascendant Chiefdom models. The first set is derived from the analysis of the Divers site assemblages and is presented in detail beginning in the next chapter. The analysis will use ceramics, limited amounts of lithics and plant remains, non-local items, the patterns of households and associated features, and known community patterns. This will establish the chronological placement

of the site occupations, the degree of sociopolitical complexity, trade or sociopolitical relationships, and the relationship to similar American Bottom sites. The second data set is from regional sites. This comparison is done for two reasons; first to help establish regional patterns with respect to concurrent sites, and second to note differences among these patterns. The third data set is from alternative models of chiefdoms, estimating labor requirements and populations, rituals and ritual displays, and ethnographic data (i.e. Welch 2006). Combining the three data sets should provide a solid base to test the different implications that the Segmented and Ascendant Chiefdom models hold for the interpretation of the Cahokia polity.

The next chapter begins with an overview of the Divers site and is followed by the description of the Divers site assemblages organized into Late Woodland, Terminal Late Woodland, and Mississippian chapters. The concluding chapter examines the fit of the Segmented and Ascendant Chiefdom models to the interpretation of the prehistoric occupations at Divers.

## Chapter 2 Figures and Tables

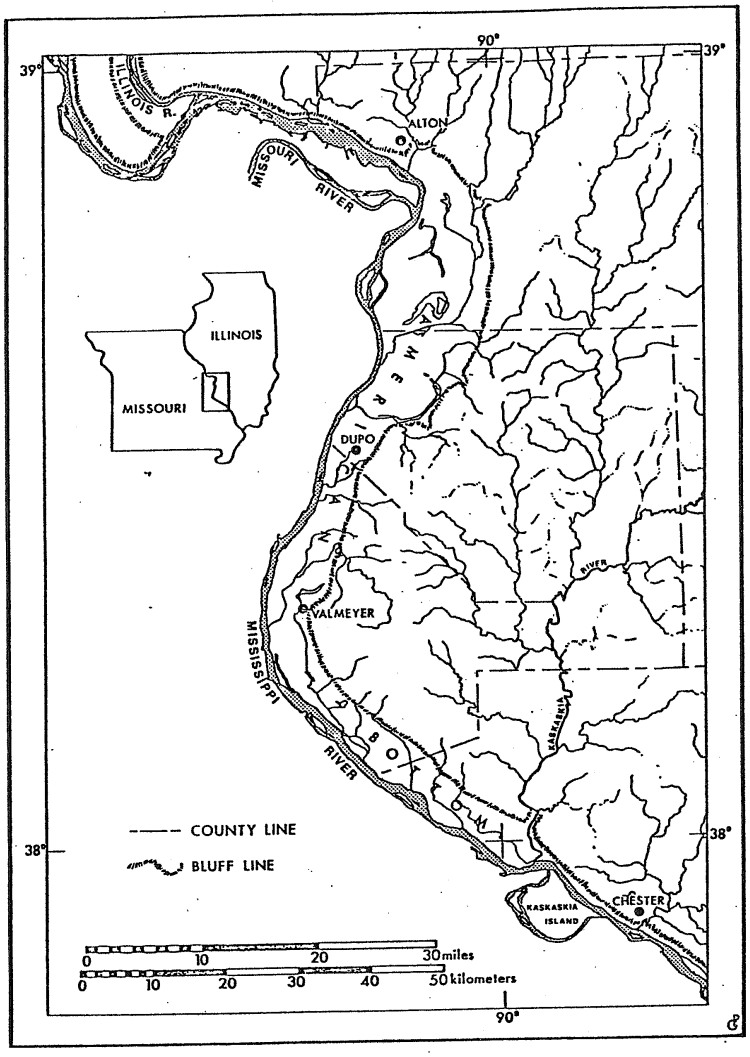



**Figure 1. The American Bottom.**

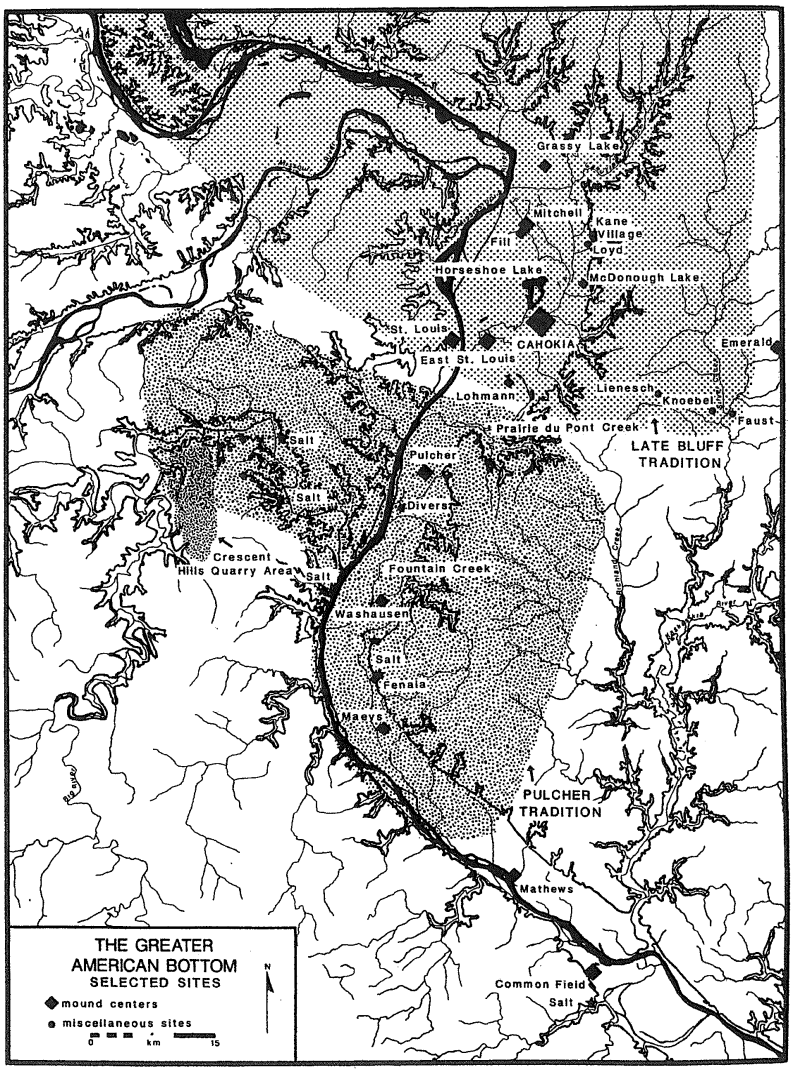



**Figure 2. Divers Site and Selected American Bottom Sites.**
(After Kelly 1990b:121)

## CHAPTER 3

# THE DIVERS SITE (11MO28)

The Divers site covers about 1.25 hectares along the edge of the Fish Lake meander scar in the southern American Bottom (Figure 3). This chapter describes the site, its locality, the history of archaeological research there, and the kinds of data to be used in the analyses described in subsequent chapters.

Divers was first surveyed and reported as the Otten site by James B. Griffin and Albert C. Spaulding during their 1950 survey of the Central Mississippi River Valley (Griffin and Spaulding 1951). The misidentification of Harold Otten as the land owner and an error in the reported site location prompted a new Illinois Archaeological Survey site report and number designation as 11Mo28 years later.

In 1968, the author brought the site to the attention of James Porter, then at the University of Winnipeg, who conducted limited excavations with an archaeological field school at the site that summer. Additional field work by the author was conducted during the summers of 1970-1973 with major funding provided by the Department of Anthropology, University of Illinois, Urbana.

### *Local Environment*

The site is located on the Lunsford-Pulcher Terrace at the interface of the Fish Lake and Hill Lake meander scars (Figure 3). The Fish Lake cut-off occurred by 1350 B.C. and the Lunsford-Pulcher Terrace formed between 450 B.C. and A.D. 850 (White 1983:8, 11) by which time the Fish Lake channel was completely abandoned by the Mississippi River and only held water during periods of flooding (White 1983:14). The

Lunsford-Pulcher Terrace was not suitable for intensive long term agriculturally-based occupation until it was geologically stable.

In addition to the terrace stability, the elevation of the terrace to prevent some flooding of the Divers site is important to site location and occupational stability. The flood stage at St. Louis is 9 meters (30 feet). Most of the site elevation is 121.5 meters with portions at 125 meters (405 to 413 feet) above mean sea level. This elevation is high enough to prevent inundation of major portions of the site when floods by the Mississippi River are less than 10.5 meters. Flooding is a very poorly understood and recognized phenomenon in the American Bottom, and the time, duration, depth, and location of floods are highly variable. The response time to a flood may be a matter of a few hours or less. One would like to believe that after 400 years of American Bottom prehistoric agricultural occupations, some form of response would have been established and practiced, however as the occupations increased in population and as sites became larger and more complex, the responses would have changed. Milner (1998), Schroeder (1997) and Chmurny (1973) have raised the problems and social responses of the little known and poorly understood impact of flooding. They have documented the impact on site location, stability, and some social responses. But the impact of flooding may well extend into the realm of political authority. When flooding impacts a portion of the American Bottom and reduces or eliminates a domesticated or natural food crop it would create a need and stress which could be addressed by a higher authority in addition to the response of the occupants affected. This is not to imply that social responses to flooding gave rise to complex polities however both the Segmented and Chiefdom models view

times of stress as an entry point for the intervention, expansion, and validation of higher authority.

I have relatives who have farmed on the floodplain near the Divers site since the early 1900's, long before levees and governmental aid. Many times they had a few hours to remove items and received no governmental aid during or after a flood. They depended upon relatives and friends to relocate possessions, clean up or rebuild, and replant, if possible, after the flood. In short, they had a plan and were autonomous for many years.

Waterborne transportation on Fish Lake would have been possible for the Divers site inhabitants but probably only in a northerly direction. The site is positioned near the southern end of the lake and could have had direct water access to the Lunsford-Pulcher site (Figure 4). This access could have implications for maintaining social control, moving surplus goods, and other spheres of influence. The present channel of the Mississippi River lies 1.3 kilometers to the west of the site.

Schroeder (1997) has examined the distribution, natural environment, and site catchment relative to landforms for many sites in Monroe and Randolph Counties, Illinois, including the Divers site. Her research indicated that three key landforms—deep wetlands, shallow wetlands, and dry land—determined the location, size, longevity and stability of Terminal Late Woodland and Mississippian sites in the southern American Bottom. Based upon Government Land Office survey records, Schroeder delineated the amounts of each landform within a 1 kilometer catchment for each site included in her study. The ideal natural setting would have an equal percentage of each landform, which is practically impossible to achieve in the real world, but she did find that the larger

mound sites are located in areas with catchments approaching the ideal (Schroeder 1997:160-165, 209-213, 235). All three landforms are present within the 1 km catchment area for the Divers site, but more than half of the area is dry land and only a small fraction (roughly 20 ha) is classified as deep wetlands (Table 1). The faunal and floral resources associated with each landform and exploited by Emergent Mississippian and Mississippian villagers (cf., Johannessen 1984; Kelly and Cross 1984) suggest that the lack of deep wetland access to the Divers site may have precluded a larger site and population. However, the unusually large amount of high elevation dry land access necessary for agriculture and flood avoidance was a prime factor in the site occupations and stability.

Modern land use and the U. S. Army Corps of Engineers have dramatically altered the topography and drainage in the Divers locality, but a review of early maps and interviews with life-long residents of the area provide a reasonable reconstruction of the site area before alterations.

The junction of three drainages—Fish Lake, Palmer Creek, and Hill Lake No.1–are all located on Divers' northern boundary (Figure 4). Hill Lake No.1 and Palmer Creek are intermittent streams. Prior to the landscape-molding forces of modern land use, Palmer Creek did not drain directly west from the buffs but emptied into a wetland area north of the site. It was joined by the Hill Lake Drainage and both bodies formed their own meandering course toward Fish Lake. The present Palmer Creek was dredged by the St. Louis and Iron Mountain Railroad sometime between 1914 and 1916.

The soils at the Divers site are formed on Cahokia Alluvium, which William and Frye (1970:75-76) describe as "45 feet of largely silt, clay, and clayey sand …Wisconsin

and Holocene in age". The soils are Haynie series, a silt loam that is moderately well drained and found on flood plains along major streams where they form undulating ridges and wide terraces with low relief. The series has a high water table, especially from February to July, and a high frost action potential (United States Department of Agriculture, Soils Survey of Monroe County, Illinois, 1987:Table 17). The soils are extremely fertile and are considered to be prime farmland.

***Regional Climate***

Climatic data for the Divers locality reported in this section follow Page (1949) rather than recent National Weather Service information because the latter are based on averages from the past thirty years and could be skewed due the effects of the Urban Heat Island generated by St. Louis, Missouri.

Annual precipitation in this part of the American Bottom is reported to be 95 to 100 centimeters per year. Approximately 65 centimeters of the precipitation falls between 1 April and 30 October or during the important growing season (Page 1949:130, 294, 363). Average annual temperatures range from a low of $32^{o}$ F in January to a high of $80^{o}$ F in July. Peak lows can reach $-22^{o}$ F with highs of up to $110^{o}$ F (Page 1949:158-159, 187, 197). The number of frost free days at St. Louis is 200 to 210 days or on average between 2 April to 30 October. The latest recorded killing frost occurred on 22 May and the earliest killing frost in fall was on 28 September (Page 1949:126, Table 2, 128). Thus, the growing season for efficient prehistoric maize agriculture (a minimum of 120 days) is easily obtained in the American Bottom. However frost and frost free days are a poorly understood phenomenon. Page (1949:126) states, "Moreover, there is perhaps no other climatic condition (frost free days) which vary so much locally. At

times a valley or a low place no deeper that 5 to 30 feet may have a frost several days later than a nearby level place in the spring, and several days earlier in the autumn. There are not enough weather stations in Illinois to present all the variables in the region". . The presence of the Mississippi River valley trench, which can act as a cold air drainage mechanism, can produce killing frosts 10 to 20 days later in the in the spring or earlier in the fall (Riley and Freimuth 1979). The possibility of a late killing frost affecting plants becomes a greater threat because of the high water table in the soils which can induce plant growth sooner and the generally porous bottomland soils warm to planting temperatures 10 to 20 days sooner than upland soils.

***Site Catchment***

Researchers have delineated eight ecological zones in the pre-modern American Bottom landscape (Chmurny 1973:144; Milner 1998:45-51; Schroeder 1997:134-141; White et al. 1984:15-33). These environmental reconstructions are primarily based upon data compiled from early nineteenth century Government Land Office (GLO) survey records.

The location of the Divers site has access to all of the zones, but the distance varies greatly especially to deep water, bluff, and uplands. Most of the Divers site "dry land" falls in Schroeder's (1997) floodplain prairie (Table 1). The site's catchment area is a rough estimate based on the analysis of available faunal and floral data. A more comprehensive analysis awaits the identification and interpretation of faunal and floral remains from the Divers site excavations, both of which are tasks that require additional funding.

The primary site catchment is estimated to be 3 km in radius based upon the site location being some 3 km from the bluff, a location that is further out on the Mississippi floodplain than most other excavated Terminal Late Woodland and Mississippian sites in the American Bottom. The greater distance to the bluff edge and uplands resources to the east would impose different time and logistical requirements upon the Divers site inhabitants.

The Divers catchment pattern may more closely reflect patterns from the northern American Bottom Terminal Late Woodland sites such as the Lohmann site (Esarey with Good 1981) because it, like Divers, is positioned further from the bluff edge and uplands. The Terminal Late Woodland and Mississippian sites south of the Divers site are not well known but some have similar physical positioning (Kelly 1990b; Schroeder 1997) and may have similar catchment patterns.

In summary, the location of the Divers site has the distinct advantages of high floodplain elevation, excellent soils, access to three important landforms with associated resources, a high percentage of dry land, and a climate favorable for efficient maize agriculture. These advantages are viewed as important factors for site location, longevity, and stability during the Terminal Late Woodland and Mississippian occupations of the site. The disadvantages are flooding and frost which are risks that had to be dealt with by the prehistoric occupations. Flooding is probably the single greatest natural risk faced by agricultural occupations and has been addressed to a limited extent by Chmurny (1973), Milner (1998), and Schroeder (1997).

### *A Note on Southern American Bottom Chronology*

Before moving to a discussion of the Divers site materials, it will be useful to revisit some of the main points of the regional chronology that have changed over the past thirty years, if for no reason other than these changes were played out in the American Bottom archaeological literature and often confuse the nonspecialist.

The chronology consisting of the Late Woodland, Emergent Mississippian, and Mississippian periods was initially presented by Bareis and Porter (1984) and was later modified by Kelly (1990a, 1990b), who also expanded and refined the Emergent Mississippian Period (1990b:117). Pauketat (1994:49, 2004:6) used calibrated C-14 dates to establish a more refined period and phase chronology for the same material. Milner (1998:21-24) has generally followed the chronology proposed by Kelly but with some reservations about regional and local ceramic variations and problems of temporal controls based upon C-14 dates.

Kelly (1990a, 1990b, 2002) delineated two separate Emergent Mississippian (Terminal Late Woodland) traditions for the American Bottom. The northern Late Bluff Tradition includes the Collinsville, Loyd, Merrill, and Edelhardt phases and extends from the Lower Illinois River Valley to the Lohmann site just south of the Cahokia site. The southern Pulcher Tradition includes the Dohack, Range, George Reeves, Lindemann, and the Mississippian Lindhorst phases and extends from just south of the Lohmann site to well south of the Mayes site which would include the Divers site. The primary attributes of the Pulcher Tradition are limestone temper and red slipping. The current chronology followed in this work is based upon the calibrated chronology presented by Emerson (2007:xxiv) and the uncalibrated chronology presented by Kelly et al. (2007:12). The

term Emergent Mississippian was used until approximately 2002 when it was replaced by Terminal Late Woodland by some researchers (Fortier and McElrath 2002). A more detailed discussion of this was presented in Chapter 2.

***Data Used in this Analysis***

Approximately one-third of the Divers site has been excavated. The 1968 excavations were conducted by hand to search for subsurface features, many of which were exposed and excavated. Subsequent excavations utilized a front end loader to remove the plow zone in seven 15 x 15 meter blocks. Suspected or exposed features were then defined, mapped, photographed, and excavated. A small Ford farm tractor was used to fine grade the exposed excavation blocks and move back dirt.

Individual features were excavated by various strategies. During the 1968 field season, pits were dug in whole units as one level; during subsequent seasons they were dug in 15 cm arbitrary levels. Except for the 1968 season, the fill of excavated pits was water-screened using 40-mesh screens, but this material has not been analyzed. Excavated pits were mapped in cross section and plan view and photographed. Structures were excavated to expose the floor, after which all floor artifacts were mapped and photographed *in situ*. Structure fill, if any, was cross-sectioned and excavated in 15 cm arbitrary levels. Post molds and wall trenches were sampled for depth and structural data. Structures were mapped and photographed in plan and cross section views.

Recovered artifacts were bagged by feature and level and the initial washing and sorting done at the field headquarters. All of the recovered artifacts are curated at the University of Illinois, Urbana, except for some selected artifacts which are in the possession of Mr. Donald Divers, son of Mr. Jack Divers, of Columbia, Illinois.

This dissertation examines excavated materials from 27 structures and 87 pits. The analysis focuses on all of the ceramics from those features, as well as selected lithic material and organic remains. Ceramic attributes recorded included body sherd counts and weights, rim sherd counts, weights, profiles and the attributes of vessel type; decoration, temper, lip form, and surface treatments. Body sherd percentages are based upon counts, not weights. Selected rim profiles from the approximately 1100 rim sherds are presented.

Structures and pits attributes include morphology, metric data, location, and unique or special events such as burning. The structure and pit types and functions are based upon the types established at the Range site (Kelly et al. 1987; Kelly et al. 1990; Kelly et al. 2007; Hanenberger 2003). Lithics analyzed in this dissertation are limited to tools, discoidals, and hoe flakes recovered from features. Plant and animal remains are similarly limited to those identified from selected features.

The use of stratigraphic superpositioning and C-14 dates are used as appropriate. The C-14 dates were calibrated using CalPal 2007 online version (Danzeglocke et al. 2008). Table 2 summarizes the C-14 dates.

The elevations listed for all features are not mean sea level but are an arbitrary datum established at the site. The datum elevation of 125.00 is very close to the mean sea level of 125 meters (413 feet).

Several factors have influenced the archaeology of the Divers site. First, the site has been in cultivation for over 100 years. This has probably truncated some of the structure basins and pits and may have expanded the distribution of the artifacts. Second, approximately 80 cm to100 cm below the ground surface are Pulcher Terrace sands.

Very few pits penetrate into these sands, probably because the pit walls would have slumped. Thus the presence of the sands set some limits on pit depths but the sands would provide good pit drainage. Third, the site has very little relief, less than 50 cm, in the areas excavated. Finally, County Road DD is located along the northern and western portions of the site. It does not appear that the construction of the road along the western boundary impacted the archaeology of the site because the road is located well below the terrace edge.

In summary, the Divers site has the distinct location advantages of high elevation and a large amount of floodplain prairie soils that are both favorable for site occupation and prehistoric agriculture. A limiting factor is the small amount of access to deep water which is believed to have limited the population and site size.

The site occupations extend from Late Woodland Patrick phase, through the Terminal Late Woodland, to the Mississippian Stirling phase which includes the key time period of ca. A.D. 1050, which is central to focus of this dissertation.

The following chapters present the analysis of the artifact assemblages by phase. Each chapter presents and summarizes relevant archaeological data and makes local comparisons. Finally, interpretations of the site occupations are compared with that of other excavated sites in the region. The resulting patterns establish the basis for tests of the Segmented and Ascendant Chiefdom models in the concluding chapters.

## Chapter 3 Figures and Tables

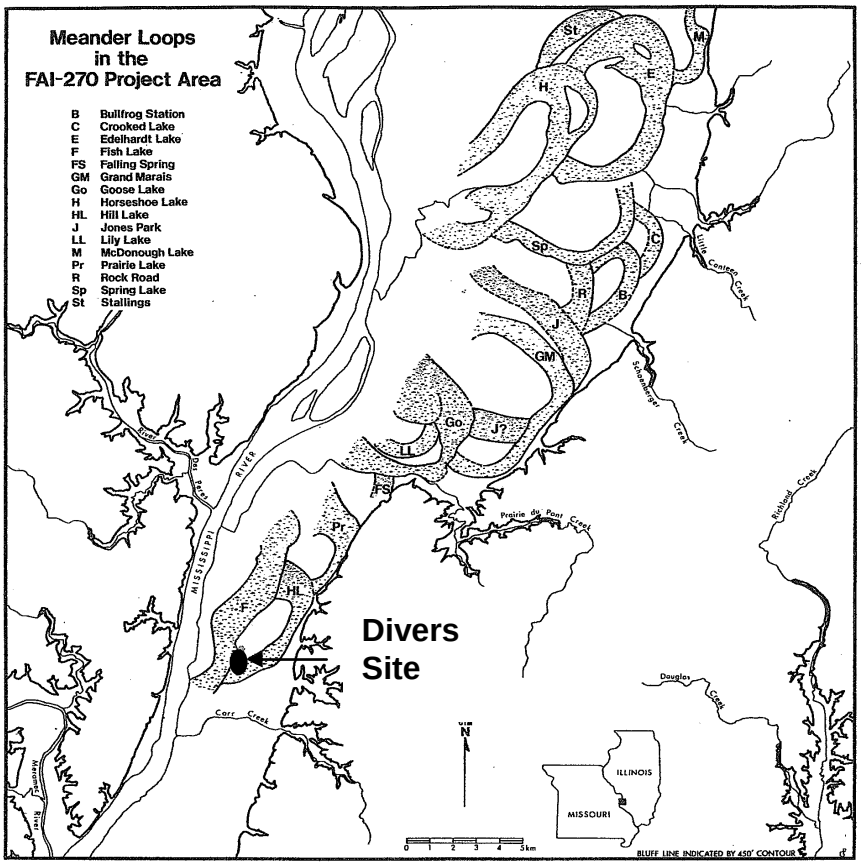



**Figure 3. Divers Site Location on Fish Lake and Hill Lake Meander Loops.**
(After White et al. 1984: Figure 4)




**Figure 4. Divers Site Location on Fish Lake.**
**(US Army Corps of Engineers 1948)**

**Table 1. Divers Site 1 km Catchment Area (Schroeder 1995:346)**.

| Landform | Area (hectares) | Percent of Total |
|---|---|---|
| Dry Land | 191.3 | 61.0 |
| Shallow Wetlands | 102.3 | 33.0 |
| Deep Wetlands | 19.7 | 6.0 |

**Table 2. Divers Site Radiocarbon Dates.**

| Component | Feature | Feature Type | Laboratory/ Number | Radiocarbon Years B.P. | Uncalibrated A.D. | Calibrated A.D. |
|---|---|---|---|---|---|---|
| **Range** | 76 | Earth Oven | WISC-625 | 1045±55 | 905±55 | 971±55 |
| **Lindeman** | 36 | Structure | WISC-474 | 1010±55 | 940±55 | 1042±66 |
| **Stirling** | 1 | Structure | WISC-334 | 845±45 | 1105±45 | 1172±57 |
| | 15 | Structure | MICH-2131 | 720±150 | 1230±150 | 1257±110 |
| | 85 | Structure | WISC-627 | 945±55 | 1005±55 | 1093±57 |
| | 85 | Structure | WISC-637 | 900±55 | 1050±55 | 1121±65 |

# CHAPTER 4

# LATE WOODLAND PATRICK PHASE OCCUPATION

Chapters 4-6 describe the Late Woodland, Terminal Late Woodland, and Mississippian period occupations of the Divers site. The main objective is to identify, describe, and interpret the household, community, and ceramic patterns for each phase and shifts in these patterns through time. The discussion of each component emphasizes structures, pits, ceramics, and selected lithic artifacts and organic remains. Finally, a summary of the site occupations draws these data together in comparative perspective.

The concluding chapter draws on these data to assess the political control exerted on outlying sites by the Cahokia chiefdom during the Mississippian period Lohmann and Stirling phases. To achieve this goal, it is also important to examine these archaeological patterns in the context of major changes in the archaeology of the Divers site between the Terminal Late Woodland and Mississippian periods. The latter comparative framework helps to define which patterns changed, the amount of change, the direction of change, and how these changes reflect the amount of political control emanating from Cahokia.

## Patrick Phase

The Patrick component is represented by 19 pits. Basin structures were identified in Unit 3 (Figure 5), but time did not permit their excavation. The excavated features and artifacts follow Kelly's et al. (1987) definition of the Patrick phase, which is primarily based on the Range site excavations. As at Range (Kelly et al.1987:136), Divers site features with more than 50% grit or grog tempered, roughened surface potsherds, as measured by count, were assigned to the Patrick component. Pit morphology, types, and functions also follow criteria established by Kelly et al. (1987:184-200). The calibrated

dates for the Patrick phase are ca. A.D. 675 to A.D. 900 (Emerson 2007:xxiv) or uncalibrated ca. A.D. 600 to A.D. 800 (Kelly et al. 2007:12). The following discussion summarizes the Divers Patrick ceramics and features. The reader is referred to specific tables for detailed data.

***Features***

The pit attributes are presented in Table 3 and Table 4 lists the attributes of body sherds found in these pits. All of the pits contained a predominance of grit, grog, or grit-grog temper with a smaller percentage of limestone temper sherds.

Features 74, 80, and 102 are Type 1 pits defined by a continuous curvilinear profile and constitute 16% of the pit types. Feature 80 was superimposed by Feature 79, a Patrick phase pit and Feature 102 was superimposed by Features 101, a Range phase pit and 94, a Lohmann phase structure. Feature 79 is a Type 3 pit defined by vertical sides and was superimposed upon Feature 80, a Patrick pit. Features 69, 82, 88, 107, 115, 116, and 129 are Type 4 pits characterized by expanding sides and constitute 37% of the pit types. Feature 69 was superimposed by Feature 82, a Patrick phase pit, and had two post molds in the pit floor. The two post molds were placed on opposite sides of the pit with post 1 measuring 10 cm deep and 6 cm in diameter and post 2 measuring 13 cm deep and 10 cm in diameter. It is impossible to say when these posts were set in the pit but assuming they were set just after pit completion they are not set deep enough to support a great deal of weight. The positioning of post 2 indicates considerable inslanting to clear the pit side. Thus it is likely the post tops came together and could have lashed.

Feature 82 was superimposed on Feature 69, a smaller Patrick phase pit. Materials recovered were concentrated in the upper ca. 60 cm of the pit fill and may

reflect the intrusion of the pit into Feature 69 although that feature contained a paucity of materials. Ceramics from 15 cm to 30 cm fit with those from 125 cm to 135 cm and suggest rapid pit filling. Feature 88 was superimposed by Feature 68, a Patrick phase earth oven. Feature 107 is irregular in plan and profile and is probably two or more curvilinear pits superimposed and/or the result of numerous reexcavations due to slumping and/or pit filling. It was not possible to determine the exact interpretation, thus the pit contents are discussed as a unit. During the pit excavation numerous large pieces of tacky clay were recovered which may have been potters clay. Features 115 and 116 are two curvilinear pits which were excavated separately but Feature 115 was superimposed on Feature 116 and Feature 115 was superimposed by Feature 96, a Lohmann phase structure. The pits were excavated separately but it is not possible to accurately separate the fill materials hence they are listed separately but discussed as a unit. Feature 129 was abutted against Feature 125, a Lohmann structure and superimposed by Feature 30, a Lohmann phase pit. Ceramic materials from 45 cm to 60 cm and 60 cm to 75 cm were fitted together.

Features 48, 68, 77, 93, and 95 are typed as earth ovens based upon ash, burned organic material, or oxidation on the feature floor and constitute 26% of the Patrick phase pits. All of the features had curvilinear openings and flat bottoms and most were outslanted in profile. Feature 48 was superimposed by Feature 49, a Lindeman phase ramada associated with Feature 50, a Lindeman phase structure. The pit fill consisted of four episodes with a large concentration of ash in the center bottom of the pit. Two post molds were observed in Levels 1 and 4 similar to Feature 69. Like Feature 69, the one post would have had to be slanted toward the pit center to clear the pit wall,

thus suggesting the posts were lashed together at the top. Feature 68 was superimposed upon Feature 88, a Patrick phase Type 4 pit. The majority of the recovered sherds were from the upper 50 cm of the pit fill. It would appear the pit fill reflects two major episodes of utilization. Initially the pit was excavated and a fire or fires were set on the pit floor. Subsequent uses are reflected in the light and dark mottled lenses until ca. 70 cm where only light fill occurs and is interpreted to be deposits from fluvial sources. Into this lense prehistoric reexcavation occurred and another episode of cooking occurred followed by a rapid pit filling with refuse. Feature 77 was superimposed by Feature 78, a Range phase pit. The pit had at least four episodes or use and reuse. The primary pit was excavated to 135 cm, which extended 35 cm into the terrace sands, and a fire was constructed on the pit bottom accumulating 15 cm of deposits. Fluvial deposits then accumulated to ca. 10 cm followed by ca. 30 cm of cultural deposits, followed by ca. 40 cm of fluvial deposits. The central portion of the pit was reexcavated to near the original depth and subsequent homogeneous cultural filling occurred to within ca. 50 cm of the top. Feature 93 was superimposed by Feature 91, a Lohmann phase structure.

Features 45, 73, and 87 are limestone floored pits and constitute 16% of the Patrick pit total. The features are defined on the basis of limestone slabs recovered from the pit floor. Feature 45 was superimposed by Feature 36, a Lindeman phase structure. Feature 73 had a homogenous fill with ceramics from ca. 45 cm to 75 cm from the same vessel. Feature 87 was superimposed by Feature 85, a Stirling phase structure.

Kelly et al. (1987:190) has indicated that the pit typology is based upon morphology with little direct evidence of pit function. However, the pit attributes indicate distinct, but not mutually exclusive, differences among the pit types. Type 1 and

2 pits are smaller than other types and some type names suggest functions. Types 3 and 4 are larger and possibly served as storage facilities. The pit types and percentages are very similar to those from the Range site Patrick phase (Kelly et al.1987:184-200).

Figure 6 illustrates the spatial distribution of the excavated Patrick component features. No definitive pattern can be inferred from this distribution except a cluster of pits occurs in Unit 4 and a smaller cluster in Unit 5. Unit 4 has few subsequent occupation features whereas Unit 5 has significant subsequent phase features. Some of the unexcavated possible basin structures in Units 3 and 4 may be Patrick phase structures.

***Ceramics***

The primary basis for the Divers site Patrick component ceramic analysis and methodology is based upon ceramics from the Range site and described by Ozuk (1987:230-304). The body sherds are described with the pits in Table 4 because they constitute the basis for the cultural assignment for several pits which lacked rim sherds and they also provide additional support for assignment of pits with rim sherds.
The vessel forms consisted of 69% jars, 27% bowls, and 3% pinch pots (Table 5). The temper of the body sherds consisted of, 63% grog, 13 % limestone, 12% grit, and 11% grit-grog temper (Table 4).

Vessel surface treatment is summarized in Table 6. Plain surfaces (not including Pinch Pots) accounted for 6%, smoothed-over cordmarked 54%, and cordmarked 40% of all surface treatments. Cord twisting consisted of 69% S twist and 31% Z twist on all identifiable vessels. Cordmarking placement was 88% vertical to the rim and 12% obliquely for all identifiable vessels. Vessel decoration (besides cordmarking) consisted

of lip impressions and punctates. Eight jars had interior cord wrapped stick impressions, one jar had them on the top of the lip, thirteen jars had rounded interior lip impressions, and six jars had slash or V-shaped impressions. Two bowls had lip impressions; one a cordwrapped stick and one a slash. One Type 3 jar from Feature 73 had punctates placed on the rim and one Type 3 jar from Feature 68 had a single row of punctates around the rim and at least one segment of twelve punctates placed in three rows of four each. It is suspected this pattern was repeated once and probably twice as 120 degrees of the jar rim was recovered. A similar jar was reported from the Patrick phase Fish Lake site (Fortier et al. 1984:106). Punctates are not a common form of decoration during the Patrick phase.

Table 7 lists the jar types and tempers. Figure 7 is the key to examples of rim profiles for this dissertation and selected Patrick rim profiles are on Figure 8. The jar types are based upon six jar types established by Ozuk (1987:251-252, 260-275). Type 1 (15%), Type 3 (46%), Type 4 (38%), Type 5 (2%), and Type 6 (2%) jars were recovered from the Patrick pits. Jar tempering consisted of 76% grog, 19% limestone and 5% limestone-grog tempering. Rim diameters ranged from 8 cm to 42 cm and had a mean diameter of 20.52 centimeters.

The Patrick component jars were typically grog tempered, had cordmarked or smoothed-cordmarked surfaces to the rim and S-twisted cords. Type 3 (46%) and Type 4 (38%) jars were the most common jar types. Punctates are rare and occurred on two jars as lip and body decoration. The jar assemblage is very similar to the Patrick component at the Range site (Ozuk 1987:275, 277). The jar types conform to the types Kane Cordmarked (Vogel 1975) and Korando Cordmarked (Griffin 1941; Keslin 1964).

Bowl types and tempers are listed in Table 8 and examples of bowl rim profiles are illustrated on Figure 8.

Bowl types are based upon three rim forms; Type 1 inslant, Type 2 vertical, and Type 3 outslant. Two Type 2 bowls from Feature 115 had interior lip impressions. Bowl tempering consisted of 81% grog and 19% limestone tempering. Bowl rim diameters ranged from 10 cm to 40 cm and had a mean diameter of 25.7 centimeter.

Patrick bowls were typically grog tempered (81%), had roughened surfaces, squared lips and Type 2 (62%) was the most common form. Lip impressions were the only decoration (besides surface roughening) and are not common occurring on only two bowls. The bowl assemblage is very similar to the Patrick component at the Range site (Ozuk 1987:287).

Three pinch pots from Features 80, 129, and 73 were recovered (Table 5). All of the pinch pots had smooth surfaces and rounded lips. Features 73 and 80 were grog tempered and the one from Feature 129 was limestone tempered.

*Other Ceramic Artifacts*. One ceramic discoidal was recovered from Feature 73 (limestone floored pit) (Figure 9). The discoidal was 3.5 cm. in diameter and had twelve incised lines radiating outward from the concave center on one side. The discoidal is of the type Jersey Bluff (Perino 1971).

One fragmented pipe bowl was from Feature 80 (Type 1 pit) and one fragmented bowl and two fragmented pipe stems from Feature 73 (limestone floored pit) (Figure 9). All of the bowls and stems were grog tempered and had smooth surfaces. These pieces are very similar to those described by Kelly et al. (1987:298-302) for the Range site and he also suggests that Late Woodland period ceramic pipes become more common and coincide with an increase in tobacco seeds recovered from the Range Patrick phase.

### *Lithics*

The limestone recovered from the Divers site Patrick pits consisted of 4150 pieces weighing 149.2 kg (Table 4). A few tools and some discoidals were manufactured from limestone and it was used for temper but the vast majority is considered to be waste as a by-product of unspecified uses. Williams (1987:306) has suggested "processing of food" and "building materials" at the Range site. The Range site is located .3 km. from unlimited amounts of limestone. The Divers site is positioned further out on the floodplain and the nearest limestone outcrops with talus slopes are 3.2 km. (straight line) from the site, thus requiring a much greater amount of time and effort to secure this apparently vital resource. The utilization and procurement of the limestone over this distance continues through all of the site occupations.

Two limestone discoidals, one from Feature 73 (limestone floored pit) and one from Feature 80 (Type 1 pit) were recovered. The Feature 73 discoidal (Figure 9) is 6.5 cm. in diameter, has concave sides, and the Feature 80 discoidal (Figure 9) was broken, possibly during the manufacturing process. Both appear to be the type Jersey Bluff (Perino 1971).

One ball chert hammerstone was recovered from Feature 77 (earth oven).

### *Organic Remains*

The faunal remains consisted of a 16 cm. long bone pin from the bottom of Feature 107 (Type 4 pit) and is identified and described by Styles (1983) as:

> "… made from the long bone shafts from large mammals, most likely white tail deer (*Odocoileus virginianus*). However, due to the degree of modification, precise identification of bone element and taxon are precluded. The bone artifact … has been whittled, ground, and incised and may represent a decorative pin. Two lines are incised on one side at the blunt end. The other end has been worked into a point".

Similar pins have been described for the Range site Patrick component by L. Kelly (1987:386).

Wasp nests were recovered from Features 82 (Type 4) and 95 (earth oven) pits. The nests are constructed by two species, *Sceliphron caementarium* and *Chalybion caeruleum*. The nests of the two are indistinguishable and it is only possible to separate nests with an adult or pupa. The nests are constructed in sheltered areas such as the eaves or overhangs of standing structures. *Sceliphron* are active nests builders from late May to late July. *Chalybion* have two generations, a summer and a winter. The winter generation is active from about 15 May to 15 July and the summer generation from about 15 July to 15 October (Freimuth and LaBerge 1976). The nests indicate standing structures between May and October and possibly house cleaning to remove the nests. Mud wasp nests were very common at the Patrick component of the Range site (Kelly et al. 1987: 347).

A small amount of the plant remains from the Divers site have been identified by Blake (1972). Features 68, 77, 87, 88, and 129 contained acorn meats (*Quercus sp.*), Feature 77 had one hickory nut shell (*Carya sp.*), and Feature 129 contained wood identified as slippery elm (*Ulmus ruba*). No conclusions can be made from these remains but they are common in the Patrick component at the Range site (Johannessen 1984:407), the Fish Lake site (Johannessen 1984:190) and other upland Patrick sites.

***Discussion***

The initial occupation at Divers was during the late Patrick phase, probably around A.D. 750 - 800. The ceramics and the pit types are similar to the Patrick materials recovered

from the Fish Lake and Range sites. Like Divers, the Fish Lake site is located well out on the Mississippi floodplain on Fish Lake (Figure 4). The multicomponent Range site is located near the bluff about 7.5 km northeast of Divers.

The Divers component is more similar to Range than to Fish Lake, possibly because they were occupied later than the latter site. Fish Lake also is a single component site, but Range and Divers have succeeding occupations. Kelly et al. (1987:417, 435) suggests that the larger Patrick settlements at the Range site represent the fusion of smaller local settlements that abandoned sites for a variety of reasons. However, the Patrick phase occupants of Divers appear to have remained at the same location to form a stable and probably growing population that spanned several archaeological phases.

While it cannot be conclusively demonstrated that the Patrick phase component at Divers was a homestead, hamlet, or village, the number of pits and their distribution suggests something larger than a homestead, I suspect a small village. However, that verification remains for future excavations. Kelly et al. (1987:434) has suggested a 1 km primary radius and a secondary 5 km radius resource catchment area for the Range site Patrick component. The Range site is located next to the bluff whereas the Divers site is positioned approximately 3.2 km from the bluff and uplands, thus one would expect a larger resource catchment area for the Divers site. Nearby homestead sites include the upland sites of Cramer #2, Columbia Quarry, Dohack, and Columbia Farms and the larger floodplain sites of Fish Lake and Schlemmer but only Fish Lake and Range are considered to be villages (Kelly 1990b:123). The Patrick phase socio-political organization is considered to be autonomous groups but social interaction and trade

between these various size communities did occur (Kelly et al. 1987:434). The extent to which the Divers site occupants participated in this interaction is not known.

The next chapter presents and discusses the Divers site Terminal Late Woodland occupations. These occupations are presented in chronological order and follow the same format used in this chapter.

## Chapter 4 Figures and Tables

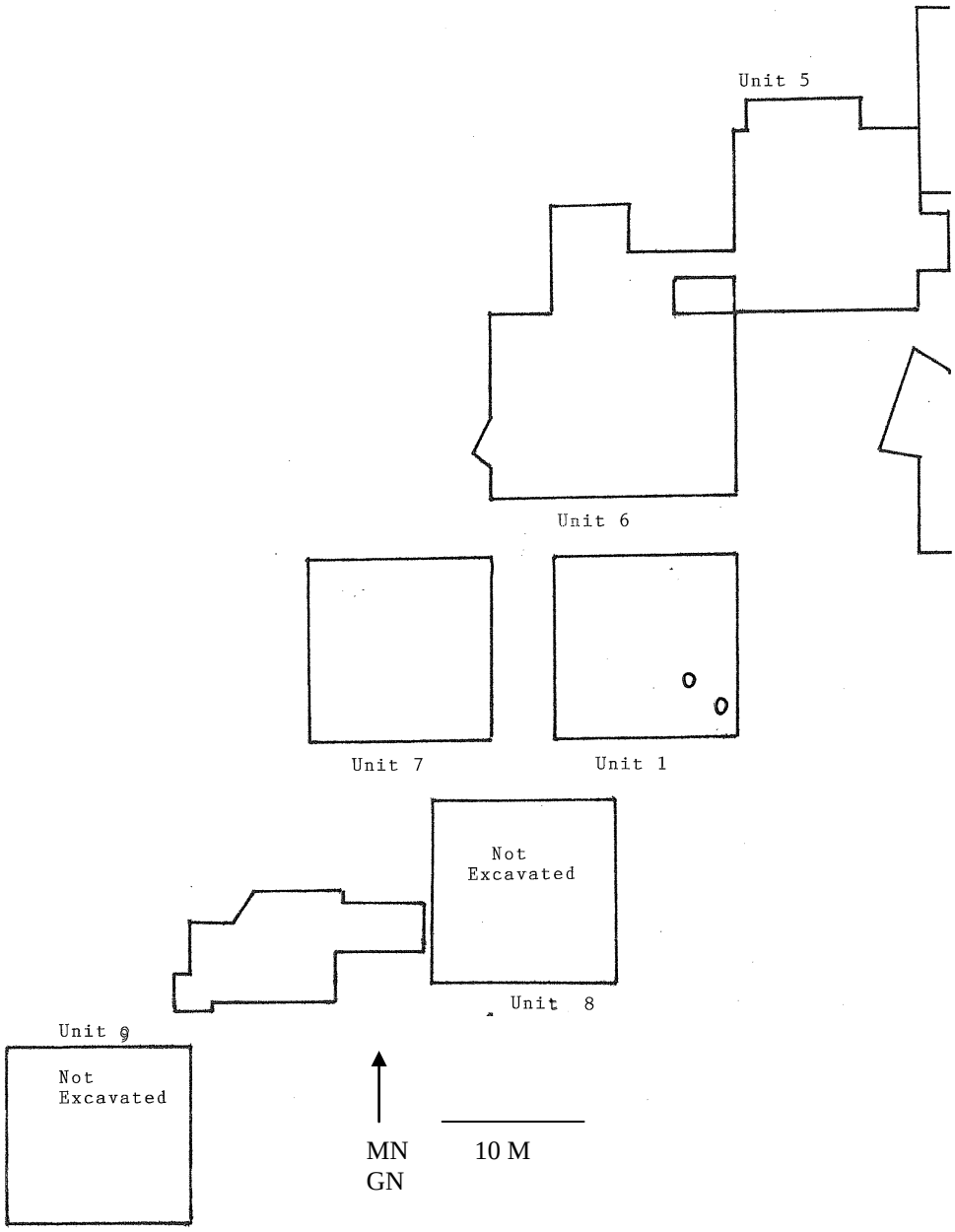



**Figure 5. Divers Site Excavation Units and Unexcavated Features.**

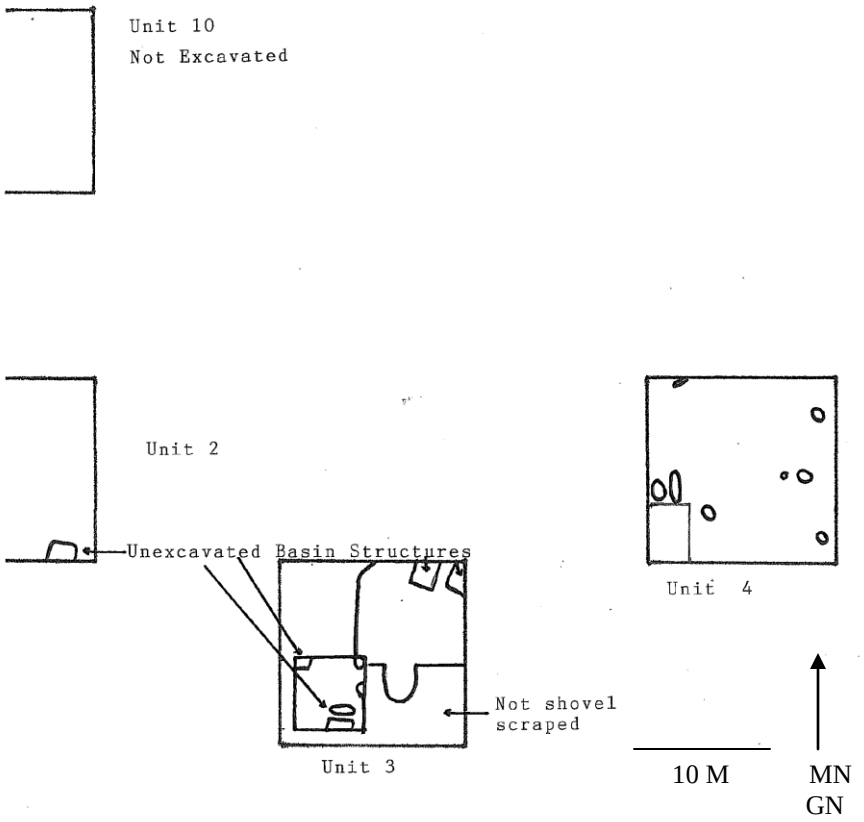



**Figure 5 cont. Divers Site Excavation Units and Unexcavated Features**.

**Table 3. Patrick Component Curvilinear Pit Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Comments | Percent of Total |
|---|---|---|---|---|---|---|---|
| **Type 1 Pits** | | | | | | | |
| 74 | 0.84 | 0.50 | 0.15 | 0.19 | 125.11 | | |
| 80 | ~1.00 | 0.95 | 0.45 | 0.33 | 125.15 | Superimposed by F79 | |
| 102 | 1.25 | 1.25 | 0.30 | 0.36 | 124.90 | Superimposed by F94, 101 | |
| *Mean Values* | 1.03 | 0.90 | 0.30 | 0.29 | | | 16% |
| **Type 3 Pit** | | | | | | | |
| 79 | 1.25 | 1.05 | 0.60 | 0.60 | 124.85 | Superimposed by F36 | 5% |
| **Type 4 Pits** | | | | | | | |
| 69 | 1.00 | 0.95 | 0.50 | 0.40 | 125.15 | Superimposed by F82, two posts in bottom | |
| 82 | 1.35 | 1.45 | 1.35 | 2.14 | 125.05 | Superimposed on F69 | |
| 88 | 1.10 | 1.10 | 0.75 | 0.90 | 125.00 | Superimposed by F68 | |
| 107 | ~1.70 | ~1.70 | 0.80 | ~2.00 | 124.80 | Half Excavated | |
| 115 | 1.25 | 1.25 | 0.45 | 0.56 | 124.67 | Superimposed by F96,114 | |
| 116 | 1.08 | – | 0.45 | – | 124.67 | Superimposed by 116 | |
| 129 | 1.20 | 1.20 | 0.85 | 0.96 | 124.02 | | |
| *Mean Values* | 1.24 | 1.27 | 0.73 | 1.16 | | | 42% |
| **Earth Oven** | | | | | | | |
| 48 | 1.15 | 0.90 | 0.70 | 0.46 | 124.76 | Two posts in pit bottom | |
| 68 | 1.50 | 1.30 | 1.06 | 1.63 | 125.30 | Superimposed on F88 | |
| 77 | 1.30 | 1.30 | 1.30 | 1.45 | 125.00 | Superimposed by F78 | |
| 93 | 1.25 | 1.25 | 0.35 | 0.47 | 124.99 | Superimposed by F91 | |
| 95 | 0.90 | 0.85 | 0.58 | 0.44 | 124.90 | | |
| *Mean Values* | 1.22 | 1.12 | 0.93 | 0.89 | | | 21% |
| **Limestone Floored** | | | | | | | |
| 45 | 1.25 | 1.05 | 0.60 | 0.60 | 124.85 | Superimposed by F36 | |
| 73 | | | | | | | |
| 87 | 1.30 | 1.30 | 0.82 | 1.09 | 125.07 | | |
| *Mean Values* | 1.35 | 1.28 | 0.72 | 1.00 | | | 16% |

**Table 4. Patrick Component Body Sherds and Limestone.**

| Feature | Grit | Grit/Grog | Grog | Limestone | Shell | Whole Limestone | |
|---|---|---|---|---|---|---|---|
| | | | | | | Count | Weight (kg) |
| **Type 1 Pits** | | | | | | | |
| 74 | 1 | | 10 | 1 | | 28 | 0.42 |
| 80 | | 34 | | 1 | | 59 | 2.63 |
| 102 | 5 | 9 | 4 | | | 14 | 0.50 |
| **Type 3 Pits** | | | | | | | |
| 79 | 13 | | 3 | 3 | | 100 | 2.57 |
| **Type 4 Pits** | | | | | | | |
| 69 | | | 42 | 2 | | 398 | 9.21 |
| 82 | 2 | | 118 | 6 | | 89 | 2.85 |
| 88 | | | 51 | 1 | | 343 | 15.33 |
| 107 | | 1 | 43 | 19 | | 111 | 2.49 |
| 115 | | 2 | 5 | | | 19 | 2.80 |
| 116 | | | 8 | 3 | | 105 | 3.17 |
| 129 | | | 105 | 1 | | 412 | 2.27 |
| **Earth Oven** | | | | | | | |
| 48 | | | 102 | 2 | | 159 | 4.20 |
| 68 | | | 111 | 3 | | 190 | 4.06 |
| 77 | | 77 | 112 | 77 | 1 | 467 | 2.01 |
| 93 | | | 87 | 24 | | 274 | 6.88 |
| 95 | | | 22 | 17 | | 97 | 4.11 |
| **Limestone Floored** | | | | | | | |
| 45 | | | 51 | | | 317 | 11.98 |
| 73 | 169 | 43 | 65 | 39 | | 955 | 35.14 |
| 87 | | | 21 | 8 | | 13 | 0.39 |
| **Totals** | 190 | 166 | 960 | 207 | | 4150 | 149.23 |
| **% of Total** | 12 | 11 | 63 | 13 | 0.06 | | |

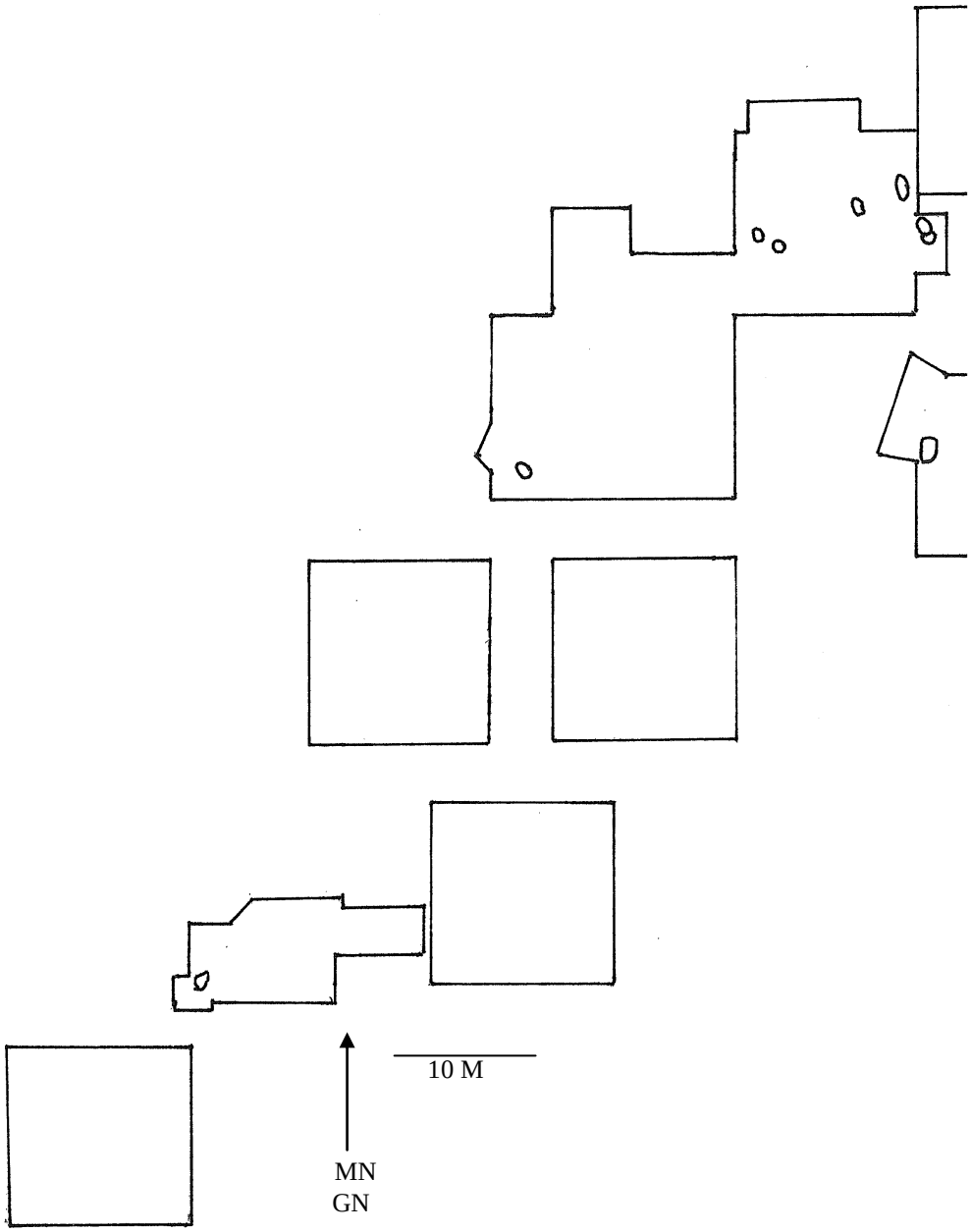



**Figure 6. Patrick Component Feature Distribution.**

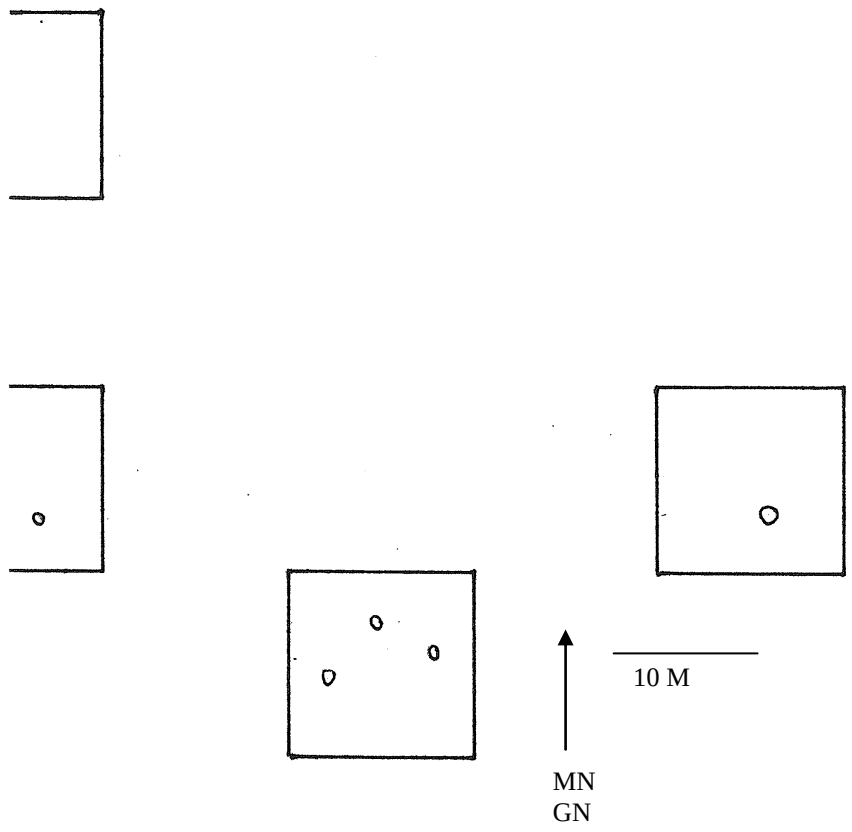



**Figure 6 cont. Patrick Component Feature Distribution.**

**Table 5. Patrick Component Vessel Types.**

| Feature | Jars | Bowls | Pinch Pots |
|---|---|---|---|
| **Type 1 Pits** | | | 1 |
| 80 | 1 | | |
| 102 | 1 | | |
| **Type 4 Pits** | | | |
| 82 | 5 | 1 | |
| 88 | | 4 | |
| 107 | | 2 | |
| 115 | | 2 | |
| 116 | | 1 | |
| 129 | 10 | 2 | 1 |
| **Earth Oven** | | | |
| 48 | 5 | 2 | |
| 68 | 4 | | |
| 77 | 11 | 1 | |
| 93 | 4 | 3 | |
| 95 | | 1 | |
| **Limestone Floored** | | | |
| 45 | 2 | 1 | |
| 73 | 11 | 1 | 1 |
| **Totals** | 54 | 21 | 3 |
| **% of Total** | 69 | 27 | 4 |

**Table 6. Patrick Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Cord Twist | | Lip Impressions | | | | Cord Placement | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Z | S | CWS | Round | Punctates | Slash | Vertical | Oblique |
| **Type 1 Pits** | | | | | | | | | | | |
| 80 | | 1 | | | | 1 | | | | | |
| 102 | | 1 | | | 1 | 1 | | | | 1 | |
| **Type4 Pits** | | | | | | | | | | | |
| 82 | 1 | 5 | | | 2 | | | | | 5 | |
| 88 | | 3 | 1 | 2 | 1 | | | | 2 | 3 | 1 |
| 107 | | 2 | | | 1 | | | | | 2 | |
| 115 | | 1 | 1 | | 1 | 1B | | | 1B | 1 | 1 |
| 116 | | | 1 | | 1 | | | | | 1 | |
| 129 | | 3 | 9 | 5 | 4 | 3 | | | | 11 | 1 |
| **Earth Oven** | | | | | | | | | | | |
| 48 | | 3 | 4 | 1 | 5 | 3 | 1 | | | 7 | |
| 68 | 1 | 2 | 1 | 1 | 2 | | 3 | 1 | | 3 | 1 |
| 77 | | 7 | 5 | 2 | 4 | 1 | 2 | | | 10 | 1 |
| 93 | | 3 | 4 | | 3 | | 2 | | 1 | 6 | 1 |
| 95 | | | 1 | 1 | | | | | | 1 | |
| **Limestone Floored** | | | | | | | | | | | |
| 45 | | 2 | 1 | | 1 | | 1 | | 1 | 2 | 1 |
| 73 | 3 | 8 | 2 | | 2 | 1 | 5 | 1 | 2 | 8 | 1 |
| **Totals** | 5 | 41 | 30 | 12 | 27 | 11 | 14 | 2 | 7 | 60 | 8 |
| **% of Total** | 6 | 54 | 40 | 31 | 69 | 32 | 41 | 6 | 21 | 88 | 12 |

Plain = On Upper Rim, does not include Pinch Pots, SCM = Smooth Cordmarked, CM = Cordmarked
CWS = Cord Wrapped Stick, B = Bowl

**Table 7. Patrick Jar Types and Temper.**

| Feature | Types | | | | | Temper | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 3 | 4 | 5 | 6 | Grog | Limestone | Limestone/ Grog |
| **Type 1 Pits** | | | | | | | | |
| 80 | 1 | | | | | | 1 | |
| 102 | 1 | | | | | 1 | | |
| **Type 4 Pits** | | | | | | | | |
| 82 | 1 | 2 | 1 | | 1 | 3 | 2 | |
| 129 | 2 | 5 | 3 | | | 5 | 3 | 2 |
| **Earth Oven** | | | | | | | | |
| 48 | | 2 | 3 | | | 5 | | |
| 68 | | 1 | 2 | 1 | | 4 | | |
| 77 | 3 | 5 | 3 | | | 9 | 2 | |
| 93 | | 2 | 2 | | | 3 | 1 | |
| **Limestone Floored** | | | | | | | | |
| 5 | | 1 | 1 | | | 1 | | 1 |
| 73 | | 6 | 5 | | | 10 | 1 | |
| **Totals** | 8 | 24 | 20 | 1 | 1 | 41 | 10 | 3 |

Feature Number 50
Rim Diameter 20
Vessel Type (J=Jar, B=Bowl) T1J
Vessel Temper GR
GR=Grog
GT=Grit
LS=Limestone
SH=Shell
Vessel Surface
RS=Red Slipped
RF=Red Filmed
CM= Cordmarked
SCM=Smoothed Cord Marked
Z=Z Twisted Cords
S=S Twisted Cords
SM=Smooth
MCS=Madison County Shale



**Figure 7. Key to Divers Site Rim Profiles.**

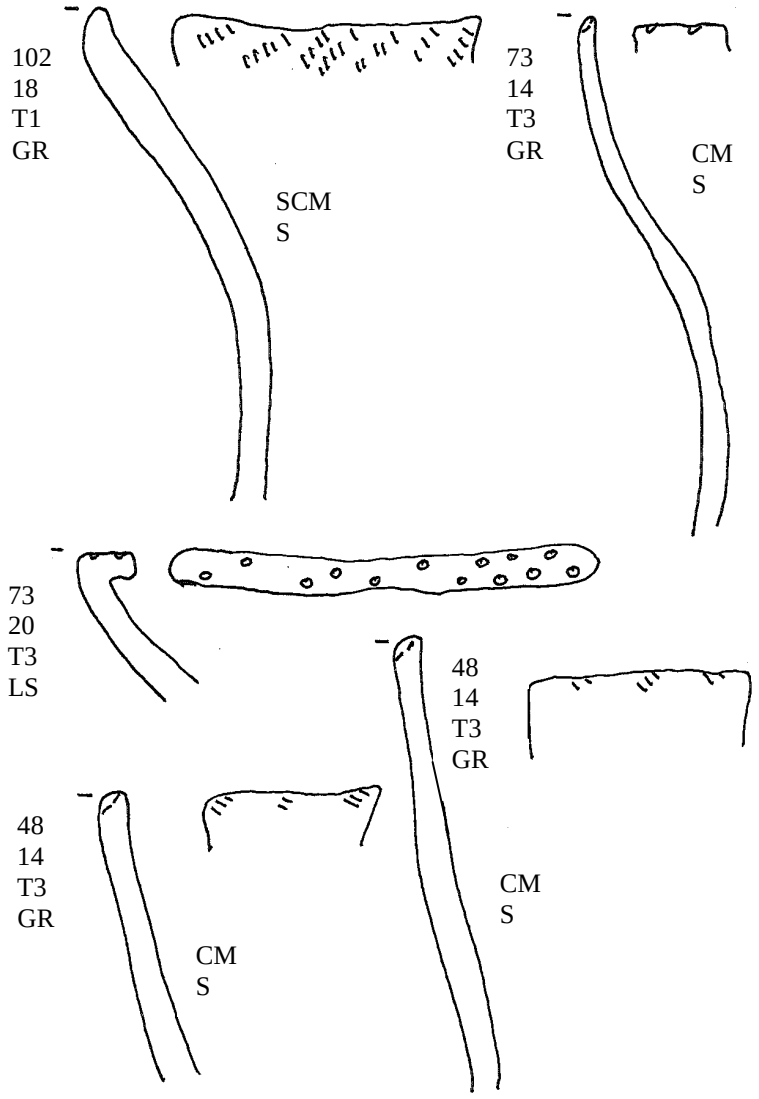



**Figure 8. Selected Patrick Component Jars and Bowls.**

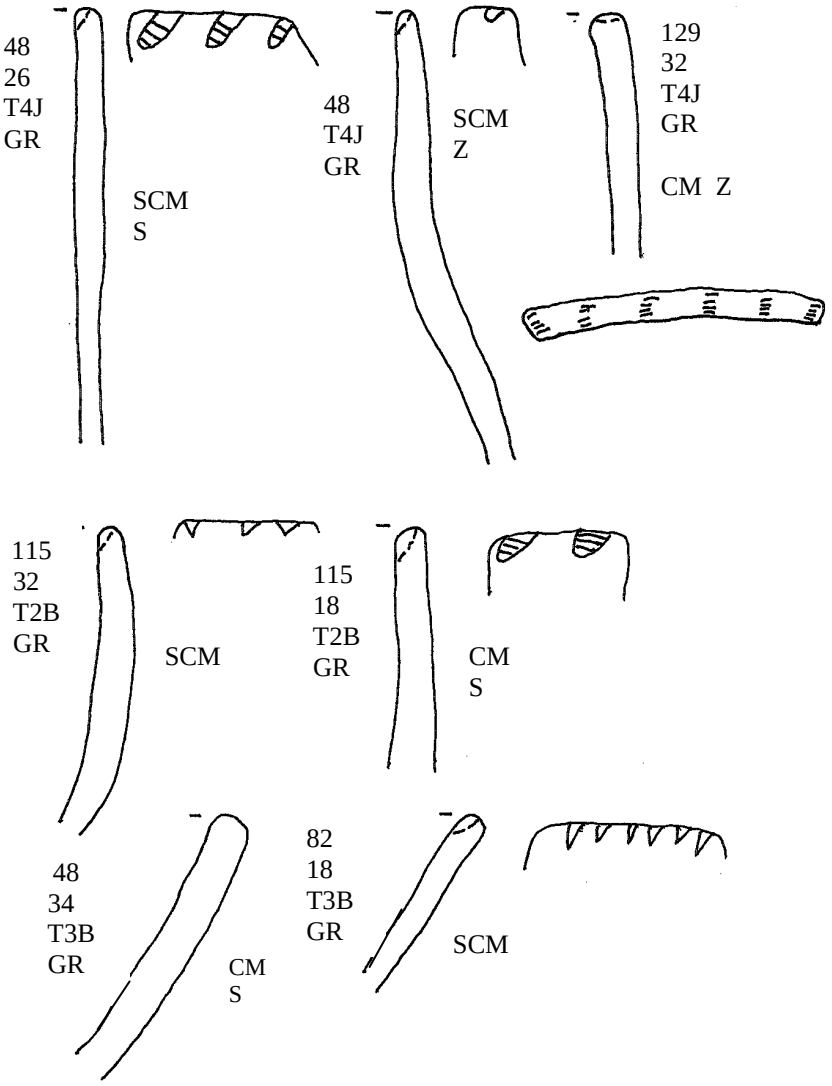



**Figure 8 cont. Selected Patrick Component Jars and Bowls.**

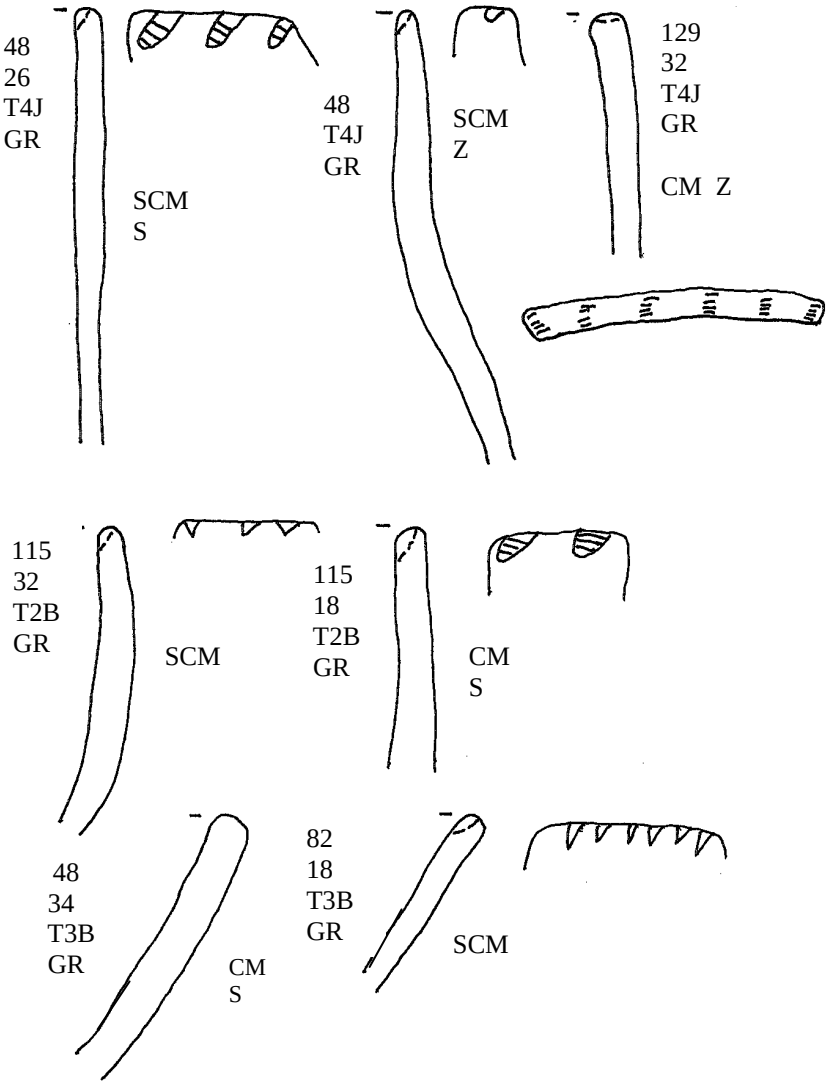



**Figure 8 cont. Selected Patrick Component Jars and Bowls.**

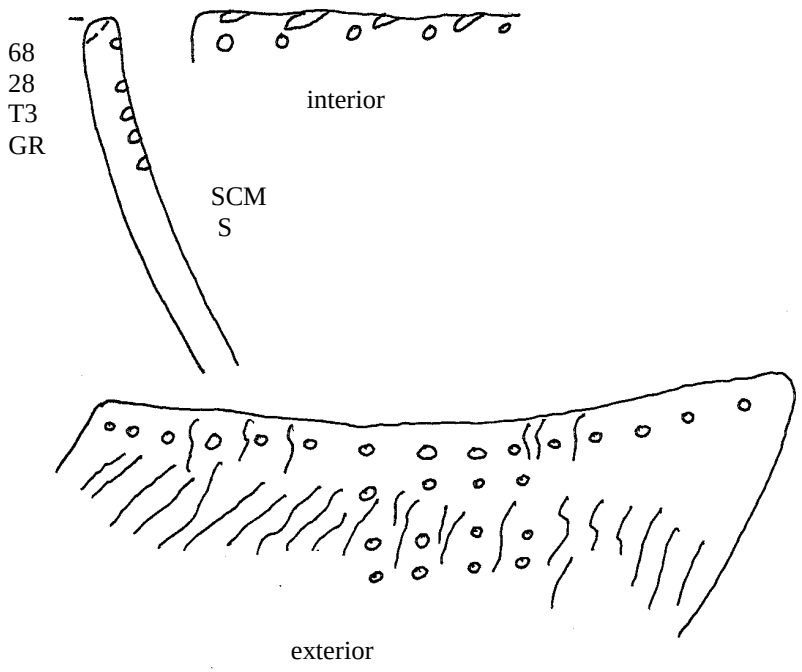



**Figure 8 cont. Selected Patrick Component Jars and Bowls.**

**Table 8. Patrick Component Bowl Types and Temper.**

| Feature | Types | | Temper | |
|---|---|---|---|---|
| | **2** | **3** | **Grog** | **Limestone** |
| **Type 4 Pits** | | | | |
| 82 | | 1 | 1 | |
| 88 | 2 | 2 | 3 | 1 |
| 107 | 1 | 1 | 1 | 1 |
| 115 | 2 | | 2 | |
| 116 | 1 | | | 1 |
| 129 | 2 | | 2 | |
| **Earth Oven** | | | | 2 |
| 48 | 1 | 1 | 2 | |
| 77 | | 1 | 1 | |
| 93 | 2 | 1 | 3 | |
| 95 | 1 | | | 1 |
| **Limestone Floored** | | | | 1 |
| 45 | 1 | | 1 | |
| 73 | | 1 | 1 | |
| **Totals** | 13 | 8 | 17 | 4 |
| **% of Total** | 62 | 38 | 81 | 19 |

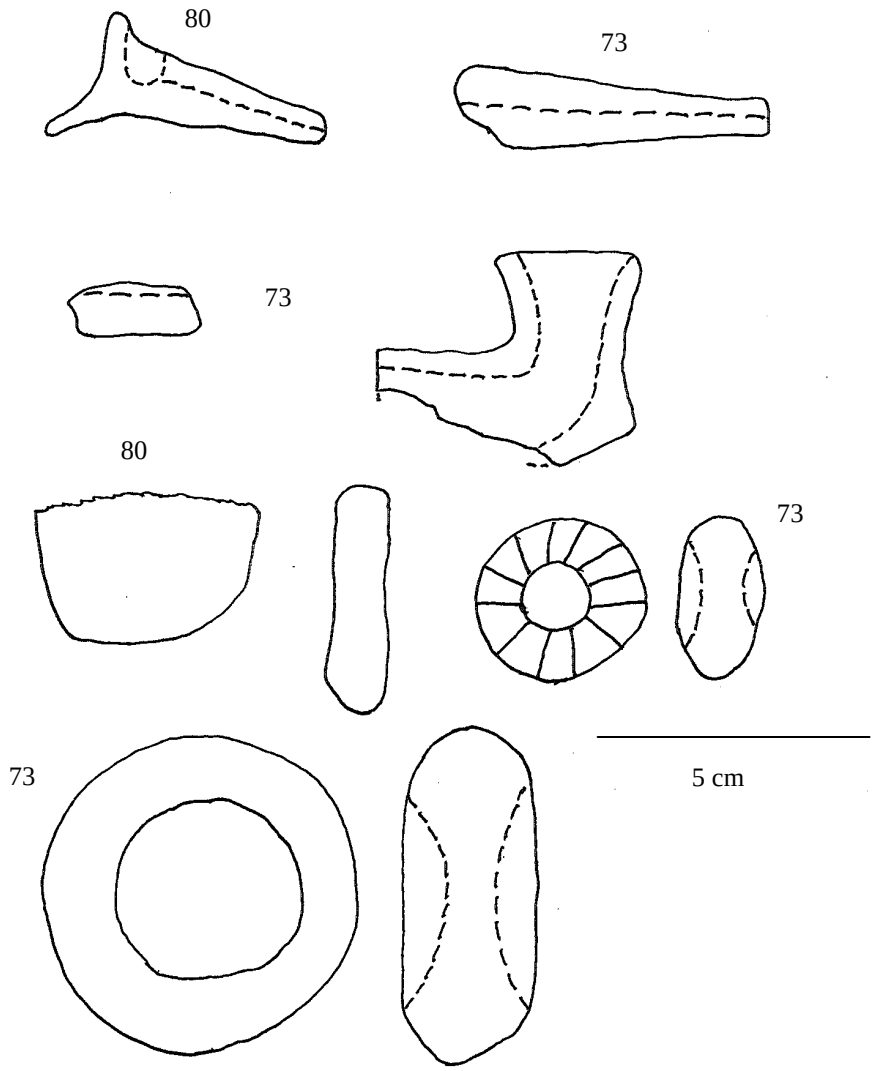



**Figure 9. Selected Patrick Component Pipes, Pipe Stems, and Discoidals.**

# CHAPTER 5

# TERMINAL LATE WOODLAND OCCUPATIONS

## Range Phase

The Range phase was defined by Kelly et al. (1990) on the basis of his excavations at the Range site. Range phase calibrated dates are A.D. 950 - 975 (Emerson 2007:xxiv) or uncalibrated dates of A.D. 850 - 900 (Kelly et al. 2007:12).

The Divers site Range component marks the defined beginnings of the Terminal Late Woodland occupations at the site. At this time, no Dohack component has been clearly defined at the Divers site. This absence may be due to no Dohack occupation or the fact the site was not fully excavated. In addition, a group of features have been defined as Early Terminal Late Woodland (Dohack and Range phases) because they lacked clear diagnostic artifacts and could not comfortably be assigned to a particular phase. Some of these features may be Dohack phase features. Only future excavations can determine which explanation is correct.

Limited excavation of the Range component exposed 18 pits; no structures were excavated. The pits were classified as Range phase features based upon ceramic content, superpositioning, and one carbon-14 date.

Kelly et al. (1990:305-307) defines the Range phase ceramic vessel forms as consisting of jars, bowls, pinch pots, and stumpware. Limestone temper (71%) is predominant with grog (17%) and grit (11%) used as secondary tempers. Cordmarking is the preferred surface treatment with the cords being mostly Z-twisted. Plain surfaces appear on some jar necks and pinch pots. Decorations consist of lip lugs and plain

interior lip notching. Madison County Shale (MCS) accounts for much of the grit-tempered jars and sherds and red slips are lacking.

The Range site is characterized by villages grouped around open areas with central quadripartite pits and a central post or large rectilinear structure while the smaller Westpark site is a single village with quadripartite pits and a central pole. Smaller sites defined mostly by pits also exist. Trade in the form of MCS vessels from the northern American Bottom, Mill Creek hoes from Southern Illinois, and Crescent Hills chert occurred in the southern American Bottom (Kelly 1990b:126-139).

***Features***

Pit attributes are described in Table 9, selected plan and profiles are on Figures 10-12 and the body sherd attributes are presented in Table 10. The pit morphology and attributes follow Kelly et al. (1990:353-360).

Features 9, 67, 83, 92, and 101 are Type 2 pits which are characterized as having walls making a distinct break from the pit floor. Type 2 pits constitute 28% of the pit types at the Divers site. Feature 67 contained stumpware and was superimposed by Feature 65, a Lindemann structure. Feature 83 was superimposed upon Feature 84, a Range pit, and by Feature 85, a Stirling structure. Feature 101 was superimposed upon Feature 102, a Patrick pit and superimposed by Feature 94, a Lohmann structure.

Features 53, 89, and 90 are Type 3 pits which are characterized by vertical side walls and account for 16% of the pit types. Feature 89 had two post molds in the floor on opposite sides. Unlike two Patrick pits, Features 48 (earth oven) and 69 (Type 4), which had the posts inslanted, these post were straight. The post molds were 10 cm wide and 10 cm deep thus could not have supported much weight.

Features 14, 17, 71, 84, 112, and 127 are Type 4 pits characterized by expanded walls and constitute 34% of the pit types. Feature 71 body sherds from 0 cm to 60 cm fit and suggest rapid pit filling. No materials were recovered from the bottom 15 cm of the pit fill. Feature 84 was superimposed by Feature 83, a Range pit and Feature 85, a Stirling structure. Feature 127 was superimposed by Feature 117, a Lohmann structure. During the construction of the structure, the northern limits of the pit were used to determine the limits of the structure basin. Wall post molds were clear in the pit fill. The pit extended to the terrace sands.

Features 30 and 76 were classified as earth ovens based upon ash deposits along the feature bottoms and constitute 11% of the pit types. Feature 20 was excavated as a unit and was superimposed by Features 28 and 29, Lohmann pits, and Feature 1, a Stirling structure. Feature 76 has an uncalibrated carbon-14 date of A.D. 905±55 and a calibrated date of A. D. 971±55 (Table 2). Sherds from 0 cm to 30 cm and 75 cm to120 cm were fitted and suggest rapid pit filling. Three post molds were in the pit floor but unlike other site pits (Features 89, a Range pit, and Features 48 and 69, Patrick pits) these posts were closely spaced near the pit wall. The pit history consisted of the primary pit excavation and a fire constructed in the bottom resulting in a 10 cm thick ash deposit which extended to the pit edges. The pit was used for a short time period when 20 cm of fluvial deposits occurred. Pit reuse resulted in 20 cm of charcoal deposits. The pit was redug to the ash lense and used for a short time period. Then fluvial deposits filled the bottom 70 cm of the pit and the pit was redug a second time to the ash lense but to a smaller diameter (160 cm). The final reexcavation was followed by pit filling without fluvial incident. The distribution of the pit artifacts also supports the pit reconstruction as

the majority of the body and rim sherds were recovered from 0 cm to 30 cm below the pit top.

Feature 78 is a limestone floored pit which is defined by limestone slabs on the pit floor and constitute 5% of the pit types at the site. Feature 78 was superimposed on Feature 79, a Patrick pit. The pit extended ca. 23 cm into the terrace sands. A single piece of charred wood extended from the pit floor (105 cm) up for 40 centimeters. Sherds from one vessel were fitted from 75 cm to 90 cm and the floor and additional reconstructions used sherds from 15 cm to 45 cm and suggest rapid pit filling. A piece of what appeared to be a "bark mat" was observed along the eastern wall near the pit floor.

Feature 110 is mostly likely composed of two curvilinear and one rectilinear pit. The pit was partially excavated.

The pit types, frequencies, and tempers compare favorably with the reported pits from the Range component at the Range site (Kelly et al. 1990:353-366, Table 12.3).

Kelly et al. (1990:361) has suggested that the pit typology is based upon morphology with little direct evidence for pit function. However, the pit attributes indicate distinct, but not mutually exclusive, differences among the pit types. Type 2 pits are smaller that the other types and some type names suggest functions. Types 3 and 4 are large and possibly served as storage facilities.

Figure 13 illustrates the spatial distribution of the Range component features. No definable pattern can be inferred from this distribution however the features are spread over a larger area than the Patrick component features.

### *Ceramics*

The primary basis for the Divers site Range component ceramic analysis and methodology is based upon ceramics from the Range site and presented by Ozuk (1990:387-434). The body sherds are presented in Table 10 and were discussed with the Range component pits because they constitute the primary basis for the cultural assignment for the pits which lacked rim sherds and they provide additional support for the cultural assignment of pits with rims.

The vessel forms (Table 11) consisted of jars, bowls, pinch pots, and stumpware. Jars constitute 62%, bowls 33%, pinch pots 4%, and stumpware 1% of the vessel forms. The temper of the body sherds consisted of 64% limestone, 28% grog, 8% grit, 0.7% limestone-shell, and 0.2% grit-grog (Table 10).

Vessel surface treatment is summarized in Table 12. Plain surfaces (not including pinch pots) accounted for 5%, smoothed-over cordmarked 64%, and cordmarked 31% of all surface treatments. Cord twisting consisted of 83% Z-twisted and 17% S-twisted for all identified vessels. Cordmarking placement was 75% vertical to the rim, 22% oblique, and 3% parallel to the rim. On rim sherds with a large enough portion of the body present, usually to below the shoulder, those rims with vertical cord placement had oblique cord placement below the vertical placement.

Vessel decoration (Table 12) consisted of lip impressions and included cord-wrapped stick interior lip impressions (16%), rounded impressions (53%), slash or V-shaped impressions (27%) and a squared impression (4%). Two bowls had interior lip impressions, one was cord-wrapped stick and one was a slash. No other forms of decorations were present.

Jar types and temper are listed on Table 13 and selected rim profiles are on Figure 14. The jar types are based upon six types defined by Ozuk for the Range site (1990:405-423). Type 1 (16%), Type 3 (34%), Type 4 (48%), Type 5 (27%), and Type 6 (.7%) jars were recovered from the Divers Range component pits. Jar tempering consisted of 72% limestone, 21% grog, 5% limestone-grog, and 2% grit tempers. Rim diameters ranged from 4 cm to 40 cm and had a mean diameter of 19.2 centimeters.

The Range component jars were typically limestone tempered, had roughened surfaces although some plain surfaces above the shoulder occur, had Z-twisted cords, and squared lips. Type 4 (48%) and Type 3 (34%) are the most common jar types. The surface roughened limestone tempered jars conform to the type Pulcher Cordmarked and those with plain necks to Pulcher Plain (Griffin 1977). The jar types and percentages are similar to the Range component at the Range site (Ozuk 1990:389, 390, 405-424).

Bowl types and tempers are presented on Table 14 and selected rim profiles are on Figure 15. Bowl types are based upon three rim forms; Type 1 inslant, Type 2 vertical, and Type 3 outslant. Type 1 (3%), Type 2 (33%), and Type 3 (64%) were recovered from the Range component pits. Bowl tempering consisted of 78% limestone, 15% grog, 5% limestone-grog, and 1% grit-grog temper. Bowl rim diameters ranged from 8 cm to 42 cm, with a mean of 21.7 cm. The limestone tempered bowls are of the type Pulcher Cordmarked (Griffin 1977) and the grog tempered bowls are Kane Cordmarked (Vogel 1975) or Korando Cordmarked (Keslin 1964) or Mulberry Creek Cordmarked variety Korando (Phillips 1970). The bowl types, attributes, and percentages are similar to those for the Range component at the Range site (Ozuk 1990:424-433).

Pinch pot data is listed on Table 11 for the 10 pinch pots from the Range component features. Six were not tempered but tempered pots included one limestone and one grog from Feature 17, one grog from Feature 30, and one limestone from Feature 78. The diameters ranged from 4 cm to 14 cm and they had a mean diameter of 5.5 centimeters. All of the pots had smooth surfaces and rounded lips.

Feature 67 contained one stumpware fragment which was cordmarked and not tempered. The Range phase marks the initial occurrence of stumpware (Kelly et al. 1990:434).

*Other Ceramic Artifacts*. Feature 67 contained a pipe stem fragment (Figure 15) and Feature 78 had one ceramic bead. Sherd disks were recovered from Features 30, 39, 78, and 101. All of the disks were manufactured from limestone tempered smoothed-over cordmarked sherds.

***Lithics***

The limestone recovered from the Range component pits consisted of 4305 pieces weighting 127.9 kg (Table 10). Limestone at the Range site was used for temper, tools, lining some pit floors and walls, and some construction such as cribbing posts (Williams 1990:450-451) and similar uses occurred at the Divers site. The Divers site is located 3.2 km (straight line) from the nearest limestone outcrops which would require a considerable amount of time and effort to secure this apparently vital resource.

Two granitic hammerstones were recovered from Features 67 and 76.

***Organic Remains***

Observed fauna remains included one beaver incisor from Feature 53 and a turtle carapace from Feature 122. Identified faunal remains included bone tools from Features 14 and 30 are described by Styles (1983) as:

> "… made from the long bone shafts of mammals, most likely white-tailed Deer (*Odocoileus virginianus*). However, due to degree of modification, precise identification of bone element and taxon are precluded. Two artifacts are associated with Feature 30. One of the shaft sections which is probably a Deer metapoidal has been split, whittled and ground into a point on one end for use as a perforator or awl. The opposite end shows a recent break. The other artifact has been whittled and ground into a finished tool. Three circular grooves have been incised around the blunt end. The other end has been whittled into a point which is not sharp. The specimen exhibits a high degree of polish and may represent a weaving tool."

The piece from Feature 14 is described as:

> "… been split, whittled and ground into shape. It was probably made from a deer metapoidal. Old breaks are present on both ends. It could represent the mid-section from an awl, but due to fragmentation, the precise function is uncertain".

Similar bone tools have been reported for the Range site (L. Kelly 1990:503).

One piece of wood from Feature 76 was identified as ash (*Fraximus sp*.) and was used to date the feature. A piece of charred "bark mat" 10 cm wide and 40 cm long extending from the pit floor to 40 cm above the floor was observed in Feature 78, a limestone floored pit.

Carbonized maize remains were identified from Feature 76, levels 45 cm to 60 cm and 105 cm to 120 cm by Blake (1972). Feature 76 has an uncalibrated date of A.D. 905± 55 and a calibrated date of A.D. 971±55 (Table 2). Most of the grains (n=15) were distorted but one 10 row grain was identified. Additional distorted grains were recovered from Feature 84.

***Discussion***

Given the evidence from 18 pits, limited inferences can be made about the Range component at Divers. The occurrence of maize is first documented (Feature 113) at Divers during the Early Terminal Late Woodland (Dohack or Range phases) occupations. The ceramic and pit types and attributes found in the 18 pits are similar to those reported by Kelly et al. (1990) from the Range component of the Range site.

The Range component represents continued site occupation and may well reflect a spatial and social development similar to one of the Range component villages at the Range site (Kelly et al. 1990:531-555) or the single village at the Westpark site (Kelly 1990b). Additional future excavations are required to document this interpretation.

## Early Terminal Late Woodland Component

Missing from Divers is a documented Dohack phase occupation, but some of the features classified as Early Terminal Late Woodland may ultimately prove to be Dohack. The following Divers features could not comfortably be assigned to a particular Early Terminal Late Woodland (Dohack or Range) phase due to the lack of clearly diagnostic artifacts or definitive morphology and attributes.

The Dohack and Range phases mark the beginning of the Terminal Late Woodland period and are defined by a shift in ceramic attributes from the preceding Patrick phase (Kelly et al. 1990; Stahl 1985). Dohack phase ceramic attributes include a shift to the use of limestone temper, Z-twisted cords, and a decrease in frequency of cord-wrapped stick lip impressions. Maize is also found more commonly in Dohack components than in older sites. Range phase ceramic attributes include the introduction of stumpware, an increase in Madison County Shale (MCS) vessels, limestone is the

predominate temper, and a lack of red slipped vessels (Kelly et al. 1990:21-22, 305-306). The Dohack and Range structures are more rectilinear and tend to be smaller than those of the preceding Patrick phase and there is an increase in pits with rectilinear orifices and a decrease in earth ovens (Kelly et al. 1990:21).

The Early Terminal Late Woodland component at the Divers site consists of four structures and sixteen pits. These features were identified on the basis of ceramic content, superpositioning, and structure attributes. The structures represent the earliest excavated evidence of buildings at the Divers site.

Kelly has divided the Range site Dohack and Range component structures into small and large rectilinear structures based on their dimensions. Small structures have dimensions of less than four meters on a side and are set in basins. Large structures, which are fewer in number, tend to lack basins and are considered to be used for community purposes rather for dwellings (Kelly et al. 1990:36, 67, 313, 345).

Ramadas, or structures with roofs but no walls, are also represented in the Early Terminal Late Woodland component at Divers. These ramadas are set in shallow basins and are usually situated close to a clearly defined basin structure. They have randomly placed interior posts which, taken with the random wall posts or missing walls, appear to have supported nothing more than a brush roof. These simple structures are interpreted as fair weather activity areas or something to provide shade but the exact function is not clear.

***Features***

Three small rectilinear structures and one ramada are assigned to the Early Terminal Late Woodland component. Table 15 lists the attributes of these structures.

Excavated structures were identified as Early Terminal Late Woodland components based on the ceramics recovered from the basin fill and structure floors, superpositioning, feature morphology, and dimensions.

Feature 13 (Figure 16) was partially excavated, had a Northwest to Southeast orientation and was superimposed by Feature 1, a Lohmann structure and Feature 18, a Lohmann pit. The basin fill rim sherds included one limestone tempered Type 3 jar and one untempered pinch pot. No structure floor materials were recovered. Feature 121 (Figure 17) was superimposed by Features 131 and 132, two Lohmann pits, with Feature 131 destroying some of the structure northern wall posts and basin. The structure was set in a 15 cm deep basin, had a Northeast to Southwest orientation and contained 7.5 $m^2$ of floor space. This structure may be a ramada.

Feature 120 (Figure 18) was superimposed by Features 122, 133, and 134, all Early Terminal Late Woodland pits. The structure was set in a 31 cm deep basin, had a Northwest to Southeast orientation, and contained 7.5 $m^2$ of floor space. The entrance way is located near the center of the southern wall where a 50 cm break occurs, seven exterior posts are positioned, and an interior ramp descends into the basin. The interior posts are mostly positioned along the northern wall. Rims sherds included two pinch pots, two Madison County Shale Type 3 jars, and two limestone tempered Type 2 bowls. Feature 135, the ramada, floor body sherds consisted of one grog and one limestone tempered sherds and one limestone tempered Type 4 jar. The structure had 8.5 $m^2$ of floor space and a Northeast to Southwest long axis orientation.

The three structures have attributes similar to those described for the Range site (Kelly et al. 1990:36-55, 313-330). No ramadas were reported for the Range site but

Features 194 and 195 at the George Reeves site have characteristics of a ramada associated with a structure (McElrath and Finney 1987:204).

The body sherds are in Table 16, the pit attributes are presented in Table 17, and selected pit plan and profile maps are on Figure 19. The pit morphology, types, and attributes are based upon those described by Kelly et al. (1990:353-360) for the Range site.

Feature 108 is a Type 1 pit which is characterized by a continuous curvilinear profile. Type 1 pits constitute 6% of the pit types.

Features 2, 21, 46, and 103 are Type 3 pits which are characterized by vertical side walls. Type 3 pits account for 25% of the pit types. Feature 46 was superimposed by Feature 36, a Lindemann structure and Feature 36 was superimposed by Features 94 and 96, both Lohmann structures.

Features 3, 19, 97, 98, 100, 133, and 134 are Type 4 pits which are characterized by expanding side walls. Type 4 pits constitute 50% of the pit types. Feature 3 was partially excavated and the excavated portion was excavated as a unit. Feature 19 was excavated as a unit, contained no rims, and was superimposed by Feature 16, a Lohmann structure and Features 1 and 16, both Stirling structures. Feature 97 was superimposed by Feature 96, a Lohmann structure. Feature 98 was superimposed upon Feature 92, a Range pit and superimposed by Feature 91, a Lohmann structure. Feature 100 was superimposed by Feature 94, a Lohmann structure. Feature 109 was partially excavated and was superimposed by Feature 105, a Lohmann structure. Features 133 and 134 are not well defined due to superpositioning. Feature 122, an Early Terminal Late Woodland pit, is superimposed upon Feature 134. Feature 134 is probably superimposed upon

Features 133 and 120, an Early Terminal Late Woodland structure. Feature 135, an Early Terminal Late Woodland ramada associated with Feature 120, is superimposed on Features 133 and 134. The true pit dimensions not defined and the upper 45 cm of Feature 134 and the upper 15 cm of Feature 133 were removed during the excavation of Features 120, 122, and 135 before Features 133 and 134 were clearly defined. The body sherds from the defined portions of Feature 133 consisted of 60% grog and 40% limestone and from Feature 134 100% grog tempered sherds. However, only ten body sherds from Feature 133 and six from Feature 134 were recovered.

Features 55 (Figure 19), 113, and 122 are typed as earth ovens based upon ash deposits on the feature bottoms. Earth ovens constitute 19% of the pit types. Feature 113 was partially excavated and was superimposed by Feature 118, a Lohmann pit, Feature 114, a Lohmann structure, and Feature 96, a Lohmann structure, in that order. The one shell tempered sherd was recovered from the 0 cm to15 cm level of the pit fill and is probably associated with one of the Lohmann features which superimposed the pit. Sherds from 0 cm to15 cm level and 15 cm to 30 cm level were fitted. Feature 122 is superimposed by Feature 120, an Early Terminal Late Woodland structure and superimposed on Features 133 and 134, both Early Terminal Late Woodland pits.

Kelly et al. (1990:361) has suggested that the pit typology is based upon morphology with little direct evidence for pit functions. However, the pit attributes indicate distinct, but not mutually exclusive, differences among the pit types. Type 1 pits are smaller than the other types and some type names suggest functions. Types 3 and 4 are large and possibly served as storage facilities.

At Divers, there is an increase in rectilinear orifice pits, an increase in Type 4 pits, and a decrease in earth ovens during this component. Kelly et al. (1990:21, 80, 82) documents an increase of rectilinear orifice pits, an increase in Type 4 pits, and a decrease in Earth Ovens during the Dohack phase from the preceding Patrick phase at the Range site. These changes may be related to a shift in subsistence with the introduction of maize. The Divers site pit types, frequencies, and ceramics are similar to those described for the Early Terminal Late Woodland Range site components.

Figure 20 illustrates the site spatial distribution of these component features. No definitive pattern can be inferred from the distribution except that the structures tend to cluster in an area where later occupations and structures occurred and the features do not seem to occur to the east as did the Patrick component features (Figure 6).

***Ceramics***

The primary basis for this component ceramic analysis and methodology is based upon ceramic work done at the Range site (Ozuk 1990:117, 382) and the Dohack site (Stahl 1985:170). These two sites and reports form the primary basis for the Divers Early Terminal Late Woodland (Dohack and Range) component ceramic types and attributes.

The body sherds are presented in Table 16 and were discussed with the component pits and structures because they constitute one of the bases for the cultural assignment and they provide additional support for the features with rim sherds. Feature rim sherds were also presented with the features in an abbreviated form but a more detailed analysis is presented here.

The vessel forms consisted of jars, bowls, and pinch pots. Jars constituted 68%, bowls 24%, Madison County Shale jars 4%, and pinch pot 4% of the vessel forms (Table

18). The temper of all of the body sherds consisted of 64% limestone, 30% grog, 5% grit, 0.06% grit-grog and 0.02% percent shell (Table 16).

The vessel surface treatment is summarized in Table 19. Plain surfaces, not counting pinch pots, accounted for 19%, smoothed-over cordmarked 53%, cordmarked 28%, and punctates occurred on one vessel. Cord twisting consisted of 66% Z-twisted and 34% S-twisted cords. Cord placement was 77% vertical and 23% obliquely to the rim. Red slipped interior surfaces occurred on two limestone-shell tempered body sherds from Feature 100 and one limestone tempered body sherd from Feature 103.

Vessel decoration, besides surface cordmarking, consisted of lip impressions, punctates, and lugs or tabs (Table 19). The lip impressions included 35% cordwrapped stick, 41% rounded, and 24% slash or V-shaped impressions. The lip impressions occurred on 34% of the vessels. Lip lugs or tabs were present on two jars.

Jar types and tempers are presented in Table 20 and selected jar rim profiles are presented on Figure 21. The jar types are based upon attributes defined by Ozuk (1990:136-158, 405-423). The jar types consisted of 15% Type 1, 45% Type 3, 39% Type 4, and 1% Type 6. Rim diameters ranged from 6 cm to 40 cm and had a mean diameter of 22.7 centimeters.

Type 3 (45%) and Type 4 (39%) jars are the most common types with limestone (74%) as the predominate temper and grit (17%) and grog (18%) as secondary tempers. Surfaces were roughened (81%) but plain necks become more common (19%). Z-twisted cords (66%) are the most common cord twist. The Madison County Shale jars first appear in this component and due to their unique paste are interpreted to represent intraregional trade from the northern portion of the American Bottom (Ozuk 1990:120).

The limestone tempered jars conform to the types Pulcher Cordmarked and those with smooth necks to Pulcher Plain (Griffin 1977). The grit tempered jars are related to the types Peters Station Cordmarked and the grog tempered jars to the type Loyd Cordmarked (Vogel 1975). The jar assemblage from this component is very similar to the Range site Dohack and Range components (Ozuk 1990:158, 423).

The bowl types and temper presented in Table 21 and selected rim profiles are illustrated on Figure 21. The bowl types are based upon three rim forms; Type 1 inslant, Type 2 vertical, and Type 3 outslant. Type 1 bowl (4%), Type 2 (54%), and Type 3 (42%) bowls were recovered from the component features. The bowl tempering consisted of 88% limestone, 8% grog, and 4% limestone-grog. The bowl diameters ranged from 20 cm to 40 cm and had a mean diameter of 31.2 centimeters. Bowl lip forms consisted of 91% squared and 9% rounded.

Bowl Types 2 (54%) and 3 (39%) were the most common types. The bowls were predominately limestone tempered (88%), had roughened surfaces, and squared lips. The limestone tempered bowls are of the type Pulcher Cordmarked (Griffin 1977) and the grog tempered bowls are Kane Cordmarked (Vogel 1975) or Korando Cordmarked (Keslin 1964) or Mulberry Creek Cordmarked variety Korando Cordmarked (Phillips 1970). The bowl assemblage conforms to that described from the Range site Dohack and Range components (Ozuk 1990:167, 428).

Pinch pots are presented in Table 18 and constituted 4% of the vessel forms. One was not tempered, two were grog tempered, and one was limestone tempered. All of the pots had smooth surfaces. The pinch pot diameters ranged from 4 cm to 10 centimeters.

*Other Ceramic Artifacts*. Feature 55 contained one limestone tempered smoothed-over cordmarked sherd disk.

***Lithics***

The limestone recovered from the features consisted of 1664 pieces weighing 58.17 kg (Table 16). The functions of this resource for temper, tools, and construction (Williams 1990, 187, 450-451). The Divers site is located 3.2 km (straight line) from the nearest limestone outcrops which would require considerable time and effort to secure this resource. Features 92 and 100 contained what could be limestone manos.

***Organic Remains***

Feature 120 had one piece of wood charcoal identified as sycamore (*Platanous occidentalis*). Feature 55 contained charred acorn meats identified as possible pin oak (*Quercus palustris*) and Feature 122 contained charred hickory nut shell fragments (*Carya sp.*). Feature 113 contained carbonized maize kernels and one kernel of 12 row maize (Blake 1972, 1974). Similar plant remains are reported for the Range site (Whalley 1990) and the Dohack site (Stahl 1985).

***Discussion***

The features and artifacts of the Early Terminal Late Woodland occupation at Divers are very similar to the Dohack and Range components at the Range and Dohack sites (Kelly et al. 1990; Stahl 1985). However, given the limited evidence available from this component at Divers, it cannot be stated with equal assurance that this occupations reflects the same social and political changes that Kelly et al.(1990) describes at Range site or the Westpark site (Kelly 1990b) both of which have formal village patterns.

What is clear is that Divers was continuously occupied from the late Patrick phase through the Range phase. Maize first appears during the Early Terminal Late Woodland, as do the Madison County Shale jars, which are inferred to represent intraregional trade with the Bluff tradition in the northern American Bottom. At this time, the Divers site appears to mark the southern limits of the distribution these jars in the American Bottom. A shift in the pit types and abundance from the preceding Patrick phase is believed to be due to the addition of maize into the diet. At the same time, the Divers site appears to be more complex and have a longer occupation than other nearby Early Emergent Mississippian sites such as Dohack (Stahl 1985), Joan Currie (D. Esarey 1980), and George Reeves (McElrath and Finney 1987), all of which, unlike Divers, are upland sites.

The Terminal Late Woodland also marks the beginnings of what Kelly (1990b, 2002, et al. 2007) has defined as the Pulcher Tradition in the southern American Bottom. Centered on the Lunsford-Pulcher site, which is located some 5 km northeast of Divers, this tradition is archaeologically defined by a predominance of limestone tempered pottery, red slipping, several vessel types. More significantly, the Pulcher Tradition represents social-political changes occurring in the southern American Bottom. These changes must have also influenced events at the Divers site.

## George Reeves Phase

The George Reeves phase marks the beginning of the Late Terminal Late Woodland period and is defined by assemblages from the George Reeves (McElrath and Finney 1987) and Range sites (Kelly et al. 2007). Based on calibrated C-14 dates, the George Reeves phase spans either A.D. 975 - 1000 (Emerson 2007: xxiv) or uncalibrated A.D. 900 - 950 (Kelly et al. 2007:12).

During the George Reeves phase, a complex village developed at Range with defined communities that are interpreted to reflect hierarchical community social segments (Kelly et al. 2007:233). These communities had courtyards spatially delineated by centrally placed features and plazas. The presence of Madison County Shale jars and other distinctive ceramic vessels demonstrate that trade contacts were widespread throughout the American Bottom and beyond (Kelly et al. 2007:17). Rectilinear single post basin structures continue from the preceding phase, but their average size and size range increases (Kelly et al. 2007:17-21).

George Reeves phase ceramics are characterized by jars, bowls, hooded bottles, stumpware, and pinch pots. Most vessels are tempered with limestone, but grog and grit tempers sometime occur, as does shell tempering for the first time in the regional sequence. Vessel surfaces are commonly cordmarked, but vessels with plain necks become more common. Red filming appears for the first time on interior and exterior surfaces. Decorations consist of lip lugs, handles, interior lip impressions, and the initial occurrence of filleted rims with lip impressions (Kelly et al. (2007:90-104).

The George Reeves component at Divers consists of three structures (Table 22) and eight pits (Table 23).

***Features***

The Divers three small rectilinear structures are less than 6 meters on a side and thus fall into the "small" category defined by (Kelly et al. 2007:75) at the Range site. Feature 26 (Figure 22) had no rim or body sherds but was superimposed by Features 1 and 15, both Stirling structures, and Features 16 and 24, both Lohmann structures. The structure contained 8.6 $m^2$ of floor space and a Northeast to Southwest orientation and is

interpreted to be a domicile. The interior post pit, Feature 23 contained 33% grog, 33 % limestone, and 33% shell tempered body sherds. The structure entranceway is probably near the center of the southeastern wall where nine exterior posts are located. Twelve interior posts are clustered in the central portion of the northeast end of the structure. Feature 23, the interior pit, was probably the location of a wooden mortar which is the first occurrence a wooden mortar post at the site. Additional wooden mortars are defined for Lohmann and Stirling component structures and are presented later. The interpretation is based upon a large post mold that is not consistent with structural posts due to size and location. An ethnographic description for the construction and use of wooden mortars includes the following for the Omaha by Fletcher and La Flesche (1972:338):

> "The making of wooden articles was also the work of men. The mortar (u'he), which was a necessity in every household, was formed from a section of a tree-trunk a foot or so in diameter and about three feet long. One end was chipped to a point so that it could be thrust into the ground to hold the utensil steady when in use; the other end was hollowed out to form the receptacle for the corn, by the following process: coals were placed on the surface and were kept "alive" by being fanned as they slowly burned their way into the wood, until a sufficiently large cavity had been burned out, when the mortar was smoothed with sandstone and water, inside and outside. The pestle, (we'he) was between three and four feet long, large and heavy at one end, and smaller and tapering at the other. When in use the small end was inserted into the mortar, the weight of the large end giving added force to the pounding of the corn".

Among the Omaha, "grinding stones were manufactured, but their use was generally restricted to times of movement when the wooden mortars and pestles were taken up and stored in caches" (Will and Hyde 1917:169-170; Fetcher and La Flesche 1972:99, 338). Kelly (et al 2007:69) also describes wooden mortars for the Range site George Reeves component. Feature 61 (Figure 23) and associate pit, Feature 62, is not a domicile but the

location of a special activity area, possibly a ramada with an associated Type 1 pit which may have functioned as the location of a wooden mortar or anvil. The structure posts formed a small, almost square, structure but there was no northeastern wall and the southwestern wall incorporated Feature 62. No structure wall posts were observed in Feature 62 and both features were defined at the same elevation, thus they are considered to be contemporaneous features. Feature 61 body sherds consisted of 54% limestone, 42% grog, 2% grit, and 1% red filmed shell tempered sherds. Feature 62 body sherds included 68%, 30% grit, and 2% grog limestone tempered sherds. A Wanda projectile point was recovered from the fill of Feature 62. Feature 75A (Figure 24) and the associated pit, Feature 75, are not considered to be a domicile. The structure is similar to Features 61 and 62 but has significant differences. Feature 75A has larger and deeper wall posts, the structure is curvilinear, and the associated pit (Type 3) is much larger. The features are similar in that they are both activity areas and not domiciles, the structure walls are not complete or missing, they are approximately the same size, and they both have a pit incorporated into the southwestern wall. Feature 75A has similarities to curvilinear structures described for the Lindeman phase at the Range site however the placement of the Range structures was based upon location and not cultural materials (Kelly et al. 2007:277-284).

The structure and pit attributes are like those from the George Reeves phase at the Range site (Kelly et al. 2007:25-50). Features 61 and 75A appear to be special activity areas of unknown function but Kelly has suggested the shallow pits may have functioned for the placement of wooden mortars or anvils, thus the features may be shades constructed over mortars or anvils.

The pit attributes are presented in Table 23 and the body sherds are in Table 24. The pit morphology is based upon attributes described by Kelly (et al. 2007:62-68).

Features 5, 6, 7, and 54 are Type 3 pits which are characterized by vertical side walls. Type 3 pits account for 80% of the pit types. Feature 5 was excavated as a unit and was superimposed by Feature 1, a Stirling structure. Feature 54 had three equally spaced post molds along the southern pit bottom. Feature 137 was the only Type 4 pit which is characterized by expanded sides.

Kelly et al. (2007:68-70) has indicated that the pit types are based upon morphology with little or no direct evidence for actual pit function. The morphological types are mutually exclusive with the larger Type 3 and 4 pits probably functioning as storage facilities and the smaller Type 1 and 2 may have functioned to hold wooden mortars or wooden anvils. The three post molds in the bottom of Feature 54 may have functioned as a drying rack. Similar post molds were observed in Features 89 (Range component), and 48 and 69 (Patrick component) pits. The pit types, frequencies and ceramics are similar to those reported for the Range site George Reeves phase (Kelly et al. 2007:62-68, 90-91).

Figure 25 illustrates the Divers site spatial distribution of the George Reeves features. No definitive pattern can be inferred from the distribution except most of the features tend to cluster in an area where subsequent occupations occur. Feature 75A is located among a cluster of Patrick component pits and the general distribution is wide which would suggest additional George Reeves features may be present at the Divers site.

### *Ceramics*

The primary basis for the George Reeves component ceramic analysis and methodology is based upon the George Reeves phase ceramics from the Range site (Kelly et al. 2007: 89-111). The delineation of the George Reeves phase is based primarily upon ceramics and is characterized by jars, bowls, hooded bottles, stumpware, and pinch pots. Red filming and shell tempering first appear and jars with plain necks increase in frequency. Decorations include lugs and exterior lip impressions on filleted rims (Kelly et al. 2007:17-21).

The body sherds are presented in Table 24 and were discussed with the component structures and pits because they form one of the bases for the cultural assignment of these features and they provide additional support for features with rim sherds.

The component vessel forms consist of 57% jars, 38% bowls, 4% pinch pots, and 1% stumpware (Table 25). The temper of all of the body sherds by count consisted of 10% grog, 86% limestone, and 3% grit 1% shell (Table 24). The pinch pot tempering included one limestone and two grog tempered pots and two with no temper. The stumpware was grog tempered.

The vessel surface treatment is summarized in Table 26. Plain neck surfaces accounted for 12%, smoothed-over cordmarked 71%, and cordmarked 16% of surface treatments. The cord twists, when discernable, consisted of 73% Z-twist and 27% S-twisted cords. Cord placement was 68% vertical, 28% oblique, and 4% parallel to the rim. On sherds which extended below the shoulder and had vertical cord placement the

cord placement was oblique below the shoulder. In some cases, this vertical-oblique placement occurred 2 cm to 5 cm below the rim.

Vessel decoration, besides cordmarking, consisted of lip impressions, red filming, lip lugs, and one spout (Table 26). The lip impressions were all rounded interior impressions except one filleted rim which had exterior impressions. Lugs were present on three jars and a spout was molded into one jar rim.

The jar types and temper are presented in Table 27 and selected rim profiles are illustrated on Figure 26. The jar types are based upon those defined for the George Reeves component at the Range site (Kelly et al. 2007:111-120). The Divers site types consisted of Type 1 (10%), Type 3 (48%), Type 4 (35%), Type 5 (5%), and Type 6 (2%) jars. Rim diameters ranged from 10 cm to 40 cm and had a mean diameter of 20.4 centimeters.

Type 3 (48%) and Type 4 (35%) jars are the most common types and limestone (78%) is the predominate jar temper. Shell tempering and red filming appear and the number of jars with plain necks becomes more common. Type 5 and Type 6 jars with flared and everted rims begin to appear although Type 6 jars were part of the Patrick component ceramic assemblage. The percentage of jars decreases over that of the preceding Range component. The limestone tempered jars correspond to the type Pulcher Plain and Pulcher Cordmarked (Griffin 1977). No Madison County Shale jars, which were present in the Early Terminal Late Woodland component, were recovered. The filleted rim first appears during this component. The jar assemblage is very similar to the Range site George Reeves ceramic component (Kelly et al. 2007:120).

The bowl types and temper are presented in Table 28 and selected rim profiles are illustrated on Figure 26. The bowl types are based upon three rim forms; Type 1 inslant, Type 2 vertical, and Type 3 outslant. Type 2 bowls constituted 62% and Type 3 38% of the bowl types. The bowl tempering consisted of 97% limestone and 3% grog temper. Two bowls had polished surfaces and two had smooth surfaces. Square lips accounted for 85% and rounded lips 15% of the lip forms. The bowl diameters ranged from 7 cm to 42 cm and had a mean diameter of 30.4 centimeters. The percentage of bowls increases over that of the preceding Range component. The limestone tempered bowls conform to the type Pulcher Cordmarked (Griffin 1977) and the grog tempered bowls to the type Kane Cordmarked (Vogel 1975) or Korando Cordmarked (Keslin 1964) or Mulberry Creek Cordmarked variety Korando Cordmarked (Phillips 1970).

Bowl Type 2 (62%) is the most common type with Type 3 at (38%), limestone (97%) is the predominate temper, and square lips (85%) is the most common lip type. Four bowls had smooth surfaces on portions of the rim sherd present. The bowl assemblage is similar to the Range site George Reeves phase where Type 3 bowls (75%) are more common than Type 2 (21%) bowls. This is reversed for the Divers site George Reeves component which has 62% Type 2 and 38% Type 3 bowls. During the Range component at the Divers site Type 2 bowls constituted 33% and Type 3 bowls 64% of the bowl types. These percentage reversals may be due to sampling error.

Pinch pots constitute 4% of the vessel types. The tempers included one limestone, one grog temping, and the remaining two were not tempered. The vessel rim diameters ranged from 4 cm to 5 cm and had a mean diameter of 4.5 centimeters.

Feature 7 contained one grog tempered stumpware rim (Table 25, Figure 26).

*Other Ceramic Artifacts*. The floor of Feature 26 had one biconical shaped fired clay object with a hole in the center and is probably a bead. Feature 5 contained a limestone tempered cordmarked disk which was 4 cm in diameter.

***Lithics***

Feature 62 had one Wanda type projectile point manufactured from a flake. The limestone recovered from all of the features consisted of 494 pieces weighing 12.5 kg (Table 24). The functions of the limestone at the Range site George Reeves component are as a temper, some construction, tools, and gaming and ceremonial objects (Kelly et al. 2007:143). The Range site is located very near to the exposed bluff but the Divers site is located 3.2 km. (straight line) from the nearest limestone outcrops which would require considerable time and effort to secure this resource.

***Organic Remains***

Feature 54 contained the charred remains of two acorn meats (*Quercus sp.*) (Blake 1976).

***Discussion***

The George Reeves component at Divers is represented by five pits and three structures, two of which are special purpose or non-domicile. Although too little is known about this component to permit the reconstruction of its community plan, it does demonstrate a continuous occupation of the site from the Late Woodland Patrick phase.

Ceramic changes are consistent with those documented at other George Reeves phase sites. Limestone is the predominate temper type, plain jar necks are common and shell tempering and red filming appears. As at the Range site, no earth ovens or limestone-floored pits were exposed. The spatial distribution of features suggests a

substantial George Reeves occupation at Divers, but additional excavations are needed to determine if the occupation was more than a homestead.

## Lindeman Phase

The Lindeman phase marks the end of the Terminal Late Woodland. It was initially defined by materials from the Range and George Reeves sites (Kelly et al. 1984; McElrath and Finney 1987) and later expanded upon by Kelly et al. (2007). Based on calibrated C-14 dates, the Lindemann phase spans either A.D. 1000 - 1050 (Emerson 2007: xxiv) or uncalibrated A.D. 950 - 1000 (Kelly et al. 2007:12).

The Lindeman component at the Range site was a large nucleated village with two initial segments grouped around courtyards and plazas marked with a central or group of central features (Kelly et al. 2007:469, 487). This village plan appears to mark a shift from the George Reeves phase spatial arrangement of segmented villages with village kin-based ranking. The shift in social organization and a decline in population may be related to the rise of the nearby Lunsford-Pulcher mound group to which the Range site occupants may have migrated (Kelly et al. 2007:487-488).

Rectilinear single-post basin structures increase in size during the Lindemann phase, but also have increased size variability (Kelly et al. 2007:238).

Lindemann phase ceramics include jars, hooded water bottles, bowls, stumpware, pinch pots, and globular seed jars. Limestone is the predominate temper with grog and shell has secondary tempers. Grit temper and Madison County Shale jars are less frequent than during preceding phases. Surface attributes consist of an increase in plain jar necks and plain surfaces and red slipped surfaces. Decorations include lip lugs, some

handles, exterior lip impressions on filleted rims, and some punctuates (Kelly et al. 2007:236).

***Features***

The Lindeman component at Divers is represented by eight single post structures, three of which are ramadas (Table 29), and ten pits (Table 30). The body sherds are in Table 31.

Small rectilinear, single-post, basin structures have dimensions of less than six meters on a side at the Range site (Kelly et al. 2007:243). Four such structures are defined at the Divers site and the remaining three structures are defined as ramadas based upon incomplete walls or missing wall posts, few interior posts, and proximity to other structures.

Feature 36 (Figure 27) was a burned structure superimposed on Feature 45, a Patrick phase pit, and Feature 46, an Early Terminal Late Woodland pit. The structure contained 7.2 $m^2$ of floor space, was set in a 10 cm deep basin, and had a Northeast to Southwest orientation. A gap in the wall post pattern near the center of the southwest wall is inferred to be the entranceway; a line of four posts set inside this entrance may mark the location of an interior screen. A hearth is located in the south central portion of the structure. One central post occurs and the remaining interior posts were positioned along all walls and probably functioned as platforms and racks. Numerous charred structural posts and roof rafters were observed with many of the cross pieces bound with charred twine. All of the interior posts were beneath the charred structure materials and all of the charred structural materials were located inside the structure. Only 51 pieces of

daub, weighing 382 grams, were recovered. Charred thatch, identified as bulrush, was recovered from the floor and is mapped showing the direction of the stems (Figure 27). It would appear little or no attempt was made to recover items after the structure had burned thus a great amount of artifacts were recovered from the structure floor. Figure 28 shows a piece-plot of the various artifact classes on the structure floor. Body sherds from the structure fill and floor consisted of 50% limestone, 36% grog, 9% red slipped limestone, 3% grit, 1% shell, and 1% red slipped shell tempered sherds. Identified plant remains included maize, sunflower seed and bulrush. A large igneous cobble was recovered on the top of the charred debris, almost appearing as if this was the final act after the structure burned. Feature 50 (Figure 29) was set in a 35 cm. deep basin, had 7.2 $m^2$ of floor space, and a Northwest to Southeast orientation, and was superimposed upon Feature 48, a Patrick phase pit. The structure entrance is located near the center of the southwest wall where a 60 cm gap in the wall posts occurs and a 40 cm deep depression or sump flanked by four posts are located. The sump may have functioned to keep water from draining into the structure interior. Two 10 cm deep depressions, one along the northeast wall and one along the southeast wall, contained no cultural materials. No evidence of structure burning was observed. The basin fill and feature floor body sherds consisted of 52% limestone, 12% grog, 4% red slipped limestone, 2% grit, and 0.4% shell tempered sherds. Ceramics were fitted from 0 cm to 10 cm to 10 cm to 20 cm and from 10 cm to 20 cm to 20 cm to 30 cm suggesting rapid basin filling. Feature 49 (Figure 30), a ramada, was located just off the southwest corner of Feature 50. Feature 49 contained 8.8 $m^2$ of floor space, had a Northeast to Southwest orientation, an interior hearth, Feature 51, and was superimposed upon Feature 48, a Patrick phase pit. Two biface

blades set together on the ramada floor were recovered from the edge of the hearth . Several of the grog tempered body sherds from Feature 51 fitted with a rim from the ramada floor. Feature 65 (Figure 31) was set in a 50 cm deep basin, had a Northwest to Southeast orientation, contained 8.3 m² of floor space, and had an extension on the southeast corner that added 3 m² of floor space. There was no evidence the extension was a later or earlier structure as no post molds appeared in the basin fill and the very small size and crude construction would seem to preclude the extension as a separate and distinct structure. The basin fill was homogenous, which suggests it filled rapidly. Some widely scattered charred wood was observed in the basin fill suggesting the structure may have burned. Feature 65 contained the only human remains recovered from the site. Feature 65 wall post placement was irregular in that the western and southern walls had double and triple posts in some areas which may represent repairs or poor quality wood for the wall posts. The basin fill contained two shallow pits located 16 cm and 20 cm above the floor. The ceramics from the pits are consistent with the basin fill ceramics and are the only cultural episodes occurring in the homogenous fill. The basin fill contained 80% limestone, 13% grog, 4% red slipped limestone, 2% grit and 0.5% shell tempered body sherds. The feature floor body sherds consisted of 43% grog, 40% limestone, 10% red slipped limestone, and 7% shell tempered sherds. Figure 32 illustrates the piece plotted floor sherds. Eight drilled ceramic disks (spindle whorls) were recovered from the floor, a large number for one location, and may represent the location for disk manufacturing. Five additional disks were recovered from the structure fill and three from the interior pit for a total of sixteen disks. The extension floor contained two limestone tempered body sherds. The disks and additional artifacts are

presented and discussed in the appropriate artifact sections. Feature 64 (Figure 31), the ramada associated with Feature 65, contained 5.2 m² of floor space and had a North-South orientation. The floor ceramics consisted of 31% limestone and 13% red slipped limestone tempered body sherds. Feature 117 (Figure 33) was a burned structure that contained 7.5 m² of floor space and had a North-Northeast to South-Southwest orientation. It superimposed Feature 127, a Range phase pit. The entrance way appears to be near the center of the eastern wall where there is an 80 cm break in the wall posts, an incurve occurs, and three interior posts are positioned. The remaining interior posts cluster along the southern and western walls. An area of fire-baked clay in the northeastern corner could have been the result of burning or the location of an interior hearth. A structure appendage was located on the southeast corner and extended to the entrance way. The appendage lacked wall posts was set in a 15 cm deep basin and the floor was defined by hard packed clay. The function of the appendage is not clear but its location near the entrance may have some connection. Body sherds from the basin fill consisted of 53% limestone, 34% grog, 10% red slipped limestone, and 1% shell tempering. Body sherds from the structure floor included two limestone tempered sherds which fitted with a floor rim. The structure floor artifacts are piece plotted on Figure 33. Another example of a structure-ramada unit comprises Feature 125, a structure, Feature 128, an interior Type 3 pit, and Feature 125A, a ramada (Figure 34). Feature 125 had 8 m² of floor space, was set in 50 cm deep basin, and had a Northeast to Southwest orientation. The entrance way is near the center of the southern wall where a 40 cm break in the wall posts occurs and where two large interior posts flanking the entrance are positioned. A gap in the northern wall is due to the structure being superimposed upon

Feature 130, a Range phase pit, and the wall posts could not be defined in the pit fill. A 10 cm deep trench parallel to the southern wall was first thought to be a Mississippian wall trench but no additional trenches were observed. The interpretation here is that the trench is a part of the structure and functioned as a drainage device similar to the exterior sump of Feature 50. A small interior depression 45 cm wide and 25 cm deep was located just inside the entrance could be a sump to collect water and or was formed by continual stepping in the same location upon entering the structure, similar to Feature 50. Body sherds from the structure floor included 61% limestone, 17% red slipped limestone, 14% grog, 5% shell, 2% grit and 1% red slipped shell tempered sherds. Body sherds found in the basin fill consisted of 97% limestone and 4% grog tempered sherds. Feature 128, the interior Type 3 pit, body sherds included 96% limestone and 4% grog tempered sherds. Feature 125A, the ramada, fill body sherds included 55% limestone and 45% grog tempered sherds. The ramada floor body sherds consisted of two grit and two limestone tempered sherds.

All five of the Lindeman phase structures are small rectilinear structures, three of which were burned. The structures are similar in size and W:L ratios to Terminal Late Woodland structures at the Range site (Kelly et al. 2007:Table 12.10). Three structures had a long axis Northeast to Southwest orientation and two had a Northwest to Southeast orientation. All of the structure areas are large enough to be considered domiciles. Feature 50, with its large number of disks, could have also been a workshop. No large structures considered to be community structures at the Range were recovered (Kelly et al. 2007:269). Features 117 and 65 had extensions positioned on the southeast corner of each structure and are interpreted as part of the structure entrance ways. Water control

mechanisms were associated with the entrance ways of Features 125 and 50 but the extensions associated with Features 117 and 65 may have functioned in this manner.

The three ramadas, Features 49, 64, and 125A, were defined on the attributes of irregular or missing walls and their proximity to a domicile. No ramadas are defined for the Range site Lindeman component (Kelly et al. 2007). The Lindeman component at the Marge site had one structure, Feature 1, with an extension giving the structure an L-shape. The extension lacked clearly defined wall posts, was set in a shallow basin, and is interpreted to be a food preparation area (Fortier 1996:111). At this time the distribution of ramadas may be restricted to the Divers site.

The attributes of the ten pits are presented in Table 30, the pit body sherds are in Table 31, and selected pit plan and profiles are in Figure 35. The pit morphology and types are based upon attributes described by Kelly et al. (2007:291-301).

Feature 34 is the only Type 2 pit which is characterized by a pit wall that makes a distinct break from the floor and constitutes 12% of the pit total. Features 4, 25, 35, 52, 63, and 72 are typed as Type 3 pits which are characterized by vertical side walls. Type 3 pits account for 75% of the pit types. Feature 4 was a large rectilinear pit with a large amount of artifactual remains and was superimposed by Feature 1, a Stirling component structure. Feature 25 was also superimposed by Feature 1, a Stirling component structure and by Feature 16, a Lohmann component structure and was superimposed on Feature 26, a George Reeves component structure. Feature 72 (Figure 35) had four closely spaced post molds along the northern wall, an attribute occurring with some previous component pits. Feature 130 (Figure 35) is the only earth oven and is defined by ash, burning, or organic deposits on the pit floor. The pit was superimposed by Feature 125, a Lindeman

structure, as several wall posts from the northern wall of the structure were observed in the pit fill. Maize, charred grass, and acorn shells were present in the pit fill.

Kelly et al. (2007:301) has discussed the Range site pit functions. Type 3 and 4 pits are the largest and probably functioned as storage facilities and some Type 1 and 2 could have functioned as the location for wooden mortars or anvils. Earth ovens functioned as food preparation pits. The pit types and ceramics are very similar to the Lindeman component at the Range site (Kelly et al. 2007:Table 12.19).

Figure 36 illustrates the spatial distribution of the Divers site Lindeman component features. The small number of features does not define a community pattern. The feature distribution is large and suggest additional Lindeman features may exist at the site. No clear association of structures and exterior pits exists because of adjacent unexcavated areas but based upon proximity Feature 63 could be an exterior pit for Feature 65, Feature 52 with Feature 50, and Features 34 and 35 with Feature 36. Only Feature 125 had an interior pit and it was shallow. The number and distribution of structures and pits suggest the Lindeman component was more than a homestead, at least a hamlet, and probably a small village size settlement. Future excavations are required to determine the settlement size and community plan.

***Ceramics***

The primary basis for this component ceramic analysis and methodology is based upon the ceramic analysis from the Range site (Kelly et al. 2007) and the George Reeves site (McElrath and Finney 1987). Since the initial ceramic definition, Lindeman ceramics have been documented for numerous sites south of the Range site.

The Lindeman component body sherds are presented in Table 31 and were discussed with the component pits and structures because the ceramics constitute one of the bases for the cultural assignment.

The vessel forms are on Table 32 and consist of 59 % jars, 33% bowls, 4% stumpware, 2 % pinch pots, 1% seed jars and one possible short neck water bottle.

The temper of all of the component body sherds consisted of 72% limestone, 15% grog, 9% red slipped limestone, 1% grit, 1% shell, 0.2% red slipped shell, 0.1% grit-grog, and 0.04% limestone-shell sherds.

The vessel surface treatment is presented in Table 33. Plain surfaces occurred on 29%, smoothed-over cordmarked on 32%, cordmarked on 29%, and red slipped on 10% of the vessel surfaces. Cord twisting consisted of 67% Z-twisted cords and 33% S-twisted cords. Cord placement was 78% vertical, 20% obliquely, and 2% parallel to the rim. Plain rims with pieces extending below the shoulder and those with vertical impressions usually had cord impressions placed obliquely below the shoulder or the vertical placement. Red slipping occurred on 6% of the jars and 14% of the bowls.

Vessel decoration, besides surface cord impressions and red slipping, consisted of lip impressions, lugs, filleted rims, bifurcated lugs, and possible effigies (Table 33 and 34). Lip impressions occurred on 8% of all vessels and consisted of 48% slash or V-shaped, 36% rounded, and 16% cord-wrapped stick impressions. Plain lip lugs were present on seventeen jars, three jars had spouts, one jar had punctates, and one jar a possible effigy lip lug. One bowl had a spout, two bowls had lugs, and one bowl had handles.

Jar types and temper are presented in Table 34 and selected jar rim profiles are illustrated on Figure 37. The jar types consisted of 8% Type 1, 42% Type 3, 43% Type 4, 5% Type 5, 1% Type 6, and 0.4% seed jars. The jar rim diameters ranged from 8 cm to 41 cm and had a mean diameter of 20.2 centimeters. Red slipped surfaces occurred on 6% of all jars.

Types 3 (42%) and 4 (43%) jars are the most common jar types and limestone (80%) is the predominate temper with grog (11%) as a secondary temper. Shell temper or a shell combination, accounts for 6% of the tempering which is a significant increase over previous Early Terminal Late Woodland components. Plain neck jars increase in number, seed jars and red slipped surfaces become more common, lip lugs in various forms occur and filleted rims continue to occur. Lip impressions continue but the occurrence of cord-wrapped impressions during the Lindeman component is not documented at other Lindeman sites. No Madison County Shale jars were recovered although some of the grit tempered body sherds exhibited a gritty pinkish paste and could be from these jars. One possible Varney Red Filmed jar (Figure 37) was recovered from the fill of Feature 136 (earth oven). There is an increase in the variety of temper types and combinations and surface treatments over previous components. The limestone jar types conform to the Pulcher types previously discussed. The jar assemblage is very similar to attributes and occurrences described for the Lindeman component at the Range site (Kelly and Ozuk 2007:346-365)

The bowl types and percentages are in Table 35 and selected rim profiles are illustrated on Figure 38. The bowl types are based upon three rim forms, Type 1 inslant, Type 2 vertical, and Type 3 outslant. Type 1 bowls accounted for 2%, Type 2 65%, and

Type 3 33% of the bowl types. The bowl tempering consisted of 87% limestone, 5% limestone-grog, 4% grog, 2% grit, 1% limestone-shell, and 1% shell. Red slipping occurred on 14% of the bowls. The bowl lip forms are 84% squared and 16% rounded. Lugs occur on two bowls and one bowl had a spout pressed into the lip. The bowl rim diameters ranged from 8 cm to 50 cm and had a mean diameter of 31 centimeters. Type 2 bowls (65%) are the most common with Type 3 (33%) a distant second. Limestone (87%) is the predominate temper but shell and a combination of shell tempers are present at the site. Red slips, although not common on bowls, also occurs for the first time. The limestone tempered bowls conform to the type Pulcher Cordmarked (Griffin 1977).

Five pinch pots were recovered (Table 32). The rim diameters ranged from 4 cm to 12 cm and they had a mean diameter of 6.8 centimeters. Two of the pots had no temper and three were grog tempered.

Fourteen pieces of stumpware were recovered with numerous pieces from structure floors (Table 32). The stumpware accounts for 4% of the vessel forms. The rim diameters ranged from 8 cm to 10 cm and had a mean of 8.6 centimeters. Five of the stumpware rims were limestone tempered, four were grog tempered, one was limestone-grog tempered, and one was not tempered. Selected stumpware is illustrated on Figures 39 and 40.

One possible short neck water bottle was recovered from the fill of Feature 65 (Table 32). The bottle was shell tempered, had red slipped interior and exterior surfaces and had a rim diameter of 8 cm although the rim was outflaring thus the neck diameter was slightly smaller. Short neck water bottles are not reported for the Lindeman phase but Hanenberger (2003:121, Figure 6.17a) reported a similar bottle for the Lohmann

component at the Range site. Hooded water bottles are reported for the Lindeman component at the Range site (Kelly et al. 2007:365).

Four seed jars were recovered; one from Feature 35 and three from Feature 50 (Table 32). All of the jars were limestone tempered and had red slipped interior and exterior surfaces and one had a thickened lip. No punctates were observed on the surfaces present. The seed jar initially appears in the Lindeman component.

*Other Ceramic Artifacts*. Feature 65 fill, floor, and the interior pit contained 14 drilled disks. The fill contained six disks, three manufactured from limestone tempered cord impressed sherds and two from red slipped limestone tempered sherds. One red slipped disk had multiple holes. The floor had four disks, one constructed from a limestone tempered cord impressed sherd and three with multiple holes made from red slipped limestone tempered body sherds (Figure 40). The interior pit contained three single hole disk fragments all manufactured from red slipped limestone tempered sherds. This is a large number of disks from one feature and suggests the manufacturing of disks at this structure. The function of the disks is as spindle whorls or in the case of the multiple hole disks as possible sieves or strainers (Kelly et al. 2007:387-389). One additional drilled disk made from a limestone tempered cord impressed sherd was observed from the fill of Feature 50. All of the disks had holes drilled from both sides. In this small sample there seems to be a correlation between disks with multiple holes manufactured from red slipped sherds.

One ceramic discoidal was recovered from the fill of Feature 50.

One smooth shell tempered pipe stem fragment (Figure 41) was recovered from the floor of the extension of Feature 65. The stem is similar to those recovered from previous

Early Terminal Late Woodland components except it is shell tempered. Feature 4 contained one fired clay ball which weighed 50 grams.

***Lithics***

The limestone recovered from all of the Lindeman features amounted to 4566 pieces weighing 34.6 kg (Table 31). The function of the limestone is for tools, temper, and construction purposes. Several structure plan maps have piece plots of the floor limestone.

Seven hoe flakes were recovered from the Features 4 (n=3), 65 (n=1), 50 (n=2, both Mill Creek), and 51 (n=1). Feature 36 had a hoe fragment on the floor.

Five hammerstones were recovered from Features 65 (n=1), 50 (n=2), 49 (n=1), and 36 (n=1).

Two sandstone abraders, one from Feature 65 and one from Feature 117 and one piece of unworked sandstone were recovered from Feature 50.

Two bifacial tools were recovered from the floor of Feature 49. They were placed side by side near the hearth. One was an adze and the other a gouge or chisel.

Feature 65 contained one discoidal from the structure floor (Figure 41). The discoidal was broken but was 3 cm thick and ca. 6 cm in diameter and was manufactured from basic rock. Feature 125 contained one broken discoidal.

***Organic Remains***

Two bone awls or pins were recovered from the fill of Feature 65. The whole piece was 19 cm long and had two engraved lines near the center (Figure 41). The second piece was only the distal end. Both pieces are probably manufactured from white tail deer metapoidal and are similar to those from Range component pits, Features 30 and

14. The whole piece, due to the length, would be too fragile to function as an awl and was probably a pin. Feature 50 contained one awl and one awl fragment. The whole awl was manufactured from a split deer metapodial and the broken awl was only the distal end. White-tail deer antler tines were recovered from the fill of Feature 50 and the floor of Feature 36.

Maize was recovered from structures Features 36 and 65 and earth oven Feature 130. Feature 36 floor maize consisted of an estimated six to nineteen cobs consisting of one 8 to 10-row, four 12-row, two 14-row, and one possible 16-row cupules. The 8 to 10-row was probably approaching Northern Flint. Feature 65 maize consisted of four 10-row, eight 12-row, and three 10-row cupules. Feature 139 had one 10-row cupules and eight distorted grains (Blake 1972).

Acorn meats (*Quercus sp.*) were recovered from the fills of Features 64, 65, and 130, one wild plum stone (*Prunus hortulana*) was recovered from the fill of Feature 65, and one sunflower seed (*Helianthus sp.*), which is large enough to be domesticated, was recovered from the floor of Feature 36 (Blake 1972). Carbonized seeds of bulrush (*Scirpus sp.*) were identified from the floor of Feature 36 and which "probably dropped from mats". Feature 130 had "burnt grass" remains which was probably bulrush (Blake 1972).

***Discussion***

There is an increase in the amount of maize recovered compared to previous occupations and the sunflower is first documented at the Divers site. It is not possible to make comparisons to earlier components or to other sites due to the small sample size

and incomplete floral analysis. The available Divers site Lindeman plant remains are similar to those from the Lindeman component at the Range site (Parker 2007).

***Human Remains***

The fill of Feature 65 contained "… a fragment from the left side of a [mature adult] human (*H. sapiens*) mandible. Two heavily worn teeth (probably the second molar and a fragment of the first molar) are present" (Styles 1983). Isolated human remains have been reported from Terminal Late Woodland features at numerous sites however we know little about the burial practices (Milner 1990; Milner et al. 2003). Milner (2007:453-455) suggests the majority of these human bones "presumably came from bodies that were placed on scaffolds, were dumped in convenient open features, or were exposed in the general vicinity of habitation areas. It is not known why these individuals, a tiny fraction of all the inhabitants of these sites, were treated in such a manner".

***Discussion***

Limited excavation of the Lindemann component suggests that it was at least a hamlet and probably a small village. No features such as courtyards or plazas with central markers or large rectilinear structures serving a community function were identified in these excavations. It is not known if the Divers Lindeman phase has a similar trajectory to the Range site Lindeman phase where a nucleation resulted in a compaction of the site size or the complex sociopolitical expressions of a larger complex village described by Kelly et al. (2007). The Divers site, at this time, is viewed as a small village and thus would not be expected to have the complex expressions found at the larger Range site. However, some of these elements may be present at Divers but on a

smaller scale. Thus, the Divers Lindeman component may be similar to the George Reeves, the Schlemmer, or the Westpark settlements (Kelly 1990b).

Kelly et al. (2007) states that the rise of the nearby Lunsford-Pulcher mound center may have effected developments at the Range site during the Lindeman phase by attracting people and relegating the Range site to a secondary social and political level from a previous George Reeves phase peak. The Divers site would have also been influenced by developments at Lunsford-Pulcher however if the interpretation that Divers is smaller than Range is correct then the impact and resulting sociopolitical changes would have been less. The smaller impact would have resulted in less change in the archaeological record. This needs to be verified by future excavations at Divers.

The Lindeman phase marks the final Terminal Late Woodland phase and precedes some impressive cultural and controversial political changes that occurred throughout the American Bottom with the rise of the Cahokia chiefdom. In the southern American Bottom the rise of the Lunsford-Pulcher site, and possibly also the Washausen site, both of which are poorly archaeologically known, may have served as points of nucleation for the Range site and other Lindeman phase sites whose populations decline (Kelly et al. 2007:487). Gone are the large nucleated villages and some larger sites like Range and Divers become nodal settlements surrounded by isolated farmsteads during the following Mississippian Lohmann phase (Emerson 1997a, 1997b; Mehrer 1995).

The Lindeman phase ceramics show significant changes from earlier site components. Limestone is still the predominant temper, grit temper decreases, shell temper increases, plain necks and red slipped surfaces increase. No Madison County Shale jars were recovered although some of the grit tempered body sherds could be from

such jars. Some southern shell tempered vessels appear like Varney Red Filmed and some of the other shell tempered jars. The ceramic assemblage has a greater diversity of tempers and vessel forms than previous components. Maize is more common but elements from previous component natural plants still occur. Mill Creek hoes occur and hoe flakes and fragments become more common.

## Terminal Late Woodland Household Patterns

Mehrer (1995:95-96, Figure 52) has delineated five Edelhardt (Lindeman) phase household patterns based upon the interior pit arrangement and structure size from the BBB Motor site. Mehrer suggests that the smaller Edelhardt (Lindeman) phase settlements lacked communal storage facilities found at the larger, more socially complex sites like the Range site. At these small sites, the small interior pits and possibly the small Type EM5 structures functioned as family storage facilities. This is a pattern which had its roots in earlier occupations and expresses the autonomy of these settlements but who were socially tied to other villages. The delineation of Terminal Late Woodland household patterns from one site has limited application however it is used here to define the Divers site Terminal Late Woodland patterns.

Three Divers site Early Terminal Late Woodland structures lacked interior pits but based upon size the structures would be Type EM4. The George Reeves structure had an interior pit and is a Type EM4. The Lindeman component had five structures but only one had an interior pit. All five structures are Type EM4. The structure alignments, except the ramadas, are all NW/SE (n=5) or NE/SW (n=4) and are parallel (NE/SW) or perpendicular (NW/SE) to the Fish Lake terrace.

All of the Terminal Late Woodland Divers structures are Type EM4 households.

The next chapter describes the Mississippian occupations at the Divers site and is followed by Chapter 7 which draws together the information presented in Chapters 4-6 to outline a synthesis of the development from the Late Woodland through Mississippian periods. This, in turn, provides the basis for an analysis of the definable patterns expressed by the Divers site occupations and an examination of the extent to which the Segmented and Ascendant Chiefdom models best inform our understanding of the Cahokia polity.

# Chapter 5 Figures and Tables

**Table 9. Range Component Pit Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Plan | Comments | Percent of Total |
|---|---|---|---|---|---|---|---|---|
| **Type 2 Pits** | | | | | | | | |
| 9 | 1.00 | 1.00 | .60 | 0.47 | 124.69 | Curvilinear | | |
| 67 | 1.00 | ~.50 | ~.50 | – | 125.10 | Curvilinear | Superimposed by F65 | |
| 83 | 1.20 | 1.40 | .20 | 0.25 | 124.79 | Curvilinear | Superimposed on F84 and by F85 | |
| 92 | 1.03 | .61 | .25 | 0.15 | 125.05 | Irregular | | |
| 101 | 1.05 | .75 | .26 | 0.16 | 124.87 | Curvilinear | Superimposed on F102 | |
| *Mean Values* | 1.05 | .93 | .40 | 0.25 | | | | 28% |
| **Type 3 Pits** | | | | | | | | |
| 53 | 1.00 | 1.00 | .45 | 0.35 | 124.73 | Curvilinear | | |
| 89 | 1.10 | 1.10 | .15 | 0.14 | 125.07 | Curvilinear | 2 posts | |
| 90 | 97 | .86 | .25 | 0.20 | 124.98 | Rectilinear | | |
| *Mean Values* | 1.02 | 98.6 | 28.3 | 0.23 | | | | 17% |
| **Type 4 Pits** | | | | | | | | |
| 14 | 1.00 | 1.00 | .90 | 0.80 | 124.77 | Curvilinear | | |
| 17 | 75 | – | .55 | – | 124.77 | Rectilinear | Half Excavated | |
| 71 | 1.30 | 1.25 | .75 | 1.02 | 125.15 | Curvilinear | | |
| 84 | 1.80 | 1.80 | 1.00 | 2.54 | 124.80 | Curvilinear | Superimposed by F83,85 | |
| 112 | 1.05 | 1.05 | .56 | 0.51 | 124.75 | Curvilinear | | |
| 127 | 1.50 | 1.40 | .50 | 1.05 | 124.40 | Rectilinear | Superimposed by F117<br>Half Excavated | |
| *Mean Values* | 1.23 | 1.30 | .71 | 1.18 | | | | 34% |
| **Earth Oven** | | | | | | | | |
| 30 | 1.33 | 1.30 | .60 | 0.90 | 124.57 | Rectilinear | Superimposed by F1,28 | |
| 76 | 1.80 | 1.80 | 1.35 | 2.78 | 125.30 | Curvilinear | C 14 AD 935, 3 posts | |
| *Mean Values* | 1.56 | 1.55 | 97.5 | 1.84 | | | | 11% |
| **Limestone Floored** | | | | | | | | |
| 78 | 1.60 | 1.50 | 1.05 | 1.95 | 125.17 | Curvilinear | Superimposed on F77 | 5% |
| **Miscellaneous** | | | | | | | | |
| 110 | – | – | – | – | 124.90 | – | Half Excavated, Multiple pits | 5% |

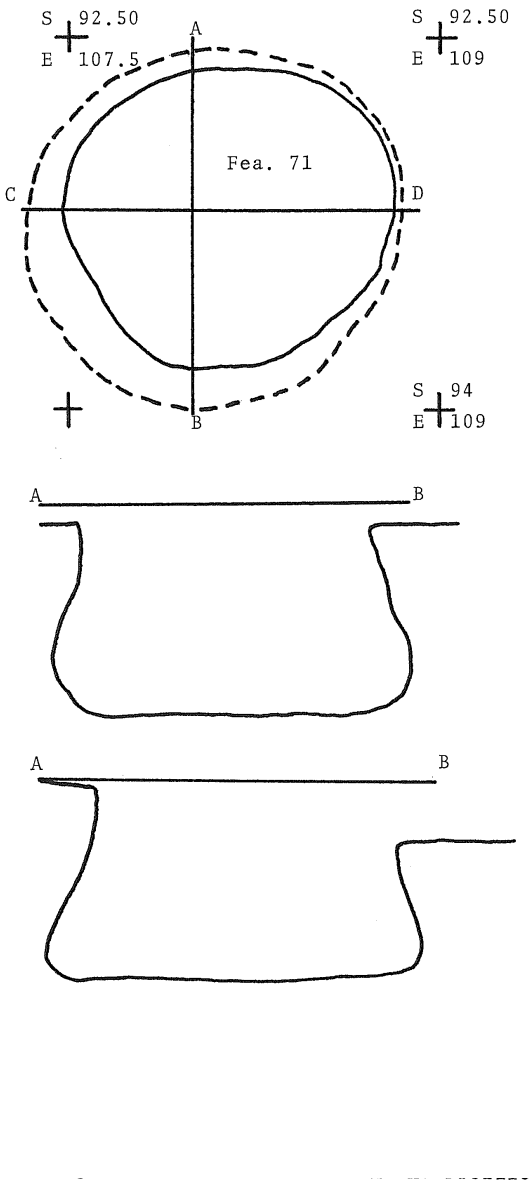



**Figure 10. Selected Range Component Pit: Feature 71.**

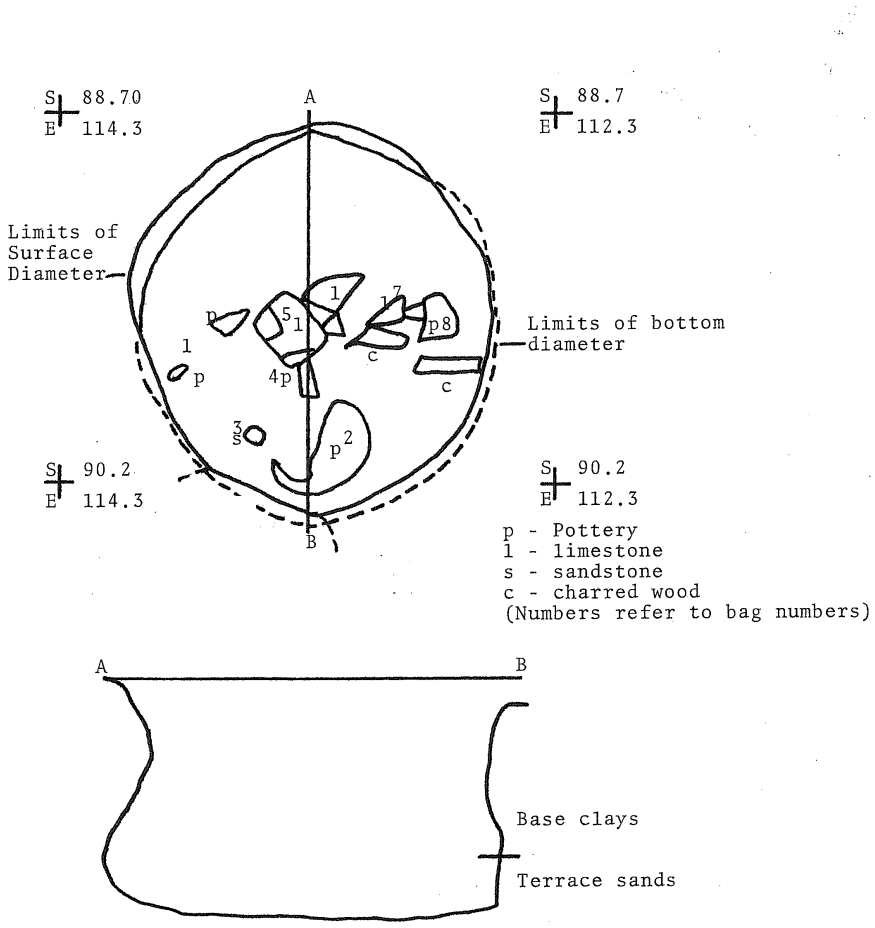



**Figure 11. Selected Range Component Pit: Feature 78.**

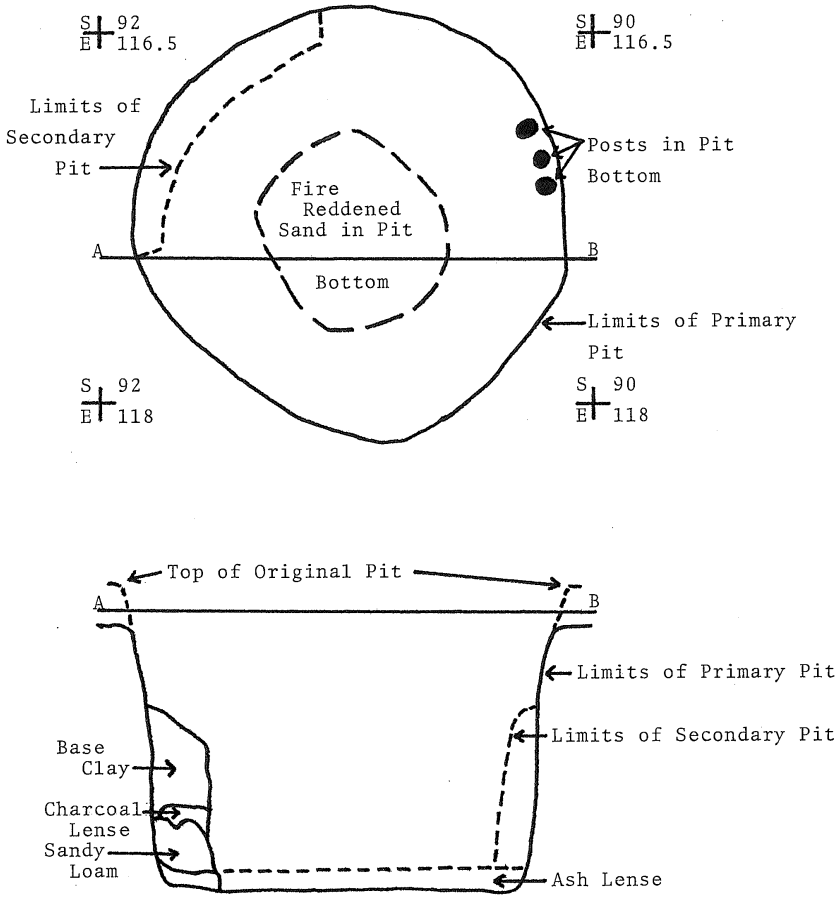



**Figure 12. Selected Range Component Pit: Feature 76.**

**Table 10. Range Component Body Sherds and Limestone.**

| Feature | Temper | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Grit | Grit/Grog | Grog | Limestone/ Grog | Limestone | Limestone/ Shell | Shell | Whole Limestone Count | Whole Limestone Weight (kg) |
| **Type 2 Pits** | | | | | | | | | |
| 9 | | | 13 | | 6 | | | | |
| 67 | 1 | | 97 | | 100 | | | 487 | 11.81 |
| 83 | | | 9 | | 10 | | | 63 | 1.62 |
| 92 | | | 4 | | 5 | | | 115 | 2.66 |
| 101 | | 2 | 3 | | 105 | | | 122 | 4.36 |
| **Type 3 Pits** | | | | | | | | | |
| 53 | | | 14 | | 42 | | | 120 | 3.41 |
| 89 | | | 1 | | 90 | | | 232 | 5.26 |
| 90 | | | 25 | | 54 | | | 44 | 1.90 |
| **Type 4 Pits** | | | | | | | | | |
| 14 | 2 | | 33 | | 230 | | | 105 | 2.30 |
| 17 | 1 | | 23 | | 16 | | | | |
| 71 | 47 | | 73 | | 52 | | | 448 | 13.58 |
| 84 | 8 | | 21 | | 169 | | 1 | 432 | 25.87 |
| 112 | | | 11 | | 40 | 2 | | 167 | 5.32 |
| 127 | 9 | | | | 163 | | | 329 | 16.91 |
| **Earth Oven** | | | | | | | | | |
| 30 | 1 | | 67 | 2 | 401 | | | 654 | 25.80 |
| 76 | 20 | | 207 | | 300 | | | | 12.07 |
| **Limestone Floored** | | | | | | | | | |
| 78 | 64 | 6 | 1 | | 206 | | | 411 | 2.63 |
| **Miscellaneous** | | | | | | | | | |
| 110 | 66 | | 1 | | 89 | | | 102 | 2.35 |
| **Totals** | 219 | 8 | 753 | 2 | 1717 | 2 | 1 | 4305 | 127.90 |
| **% of Total** | 8 | 0.2 | 28 | 0.07 | 64 | 0.07 | 0.07 | | |

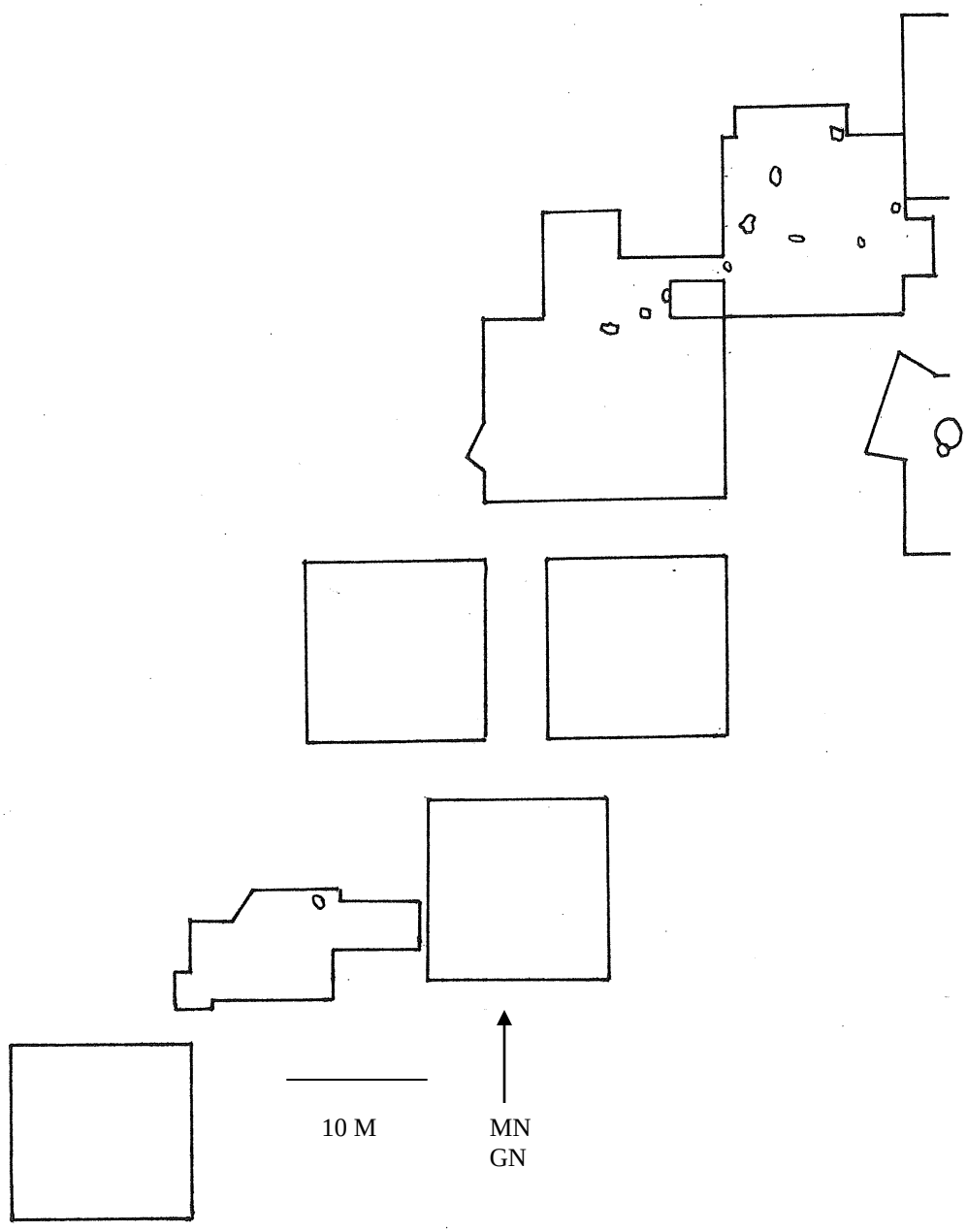



**Figure 13. Range Component Feature Distribution.**

**Table 11. Range Component Vessel Forms.**

| Feature | Jars | Bowls | Pinch Pot | Stumpware |
|---|---|---|---|---|
| **Type 2 Pits** | | | | |
| 9 | 4 | | | |
| 67 | 15 | 3 | 1 | 1 |
| 83 | 1 | 1 | | |
| 101 | | 1 | | |
| **Type 3 Pits** | | | | |
| 53 | 2 | | | |
| 89 | 7 | | | |
| 90 | 3 | | 1 | |
| **Type 4 Pits** | | | | |
| 14 | 14 | 6 | 1 | |
| 17 | 3 | 2 | 2 | |
| 71 | 9 | 6 | | |
| 84 | 8 | 6 | | |
| 112 | 8 | | | |
| 127 | 11 | 2 | | |
| **Earth Oven** | | | | |
| 30 | 22 | 20 | 3 | |
| 76 | 22 | 15 | 1 | |
| **Limestone Floored** | | | | |
| 78 | 9 | 12 | 1 | |
| **Miscellaneous** | | | | |
| 110 | 3 | 2 | | |
| **Totals** | 141 | 76 | 10 | 1 |
| **% of Total** | 62 | 33 | 4 | 0.1 |

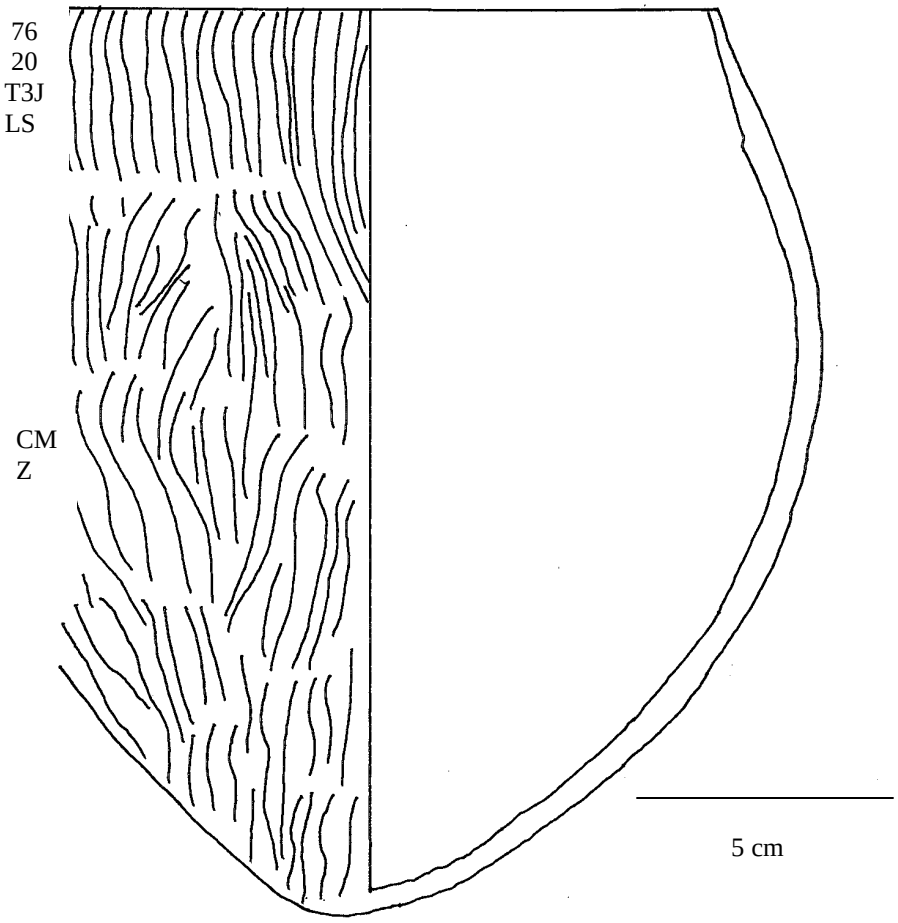
**Table 12. Range Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Cord Twist | | Lip Impressions | | | | Cord Placement | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Z | S | CWS | Round | Slash | Square | Vertical | Oblique | Parallel |
| **Type 2 Pits** | | | | | | | | | | | | |
| 9 | | 4 | | 1 | 1 | | 2 | 1 | | 3 | | |
| 67 | 2 | 12 | 5 | 4 | 5 | 2 | 4 | 1 | | 14 | 3 | 1 |
| 83 | 1 | 1 | | | | | | | | | 1 | |
| 101 | | | 1 | | 1 | | | 1 | | | 1 | |
| **Type 3 Pits** | | | | | | | | | | | | |
| 53 | | | 2 | 2 | | | | | | 2 | | |
| 89 | | 7 | | 4 | | | 4 | 1 | | 6 | | |
| 90 | | 3 | 1 | 4 | 2 | | 2 | 1 | | 6 | 1 | |
| **Type 4 Pits** | | | | | | | | | | | | |
| 14 | | 15 | 5 | 8 | | | 1 | 3 | 1 | 12 | 5 | 2 |
| 17 | 1 | 4 | | 1 | | | 2 | | | 3 | 6 | |
| 71 | 1 | 6 | 8 | 5 | 3 | 2 | 2 | | | 6 | | |
| 84 | | 10 | 4 | 9 | 4 | | | 2 | | 9 | 3 | |
| 112 | | 3 | 5 | 6 | | | 3 | 1 | | 7 | 1 | |
| 127 | | 7 | 5 | 5 | 1 | 1 | 5 | 2 | | 9 | 4 | |
| **Table 13 cont.** | | | | | | | | | | | | |
| **Earth Oven** | | | | | | | | | | | | |
| 30 | 3 | 27 | 12 | 26 | 1 | 1 | 3 | 5 | | 29 | 3 | |
| 76 | | 26 | 5 | 16 | 2 | 2 | 4 | | 1 | 13 | 6 | |
| **Limestone Floored** | | | | | | | | | | | | |
| 78 | 1 | 8 | 12 | 14 | 2 | 1 | 1 | | | 10 | 4 | 3 |
| **Miscellaneous** | | | | | | | | | | | | |
| 110 | 1 | 3 | 1 | 2 | | | | | | 3 | | |
| **Totals** | 10 | 136 | 66 | 10<br>6 | 22 | 10 | 34 | 17 | 3 | 129 | 39 | 6 |
| **% of Total** | 5 | 64 | 31 | 83 | 17 | 16 | 53 | 27 | 4 | 75 | 22 | 3 |

Plain On Upper Rim, does not include Pinch Pots, SCM = Smoothed Cordmarked, CM = Cordmarked,
CWS = Cord Wrapped Stick

**Table 13. Range Component Jar Types and Temper.**

| Feature | Types | | | | | Temper | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 3 | 4 | 5 | 6 | Grit | Grog | Limestone/ Grog | Limestone |
| **Type 2 Pit** | | | | | | | | | |
| 9 | 1 | 2 | 1 | | | | 2 | | 2 |
| 67 | | 8 | 7 | | | | 5 | 1 | 9 |
| 83 | | | | 1 | | | 1 | | |
| **Type 3 Pit** | | | | | | | | | |
| 53 | | 2 | | | | | | | 2 |
| 89 | 1 | 2 | 4 | | | | | | 7 |
| 90 | | 1 | 2 | | | | 1 | 1 | 1 |
| **Table 14 cont.** | | | | | | | | | |
| **Type 4 Pit** | | | | | | | | | |
| 14 | 3 | 4 | 7 | | | | 2 | 1 | 11 |
| 17 | | 1 | 2 | | | | | | 3 |
| 71 | 1 | 4 | 4 | | | | 2 | 1 | 6 |
| 84 | 2 | 2 | 3 | | 1 | 1 | 2 | | 5 |
| 112 | 2 | 4 | 2 | | | | 1 | | 7 |
| 127 | 3 | 6 | 2 | | | 2 | 1 | | 8 |
| **Earth Oven** | | | | | | | | | |
| 30 | 6 | 2 | 12 | 2 | | | 4 | | 18 |
| 76 | 3 | 7 | 12 | | | | 6 | 2 | 14 |
| **Limestone Floored** | | | | | | | | | |
| 78 | | 1 | 8 | | | | 2 | | 7 |
| **Miscellaneous** | | | | | | | | | |
| 110 | | 2 | 1 | | | | 1 | 1 | 1 |
| **Totals** | 22 | 48 | 67 | 3 | 1 | 3 | 30 | 7 | 101 |
| **% of Total** | 16 | 34 | 48 | 2 | 0.7 | 2 | 21 | 5 | 72 |




The vessel rim is irregular and has been ground after firing.

**Figure 14. Selected Range Component Jars.**

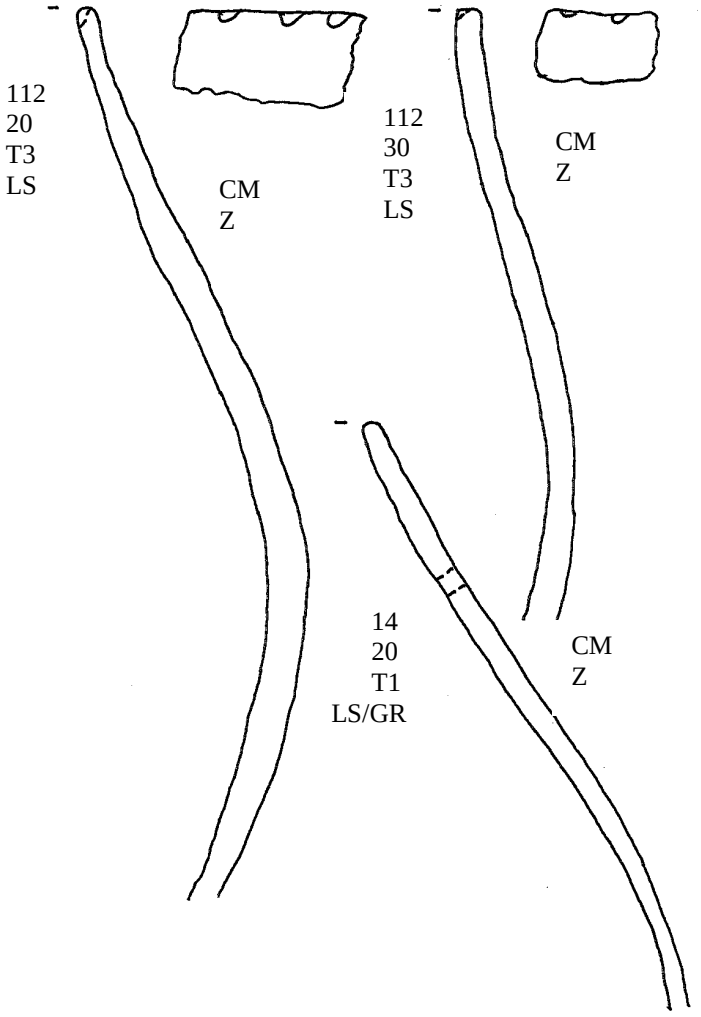



**Figure 14 cont. Selected Range Component Jars.**

**Table 14. Range Component Bowl Types and Temper**

| Feature | Types | | | Temper | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | Grit/ Grog | Grog | Limestone/ Grog | Limestone |
| **Type 2 Pits** | | | | | | | |
| 67 | | 1 | 2 | | 1 | | 2 |
| 83 | | 1 | | | 1 | | |
| 101 | | | 1 | | | | 1 |
| **Type 4 Pits** | | | | | | | |
| 14 | | 1 | 5 | | | | 6 |
| 17 | | | 2 | | | | 2 |
| 71 | | 4 | 2 | | 2 | 1 | 3 |
| 84 | | 1 | 5 | 1 | | | 5 |
| 127 | | | 2 | | | 1 | 1 |
| **Earth Oven** | | | | | | | |
| 30 | | 9 | 11 | | | | 20 |
| 76 | | 2 | 13 | | 6 | 2 | 7 |
| **Limestone Floored** | | | | | | | |
| 78 | 2 | 6 | 4 | | 2 | | 10 |
| **Miscellaneous** | | | | | | | |
| 110 | | | 2 | | | | 2 |
| **Totals** | 2 | 25 | 49 | 1 | 12 | 4 | 59 |
| **% of Total** | 3 | 33 | 64 | 1 | 15 | 5 | 78 |

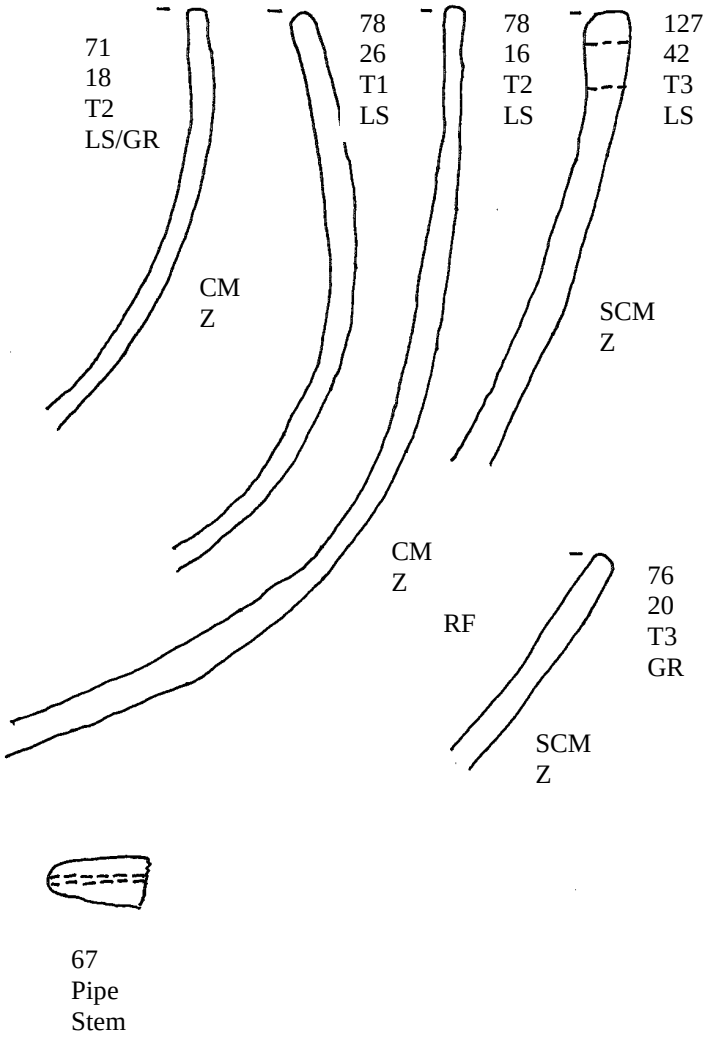



**Figure 15. Selected Range Component Bowls and Pipe Stem.**

**Table 15. Early Terminal Late Woodland Component Structure Attributes**.

| Feature | Length (m) | Width (m) | Basin Depth (m) | Area ($m^2$) | W:L Ratio | Long Axis Orientation | Elevation (datum) | Comments |
|---|---|---|---|---|---|---|---|---|
| **Structures** | | | | | | | | |
| 13 | – | 1.35 | ~0.35 | – | – | NW/SE | 125.00 | Partially excavated, Superimposed by F18 |
| 120 | 3.00 | 2.50 | 0.31 | 7.50 | 0.83 | NW/SE | 124.95 | Superimposed by F122, 132, 134 |
| 121 | 3.00 | 2.50 | 0.15 | 7.50 | 0.83 | NE/SW | 124.95 | Superimposed by F131, 132 |
| **Ramada** | | | | | | | | |
| 135 | 3.00 | 2.75 | 0.20 | 8.25 | | NE/SW | 125.00 | |

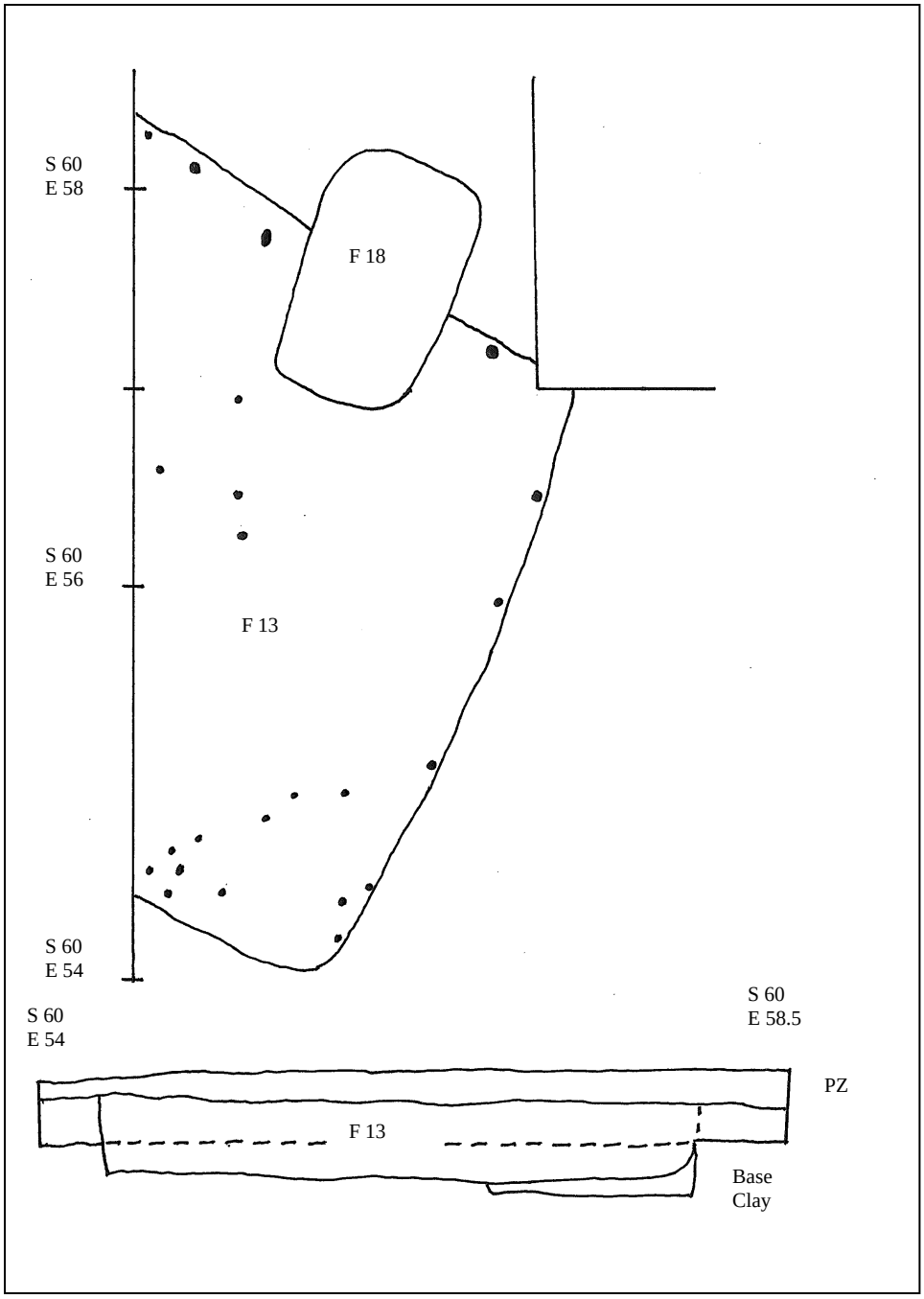



**Figure 16. Early Terminal Late Woodland Component Structure: Feature 13.**

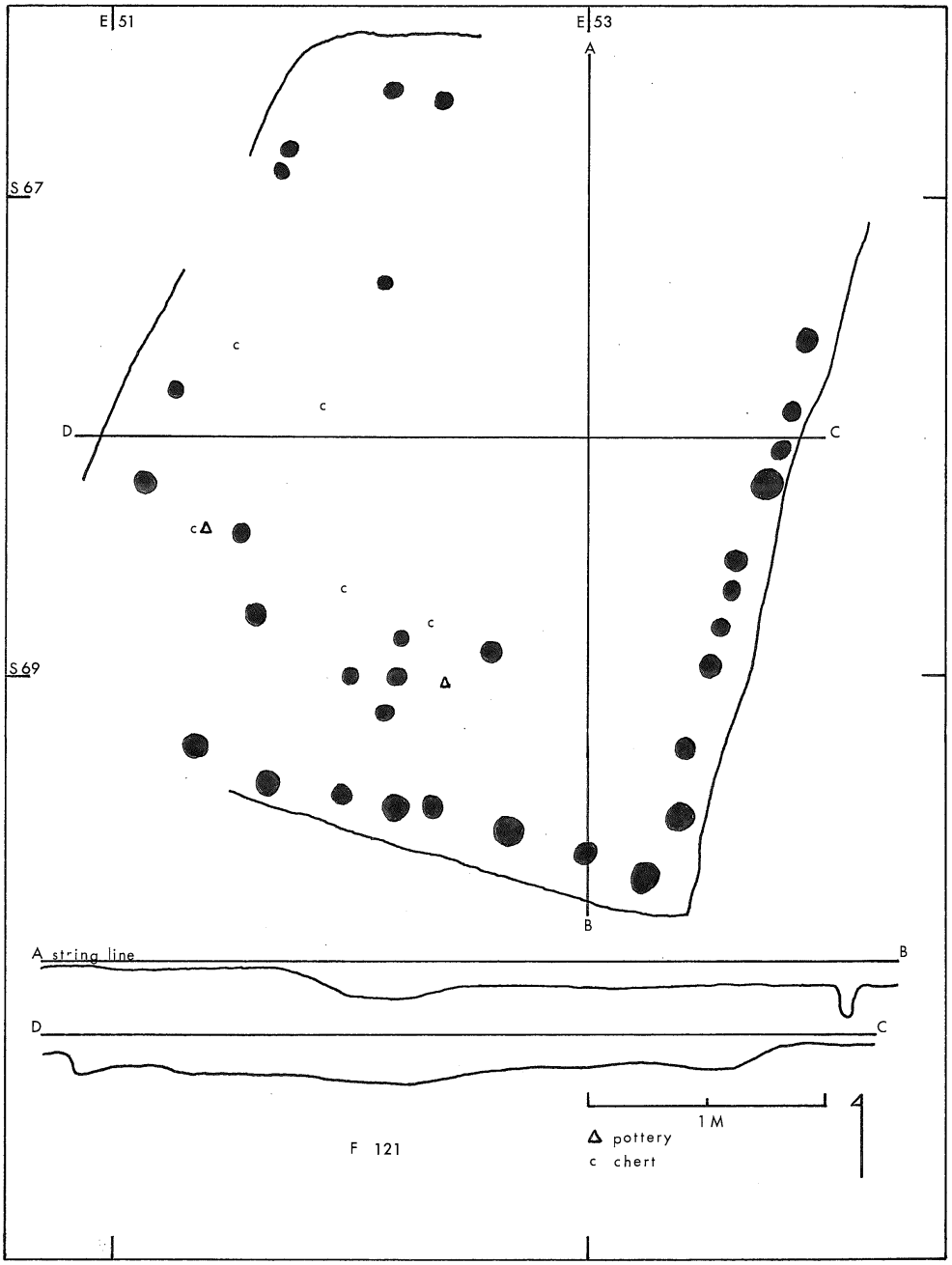



**Figure 17. Early Terminal Late Woodland Component Structure: Feature 121.**

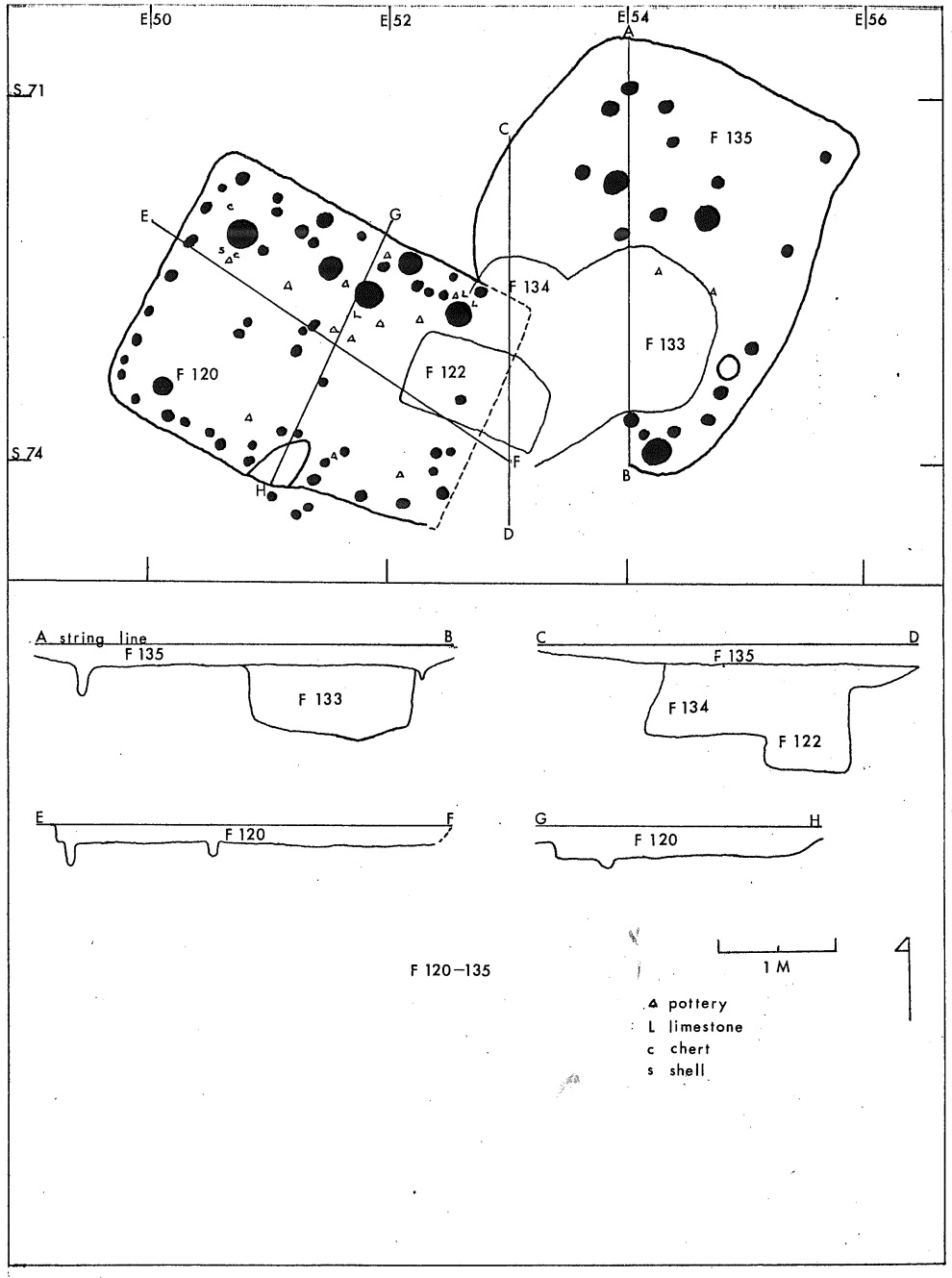



**Figure 18. Early Terminal Late Woodland Component Structures: Features 120 and 135.**

**Table 16. Early Terminal Late Woodland Component Body Sherds and Limestone.**

| Feature | Grit | Grit/Grog | Grog | Limestone | Shell | Whole Limestone | |
|---|---|---|---|---|---|---|---|
| | | | | | | Count | Weight (kg) |
| **Type 1 Pits** | | | | | | | |
| 108 | | | 7 | 43 | | 28 | 1.12 |
| **Type 3 Pits** | | | | | | | |
| 2 | | | 10 | 33 | | | |
| 21 | | | 8 | 49 | | | |
| 46 | | | | 111 | | 8 | 0.58 |
| 103 | | | 15 | 36 | | 189 | 5.54 |
| **Type 4 Pits** | | | | | | | |
| 3 | 3 | | 33 | 72 | | | |
| 19 | | | 4 | 9 | | 16 | 0.36 |
| 97 | | | 36 | 10 | | 74 | 3.47 |
| 98 | | | 10 | 14 | | 136 | 5.76 |
| 100 | 33 | | 85 | 8 | 2 | 284 | 11.86 |
| 109 | | | 106 | 4 | | 78 | 1.62 |
| 133 | | | 6 | 4 | | 17 | 0.56 |
| 134 | | | 6 | | | 38 | 2.12 |
| **Earth Oven** | | | | | | | |
| 55 | 18 | | 22 | 214 | | 298 | 9.78 |
| 113 | 23 | | 22 | 58 | 1 | 191 | 4.70 |
| 122 | 2 | | 53 | 265 | | 218 | 8.51 |
| **Structures** | | | | | | | |
| 13 | | 1 | 38 | | | | |
| 120 Fill | 5 | | 32 | 99 | | 85 | 1.82 |
| Floor | | | | 26 | 1 | 2 | 0.25 |
| **Ramadas** | | | | | | | |
| 121 Floor | | | 1 | 1 | | | |
| 135 Floor | | | 1 | 1 | | | |
| Interior Pit | | | | 3 | | 1 | 0.81 |
| Wall Post | | | 1 | | | 2 | 0.04 |
| **Totals** | 54 | 1 | 496 | 1061 | 4 | 1664 | 58.17 |
| **% of Total** | 5 | 0.06 | 30 | 64 | 0.02 | | |

**Table 17. Early Terminal Late Woodland Component Exterior Pit Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Plan | Comments | Percent of Total |
|---|---|---|---|---|---|---|---|---|
| **Type 1 Pit** | | | | | | | | |
| 108 | 1.45 | 1.00 | 0.15 | 0.16 | 124.90 | Oval | | 6% |
| **Type 3 Pits** | | | | | | | | |
| 2 | 0.70 | 0.80 | 0.40 | 0.22 | 124.87 | Rectilinear | Dug as a unit | |
| 21 | 0.85 | 0.75 | 0.40 | 0.76 | 124.67 | Curvilinear | | |
| 46 | 0.75 | 0.70 | 0.47 | 0.20 | 124.85 | Curvilinear | Superimposed by F36 | |
| 103 | 1.20 | 1.10 | 0.23 | 0.27 | 124.82 | Curvilinear | Superimposed by F 94 and 96 | |
| *Mean Values* | 0.87 | 0.83 | 0.32 | 0.36 | | | | 25% |
| **Type 4 Pits** | | | | | | | | |
| 3 | 0.80 | – | 0.90 | – | 124.92 | Rectilinear | Half Excavated | |
| 19 | 0.80 | 0.70 | 0.35 | 0.18 | 124.68 | Curvilinear | Superimposed by F16 | |
| 97 | 2.20 | 1.00 | 0.30 | 0.45 | 124.95 | Irregular | Superimposed by F96 | |
| 98 | 1.06 | 1.07 | 0.48 | 0.39 | 125.05 | Curvilinear | Superimposed on F92 and by F91 | |
| 100 | 1.20 | 1.10 | 0.54 | 0.55 | 124.90 | Curvilinear | Superimposed by F94 | |
| 109 | 1.00 | 0.95 | 0.50 | 0.37 | 124.70 | Curvilinear | Superimposed by F105 | |
| 133 | – | – | 0.50 | – | 124.71 | Curvilinear | | |
| 134 | – | – | 0.70 | – | 124.50 | Rectilinear | Superimposed by F120, 122 | |
| *Mean Values* | 1.17 | 0.93 | 0.53 | 0.38 | | | | 50% |
| **Earth Oven** | | | | | | | | |
| 55 | 1.35 | 1.12 | 0.80 | 1.20 | 124.80 | Rectilinear | | |
| 113 | ~1.00 | ~1.00 | 0.50 | – | 124.74 | Rectilinear | Superimposed by F96, 114, 118 | |
| 122 | 1.25 | 0.75 | 0.65 | 0.61 | 124.70 | Rectilinear | Superimposed on F 133,134 and by 120 | 19% |
| *Mean Values* | 1.29 | 0.95 | 0.65 | 0.90 | | | | |

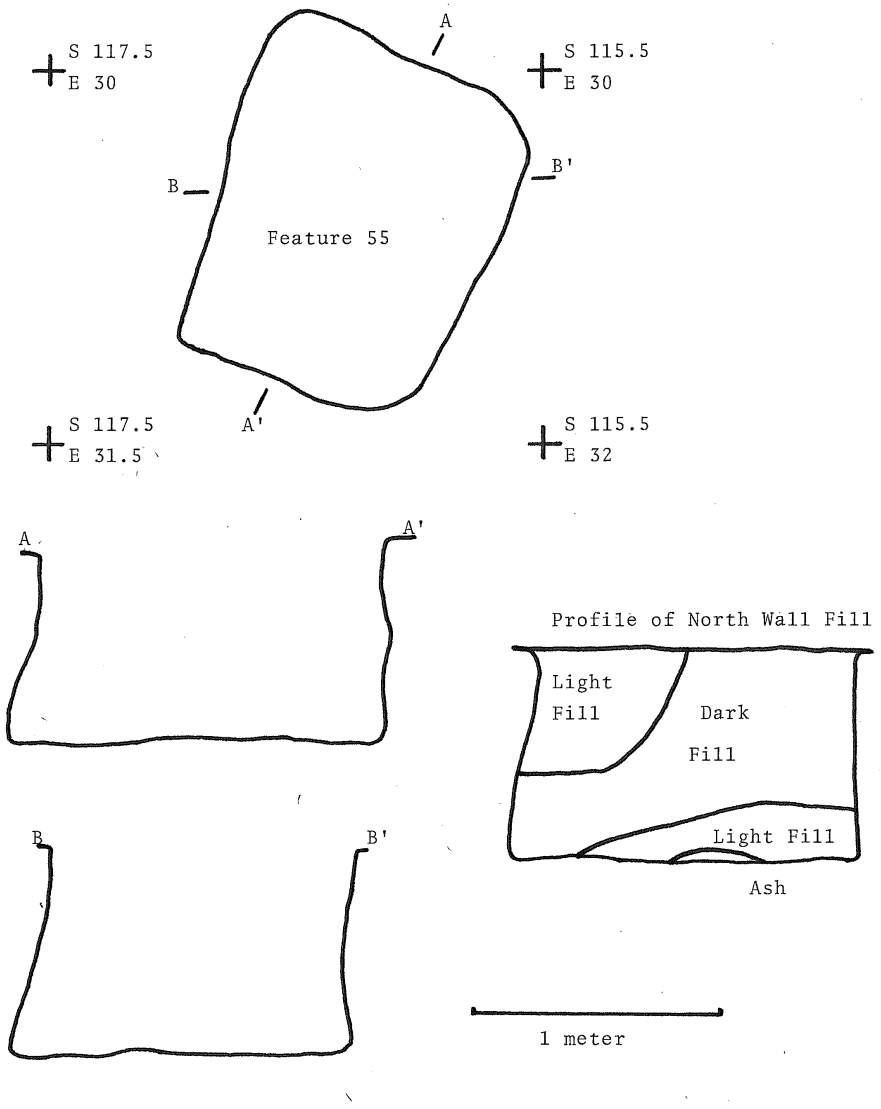



**Figure 19. Selected Early Terminal Late Woodland Component Pit: Feature 55.**

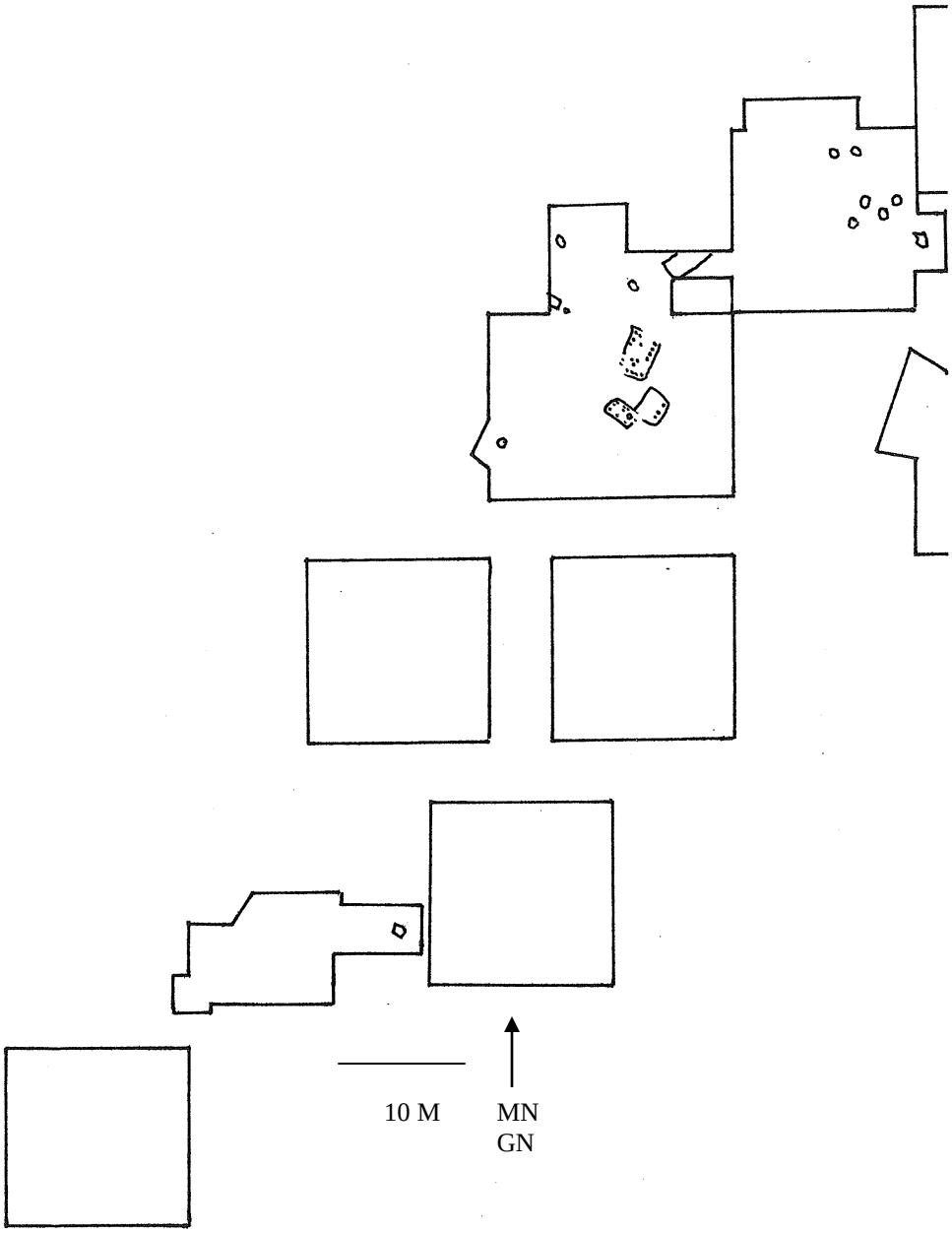



**Figure 20. Early Terminal Late Woodland Component Feature Distribution.**

**Table 18. Early Terminal Late Woodland Component Vessel Forms.**

| Feature | Jars | Bowls | Madison County Shale | Pinch Pots |
|---|---|---|---|---|
| **Type 1 Pit** | | | | |
| 108 | 2 | | | 1 |
| **Type 3 Pits** | | | | |
| 2 | 1 | 3 | | |
| 21 | 4 | 2 | 1 | |
| 46 | 1 | 1 | | |
| 103 | | | | 1 |
| **Type4 Pits** | | | | |
| 3 | 6 | 2 | | |
| 97 | 4 | | | |
| 98 | 1 | | | |
| 100 | 4 | | | |
| **Earth Oven** | | | | |
| 55 | 10 | 5 | 1 | |
| 113 | 5 | | | |
| 122 | 27 | 7 | | |
| **Structures** | | | | |
| 13 | 1 | | | 1 |
| 120 | | 4 | 2 | 2 |
| **Ramada** | | | | |
| 135 | 1 | | | |
| **Totals** | 67 | 24 | 4 | 5 |
| **% of Total** | 68 | 24 | 4 | 4 |

**Table 19. Early Terminal Late Woodland Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Punctates | Cord Twist | | Lip Impressions | | | Cord Placement | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Z | S | CWS | Round | Slash | Vertical | Oblique | |
| **Type 1 Pit** | | | | | | | | | | | | |
| 108 | | 1 | 1 | | 1 | | | | | 2 | | |
| **Type 3 Pits** | | | | | | | | | | | | |
| 2 | 1 | 2 | 1 | | | 1 | | | | 2 | 1 | |
| **Table 21 cont.** | | | | | | | | | | | | |
| 21 | 5 | 2 | | | 1 | 1 | | | | | | 1 MCS |
| 46 | | 2 | | | 1 | | | | | 2 | | |
| **Type 4 Pits** | | | | | | | | | | | | |
| 3 | 2 | 5 | 1 | | 2 | 1 | 1 | 1 | | 6 | 1 | |
| 97 | | 1 | 3 | | | 2 | | 1 | | 4 | | |
| 98 | | 1 | 3 | | | | | | | | | |
| 100 | 1 | 3 | | | | 1 | 2 | | | 3 | | |
| **Earth Oven** | | | | | | | | | | | | |
| 55 | 4 | 7 | 5 | | 5 | 3 | | 1 | | 8 | | 1 MCS |
| 113 | | 2 | 3 | 1 | | 2 | 3 | | 1 | 4 | 1 | |
| 122 | 4 | 26 | 4 | | 16 | 5 | | 1 | 3 top of lip | 18 | 7 | 1 Tab |
| **Structures** | | | | | | | | | | | | |
| 120 | 2 | 1 | 3 | | 3 | | | | | | | 2 MCS |
| 135 | | 1 | 4 | | 1 | | | 1 | | 1 | 3 | |
| 13 | | 1 | | | 1 | | | | | 1 | | |
| **Totals** | 19 | 53 | 28 | 1 | 31 | 16 | 6 | 7 | 4 | 51 | 15 | |
| **% of Total** | 19 | 53 | 28 | | 66 | 34 | 35 | 41 | 24 | 77 | 23 | |

Plain = Plain On Upper Rim, does not include Pinch Pots, SCM = Smoothed Cordmarked, CM = Cordmarked,
CWS = Cordwrapped Stick, MCS = Madison County Shale

**Table 20. Early Terminal Late Woodland Component Jar Types and Temper.**

| Feature | Type | | | | Temper | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 3 | 4 | 6 | Grit | Grit/ Grog | Grog | Limestone | Limestone/ Grog |
| **Type 1 Pit** | | | | | | | | | |
| 108 | | 2 | | | | | | 2 | |
| **Type 3 Pits** | | | | | | | | | |
| 2 | | 1 | | | | | | 1 | |
| 21 | | 2 | 2 | 1 | | | | 4 | 1 |
| 46 | | | 1 | | | | 1 | | |
| **Type 4 Pits** | | | | | | | | | |
| 3 | 2 | 2 | 2 | | | 1 | | 4 | 1 |
| 97 | | | 4 | | | | 4 | | |
| 98 | | 1 | | | | | | 1 | |
| 100 | | 2 | 2 | | | | | 4 | |
| **Earth Oven** | | | | | | | | | |
| 55 | 1 | 2 | 8 (1 MCS) | | 1 | | 1 | 9 | |
| 113 | | 2 | 3 | | | | 4 | 1 | |
| 122 | 8 | 15 | 4 | | | | 2 | 25 | |
| **Structures** | | | | | | | | | |
| 13 | | 1 | | | | | 1 | | |
| 120 | | 1 MCS | 1 MCS | | 2 | | | | |
| **Ramada** | | | | | | | | | |
| 135 | | | 1 | | | | | 1 | |
| **Totals** | 11 | 31 | 28 | 1 | 3 | 1 | 13 | 52 | 2 |
| **% of Total** | 15 | 45 | 39 | 1 | 4 | 1 | 18 | 74 | 3 |

MCS = Madison County Shale

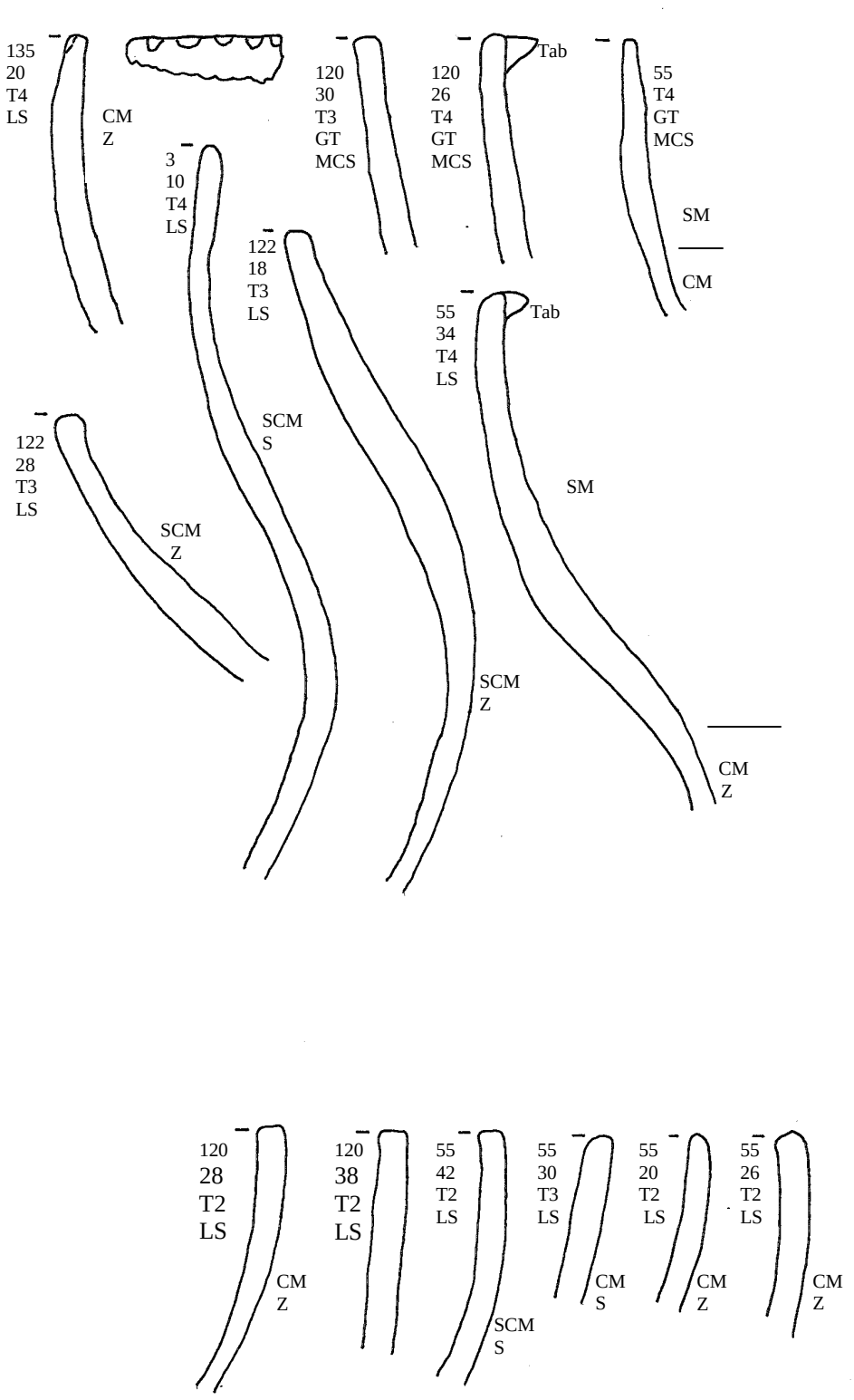



**Figure 21. Selected Early Terminal Late Woodland Jars and Bowls**.

**Table 21. Early Terminal Late Woodland Component Bowl Types and Temper.**

| Feature | Type | | | Temper | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | Grog | Limestone/ Grog | Limestone |
| **Type 3 Pits** | | | | | | |
| 2 | | 2 | 1 | 2 | | 1 |
| 21 | | | 2 | | 1 | 1 |
| 46 | | | 1 | | | 1 |
| **Type 4 Pits** | | | | | | |
| 3 | | 2 | | | | 2 |
| **Earth Oven** | | | | | | |
| 55 | | 4 | 1 | | | 5 |
| 122 | 1 | 1 | 5 | | | 7 |
| **Structures** | | | | | | |
| 120 | | 4 | | | | 4 |
| **Totals** | 1 | 13 | 10 | 2 | 1 | 21 |
| **% of Total** | 4 | 54 | 42 | 8 | 4 | 88 |

**Table 22. George Reeves Component Structure Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Area ($m^3$) | W:L Ratio | Long Axis Orientation | Elevation (Datum) | Interior Pit | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 4.1 | 2.10 | 0.10 | 8.6 | 0.50 | NE/SW | 124.60 | F23 | Superimposed by F1,15,16,24 |
| 61 | 2.00 | 2.00 | 0.13 | 4.0 | | NE/SW | 125.22 | F62 | |
| 75A | ~2.38 | ~2.08 | 0.90 | 4.8 | | NW/SE | 125.20 | F75 | |

**Table 23. George Reeves Component Pit Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Plan | Percent of Total | Comments |
|---|---|---|---|---|---|---|---|---|
| **Type 3 Pits** | | | | | | | | |
| 5 | 1.20 | 110 | 0.80 | 1.05 | 124.82 | Rectilinear | | Superimposed by F1, excavated as a unit |
| 6 | 0.95 | 85 | 0.28 | 0.17 | 124.87 | Curvilinear | | Excavated as a unit |
| 7 | 1.20 | 125 | 1.05 | 1.26 | 124.87 | Curvilinear | | Excavated as a unit |
| 54 | 1.45 | 85 | 0.45 | 0.55 | 124.65 | Curvilinear | | 3 posts |
| *Mean Values* | 1.20 | 101 | 64.5 | 0.75 | | | 80% | |
| **Type 4 Pit** | | | | | | | | |
| 137 | 1.20 | 105 | 0.60 | 0.59 | 124.72 | Curvilinear | 20% | |
| **Interior Pits** | | | | | | | | |
| 23 | 0.33 | 0.33 | 0.40 | 0.18 | 124.67 | Curvilinear | | In F26 |
| 62 | 3.25 | 2.00 | 0.25 | 1.60 | 124.24 | Rectilinear | | In F61 |
| 75 | 1.05 | 0.90 | 0.57 | 0.40 | 125.14 | Curvilinear | | In F75A |

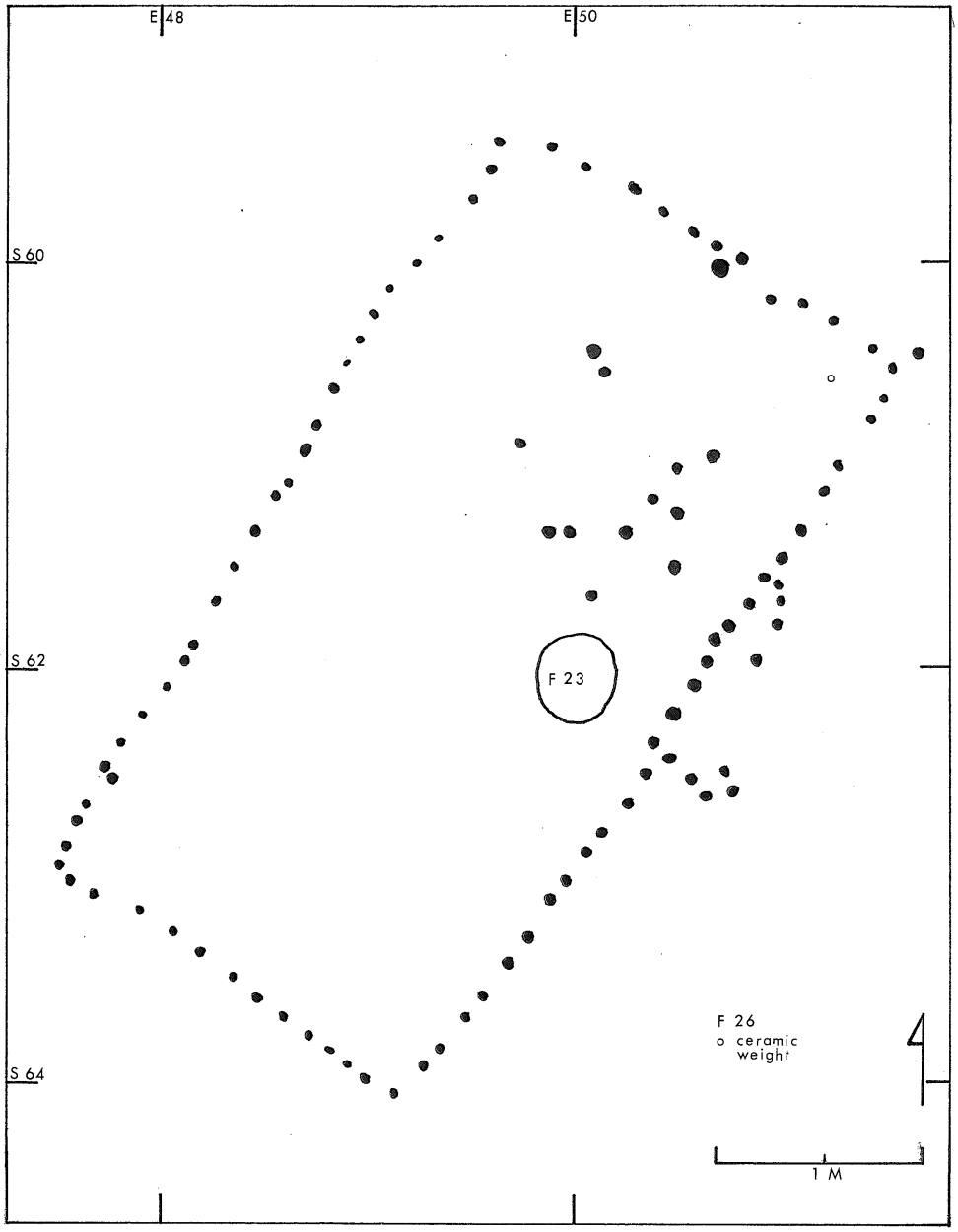



**Figure 22. George Reeves Component Structure: Feature 26.**

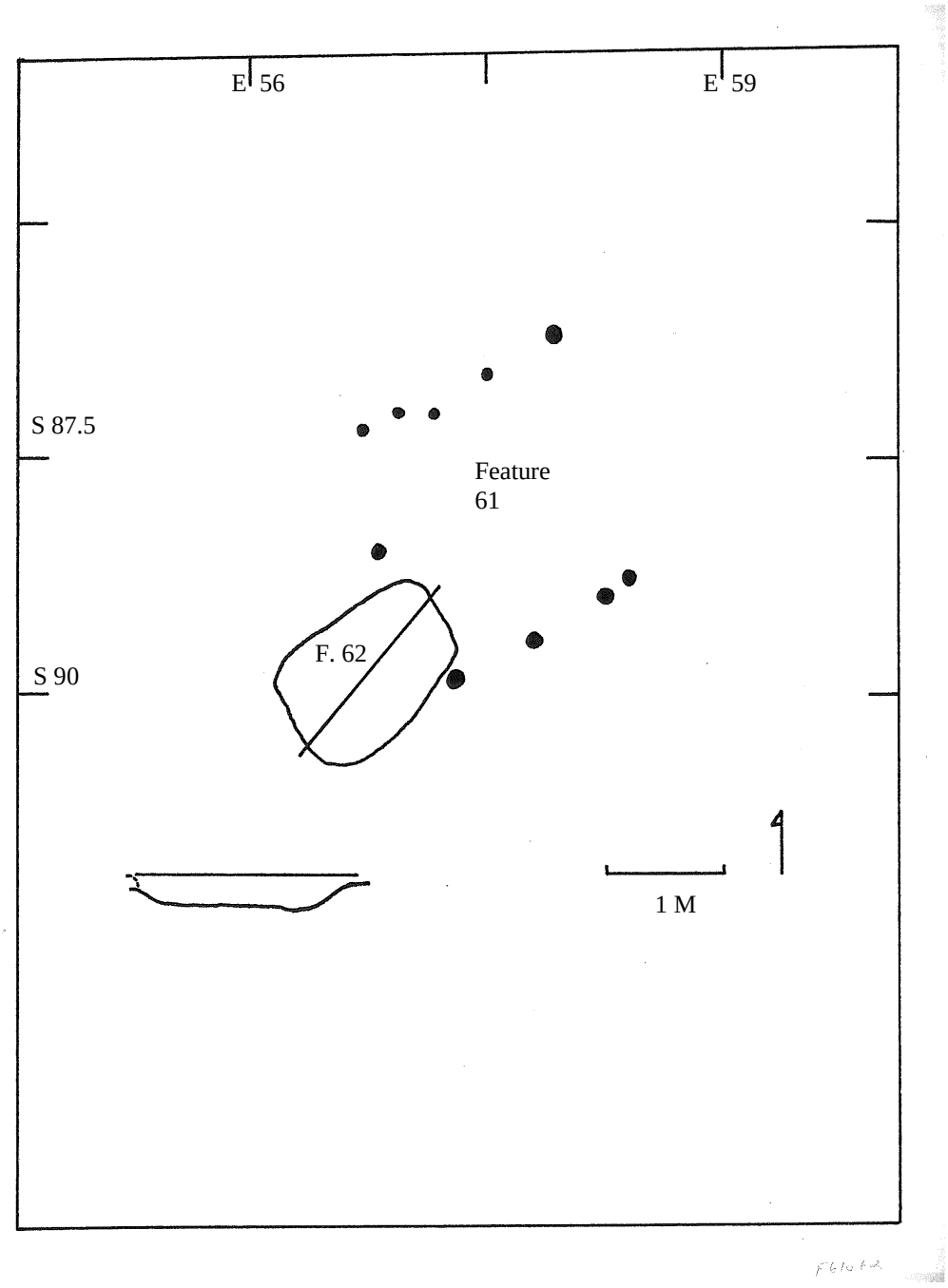



**Figure 23. George Reeves Component Structure: Feature 61.**

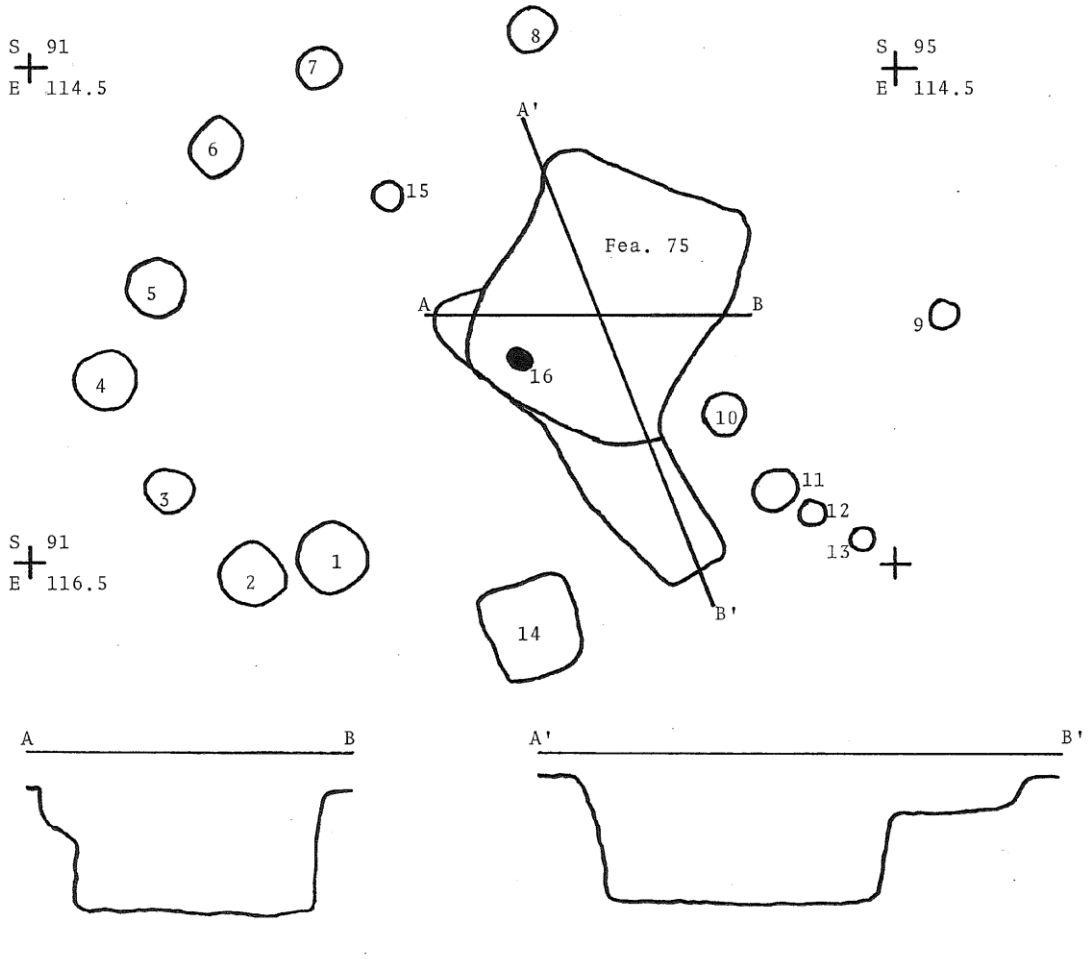



**Figure 24. George Reeves Component Structure: Feature 75**.

**Table 24. George Reeves Component Body Sherds and Limestone.**

| Feature | Grit | Grog | Limestone | Shell | Whole Limestone Count | Whole Limestone Weight (kg) | Comments |
|---|---|---|---|---|---|---|---|
| **Type3 Pits** | | | | | | | |
| 5 | 3 | 15 | 675 | | 169 | 3.76 | |
| 6 | | 10 | 36 | 1 | | | |
| 7 | | 2 | 14 | | | | |
| 54 | | 43 | 126 | 14 | 116 | 3.42 | |
| **Type 4 Pit** | | | | | | | |
| 137 | 4 | 17 | 43 | 2 | 29 | 1.12 | |
| **Structure** | | | | | | | |
| 61 | 1 | 21 | 27 | 1 | 10 | 0.11 | Shell red filmed |
| **Interior Pits** | | | | | | | |
| 23 | | 1 | 1 | 1 | | | Limestone red filmed |
| 62 | 36 | 2 | 81 | | 112 | 2.38 | Two limestone red filmed |
| 75 | | 14 | 107 | | 58 | 1.73 | |
| **Totals** | 44 | 125 | 1110 | 19 | 494 | 12.56 | |
| **% of Total** | 3 | 10 | 86 | 1 | | | |

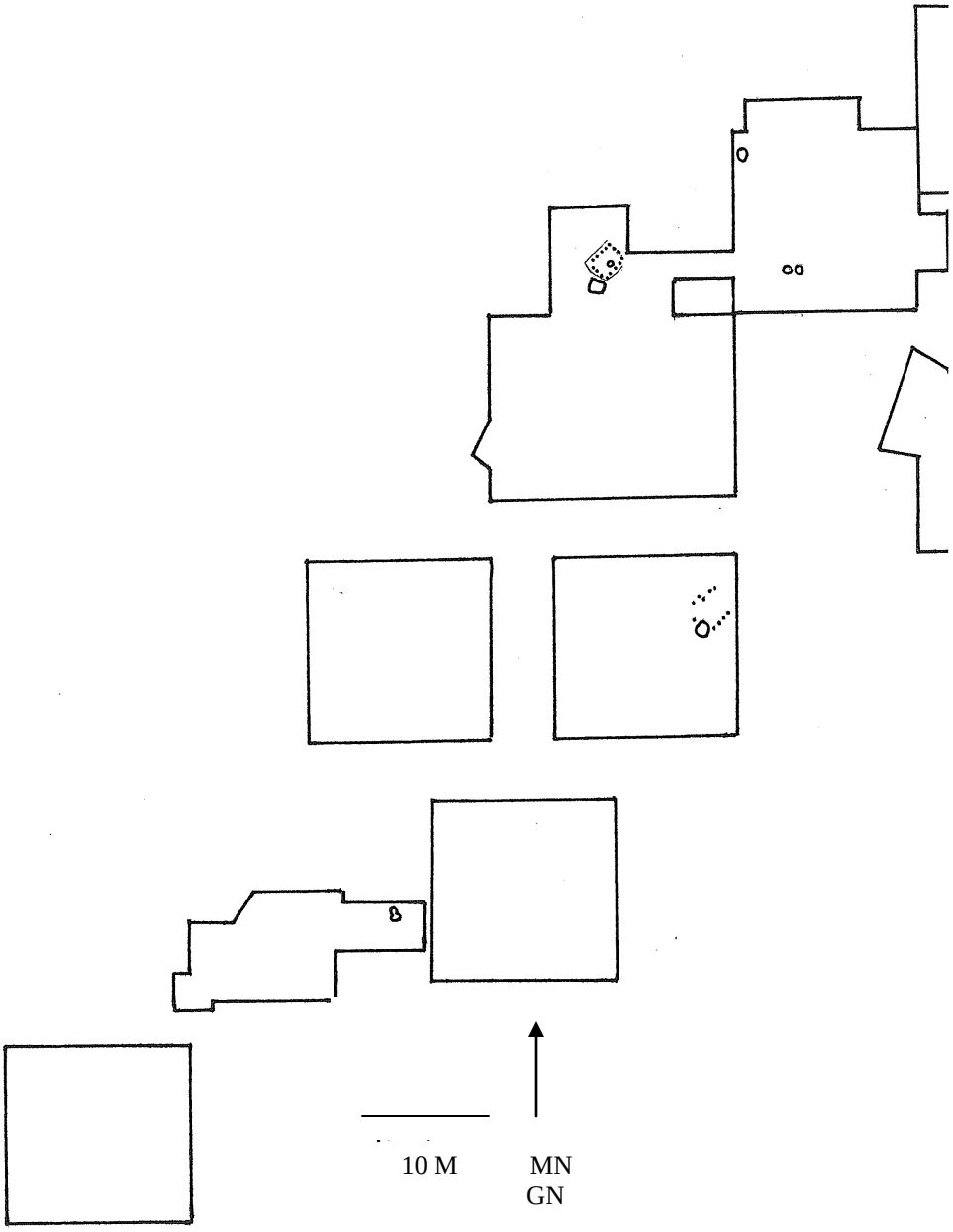



**Figure 25. George Reeves Component Feature Distribution.**

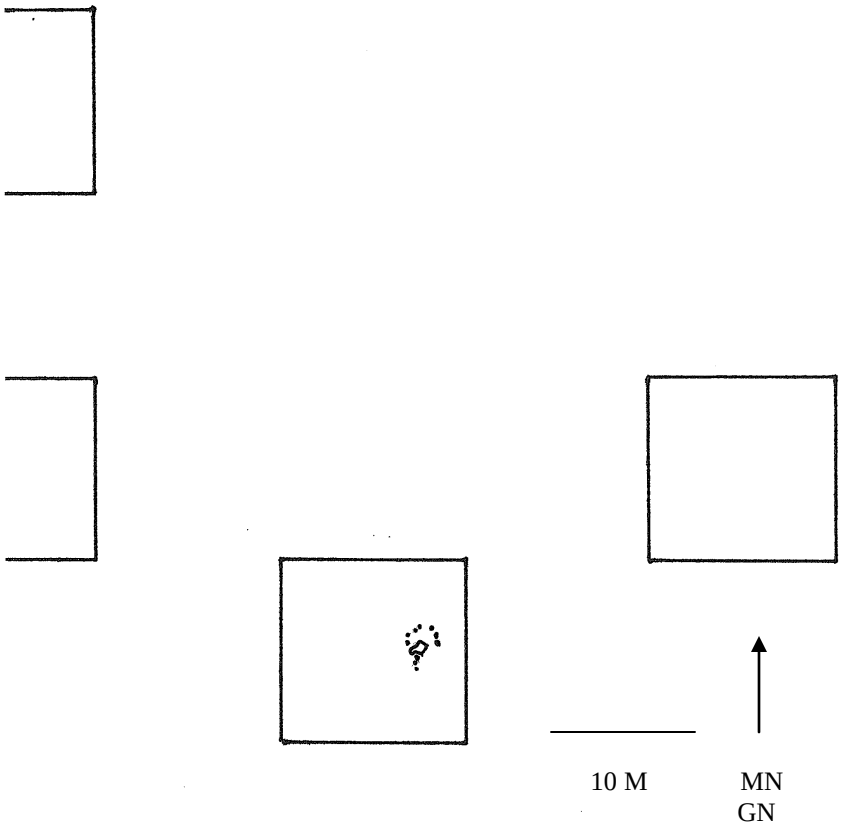



**Figure 25 cont. George Reeves Component Feature Distribution.**

**Table 25. George Reeves Component Vessel Forms.**

| Feature | Jars | Bowls | Pinch Pots | Stumpware |
|---|---|---|---|---|
| **Type 3 Pits** | | | | |
| 5 | 26 | 28 | 3 | |
| 6 | 4 | 2 | | |
| 7 | 10 | 3 | 1 | 1 |
| 54 | 8 | 6 | | |
| **Type 4 Pits** | | | | |
| 137 | 2 | | | |
| **Structures** | | | | |
| 61 | 2 | | | |
| **Interior Pits** | | | | |
| 62 | 4 | | | |
| 75 | 3 | | | |
| **Totals** | 59 | 39 | 4 | 1 |
| **% of Total** | 57 | 38 | 4 | 1 |

**Table 26. George Reeves Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Cord Twist | | Lip Impressions | Cord Placement | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Z | S | Round | Vertical | Obliquely | Parallel | |
| **Type 3 Pits** | | | | | | | | | | |
| 5 | 2 | 44 | 8 | 16 | 7 | 3 (1Bowl) | 32 | 17 | | |
| 6 | 1 | 4 | 1 | | 2 | | 3 | 1 | | 2 Lugs |
| 7 | 1 | 10 | 2 | 3 | 1 | 3 | 8 | 1 | 2 | |
| 54 | 5 | 5 | 4 | 4 | 1 | | 7 | 2 | 1 | 1 Lug<br>1 Spout |
| **Type 4 Pit** | | | | | | | | | | |
| 137 | | 2 | | 2 | | | 2 | | | |
| **Structures** | | | | | | | | | | |
| 61 | 1 | 1 | | 1 | | | 1 | | | |
| **Interior Pits** | | | | | | | | | | |
| 62 | 1 | 2 | 1 | 3 | | 1 | 1 | 2 | | |
| 75 | 1 | 2 | | | | | 1 | | | |
| **Totals** | 12 | 70 | 16 | 29 | 11 | 7 | 55 | 23 | 3 | |
| **% of Total** | 12 | 71 | 16 | 73 | 27 | 100 | 68 | 28 | 4 | |

Plain = Plain on upper rim ,does not include pinch pots, SCM = Smoothed Cordmarked, CM = Cordmarked

**Table 27. George Reeves Component Jar Types and Temper.**

| Feature | Type | | | | | Temper | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 3 | 4 | 5 | 6 | Grog | Limestone/ Grog | Limestone | Shell | |
| **Type 3 Pits** | | | | | | | | | | |
| 5 | 2 | 13 | 11 | | | | 1 | 25 | | |
| 6 | 1 | 3 | | 1 | | 1 | 1 | 3 | | |
| 7 | 3 | 1 | 4 | 2 | | 4 | 2 | 4 | | 2 Lugs |
| 54 | | 5 | 3 | | | | 1 | 7 | | 1 Lug, 1 Filleted |
| **Type 4 Pit** | | | | | | | | | | |
| 137 | | 2 | | | | | | 2 | | |
| **Structure** | | | | | | | | | | |
| 61 | | 2 | | | | 1 | | 1 | | |
| **Interior Pits** | | | | | | | | | | |
| 62 | | 1 | 2 | | 1 | | | 3 | 1 | |
| 75 | | 2 | 1 | | | 1 | | 2 | | |
| **Totals** | 6 | 29 | 21 | 3 | 1 | 7 | 5 | 47 | 1 | |
| **% of Total** | 10 | 48 | 35 | 5 | 2 | 12 | 8 | 78 | 2 | |

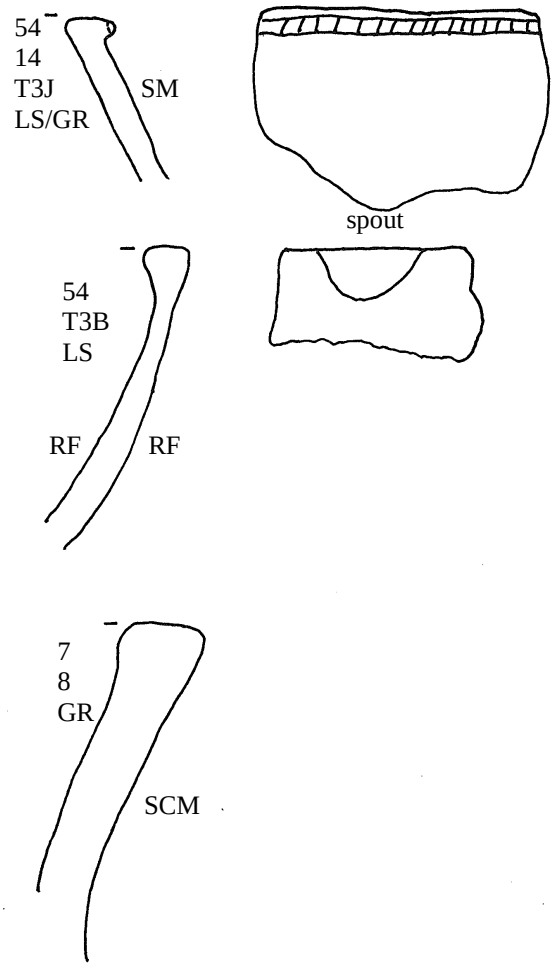



**Figure 26. Selected George Reeves Component Jar, Bowl, and Stumpware.**

**Table 28. George Reeves Component Bowl Types and Temper.**

| Feature | Type | | Temper | | Comments |
|---|---|---|---|---|---|
| | 2 | 3 | Grog | Limestone | |
| **Type 3 Pits** | | | | | |
| 5 | 17 | 11 | | 28 | |
| 6 | 1 | 1 | | 2 | |
| 7 | 2 | 1 | | 3 | |
| 54 | 4 | 2 | 1 | 5 | 2 polished<br>2 smooth |
| **Totals** | 24 | 15 | 1 | 38 | |
| **% of Total** | 62 | 38 | 3 | 97 | |

**Table 29. Lindeman Component Structure and Ramada Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Area ($m^2$) | W:L Ratio | Long Axis Orientation | Elevation (datum) | Interior Pit | Comments |
|---|---|---|---|---|---|---|---|---|---|
| **Structures** | | | | | | | | | |
| 36 | 4.6 | 2.6 | 0.10 | 7.2 | 0.56 | NE/SW | 124.90 | | cal A.D. 1042, Burned |
| 50 | 3.8 | 1.9 | 0.35 | 7.2 | 0.50 | NW/SE | 124.65 | | Superimposed on F45, 46<br>Superimposed on F48 |
| 65 | 3.8 | 2.2 | 0.50 | 8.3 | 0.57 | NW/SE | 125.02 | | Burned |
| F65 Extension | 2.0 | 1.5 | | 3.0 | | | | | |
| 117 | 3.0 | 2.5 | 0.37 | 7.5 | 0.83 | NE/SW | 125.07 | | Superimposed on F127, Burned |
| 125 | 4.0 | 2.0 | 0.50 | 8.0 | 0.50 | NE/SW | 125.07 | F128 | |
| *Mean Values* | 3.8 | 2.2 | 0.36 | 7.6 | 0.59 | | | | |
| **Ramadas** | | | | | | | | | |
| 49 | 4.0 | 2.2 | | 8.8 | | NE/SW | 124.85 | F51 | Superimposed on F50 |
| 64 | 2.75 | 2.1 | | 5.7 | | N/S | 125.15 | | |
| 125A | | | | | | NNE/SSW | 125.00 | | |

**Table 30. Lindeman Component Pit Attributes.**

| Feature | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Plan | Comments |
|---|---|---|---|---|---|---|---|
| **Type 2 Pit** | | | | | | | |
| 34 | 0.90 | 0.90 | 0.25 | 0.15 | 124.95 | Curvilinear | |
| **Type 3 Pits** | | | | | | | |
| 4 | 1.50 | 1.30 | 0.76 | 1.48 | 124.77 | Rectilinear | Superimposed by F1 |
| 25 | 0.95 | 0.95 | 0.56 | 0.50 | 124.61 | Rectilinear | Superimposed by F1<br>Superimposed on F16,26 |
| 35 | 0.85 | 0.85 | 0.30 | 0.17 | 125.00 | Curvilinear | |
| 52 | 0.49 | 0.25 | 0.15 | 0.04 | 124.85 | Curvilinear | |
| 63 | 1.00 | 1.00 | 0.25 | 0.20 | 125.20 | Curvilinear | |
| 72 | 1.05 | 1.00 | 0.30 | 0.25 | 125.10 | Curvilinear | |
| *Mean Values* | 0.97 | 0.89 | 0.38 | 0.44 | | | |
| **Earth Oven** | | | | | | | |
| 130 | 1.75 | 1.75 | 0.75 | 1.82 | 124.67 | Curvilinear | Superimposed by F125 |
| **Interior Pits** | | | | | | | |
| 51 | 1.00 | 1.00 | 0.25 | | | | In F49 |
| 128 | 0.88 | 0.91 | 0.25 | | | | In F125 |

**Table 31. Lindeman Component Body Sherds and Limestone.**

| | Temper | | | | | | | | Limestone | |
|---|---|---|---|---|---|---|---|---|---|---|
| Feature | Grit | Grog | Grit/Grog | Limestone | Red Slip Limestone | Limestone/ Shell | Shell | Red Slipped Shell | Count | Weight (kg) |
| **Type 2 Pit** | | | | | | | | | | |
| 34 | | 19 | | 12 | | | | | 50 | 1.1 |
| **Type 3 Pit** | | | | | | | | | | |
| 4 | 22 | 44 | 9 | 600 | 1 | | | | 215 | 3.7 |
| 25 | | 5 | | 79 | | | | | 70 | 3.3 |
| 35 | 1 | 6 | | 67 | 55 | | | | 25 | .18 |
| 52 | | 1 | | 4 | 3 | | | | 4 | 2.2 |
| 63 | | 10 | | 153 | 10 | | | | 247 | 9.9 |
| 72 | | 13 | | 19 | 33 | | | | 38 | .62 |
| **Earth Oven** | | | | | | | | | | |
| 130 | | 31 | | 49 | 1 | | 6 | 8 | 143 | 7.6 |
| **Structures** | | | | | | | | | | |
| 36 Fill | 10 | 107 | | 147 | 27 | | 1 | 3 | 84 | 1.0 |
| Floor | | 13 | | 12 | 3 | | 2 | | 11 | .46 |
| 50 Fill | 26 | 202 | | 1236 | 64 | | 8 | | 556 | 11.8 |
| Floor | | 1 | | 117 | | | | | 21 | .80 |
| 65 Fill | 3 | 143 | | 425 | 134 | | 36 | | 1119 | 40.9 |
| Floor | | 3 | | 47 | 21 | | 2 | 2 | 51 | 4.3 |
| 117 Fill | | 41 | | 64 | 12 | 2 | 1 | | 62 | 2.6 |
| Floor | | | | 2 | | | | | 3 | .32 |
| 125 Fill | 4 | 22 | | 93 | 27 | | 7 | 1 | 124 | 7.3 |
| Floor | | | | 14 | 6 | | | | | |
| **Ramadas** | | | | | | | | | | |
| 49 | | 1 | | | | | | | | |
| 64 Fill | | 9 | | 31 | 13 | | | | 29 | .78 |
| Floor | | 4 | | 4 | 3 | | | | | |
| 125A Fill | | 8 | | 10 | | | | | 1 | .09 |
| Floor | 2 | | | 2 | | | | | 3 | .01 |
| **Interior Pits** | | | | | | | | | | |
| 51 | | 6 | | 3 | | | | | 13 | .33 |
| F65 Int. Pit | | 1 | | 3 | 3 | | | | 18 | .84 |
| 128 | | 5 | | 114 | | | | | 221 | 8.6 |
| **Totals** | 68 | 695 | 9 | 3307 | 416 | 2 | 63 | 14 | 3108 | 137.1 |
| **% of Total** | 1 | 15 | 0.1 | 72 | 9 | 0.04 | 1 | 0.2 | | |

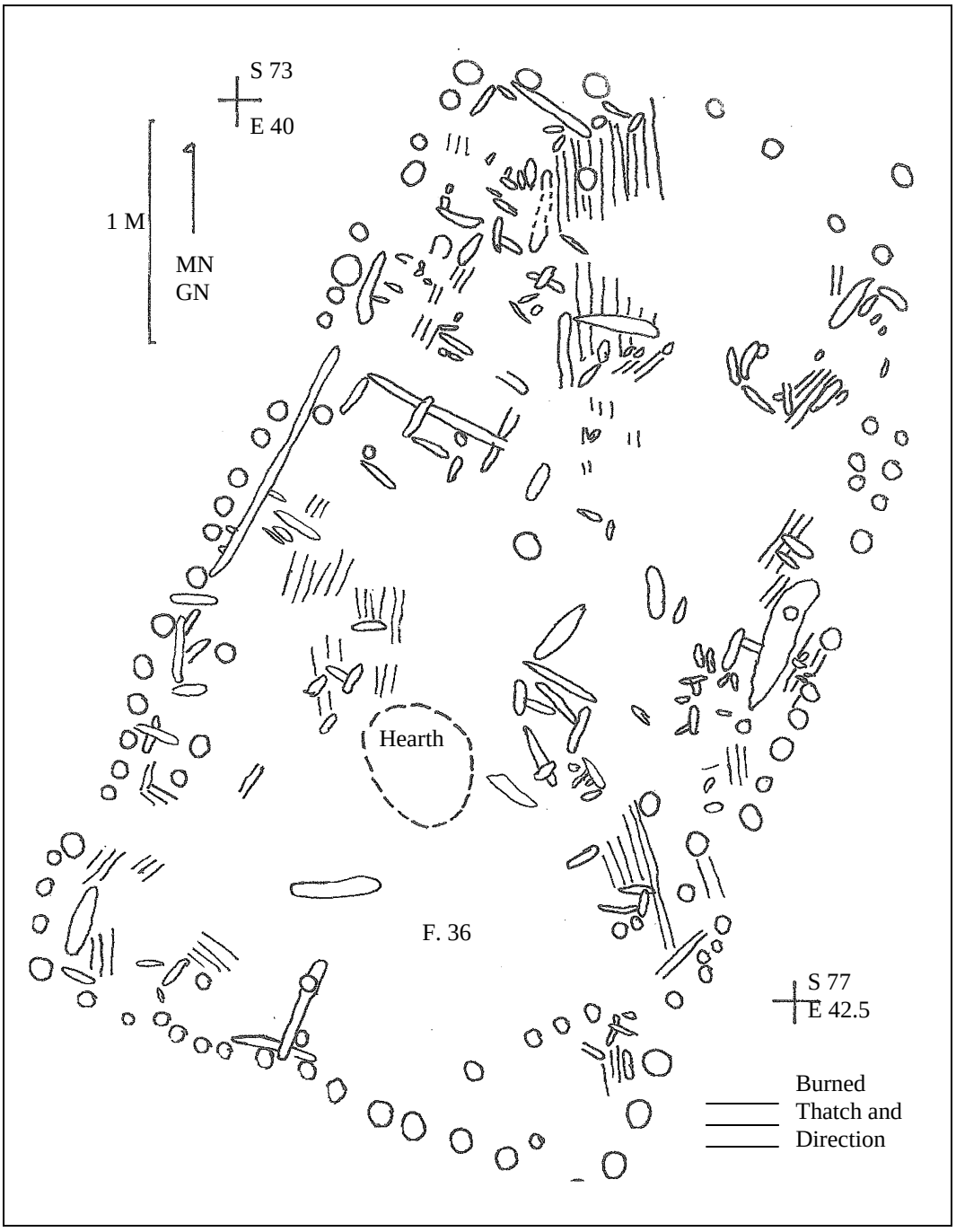



**Figure 27. Lindeman Component Structure: Feature 36.**

Key to Feature 36 Floor Piece Plot.

L = Limestone
M = Maize

1. Limestone
2. Hoe Fragment
3. Chert
4. Anvil
5. Antler Tine
6. Sherd
7. Chert
8. Bone
9. Chert
10. Stumpware
11. Mud Daubers Nest
12. Stemmed Scraper and Bone
13. Chert
14. Hammerstone
15. C-14 sample
16. C-14 sample
17. C-14 sample
18. C-14 sample
19. Projectile Point
20. Semicircle of Burned Daub
21. Sherd
22. Dendrochronology Sample
23. Thatch
24. Rafter
25. C-14 sample
26. C-14 sample
27. Thatch and Post
28. Chert
29. Sherd
30. Chert
31. Chert

**Figure 28. Key to Feature 36 Floor Artifact Piece Plot and Feature 36 Artifact Piece Plot.**

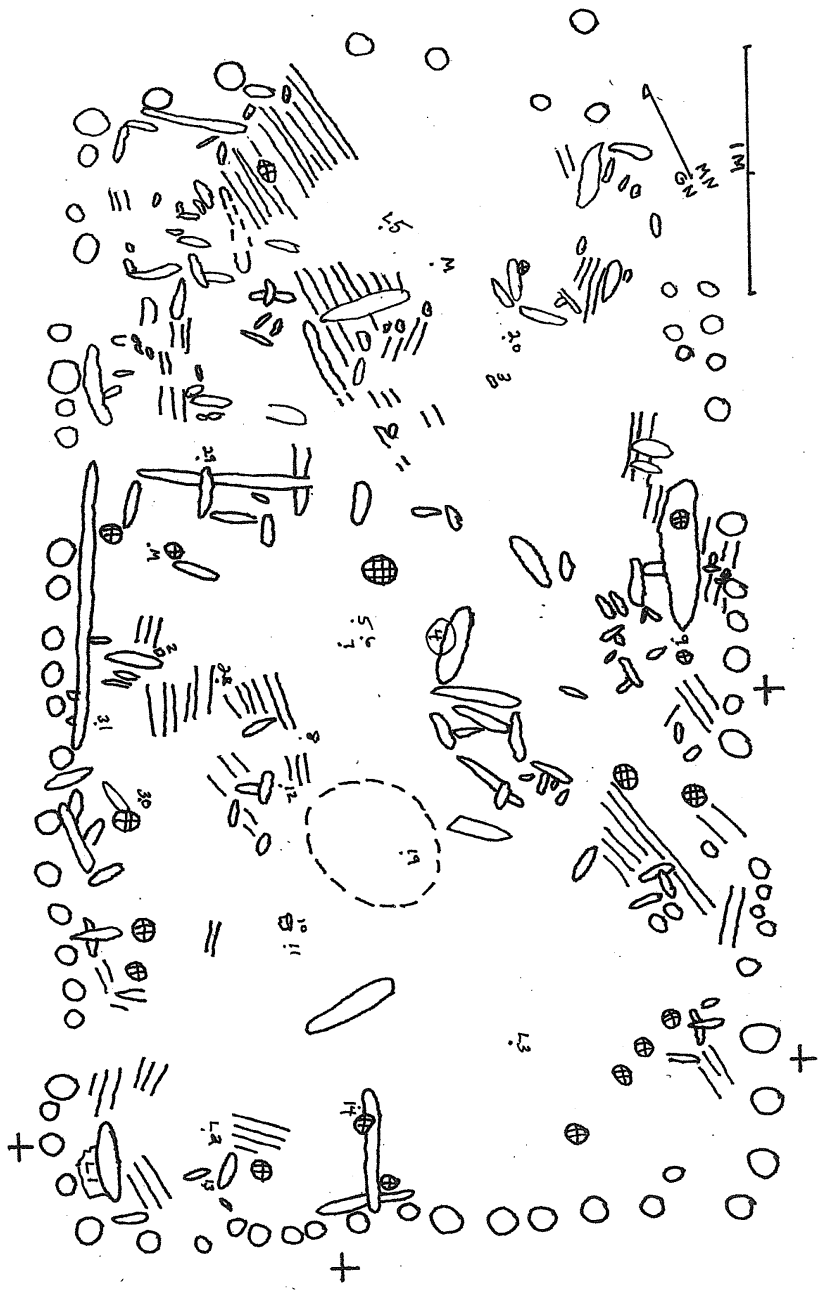


**Figure 28 cont. Key to Feature 36 Floor Artifact Piece Plot and Feature 36 Floor Artifact Piece Plot.**

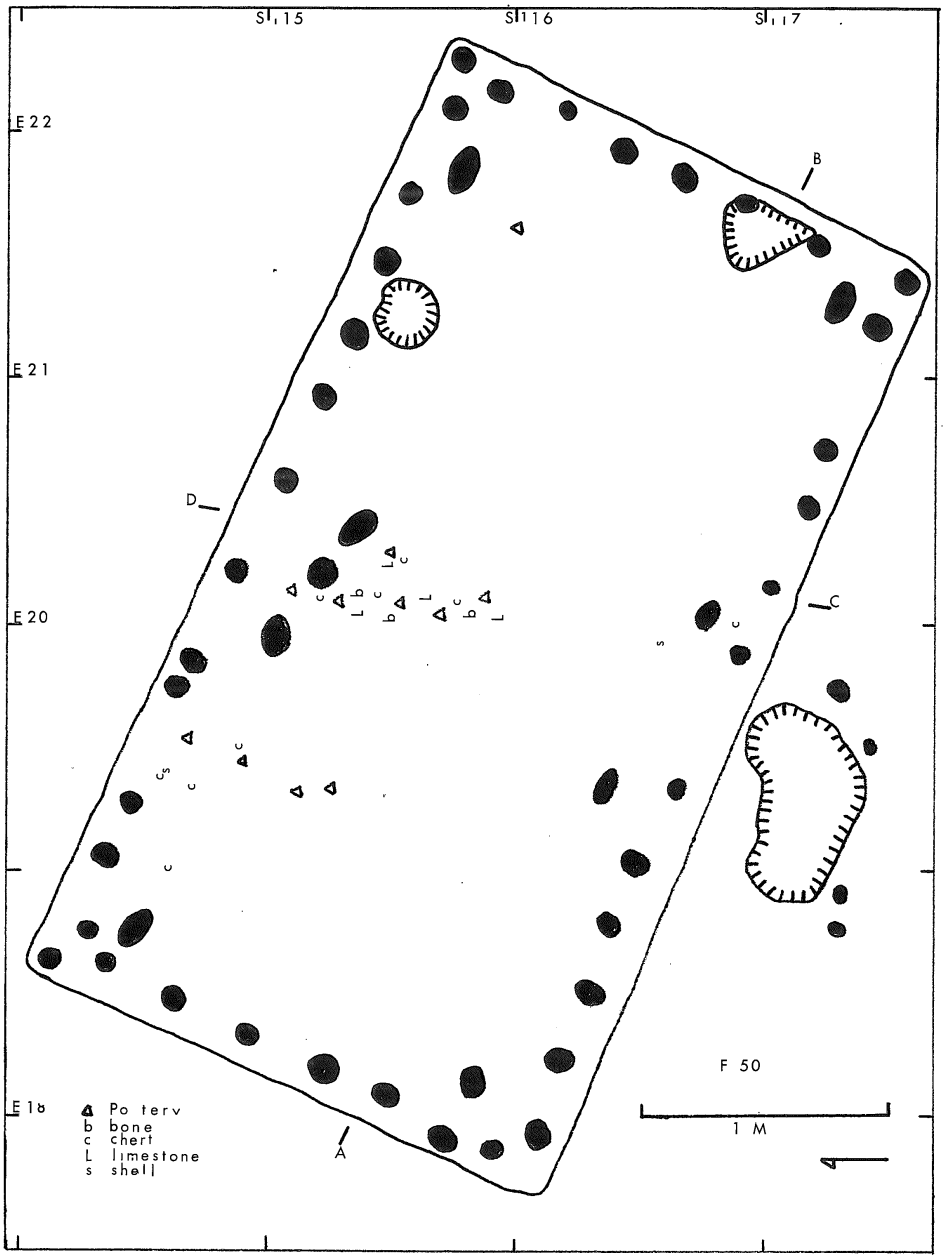



**Figure 29. Lindeman Component Structure: Feature 50 and Feature 50 Profiles.**

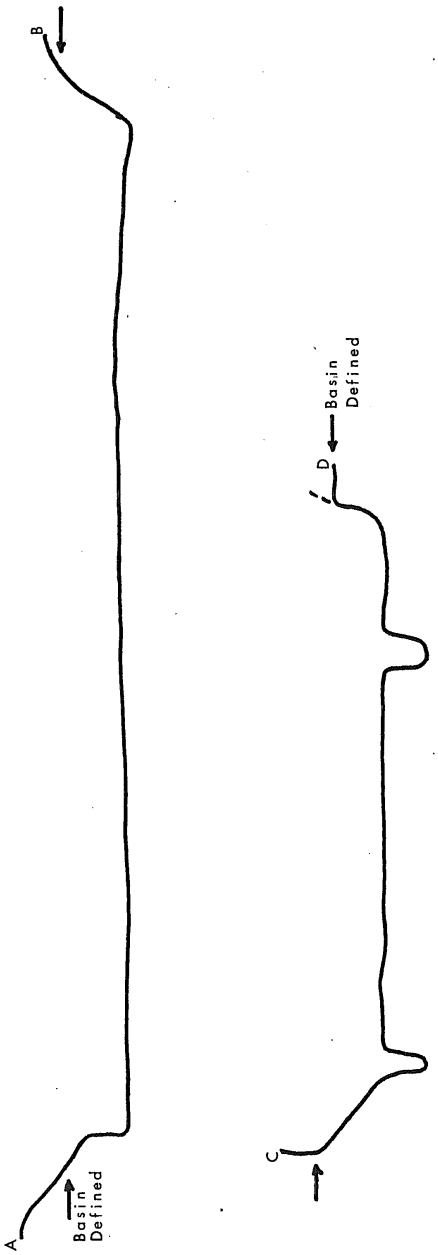



**Figure 29 cont. Lindeman Component Structure: Feature 50 and Feature 50 Profiles.**

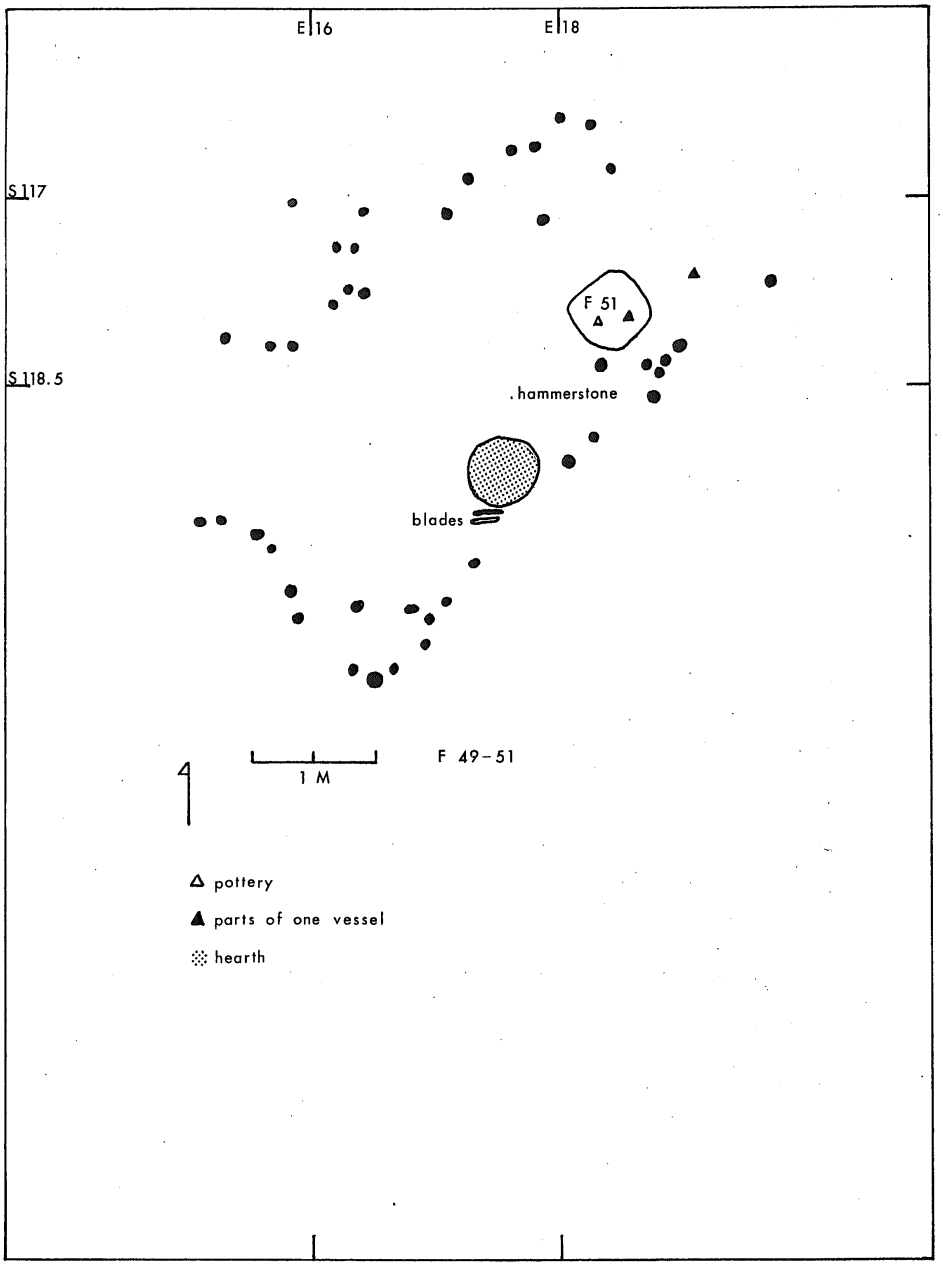



**Figure 30. Lindeman Component Structure: Feature 49.**

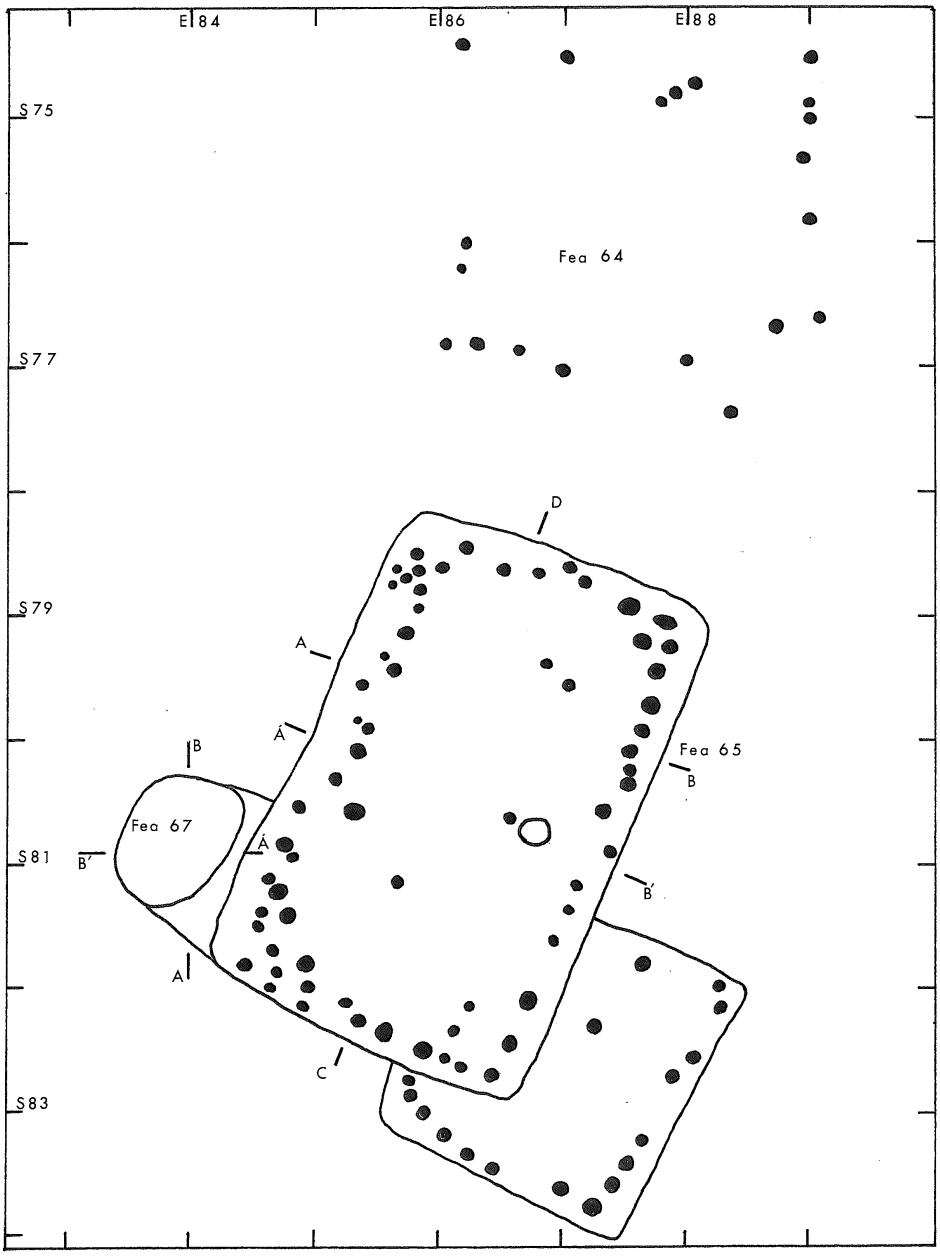



**Figure 31. Lindeman Component Structures: Features 65 and 64 and Feature 65 Profiles.**

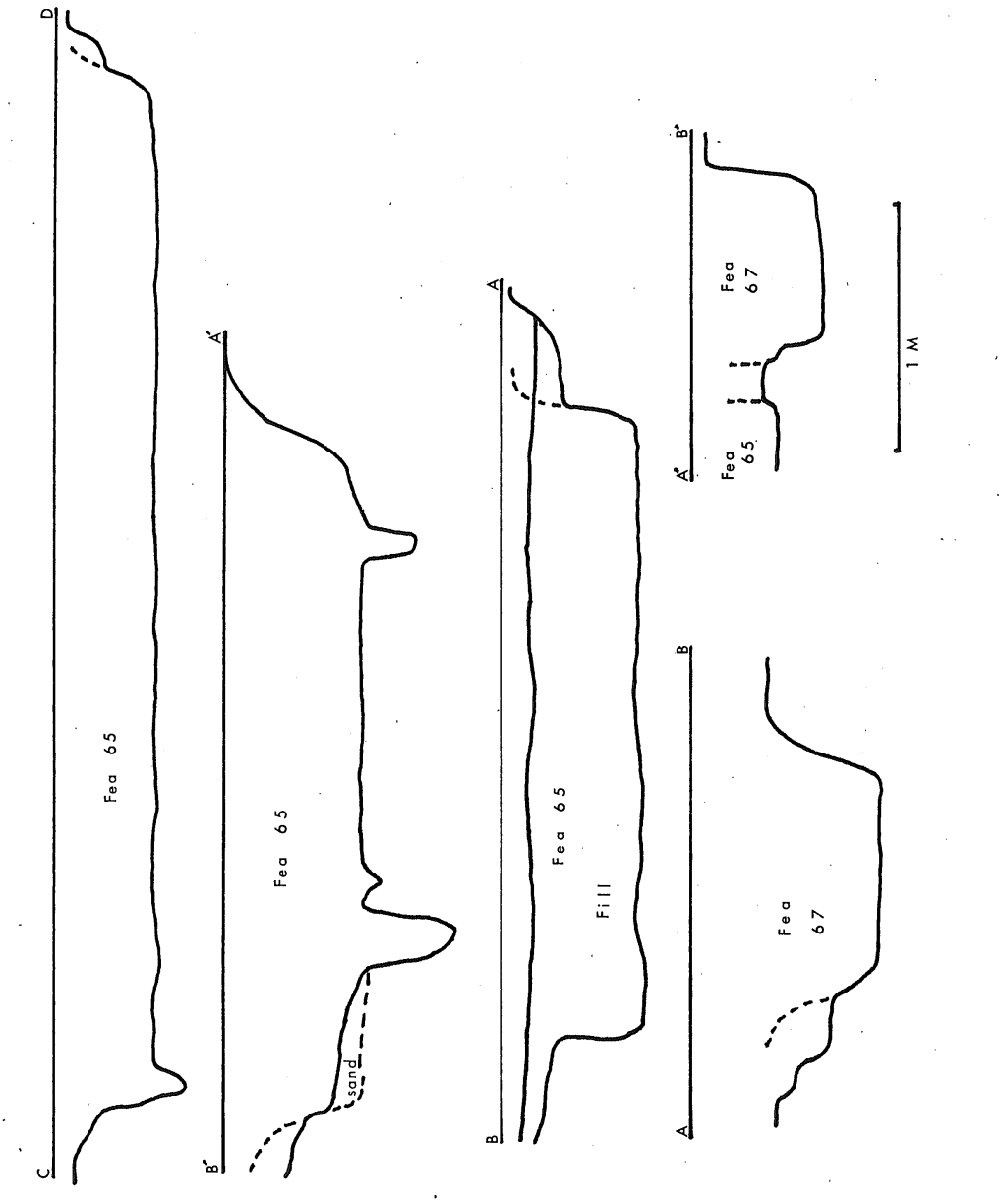



**Figure 31 cont. Lindeman Component Structures: Features 65 and 64 and Feature 65 Profiles.**

Key to Feature 65 Floor Ceramics.

1. Limestone Smoothed Cordmarked – fitted with sherd from pit
5. Limestone Red Slipped (Drilled Hole)
6. Limestone Smoothed Cordmarked
7. Grog Cordmarked
10. Limestone Smooth Upper Body/Cordmarked Lower Body
11. Limestone Smoothed Cordmarked
13. Limestone Smooth (Rim)
14. Limestone Smoothed Cordmarked
15. Limestone Smoothed Cordmarked
18. Limestone Smoothed Cordmarked
    Shell Smooth
20. Limestone Red Slipped (3 Rims)
24. Limestone Red Slipped
25. Limestone Smoothed Cordmarked
26. Limestone Smoothed Cordmarked
30. Limestone Smoothed Cordmarked
31. Limestone Smoothed Cordmarked
    Limestone Cordmarked Red Slipped
    Grog Cordmarked
36. Limestone Cordmarked
37. Limestone Red Slipped
38. Limestone Red Slipped (Drilled Hole)
    Limestone Smoothed Cordmarked
    Grog Smoothed Cordmarked
40. Limestone Red Slipped (Burnished)
43. Limestone Red Slipped (Burnished)
45. Shell Red Slipped
46. Grog Smoothed Cordmarked
49. Limestone Red Slipped
54. Limestone Red Slipped (Rim)
56. Limestone Red Slipped
    Limestone Cordmarked
58. Limestone Red Slipped
59. Limestone Red Slipped
60. Limestone Cordmarked (Disk)
61. Limestone Red Slipped
63. Limestone Cordmarked
64. Limestone Smoothed Cordmarked
66. Limestone Smoothed Cordmarked
    Limestone Red Slipped (Disk)
    Grog Smoothed Cordmarked
68. Limestone Cordmarked
74. Limestone Red Slipped
76. Grog/Limestone Lump of Clay
78. Limestone Red Slipped
    Limestone Cordmarked
79. Limestone Red Slipped (Rim)
80. Limestone Cordmarked (Rim)

**Figure 32. Key to Feature 65 Floor Ceramics and Feature 65 Floor Ceramics.**

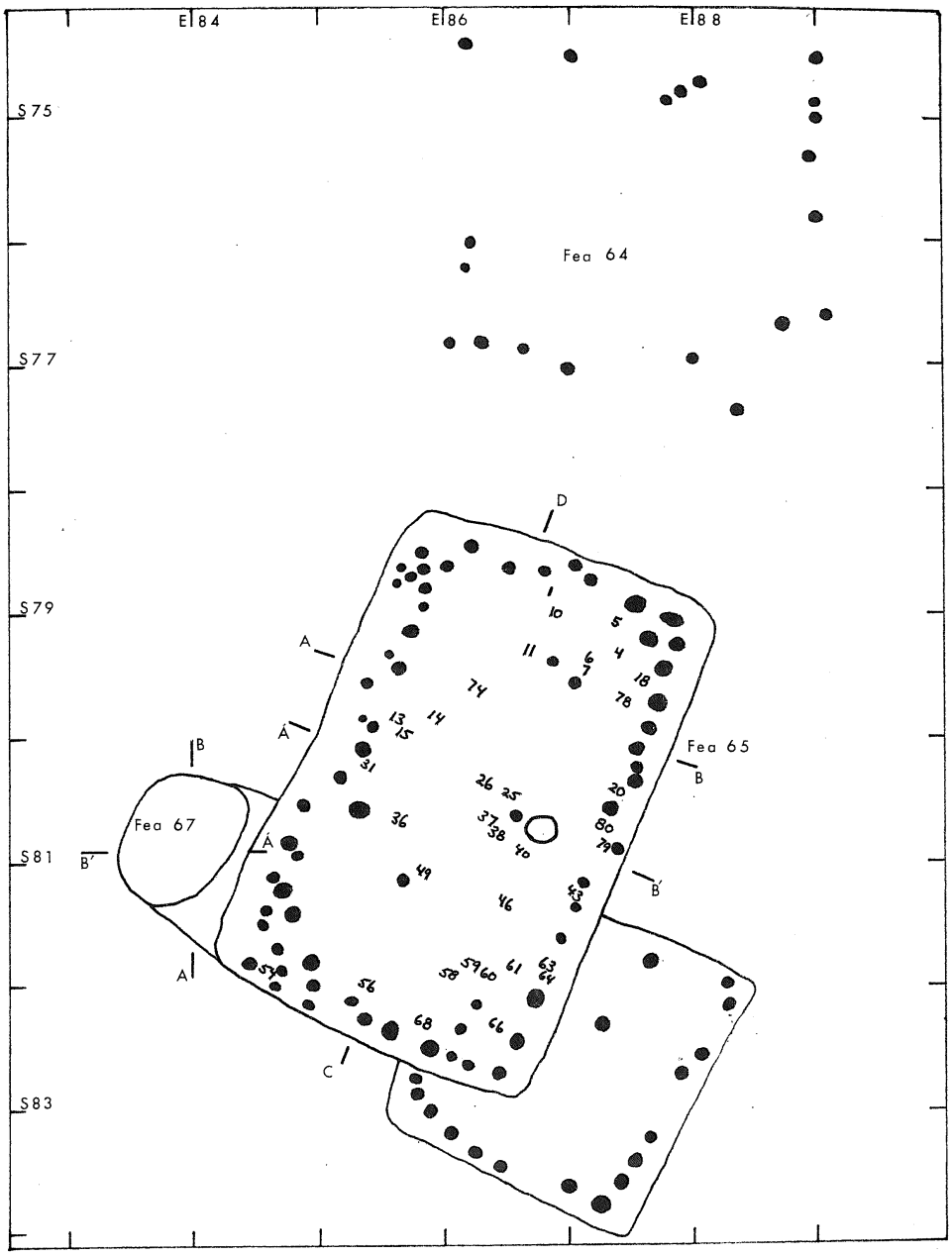



**Figure 32 cont. Key to Feature 65 Floor Ceramics and Feature 65 Floor Ceramics.**

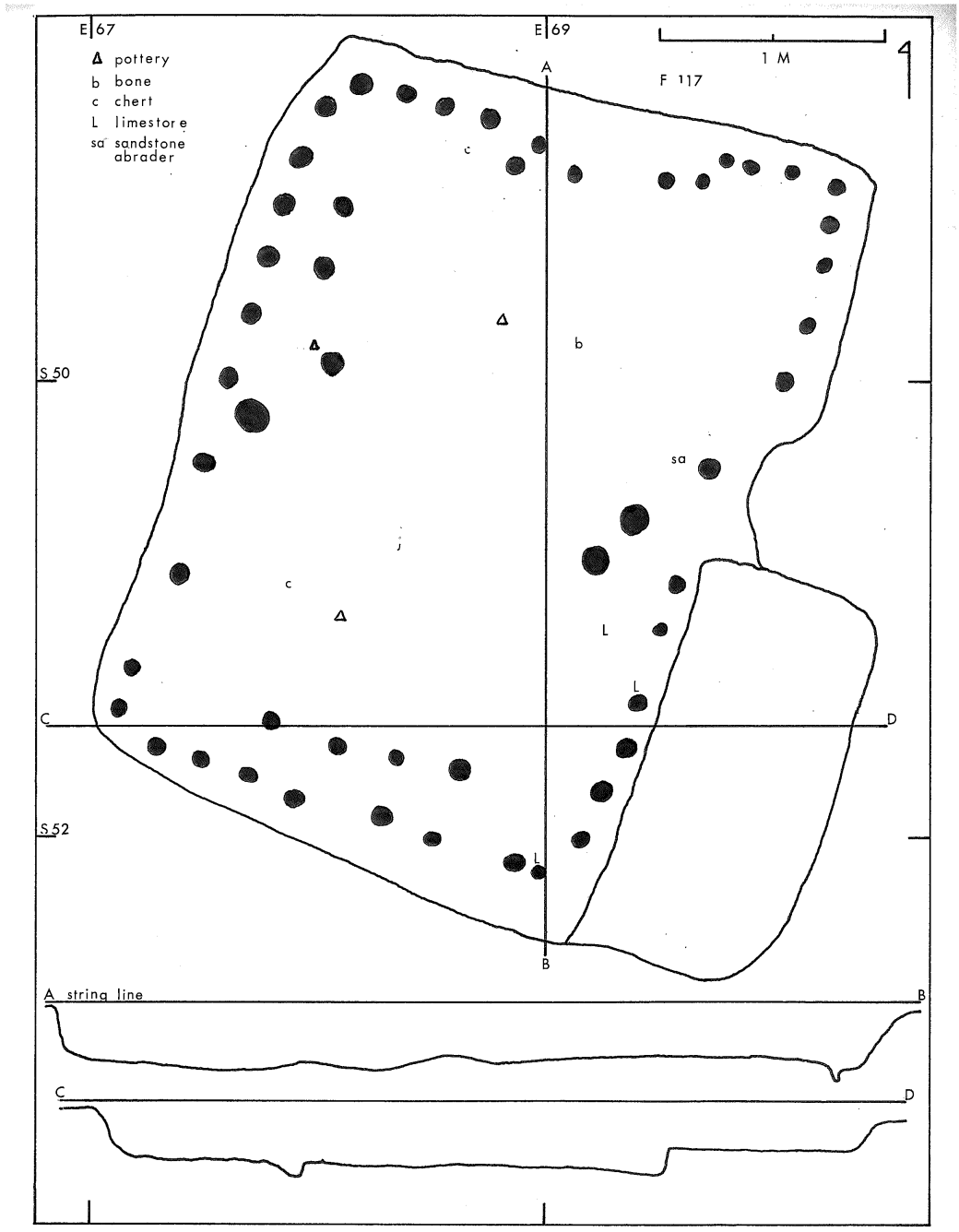



**Figure 33. Lindeman Component Structure: Feature 117.**

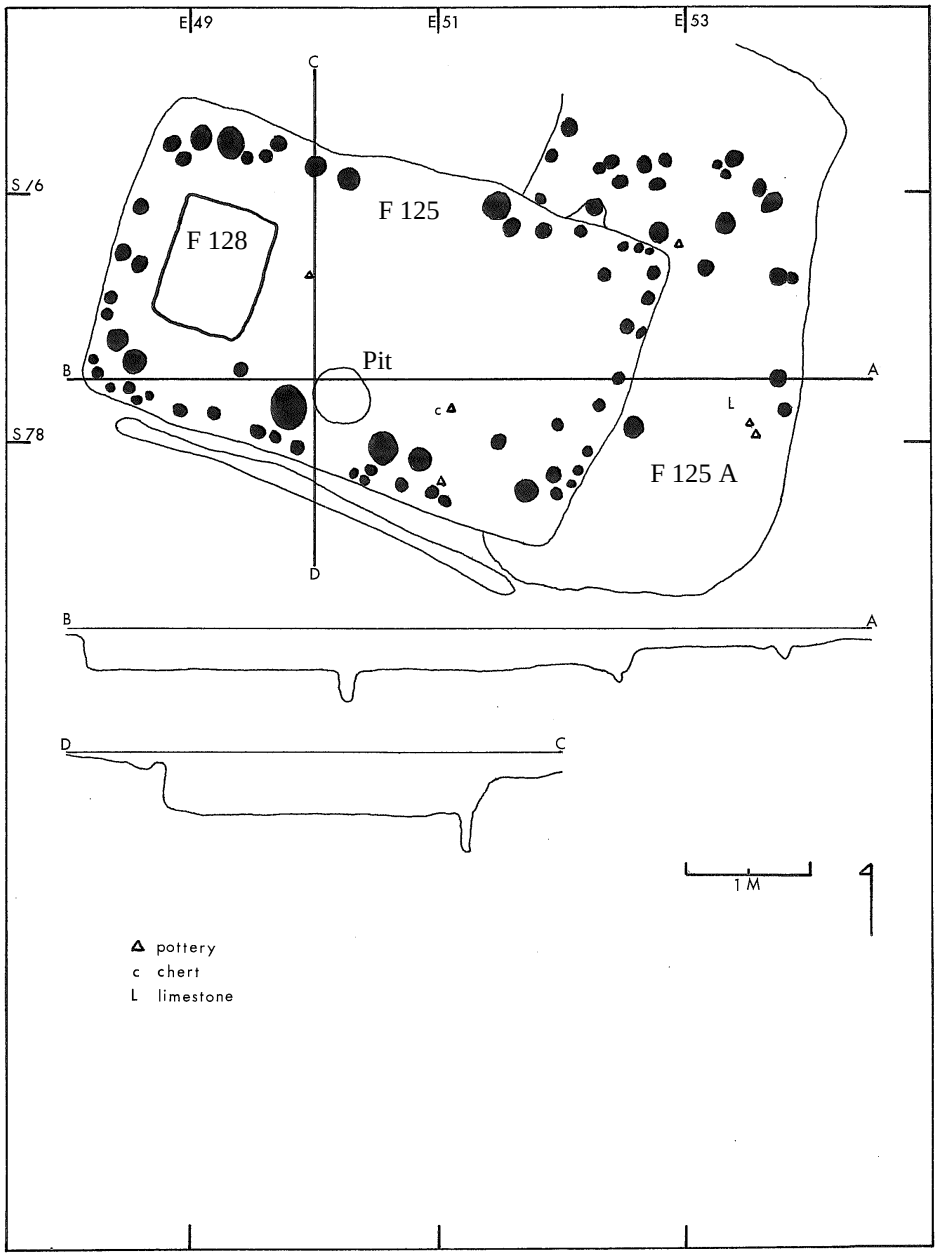



**Figure 34. Lindeman Component Structures: Features 125, 125A, and 128.**

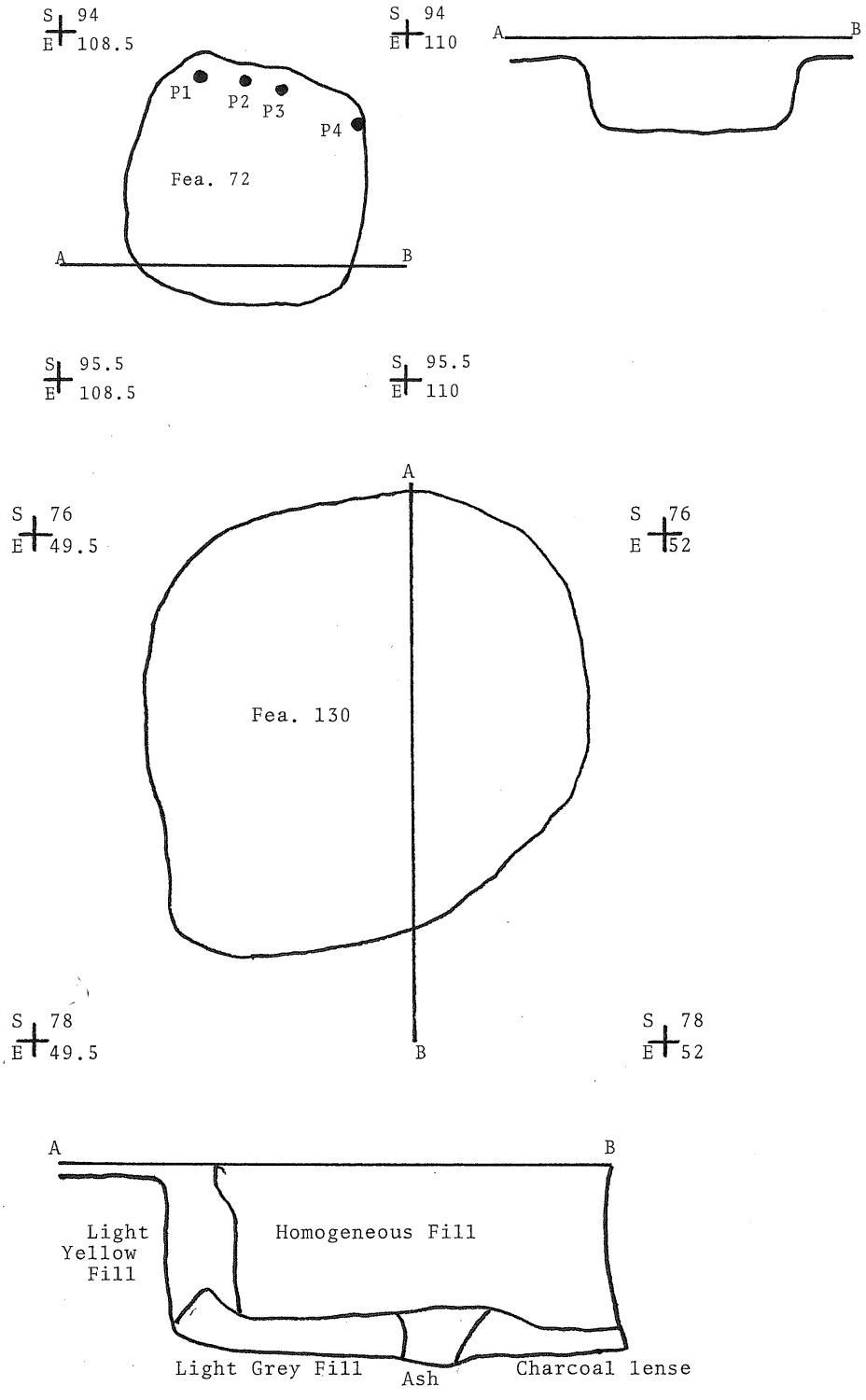



**Figure 35. Selected Lindeman Component Pits: Features 72 and 130.**

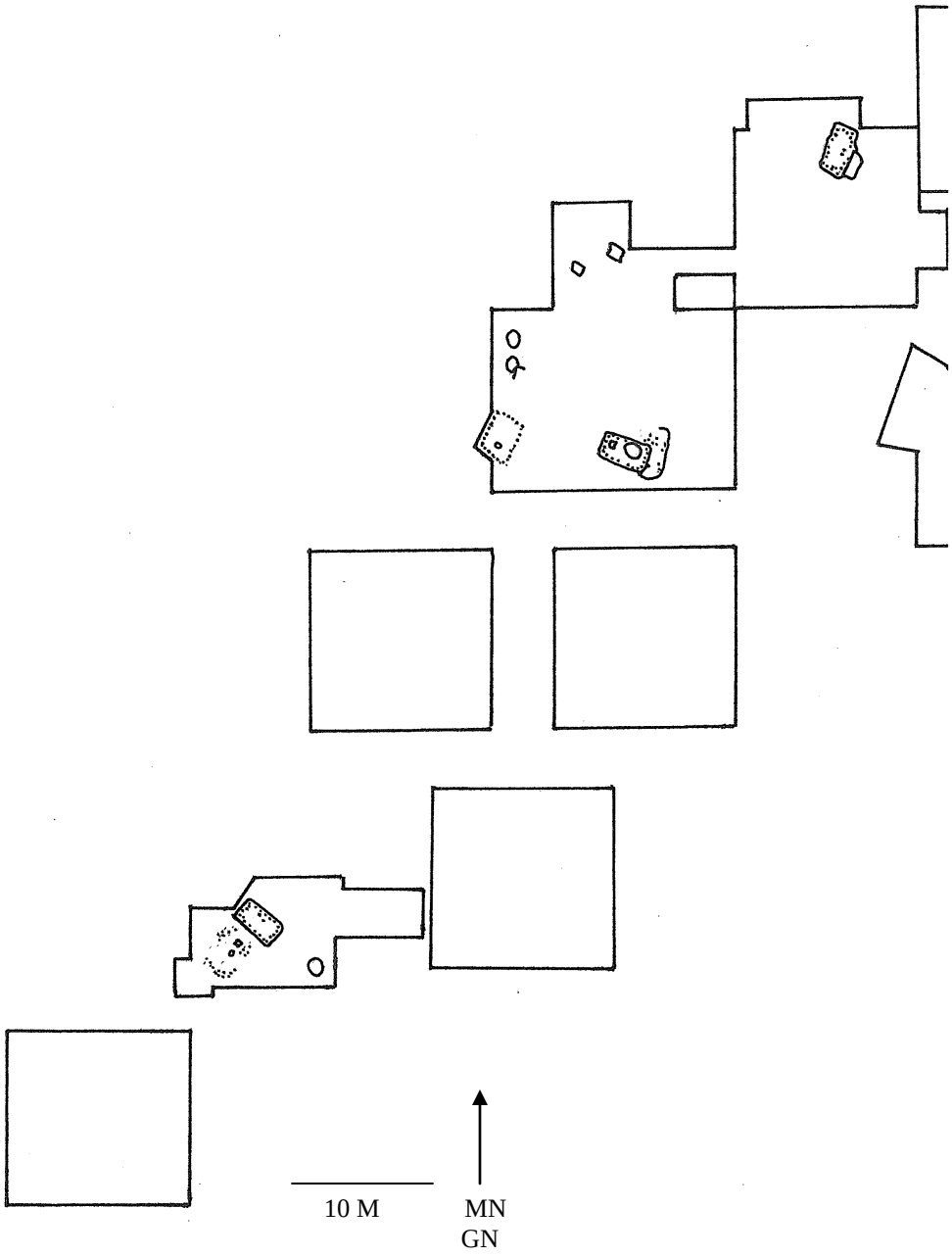



**Figure 36. Lindeman Component Feature Distribution.**

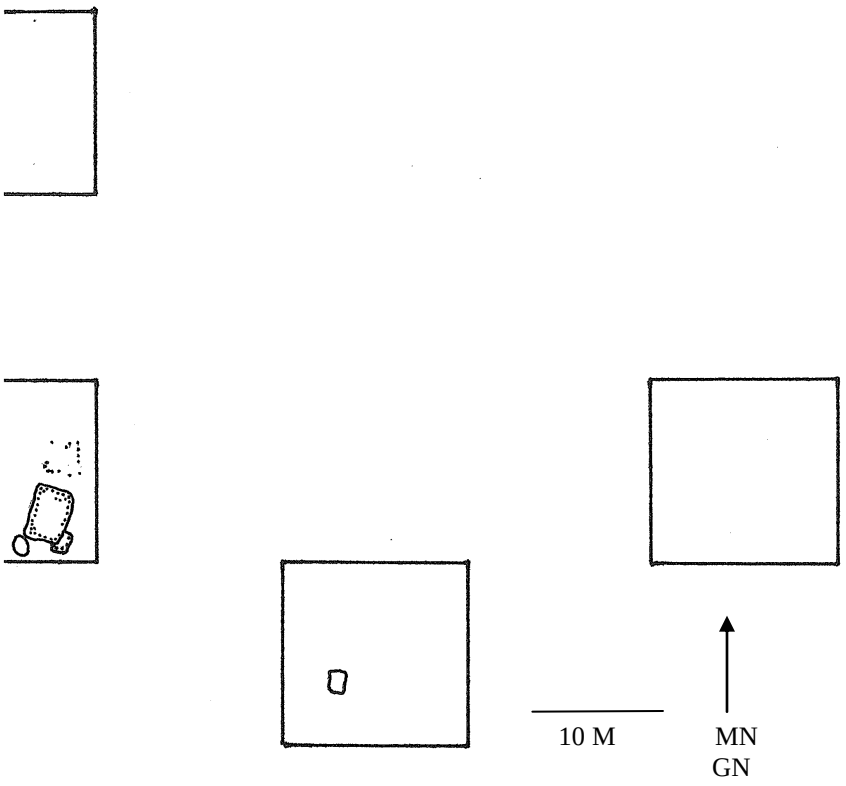



**Figure 36 cont. Lindeman Component Feature Distribution.**

**Table 32. Lindeman Component Vessel Forms.**

| Feature | Jars | Bowls | Seed Jar | SNWB | Pinch Pot | Stumpware |
|---|---|---|---|---|---|---|
| **Type 2 Pit** | | | | | | |
| 34 | 1 | | | | | |
| **Type 3 Pit** | | | | | | |
| 4 | 31 | 39 | | | | |
| 25 | 5 | 3 | | | | |
| 35 | 3 | 2 | 1 | | | |
| 63 | 4 | | | | | 1 |
| 72 | 3 | | | | | 1 |
| **Earth Oven** | | | | | | |
| 130 | 7 | | | | | |
| **Structures** | | | | | | |
| 36 Fill | 4 | 1 | | | | |
| Floor | 2 | 1 | | | 1 | 1 |
| 50 Fill | 73 | 32 | 3 | | 1 | 6 |
| Floor | 5 | 1 | | | | |
| 65 Fill | 30 | 16 | | 1 | 3 | 3 |
| Floor | 5 | 3 | | | | |
| 117 Fill | 6 | 1 | | | | |
| Floor | 1 | 2 | | | | |
| 125 Fill | 13 | 4 | | | | |
| Floor | 2 | 2 | | | | |
| **Ramadas** | | | | | | |
| 49 | 1 | 1 | | | | 2 |
| 64 | 4 | | | | | |
| **Interior Pits** | | | | | | |
| 51 | 1 | | | | | |
| 128 | 3 | 6 | | | | |
| **Totals** | 204 | 114 | 4 | 1 | 5 | 14 |
| **% of Total** | 59 | 33 | 1 | 0.50 | 2 | 4 |

SNWB = Short Neck Water Bottle

**Table 33. Lindeman Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Red Slipped | Cord Twist | | Lip Impressions | | | Cord Placement | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Z | S | Round | CWS | Slash/V | Vertical | Oblique | Parallel | |
| **Type 2 Pit** | | | | | | | | | | | | | |
| 34 | | 1 | | | | | | | 1 | 1 | | | |
| **Type 3 Pit** | | | | | | | | | | | | | |
| 4 | 5 | 25 | 37 | | 22 | 22 | 2 | | | 24 | 2 | | |
| 25 | 2 | 4 | 1 | 1 | 2 | 1 | 1 | | | 4 | 1 | | 1 Effigy Lug |
| 35 | 4 | | 2 | 4 | 1 | | | | | | 1 | | |
| 63 | 3 | | | 1 | | | | | 2 | 3 | | | |
| 72 | 2 | 2 | | | | | | | | 1 | 1 | | |
| **Earth Oven** | | | | | | | | | | | | | |
| 130 | 1 | 4 | 1 | 1 | 1 | | | 1 | 1 | 2 | | | |
| **Structures** | | | | | | | | | | | | | |
| 36 | 3 | 4 | 2 | 3 | 1 | | 1 | | 1 | 4 | | 1 | |
| 50 Fill | 33 | 38 | 25 | 6 | 30 | 11 | 3 | 2 | 4 | 52 | 16 | | Top of Lips CM |
| Floor | 2 | 1 | 3 | | 3 | 3 | | | | 2 | 2 | | |
| 65 Fill | 21 | 8 | 8 | 11 | 12 | | 1 | | 2 | 14 | 2 | | Top of Lip CM,<br>2 Filleted Rims<br>4 Lugs |
| Floor | 2 | | 6 | | | | | | | | | | 2 Lugs |
| 117 | 4 | 3 | 1 | 2 | 2 | 1 | | | | 3 | 2 | | Top of Lip CM |
| 125 | 8 | 7 | 3 | 2 | | | 1 | 1 | | 3 | 4 | 2 | Filleted Rim<br>Bifurcated Lug |
| **Ramadas** | | | | | | | | | | | | | |
| 49 | 1 | 1 | | | | | | | | 1 | | | |
| 64 | 2 | | 2 | | 1 | | | | | 1 | | | 1Lug |
| **Interior Pits** | | | | | | | | | | | | | |
| 51 | | | 1 | | 1 | | | | | 1 | | | |
| 128 | 1 | 6 | 1 | 1 | | | | | 1 | 6 | | 1 | Effigy tab<br>1 Punctates |
| **Totals** | 94 | 104 | 93 | 32 | 76 | 38 | 9 | 4 | 12 | 122 | 31 | 3 | |
| **% of Total** | 29 | 32 | 29 | 10 | 67 | 33 | 36 | 16 | 48 | 78 | 20 | 2 | |

Plain = Plain on upper rim, does not include pinch pots, SCM = Smoothed Cordmarked, CM = Cordmarked,
CWS = Cord Wrapped Stick

**Table 34. Lindeman Component Jar Types and Temper.**

| | Type | | | | | Temper | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Feature** | **2** | **3** | **4** | **5** | **6** | **Seed Jars** | **Grit** | **Grog** | **Limestone/ Grog** | **Limestone** | **Limestone/ Shell** | **Shell** | **Shell/Grog** | |
| **Type 2 Pit** | | | | | | | | | | | | | | |
| 34 | | | 1 | | | | | | | 1 | | | | |
| **Type 3 Pit** | | | | | | | | | | | | | | |
| 4 | 2 | 12 | 17 | | | | | 1 | 3 | 27 | | | | 2Lugs |
| 25 | | 2 | 3 | | | | | | 1 | 4 | | | | Effigy Lug |
| 35 | | 1 | 1 | 1 | | 1 | | | | 4 | | | | |
| 63 | | | 1 | 3 | | | | | | 4 | | | | |
| 72 | | 1 | 2 | | | | | 1 | | 1 | | 1 | | 1Lug |
| **Earth Oven** | | | | | | | | | | | | | | |
| 130 | 1 | 4 | 1 | 1 | | | | 3 | | 3 | | 1 | | Varney |
| **Structures** | | | | | | | | | | | | | | |
| 36 Fill | | 2 | 2 | | | | | 1 | | 3 | | | | |
| Floor | | 2 | | | | | | 1 | | 1 | | | | Handle |
| 50 Fill | 8 | 29 | 34 | 2 | | | | 8 | | 60 | 1 | 2 | | 5 Lugs, 2 Spouts |
| Floor | | 1 | 4 | | | | | | | 5 | | | | |
| 65 Fill | 3 | 16 | 7 | 2 | 2 | | | 1 | 1 | 23 | | 4 | 1 | 4 Lug, 1 Spout |
| Floor | | | 4 | 1 | | | | | | 5 | | | | 2 Lugs |
| 117 Fill | | 4 | 2 | | | | | 1 | 1 | 3 | | 1 | | |
| Floor | 1 | | | | | | | | | 1 | | | | |
| 125 Fill | 2 | 8 | 3 | | | | | 2 | | 10 | | 1 | | |
| Floor | | | 1 | 1 | | | | 2 | | | | | | 1 Lug |
| **Ramadas** | | | | | | | | | | | | | | |
| 49 Floor | | | 1 | | | | | 1 | | | | | | Lug |
| 64 | 1 | 2 | 1 | | | | | | | 4 | | | | 1 Lug |
| **Interior Pits** | | | | | | | | | | | | | | |
| 51 | | 1 | | | | | | | | 1 | | | | |
| 128 | | 1 | 2 | | | | 1 | | | 2 | | | | |
| **Totals** | 17 | 86 | 87 | 11 | 2 | 1 | 1 | 22 | 6 | 161 | 1 | 10 | 1 | |
| **% of Total** | 8 | 42 | 43 | 5 | 1 | 0.4 | 0.4 | 11 | 3 | 80 | 0.4 | 5 | 0.4 | |

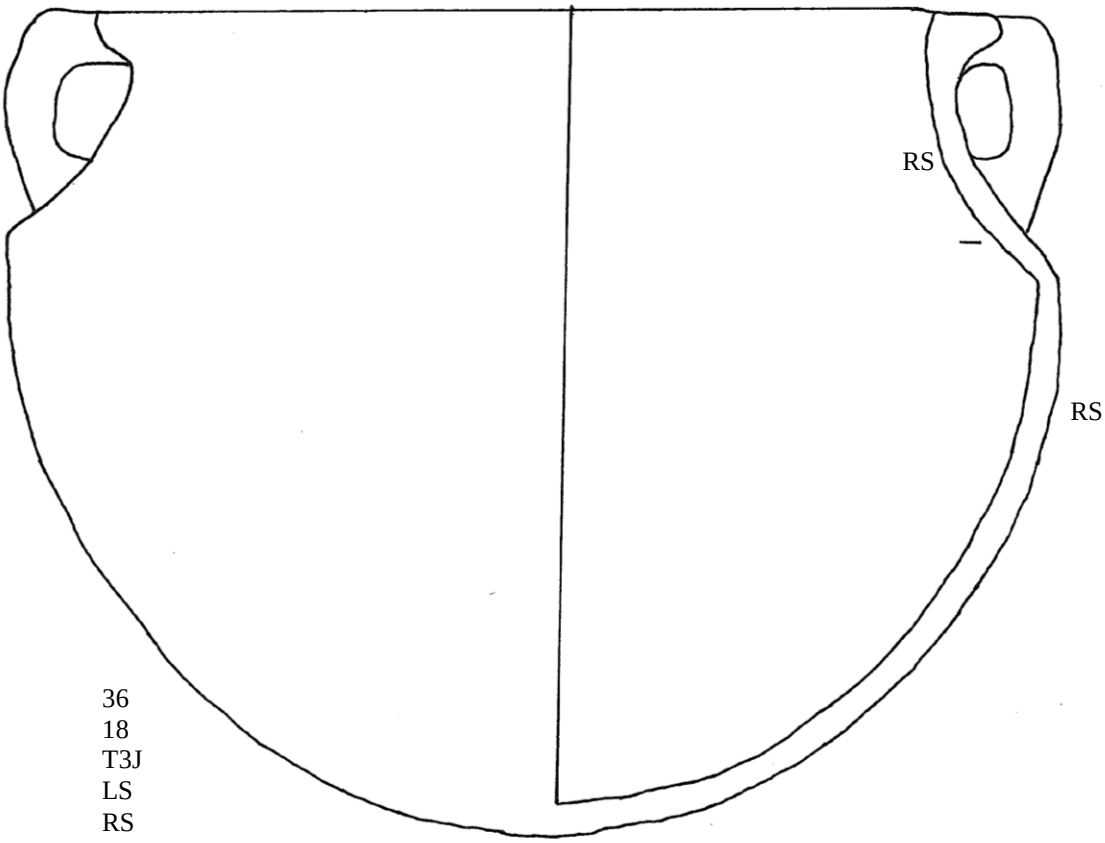



**Figure 37. Selected Lindeman Component Jars**.

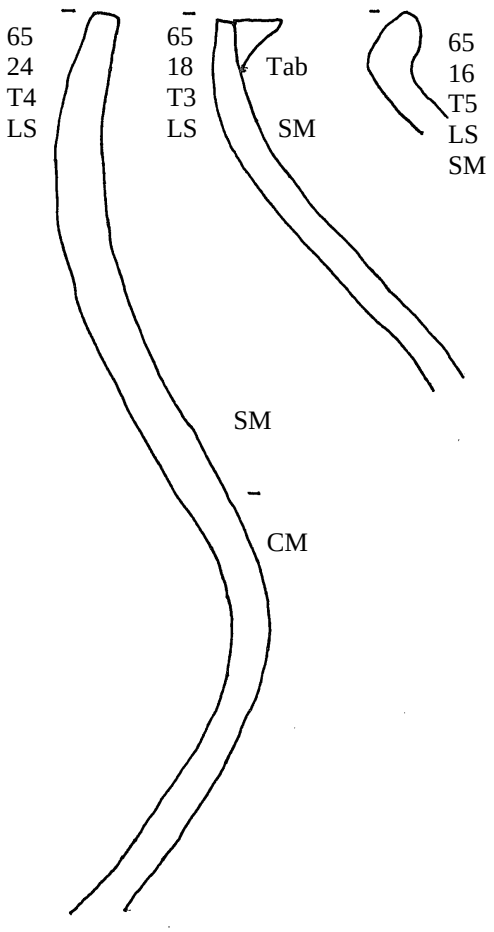



**Figure 37 cont. Selected Lindeman Component Jars.**

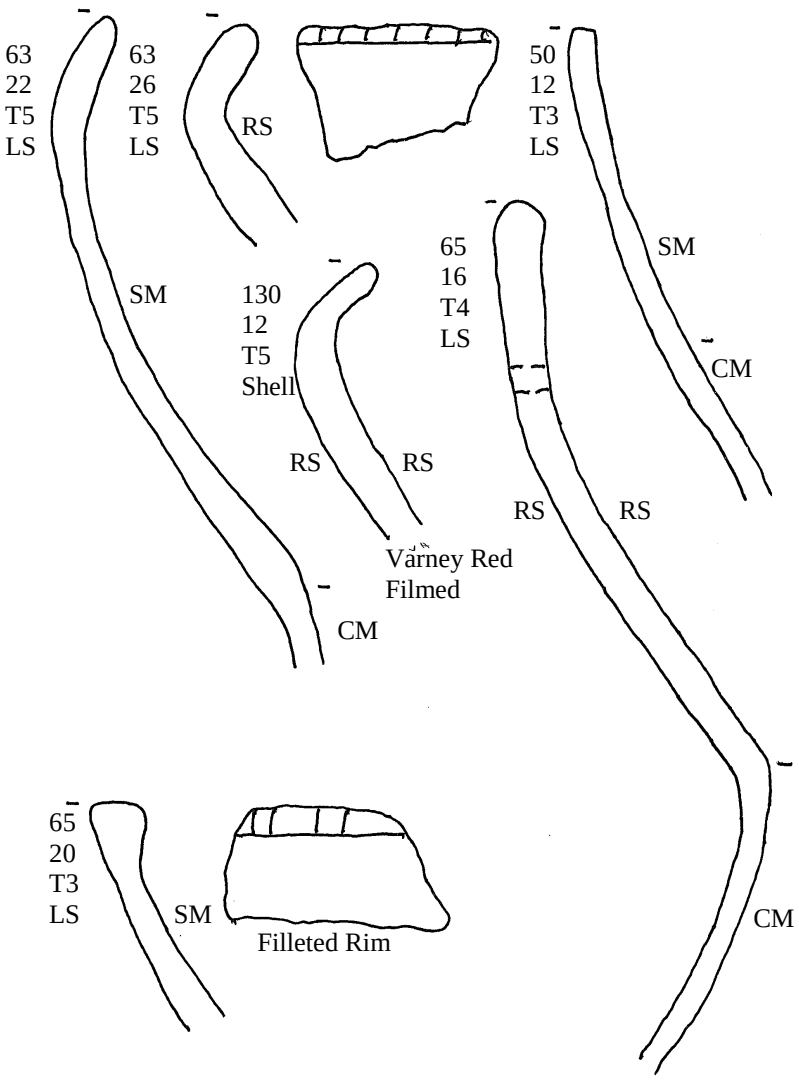



**Figure 37 cont. Selected Lindeman Component Jars.**

**Table 35. Lindeman Component Bowl Types and Temper.**

| | Type | | | Temper | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| **Feature** | **1** | **2** | **3** | **Grit** | **Grog** | **Limestone/ Grog** | **Limestone** | **Limestone/ Shell** | **Shell** | |
| **Type3 Pit** | | | | | | | | | | |
| 4 | 2 | 22 | 15 | 1 | 2 | 5 | 31 | | | |
| 25 | | 1 | 2 | 1 | 1 | | 1 | | | |
| 35 | | 1 | 1 | | | 1 | 1 | | | 2 Red Slip |
| **Structures** | | | | | | | | | | |
| 36 Fill | | | 1 | | | | 1 | | | 1 Red Slip |
| Floor | | | 1 | | | | 1 | | | Spout |
| 50 Fill | | 23 | 9 | | 1 | | 31 | | | 5 Red Slip |
| Floor | | 1 | | | | | 1 | | | |
| 65 Fill | | 11 | 3 | | 1 | | 13 | | | 2 Lugs, 4 Red Slip |
| Floor | | 1 | 2 | | | | 3 | | | 3 Red Slip |
| 117 Fill | | 1 | | | | | 1 | | | |
| Floor | | 2 | | | | | 2 | | | |
| 125 Fill | | 3 | 1 | | | | 3 | 1 | 1 | |
| **Ramada** | | | | | | | | | | |
| 49 | | | 1 | | | | 1 | | | |
| **Interior Pit** | | | | | | | | | | |
| 128 | | 6 | | | | | 6 | | | |
| **Totals** | 2 | 72 | 36 | 2 | 5 | 6 | 96 | 1 | 1 | |
| **% of Total** | 2 | 65 | 33 | 2 | 4 | 5 | 87 | 1 | 1 | |

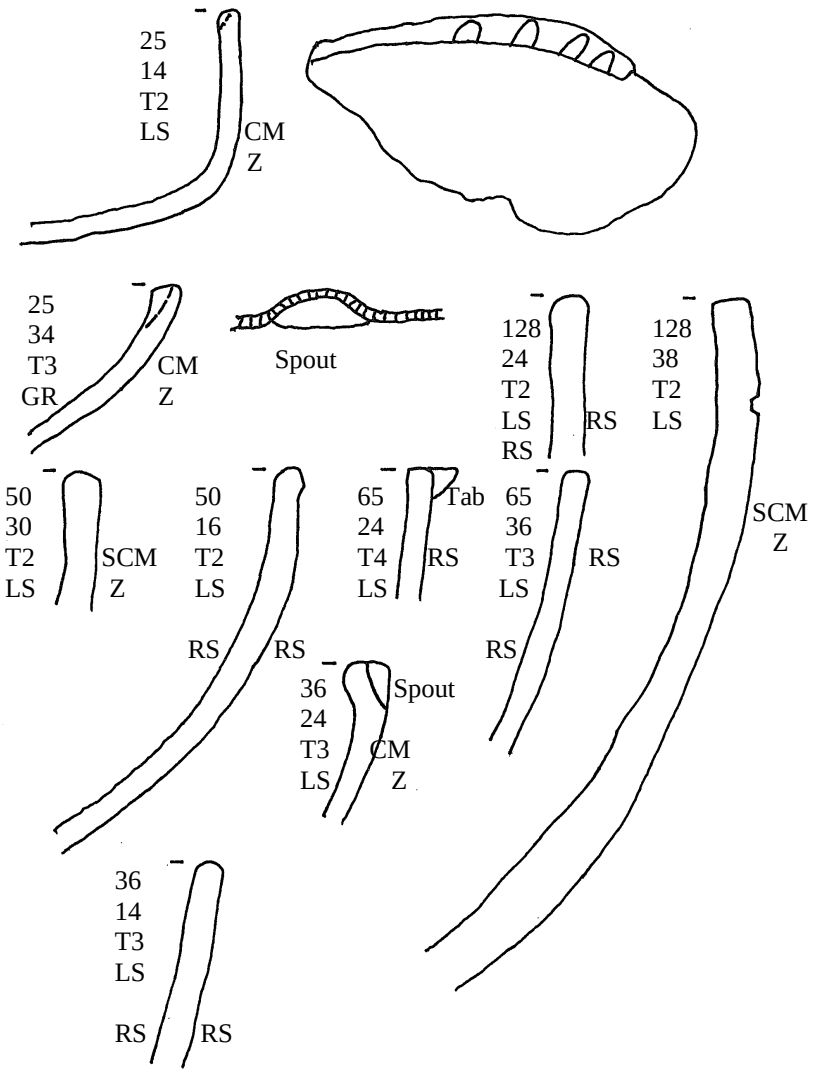



**Figure 38. Selected Lindeman Component Bowls.**

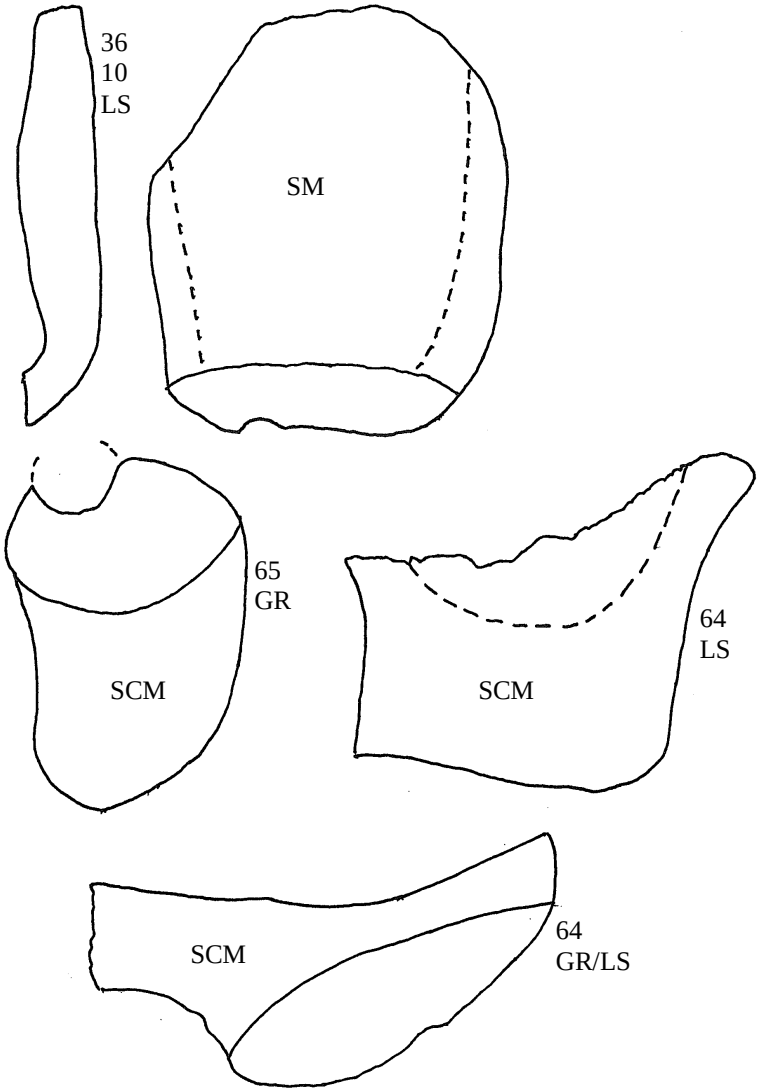



**Figure 39. Selected Lindeman Component Stumpware.**

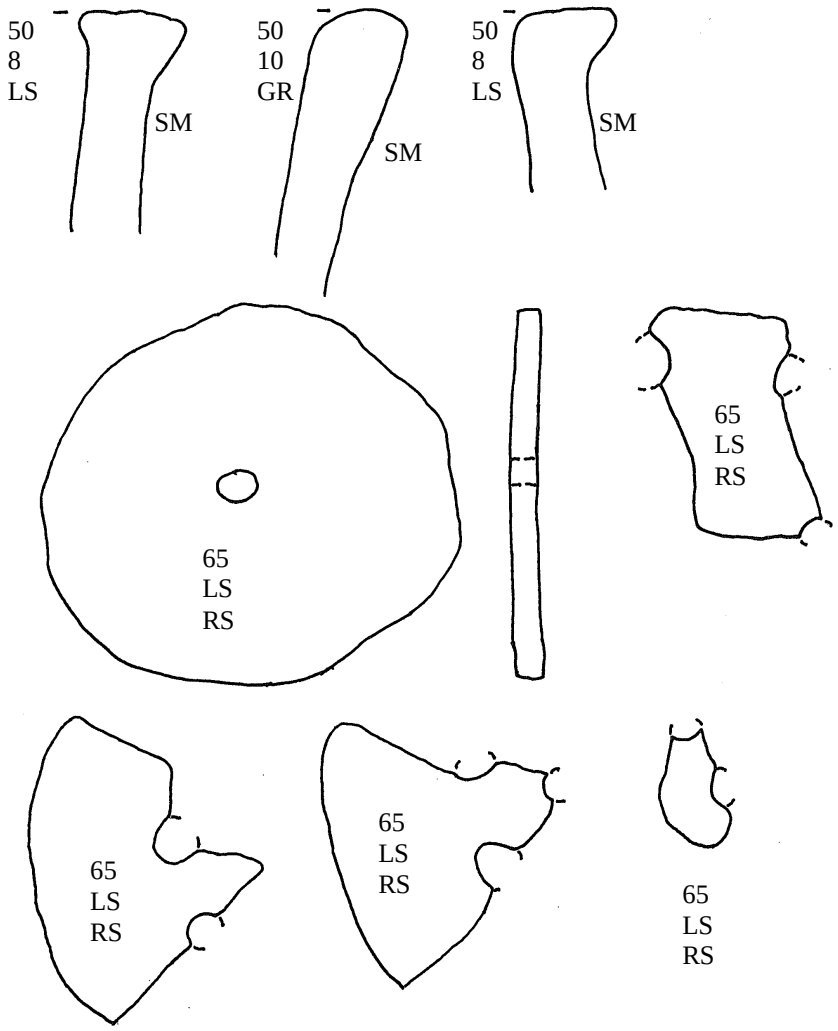



**Figure 40. Selected Lindeman Component Stumpware and Disks.**

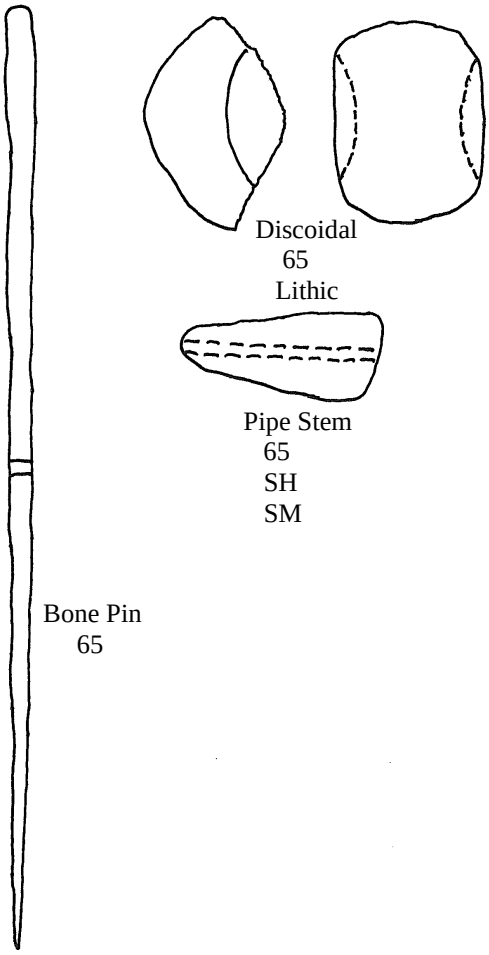



**Figure 41. Selected Lindeman Component Artifacts.**

# CHAPTER 6

# MISSISSIPPIAN OCCUPATIONS

The Mississippian period marks the beginning of major social and political changes in the American Bottom. The Cahokia Central-political-administrative complex emerges at Cahokia and is expressed by monumental architecture, new iconography, elaborate rituals, an increase in non-local items, shifts in structure technology and ceramic forms and temper, and a dramatic increase in population by growth, nucleation, and migrations. Outlying multiple mound sites are constructed or expanded. Moreover, this change was rapid (Milner 1998; Pauketat 1994, 2004). The social and political consequences of this dramatic cultural shift upon the small outlying villages, like Divers, is detectable (Emerson 1997a, 1997b; Mehrer 1995). The rise of this Cahokia chiefdom and the amount of political and social control over outlying populations is at the core of the Segmented and Ascendant chiefdom models and is the central issue addressed in this presentation.

In the southern American Bottom multiple mound groups appear or are expanded as populations migrate toward these groups or Cahokia. This results in the Lohmann phase compact villages being replaced by smaller nodal sites which serve surrounding isolated farmsteads. Some sites with a Terminal Late Woodland history are abandoned (Kelly 1990b).

Excavations have revealed evidence of Lohmann and Stirling phase occupations at Divers during the Mississippian period.

## Lohmann Phase

The Lohmann phase was initially defined by materials from the Lohmann (Esarey and Good 1981), Turner (Milner 1983), and Carbon Dioxide sites (Finney 1985). Excavations at the nearby Range site added additional details and understanding of the social and political changes occurring at this time and refined the component assemblage (Hanenberger 2003). Calibrated carbon-14 dates for the Lohmann phase fall between A.D. 1050 - 1100 (Emerson 2007, xxiv) or uncalibrated A.D. 1000 - 1050 (Kelly et al. 2007, 12).

For present purposes, the Lohmann phase is considered to be synonymous with the Lindhorst phase proposed by Kelly (1990b, 1993) for the southern American Bottom. Kelly's Pulcher Tradition includes the four Emergent Mississippian (Terminal Late Woodland) phases and an initial Mississippian period Lindhorst phase (ca. A.D. 1000 - 1050). The Pulcher Tradition is centered on the multiple-mound Lunsford-Pulcher site and is expressed by a predominance of limestone tempered ceramics and red slipped surfaces. The Lunsford-Pulcher site is viewed as the "local nexus for political and social happenings that to a large extent eventually linked to Cahokia" (Kelly et al. 2007:13). The spatial extent of this Tradition, especially to the south, is as yet unknown.

In the southern American Bottom, Lohmann phase ceramics are represented by jars with non-everted (inslant and vertical rims) and everted rims (flared, pinched, angular, and rolled) and angular shoulders, seed jars, pans, stumpware, funnels, water bottles, pinch pots, and bowls. Everted rim forms are more common than non-everted rims. Most vessels are tempered with limestone but shell tempering increased during this

phase. Most vessel surfaces are plain, but cordmarking occurs on some vessels; slips are common on both jars and bowls. Structures are predominately rectangular wall trench buildings set in shallow basins, but some rectangular single post basin structures persist. Large structures and pits occur in some sites and are viewed as the locations of important persons or ritual activity and are often labeled as nodal points (Emerson 1997a, 1997b; Hanenberger 2003; Mehrer 1995).

The Lohmann component at Divers marks the beginning of the Mississippian occupation of the site and is represented by seven rectangular wall trench structures, nine exterior pits and three interior pits. The features defined as Lohmann are based upon ceramic content, superpositioning, and feature attributes.

***Features***

The Divers Lohmann component structures are presented in Table 36, the exterior and interior pits are in Table 37 and the body sherds are in Table 38. Six rectangular wall trench structures, one wall trench and single post structure, three interior pits and nine exterior are assigned to the Lohmann component. The structures were located in two clusters. Features 91, 94, 96, 105, and 114 compose one cluster; the second cluster consisted of Features 16 and 24.

In cluster 1, Feature 16 (Figure 42) had 14.5 $m^2$ of floor space, open corners, a Northwest to Southeast long axis orientation, and was superimposed on Feature 26, a George Reeves structure and superimposed by Features 1 and 15, both Stirling structures, and by Feature 24, a Lohmann structure. The structure had nine interior posts with five located in the in the southwest one-third of the structure which could be the location of platforms and racks. The entrance way was not detected. The body sherds consisted of

two limestone tempered sherds with one being red slipped. Feature 24 (Figure 43) was defined by two wall trenches and was superimposed by Features 1 and 16, both Stirling structures, and was superimposed on Feature 26, a George Reeves structure, and Feature 16, a Lohmann structure. The northern and eastern wall trenches could have been obliterated by the construction of Feature 1. The structure had 13.4 m² of floor space, had a Northwest to Southeast orientation, and had open corners. The structure fill contained one grog, one red slipped limestone, and one shell red slipped tempered body sherds.

In cluster 2 Feature 91 (Figure 44) had 9.6 m² of floor space, a Northeast to Southwest long axis orientation, a continuous wall trench, and was superimposed on Feature 94, a Lohmann structure. The fill body sherds consisted of 58% limestone and 42% grog tempered sherds. Feature 94 (Figure 45) contained 10.1 m² of floor space, a continuous wall trench, a hearth, and an interior post pit which was probably the location of a wooden mortar. Floor materials are piece plotted on Figure 45. The structure was superimposed by Features 91 and 96, both Lohmann structures, and superimposed on Feature 102, a Patrick pit, and Feature 103, an Early Terminal Late Woodland pit. The floor ceramics included a red slipped limestone tempered beaker handle. The structure floor body sherds consisted of 58% limestone, 25% shell tempered, and 22% red slipped limestone body sherds. These pieces were fitted and represent seven different vessels and included; two plain limestone temper, one red slipped limestone temper, two plain neck with cordmarked body limestone temper, one smooth shell temper, and one cordmarked shell temper vessels. Feature 96 (Figure 46) contained 18.5 m² of floor space, had open corners, an interior pit ( Feature 111), a 10 cm deep basin, a Northwest to Southeast long

axis orientation, and was superimposed on Features 94 and 114, both Lohmann structures. The structure basin fill contained 51% limestone, 30% grit, 8% grog, 8% slipped shell, and 3% red slipped limestone tempered body sherds. The interior pit, Feature 111, fill body sherds consisted of 100% (n=56) grog tempered sherds. A discoidal and galena cube was recovered from the structure floor. This is the largest Lohmann structure at the site, almost twice the size of the other structures, and with the discoidal and galena cube may represent the location of a community structure or of a socially important personage. Feature 114 (Figure 46) was only partially excavated exposing two wall trenches. The structure had a Northwest to Southeast long axis orientation and a width of 2.5 meters. Feature 105 (Figure 47) is a combination of wall trench and single post construction creating a T-shaped structure. The contemporaneity of the two construction techniques was verified by equal floor elevations, no evidence of wall posts in the wall trench section, a red slipped limestone tempered sherd from the single post floor was fitted with a piece from the wall trench section floor, and a 15 cm deep basin clearly surrounded the entire structure. The wall trench section contained 6.4 $m^2$ of floor space, had a North Northeast to South Southwest long axis orientation, open corners with corner posts, an entrance way flanked by three posts in the southeast corner, and a curvilinear interior pit measuring 50 cm wide by 15 cm deep. A single large interior post pit near the center of the western wall is interpreted to be the location of a wooden mortar. The single post section added four $m^2$ of floor space for a feature total of 10.4 $m^2$. The single post section had a curvilinear interior pit measuring 25 cm wide and 10 cm deep and had two posts on one side. Feature floor materials are piece plotted on Figure 47. Red slipped limestone tempered sherds from both floors fitted. The feature

fill body sherds consisted of 52% limestone, 30% grog, 11% shell, 5% red slipped limestone, 2% slipped shell, and 0.5% grit tempered sherds. The floor body sherds included 67% limestone, 17% shell, 8% red slipped limestone, and 8% slipped shell tempered sherds. The wall trench section interior pit had two shell tempered body sherds. This is only T-shaped structure exposed at the site and none have been reported from Lohmann component sites in the southern American Bottom. Similar structure construction is reported for one structure from the Marty Coolidge site in the lower Kaskaskia River valley (Kruttruff 1972:23-25) and T-shaped wall trench structures are reported from the Merrell Tract at Cahokia (Kelly 1980:587), the Mitchell site (Porter 1974:96), and the Sand Prairie phase at the Schlemmer site (Mehrer 1995:153).

The six rectangular wall trench and one wall trench-single post structures all have Lohmann phase attributes based upon morphology, ceramics, and superpositioning. The structures cluster in two locations (Figure 48) and there is considerable rebuilding. The largest structure, Feature 96, contained 18.5 $m^2$ of floor space and had a discoidal and galena cube on the floor. This structure may represent a community structure or the residence of socially important personage. The structure is not as large as similar structures defined at the Range site Lohmann component but the size may be relative for the Divers site. Feature 105, with both single post and wall trench construction forming a T-shape, has no known parallels in the southern American Bottom. Six structures have a Northwest to Southeast orientation and two have a Northeast to Southwest orientation. Only Feature 96 had a defined hearth, Features 96 and 105 had interior wooden mortar post pits and two structures had interior pits. The structure morphology and attributes are similar to the Range site Lohmann component (Hanenberger 2003:33-63).

The pit attributes are presented in Table 37 and the body sherds are presented in Table 38. The pit morphology and types are based upon attributes described by Kelly et al. (2007:291-301) but modified by Hanenberger (2003:63) for the Range site Lohmann component. For comparative purposes, the pits have been assigned a Type number used by Kelly but not Hanenberger who used rectilinear and curvilinear as the basic types. The Divers Lohmann pits consisted of two rectilinear pits and seven curvilinear exterior pits and three curvilinear interior pits.

Rectilinear pits (Type 3) included Feature 18 which was excavated as a unit and was superimposed on Feature 13, an Early Terminal Late Woodland structure. Feature 99 was superimposed by a wall trench of Feature 94, a Lohmann structure, which destroyed the true pit dimensions.

Curvilinear pits included Feature 28 which was superimposed on Feature 29, a Lohmann pit and Feature 24, a Lohmann structure. Features 28 and 29 are presented together although artifacts excavated were kept separate as much as possible some mixing has occurred. Both pits had a small amount of artifacts Feature 32 (Type 3) contained 53% grog, 20% limestone, 20% red slipped limestone, and 3% shell tempered body sherds, mostly from the top 10 cm of the pit fill. One bowl rim from the fill had two parallel incised lines just below the rim. Feature 33 (Type 3) had 1% grit, 20% grog, 72% limestone, and 8% red slipped limestone tempered body sherds that were evenly distributed throughout the fill. All of the former pits are Type 3 pits. Feature 118 (Type 4) was superimposed on Feature 113, an Early Terminal Late Woodland pit, and superimposed by Features 114 and 96, both Lohmann structures. Half of the pit and the top l5 cm of the remaining half were excavated. The fill body sherds consisted of 60%

grog, 38% limestone, and 2% shell tempering. Additional materials included maize and acorns which are presented in the organic remains section. Feature 131 was superimposed on Feature 121, an Early Terminal Late Woodland structure and an undefined rectangular pit. The pit was reexcavated at least once to within 40 cm of the original floor. The fill body sherds consisted of 75% limestone, 18% grog, 6% shell, and 1% slipped shell tempered sherds. One shell tempered shell had an appliqué. Feature 132 was superimposed on Feature 121, an Early Terminal Late Woodland structure and contained, 88% limestone, 6% shell, 5% grog, and 1%grit tempered body sherds. All of these pits were Type 4.

The three small curvilinear interior pits included one pit in each component of Feature 105 and one pit in Feature 96.

No earth ovens, limestone floored or other pits types were defined for the Lohmann component. All of the exterior pits are considered to be storage pits with the possible exception of Feature 99 which is probably a multipurpose pit. Exterior pits account for 75% of the Lohmann pits. The pit morphology and attributes are similar to the Range site Lohmann component pits (Hanenberger 2003:63-73).

The nine pits and seven structures cluster in two areas (Figure 48). In both areas there was significant rebuilding. The exterior pits could not be associated with a particular structure and two structures had interior pits. Additional Lohmann features may exist in unexcavated portions of the Divers site but unlike the previous components which had a wider spatial distribution, the Lohmann component is more spatially concentrated. A similar clustering of Lohmann features occurs at the Range site

Lohmann component (Hanenberger 2003:37-43) however the size of the Divers site clusters are much smaller.

***Ceramics***

The Lohmann body sherds are presented in Table 38 and were discussed with the structures and pits because the ceramics constitute one of the bases for the cultural assignment of the features and they provide additional support for the features with rim sherds. The temper for all of the component body sherds consisted of 61% limestone, 25% grog, 8% shell, 4% red slipped limestone, 1% grit, and 1% shell slipped sherds. The primary bases for the component ceramic analysis and methodology is based upon the ceramic analysis from the Range site Lohmann component (Hanenberger 2003:13-22) and the Lohmann site (Esarey with Good 1981). Other Lohmann component sites include the Carbon Dioxide site (Finney 1985), the Turner site (Milner 1983), the upland Westpark site (Kelly et al. 1989), and the upland George Reeves site (McElrath and Finney 1987) (Kelly 1990b). Table 39 presents the vessel forms which consist of 68% jars, 25% bowls, 6% seed jars, and 1% pinch pots. One beaker handle was recovered.

The vessel surface treatment is presented in Table 40. Plain surfaces, not including pinch pots, constituted 35%, red slipped 29%, smoothed-over cordmarked 26%, and cordmarked 10% of vessel surfaces. Cord twisting, occurring rarely, consisted of 76% Z-twist and 24% S-twisted cords. Cord placement was 80% vertical, 8% oblique, 4% parallel, and 8% randomly placed to the rim. Cord placement below the shoulder or on rims with other than vertical placement usually had vertical placement. Red slipped surfaces occurred on 29% of all vessels; 33% of the bowls and 21% of the bowls.

Vessel decoration (Table 40), besides cord impressions and red slips, consisted of lip impressions on five vessels or 7% of all vessels. The impressions included 40% rounded, 40% slash or V-shaped and 20% cordwrapped stick impressions however this is a small sample which inflates the percentages. One shell tempered body sherd from Feature 131 had an appliqué, one jar had a handle, punctates were on one seed jar, two possible effigies were recovered, one bowl had two parallel incised lines just below and parallel to the rim, three lugs occurred, and one possible spout.

Jar types are presented in Table 41 and selected rim profiles are on Figure 49. The non-everted rims consisted of 30% vertical (Type 4) and15% inslant (Type 2 and 3) and the everted forms consisted of 26% flared, 9% angular, 8% pinched and 4% rolled rims. Seed jars accounted for 8% of the jar types. The jar temper consisted of 68% limestone, 23% shell and 9% grog. Jars are 68% of the vessel types. The jar rims diameters ranged from 8 cm to 40 cm and had a mean diameter of 22.3 centimeters however this is somewhat misleading because the rim diameter measurement was taken at the rim and in general the everted rim forms constrict below the rim. The jar types, percentages, and attributes are similar to the Range site Lohmann component (Hanenberger 2003:77-84).

Non-everted vertical rim (Type 4) jars were the most common type at 30% but were closely followed by flared rims (Type 5) at 26%. These two types, along with the inslant (15%) type are forms that occurred in previous Terminal Late Woodland components but are now present in much lower percentages. The appearance of the everted pinched, angular, and rolled rim types (in addition to the flared forms) occurs in the Lohmann component. Limestone is still the dominant jar temper at 68% but shell

temper at 23% becomes the second most common temper. Grit temper has all but disappeared and grog temper only occurs in 9% of the jars. Lip impressions still occur but are much less common. Overall, there is an increase in plain surfaces, everted rim forms, slipping, and shell tempering. One additional new form occurs and is represented by a red slipped limestone tempered beaker handle from the floor of Feature 94. The limestone tempered inslant and vertical rim jars conform to the type Pulcher Plain and Pulcher Cordmarked (Griffin 1977) and the seed jars are Monks Mound Red.

The bowl attributes are presented in Table 42 and selected rim profiles are on Figure 50. The bowl types are based upon three rim forms; Type 1 inslant, Type 2 vertical, and Type 3 outslant. The bowls included 55% Type 3, 39% Type 2, and 6% Type 1 bowls. The bowl tempering consisted of 61% limestone, 22% grog, 12% shell, and 5% grog-shell temper. Red slipped surfaces occurred on 33% (n=6) of the bowls. The bowl diameters ranged from 12 cm to 40 cm and had a mean diameter of 29.8 centimeters. One grog tempered bowl from Feature 32 had two incised lines just below and parallel to the rim (Figure 51). The bowl types, percentages, and attributes are similar to the Range site Lohmann component (Hanenberger 2003:112-121).
Type 3 bowls at 55% is the most common bowl type and Type 2 at 39% is the second most common. Slipped surfaces were frequent (33%) and reflect an increase over the previous Lindeman component. Limestone at 61% is still the predominant temper but shell or shell combinations at 17% represent an increase over previous components.

One limestone-grog tempered pinch pot from Feature 91 pot had a smooth surface and a rim diameter of 6 cm (Table 40).

Three seed jars were recovered; one from Feature 33, one from Feature 131, and one from Feature 94 (Table 41). Two jars were limestone tempered and the one from Feature 94 was shell tempered and had punctates (Figure 51).

A complete red slipped limestone tempered beaker handle was recovered from the floor of Feature 94 (Figure 51). The handle was 12 cm long, had a diameter of 3 cm and had been welded to the beaker wall but had broken cleanly from the vessel.

*Other Ceramic Artifacts*. Feature 94 had one shell tempered smoothed-over cordmarked disk on the floor and Feature 118 contained one plain limestone tempered disk. Feature 132 contained one pipe stem fragment (Figure 51) which had a polished surface and was probably grog tempered and Feature 131 contained a pipe stem fragment.

***Lithics***

Table 38 presents the limestone recovered by feature and in the case of the structures by fill and floors. All of the limestone recovered amounted to 632 pieces weighting 21.4 kg. The functions of the limestone are for temper, construction, and tools.

Ten hoe flakes were recovered; one from Feature 94, seven Mill Creek chert flakes from the interior pit of the wall trench section of Feature 105, one Mill Creek chert flake from Feature 18, and one flake from Feature 33.

The west wall trench of Feature 94 contained the bit end of a basaltic celt . One broken hammerstone was recovered from the floor of Feature 94 and one polishing or burnishing pebble was recovered from Feature 105.

Three lithic discoidals were recovered; one limestone discoidal from the fill of the north wall trench of Feature 94, one sandstone discoidal from the fill of Feature 105 and one sandstone discoidal from the floor of Feature 96.

The bit of a broken biface tool was recovered from the fill of Feature 131 and one sandstone slot abrader was observed from the fill of Feature 33.

One piece of hematite weighing 48 grams from the fill of Feature 33 and a galena cube from the floor of Feature 96 were recovered.

***Organic Remains***

The wall trench section of Feature 105 contained one 12-row and one 14-row cupules and two distorted maize kernels. Feature 105 fill had one tablespoon of acorn meats (*Quercus sp.*) (Blake 1974).

***Discussion***

The Lohmann component is represented by seven structures, three interior pits, and nine exterior pits. The component is marked by the first rectangular wall trench structures at the site, as well as ceramics with Mississippian attributes such as shell tempering, slipped surfaces, everted rims and jars with sharp shoulders. The excavated Lohmann phase features are clustered in two areas of the site with evidence of rebuilding of at least three structures. Based upon Milner's (1986) estimate of three to five years for the life span of a Mississippian structure cluster two would represent 9 to 15 years of occupation at these clusters which is in line with Pauketat's lower structure longevity estimates (Pauketat and Lopinot 1997). Two structures contained three small interior pits, but large exterior storage pits were more common during this phase. Feature 96 was much larger than any other site structure and may represent an important person's residence or a community structure.

Structure clusters comparable to those excavated at Divers are reported from the Lohmann components at the Range site (Hanenberger 2003:33-43, 349-351), Turner

(Milner 1983:29), George Reeves (McElrath and Finney 1987:319), and the Carbon Dioxide site (Finney 1985). The major difference between Divers and the other site clusters is that the Divers features are not as widely spaced. The Range and Turner sites are classified as nodal ceremonial-ritual sites and the remainder are "residential homesteads, farmsteads, or household clusters" (Jackson and Hanenberger 1990:9). The ceremonial-ritual sites are considered to be nodal points or sites with unique features such as large structures, exotic items, or mortuary facilities and which replaced the ceremonial role of the Emergent Mississippian sites with courtyards (Emerson 1997a, 1997b; Mehrer 1995). Lohmann nodal points have been defined at the Julian, Turner-DeMange, and Range sites and are interpreted to mark the greatest amount of Cahokia influence upon rural settlements (Emerson 1997a:176, 177, 178).

Feature 96, with 18.5 $m^2$ of floor space and the recovery of a galena cube and discoidal from the structure floor, may be the dwelling of a prominent family or a community structure and thus be considered a nodal structure serving as a ceremonial point for surrounding farmsteads.

The component structure and pit attributes are consistent with the Lohmann components at the sites discussed above. Even Feature 105, the T-shaped wall trench and single post construction structure, is not inconsistent as some Lohmann single post structures exist albeit none display both types of construction in the same structure or the T-shape. The component ceramic attributes are also similar to the Lohmann ceramics from the above sites and reflect the cultural changes that are occurring throughout much of the southern American Bottom.

## Stirling Phase

The Stirling phase calibrated carbon-14 dates are between A.D. 1100 - 1200 (Emerson 2007: xxiv) or uncalibrated A.D. 1050 - 1150 (Kelly et al. 2007:12). During this phase, rectangular wall trench structures set in shallow basins, some very large, continue from their introduction during the preceding Lohmann phase and circular structures appear for the first time. The structures tend to occur in clusters at some sites, isolated farmsteads occur, and nodal points and sites continue at selected sites. Large interior storage pits become more common but exterior pits still occur.

Stirling phase ceramics also show important changes from previous phases. Common vessel rim shapes include non-everted inslant and vertical; everted rims are found on vessels with angular shoulders. Vessel forms include jars, beakers, water bottles, seed jars, pans, juice presses, stumpware, bowls, and pinch pots. In the southern American Bottom, limestone is still the dominant temper, but grog tempering continues to be common, and shell tempered vessels become more frequent. Vessel surfaces are plain, slipped (red and black), engraved, and incised. The types Ramey Incised and Monks Mound Red are the hallmarks of the phase (Milner et al. 1984:168; Hanenberger 2003:247). Trade vessels or local copies of these vessels occur at some sites. At the Range site stumpware shifts from grog to limestone temper with plain surfaces.

Outlying non-mound sites of the Stirling phase are of two types: isolated farmsteads with associated exterior features and clusters of structures with associated exterior features. The latter is divided into ordinary and nodal households. The nodal households are defined by large size, associated exotic items, and spatial placement

within a site and they are ranked as third tier sites below Cahokia and the outlying multiple mound sites. Nodal households are viewed as the location of socially and political important persons who provide ritual activities for the community and the surrounding isolated farmsteads but were under the influence of nearly mound centers and ultimately Cahokia. Stirling nodal communities have been identified at the Range, Labras Lake, Julien, Sponemann, and BBB Motor sites (Mehrer 1995; Emerson 1997a:179). The Dives site can be added to this growing list.

A Stirling phase nodal community marks the final defined occupation of the Divers site. The excavated features of this component includes four rectangular wall trench structures, three interior storage pits, two exterior pits, and one oval-shaped single post structure that may have been a charnel house.

***Features***

The Divers site Stirling component structures attributes are presented on Table 43. The feature body sherds are on Table 44 and the rim sherds are discussed in the ceramic section.

Feature 1 (Figure 52) contained 25.6 $m^2$ of floor space, had open corners with corner posts, had a Northwest to Southeast long axis orientation, a mortar post, and was burned. An uncalibrated carbon-14 date of A.D. 1105±45 and a calibrated date of A.D. 1172±57 (Table 2) was obtained from charred wall posts. The structure was superimposed on Features 16 and 24, Lohmann structures, Feature 26, a George Reeves structure, Feature 5, a George Reeves pit, and Feature 30, a Range pit. Body sherds for the entire feature consisted of 44% limestone, 27% grog, 14% slipped shell, 8% red slipped limestone, 6% shell, and 1% grit tempered sherds. A whole Powell Plain jar was

recovered from the structure floor. Feature 15 (Figure 53) contained 11.7 m² of floor space, had open corners with one corner containing a post, an East to West long axis orientation, was burned, and was superimposed on Feature 1, a Stirling structure, Features 16 and 24, both Lohmann structures, and Feature 26, a George Reeves structure. An uncalibrated carbon-14 date of A.D. 1230±130 or a calibrated date of A.D. 1257±110 was obtained from the structure posts (Table 2). The East to West orientation is the only structure at the site with this orientation. Four of the seven interior posts were regularly spaced in the western half of the structure. Feature 22 (Figure 53) was a large interior storage pit and a large centrally located post mold is inferred to be the location of a wooden mortar. The structure fill body sherds included 58% limestone, 17% shell, 14% grog, and 11% red slipped limestone tempered sherds. One shell tempered body sherd was recovered from the structure floor. Feature 22, the interior pit, contained 31% limestone, 29% slipped shell, 21% red slipped limestone, and 21% grog tempered body sherds. Feature 85 (Figure 54) contained 15.6 m² of floor space, had a Northeast to Southwest long axis orientation, a 15 cm deep basin, open corners, a wooden mortar post mold, and an interior pit, Feature 70. The structure has a pair of uncalibrated carbon-14 dates of A.D. 1005±55 and A.D.±1050 55 and calibrated dates of A.D. 1093±57 and A.D. 1121±65 respectfully (Table 2). The structure was superimposed on Features 83, 84, and 86, all Range component pits, and Feature 87, a Patrick component pit. The structure basin ceramics included three Ramey Incised sherds and one grog tempered engraved beaker sherd similar to one from Feature 126. The structure floor body sherds included 90% limestone, 8% grog, and 2% red slipped limestone tempered sherds. The south wall had double wall trenches possibly due to the fact the trenches passed through three earlier

pits. The outer wall trench is interpreted to be the original trench but the need to have the wall anchored in base clay for stability may have necessitated rebuilding or repositioning the wall. The twenty-three interior posts were all positioned in the southern half of the structure with a larger post mold near the center interpreted to be the location of a wooden mortar. Feature 70 (Figure 54), the interior storage pit, contained 64% limestone, 11% grog, 11% red slipped limestone, 9% shell, and 4% grit tempered body sherds. Two post molds extended from the surface to the bottom of the pit but it is not clear if they functioned with the pit or the structure. Feature 124 (Figure 55) contained 12 $m^2$ of floor space, had open corners with corner posts, a Northeast to Southwest long axis orientation, an interior pit, Feature 136, and was superimposed upon Feature 137, a George Reeves pit. The twenty-one interior posts were clustered in the central one-third of the structure with five of the posts aligned across the structure interior suggesting a partition. Post 10, the largest interior post near the interior pit is interpreted to be the location of a wooden mortar. A possible entrance way could be located near the center of the southeastern wall where the wall trench narrows. A small amount of what appears to be burned thatch was recovered from the floor and suggests the structure may have burned. The structure fill body sherds consisted of 55% limestone, 33% grog, and 12% red slipped limestone tempered sherds and one shell tempered sherd from the floor. Feature 136, the interior pit, contained 26% limestone-grog, 26% shell, 21% grog, 21% limestone, and 5% grit, tempered sherds. Feature 126 (Figure 56) was first thought to be a single post basin structure but excavation revealed an oval shaped 35 cm deep basin feature lacking defining wall posts, two areas of intense burning, and unique ceramics. The feature had scattered clusters of post molds, a Northeast to Southwest orientation,

two defined levels of activity, and the basin measured 3.4 by 2 meters. The fill body sherds from Levels 1 and 2 consisted of 65% limestone, 17% grog, 13% red slipped limestone, 2% shell, and 2% slipped shell and 0.6% grit tempered sherds and one shell tempered black slipped beaker handle. Level 1 floor body sherds included one grog tempered stumpware fragment, one limestone, and one red slipped limestone tempered sherds. Level 2 floor ceramics included one Ramey Incised rim sherd. Two grog tempered engraved bowl rims from the fill could be Holly Fine Engraved or local copies of this type. A similar engraved sherd was recovered from Feature 85. The feature total body sherds consisted of 64% limestone, 19% grog, 13% red slipped limestone, 2% shell, 2% slipped shell and 0.6% grit tempered sherds. The feature is a special use structure, possibly a charnel structure.

The five structures and associated interior pits are located in four areas of the site (Figure 57). Two structures, Features 1 and 15, are superimposed with Feature 15 being the final site structure defined to date. The wide distribution suggests additional features may be present in the unexcavated portions of the site although this may represent a Stirling component cluster. Feature 126, a possible charnel structure is located on the western terrace edge of the site and possibly near the midline of the site. Additional site excavations need to be conducted to verify the clusters and additional features.

The four rectangular wall trench structures all had open corners with Features 1 and 24 having four corner posts, Feature 15 had one corner post, and Feature 85 lacked corner posts. Three of the structures had interior pits and mortar posts except for Feature 1. The interior post placement varied greatly with Features 85 and 124 having a large number of posts clustered and Features 1 and 15 having fewer posts regularly spaced

along the walls. Feature 1 was nearly twice the size of the other structures, lacked significant interior posts and an interior pit and mortar post, had a Powell Plain jar and Monks Mound Red vessels, an effigy, a limestone metate (the only metate recovered at the site), a hematite plummet, the bit end of a broken Mill Creek hoe, and a piece of mesquite (*Prosopis sp*) from the structure floor. These attributes and artifacts suggest the structure was a nodal structure and was occupied by a prominent person. The structure orientations varied with Features 85 and 124 being Northeast to Southwest, Feature 1 Northwest to Southeast, and Feature 15 being East-West. It is not clear if all or some of the structures represent a cluster of Stirling component households similar to those defined at the Range, BBB Motors, or the Labras Lake sites. Feature 126 is interpreted to be a possible charnel structure which together with Feature 1 would suggest a nodal site. Structures 1, 15, 126, and possibly 124 were burned.

The two curvilinear exterior pits include one Type 4 storage and one Type 1 shallow multipurpose (Table 45). The three interior pits are Types 3 and 4 storage pits (Table 45). No additional pit types were exposed.

***Ceramics***

The Stirling component body sherds are presented in Table 44 and were discussed with the structures because they provided one of the bases for the cultural assignment for the structures. Selected rim profiles are in Figures 58 to 64. The ceramic analysis and attributes are based upon attributes described for the Lohmann component at the Range site (Hanenberger 2003:77-129).

Table 46 presents the vessel forms which consist of 64% jars, 22% bowls, 3% seed jars, 3% pans, 3% beakers, 3% stumpware and 1% short neck water bottles.

The temper for all of the component feature body sherds consisted of 53% limestone, 21% grog, 12% red slipped limestone, 7% slipped shell, 6% shell, 0.6% grit, and 0.5% limestone-grog.

The vessel surface treatment is presented in Table 47 and consisted of 51% red slipped, 24% plain rims, 12% smoothed-over cordmarked, 6% cordmarked, 4% incised, and 3% engraved. Cord impressions were 90% Z twisted and cord placement was 88% vertical to the rim. Tabs occurred on two jars, two bowls had polished surfaces, and one bowl had a burnished surface. Both red and black surfaces were present but red was the predominant color. The engraved bowls are Holly Fine Engraved trade pieces or local copies.

The non-everted jar rims consisted of 35% vertical (Type 4) and17% inslant (Type 2 and 3) forms (Table 48). The everted forms included 18% flared, 12% angular, 10% rolled rims and 2% pinched forms. Seed jars accounted for 6% of the jar forms. Non-everted rims accounted for 64% and everted 45% of the jar rim forms. Jars were 64% of the vessel forms and 30% of the jars were red slipped. Jar tempering consisted of 69% limestone, 16% shell, 8% grog, 4% limestone-grog, 1% grit-grog, 1%shell-grog, and 1% shell-limestone temper (Table 48). A whole Powell Plain jar was recovered from the floor of Feature 1 (Figure 58) and Ramey Incised body sherds were recovered from the fill of Features 85 and 138 and the floor of Feature 126 (Figures 59, 63, and 64). Vertical rim jars (Type 4) were the most common form at 35% with flared forms accounting for 18% and inslant 17% as the secondary forms. Pinched and rolled rims are also present. Red slipped surfaces increase to 30% and incised surfaces are present. Five seed jars, from Features 1, 22, 85, and 126, were all were limestone tempered and red slipped and

one had a double row of punctates (Figures 56, 61 and 63). Limestone is still the dominant temper (69%) and shell or shell combinations account for 18% of the jar tempering. The limestone tempered inslant and vertical rim jars conform to the types Pulcher Plain and Pulcher Cordmarked (Griffin 1977) and the seed jars are Monks Mound Red variety. The jar types and percentages are similar to the Range site Stirling component (Hanenberger 2003:247-275).

The bowl attributes are presented in Table 49 and selected rim profiles on Figures 62 and 64. The bowl types are based upon three types; Type 1 inslant, Type 2 vertical, and Type 3 outslant. The bowl rims consisted of 50% Type 2, 47% Type 3 and 1% Type 1. The bowl tempering consisted of 77% limestone, 15% shell, 4% grog, and 4% shell-grog. Red slipping occurred on 73% of all bowls and polishing and burnishing surfaces occurred on two bowls. Two grog tempered red slipped engraved beaker rims (Figure 64) on the floor of Feature 126, probably from the same vessel, and one (Figure 63) from the floor of Feature 85 are similar to Alto Focus Holley Fine Engraved (Newell and Krieger 1949).

Type 2 bowls at 54% were the most common form but Type 3 accounted for 46%. Limestone was the dominant temper at 77% but shell or shell combinations were 19% of the bowl tempering. The possible Alto Focus bowls may be local copies or trade sherds (J. Kelly personal communication 2009). Similar types were recovered from the Lunsford-Pulcher site (Freimuth 1974).

Table 50 lists the non-jar and bowl attributes. One shell tempered black slipped beaker handle (Figure 64) from the floor of Feature 126 and one limestone tempered red slipped short neck water bottle from the fill of Feature 1 were recovered. Four limestone

tempered pans (Figures 63 and 64) were recovered from Features 1, 85, and 126. Three pans were red slipped. The identification of pan rims is difficult and is dependent upon not only rim orientation but rim diameter which tends to be larger than the outslant bowls.

*Other Ceramic Artifacts*. One limestone tempered disk was observed from the fill of Feature 70, the interior pit of Feature 85.

***Lithics***

Table 44 presents the limestone recovered by feature fill and structure floors. The limestone amounted to 883 pieces weighing 51.5 kg. One limestone metate was recovered from the floor of Feature 1 and was the only metate recovered from the site.

Two Mill Creek hoes were recovered from the bottom of Feature 70, the interior storage pit of Feature 85. Both had "polish" on the bit, one was cracked in place and both appeared to be stored in the pit. Three hoe flakes (one Mill Creek), a broken Mill Creek hoe bit from Feature 1 and one hoe flake from Feature 126 were recovered.

Feature 70, the interior storage pit of Feature 85, and Feature 124 contained a hammerstone.

Level 1 of Feature 126 contained one basaltic celt weighing 57 grams and one celt from a post pit of Feature 124 was observed.

The floor of Feature 1 had a hematite plummet and Feature 136, the interior pit of Feature 124, had a hematite fragment.

***Organic Remains***

Feature 126 had one 10-row cupules and some distorted maize kernels and Feature 85 fill had one 8-row, two 10-row, and three 12-row cupules.

Acorn (*Quercus sp*.) shells were recovered from Feature126 and Feature 85 fill and wall trenches had acorn meats and shells (Blake 1974).

Charred wood from the burning of Feature 1 was identified by Conrad (1971) and consisted of fifteen pieces of hickory (*Carya sp*.), probably shagbark (*C. lacinina*) or big shagbark (*C. ovata*), three pieces of slippery elm (*Ulmus ruba*) or hackberry or sugar maple (*Celtis sp*.), one piece of American elm (*Ulmus Americana*), four pieces of maple (*Acer sp*.), one piece of white oak (*Quercus sp*.), one piece of red oak (*Quercus sp*.), and one piece of mesquite (*Prosopis sp*.). Eleven of the wall posts were hickory, three maple, and one slippery elm or hackberry. The mesquite was positively identified by Drs. Koeppen and Kukashla of the Wood Quality Research Division, Forest Products Laboratory, University of Wisconsin, Madison (Conrad 1971). The presence of this exotic species raises interesting questions about the occurrence and use of this wood at the site. Porter reported pieces of mesquite from the Mitchell site located some 4.3 km. north of the Cahokia site. The pieces were recovered from Features 77 and 79, both small wall trench structures dated at A.D. 1200 ±150 and A.D. 1000 ±150 (uncalibrated dates) respectfully (Porter 1974:Table 7). To date, none of the F.A.I. 270 projects excavations have reported mesquite remains even though extensive charred wood identification was conducted. The species does not grow, except in a few scattered local habitats, east of the 96$^{th}$ meridian which is approximately 550 km west of the American

Bottom. Two possible explanations may explain the occurrence of the exotic wood in the American Bottom. First, the modern day distribution is within 12 km of the Smokey River in southwestern Kansas. It is possible for the wood to enter the Smokey River drainage as drift, float into the Missouri River, down the Missouri River to the Mississippi River to the American Bottom where it could have been secured as a piece of drift wood. The second explanation is as a trade item, most likely from the Caddoan area. Caddoan ceramics and points have been reported at Cahokia (O'Brien 1973), the Lunsford-Pulcher site (Freimuth 1974), and possibly the Divers site. It has been indicated that some feel the ceramics are local copies and not trade items but this should be verified by petrographic or other analysis. If they are copies, some form of contact was still occurring between these two areas. The use of mesquite for food and non-food items includes the beans for food and the wood for construction and fuel (Bohrer 1970:426, 429). In addition, the wood has a colorful yellowish-red grain, is very durable, and has religious significance (John McGregor personal communication 1974). The function in the American Bottom sites may be as a handle or similar use with social and religious implications. This limited use may also explain why additional mesquite remains are difficult to recover.

***Discussion***

The Stirling phase component is represented by four rectangular structures and one special use structure interpreted to be a charnel house. The possible charnel house and at least two of the other structures were burned. Samples from three structures yielded calibrated radiocarbon age estimates of A.D. 1093±57 or A.D. 1121±65 to A.D.

1257±110 (Table 2). The features cluster in four areas of the site and the resulting patterns are larger than the two Lohmann clusters described in the previous section.

Only one exterior Stirling storage pit was exposed but others may be present in the unexcavated portions of the site. Three of the four structures had large interior storage pits and wooden mortar posts. Feature 1, which was nearly twice the size of the other structures and has attributes of a nodal structure, did not have an interior pit or a mortar post. The shift to a higher percentage of interior storage pits in the Stirling phase is noted by Mehrer (1995) and interpreted by Pauketat (1994:137; 2004:103) to be one indicator of the increased power emanating from the Cahokia polity. As the power of Cahokia increases, the shift to interior pits is viewed as an attempt by these site occupants to hide surplus foodstuffs from appropriation by the Cahokia elite. If the Cahokia or subordinate authority intent was to appropriate, document, or quantify foodstuffs in outlying sites, I fail to understand how moving storage from exterior pits to interior pits would prevent this from occurring.

The Stirling component at Divers is similar to that excavated at the Range (Hanenberger 2003), possibly BBB Motor (Emerson and Jackson 1984), Labras Lake (Phillips et. al 1980), and Robert Schneider (Fortier 1985) sites. It has been noted that several Stirling phase site occupations (Range and BBB Motor) occupy higher elevations than previous site occupations and that this may be the result of higher water levels in the American Bottom (Hanenberger 2003:366).

Stirling phase ceramics are also similar to those of the Lohmann phase, but with the addition of incised and sharp-shouldered shell tempered jars, pans, plain stumpware, and vessels that are or are copies Caddoan jars and beakers. Everted jar rims, red slipped

surfaces, and shell temper are more common than in Lohmann phase context, but the noneverted rim forms remain constant and dominant. Type 2 and Type 3 bowl percentages remain nearly constant but the percentage of red slipped bowls more than doubles and the percentage of shell tempered bowls increases. For all vessels, limestone remains the dominant temper but red slipped surfaces nearly double over the Lohmann component. Alto Focus sherds and mesquite are present unless additional analysis indicates the sherds are local copies.

Given the characteristics of Features 1 and 126, the Divers site continued to be a nodal community during the Stirling phase. Currently, the Stirling component marks the final occupation of the site.

The following section presents some significant surface and plow zone artifacts. This is followed by an examination of Mississippian household patterns and finally a site summary that compares the site occupations and makes regional comparisons and contrasts.

## Surface and Plow Zone Artifacts

This section describes artifacts recovered from the site surface and plow zone that have significance in the site interpretations. Some of these artifacts have a grid location, but none can be assigned to a particular feature or component.

### *Ceramics*

Four ceramic disks were recovered from the general surface. These specimens include a cordmarked, grog-tempered sherd, a limestone-tempered, cordmarked sherd, a limestone-tempered smooth sherd, and a black-slipped, shell-tempered sherd.

### *Lithics*

Three whole celts and three celt fragments manufactured from basalt were recovered. One Mill Creek hoe bit, two lithic discoidals, and one piece of Hixton Silicified Sediment (Baraboo Quartzite) were recovered from the general surface.

## Mississippian Household Patterns

Generally speaking, the use history of the Divers site appears to be comparable to the Range site and fits comfortably within what is currently known of Terminal Late Woodland and Mississippian social developments in the southern American Bottom. A detailed reconstruction of Terminal Late Woodland and Mississippian household patterns cannot be undertaken at Divers because only a part of the site has been excavated.. However, some of the household archaeology analytical approach taken by Mehrer (1995) can be applied to the interpretation of the Lohmann and Stirling phase occupations.

The Lohmann component consisted of two clusters with six complete structures and seven exterior pits. The pits could not be associated with a specific structure, but the structures can be used to define a Lohmann household pattern based on interior pits, mean floor areas, and floor L:W ratios (following Mehrer 1995:49, 53, 101). Cluster 1 contained four wall trench structures. Features 91, 94, and 96 (a nodal structure) are Type MR1 structures and Feature 105, a T-shaped single post and wall trench structure, is a Type MR2. Structure rebuilding occurred and only one or two structures could have been occupied at any one time. Cluster 2 contained Features 16 and 24, both Type MR1, and only one structure could have been occupied at any one time.

The household pattern is most similar to Mehrer's (1995:107, Figure 59, Table 24) Type LC, examples of which have been reported only at the Range site. At the time, Mehrer did not designate a nodal occupation during the Range Lohmann phase which Hanenberger (2003:349) has since done. Mehrer does suggest the Range Lohmann pattern has continuity into the subsequent Range Stirling phase (1995:110-111). The structure orientations remain the same as the preceding Lohmann component except Feature 15.

The Stirling component at Divers consists of four wall trench structures: Features 1 (a nodal structure), 15, 85, 124, and 126, the latter which is a possible charnel structure. Features 15, 85, and 124 had large interior storage pits and are Type MR2 structures. Feature 1, lacking an interior pit, is a Type MR1. This pattern is most similar to the Stirling phase Range 2 civic-ceremonial pattern (Mehrer 1995:116). Alternatively, if Feature 126 is a mortuary structure, then the pattern is similar to that delineated at the BBB Motor site (Mehrer 1995:117). However, the mortuary features at the Range site are not absolutely assigned to the Stirling occupation (Hanenberger 2003:355). Both Mehrer (1995:112, 144) and Hanenberger 2003:362) interpret the Range site Lohmann to Stirling pattern as a continuation and this is probably the same at the Divers site Lohmann to Stirling components.

This concludes the presentation and interpretation of the Divers site archaeological assemblages and an examination of contemporary site comparisons to establish household and community patterns. The final chapter begins with a Divers site summary and is followed by an examination of alternative chiefdom models, population and labor data, rituals and ritual displays and is combined with the Dives site data to

examine the Segmented and Ascendant Chiefdom models interpretation on the amount of political control emanating from Cahokia chiefdom.

## Chapter 6 Figures and Tables

**Table 36. Lohmann Component Structure Attributes.**

| Feature | Length (m) | Width (m) | L:W Ratio | Area ($m^2$) | Basin Depth (m) | Long Axis Orientation | Elevation (Datum) | Wall Trench Depth | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 16 | 5.0 | 2.9 | 1.7 | 14.5 | – | NW/SE | 124.76 | | Superimposed on F26, by 1,15,24 |
| 24 | 4.2 | 3.2 | 1.3 | 13.4 | – | NW/SE | 124.65 | | Superimposed on F1, 15, by 16, 26 |
| 91 | 3.8 | 2.5 | 1.5 | 9.6 | – | NE/SW | 124.87 | 0.20 | Superimposed on F94 |
| 94 | 4.3 | 2.3 | 1.8 | 10.1 | 0.10 | NW/SE | 125.00 | 0.30 | Superimposed by F91, 96 |
| 96 | 5.0 | 3.7 | 1.3 | 18.5 | 0.10 | NW/SE | 125.00 | 0.25 | Superimposed on F114, 94 |
| 114<br>105 | – | 2.5 | – | – | 0.10 | NW/SE | 124.80 | | |
| Wall Trench | 3.6 | 1.8 | 2.0 | 6.4 | 0.15 | NE/SW | 124.85 | | |
| Single Post | 2.0 | 2.0 | 1.0 | 4.0 | 0.15 | NW/SE | 124.85 | | |
| *Mean Values* | 4.3 | 2.6 | | 12.7 | | | | | |

**Table 37. Lohmann Component Pit Types and Attributes.**

| Feature | Type | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Comments |
|---|---|---|---|---|---|---|---|
| **Rectilinear** | | | | | | | |
| 18 | 3 | 1.35 | 0.85 | 0.56 | 0.64 | 124.65 | Superimposed on F13 |
| 99 | 3 | 0.75 | ~0.65 | ~0.15 | – | 124.90 | Superimposed by F94 |
| **Curvilinear** | | | | | | | |
| 28 | 3 | 0.78 | 0.80 | 0.50 | 0.25 | 124.68 | Dug as a unit |
| 29 | 3 | 0.55 | 0.29 | 0.74 | 0.17 | 124.68 | Dug as a unit |
| 32 | 3 | 1.00 | 1.00 | 0.35 | 0.27 | 124.95 | |
| 33 | 3 | 1.00 | 0.75 | 0.60 | 0.45 | 124.91 | |
| *Mean Values* | | 1.08 | 0.86 | 0.58 | 0.35 | | |
| 118 | 4 | – | – | 0.50 | – | 124.70 | Superimposed by F96, 114, on F113, 119 |
| 131 | 4 | 1.40 | 1.25 | 0.90 | 1.05 | 125.04 | Superimposed on F121 |
| 132 | 4 | 1.05 | 1.00 | 0.60 | 0.50 | 124.89 | Superimposed on F121 |
| *Mean Values* | | 1.22 | 1.12 | 0.66 | 0.77 | | |
| **Interior Pits** | | | | | | | |
| 105 | | | | | | | |
| Wall Trench | | 0.50 | 0.50 | 0.15 | | | |
| Single Post | | 0.25 | 0.25 | 0.10 | | | |

**Table 38. Lohmann Component Body Sherds and Limestone.**

| Feature | Grit | Grog | Limestone | Red Slipped Limestone | Shell | Slipped Shell | Limestone Count | Limestone Weight (kg) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| **Pits** | | | | | | | | | |
| **Rectilinear** | | | | | | | | | |
| 18 | | 8 | 89 | 3 | 14 | 4 | | | |
| 99 | | 1 | 2 | 2 | | | 7 | 0.19 | |
| **Curvilinear** | | | | | | | | | |
| 28 | | 4 | 5 | 1 | | 1 | 13 | 0.11 | |
| 29 | | 1 | 1 | | | | | | |
| 32 | | 16 | 6 | 7 | 1 | | 33 | 0.58 | |
| 33 | 1 | 25 | 89 | 9 | | | 68 | 3.17 | Effigy |
| 118 | | 25 | 16 | | 1 | | 44 | 0.26 | |
| 131 | | 21 | 86 | | 5 | 2 | 157 | 5.59 | |
| 132 | 2 | 7 | 119 | | 7 | | 72 | 2.40 | |
| **Structures** | | | | | | | | | |
| 16 | | | 1 | 1 | | | | | |
| 24 | | 1 | | 1 | 1 | | | | |
| 91 WT Fill | | 11 | 15 | | | | 38 | 0.56 | |
| 94 Fill | | 15 | 4 | 1 | 7 | | 48 | 1.20 | |
| Floor | | | 56 | 1 | 18 | | 3 | 1.20 | Sherds from 7 vessels |
| 96 Fill | 11 | 3 | 19 | 1 | | 3 | | | |
| 105 Fill | 1 | 50 | 87 | 9 | 18 | 3 | 64 | 3.13 | |
| WT Floor | | | 8 | 1 | 2 | 1 | 23 | 2.10 | |
| **Interior Pits** | | | | | | | | | |
| 105 WT Pit | | | | 2 | | | | | |
| 111 | | 56 | | | | | 15 | 0.56 | |
| **Totals** | 15 | 245 | 603 | 38 | 74 | 14 | 623 | 21.49 | |
| **% of Total** | 1 | 25 | 61 | 4 | 8 | 1 | | | |

WT = Wall Trench

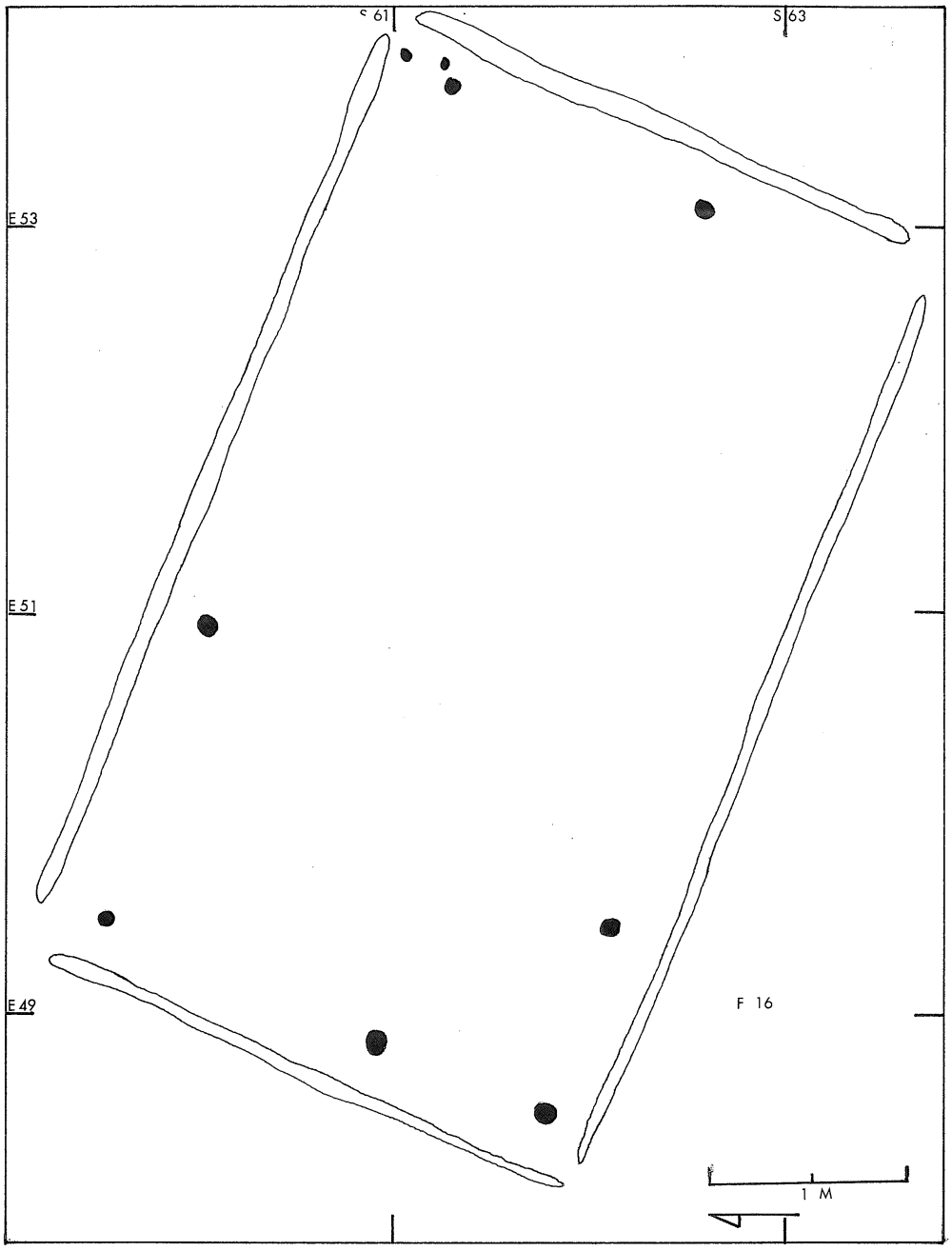



**Figure 42. Lohmann Component Structure: Feature 16.**

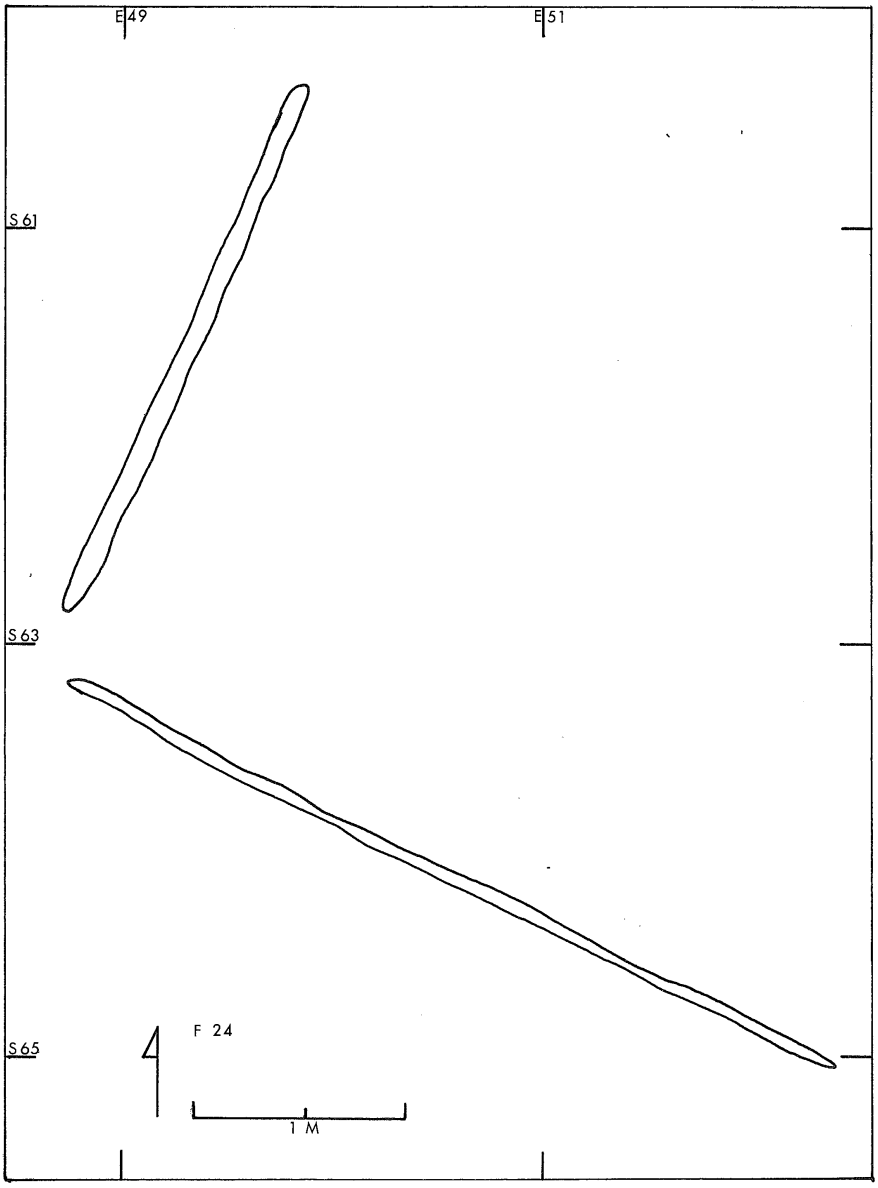



**Figure 43. Lohmann Component Structure: Feature 24.**

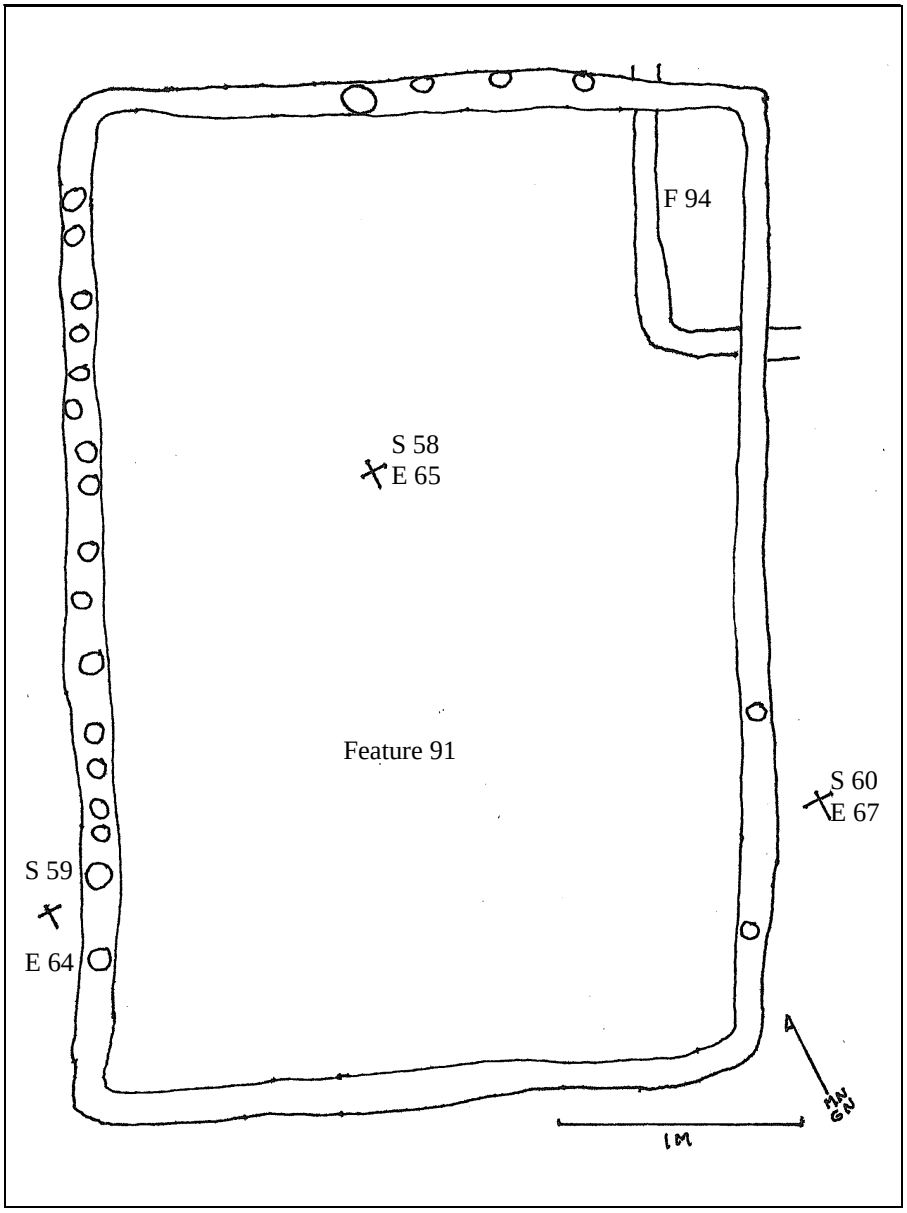



**Figure 44. Lohmann Component Structure: Feature 91.**

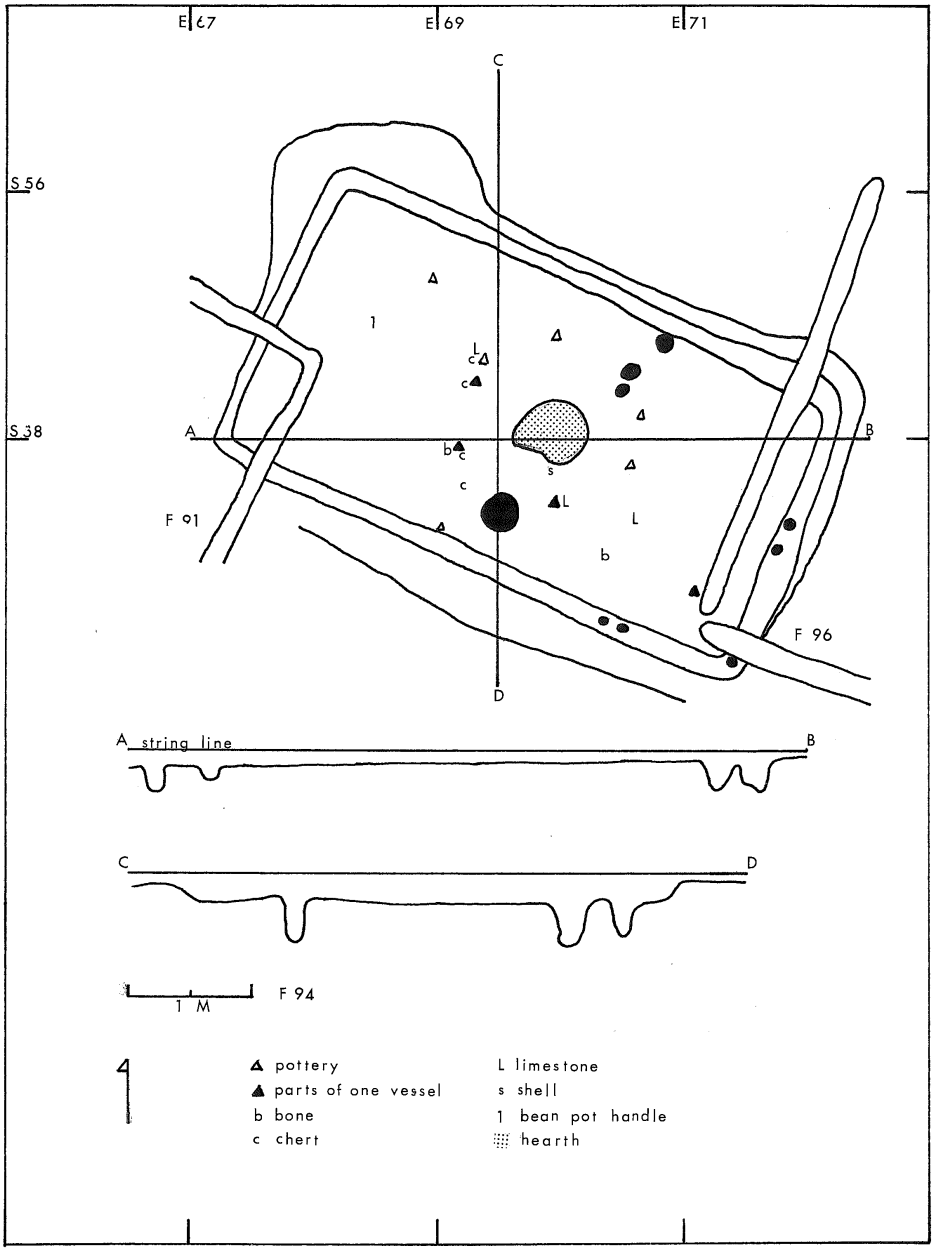



**Figure 45. Lohmann Component Structure: Feature 94.**

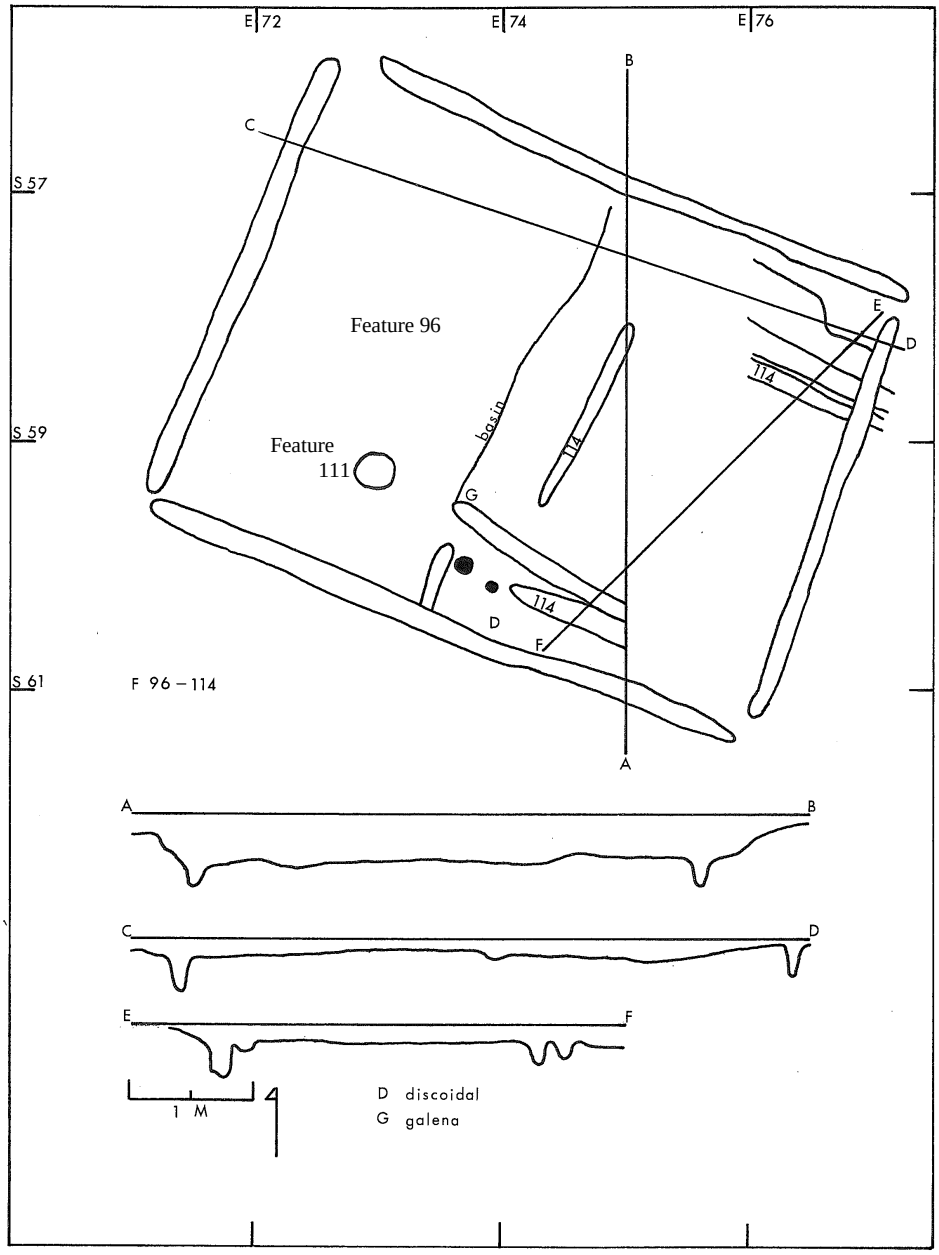



**Figure 46. Lohmann Component Structures: Features 96, 111, and 114.**

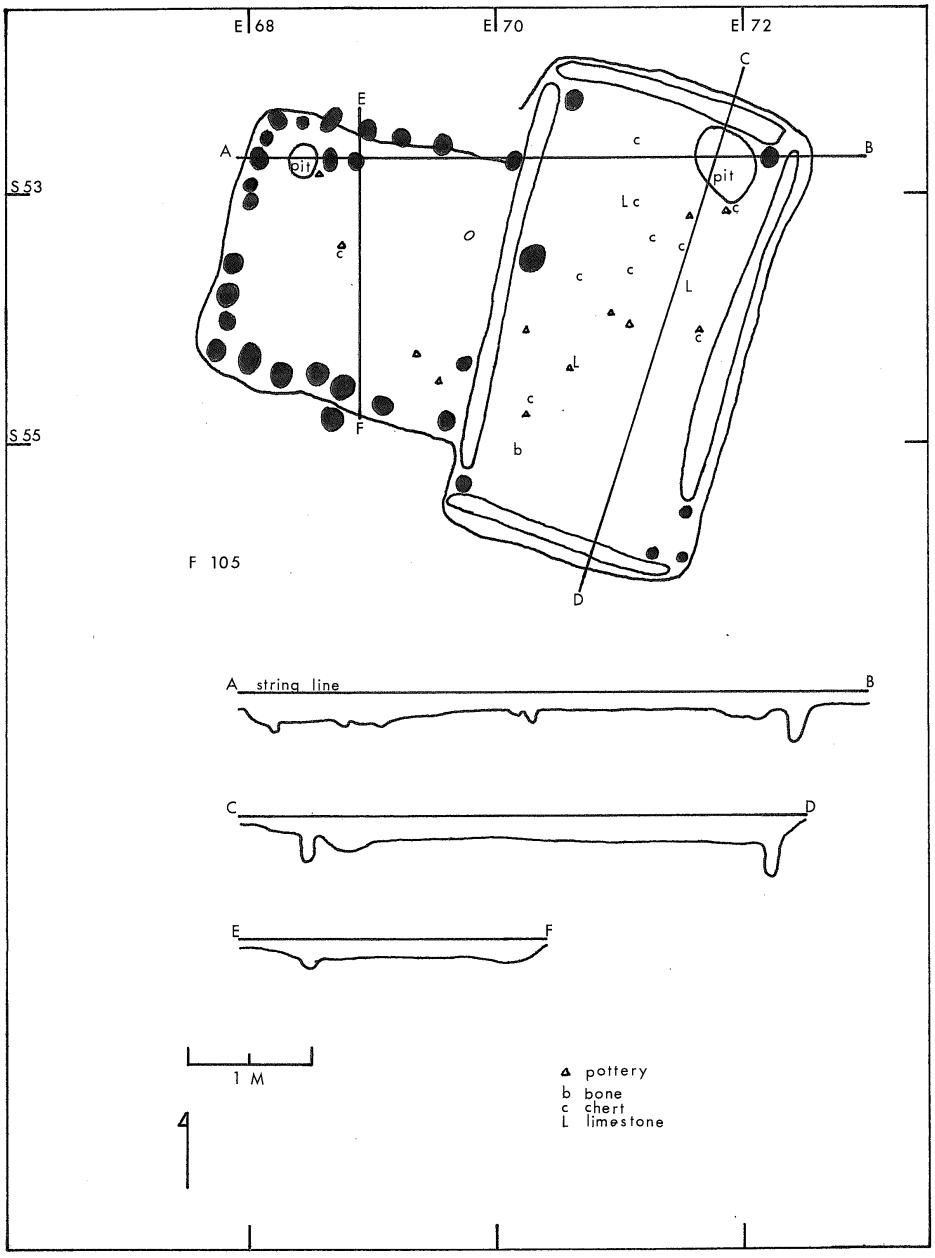



**Figure 47. Lohmann Component Structure: Feature 105.**

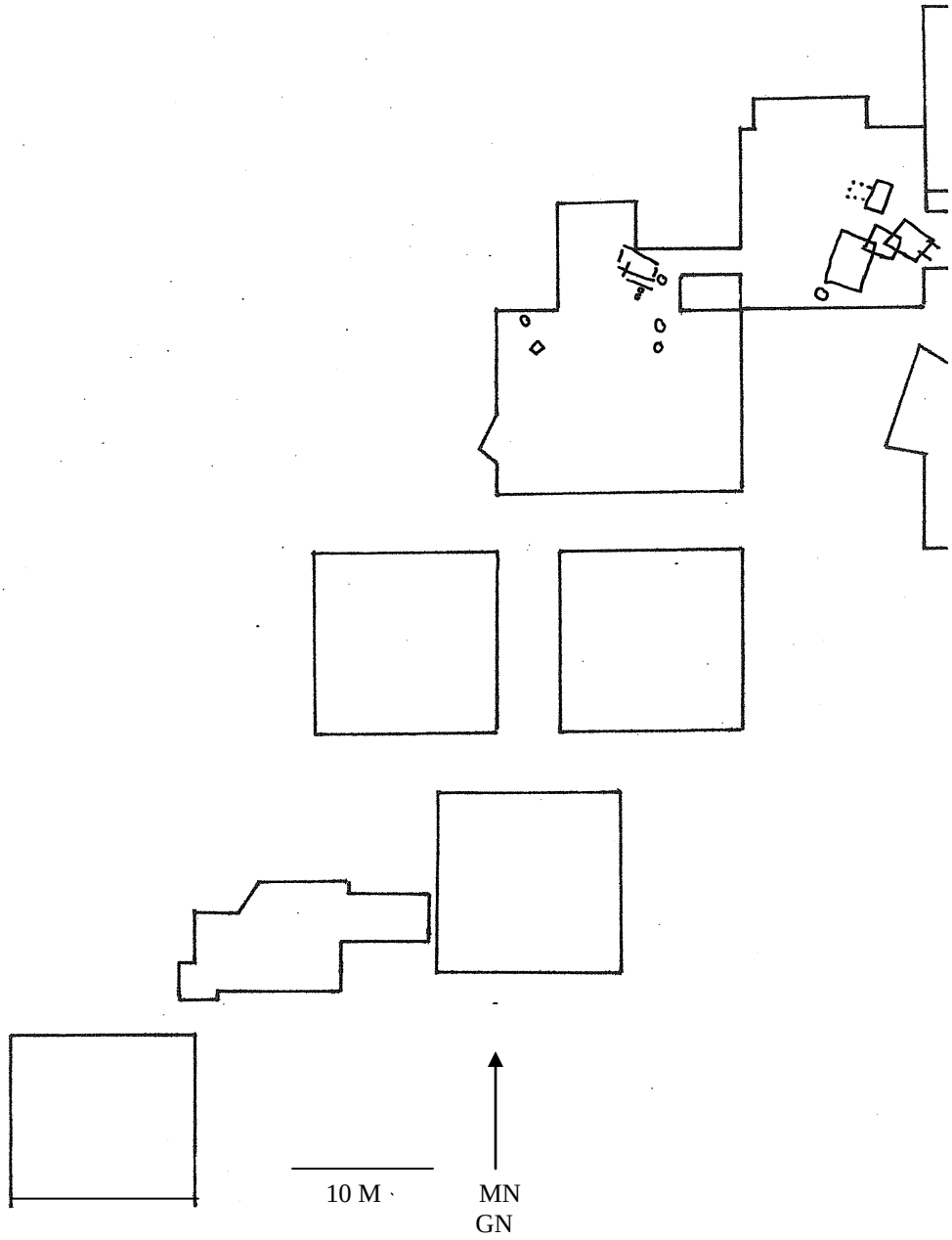



**Figure 48. Lohmann Component Feature Distribution.**

**Table 39. Lohmann Component Vessel Forms.**

| Feature | Jars | Bowls | Seed Jars | Pinch Pots |
|---|---|---|---|---|
| **Pits** | | | | |
| **Rectilinear** | | | | |
| 18 | 6 | 2 | | |
| 99 | 1 | 1 | | |
| **Curvilinear** | | | | |
| 32 | 3 | 3 | | |
| 33 | 13 | 2 | 1 | |
| 118 | 2 | 1 | | |
| 131 | 3 | 1 | 1 | |
| 132 | 4 | 2 | | |
| **Structures** | | | | |
| 16 | | 1 | | |
| 24 | 2 | | | 1 |
| 91 | | 1 | | |
| 94 | 8 | 1 | 1 | |
| 96 | 4 | 1 | | 1 |
| 105 | 3 | 2 | 3 | |
| **Totals** | 49 | 18 | | |
| **% of Total** | 68 | 25 | 6 | 1 |

**Table 40. Lohmann Component Vessel Surface Treatment.**

| Feature | | | | | Cord Twist | | Lip Impressions | | | Cord Placement | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Plain | SCM | CM | Number Red Slipped | Z | S | Round | CWS | Slash/V | Vertical | Oblique | Parallel | Random |
| **Pits** | | | | | | | | | | | | | |
| **Rectilinear** | | | | | | | | | | | | | |
| 18 | 3 | 2 | | 4 | 2 | | | | | 1 | 1 | | |
| 99 | | | | 2 | | | | | | | | | |
| **Curvilinear** | | | | | | | | | | | | | |
| 32 | 3 | 3 | | 1 | | | | | 1 | 2 | | 1 | |
| 33 | 8 | 4 | 3 | | 3 | | | 1 | | 4 | 1 | | 1 |
| 118 | 1 | | | 2 | | | | | | | | | |
| 131 | 1 | 2 | 1 | 2 | 1 | 1 | | | | 3 | | | |
| 132 | | 5 | 2 | | 4 | | | | | 6 | | | 1 |
| **Structures** | | | | | | | | | | | | | |
| 16 | | 1 | | | 1 | | | | | 1 | | | |
| 94 | 6 | | 2 | 5 | | 1 | 2 | | 1 | | | | |
| 96 | | 1 | | 3 | | 1 | | | | 1 | | | |
| 105 | 5 | 1 | | 3 | 2 | | | | | 1 | | | |
| **Interior Pit** | | | | | | | | | | | | | |
| F111 | 1 | | | | 1 | | | | 1 | | | | |
| **Totals** | 27 | 20 | 8 | 22 | 13 | 4 | 2 | 1 | 2 | 20 | 2 | 1 | 2 |
| **% of Total** | 35 | 26 | 10 | 29 | 76 | 24 | 40 | 20 | 40 | 80 | 8 | 4 | 8 |

SCM = Smoothed Cord Marked, CM = Cord Marked, CWS = Cord Wrapped Stick

**Table 41. Lohmann Component Jar Types and Temper.**

| Feature | Non-everted | | | Everted | | | | | Temper | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Instant | Vertical | Flared | Pinched | Angular | Rolled | Seed Jars | Number Red Slipped | Grog | Limestone | Shell | Comments |
| **Pits** | | | | | | | | | | | | |
| **Rectilinear** | | | | | | | | | | | | |
| 18 | 1 | 1 | 3 | | 1 | | | | | 5 | 1 | |
| 99 | | | | | 1 | | | 1 | | 1 | | |
| **Curvilinear** | | | | | | | | | | | | |
| 32 | | 3 | | | | | | | 1 | 2 | | |
| 33 | 1 | 5 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 4 | |
| 118 | | | 2 | | | | | | | 2 | | |
| 131 | 2 | | 1 | | | | 1 | 2 | | 3 | 1 | Appliqué |
| 132 | | 3 | | 1 | | | | | | 4 | | |
| **Structures** | | | | | | | | | | | | |
| 24 Fill | 1 | | 1 | | | | | 1 | | 1 | 1 | |
| 94 Floor | 1 | 1 | 3 | | | | 1 | 3 | | 6 | | Bean Pot Handle |
| 94 Fill | | 2 | | 1 | 1 | | | | 1 | 1 | 3 | |
| 96Fill | | | | 1 | 1 | | | 2 | | 1 | 1 | |
| 105 Fill | 4 | | | | | | | 1 | | | | |
| 105 Floor | 2 | | | | | 1 | | | | 2 | 1 | Lug |
| **Interior Pit** | | | | | | | | | | | | |
| F111 | 1 | | | | | | | 1 | | | | |
| **Totals** | 8 | 16 | 14 | 4 | 5 | 2 | 3 | 11 | 5 | 36 | 12 | Lug/Spout |
| **% of Total** | 15 | 30 | 26 | 8 | 9 | 4 | 8 | 21 | 9 | 68 | 23 | |

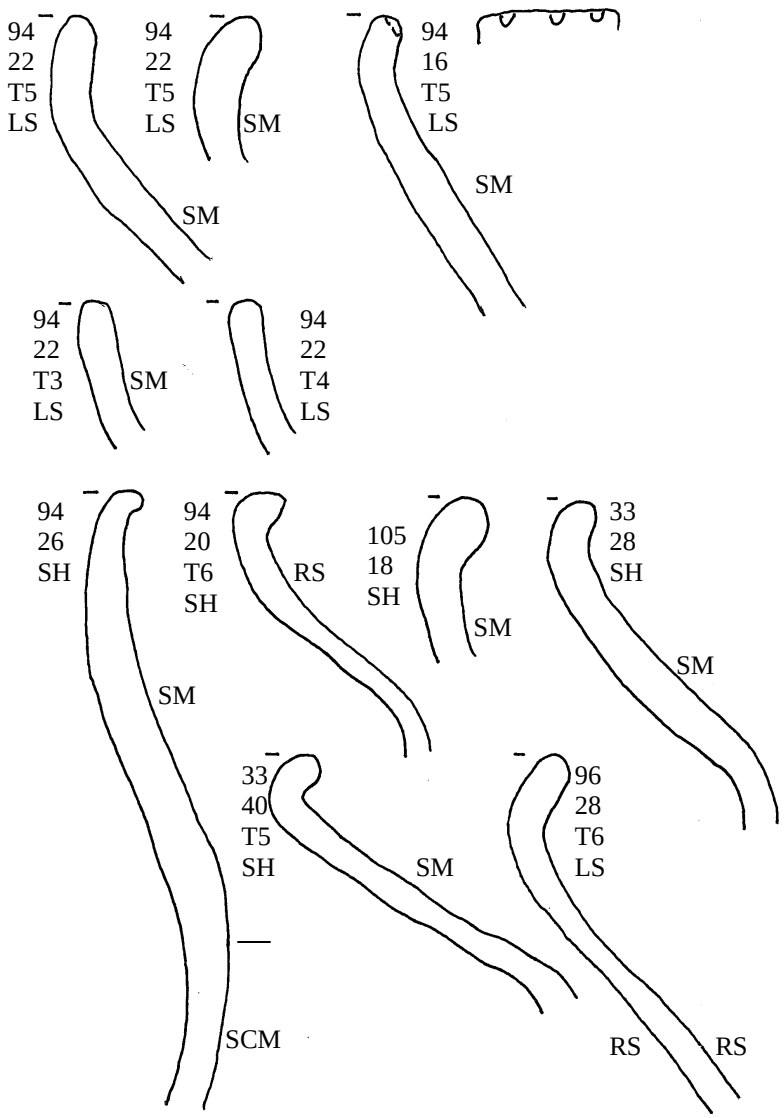



**Figure 49. Selected Lohmann Component Jars.**

**Table 42. Lohmann Component Bowl Types and Temper.**

| | Type | | | Temper | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Feature** | **1** | **2** | **3** | **Number Red Slipped** | **Grog** | **Grog/ Shell** | **Limestone** | **Shell** | **Comments** |
| **Pits** | | | | | | | | | |
| **Rectilinear** | | | | | | | | | |
| 18 | | 2 | | 1 | | | 2 | | |
| 99 | | | 1 | 1 | | | 1 | | |
| **Curvilinear** | | | | | | | | | |
| 32 | | 1 | 2 | | 3 | | | | Incised |
| 33 | | | 2 | 1 | | | 2 | 1 | Lug |
| 118 | 1 | | | 1 | | 1 | | | |
| 131 | | | 1 | | | | 1 | | |
| 132 | | 1 | 1 | | | | 2 | | |
| **Structures** | | | | | | | | | |
| 16 | | | 1 | | | | | | |
| 91 | | 1 | | | | | | 1 | Smooth rim, Cordmarked body |
| 94 | | | 1 | | 1 | | | | |
| 96 | | 1 | | 1 | | | 1 | | |
| 105 | | 2 | | | | | | | |
| **Interior Pit** | | | | | | | | | |
| 105 | | | 1 | 1 | | | 1 | | |
| **Total** | 1 | 8 | 10 | 6 | 4 | 1 | 11 | 2 | |
| **% of Total** | 6 | 39 | 55 | 33 | 22 | 5 | 61 | 12 | |

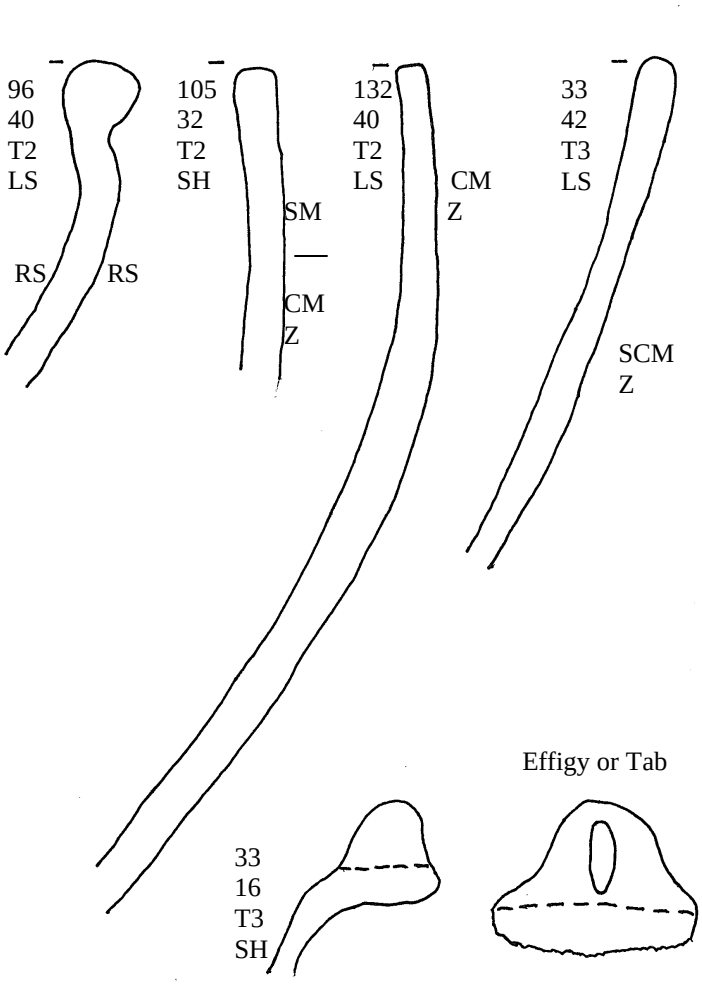



**Figure 50. Selected Lohmann Component Bowls.**

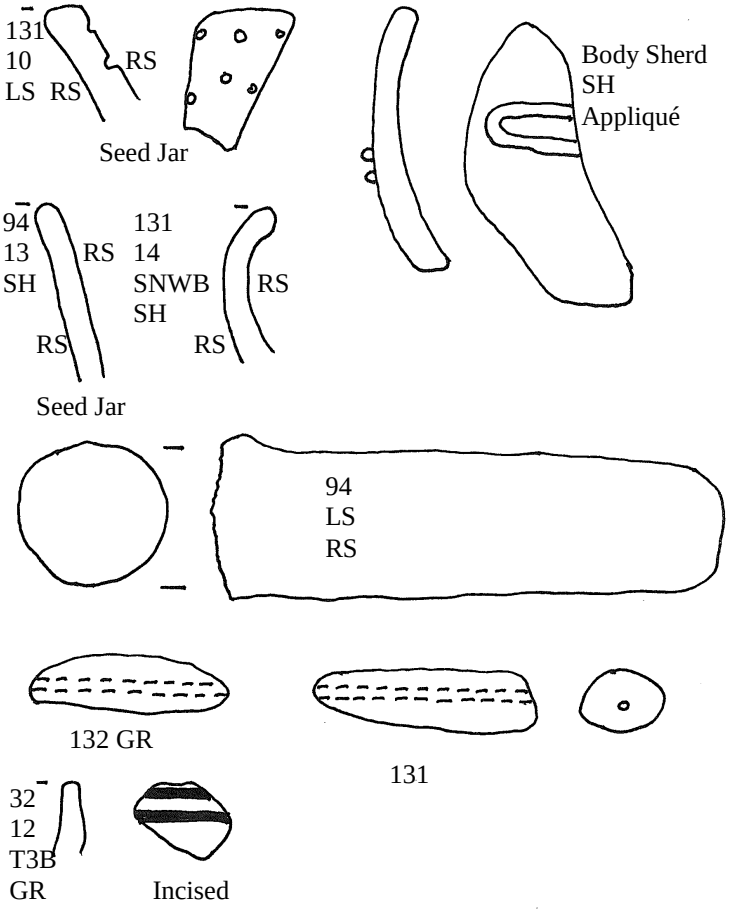



**Figure 51. Selected Lohmann Component Ceramics.**

**Table 43. Stirling Component Structure Attributes.**

| Feature | Length (m) | Width (m) | L:W Ratio | Area ($m^2$) | Basin Depth (m) | Long Axis Orientation | Elevation (Datum) | Interior Pit | Mortar Post | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6.1 | 4.2 | 1.4 | 25.6 | | NW/SE | 124.77 | | Yes | Superimposed on F5, 16, 24, 26, 30; by 15 Burned |
| 15 | 4.2 | 2.8 | 1.8 | 11.7 | | E-W | 124.76 | F 22 | Yes | Burned |
| 85 | 4.6 | 3.4 | 1.3 | 15.6 | 0.15 | NE/SW | 124.90 | F 70 | Yes | Superimposed on F83, 84, 86, 87 |
| 124 | 4.8 | 2.5 | 1.9 | 12 | | NE/SW | 124.77 | F136 | Yes | |
| 126 | 3.4 | 2.0 | | 7.2 | | NE/SW | 125.07 | | | Burned |
| *Mean Values* | 5.2 | 3.2 | 1.6 | 17.2 | | | | | | |

**Table 44. Stirling Component Body Sherds and Limestone.**

| Feature | Grit | Grog | Limestone | Red Slipped Limestone | Shell | Slipped Shell | Whole Limestone Count | Whole Limestone Weight (kg) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| **Structures** | | | | | | | | | |
| l Fill | 2 | 49 | 73 | 12 | 9 | 5 | | | |
| Floor | | 3 | 11 | 4 | 2 | 21 | | | |
| 15 Fill | | 5 | 21 | 4 | 2 | | | | |
| Floor | | | | | 1 | | | | |
| 85 Fill | | 63 | 155 | 38 | 21 | 3 | 47 | 2.5 | 4 Ramey Incised |
| Floor | | 5 | 55 | 1 | | | | | |
| 124 Fill | | 6 | 10 | 2 | | | 44 | 6.8 | |
| Floor | | | | | 1 | | | | |
| 126 Fill | 1 | 27 | 101 | 20 | 4 | 3 | 332 | 18.7 | Beaker Handle |
| Floor 1 | | 1 | 1 | 1 | | | | | Stumpware |
| Floor 2 | | 2 | | | | | | | Holly Fine Engraved |
| **Interior Pits** | | | | | | | | | |
| 22 | | 22 | 32 | 20 | | 30 | | | |
| 70 | 2 | 5 | 28 | 5 | 4 | | 25 | 1.5 | |
| 136 | 1 | 4 | 4 | | 5 | | 29 | 4 | |
| **Exterior Pits** | | | | | | | | | |
| 66 | | 2 | 2 | | 1 | | | | |
| 138 | | 29 | 480 | 37 | 35 | 2 | 406 | 18 | |
| **Totals** | 6 | 223 | 973 | 145 | 85 | 64 | 883 | 51.5 | |
| **% of Total** | 0.4 | 15 | 65 | 10 | 6 | 4 | | | |

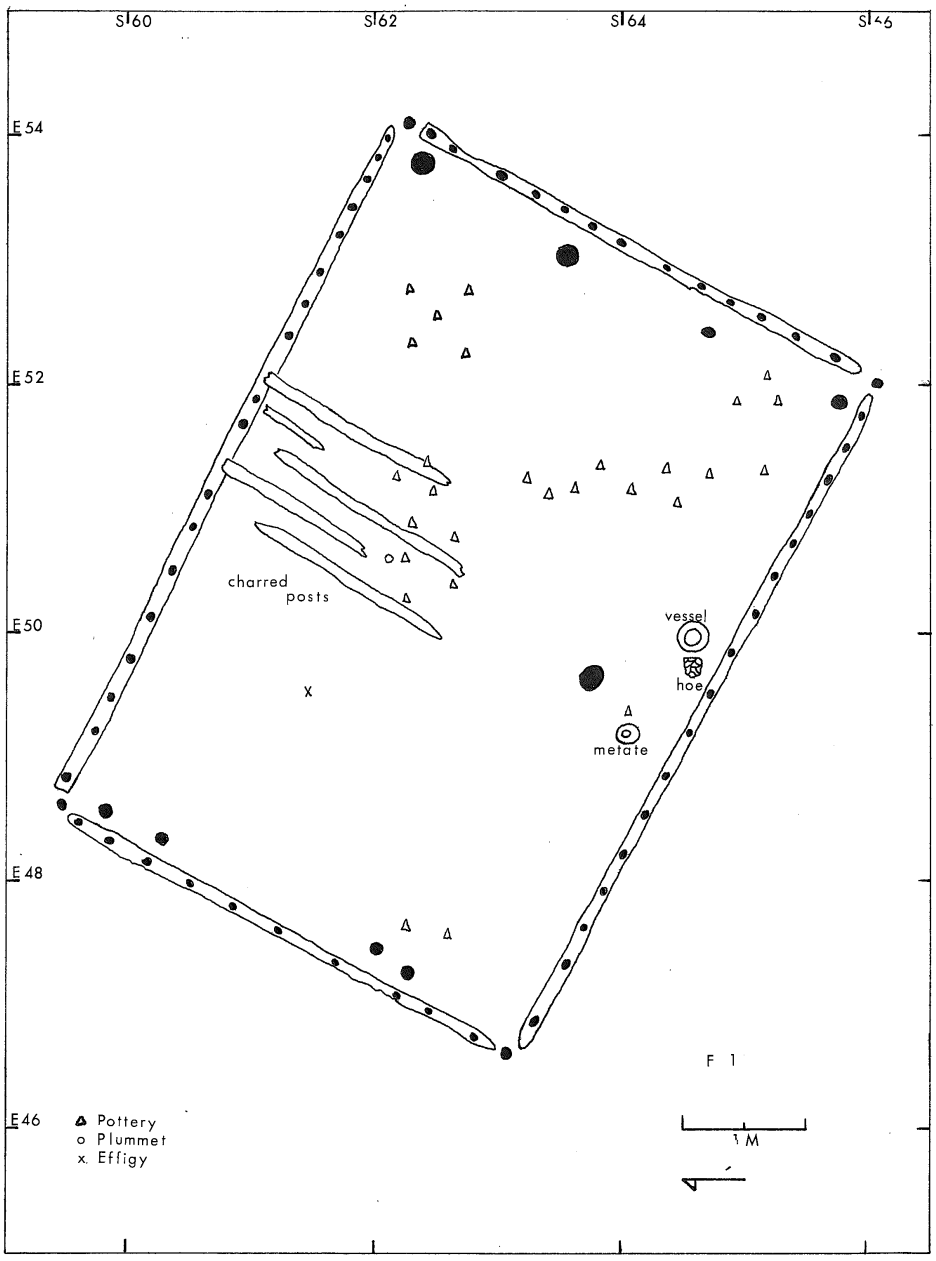



**Figure 52. Stirling Component Structure: Feature 1.**

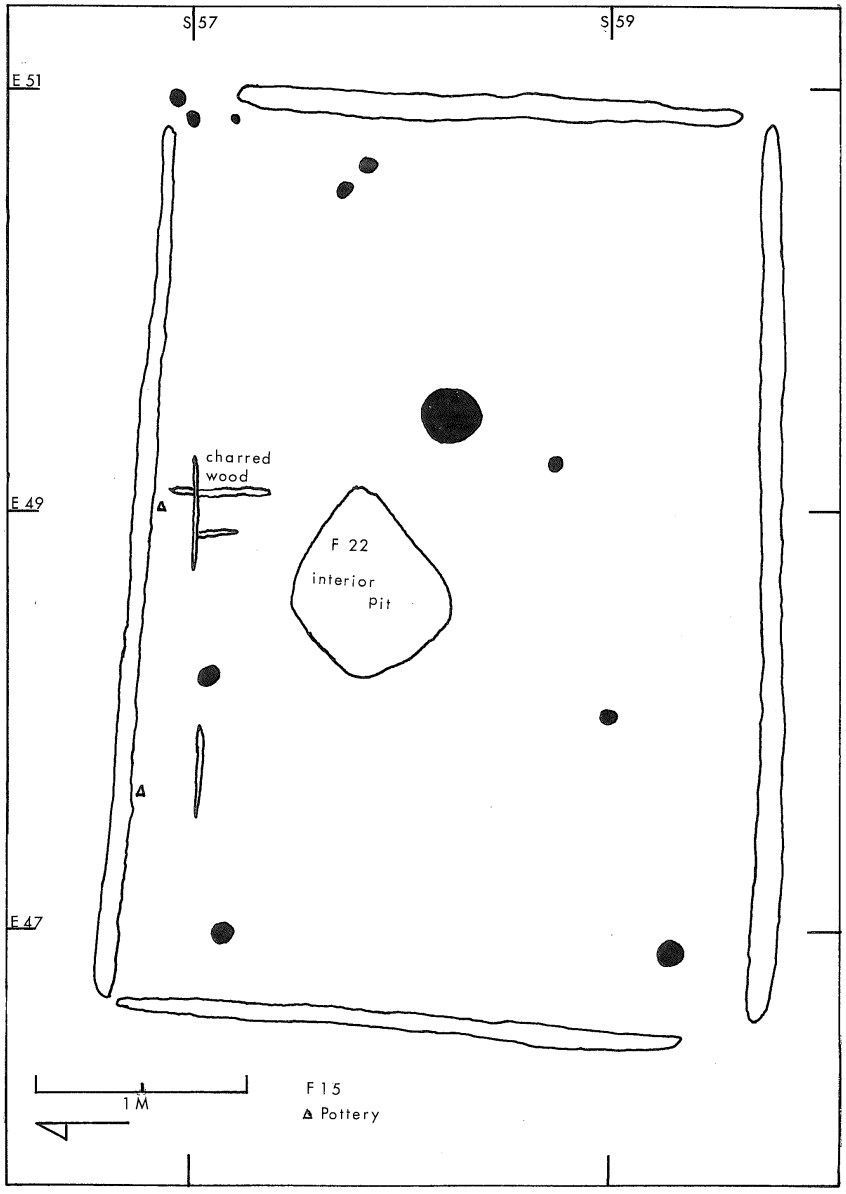



**Figure 53. Stirling Component Structure: Feature 15.**

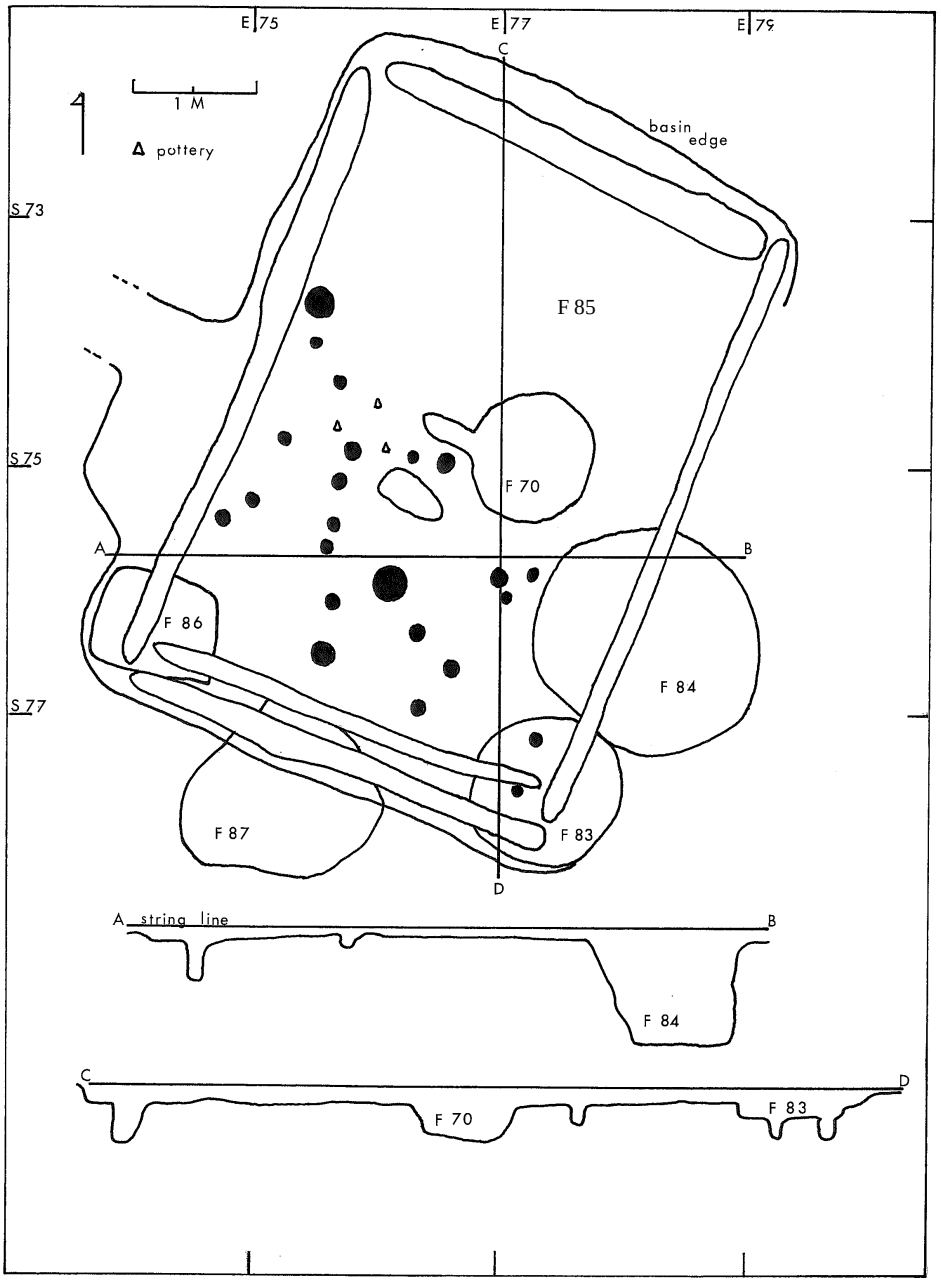



**Figure 54. Stirling Component Structure: Feature 85.**

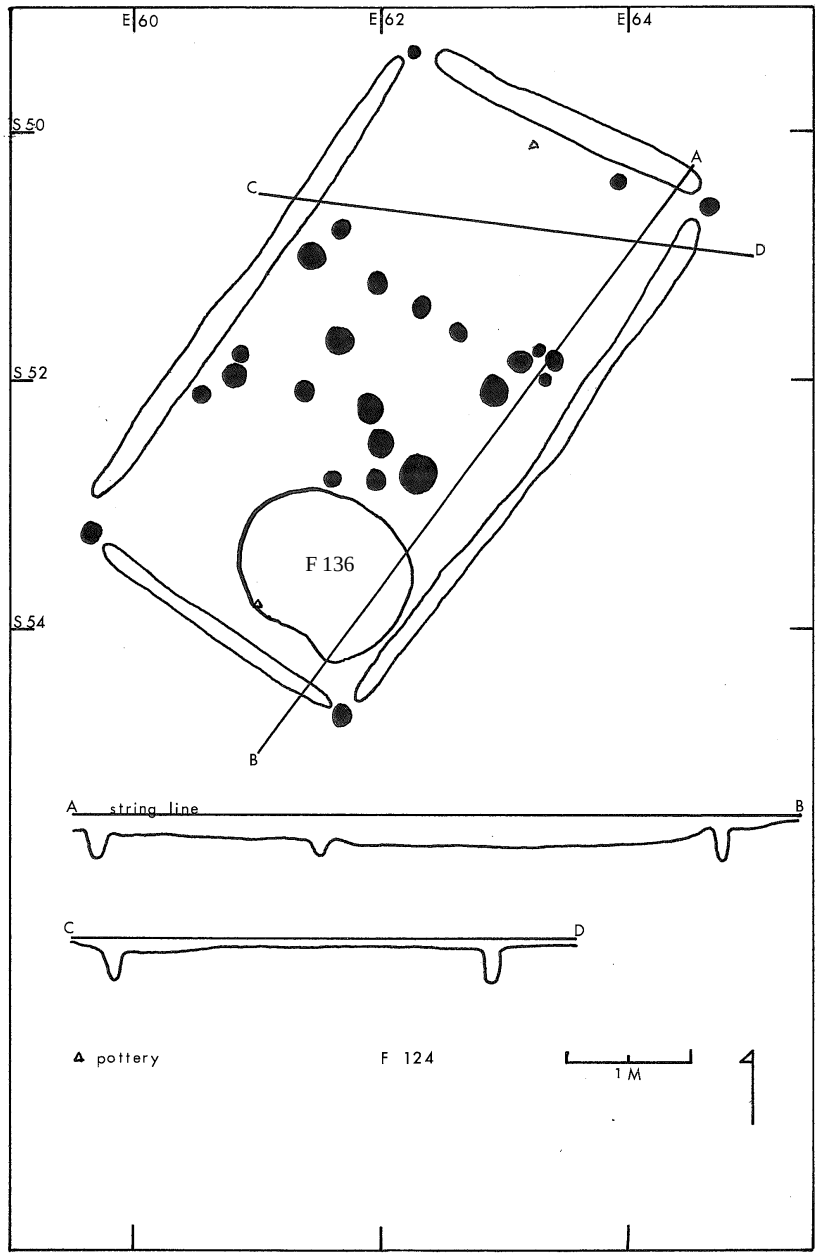



**Figure 55. Stirling Component Structure: Feature 124.**

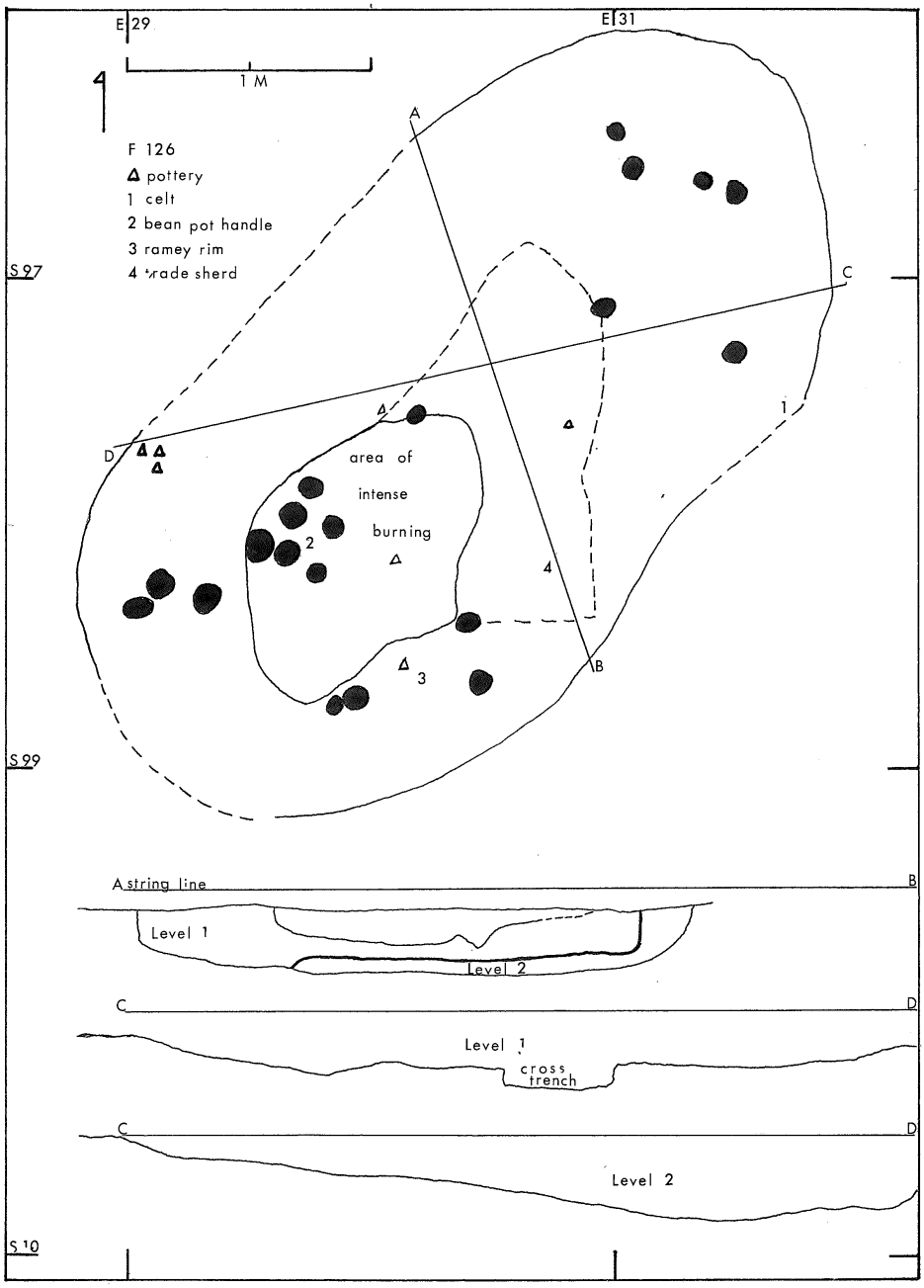



**Figure 56. Stirling Component Structure: Feature 126.**

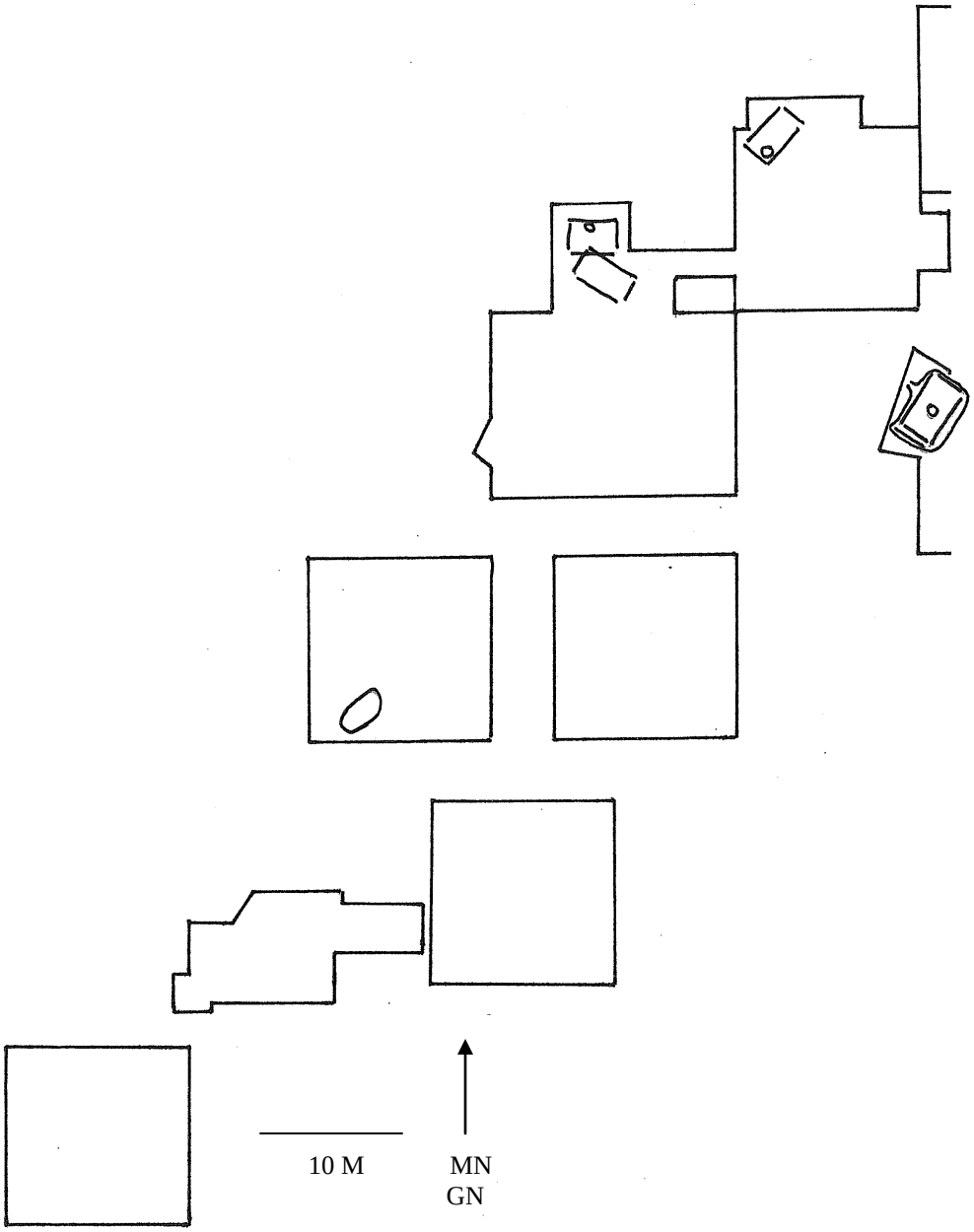



**Figure 57. Stirling Component Feature Distribution.**

**Table 45. Stirling Component Circular Pit Types and Attributes**

| Feature | Type | Length (m) | Width (m) | Depth (m) | Volume ($m^3$) | Elevation (datum) | Comments |
|---|---|---|---|---|---|---|---|
| **Exterior Pits** | | | | | | | |
| 66 | 1 | 0.85 | 0.80 | 0.10 | 0.25 | 124.84 | |
| 138 | 4 | 1.50 | 1.50 | 1.05 | 1.85 | 125.00 | |
| **Interior Pits** | | | | | | | |
| 70 | 3 | 0.87 | 0.87 | 0.30 | 0.32 | 124.85 | In F85 |
| 22 | 4 | 1.00 | 0.80 | 0.60 | 0.47 | 124.86 | In F15 |
| 136 | 4 | 1.50 | 1.50 | 0.98 | 1.73 | 124.75 | In F124 |

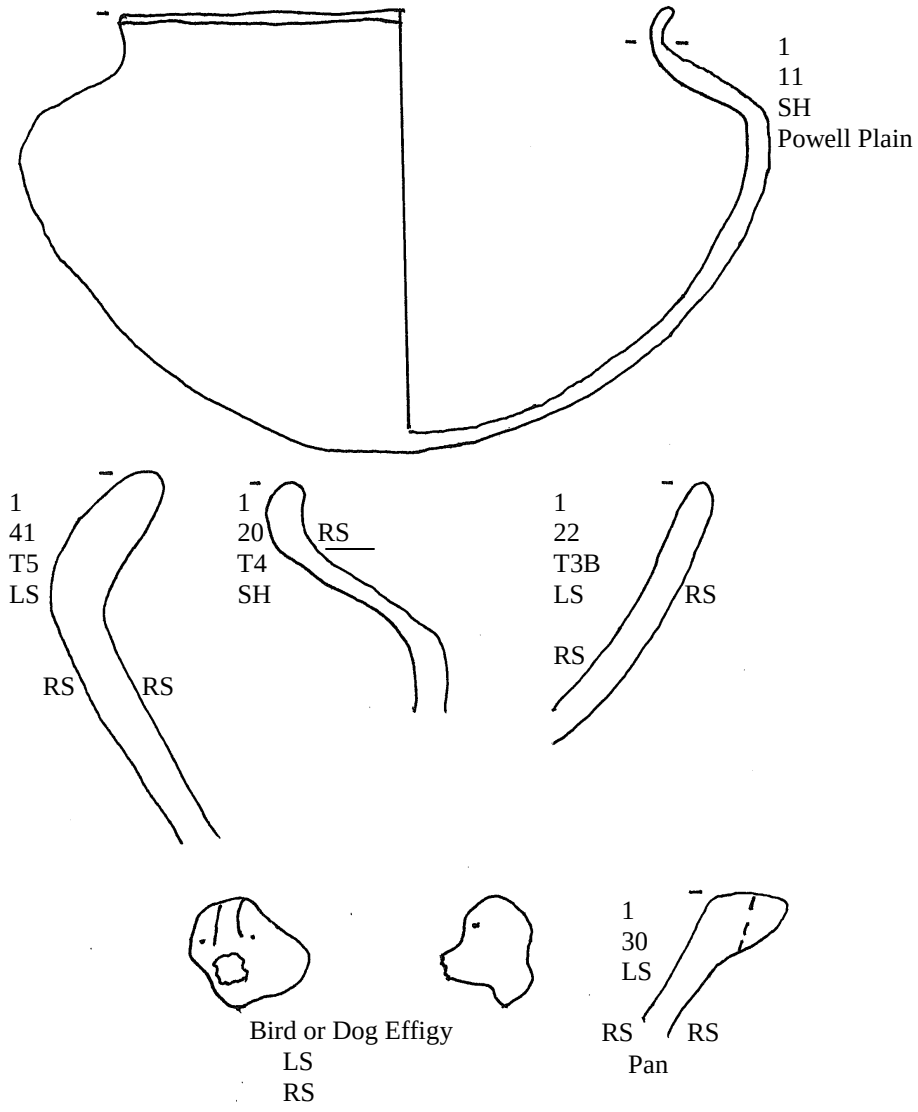



**Figure 58. Selected Stirling Component Ceramics: Feature 1 Floor.**

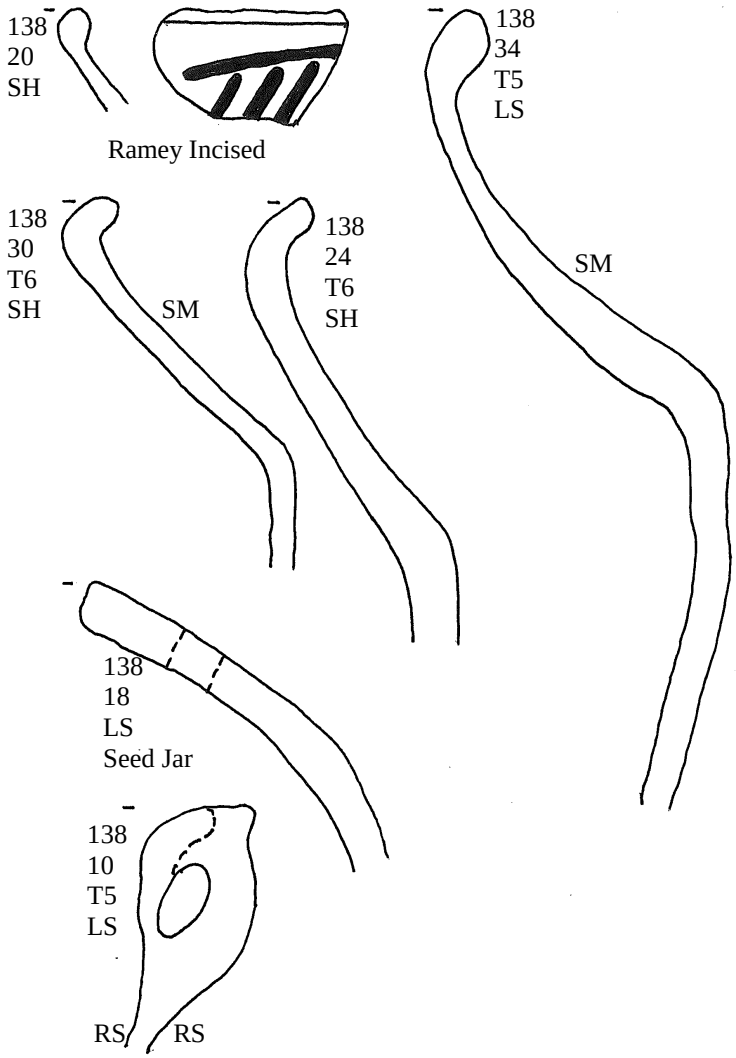



**Figure 59. Selected Stirling Component Ceramics: Feature 138.**

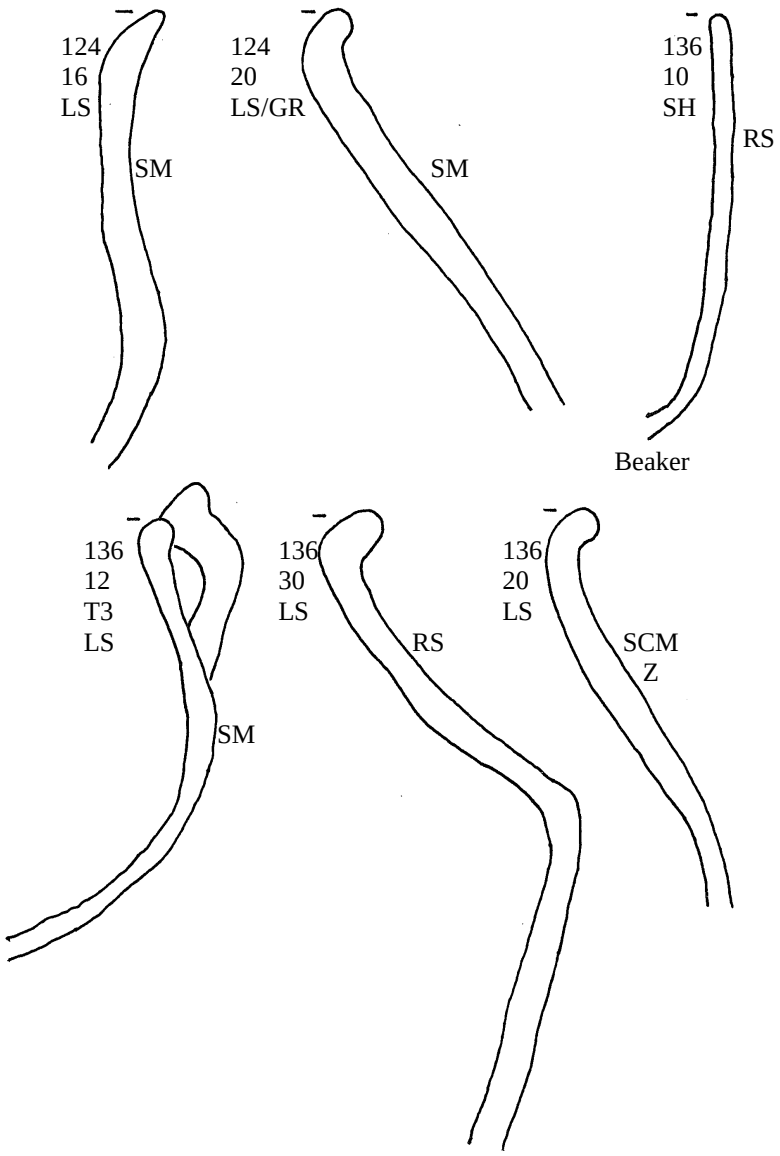



**Figure 60. Selected Stirling Component Ceramics.**

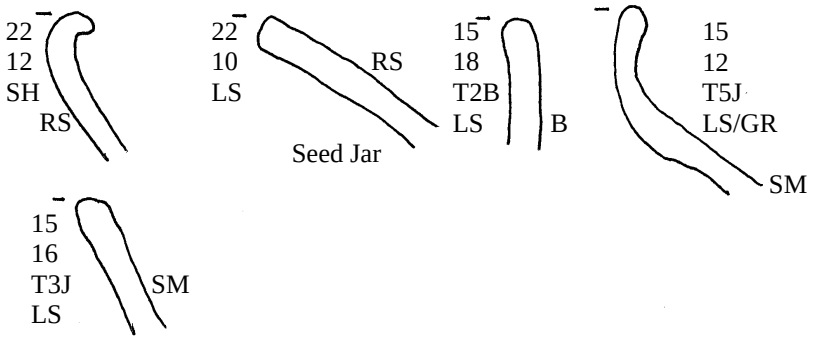



**Figure 61. Selected Stirling Component Jars and Seed Jar.**

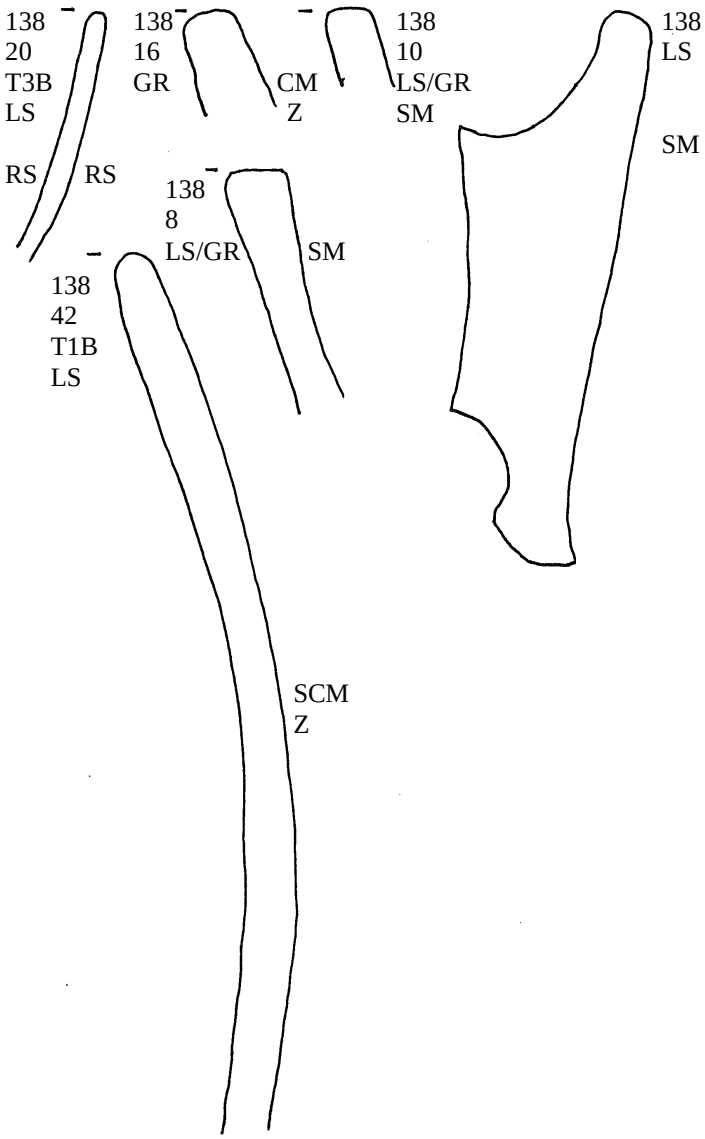



**Figure 62. Selected Stirling Component Bowls and Stumpware.**

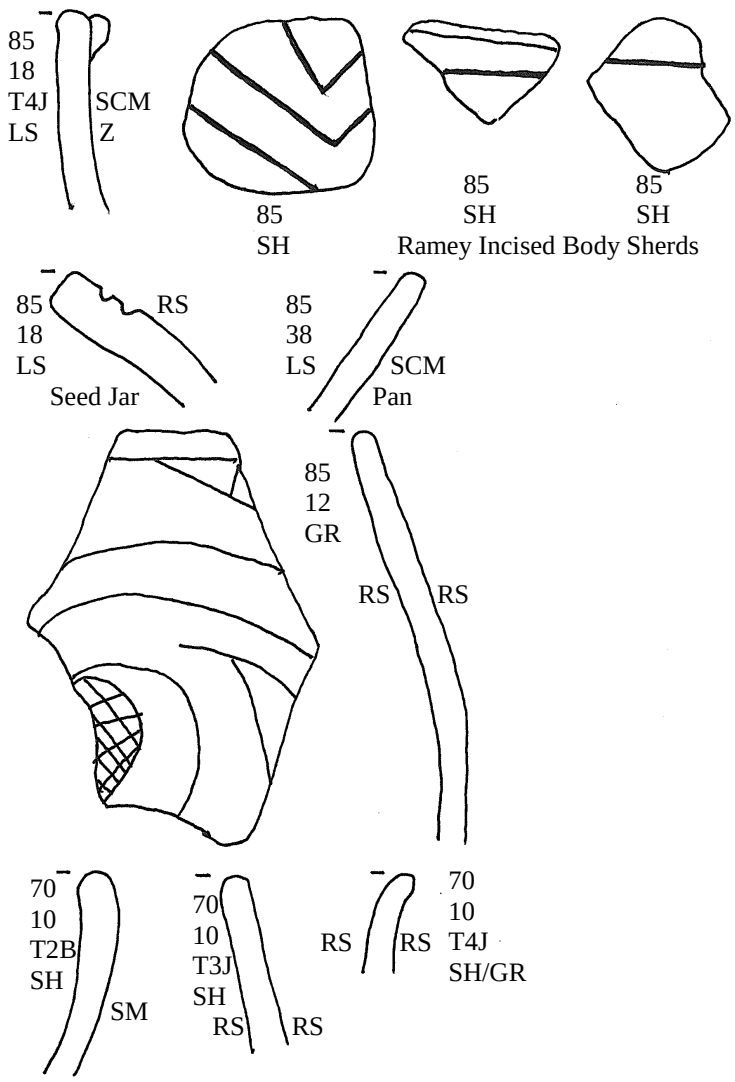



**Figure 63. Selected Stirling Component Ceramics.**

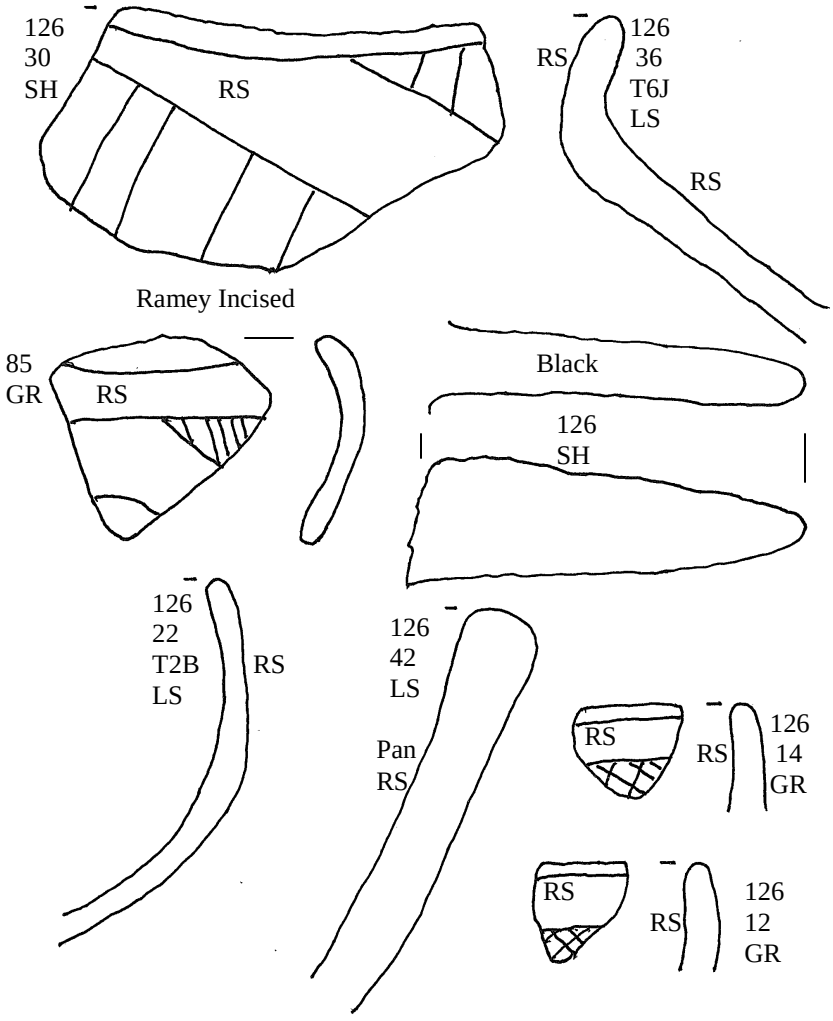



**Figure 64. Selected Stirling Component Ceramics.**

**Table 46. Stirling Component Vessel Forms.**

| Feature | Jars | Bowls | Seed Jars | Pinch Pot | Stumpware | Short Neck Water Bottle | Pans | Beaker | Comments |
|---|---|---|---|---|---|---|---|---|---|
| **Structures** | | | | | | | | | |
| 1 Fill | 12 | 5 | 1 | | 3 | 1 | 1 | | 2 Effigies |
| Floor | 4 | 2 | | | | | 1 | | |
| 15 Floor | 3 | 1 | | | | | | | |
| 85 Fill | 11 | 4 | 2 | | | | 1 | 1 | |
| Floor | 3 | | | | | | | | |
| 124 Fill | | 2 | | | | | | | |
| Floor | 2 | | | | | | | | |
| 126 Fill | 8 | 4 | 1 | | | | | | |
| Level 1 | 10 | 2 | | | | | | | |
| Level 2 | 3 | 3 | | | | | 1 | | |
| Floor | 6 | 1 | | | | | | 1 | |
| 136 | 5 | 1 | | | | | | 1 | |
| **Exterior Pits** | | | | | | | | | |
| 29 | | | | | | | | | |
| 138 | 29 | 8 | 3 | 2 | 4 | | | | |
| **Interior Pits** | | | | | | | | | |
| 22 | 7 | | 1 | | | | | | In F15 |
| 70 | 3 | 1 | | | | | | 1 | In F85 |
| **Totals** | 106 | 34 | 8 | | 7 | 2 | 4 | 4 | |
| **% of Total** | 64 | 21 | 5 | | 4 | 1 | 2 | 2 | |

**Table 47. Stirling Component Vessel Surface Treatment.**

| Feature | Plain | SCM | CM | Red Slipped | Incised | Engraved | Cord Twist | | Cord Placement | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Z | S | Vertical | Oblique | |
| **Structures** | | | | | | | | | | | |
| 1 Fill | 7 | 2 | 2 | 10 | | | | | 5 | | |
| Floor | 1 | | | 7 | | | 4 | 1 | | | 1 Tab |
| 85 Fill | 3 | 1 | 2 | 11 | 3 | 1 | 1 | | 2 | 1 | |
| 124 Fill | | 1 | | 1 | | | | | 1 | | |
| Floor | 2 | | | | | | | | | | |
| 126 Fill | 7 | 3 | 3 | 18 | | 1 | 3 | | 3 | | |
| Floor | 1 | | | 5 | 1 | 1 | 1 | | | | |
| **Exterior Pit** | | | | | | | | | | | |
| 138 | 12 | 5 | 6 | 15 | 1 | | | | 7 | | |
| **Interior Pits** | | | | | | | | | | | |
| 22 | 2 | 4 | | 2 | | | | | 2 | 1 | 1 Tab |
| 70 | 1 | 1 | | 2 | | | 1 | | 1 | | |
| 136 | 3 | 2 | | 2 | | | | | 1 | | |
| **Totals** | 39 | 19 | 13 | 73 | 5 | 3 | | | 22 | 2 | |
| **% of Total** | 26 | 12 | 8 | 48 | 3 | 2 | 19 | 2 | 85 | 15 | |

SCM = Smoothed Cordmarked, CM = Cord Marked

**Table 48. Stirling Component Jar Types and Temper.**

| | Non-everted | | | Everted | | | Temper | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Feature** | **Inslant** | **Vertical** | **Flared** | **Pinched** | **Angular** | **Rolled** | **Seed Jars** | **Grit\Grog** | **Grog** | **Limestone\ Grog** | **Limestone** | **Shell\Grog** | **Shell** | **Limestone/ Shell** | **Comments** |
| **Structures** | | | | | | | | | | | | | | | |
| 1 Fill | 7 | 3 | 2 | | | | 1 | | | | 12 | | 1 | | |
| Floor | | 1 | 3 | | | | | | | | 2 | | 2 | | 1 Powell Plain |
| 15 Floor | 1 | | 1 | | 1 | | | | 1 | 1 | 1 | | | | |
| 85 Fill | 1 | 6 | 2 | | 1 | 1 | 2 | | 1 | | 8 | | 3 | 1 | 3 Ramey Incised |
| Floor | | 3 | | | | | | | | | 3 | | | | 1 Tab |
| 124 Floor | | | | 1 | | 1 | | | | 1 | 1 | | | | |
| 126 Fill | | 12 | 7 | | 2 | 1 | 1 | 1 | 1 | 1 | 17 | | 3 | | |
| Floor | | | | | 6 | | | | | | 5 | | 1 | | 1 Ramey Incised |
| **Exterior Pits** | | | | | | | | | | | | | | | |
| 136 | 1 | | | | | 4 | | | | | 4 | | 1 | | |
| 138 | 8 | 3 | 4 | | 4 | 8 | 3 | | 2 | | 20 | | 6 | | 1 Ramey Incised |
| **Interior Pits** | | | | | | | | | | | | | | | |
| 22 | 3 | 3 | | | | 1 | 1 | | 4 | | 3 | | 1 | | Tab |
| 70 | 1 | 1 | | 1 | | | | | | | 1 | 1 | 1 | | 1 lip impressed |
| **Totals** | 22 | 32 | 10 | 2 | 14 | 16 | 8 | 1 | 9 | 3 | 77 | 1 | 19 | 1 | |
| **% of Total** | 19 | 28 | 17 | 2 | 12 | 14 | 7 | 1 | 8 | 3 | 69 | 1 | 17 | 1 | |

**Table 49. Stirling Component Bowl Types and Temper.**

| | Type | | | Temper | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Feature** | **1** | **2** | **3** | **Number Red Slipped** | **Grog** | **Limestone** | **Shell** | **Shell/ Grog** | **Comments** |
| **Structures** | | | | | | | | | |
| 1 Fill | | 2 | 3 | 3 | | 5 | | | |
| Floor | | 1 | 1 | 2 | | 2 | | | |
| 15 Floor | | 1 | | 1 | | 1 | | | Black polished surface |
| 85 Fill | | | 4 | 4 | | 2 | 2 | | |
| Floor | | | | | 1 | | | | Engraved |
| 124 Fill | | 1 | 1 | 1 | | 1 | | 1 | |
| 126 Fill | | 6 | 3 | 7 | 1 | 7 | 1 | | 2 engraved, 1 polished |
| Floor | | 1 | | 1 | | 1 | | | 1 burnished |
| **Interior Pits** | | | | | | | | | |
| 70 | | 1 | | | | | 1 | | 1angular, 1 rolled rim |
| 136 | | 1 | | | | 1 | | | |
| **Exterior Pit** | | | | | | | | | |
| 138 | 1 | 2 | 5 | 4 | 1 | 7 | | | |
| **Totals** | 1 | 16 | 17 | 23 | 1 | 27 | 4 | 1 | |
| **% of Total** | 3 | 47 | 50 | 68 | 6 | 79 | 12 | 3 | |

**Table 50. Stirling Component Beaker, Short Neck Water Bottle, and Pan Attributes.**

| | | | | | Temper | | | |
|---|---|---|---|---|---|---|---|---|
| **Feature** | **Beakers** | **Short Neck Water Bottle** | **Pans** | **Number Red Slipped** | **Grog** | **Limestone** | **Shell** | **Comments** |
| **Structures** | | | | | | | | |
| 1 Fill | | 1 | 1 | 2 | | 2 | | 2 effigies |
| Floor | | | 1 | 1 | | 1 | | Tab |
| 85 Fill | 1 | | 1 | | 1 | 1 | | Engraved Beaker like F126 |
| 126 Level 2 | | | 1 | 1 | | 1 | | |
| 126 Floor | 1 handle | | | | | | 1 | |
| | 1 sherd | | | | 1 | | | Engraved Beaker like F 85 |
| **Exterior Pit** | | | | | | | | |
| 136 | 1 | | | 1 | | | 1 | |
| **Interior Pit** | | | | | | | | |
| 70 | 1 | | | | | | | |
| **Totals** | 5 | 1 | 4 | 5 | 2 | 5 | 2 | |
| **% of Total** | 50 | 10 | 40 | 50 | 22 | 56 | 22 | |

# CHAPTER 7

# A SMALL VILLAGE PERSPECTIVE ON MISSISSIPPIAN POLITY

The primary focus of this dissertation is to assess the fit of the Segmentary and Ascendant Chiefdom models as frameworks within which to interpret the archaeological patterning revealed by the Divers site investigations. As described in Chapter 2, the two models differ in their views of cultural-historical processes and the related amount of political authority that Cahokia exerted over outlying sites in the American Bottom after A. D. 1050. This final chapter compares the chiefdom models from three perspectives; first, from the archaeology of the Divers site, and second, from what is currently known about American Bottom settlement patterns, population data, rituals, and political systems, and third, with alternative views of commoner agency.

## The Divers Site

The primary data used to reconstruct the occupation history of the Divers site are summarized in Tables 51-58. This section examines the main details of each component described in Chapters 4-6 and places them into regional context.

### *Late Woodland*

The Divers site was first occupied during the Patrick phase. Given the geomorphological history of the Pulcher Terrace and the lack of keyhole structures at Divers, this occupation probably happened late in the phase between A.D. 850 - 900. Although the limited excavations did not expose the remains of Patrick phase structures, it is felt that they likely exist in unexcavated portions of the site near the excavated 19 Patrick phase pits (Table 52) and that the site was probably a small village. The pits consisted of 42% Type 4, 21% earth ovens, and 16% each of Type 1 and limestone

floored (Table 52). The ceramics are grit and grog tempered (Table 53). Type 3 jars and Type 2 bowls are the most common forms (Tables 55 and 57). Two limestone discoidals were recovered and the identified plant remains included acorn meats (*Quercus sp*.) and hickory nut shells (*Carya sp*.).

Local Patrick phase village sites include the floodplain Fish Lake and Range sites and the upland Westpark site. Homestead sites include the Cramer #2, Columbia Quarry, Dohack, and Columbia Farms sites in the uplands and the floodplain Schelemmer site. Patrick phase structures have been excavated at the Schelemmer, Westpark, Fish Lake, Dohack, and Range sites (Kelly 1990a:120, Table 10). Kelly et al. (1984: 417, 435) suggest that large Patrick villages like Range represent the fusion of smaller local homesteads. Based on the available evidence, Divers was a small village that began during the Patrick phase and like Range, was a possible fusion point that provided the population base for subsequent occupations.

***Terminal Late Woodland***

The Divers small village prospered throughout the Terminal Late Woodland and Mississippian periods. The Early Terminal Late Woodland (Dohack and Range) component is represented by four structures and sixteen pits (Tables 51 and 52). Three structures were small single post basin rectilinear structures and one was a ramada. Ramadas first occur in this component and are defined by an association with a domicile and the lack of well-defined walls or the absence of wall sections. They are interpreted to be hastily constructed fair weather activity structures. Ramadas continue through the entire Terminal Late Woodland period. To date, no clearly defined additional

archaeological examples of ramadas have been found at contemporaneous sites in the southern American Bottoms or adjacent uplands.

The pits included 50% Type 4, 25% Type 3, and 18% earth ovens but no limestone floored pits were exposed (Table 52). The vessel temper shifts to predominately limestone (Tables 56 and 57). Vessel forms are similar to those of the preceding Patrick component and Madison County Shale vessels are present (Tables 54, 56, and 57). Organic remains included acorn meats, hickory nut shells, and the earliest specimens of maize found in Divers site contexts.

The Range component is represented by 18 excavated pits (Table 52). Type 4 pits are still the most common but Type 2 pits, absent in older occupations, increase dramatically (Table 52). The wide spatial distribution of these pits suggests that the unexcavated portions of the site may contain additional Range component features. Limestone continues to be the dominant temper. Vessel forms are a continuation of previous occupations but the percentage of Type 2 and 3 bowls is reversed and stumpware appears (Tables 53, 54. 56, and 57). Maize occurs in two features.

The Early Terminal Late Woodland and Range components mark a significant shift in ceramic temper from grog to limestone, a pattern that some archaeologists use to mark the beginning of the Pulcher Tradition in the southern American Bottom (Kelly 1993, 2002). Madison County Shale vessels are present in the Early Terminal Late Woodland component (Table 54).

During the Dohack and Range phases of the Early Terminal Late Woodland period, the excavated Divers features and ceramics are most similar to those of the Range site. The lack of a defined Divers site community plan precludes detailed social and

political comparisons to the Range site or other sites. Divers was more than a homestead during this period and it may have been a small village on the order of one of the nine villages exposed at the Range site (Kelly et al.1990:548-549). Dohack phase villages have been defined at the upland sites of Westpark (Kelly 1990b:Table 11) and Dohack, both located east of the Divers site. However, the Dohack site, unlike Divers, represents a seasonal (summer, fall, and probably spring) occupation and has no subsequent occupations (Stahl 1985:237-238).

The George Reeves component at Divers included one small single post basin rectilinear structure, two special use structures, and five pits (Tables 51 and 52). Only pit Types 3 and 4 pits were present. The two special use structures (Features 62 and 75A) have poorly defined single post walls and shallow interior pits incorporated into the walls. Kelly et al. (1990:361, 2007:302) suggests, the shallow pits may have functioned as the location of mortars or anvils and the structures themselves were simply shades. The George Reeves component ceramics have limestone as the dominant temper, red filming appears, and the percentage of Types 2 and 3 bowls returns to earlier phase amounts (Tables 53, 54, and 57). Identified plant remains consisted of acorn meats (*Quercus sp*.).

Given the spatial distribution of features, the George Reeves component at Divers may have been more than a hamlet. Small farmsteads of 1-3 structures occur at the George Reeves and Westpark sites (Kelly 1990b:130). (Kelly 1990b:130-131) suggests that George Reeves phase sites were typically small hamlets of less than ten structures. Exceptions to this pattern occur at the Range and Cahokia Merrill Tract and 15B, where the initial stages of larger villages with defined plazas and central markers appear.

During the Lindeman phase, larger village sites appeared in and around Cahokia. In the southern American Bottom the emergence of the Lunsford-Pulcher and possibly the Washausen sites would have had social and political effects upon rural villages like Divers. The Lindeman component at Divers is represented by five small single post basin structures, three ramadas, and three interior pits (Tables 51 and 52). Three structures were burned, one of which (Feature 65) contained 14 ceramic disks and the only human remains, a left adult mandible, yet found at the Divers site. Although most Lindeman phase vessels are tempered with limestone, some are shell tempered; red-slipped vessels and plain or undecorated vessels are more common than in earlier phases and there is a greater number of vessel forms (Tables 53, 54, 55, and 57). The frequency of non-local items increases in the assemblage (Table 58). For example, a shell tempered Varney Red Filmed jar and a short neck water bottle (Tables 54, 55) indicate trade with more southern locations (Kelly 1990b; Kelly et al. 2007) or possibly the movement of people (Pauketat 2004). Lithics included Mill Creek hoe flakes, biface tools, and discoidals. Plant remains included maize (*Zea mays*), acorn nuts (*Quercus sp*.), wild plum (*Prunus hortulana*), Bulrush (*Scirpus sp*.), and probably domesticated sunflower seeds (*Helianthus sp*.) The Lindeman component at Divers was spatially larger than previous components and was probably a small village. Defined small villages are reported from the Marcus, George Reeves, Westpark, and Schlemmer sites and a larger more complex settlement at the Range site (Kelly 1990b:130-133, Table 12).

In summary, the Divers site Terminal Late Woodland components generally parallel the developmental history of the Range site, with the notable qualification that Divers village was smaller and probably less socially complex. Based upon the surface

scatter of debris, the site is estimated to encompass approximately 1.3 hectares. Another notable difference is that Range is located next to the rich deep water resources of Prairie Lake and Divers is situated close to the more shallow lacustrine environment of Fish Lake (Schroder 1997). What the Divers site did offer was access to a large amount of dry floodplain prairie agricultural land, which formed one of the natural attractions to the site location and one of the important reasons why the site was continuously occupied during the Late Woodland and Mississippian periods. How this resource was socially integrated into the social and political economy through the political influence of a rising Cahokia Ascendant chiefdom and outlying multiple mound groups, especially the Lunsford-Pulcher and possibly the Washausen sites, is not well understood. The dominant use of limestone temper and red filming and slips and the proximity of Divers to the Lunsford-Pulcher site indicate the Divers site is an integral part of the Pulcher Tradition.

***Mississippian***

The Lohmann phase component is represented by six wall trench structures and one wall trench-single post T-shaped structure, three interior pits, and nine exterior pits (Tables 51 and 52). The exterior pits included only Types 3 and 4 (Table 52). The Lohmann Divers household pattern is Type LC which has only been defined in Lohmann phase context at the Range site (Mehrer 1995). The structures are clustered in two locations. Two structures had interior storage pits and two had wooden mortar post molds. Feature 96, which was probably a ceremonial nodal structure, was significantly larger in size and had a galena cube and discoidal on the floor. The dominant temper is still limestone but the frequency of shell tempered sherds increases, as do vessels with plain and red slipped surfaces; a variety of everted rim forms also appears (Tables 53, 54,

55, 56 and 57). Non-local items continue to appear in the Divers assemblage but include a greater variety than in earlier phases (Table 58). Among the lithic artifacts were galena, hematite, basaltic celts, discoidals and Mill Creek hoe flakes. Plant remains include maize (*Zea mays*) and acorn meats (*Quercus sp*.).

The Lohmann component is similar to that reported from the Range, Turner, George Reeves, Westpark, and Carbon Dioxide sites except that the Divers feature clusters are not as widely spaced and the site area covered by this component is probably smaller. Small rural Lohmann sites are typically divided into nodal sites or homesteads (Emerson 1997a, 1997b; Mehrer 1995). According to Emerson's (1997a, 1997b) and Mehrer's (1995) criteria for small rural Lohmann phase site types, Divers is a civic-ceremonial "nodal site" comparable to the Range, Turner, and Julien sites. These nodal sites are interpreted to have served as ritual locations for surrounding isolated farmsteads. They developed in the American Bottom with the disappearance of the larger hierarchical villages such as Range and with the rise of Cahokia and outlying multiple mound sites such as Lunsford-Pulcher and Washausen. The nodal site concept and its relevance to the Mississippian occupation at Divers were examined in Chapter 2 and are discussed in the context of the chiefdom models later in this chapter.

The final Mississippian period occupation of the Divers site came during the Stirling phase. It is represented by four rectangular wall trench structures with interior storage pits and one special use single post oval shaped structure (Table 51). At least three of the structures were burned. Feature 1 was nearly twice the size of the other structures and lacked interior posts and pits. A Powell Plain jar, a seed jar, an effigy, a limestone metate, a piece of hematite, and a piece of mesquite (*Prosopis* sp.) were found

on the structure floor. Feature 26, the burned, oval shaped single post structure, which may have been a charnel structure, contained a Ramey Incised rim and two grog tempered engraved bowl rims that could be Holly Fine Engraved or local copies. Collectively these two structures and their associated artifacts help to identify the Stirling component as a ceremonial nodal site.

The Stirling component vessel forms are like those of the Lohmann phase with the addition of Ramey Incised, the Holly Fine Engraved-like bowls, and pans (Tables 54 and 55). Limestone is the dominant pottery temper but the percentages of shell temper and red slipped surfaces increase from that typical of earlier Divers site occupation (Tables 53, 55, 56 and 57). The occurrence of non-local items increases in this component and includes mesquite and Hixton Silicified Sediment (Table 58). Lithics included hematite, Mill Creek chert hoes and hoe flakes, and a limestone metate. Identified plant remains include maize (*Zea mays*), acorn shells (*Quercus sp.*), mesquite (*Prosopis sp.*) and other identified wood from Feature 1.

Additional site excavations are required to accurately determine the component community plan. The excavated Stirling features at Divers are located in four areas but it is not possible to determine if they represent clusters like the preceding Lohmann component and at other local Stirling sites. The general household pattern is probably a continuation of the Lohmann pattern which occurs only at the Range site (Mehrer 1995).

At Divers and the Range site, the Stirling phase marks the end of the Mississippian occupations and the start of a social decline in the American Bottom. The Divers Stirling component is most similar to the Range site Stirling component and

possibly the Labras Lake and BBB Motor sites, all of which are interpreted to be nodal sites.

The nearby Westpark and George Reeves sites had some parallels to the Divers site occupations but both lack a Stirling occupation, a nodal designation, and apparently were abandoned as migrations to the emerging multiple mound sites occurred (Emerson 1997a; Kelly 1990b:137; Mehrer 1995). Unlike these and other sites, the Divers site was occupied continuously through the Stirling phase. Broadly considered, the Divers site history is similar to that of the Range site; it began during the Late Woodland Patrick and continued through the Stirling phase, after which the Mississippian site occupations ended. Other southern American Bottom sites, such as Westpark, share similar archaeological parallels with Divers during individual components and over the course of several components. Range and Divers probably differ mainly in their respective sizes and social complexity. Divers had a smaller population than Range, as measured by site size and number of individual structures, due to a lack of deep water resources. To a certain extent, however, what the Divers site lacked in deep water resources it made up for in its access to a large expanse of elevated floodplain prairie agriculture soil. While these environmental factors may have played an important role in the location, stability and continuity of the Divers site, they do not fully explain the internal or external social organization and structure of the site occupations.

***Discussion of Main Points***

As noted in the preceding section, the Divers site was continuously occupied from the Late Woodland Patrick phase through the middle of the Mississippian Stirling phase. These occupations probably represent a small, but reasonably successful village, but its

overall size and the degree of social complexity of the Divers community cannot be fully defined from the available archaeological data. Limited access to deep water resources is viewed as a limiting factor in the site size but access to large amounts of floodplain prairie ensured the stability of the village site location and its continuity in the face of the changing social and political landscape of the southern American Bottom.

Major cultural changes that spread across the American Bottom during the Terminal Late Woodland and Mississippian periods are clearly reflected in the artifactual assemblage of the Divers site components. The occurrence of nonlocal items indicates that the inhabitants of the Divers site participated in far-reaching regional exchange networks. The rise of Cahokia and multiple mound sites such as Lunsford-Pulcher and possibly Washausen did not result in the abandonment of the village at Divers, but its population may have decreased during the Mississippian occupations. Milner (1998) and Schroeder (1997) draw a similar inference about changing population sizes for sites in the southern American Bottom. This pattern contrasts with events seen at the Range site and elsewhere in the northern American Bottom (Emerson 1995, 1997b; Pauketat 1994, 1997, 2007) where sites were abandoned or significantly downsized due to nucleation into Cahokia and subsequent resettlement under the direction of Cahokia planning. However, as Emerson (1995) suggests, this northern American Bottom site use pattern may have been altered by distance from Cahokia.

The picture of southern American Bottom localities that differ in their settlement histories from that of northern American Bottom localities calls for explanation. The rise of southern centers such as Lunsford-Pulcher and Washausen resulted in local and regional cultural transformations in which the Divers site inhabitants participated from an

early date. The material manifestations of these transformations at Divers were described in Chapters 4-6 and include changes in ceramics, architecture, and non-local items. The presence of non-local or exotic items at Divers demonstrates that this small site was home to inhabitants of significant political, social, and economic importance to warrant these items. They participated in exchange networks as early as the early Terminal Late Woodland but the quality and quantity of non-local items increased dramatically during the Lohmann and Stirling nodal occupations (Table 58) and the range and frequency of non-local items found at Divers are similar to that reported at other nodal sites in the southern American Bottom.

The occurrence at Divers of 14 chunkey stones in Patrick, Lindeman, and Lohmann phase contexts, and in surface collections and the plow zone, also suggests that the inhabitants did not relinquish their stones or control of the game as the Cahokia polity strove for ritual control of the game, as might be inferred following De Boer (1993).

While accepting and incorporating Mississippian architectural elements, some ceramic attributes, and nonlocal items, the Divers site occupants clearly retained the dominant use of limestone tempering into the Mississippian period. Shell tempering appeared in the Early Terminal Late Woodland component (Dohack or Range) and shell or combinations of shell and other tempering agents (limestone-shell and grog-shell) increased during the Lindeman and following components. The classic shell tempered vessels such as Ramey Incised and Powell Plain may well have come from nonlocal sources, but it remains for more detailed analysis to identify the possible provenance of these vessels.

Throughout the 400 years that Divers persisted as a small village, American Bottom material culture experienced changes, many of which are currently best documented at the Range site (Hanenberger 2003; Kelly 1990b; Kelly et al. 2007). Archaeologists mark the end of the Terminal Late Woodland and the beginning of Mississippian by the presence of wall trench structures in the latter, along with some select shell tempered ceramics, new ceramic forms, and an increase in the frequency of non-local artifacts. Archaeologists also note that the beginning of the Mississippian period is attended by settlement shifts, including depopulation at sites such as Range and the appearance of nodal sites in other rural localities. However, some aspects of regional material culture, such as the common use of limestone tempering and several ceramic vessel forms, persisted largely unchanged.

Although the limited excavated area at Divers prevents the identification of entire community patterns, that which has been exposed has household patterns consistent with patterns at nearby excavated Terminal Late Woodland and Mississippian sites, and especially at the Range site. Following its dramatic downsizing at the end of the Terminal Late Woodland period, the Range site pattern is continuous during the Lohmann and Stirling phases (Mehrer 1995). Mehrer (1995) suggests that settlement planning at the southern rural sites, even after the incorporation of wall trench structures, differed from the centralized planning that was evident at Cahokia during the Mississippian period and was based more upon family needs and general social expectations. This interpretation is central to Mehrer's view of a high degree of domestic autonomy in southern American Bottom villages like Divers. Emerson (1997b) and

Hanenberger (2003), on the other hand, observe that the nodal occupation of Range fits the expectations of Cahokia-connected settlement reorganization.

Mention of the alternate possibilities of the Range and Divers site villagers creates an opportune moment to assess possible interpretations of the Ramey Incised, Powell Plain, and red slipped vessels that have been found at this site. Divers is located in the heart of a region hypothesized to be the center of production for ritually important red slipped vessels (Kelly 2002) and, while the occurrence of red slipped vessels is much more common than Ramey Incised or Powell Plain, its ritual importance and meaning to commoners may have been no less important. The Ramey Incised vessels found at Divers and other sites are often interpreted as "gifts" that were given to villagers during central communal religious and ceremonial feasting at Cahokia, and possibly other locations, and, significantly, as artifacts that symbolize the new Cahokia ideology (Emerson 1989; Pauketat and Emerson 1991, 2008). The production and distribution of such vessels were controlled by Cahokia (Pauketat 1994), but the vessels themselves were possibly made at several locations and at various times (Emerson 1989). The presence of these items in village contexts argues that they reflect alliances that are inherent in all models (Milner 1998, 2003).

The presence of non-local artifacts such as Madison County shale vessels, Ramey Incised, Powell Plain, other exotic ceramics, Mill Creek chert hoes, Hixton Silicified Sediment, basalt axes, and mesquite at Divers clearly demonstrates that this site participated in inter-regional and local exchange systems, which may have included Lunsford-Pulcher or Cahokia, throughout its occupation. This fact and the site's longevity suggest that even a small village like Divers could enjoy a certain degree of

social, economic, and political importance in the American Bottom. The nature of this importance is not fully known but one key factor may have been the site's access to extensive elevated floodplain agricultural land.

Viewed in this light, the detailed understanding of the archaeology of the Lunsford-Pulcher site may greatly enable the more accurate interpretation of the Divers site. Although little is yet known about Lunsford-Pulcher, its rise may have well been coeval with that of Cahokia, perhaps even as a possible competitor that did not achieve Cahokia's magnitude in the American Bottom. For now, at least, given the available southern American Bottom archaeological evidence, Divers and other sites in the vicinity of Lunsford-Pulcher (and possibly Washausen) look like communities that depended at least as much on local ties and alliances as they did on relationships with Cahokia. Nevertheless, the evidence may be seen as equivocal by others, particularly with regard to the issues of nodal settlement, which is the focus of the next section.

## Divers as a Nodal Site

Directly related to the question of the possible regional importance of the Divers site is its status as an American Bottom nodal site during the Lohmann and Stirling phases, a designation that was questioned earlier (see Chapter 2). The defining nodal characteristics and structures were presented earlier (pp. 212, 221, 226-227). Nodal sites are thought to have functioned as ceremonial centers that served outlying temple towns and isolated farmsteads, but the amount of authority they held over these towns and villages is currently debated. Emerson (1997b:250) suggests that nodal sites were created and controlled by Cahokia elite, while Mehrer (1995:145) interprets them as relatively autonomous entities. Welch (2006) takes a quite different view and argues that the nodal

concept may simply not be applicable to the prehistoric American Bottom. However, he does not address why the nodal sites only appear in the Mississippian Lohmann and Stirling phases. Welch (2006) contends that many sites currently identified as nodal and non-nodal locations may actually reflect settlement variation due to the family growth cycle, the proliferation of cadet lineages (lines of descent from previous chiefs), the presence and power of town councils or "principals", the presence of priests or shamans, and the occurrence of menstrual huts or women's houses. The inhabitants of these sites provided leadership and acted in other roles but their function was not "to funnel directives downward from the chief above but are social roles either acted out at a local level or that act to represent the local level in a wider context" (Welch 2006:217-220), which is a view similar to that of Mehrer (1995:164). While recognizing the importance of local rituals and persons, Welch does not ascribe to nodal sites the autonomy that Mehrer suggests because some rituals could only be conducted at sites of greater regional importance.

Welch's alternative explanation for some nodal sites is compelling for several reasons. First, the nodal concept is based in part upon the interpretation of isolated farmsteads. Many of these sites do not have a large archaeological footprint, and it is generally unknown if they were occupied seasonally, by whom, or for how many years (e.g. Finney 1993). It is also important to note that many factors influenced the number and spatial distribution of small farmsteads at any one time during the Lohmann and Stirling phases. Such sites may well represent a shifting pattern of cultivation demanded by the three to five year longevity of a single construction episode for a Mississippian structure (Milner 1986, 1998) or even ten to fifteen years (Pauketat and Lopinot 1997),

possible soil exhaustion (Kelly et al. 1987:412), and the labor requirements to clear old fields versus virgin land. Many farmsteads consist of single structures with no evidence of rebuilding. Those that have multiple structures may represent several families or rebuilding by a single family over seven to ten years.

Second, there is archaeological evidence of Lohmann and Stirling phase farmers moving outside of defined villages (Emerson 1997a; Mehrer 1995), which raises questions of land ownership or land rights in these communities and how these farms sought physical protection while living in these isolated locations. Ownership or user rights were likely tied to the local village kinship system, probably clans (Milner 1998). In the northern American Bottom, Emerson (1997b) and Pauketat (1998, 2007) argue that the settlement pattern is planned and directed by Cahokia, a corporate entity. While some Cahokia kin groups may have been given preferential placement this would not have been a locally based kin decision. Milner (1990, 1998) views the settlement plan in the southern American Bottom as "clusters of buildings" or villages, some being nodal sites like Divers, and the surrounding isolated farmsteads as forming "dispersed communities" or a "dispersed village" pattern. The farmsteads were parts of villages, not separate entities, thus the farmsteads were located on village land.

Third, Milner's interpretation of the settlement pattern could remove the socio-political functions of the nodal sites, that is to provide a social-ceremonial link between the isolated farmsteads and the outlying multiple mound towns, because the farmsteads are a part of the village settlement pattern, not a separate entity. The interpretation does not alter the fact that the nodal sites have significant archaeological features or that a

three tier hierarchy of sites (Cahokia, outlying temple towns, and dispersed communities) exists.

Fourth, the farmsteads could reflect a commoner exit strategy suggested by Fargher and Blanton (2007) wherein villagers express their dissatisfaction with the existing polity by voting with their feet. Pauketat (1998) suggests resistance can be expressed through an exit strategy.

Finally, Welch's interpretation seems consistent with ethnographic evidence for the Osage, who are widely viewed as probable descendants of the Mississippian inhabitants of Cahokia (Hall 2006) and may express household patterns similar to their previous occupations in the American Bottom.

The important point to be derived from this discussion of nodal sites is that small site variations can be explained by factors other than Cahokia domination. Divers, for example, may simply have been the home village of a shaman of local importance. Were that true, it would account for the observed archaeological patterning and is no more speculative than the claim that it and sites like it were nodal sites in a regional hierarchy of habitation sites.

Emerson, Mehrer, and Welch share some common elements in their views of nodal sites. While the nodal sites only appear during the Lohmann and Stirling phases and thus are interpreted to be a response to the Cahokia polity, they agree the nodal sites served a social-political function – providing civic and ceremonial functions between the outlying temple towns and the isolated farmsteads – and that the socio-political structure represented by this settlement pattern was very complex. It included both hierarchy and heterarchy structure.

## More on Site Hierarchies

Divers, as a third order site, is viewed by all researchers to have been aligned with an outlying multiple mound site, which was probably Lunsford-Pulcher based upon the proximity of the two sites. However, we know little about outlying towns in the American Bottom. Only the Mitchell site (Porter 1974) has had any significant amount of excavation and only two towns (Lunsford-Pulcher and Emerald) remain intact.

The Lunsford-Pulcher site, which may be coeval with the rise of Cahokia, has had limited testing (Freimuth 1974; Kelly 2002). Kelly (1993, 2002) suggests that it was the center of a separate polity that he calls the Pulcher Tradition. In his interpretation, the rise of a Cahokia chiefdom impacted the Lunsford-Pulcher site through the primacy of its rituals and the regional importance of its alliances. The Lunsford-Pulcher site inhabitants provided Cahokia and the American Bottom with limestone tempered, red slipped ceramics, which have fertility and renewal symbolism, partly because the site is located within 10 km of the probable source of iron-rich shale used to produce the red pigment for slipped vessels. While the red slipped ceramics are much more common than Ramey Incised, they were apparently no less socially and ritually important to the inhabitants of the region's small villages.

Kelly (2002, 2007:230-233) also suggests that the Pulcher tradition and most inhabitants of the southern American Bottom were on the edge of the Cahokia sphere and retained earlier cultural traditions in the face of rapid cultural change emanating from Cahokia. Thus, the symbolism, technology, ceramic styles, and the ritual importance assigned to certain classes of ceramics existed in the Pulcher tradition prior to the rise of Cahokia and they were incorporated into the Cahokia polity via ritual behavior, which

provided the main integrative mechanism by which social cohesion was promoted within and between both groups. In Kelly's (2002) view, the main sphere dominated by the Cahokia chiefdom was limited to a relatively small area around the Cahokia site itself, where it had the capability to attract people and to undertake the construction of features found nowhere else in the American Bottom.

Viewed as part of the Pulcher Tradition, the Divers inhabitants probably participated in the Cahokia polity indirectly through their ties with the Lunsford-Pulcher site, more as an active participant in a web of relationships forged with Cahokia than having been dominated by it (Kelly 2002; Milner 1998). This interpretation certainly does not preclude the possibility that the Divers site inhabitants visited Cahokia to participate in rituals or to provide foodstuffs and labor, but there may have been few such journeys. By the same reasoning, the Divers inhabitants also must have had certain obligations to the Lunsford-Pulcher site polity (Kelly's "Pulcher Tradition") and to events there that required some form of attendance, labor, foodstuffs, and other social responses.

## Segmentary and Ascendant Chiefdoms

Current reconstructions of the Cahokia polity are based upon several lines of evidence, including the settlement system, population estimates, the flow of foodstuffs, and labor requirements for monumental construction, rituals, and public goods, among other attributes. This section examines these attributes in the context of the Segmentary and Ascendant Chiefdom models.

Fargher and Blanton (2007:848) propose the use of collective action as an alternative to more traditional non-western explanations of the rise of the loosely

integrated segmentary state. Their theory "specifies the conditions favoring the development of more centralized and despotic regimes versus the development of more egalitarian polities that allow for a greater degree of commoner strategizing and voice" (Fargher and Blanton 2007:849). The collective action theory is based upon the idea that "…the political institutions and cultural features of a state reflect the outcomes of the rational choices of both commoners …and those who govern …, and the mutual bargains made between them. Yet, the nature of strategies on both sides of the social divide is variable depending on the nature of revenue and other factors we describe" (Fargher and Blanton 2007:849). The other factors include public goods, voice, and public organization. The societies that depended upon internal sources of revenue developed "policies that provided for limits on the agency of rulers, commoner voice, and the dissemination of public goods". Conversely, "…if a state relies on external revenue sources such policies will be limited or absent …" (Fargher and Blanton 2007:875).

The critical element of Fargher and Blanton's theory is the integration of collective action and the interplay between commoner and ruler (voice) to determine social constructs. In effect, this theoretical approach detaches ritual hegemony from political rule. If commoners are not included or are abused, they have exit strategies that they can and will employ including social unrest, rebellion, and migration. Despotic polities exist but they are not successful.

Internal revenue required to sustain a polity can be in many forms. In the Cahokia polity, revenue could have included labor, foodstuffs, certain crafts, public goods (rituals), and personal loyalty. External revenue sources were few, as demonstrated by

the limited evidence of contact with other polities as measured mostly by ceramics and possibly non-local items. The internal revenue issues will figure later in this chapter.

Southall (1988) examined the process of segmentation using ethnographic data on contemporary African and historic Asian segmentary states. He applied the term "state" to these polities instead of "chiefs" and "chiefdoms" because of European ethnocentrism in describing the African and Asian societies in his work. The segmentary state is defined as "…one in which the spheres of ritual suzerainty and political sovereignty do not coincide. The former extends widely towards a flexible, changing periphery. The latter is confined to the central core domain" (Southall 1988:52). Thus, there "…is a central kingship and many peripheral rulers. Political sovereignty is only exercised by the king within the central domain (which indeed is defined by this fact) and is also exercised autonomously by each peripheral ruler in his own domain. This sometimes minuscule kingship of the peripheral domains are replicas of the central kingship but small" (Southall 1988:64). Segmented societies can explain homogeny by means other than political power.

Once established, the segmentary polity arises "from the hiving off of the various kings' sons from the central line in successive generations" (Southall 1988:61). In Southall's African and Asian example states, some of these hived-off segments occurred over twelve generations; some prospered, others stagnated, some were replaced by new king's sons, and some of those who prospered began their own hiving process. The hiving process usually occurred for one of two reasons: banishment of potentially "troublesome sons" or "kidnapping of sons". Both were done with political, religious, and mystical power considerations (Southall 1988:61-62). This process has parallels to

the cadet lineages (former ruler families) detached from a polity and creating new communities.

Power in the segmentary state was based upon the control of sacred rituals in the central core, the ability to make rain and ensure fertility, and by the implicit agreement that such powers were to remain within the center. The center's political control was based upon its ritual power and punishment could only occur when the king summoned "other loyal local groups" to his side, plundered the offending groups of their grain and livestock, and established himself over these groups (Southall 1988:63-64). Within the segmentary states, goods and services moved between the segments but did not flow into the central core as tribute.

Southall illustrates the interpretive utility of his theory by examining the five developmental stages of the Alur segmentary state. Starting as a kin-based segmentary society with no hereditary rank, some societal members who acquired ritually based social recognition become the focus for prestations which are typically consumed by their followers. In the second stage, some of these ritual personages acquire additional privileges, power, and restrictions that distinguish them from other members of society, all of which acts to create a more formal office and the need for procedures to fill the office. The third stage is marked by attempts of holders of these offices to enhance the differences in rank and privilege that exist between the office and the remainder of society and to add new political elements to the ritual office. These political elements typically become appropriated by ritual offices during times of stress. Economic responses to increased societal stresses can take the form of increased food production, increased population, increased trade, or some combination of these activities. The

fourth stage is marked the ritual office's ability to extract tribute by means of enforcement. The level of this tribute and its economic or ritual purpose depend largely upon the polity's social complexity and economic system. In Alur, for example, kings had no power of taxation but elsewhere, in larger and more complex societies such as in the kingdoms of Medieval Europe, kings did wield this power. The fifth level is the tendency to increase the pressure on producers to generate more surpluses. These actions lead to dissatisfaction within society and possible secession by lesser kings who had formerly viewed themselves as part of the larger polity. If attempts are made by the rulers to prevent or repress these feelings or movements, then a spiraling downward cycle of events can lead to the collapse of the state (Southall 1988:74-79). It is important to view these changes in a ritual and not a political context. In some segmentary societies, polity and economy were not well integrated at the center because it lacked a regular system of administration. "The system of production and exchange was left largely to develop within its own local opportunities, subject to irregular political extractions that were more intensive at the center than the periphery. "The disparity between the narrow central concentration of direct political control and the great spread of ritual suzerainty was in no way reduced" (Southall 1988:74).

Key aspects of Southall's theory of segmentary states can be found in Fargher and Blanton's (2007) collective action theory. In both theories, for example, elite members of society and those who hold important ritual offices cannot stop dissatisfied villagers from moving away if they are not allowed a voice in society or if they feel that their rulers are not responsive to their concerns. Southall (1988) and Fargher and Blanton

(2007) create mutually supporting theories that may provide, in turn, an explanation for the existence of a Segmentary Chiefdom in the American Bottom.

Prior to the New Cahokia only two excavated locations in the American Bottom have large complex village components, Range and Cahokia. Range became a much smaller community during the Lohmann phase after many of its inhabitants moved to Lunsford-Pulcher (Kelly 1990b, 1993, 2007:487). Cahokia developed as the premier Mississippian center in the American Bottom and exerted some degree of social, political, or economic control over neighboring communities. Although attempts to formalize offices associated with institutions in Cahokia society probably occurred in the Terminal Late Woodland, such offices are clearly evident in the early Mississippian period when differences between the common people and elite members of Cahokia society can be delineated in the archaeological record. Later in the period, elites attempt to increase the pressure on commoners to increase surpluses of goods and services. In such situations, as Fargher and Blanton (2007) and Southall (1988) suggest, collective action must occur or commoners will evoke some form of exit strategy.

Several lines of evidence suggest that some Mississippian groups did try to move beyond the sphere of Cahokia's influence. For example, Emerson (1991:229) notes that some Mississippian sites in the Central Illinois River valley, the Apple River valley, and the Red Wing area of Minnesota may be the result of political instability at Cahokia that resulted in "…the exodus of losing or disgruntled elite groups removing themselves from the area controlled by Cahokia" (Emerson 1991:235). If true, it represents an unequivocal example of collective action and suggests that not all groups were co-opted by events at Cahokia. Some voted with their feet.

Research in the Upper Mississippi valley shows a similar pattern. Stoltman et al. (2008) has verified by petrographic analysis that some Edelhardt (Lindeman) phase red slipped ceramics and cherts from Upper Mississippi valley sites, especially the Fisher Mounds Site Complex, originated in the American Bottom and that their occurrence is most likely explained by "…splinter groups from the American Bottom consisting of people who had lost out, or were otherwise disenchanted or disenfranchised, in the aftermath of the power struggles that must have accompanied the political consolidation of the complex chiefdom of Lohmann phase Cahokia" (Stoltman et al. 2008:334, citing Pauketat 1994:171).

Pauketat (2003) and Benson et al. (2009) also proposes that Mississippian sites in the upland Richland Complex represent planned Cahokia attempts to reorganize agricultural production due to the increase in population at Cahokia during the Lohmann phase when villages were replaced by isolated farmsteads. He does not view the evidence of these sites as expressions of some form of exit strategy on the part of villagers because of the proximity to Cahokia (one day's walk) and the assemblage present, but the possibility warrants further research. The presence of earthen pyramids "…supports either the idea of localized management or direct Cahokian control, depending on one's interpretive predilections" but "… the Richland villagers were not nearly far enough away from the huge center of Cahokia to be called 'autonomous'" (Pauketat 2003:55).

Outlying multiple-mound sites, such as Lunsford-Pulcher, Emerald, St. Louis, and Mitchell, and possibly others near the central-administrative core of Cahokia, may, in fact, have been founded by a hiving-off process like that described for segmentary states

by Southall (1988:61). Following his line of reasoning, such a process would be likely to occur for one of two reasons, the banishment of "troublesome sons" or "kidnapping", both done for political, religious, and mystical power considerations.

"Troublesome sons" included those sons who misbehaved in some manner and rather than impose stern discipline the king would "banish" them with a small entourage, supplies, and perhaps his mother, to some location to establish his own fortune. This location would be far enough away to resolve the conflict but close enough so that the ruler (father) could both keep watch on and control the new endeavor. "Kidnapping" occurred when some peripheral group desired the benefits of a king's son living among them and would beseech the king for a son. The king would comply by offering the group the opportunity to "kidnap" his son and his mother. The "troublesome son" process typically resulted in the son being sent to an unincorporated area and the "kidnapping" process sent a son to a fully assimilated group. Both processes resulted in an increase in the number of secondary units and expanded the influence of the segmentary kingship of which the new areas became a part (Southall 1988:62).

***Public Goods and Services***

Public goods and services are another construct of the Segmentary and Ascendant Chiefdom models. Public goods are defined as "goods which are consumed by all those who are members of a given community, country, or geographical area in such a manner that consumption or use by one member does not detract from consumption or use by another" [citing Hirschman 1970:101] (Southall 1988:849-850). The identification of Mississippian public goods in the American Bottom is uncertain at best; there are, for example, no known Mississippian roads, bridges, flood control projects, etc., which one

could say were used by all members of society. However, generally speaking, monumental architecture (mounds, plazas, Woodhenges, and palisades), rituals (chunkey stones and games, burials, and feasts), and possibly certain crafts and tools (Mill Creek hoes, beads, non-local items, celts), and certain ceramics (Ramey Incised and Monks Mound Red) are often interpreted as Mississippian material culture that was used or distributed in a manner that met the basic criteria of public goods or services.

The Segmentary Chiefdom model suggests that Cahokia has the most of these items but they occur at outlying sites, just on a smaller scale (Milner 1998). The Ascendant Chiefdom model suggests that most of the items are found at Cahokia and are controlled by a Cahokia elite who distribute them to outlying sites (Pauketat 1997). Let us examine some of the public goods in the context of the two models.

***Monumental Architecture and Population Size Estimates***

The monumental architecture at the central-administrative core of Cahokia is impressive and, when taken with the outlying multiple mound groups, represents considerable labor investment. The amount of labor, how the labor was appropriated, and the amount of time required to construct the monuments is debated by the proponents of both models. The Segmentary model suggests a smaller labor requirement, a smaller population, and greater autonomy (Milner 1998) and the Ascendant model suggests a larger population and greater central control (Pauketat 1994). Mississippian population estimates are important to both approaches, partly because smaller populations imply a simpler pattern of political development and larger populations a more complex development.

Little consensus surrounds existing population estimates and the methods by which these estimates were derived for Cahokia and the American Bottom, and it is necessary to discuss the main problems with these estimates here because they have implications for the fit of the chiefdom models to the accurate interpretation of sites like Divers. One of the earlier works to examine prehistoric monumental construction was by Kaplan (1963) which seems to have been lost in the fog of theoretical debate. Kaplan was interested in the logistical requirements of monumental construction and the "relationship between large public works and political systems", particularly the "size and character of the political systems required to build them" (Kaplan 1963:397). He suggested that the argument that a centralized authority is required to build large scale public works tends to become circular and shifts from a functional to a causal level and that simple chiefdoms are capable of undertaking large scale construction projects (Kaplan 1963:399, 407).

Erasmus (1965) provided additional support of Kaplan's work but questions the concept of monumental construction as a system-maintaining mechanism, instead preferring efficient causes, "…the desire for public approval and prestige, duty to the community, religious sentiment, pleasure, and pride in craftsmanship…" as motives (Erasmus 1965:278). Erasmus' field experiments at Uxmal, Mexico, provide some convincing estimates on the amount of time and the population required to construct imposing Mesoamerican earth and masonry architecture that tends to be more complex than the earthen monuments found in and around Cahokia.

Andrews (2004) has examined the population size of Terminal Classic Sayil site in the Puuc region of the Yucatan Peninsula using the variables of water storage and

carrying capacity. He found lower population and population densities in the region, and a cycling of prominent phases lasting no more then 100 years due to ecological factors. Like Erasmus, Andrews concluded that a relatively small population was sufficient to account for the labor invested in Sayil's monumental construction projects.

The key point to be derived from these examples concerns the relationship between population size estimates and monumental construction. The amount of time, construction intervals, construction methods and materials, population size estimates, the number of workers available at any given time, the subsistence practices of the population, and even the dating of the constructed features are all variables that are relevant to the interpretation of any prehistoric monumental construction. As research at Monks Mound demonstrates, there is often little consensus about the estimated values of these variables (e.g., Fowler 1997; Kelly and Schilling 2009; Milner 1998). Most estimates for the construction of the major portions of Monks Mound suggest that it was built over a period of 150 to 200 years during the Lohmann to Stirling phases (Fowler 1989; Kelly and Schilling 2008; Milner 1998).

Milner (1986, 1998) has calculated the man-hours required to construct 102 Cahokia site mounds and the palisade, but not the plazas or outlying multiple mound sites. He estimates that during the Lohmann (100 years), Stirling (100 years), Moorehead (50 years), and Sand Prairie (125 years) phases, which span the most active centuries of monument construction at Cahokia and in the American Bottom, the known mounds and palisades could be constructed by 470, 490, 310, and 68 laborers, respectfully, each of which contributed 10 five-hour days of labor per year. During the peak centuries of documented construction during the Lohmann and Stirling phases, Milner calculates that

500 workers who each labored for 10 days per year would have been sufficient to complete the work. The palisade construction could have been accomplished by 1,000 workers in two to three months or by 220 to 340 workers in nine months (Milner 1998:148). The work force for these projects could have been drawn from a local population of as few as 2,500 people. Milner cautions these are only rough estimates and that the values of many variables that potentially affect the numbers are either unknown or poorly understood. Nevertheless, his research clearly demonstrates that one cannot simply assume that the construction of Cahokia's mounds and palisades would have only been possible with the labor of a large local population. What we are left with are these possibilities and the uncertainty that monumental architecture is a good proxy measure of population size.

Subsequent research on the American Bottom chronology shows how difficult population estimation is, and that population estimates differ according to subtle variable alterations. For instance, Milner's original estimates were based on his increasing the length of the Lohmann phase from 50 to 100 years (Emerson 2007:xxiv). If we apply these new age estimates to Milner's research, and use his low structure longevity estimate, the result would require doubling of his original estimate from 2500 to 5000 individuals during the Lohmann phase.

Milner (1986, 1998) also constructed population size estimates for Cahokia and the American Bottom, using such variables as available agricultural land, crop yields, diet and nutrition, house data, family sizes, and labor requirements. The estimates did not extend into the adjacent uplands. Milner's (1998:Figure 6.1) population estimates for Cahokia during the Lohmann phase range from approximately 3,800 to 8,100; for the

Stirling phase from 3,700 to 7,900; and 1,900 to 4,800 for the Moorehead phase. He estimates that the American Bottom contained approximately 12,500 to 36,000 inhabitants during the Lohmann phase and 20,000 to 51,000 during the Stirling phase (Milner 1998:Figure 6.1). Milner (1998:125) cautions that researchers should use the conservative lower population estimates, which he believed to be the more realistic of the two extremes.

Pauketat (1997, 2003, 2005, 2007; Pauketat and Lopinot 1997) has also constructed estimates for the American Bottom and Cahokia populations using house data from high density areas at Cahokia and the upland Richland Complex. He accepts Milner's estimate of rural floodplain population density, but both uses different estimates of structure longevity, which partly accounts for the different population estimates reached by the two researchers. Pauketat estimates the population of Cahokia's high density areas was between 1400 to 2800 individuals during the Edelhardt (Lindeman) phase, 10,200 to 15,300 during the Lohmann phase, 5,200 to 7,200 during the Stirling phase and 3,000 to 4,500 during the Moorehead phase. The Richland Complex population is estimated at 3,000 to 7,400 individuals during the Late Lohmann to Early Stirling phases. His estimate for the entire American Bottom during the 12$^{th}$ century is 40,000 to 50,000 people.

The most significant differences between Milner's and Pauketat's population estimates are for the Lohmann phase at Cahokia and the American Bottom as a whole. Both agree that there were significant population increases during the Lohmann phase, but their estimates of the magnitude of these increases differ greatly. This difference between the two models is important because it leads to different interpretations of social,

political, and economic responses and different explanations to account for this population increase. Milner (1986, 1998, 2008) argues for lower population estimates in part because they have the most support in data. Pauketat (1997, 2003, 2005, 2007; Pauketat and Lopinot 1997) argues likewise, and suggests that his house longevity ages are based upon data, not suppositions, particularly concerning the number of structures per phase for Cahokia and the Richland Complex. His lower population estimates are in line with Milner's higher estimates.

### *Chiefdom Models and the Theater State*

The creation, appropriation, and control of rituals created elite-commoner dichotomies that are set in communitas and are viewed by the Ascendant Chiefdom model as important basis for a centralized polity (Pauketat 1994, 2004, 2005; Pauketat and Emerson 1999). Holt (2009) summarizes the historical debates and the notion of communitas over the nature of the Cahokia polity and, taking a cue from Pauketat and Emerson (2002), Kehoe (2002), and Porubcan (2000), Holt expands the notion of the "theater state". Based upon the work of Geertz (1980), the latter concept is based on the idea that the power of the state lies more in its ceremonies than in its use of force. The problem herein is that Geertz's model is based upon "staging rituals confirming the centrality of rulers in a hierarchical cosmos" and reflects elite strategizing, not collective action (Fargher and Blanton 2007:848). Holt extends elite ritualization to mound building, warfare, burials, shell beads, Long-Nosed God masks, Cahokian flint clay figurines, communal labor, communal fields, chunkey, and the giving of foodstuffs and then develops it as a supporting argument for the centralized Ascendant Chiefdom model (Holt 2007; Pauketat 2005).

Let us examine the potential interpretive value of Holt's argument by considering relevant archaeological evidence for American Bottom Mississippian rituals. De Boer (1993) summarized the ritual, extent, and political implications of the chunkey game with emphasis on the American Bottom during the Terminal Late Woodland and Mississippian periods. He suggests chunkey was a commoner game in the late Late Woodland and early Terminal Late Woodland periods, but was ritualized by the elite during the rise of Cahokia when the game fell under centralized manipulation and control, as evident by "standardization" and provenience of chunkey stones (De Boer 1993:89-90). However, the game is viewed as returning to commoner control after the demise of Cahokia (De Boer 1993:90).

De Boer's interpretation has been cited as support for the Ascendant Chiefdom model (Pauketat 2004, 2005a) and the theater state (Holt 2009). However, while chunkey may indeed prove to be a valid example of a commoner ritual appropriated by elite strategy in the American Bottom, caution should be exercised when viewing it in the context of collective action. De Boer's analysis included the cache of 14 chunkey stones from the Mound 72 male burial, which is a unique occurrence; only four other sites had chunkey stones from burials and none of these cases were as elaborate as the Mound 72 burial. As De Boer (1993:88) notes and documents, the final disposition of chunkey stones remains problematical and debated.

Emerson (2003) suggests that grave goods, including the Mound 72 chunkey stones, are a characteristic of the Cahokia Lohmann phase burial practices and can be interpreted as evidence of communitas because of a "polarized" Cahokia society. He writes, "Perhaps no other evidence conveys the gulf that had become a part of Cahokia

society than the contrast of the vast public mortuary spectacle of Mound 72 with the small Lohmann phase family plots. It is also apparent that during Lohmann and Stirling times within the Cahokia sphere, the control of "death" like many social, economic, and political aspects of life, may have come into the hands of the elite" (Emerson 2003:74).

The final disposition of chunkey stones aside, the range of the attributes, in particular the stone diameter which was the single consistent attribute available for use by De Boer, and the types of chunkey stones are very small and although the vast majority are lithic, ceramic examples are also known from early American Bottom contexts. The lithic chunkey stones are manufactured by a reduction process from a mental template which could account for much of the observed variation in chunkey stone diameters. It would also appear ceramic chunkey stones are always smaller in diameter in their lithic counterparts, which may be a function of their fragility. The main point is that artifact diameter alone appears to be insufficient as a valid and reliable measure of chunkey stone "standardization".

Games are defined by rules and standards that can change over time and space (Culin 1907). Baseball of the 1890's had different rules, equipment, fields, and standards than baseball today and Little League baseball has different rules, equipment, fields, and standards than professional or recreational baseball. Nevertheless, all of these variations, even the fact that baseball is predominately a male activity, are recognized parts of the game of baseball. As with baseball, so with chunkey; it was a commoner game that in some contexts could be infused with great socially recognized ritual significance and importance but perhaps not limited exclusively to elite contexts.

We might even speculate that some form of high stakes chunkey was conducted at Cahokia by elites, perhaps even for elites. However, to suggest the game is solely an example of elite manipulation and ritualization (De Boer 1993; Holt 2009) that gives evidence of Cahokia hegemony and centralized control tends to ignore collective action and the differences that can occur between ritual and political control as an alternative explanation (Fargher and Blanton 2007; Southall 1988). In addition, the distribution of Mississippian chunkey stones and yards is not limited to the Cahokia site proper.

The 14 chunkey stones recovered from the Divers site include three each from the Patrick, Lindeman, and Lohmann phases and four from the surface or plow zone. Two or three were recovered from structure floors (Features 94 and 96, both of which are Lohmann structures, and Feature 65, a Lindeman structure) and one from the floor of a pit (Feature 73, a Patrick pit). The presence of so many chunkey stones found in excavations that covered only about one-third of the site suggests the game was a common village ritual throughout its occupation. It also raises the question of a "yard" or other playing ground at Divers, which excavations have not revealed, nor has Divers yielded evidence of plazas like those documented at the Range site (Kelly et al. 1990, 2007).

The Ascendant Chiefdom model cites the work of De Boer (1993) and the distribution of American Bottom chunkey stones after ca. A.D. 1050 as evidence for the game being co-opted by Cahokia, with official games played there and at outlying towns (and the eastern upland sites) and as evidence for centralized Cahokian cultural hegemony (Pauketat 2004). Of course, that the game belonged to the commoners before and after Cahokia does not preclude the possibility the game never really left the ritual

space of certain commoner villages such as Divers. No doubt the impressive Cahokia plazas and Mound 72 burial chunkey stones were indicative of the elevated status of the game at Cahokia, perhaps played by elites for elites.

Hall (2006) recently examined the rapid changes that occurred at Cahokia around A. D. 1050 from the perspective of ritual practices conducted by Siouan speakers, who are among the probable descendents of the inhabitants of Cahokia. In his study, he frequently alludes to the longevity and importance of kinship and rituals as elements of social control. Hall (2006:195) does not "…see evidence of internally directed coercive physical force as important factors in maintaining the social order" at Cahokia, a view he attributes to Pauketat (1997:34-35, 51). However, Pauketat (2003, 2004, 2007) does not view physical force as the only method to maintain social order and agrees with Hall that kinship and rituals are important components of social control.

Taking a perspective reminiscent of that of Southall (1988), J. Kelly (2006), L. Kelly (2000), and Welch (2006), Hall (2006:194) suggests that the structure and organization of society can be conducted by binding mechanisms such as the designation of kinship groups to conduct certain rituals, to make certain props, to curate certain props, to fill leadership positions, and other social functions. Perhaps many of these commoner kin groups were drawn into Cahokia, thereby creating a "Cahokia Interaction" under the influence of "…adroit politicians with the charisma of prophets" (Hall 2006:190, 191), but it does not necessarily follow from such actions that these commoners abrogated all traditional activity.

Perhaps Hall's work shows that some rituals have considerable antiquity and continued after the demise of Cahokia. From that, we might suggest that if a Cahokia

polity appropriated control of commoner rituals, then it would not seem likely that the rituals would have continued after Cahokia's demise. Simply stated, if the rituals are top down, there is nothing to drive the rituals when the top is gone. If the rituals are bottom up, they will exist if the top is there or not.

By the same token, the nodal sites (aside from the previous discussion in Chapter 2) only occur during the Lohmann and Stirling phases (A. D. 1050 – 1200), are interpreted as mortuary, civic, or ceremonial centers, and are defined by special structures and artifacts (Emerson 1995, 1997a, 1997b). They are interpreted to be a construct of Cahokia because they do not occur before or after the Cahokia climax. As such, they would support the Ascendant Chiefdom model.

Another example of ritual importance is found in the production of certain status goods at Cahokia, a link established by L. Kelly (2000) and Pauketat et al. (2002). Control over the production of certain crafts, such as the manufacture of some types of pottery, shell beads, basaltic celts, and the like, have been cited as evidence to support the Ascendant Chiefdom model (Pauketat 1994). However, Pauketat et al. (2002) established the link between production activities at Cahokia and ritual gatherings. Following them, Kelly (2006:231) argues that the production of shell beads and basalt axes at Cahokia is linked to ritual and communitas. Using analogies drawn from ethnographic data, he argues that certain households linked to specific kinship groups were responsible for the production of different craft items and that these groups were located not only at Cahokia but outside of Cahokia (Kelly 2006:246). The ultimate recipients of these goods may have been the Cahokia elite or Cahokia's ritual events, but the production, distribution, and social meaning may have had a local corporate basis (Kelly 2006:256).

The Mound 72 burials are cited as an example of chiefly power at Cahokia (e.g., Emerson 1997b, 2003; Pauketat 1994, 1997, 2004). Brown (2006) recently re-examined the Mound 72 burials using the concept of collective action as a framework within which to construct an alternative interpretation of the extent of Cahokia domination. Although he does not specifically define collective action, Brown applies the concept in a manner similar to Fargher and Blanton (2007). The main conclusion reached in Brown's study is that the Mound 72 burials do not support an interpretation of chiefly power at Cahokia that is consistent with the Ascendant Chiefdom model. He argues instead that the burials "belong to a dramatic performance, in all likelihood, of a specific myth with heavy allegorical implications. "The drama is a piece of ritual performance, fully as much as other rites, both public and private" (Brown 2006:210). Thus Brown interprets the importance of the event as a ritual reenactment of the Morning Star myth and not a ritual to the status of the primary burial.

***Food and Provisioning***

Public goods and services in the sense of Fargher and Blanton (2007) include food and provisioning and the flow of foodstuffs into Cahokia and offer the opportunity to draw another contrasting view of the Segmentary and Ascendant Chiefdom models. There is no known Mississippian polity outside of Cahokia that could have provided provisioning. Provisioning would have depended upon internal constructs and there are some who have addressed this complex issue (e.g., Chmurny 1973; Benson et al. 2009; L. Kelly 2000; Milner 1998; Pauketat 2002, 2003, 2009; Schroeder 1999).

Both models agree that Cahokia was provisioned from outlying sites, but they disagree on the structure of the provisioning. The Segmentary Chiefdom model views

food surpluses going to Cahokia, perhaps only periodically, but access to these surpluses gave leaders one mechanism by which they could augment their positions and expand and reinforce relationships (Milner 1998). The Ascendant Chiefdom model views control of food surpluses as an expression of centralization by means of regional integration (Emerson 1997; Pauketat 1994, 1997). Feasting rituals held at Cahokia were used by the Ascendant Chiefdom model as a form of co-optation, a means of redistributing status items to outlying locations, extracting foodstuffs from outlying locations, and reinforcing Cahokia's apical economic position (Pauketat 1994, 2003, 2004:103, 2005, 2007).

Lucretia Kelly (2000) has examined the political and social dimensions of food within a tributary system for the initial Mississippian Lohmann phase in the American Bottom. She questions whether floodplain farmsteads, based upon zooarchaeological evidence from the American Bottom only, were significantly involved in provisioning Cahokia. L. Kelly (2000:258) states:

> "As far as can be detected zooarchaeologically, no exploitative demands were placed on the farmsteads to provision Cahokia with foodstuffs, thus the domination model of food provisioning is not supported. This is not to say that some of Cahokia's food did not come from outlying communities, however. The lack of evidence tends to bolster the decentralized model, but there are other mechanisms by which plants and animals were brought to Cahokia that may have involved the higher ranked segment of society. Attached hunters or ritually regulated deer hunts, as well as fields "owned" by the leaders could have provided the means by which the residents of Cahokia were provisioned. These strategies may have left the farmsteads "out of the provisioning loop", except possibly during large communal gatherings hosted by the leaders at Cahokia. The provisioning of fauna through periodic ceremonies is one model observable archaeologically and for which we do have evidence at Cahokia. I propose that feasting was a major mechanism used for provisioning Cahokia with animal products".

She found no evidence for shelled corn being used as tribute to Cahokia, but some provisioning could have come from outlying locations in the form of tobacco, red cedar, and other plants used by ritual specialists. However, burned huts with quantities of shell corn at the East St. Louis mound center may alter her shelled corn interpretation (Pauketat, ed., 2005:164-166, 315). Cahokia articulated hinterland sites through their participation in rituals (L. Kelly 2000:257, 258, 269). However, it is clear that foodstuffs flowed into the Cahokia site, especially venison, which the available evidence indicates the Cahokia population consumed greater quantities than at any other location and may have been provided by the nodal centers. Large rituals were also held at Cahokia, including feasting by commoners and elites as evident from the sub-Mound 51 data. Kelly (2000:260-261, 264) interprets this evidence as the actions of chiefs who were "…(re)distributing to the populace, rather than being the sole beneficiaries and that some …foods (e.g., deer) were furnished or prescribed by the chiefly class".

L. Kelly (2000) and Pauketat et al. (2002) argue that ritual feasting mobilized food provisioning into Cahokia and provided the mechanisms for tribute and social integration. However, ritual feasts are not the only mechanism involved in food tribute and the functions go beyond food mobilization and can include the mobilization of labor for monumental construction and provide the basis for formalized social rank (L. Kelly 2000:258, 266, 267; see also Pauketat et al. (2002). In summary, the provisioning evidence supports both models.

## Conclusions

Two contrasting models have been described and examined against the archaeological data for a small, but long-lived village in the southern American Bottom.

While the two models share many elements, there are important differences in how they view and apply these elements and in the inferences drawn about the nature of the Cahokia polity. In defining the Cahokia polity much is characterized by whether or not the elements are top down or bottom up. Borrowing a cue from Cobb (2003:71-72), control may have been achieved by *domination* or *dominance*. Domination implies an institutionalized form of control (i.e., a central authority) whereas dominance is a weaker form of control reliant more on manipulation than coercion. It is probable that some form of both domination and dominance were active in the Cahokia polity. At times Cahokia could even use coercion to control, but in most cases it had to rely upon manipulation; commoners still had agency, commonly conveyed through rituals (Pauketat 2000, 2001, 2007). The new ideology was expressed by reconfiguring some existing expressions (e.g., quadripartite layouts) and adding new expressions such as platform mounds, wall trench structures, shell tempered ceramics, new mortuary practices, and non-local items.

The Divers site participated in inter-regional and local exchange networks during all of its occupations and had nodal expressions during the Lohmann and Stirling phases. The site assemblage reflects some of the technological changes that occurred during the rise and climax of Mississippian Cahokia, but it also retained elements of its Terminal Late Woodland past. As a third-order site, it would have had some social-political relations with the Lunsford-Pulcher town, local isolated farmsteads, and ultimately the Cahokia site, but such contacts, at least towards the "top", were probably mediated through the Lunsford-Pulcher site.

I used supporting research on segmented societies, the importance of rituals as a basis for social control, and population and labor studies to augment the Divers site data

and draw attention to additional views by which to examine the interpretations of the two models under discussion. Segmentary societies can construct monumental architecture without large populations, hegemony can be achieved without coercive force, and social control can be maintained without centralized political control. The importance of rituals is a key element in both models but who controls the rituals and how the rituals are used are debated. Rituals are viewed as overt acts to reinforce belief systems, rank, power, and other societal activities and functions.

While rituals provided one important mechanism for social control and other functions in American Bottom Mississippian societies, the evidence is insufficient to demonstrate that these rituals were dominated or entirely controlled by Cahokia elite. Cahokia may have had the largest ritual feasts, the largest mounds, and the largest chunkey yards but, having said that, it does not necessarily follow that control was extended to rural villages. I suggest that collective action or the interaction of commoners and rulers created a ritually based segmentary society. As discussed at length in earlier sections, some commoner rituals, including chunkey, Green Corn, and other ceremonies, had a history before and after Cahokia and such rituals never left ultimate control by commoners.

Taken together, the main results of this study show that, when examined against the Divers site materials, there is an equivocal fit of the two chiefdom models, but one that leans towards intra- and inter-village relationships like that of a Segmented Chiefdom. Were the Ascendant Chiefdom model a better fit to the archaeological patterning found at Divers, one would expect to find multiple lines of archaeological evidence that support the interpretation of a rapid attempt to project a Cahokia identity,

its sense of community building, and greater central control on many aspects of life in this small rural village. There should also be evidence of a break from previous communal and political elements that supported village level authority and relative autonomy. Examples of such changes could include centralized orientations of domestic structures, centralized storage of food surpluses, significantly larger frequency of shell tempered vessels, Cahokia type chunkey stones or chunkey stones should be rare or absent, a greater frequency of Cahokia "ritual" wares, and a significant population decline or site abandonment, to mention only a few possible archaeological measures.

The key difference between the models that was emphasized in this study is the extent to which Cahokia exerted controlling influence over other American Bottom sites. Nevertheless, as demonstrated by the application of Fargher and Blanton's (2007) collective action theory to the interpretation of some aspects of the Divers evidence, neither model enables one to fully explain the rise of small communities like Divers without also factoring in the agency of commoners to exercise support for or resistance against attempts to rule from above. Ritual hegemony, it seems, is not necessarily political rule.

# Chapter 7 Tables

**Table 51. Divers Site Structures and Interior Pit Summary.**

| | | Structures | | | Ramada | | Pit Types | | |
|---|---|---|---|---|---|---|---|---|---|
| **Phase** | **Feature** | **Area ($m^2$)** | **W:L Ratio** | **Long Axis Orientation** | **Area ($m^2$)** | **Long Axis Orientation** | **2** | **3** | **4** |
| **Terminal Late Woodland** | 13 | | | NW/SE | | | | | |
| | 121 | 7.5 | 0.83 | NW/SE | | | | | |
| | 120 | 7.5 | 0.83 | NW/SE | | | | | |
| | 135 | | | | 8.0 | NE/SW | | | |
| **George Reeves** | 26 | 8.6 | 0.50 | NE/SW | | | | | |
| **Lindeman** | 36 | 7.2 | 0.56 | NE/SW | | | | 1 | |
| | 50 | 7.2 | 0.50 | NW/SE | | | | | |
| | 49 | | | | 8.8 | NE/SW | | 1 | |
| | 65 | 8.3 | 0.57 | NW/SE | | | | | |
| | 64 | | | | 5.7 | N/S | | | |
| | 117 | 7.5 | 0.83 | NNE/SSW | | | | | |
| | 125 | 8.0 | 0.50 | NE/SW | | | | | |
| | 125A | | | | | NNE/SSW | | 1 | |
| | | | **L:W Ratio** | | | | | | |
| **Lohmann** | 16 | 14.5 | 1.70 | NW/SE | | | | | |
| | 24 | 13.4 | 1.30 | NW/SE | | | | | |
| | 91 | 9.6 | 1.50 | NE/SW | | | | | |
| | 94 | 10.1 | 1.80 | NW/SE | | | | | |
| | 96 | 18.5 | 1.30 | NW/SE | | | | 1 | |
| | 105 | 10.4 | | | | | | 2 | |
| | 114 | – | – | NW/SE | | | | | |
| **Stirling** | 1 | 25.6 | 1.40 | NW/SE | | | | | 1 |
| | 15 | 11.7 | 1.80 | E-W | | | | | 1 |
| | 85 | 15.6 | 1.30 | NE/SW | | | | 1 | |
| | 129 | 12.0 | 1.90 | NE/SW | | | | | |
| | 126 | 7.2 | – | NE/SW | | | | | |

The Ramadas follow the structure they are associated with, Type 2 pits are multipurpose, Type 3 and 4 are storage pits

**Table 52. Divers Site Exterior Pit Summary.**

| | Pit Type by Percent | | | | | |
|---|---|---|---|---|---|---|
| **Phase** | **1** | **2** | **3** | **4** | **Limestone Floor** | **Earth Oven** |
| **Patrick** | 3 | | 1 | 7 | 3 | 5 |
| % of Total | 16 | | 5 | 42 | 16 | 21 |
| **Early Terminal Late Woodland** | 1 | | 4 | 8 | | 3 |
| % of Total | 6 | | 25 | 50 | | 18 |
| **Range** | | 5 | 3 | 6 | 1 | 2 |
| %of Total | | 28 | 17 | 34 | 5 | 11 |
| **George Reeves** | | | 4 | 1 | | |
| % of Total | | | 80 | 20 | | |
| **Lindeman** | | 1 | 6 | | | 1 |
| % of Total | | 12 | 75 | | | 12 |
| **Lohmann** | | | 5 | 3 | | |
| % of Total | | | 63 | 37 | | |
| **Stirling** | 1 | | | 1 | | |

**Table 53. Divers Site Body Sherd Temper and Surface Treatment Summary.**

| | Temper by Percent | | | | | | Surface Treatment by Percent | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phase** | **Grit** | **Grog** | **Limestone** | **Red Slipped Limestone** | **Shell** | **Slipped Shell** | **Plain** | **SCM** | **CM** | **Red Slipped** | **Incised** | **Engraved** |
| **Patrick** | 12 | 63 | 13 | | | | 6 | 54 | 40 | | | |
| **ETLW** | 5 | 30 | 64 | | | | 19 | 53 | 28 | | | |
| **Range** | 8 | 28 | 64 | | 1.4 | | 5 | 64 | 31 | | | |
| **George Reeves** | 3 | 10 | 86 | | 1 | | 12 | 71 | 16 | | | |
| **Lindemann** | 1 | 15 | 72 | 9 | 2 | 0.2 | 29 | 32 | 29 | 10 | | |
| **Lohmann** | 1 | 25 | 61 | 4 | 8 | 1 | 35 | 26 | 10 | 29 | | |
| **Stirling** | 0.4 | 15 | 65 | 10 | 6 | 4 | 26 | 12 | 8 | 48 | 3 | 2 |

ETLW = Early Terminal Late Woodland, SCM = Smoothed Cordmarked, CM = Cordmarked

**Table 54. Divers Site Vessel Forms Summary.**

**Vessel Forms by Percent**

| Phase | Jars | Bowls | MCS | Stumpware | Pinch Pots | Pans | Beakers | SNWB | Seed Jar |
|---|---|---|---|---|---|---|---|---|---|
| **Patrick** | 70 | 27 | | | 3 | | | | |
| **ETLW** | 68 | 24 | 4 | | 4 | | | | |
| **Range** | 62 | 33 | | 0.1 | 4 | | | | |
| **George Reeves** | 57 | 38 | | 1 | 4 | | | | |
| **Lindeman** | 59 | 33 | | 4 | 2 | | | 0.5 | 1 |
| **Lohmann** | 68 | 25 | | | 1 | | | | 6 |
| **Stirling** | 64 | 22 | | 4 | | 2 | 2 | 1 | 5 |

MCS = Madison County Shale, SNWB = Short Neck Water Bottle, ETLW = Early Terminal Late Woodland

**Table 55. Divers Site Jar, Beaker, Pan, and Short Neck Water Bottle Summary.**

**Type by Percent**

| | Non-everted Type | | | | | Everted | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phase** | **1** | **3** | **4** | **5** | **6** | **Flared** | **Pinched** | **Angular** | **Rolled** | **Seed Jar** | **Beakers** | **Pans** | **SNWB** | **Red Slipped** |
| **Patrick** | 15 | 46 | 38 | 2 | 2 | | | | | | | | | |
| **ETLW** | 15 | 45 | 39 | | 1 | | | | | | | | | |
| **Range** | 16 | 34 | 48 | 2 | 0.7 | | | | | | | | | |
| **George Reeves** | 10 | 48 | 35 | 5 | 2 | | | | | | | | | |
| **Lindeman** | 8 | 42 | 43 | 5 | 1 | | | | | 1 | | | 0.5 | 6 |
| | | Inslant | Vertical | | | | | | | | | | | |
| **Lohmann** | | 15 | 30 | | | 26 | 8 | 9 | 4 | 6 | | | 0.5 | 21 |
| **Stirling** | | 19 | 28 | | | 17 | 2 | 12 | 14 | 7 | 3 | 3 | 1 | 30 |

The jar types change for the Mississippian component. Type 3 is non-everted Inslant, Type 4 is Vertical, Type 5 is everted Flared, and Type 6 is everted Angular, ETLW = Early Terminal Late Woodland.

**Table 56. Divers Site Jar Temper Summary.**

| | Temper by Percent | | | | |
|---|---|---|---|---|---|
| **Phase** | **Grit** | **Grog** | **Limestone** | **Limestone/ Grog** | **Shell** |
| **Patrick** | | 76 | 19 | 5 | |
| **ETLW** | 4 | 18 | 74 | 3 | |
| **Range** | 2 | 21 | 72 | 5 | |
| **George Reeves** | | 12 | 78 | 8 | 2 |
| **Lindeman** | 0.4 | 11 | 80 | 3 | 6 |
| **Lohmann** | | 9 | 68 | | 23 |
| **Stirling** | | 8 | 69 | 3 | 18 |

ETLW = Early Terminal Late Woodland

**Table 57. Divers Site Bowl Types and Temper Summary.**

| | Types by Percent | | | | Temper by Percent | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Phase** | **1** | **2** | **3** | **Red Slipped** | **Grit** | **Grog** | **Limestone** | **Limestone\ Grog** | **Shell** |
| **Patrick** | | 62 | 38 | | | 81 | 19 | | |
| **ETLW** | 4 | 54 | 42 | | | 8 | 88 | 4 | |
| **Range** | 3 | 33 | 64 | | | 15 | 78 | 5 | |
| **George Reeves** | | 62 | 38 | | | 3 | 97 | | |
| **Lindeman** | 2 | 65 | 33 | 14 | 2 | 4 | 87 | 5 | 2 |
| **Lohmann** | 6 | 39 | 55 | 33 | | 22 | 61 | | 17 |
| **Stirling** | 3 | 47 | 50 | 68 | | 6 | 79 | | 15 |

**Table 58. Divers Site Non-local Artifact Summary.**

| Phase | Non-local Artifacts |
|---|---|
| **Early Terminal Late Woodland** | Madison County Shale Jars |
| **Lindeman** | Varney Red Filmed Jar |
| | Mill Creek Chert |
| | Short Neck Water Bottle |
| **Lohmann** | Beaker |
| | Mill Creek Chert |
| | Basaltic Celt |
| | Galena |
| | Hematite |
| **Stirling** | Ramey Incised |
| | Short Neck Water Bottle |
| | Beaker |
| | Holley Fine Engraved |
| | Powell Plain |
| | Basaltic Celts |
| | Mill Creek Chert |
| | Hixton Silicified Sediment |
| | Hematite |
| | Mesquite |

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