

Settlement Patterns in the Bluff Area
of the Lower Mississippi Valley

A Thesis presented

by

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Introduction

Along the eastern margin of the Lower Mississippi Valley are situated a chain of extremely steep rugged hills. These hills, consisting of wind - blown loess, were formed during the Pleistocene. Until the summer field seasons of 197¹/₂ and 197²/₃, by the Peabody Museum of Harvard University, little was known of the role these bluff hills played in the cultural history of man. Work during these two summers was limited to a general site survey, supplemented with small test excavations. The area of the bluffs surveyed, which shall hence be referred to as the Bluff Area, extended from Vicksburg to the southern Mississippi-Louisiana border at Hunters Creek (See Map 2, p.114).

The problem of reconstructing the cultural history of man in a certain area can be attacked in many ways. Like a typology, there is no single right way in which prehistory can be examined and explained. In this thesis an intense investigation of the settlement patterns of the various eras, periods, and phases of the Bluff Area has been made, and cultural interpretations are based almost entirely upon the results of this research. The sites and assemblages upon which the analysis was based are discussed in Appendix II, and the conclusions derived are dealt with in Chapter 4. The discussion of the various ceramics and their pertinent role as the foundation of the settlement pattern study, is seen in

the section on methodology (Chapter 1). Two other chapters are included in this work to provide the reader with a better understanding of the cultural history of the Bluff Area. Chapter 2 is a brief prehistory of the Lower Mississippi Valley as presently conceived, and Chapter 3 is a report on the excavations of a particular site situated within the Bluff Area - the Sardine Site (26-K-70). The main reason for the inclusion of these two chapters is to provide a means of checking the validity of the cultural history determined by the settlement pattern study. As the Bluff Area is contained within the Lower Mississippi Valley, its history should correlate with the general patterns occurring in the valley, and similarly, as the Sardine Site is situated upon a particular ecological zone within the Bluff Area, the overall cultural trends of the Bluff Area should be reflected in the history of this site. Chapters 2, 3, and 4 deal with each of these areas separately, while the concluding chapter (Chapter 6) brings the different studies together to determine the degree of correlation.

In order to aid the reader in understanding the prehistory of the Bluff Area, the chronology of the Neo - Indian Era, as determined by the settlement pattern study, is presented here in figure 1. The reader will find it useful to refer back to this chart in the following sections. Essentially, the cultural history of man in the bluffs and in the Tensas Basin to the west, were the same. Some differences are apparent in the transition from the Meso - Indian Era to the Neo - Indian and in Period II of the latter, but on an overall temporal basis, the cultural histories of the two areas were very closely related.

Period	Time	Culture or Cultural Tradition	Tensas Basin	Bluff Area
	1320			
V		Plaquemine	Taensa	Natchez
			Fitzhugh	Emerald
			Transylvania	
			Routh	Anna
IV	1200	Coles Creek	Balmoral	Gordon
	800			Balmoral
			Ballina	Ballina
			Sundown	Sundown
III	300	Troyville	Marsden	Hamilton Ridge
			Indian Bayou	
II	AD	Marksville Tchefuncte	Issaquena	Issaquena
			Point Lake	Panther Lake
			Panther Lake	
	500	Poverty Point	Poverty Point	
	2000			

Meso - Indian

figure 1

Neo - Indian Chronology of the Bluff Area and the Tensas Basin

Chapter 1

Methodology

This short section is designed to offer the reader a summary of the various ceramic types and varieties to be dealt with in the subsequent sections. In terms of the Neo - Indian Era, ceramics are the basis of Southeastern archaeology, as they are almost all over the world for recent prehistory. The use of these artifacts in establishing the chronological foundations of the prehistory of the Lower Mississippi Valley by such scholars as James A. Ford (1936; 1962) and Phillip Phillips (1970), has allowed present-day archaeologists in this area to delve into other problems of prehistory, such as settlement patterns.

I myself do not profess to be an expert on the ceramics from the valley or from the Bluff Area. The statistical and seriation methods the above archaeologists have employed for the past forty years in setting up the various period and phase chronologies would take years to check. Therefore, a word of caution should be mentioned before proceeding any farther. In the following sections many ceramic varietal names will be said to be typical of a certain phase. The validity of these statements are beyond my testing abilities. I base the classification and temporal positioning of these varieties upon the monumental ceramic analysis of Phillip's work in the Lower Yazoo Basin (1970:23,238), and upon the advice of Dr. Jeffrey P. Brain.

Actually, if one or two varieties, or even more, are inaccurately assigned to the wrong phase, the validity of this thesis will be effected very little. The purpose of

this work is to examine the change in settlement patterns through time in the Bluff Area. The time of course is measured in cultural phases within temporal periods, and the phases are set up by ceramic diagnostics. As each phase contains many varieties, the inaccuracy of one or two varieties hopefully should not effect the broad settlement changes being studied.

Table 1 is a summation of the various ceramics found in the Bluff Area which shall be dealt with in this report. Shown in the first column are the periods set up by Brain (1971) for the Neo -Indian Era¹. The second column consists of those ceramics which are diagnostic of the particular periods. Here I have listed only the three primary markers (Baytown Plain U, Valley Park, and Addis), but there are many unspecified types which will be thrown into this category. The third column consists of those phases included within the particular periods. The fourth column is composed of the varieties which are diagnostic of the various phases. Many of the varieties listed are not confined to one phase (such as Fatherland and Manchac, which are found during the Natchez phase as well as Emerald), but I have positioned them within the phase in which they appeared first. Most of the enumerated varieties are to be found in Phillips' 1970 work. The remaining few which are not, are either in Brair's 1968 thesis on the Winterville Site (Bethlehem and Greenville varieties) or are new varieties peculiar to the Bluff Area. Fitting into this latter group are Centers Creek which is a

1 Period IIA - Tchefuncte culture; Period IIB - Marksville culture

Table 1

Ceramic Types and Varieties Found in the Bluff Area

Period	Period Markers	Phase	Types and Varieties	Reference
IIA		Panther Lake	Alexander Inc.	Phillips 1970:37
			<u>Green Point</u>	
			<u>Tchefuncte Pl.</u>	Phillips 1970:163
			<u>Tchefuncte</u>	
			<u>Tchefuncte Red</u>	Phillips 1970:164
IIB - III	Baytown Pl. U.	Point Lake Issaquena	<u>Tchefuncte</u>	Phillips 1970:164,5
			<u>Tchefuncte St.</u>	Phillips 1970:112
			<u>Tchefuncte</u>	
			Marksville cross-hatched rim	
			Churupa Punct.	
			<u>Churupa</u>	Phillips 1970:67
			Marksville Inc.	
			<u>Yokena</u>	Phillips 1970:117
			Marksville St.	
			<u>Manny</u>	Phillips 1970:123
	Hamilton Ridge		<u>Troyville</u>	Phillips 1970:125
			Larto Red	
			<u>Larto</u>	Phillips 1970:99
			Mulberry Creek C.M.	
			<u>Centers Creek</u>	Bluff Area
			<u>Porter Bayou</u>	Phillips 1970:137
			<u>Yates Net Imp.</u>	
			<u>Yates</u>	Phillips 1970:176

Table 1 (cont.)

Period	Period Markers	Phase	Types and Varieties	Reference
IV	Baytown Pl. <u>Valley Park</u>	Sundown	Baytown Plain	Phillips 1970:49
			<u>Fittler</u>	
			Coles Creek Inc.	Phillips 1970:71
			<u>Chase</u>	Phillips 1970:76
			<u>Stoner</u>	Williams et al 1966
		Ballina	<u>Sundown</u>	Phillips 1970:76
			<u>Wade</u>	
			Mulberry Creek C.M.	
			<u>Smith Creek</u>	Phillips 1970:138
			Coles Creek Inc.	
			<u>Campbellsville</u>	Phillips 1970:71
			<u>Coles Creek</u>	Phillips 1970:70
			<u>Chevalier St.</u>	
			<u>Chevalier</u>	Phillips 1970:65
			Evansville Punct.	
			<u>Rhinehart</u>	Phillips 1970:80
			French Fork Inc.	
			<u>French Fork</u>	Phillips 1970:84
		Balmoral	<u>Larkin</u>	Phillips 1970:85
			Mazique Inc.	
			<u>Mazique</u>	Phillips 1970:129
			Avoyelles Punct.	
			<u>Avoyelles</u>	Phillips 1970:42

Table 1 (cont.)

Period	Period Markers	Phase	Types and Varieties	Reference
V		Gordon	Beldeau Inc.	Phillips 1970:58
			<u>Beldeau</u>	
			Coles Creek Inc.	Phillips 1970:70
			<u>Blakely</u>	Phillips 1970:72
			<u>Greenhouse</u>	Phillips 1970:75
			<u>Mott</u>	
			French Fork Inc.	Phillips 1970:86
			<u>McNutt</u>	
			Mazique Inc.	Phillips 1970:129
			<u>King's Point</u>	
			Ponchartrain Check St.	Phillips 1970:154
			<u>Ponchartrain</u>	
			Avoyelles Punct.	Phillips 1970:42
			<u>Dupree</u>	
	Baytown Pl. <u>Addis</u>	Anna	Coles Creek Inc.	Phillips 1970:73
			<u>Hardy</u>	
			Evansville Punct.	Phillips 1970:81
			<u>Wilkinson</u>	
			Harrison Bayou Inc.	Phillips 1970:87
			<u>Harrison Bayou</u>	
			Hollyknowe Ridge Pinched	Phillips 1970:90
			<u>Patmos</u>	
			L'Eau Noire Inc.	Phillips 1970:101
			<u>L'Eau Noire</u>	

Table 1 (cont.)

Period	Period Markers	Phase	Types and Varieties	Reference
			<u>Anna</u> <u>Carter</u> Leland Inc. <u>Bethlehem</u> Coleman Inc. <u>Coleman</u> Mississippi Pl. <u>Greenville</u> <u>Plaquemine Br.</u> <u>Grace</u> <u>Plaquemine</u> Sanson Inc. <u>Sanson</u> Barton Inc. <u>U.</u> Bell Pl. <u>U.</u> Leland Inc. <u>Bayou Goula</u> <u>Dabney</u> <u>Deep Bayou</u> <u>Fatherland</u> <u>Foster</u>	Phillips 1970:101 Phillips 1970:103 Brain 1969:164 Phillips 1970:69 Brain 1969:158 Phillips 1970:153 Phillips 1970:153 Phillips 1970:159 Phillips 1970:43 Phillips 1970:58 Phillips 1970:104 Phillips 1970:105 Phillips 1970:106 Phillips 1970:106 Bluff Area
		Emerald		

Table 1 (cont.)

Period	Period Markers	Phase	Types and Varieties	Reference
			Maddox Engraved	Phillips 1970:108
			<u>Emerald</u>	
			Mazique Inc.	Phillips 1970:129
			<u>Manchac</u>	
			Mississippi Pl.	Phillips 1970:130
			<u>U.</u>	
			Parkin Punct.	Phillips 1970:150
			<u>U.</u>	
			Winterville Inc.	Phillips 1970:172
			<u>U.</u>	
			Chickachae Br.	Phillips 1970:66
			<u>Chickachae</u>	
			Leland Inc.	
			<u>Fatherland (red mode)</u>	Bluff Area
			<u>Natchez</u>	Phillips 1970:106
			Nodena Red & White	
			<u>U.</u>	Phillips 1970:141
			Old Town Red	
			<u>Grand Village</u>	Phillips 1970:146
			Owens Punct.	
			<u>U.</u>	Phillips 1970:149

variety of Mulberry Creek Cord Marked, and Foster and Fatherland (red mode) which are varieties of Leland Incised. This is not to say that there were only three new varieties which appeared in the Bluff Area during the 1971 - 1972 survey seasons. These were only the most obvious variances which immediately came to light in the preliminary classification of the material. Undoubtedly, when the final classification is worked up, many more distinctions will appear. One will notice, especially in the later phases, type names followed by U. (ie unspecified) sometimes occur along with the varieties. These are included only when the type can definitely be placed within a phase. There are some types, such as Marksville Stamped, which are found in more than one phase of the same period. In this case, Point Lake and Issaquena. There are also types, such as Mazique Incised, which are found in more than one period (Period IV - Mazique; Period V - Manchac). Therefore, types which are not specified as to varieties, and which are not common to a single phase, are not dealt with in Table 1, but will be dealt with when discussing the collection of a specific site. If an unspecified sherd of Mazique Incised had a Valley Park - like paste (ie hard gray paste with chunky texture), it was included as a marker of Period IV. If it had an Addis - like paste, (ie light to dark brown paste with homogenous texture and rich in organic matter), it was thrown into the Period V markers. The various modes (ie rim and decorative) were dealt with

in a similar manner.

A few words should also be mentioned as to how the ceramics from the numerous sites have been recorded in this work. Table 2a is an example of how the material was organized for the Sardine Site (26-K-70), which is to be discussed in Chapter 3. In this case, the first column is either the number of the pit or trench that was excavated. The second column is the level, either arbitrary or natural as designated in the report, of the excavation. The third column contains the periods while the fourth consists of the various period markers. Contained in parentheses after the markers are the number of sherds which fit under the specific type or variety. The next column gives the percentage of the period markers in that particular pit or trench. The sixth column includes the phases, followed in the seventh by the phase diagnostics. The percentages are calculated in the same manner for each phase marker as they were for the period markers, and are listed in the eighth column. The addition of the phase marker percentages in attaining an overall phase percentage for the various levels comprises the ninth column. Finally, the tenth column is formed by the combination of phase and period marker percentages in obtaining the overall period percentage for each level.

In the Settlement Pattern section (Chapter 4), most of the collections were surface finds, and the method of recording the assemblages had to be altered somewhat. Table 2b

Table 2

Samples of the Recorded Assemblages

1a

PIT/TRENCH	LEVEL	PERIOD	PERIOD MARKERS	%	PHASE	PHASE MARKERS	%	PHASE %	PERIOD AND PHASE %
V564	A	IIA			PANTHER LAKE				
		IIA-III	UNCLASSIFIED ROCK (1)	3.2		TEHEFANCIE (2)	6.5	6.5	6.5
			BAYTOWN PLY (2)	6.5					9.7
		IV	UNCLASSIFIED INC. (1)	3.2					9.7
		V	VALLEY PARK (2)	6.5					
			PROTO HAYNES BLUFF (1)	3.2	EMERALD	ST CATHERINE (3)	9.7	9.7	74.2
			ADDIS (19)	61.2					
			26	83.9		5	16.2	16.2	31 100.1
TOTAL			26	83.9		5	16.2		31 100.1

1b

SITE	COLLECTION	BAYTOWN PLY ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
AT LAST (28-T-12)	SURFACE				BALLINA	CHEVALIER (6)	31.6	31.6	
						MOTT (1)	5.3		
					BALMORAL	AVOUELLES (1)	5.3	42.2	
		BAY. PLY (303)	IV	EVANSVILLE 4 (1)		MONCHARTRAIN (1)	5.3		
				MAZIQUE 4 (2)		KING'S POINT (5)	26.3		
						LULU LINEAR P (1)	5.3		
					GORDON	HARRISON PARK (1)	5.3	15.9	
						HARDY (1)	5.3		
		ADDIS (32)	V		ANNA	CARTER (2)	10.5	10.5	
TOTAL		325		3		19	100.2	100.2	357

is a sample of how the assemblages were recorded. The first column is the site name and number, followed in the second column by the nature of the assemblage (ie excavation, surface, or private collection). The third column demonstrates the relationship between Period V and the earlier periods by recording the number of Addis and Baytown Plain U. sherds.² The fourth and fifth columns are the periods and the period markers respectively, followed by the particular phases in the sixth column. The history of each site in the survey area is determined in this thesis on the basis of the phase markers and their percentages, which appear in the seventh and eighth columns. The ninth column demonstrates the total phase percentage at each site, and from this information a frequency polygon for each site was drawn up³ (See Appendix II). The tenth column depicts the total number of sherds from the particular site.

The manner of recording utilized in this report has much more analytical potential than many methods I have come across in my research. First of all, it is a compact

- 2 Normally Addis and Baytown Plain U. would have been placed under the Period Markers as in Table 2a above, but because the variety Valley Park was not separated from Baytown Plain U. in the original classification of this material, the plain sherds could only be separated according to Period V (Addis) and earlier (Baytown Plain U.)
- 3 Providing of course that the collection from each site was adequate (usually over 100 sherds, including a significant decorated sample).

systematic chronological ordering of the varieties according to phases and related to periods. Secondly, analysis can be done in terms of phases or in terms of periods, or both. Some archaeologists have a tendency to push the undecorated sherds to the side, and interpret site history through the study of the decorated sample alone. These scholars would therefore be dealing solely with the phases. Unfortunately, a phase or period which possessed a great abundance of plain pots would be vastly underrepresented in this form of analysis. The tenth column of Table 2a rectifies this problem. The combination of the period and phase marker percentages tells the archaeologist what was occurring in the overall period. It is also a valuable check as to how valid the phase sample is. A frequency polygon of the period and phase markers combined, should conform closely with a frequency polygon of the phase markers alone. If not, the phase diagnostics (ie the decorated sherds) are probably not statistically valid.

With the above preparation we are now ready to delve into the main body of the thesis. The following chapter (Chapter 2) is a fairly straightforward account of the prehistory of the Lower Mississippi Valley as presently conceived. I have little to add to this overall reconstruction, but the following chapters (Chapters 3 and 4), concerning the Sardine Site and the settlement patterns of the Bluff Area, are based upon recent research and are a bit more complex. The reader might find it advantageous to skim the above section on methodology again before reading these two chapters.

Chapter 2

Prehistory of the Lower Mississippi Valley

This section is designed to present to the reader a general introduction to the prehistory of the Lower Mississippi Valley. Although an attempt is made to present current impressions and controversies, this chapter is certainly not an exhaustive review of all the work which has occurred and is now occurring in the valley. Essentially, particular economic and cultural trends through time will be examined. With this background, it will then be possible to examine the prehistory of the Bluff Area in relation to the contemporary events occurring in the valley.

Using the format presented by Williams (1963, 1965), and Brain (1971), the prehistory of the Lower Mississippi Valley can be divided into three eras: Paleo - Indian, Meso - Indian, and Neo - Indian. Eras are somewhat similar to stages, but differ in that temporal dimensions are involved in the former. Brain (1971) subdivides the various eras into periods. To keep this section as simple as possible, I have decided to dispense with the discussion of periods in the Paleo and Meso - Indian Eras. These two eras were so sparsely represented in the Bluff Area, that it is not worthwhile to dwell upon them to any great degree in this chapter. The Neo - Indian Era however, is obviously of great importance to my study, and so the periods of this era are dealt with more intensively.

Five periods have been set up for the Neo - Indian Era, all of which depict economic and/or cultural changes. Period 1, characterized by the Poverty Point culture, was a direct

outgrowth of the Meso - Indian Era. The construction of large earthworks and the establishment of a very extensive trade network indicate the socio - political complexity of this culture. Period II was characterized by the collapse of the Poverty Point culture and the introduction of peoples of the Tchefuncte - Lake Cormorant cultures from the east. Shortly thereafter, groups belonging to the Illinois Hopewell sphere moved into the southern portion of the valley resulting in the Marksville culture. Eventually the intrusive cultures blended into a hybrid culture. Period III was essentially an interval of cultural regression, but it was also a period of economic development, for it is believed (Brain 1971) that agriculture developed at this time. The events of Period III established the economic foundation upon which the Coles Creek, Mississippian, and Plaquemine cultures of Period IV and V were to develop. Each era and period shall now be dealt with in more detail.

Paleo - Indian Era

The Paleo - Indian Era was characterized by an extreme amount of aboriginal mobility. At this time more than ever, man was controlled by his environment. The now extinct Pleistocene fauna were constantly moving in search of food, and Paleo - man followed close behind. It is believed that this era was characterized by a certain kind of lifestyle, but it certainly was not constant for a period of over 8,000 years, nor can it be inferred that the people were of the same culture throughout, or at any instant of, this time. A division of this era was set up with Llano representing the period of Clovis point dispersal throughout North America, and Plano representing the subsequent period of regionalization and diversification. The Lower Mississippi Valley, although severely lacking the earlier Llano sites, has a high representation of the later Plano remains. Because of its intermediate location between East and West, the late Paleo - Indian Era in the valley was characterized by a mixture of different tool traditions. Whether the variance in technology was the result of different cultures in the area, trade contacts, or chronological distinctions, is a moot point. No definite statements can yet be made on the information now on hand, but some plausible theories have been postulated. These shall be dealt with in greater detail in the following paragraphs.

The study of the Paleo - Indian Era in the Lower Mississippi Valley is an extremely recent discipline. Less

than twenty years ago, scholars were claiming that no surface within the alluvial valley could be older than 3,000 B.C. (Fisk et al 1955:280), which would exclude most of the Meso - Indian and all of the Paleo - Indian Eras. When one considers the fact that 12,000 years ago the floodplain south of Baton Rouge was seventy-five to eighty feet lower than it is today (Saucier 1971:54), it is understandable how these theories were conceived and accepted. However, it is now known that there are many surfaces within the valley which have never been subjected to inundation, and which extend back in time over 10,000 years. It is upon these surfaces that Paleo - Indian remains are being discovered (Brain 1970). The scarcity of Llano sites in the area probably reflects the lifestyle of these early hunters, rather than the inability of the archaeologist to trace their existence though. The environment at this time (ie prior to 9,000 B.C. - Brain 1971:fig.3) was probably much like the Great Plains are today. Fauna such as horse, ground sloth, mammoth, mastodon, and extinct forms of bison, roamed the vast treeless prairies and were continually pursued by small bands of mobile hunters. The lack of sites and stratigraphy in local areas, combined with the wide dispersal of Clovis points on a regional basis, support this theory (Brain 1971:20). The typical Clovis form strangely enough was not common to the valley¹, but smaller versions

1 The Helm Site in the Yazoo Basin (Brain 1970) was one of the few sites which possessed Clovis points.

of this point were found along the eastern bluffs as far south as Vicksburg (Williams 1965:9,10). One must be very careful about implying cultural variations from size differences in projectile points though, as illustrated by the Naco Site where Haury discovered two Clovis points - one large and one small - within the skeleton of the same animal (Miller 1965:16,8). But, as Williams indicates, in some areas a considerable variance in size will occur, yet in others (perhaps the Lower Mississippi Valley), size differences may be important criteria for establishing varieties (Miller 1965:16,8).

After 9,000 B.C., the tool assemblage increased remarkably, yet also became more diverse. The first trend was undoubtedly the result of a population 'boom' after the initial Clovis dispersal (Brain 1971:14). The discovery of sixty Dalton sites in the Western Lowlands (Perino 1965:19), and the fact that some Plano sites have yielded over 200 Dalton points (Williams 1965:9,10) attests to this theory. The second trend of tool diversification is attributed to regional variation (Brain 1971:14). The Paleo - Indian finds in Louisiana are a good case to consider². Clovis points were found throughout

2 I have since been told (Brain - personal communication) that the Louisiana case is somewhat out of date now, but as no published material has appeared contrary to the hypothesis offered by Gagliano and Gregory 1965, I believe it is still worthwhile to present the case.

the state, but the later Scottsbluff and Eden types were confined to northwestern Louisiana, while the Quad types were found more towards the east. The classic forms of all these types were composed of grayish-brown chert which originated in Texas and, although Clovis points were evenly distributed, there was only one exotic form found in the southeastern region of the state. The same distribution continued with the later types, which were designed out of native chert. The Coldwater and Plainview types followed the same pattern as Scottsbluff - Eden, being found primarily in the northern and central regions, while Dalton points were evenly dispersed like the Clovis (Gagliano and Gregory 1965: 3,4).

This phenomenon can be explained in many ways. It is possible that the men who employed these implements lived at different times. We would then have a distribution of these people as represented by certain sections of the state (Gagliano and Gregory 1965:3,4). Had they been living at the same time, then the evidence demonstrates the beginnings of cultural differentiation within the same general cultural tradition (Brain 1971:15). The above case is typical of the Mississippi Valley during Plano times. A mixture of elements from the west combined with elements from the east to produce a highly diversified and upgraded range of artifacts. Brain (1971:22) offers two theories as to how the actual convergence might have occurred: 1) Bartering between small groups of shifting populations eventually upgrading the tool assemblage, or 2) the movement of craftsmen from a central point of origin

who carried with them the new technology. The first hypothesis seems to be the more plausible.

Towards the end of the Paleo - Indian Era, the climate was beginning to change and much of the mega-fauna man had previously hunted, began to die out. A primary reliance on smaller game therefore became necessary (Brain 1971:23). The far ranging pursuits of the Pleistocene mammals gave way to regional seasonal transhumance. So, although man was still not yet a permanent inhabitant of the valley, he was using it more and more often.

The hypothesized relationship between Paleo -man and the Lower Mississippi Valley can thus be described as follows: Between 15,000 BC and 9,000 BC, small groups of hunters carrying Clovis points rapidly passed through the valley following the large mammalian herds. By 9,000 BC, a significant increase in population had occurred and the various groups began to use the valley more often. A certain amount of cultural differentiation occurred with bands from the east meeting groups from the west. Tools were possibly bartered, thus upgrading the various assemblages. As the environment played such an important role in the existence of these people, any change in its constitution would undoubtedly have effected their lifestyle. The extinction of the mega-fauna and the necessary reliance upon smaller game, towards the end of the Paleo - Indian Era , set the stage for the following Meso - Indian Era.

Meso - Indian Era

Like the Paleo - Indian Era, not until fairly recently was it thought possible that Archaic remains could be found in the Lower Mississippi Valley (Haag 1961:317,23). Phillips, Ford, and Griffin offered an excellent amalgamation of Archaic traits which occurred throughout the east, but were not found in the valley proper. Such remains were expected to exist, but undoubtedly were covered by tens of feet of sediments (1951:429). Since this time, many Meso - Indian sites have been discovered throughout the valley, but unfortunately have not been studied to as great a degree as the earlier Paleo remains. The Meso - Indian Era was essentially characterized by a continuation from the Paleo - Indian traditions. It was an outgrowth of the earlier hunting - gathering of the Paleo - Indian Era, with a shift in emphasis to gathering (Willey and Phillips 1958:107). The continuation between the two eras was demonstrated in Period I (6,000BC - 5,000BC) of the Meso - Indian Era as described by Brain. The main distinction between the two eras was typological. As in the later periods of the Paleo - Indian Era, the quantity of artifacts continued to increase, but the quality of the specific implements decreased markedly (Brain 1971:25,9).

The change in the particular artifacts came about slowly, as did the quality of exploitation of the environment. This process had started in the Paleo - Indian Era due to the extinction of the Pleistocene mega-fauna, and continued with

greater rapidity in the Meso - Indian Era. Man gradually became more adapted to local environments, as the movement of the smaller game was much more limited than the mega-fauna. By around 5,000BC, the Mississippi - Ohio river system had changed from a braided stream to a meandering pattern as a result of the warmer dryer climate of the Altithermal (Brain 1971:29)³. Coincidentally, a major technological event in the history of the American Indian also occurred at this time - the invention of the atlatl. The innovation of this weapon, as well as the introduction of broadly barbed points, undoubtedly provided better hunting methods compared to the less efficient thrusting spears of the Paleo - Indian Era (Caldwell 1965:67).

Man had probably always been a gatherer as well as a hunter, but it is questionable whether he always utilized his environment to its greatest potential. Early Meso - Indian man certainly did not, for it was only about 5,000 years ago that the typical Archaic shell mounds began to appear. A new resource, hitherto untapped by man, was discovered - the riverine environment. This is not to say that man prior to this time lived away from the rivers. The opposite was the

3 The Mississippi - Ohio river system had changed to a meandering regimen south of Baton Rouge by 10,000 BC, but the oldest discernible meander belt in the Yazoo Basin dates between 7,500 and 9,000 years ago (Saucier 1971:54,5).

case , for Paleo - Indian remains were concentrated along the various rivers throughout the Southeast (Williams and Stoltman 1965:676,7). The difference, of course, was that Paleo - man hunted the mammals which followed the rivers, while late Meso - Indians settled down along their banks. Mussels, oysters, fish, reptiles, and amphibians, were some of the foods found to be quite suitable for sustaining fairly large groups (Brain 1971:35). The utilization of the rivers' resources had a greater significance than diet in the cultural history of the Indian though. The animals, whether large or small, which had previously been hunted, migrated to different regions in accordance with the changing seasons. Marine-life, however, was not influenced by the seasons. The resources remained in one place, thus allowing man to do so also. This is not to say that terrestrial life was subsequently avoided. The two resources together must have provided a very nourishing diet for the late Meso - Indian (Brain 1971:36). A more sedentary life must also have allowed man more time for cultural expression. The appearance of polished ground stone objects, drilled stone, beads, plummets, and gorgets at this time (Brain 1971:38), confirms this hypothesis.

In general terms, the following events occurred in the Meso - Indian Era. The hunting of smaller game, which had begun to increase in importance at the end of the Paleo - Indian Era, continued and became more dominant during Meso - Indian times. Population and tool assemblages increased, while

the latter also became poorer in quality. By 5,000 BC, the atlatl was introduced, which subsequently revolutionized the methods of hunting, and undoubtedly cut down on much of the labor required in obtaining food. Utilization of riverine resources by 3,000 BC, provided new food, as well as allowing man to become more sedentary. The additional free time gained by these events was evinced culturally in the great quantity of polished stone implements which appeared at the end of this era.

Neo - Indian Era

Of the three eras represented in the Lower Mississippi Valley, the Neo - Indian Era is understood the most. This undoubtedly is due to the time factor, but also because man began to leave more durable evidence of his existence. Study of the Paleo and Meso - Indian Eras is limited essentially to lithic analysis, but architectural structures and pottery are additional preserved characteristic features of the Neo - Indian Era.

The Neo - Indian Era began around 2,000 BC with the appearance of the Poverty Point culture (Brain 1971:fig.3). This culture, characteristic of Period 1, was a direct continuation from the previous Meso - Indian Era. Four additional periods comprised the Neo - Indian Era, each of

which differed from the previous period by a major economic or cultural change. Period II marked the decline of the Poverty Point culture and the introduction of new peoples. The cultural florescence at the end of Period II was due to Hopewellian influences from the north. Period III was seemingly another degeneration, yet the economic foundation for the subsequent period was probably established during Period III. Period IV marked the florescence of the Coles Creek culture and the development of the Mississippian culture, while Period V was characterized by the florescence of the latter and the acculturation of the former.

Period 1 - Poverty Point Culture (2000 BC - 500 BC)

The Poverty Point culture, although possibly having had some Mesoamerican inspiration, was basically a continuation of the earlier Meso - Indian traditions. It is believed that subsistence patterns remained the same, and the riverine systems continued to be utilized. Undoubtedly to an even greater extent than previously, as evidenced by the importation of exotic materials from distant sources. The Poverty Point Site, as a result of its intermediate location to the major waterways, received the most contact and thus demonstrated the greatest cultural florescence.

The Poverty Point culture was initially named after the site by this name. It was an extensive mound complex situated

on the eastern edge of Macon Ridge, Louisiana, consisting of two large mounds with six octagonal ridges located in front of the largest mound (Ford and Webb:14,9). The culture has long since been considered an anomaly as very few remains, with the exception of the Jaketown Site in the Yazoo Basin (Ford, Phillips, and Haag 1955), had been found both within and outside of the valley. The reason why Poverty Point culture is not found to any great extent outside the valley, is because the culture was essentially a bottomlands phenomenon (Brain 1971:50). The lack of sites in the valley itself was in part the result of recent alluviation. As evidence of this, the tremendous amount of earth-moving activity for agricultural and constructional purposes which is now occurring in the valley, is also bringing to light numerous Poverty Point sites. Even as late as 1958, the Poverty Point culture was not represented at all in the Delta (McIntire 1958). The first sites of this culture, which appeared in this region as the result of canal excavation, were Bayou Jasmine and Linsley, both of which were discovered beneath six to eight feet of sediment (Gagliano and Saucier 1963:321).

The dispute raged for many years as to whether Poverty Point culture was of an Archaic stage of development, or belonged to the Formative stage. The Archaic theory persisted until about 1955 (Phillips, Ford, and Griffin 1951; Griffin 1952:228; Jennings 1952:259; and Ford, Phillips, and Haag 1955:152), but, starting about 1953 (Phillips 1953:183),

most scholars have leaned towards a more advanced stage of development in describing Poverty Point culture (Haag 1955: 87; Willey and Phillips 1958:156).

The stone technology, combined with the absence of ceramics and agriculture, certainly suggests a late Archaic positioning, but the enormous mounds and earthworks at the Poverty Point Site itself indicate a highly advanced socio-political culture (Willey and Phillips 1958:156). Some of the artifacts common to this culture were: fine nonutilitarian ornaments such as beads, plummets, and gorgets; exotic material such as quartz crystals, hematite, magnetite, and steatite; a microlith industry; certain projectile points (Motley); and balls of baked clay called "Poverty Point objects" (Brain 1971:47).

The sudden appearance of Poverty Point culture in the valley, is another problem which is still paramount in the literature. The large complex of the Poverty Point Site, with its massive mounds and earthworks, have occasioned some authors to suggest Mesoamerican ties with the area (Ford 1966, 1969; Webb 1968). These same scholars have also pushed for the Mesoamerican inspired presence of pottery and agriculture in the Poverty Point period. Although pottery does appear on several sites of this period, as shown by the fiber - tempered pottery from the Poverty Point Site (Williams 1963:279), there were usually Tchefuncte components in representation also. Therefore, it is questionable whether the pottery was actually used by the Poverty Point people.

There is also no evidence that agriculture was in existence during the Poverty Point period. Nor was its presence necessary for the development of a sophisticated socio - political system (Brain 1971:45). In historic times, the Calusa Indians of southwest Florida had a very well - developed socio - political structure, and yet lacked an agricultural economy (Goggin and Sturtevant 1964). Horticulture may in fact have existed during the Poverty Point period, but it could not have been developed enough to alter the entire subsistence pattern at the termination of the Meso - Indian Era. Therefore, although it is possible that the Poverty Point culture resulted from Mesoamerican intervention, it seems more logical that this preliminary culture of the Neo - Indian Era derived from the already existing economic structure (Brain 1971:45).

The enormous florescence which occurred at the Poverty Point Site, compared to the other sites of the culture, appears at first to be rather strange, but the key to the puzzle exists in the exotic artifacts found on the site. Not only were these artifacts alien to the immediate region, but some of them came from as far away as the Rocky Mountains, the Great Lakes, and the Appalachian Mountains. The river systems of the Mississippi, Missouri, Ohio, Red, and Arkansas, were undoubtedly the medium by which these objects were transported (Brain 1971:50). This serves to explain the positioning of the Poverty Point Site, and the fact that the cultural florescence occurred there more than at any other area. Situated on high land with easy access to the major

rivers, the site would obviously have received the most contact⁴. Caldwell's hypothesis that societies lying towards the center of contact areas will change more rapidly than those on the fringes (Caldwell 1966:388), might possibly explain the flowering of the Poverty Point Site (Brain 1971:50). What actually occurred at this important site is still a great mystery. Although some tests have been made in the past (Ford and Webb 1956), large-scale excavations have never been attempted. It has been suggested though (Brain 1971:51), that the population at this site was rather small, consisting of resident artisans (as evinced by the lapidary work) and possibly religious personages who catered to the large transient populations. Hopefully, the validity of the above theories will be tested by the spade in the near future.

Evidence of the Poverty Point culture was discovered throughout the Lower Mississippi Valley, with the O'Bryan Ridge phase (Williams 1954, 1956; Griffin and Spaulding 1951; Phillips 1970) in the Northern subdivision, the Hugo phase (Phillips 1970) in the Central subdivision, the Jaketown (Ford, Phillips, and Haag 1955) and Poverty Point (Ford and

4 Saucier's recent work on the meander belts of the Mississippi River (1971) disputes the courses set up by Fisk (1944) and utilized by Brain (1971:fig.10) in describing the Poverty Point Period. By this time, the Mississippi-Ohio drainages were joined (Saucier 1971:60). This does not injure the theory of the centrality of the Poverty Point Site, but it does create some confusion as to the importance of the Jaketown Site.

Webb 1956; Phillips 1970) phases in the Southern subdivision, and the Bayou Jasmine and Garcia phases (Gagliano 1964, 1968; Gagliano and Saucier 1963; Phillips 1970) in the Delta. Two other phases, Catahoula and Rabbit Island (Phillips 1970), are very sparsely represented and are not well understood. O'Bryan Ridge is the most confusing phase because, although it was contemporaneous with the other Poverty Point phases, it is not definite whether it was of the same culture. With the exception of the "Poverty Point objects", this phase seems to have had more relationship with areas to the north and east than to the south (Phillips 1970:869,70). The Bayou Jasmine and Garcia phases also raise interesting points which deserve further investigation. The fact that Bayou Jasmine was somewhat older than Garcia, which in turn was contemporary with the Poverty Point phase to the north (Gagliano and Saucier 1963:325), not only raises the question of a Deltaic origin for Poverty Point culture (Phillips 1970:876), but also stresses the importance in looking for temporal as well as spatial divisions within subareas (eg Poverty Point - Jaketown).

The Poverty Point culture was characterized by a great deal of movement along the various rivers. Goods were carried back and forth over extensive regions, and the area which was crossed the most (Poverty Point Site specifically and the Lower Mississippi Valley generally), received the greatest stimulation and developed the most. Although Mesoamerican influence was possible, it was not necessary. The development

of the culture can be explained just as easily by indigenous factors. Long - range contact between groups did occur, but they were groups which had the same basic subsistence patterns as the late Meso - Indians. In the Meso - Indian Era, the riverine environment gradually became more and more important. The Poverty Point culture was based on these same rivers, and the extensive trade network which developed, readily demonstrates the role the waterways played during this period.

Period II (BC 500 - 300 AD)

Period II, as set up by Brain (1971:fig.3), combines Phillips' (1970) Tchula and Marksville periods into a single period. In terms of overall continuity of lifestyle, this appears to be the most appropriate classification, but in describing the period it is advantageous to speak in terms of early, middle, and late⁵. The Lake Cormorant culture in the Northern and Central subdivisions of the valley, and the Tchefuncte culture in the Southern and Delta subdivisions comprised early Period II, while the middle and late intervals

5 Early Period II shall be called Period IIA in subsequent sections, and middle and late together will be referred to as Period IIB.

were characterized by the Marksville culture.

At some time during the first millenium B.C., the Poverty Point culture began to degenerate. Phillips (1970:fig.2) placed this event around 300 BC for the valley as a whole, but this date has been pushed back somewhat farther in recent work (Brain 1971:51). The collapse of this culture was accompanied by the introduction of a new culture characterized by small conical burial mounds and pottery⁶. The appearance of these traits, which seem to have had no antecedents in the valley, suggests that the influx of new people brought about the dissipation of the Poverty Point culture. Strangely enough though, areas rich in Poverty Point sites, were similarly rich in Tchula sites (Phillips 1970:885), implying a certain amount of continuity. This last reasoning is not entirely true though. The scarcity of dry habitable land might account for the continued use of certain areas (Williams 1956:55). Also, had the intruders been at a similar stage of economic development, they would have had no problem in adapting to the riverine way of life in the valley (Brain 1971:52).

The southern region of the Gulf Coast seems to have been

6 Fiber - tempered pottery was evident in Poverty Point contexts, but steatite vessels were much more popular (Willey 1966:291). The early cultures of Period II utilized a superior sand-and-clay tempered pottery (Brain 1971:52).

the area from where the burial mounds were spreading (Phillips, Ford, and Griffin 1951:436), but the ceramics had very close ties with areas to the east (Phillips, Ford, and Griffin 1951:337). It is generally accepted now that the bearers of the Lake Cormorant - Tchefuncte cultures were coming from the uplands to the east (Brain 1971:52). Less is known of the Lake Cormorant culture to the north, due to the scarcity of the data, but it does appear to have differed significantly from the Southern and Delta subdivisions, in terms of ceramics (Phillips 1970:16). Three phases have been set up pertaining to the Lake Cormorant culture - the Burkett and Pascola phases of the Cairo Lowland and Little River Lowland respectively (Williams 1954; Phillips 1970:876,8), and the Turkey Ridge phase in the area of Memphis, Tennessee (Phillips 1970:878,9). The phases relating to the Tchefuncte culture were Norman, Tuscola, Panther Lake⁷, Russell Landing, Ponchartrain, Lafayette, and Grand Lake (Phillips 1970:879,86).

The Tchefuncte and Lake Cormorant cultures were prevalent throughout the valley until the end of the first millenium B.C. (Brain 1971:fig.3), at which time a new cultural element emerged. This new culture, known as the Marksville culture, characterized the middle subdivision of Period II. Marksville

7 The Panther Lake phase was set up for the Upper Tensas Basin (Williams et al 1966) and has also been applied to the Bluff Area (See p. 124).

developed to the greatest degree in the Southern subdivision of the valley, where it was most strongly represented at such sites as Crooks (Ford and Willey 1940) and the Marksville Site itself (Fowke 1927, 1928; and Vescelius 1957). The appearance of this culture in the valley seems to have been the result of small groups of people bearing the Illinois Hopewellian culture migrating south (Brain 1971:54; Phillips 1970:17; and Toth 1966).

The Marksville culture was very reminiscent of the earlier Poverty Point culture, and it has been suggested that the former might indirectly have developed from the latter, through the northern Hopewellian medium (Brain 1971: 53,4). The interaction sphere of the Hopewellian culture extended over diverse cultures (Caldwell 1966:339) as did the earlier Poverty Point culture. Another similarity between the two cultures was the great amount of earth-moving projects implying a highly developed socio - political structure strong enough to command the actions of large groups of people. The Hopewellian culture differed from Poverty Point in terms of distribution though. Whereas the latter culture was essentially confined to the Mississippi Valley in terms of actual settlement, the Hopewell culture was much more expansive and extended over many diverse environments. (Brain 1971:54).

Although similarities between Marksville and Poverty Point are very apparent, there was also a high degree of cultural continuity between the Tchefuncte and Marksville cultures. Small conical burial mounds were common to both, and

subsistence patterns were probably very similar. The economy of the Marksville culture was probably still based on hunting - gathering, differing from the earlier cultures in quantity (degree of organization), rather than quality (Brain 1971:58; Caldwell 1965:68,9). It is probable that some agriculture was occurring during Marksville, but the archaeology to date⁸ suggests that it played a minor role, and was not responsible for the developments of the Marksville culture.

The late subdivision of Period II was characterized by the discontinuation of northern contacts, which in turn resulted in regional variation. The Marksville culture began to expand out of the Southern and into the Central and Delta subdivisions at this time. The fringe areas of the initial Marksville culture remained essentially Tchefuncte and Lake Cormorant, and it was not until late Period II that they began to be significantly effected by the Marksville culture (Brain 1971:57). Population increased enormously, with a hybridized culture resulting from the merging of the various cultures. The climax of this new hybrid culture was seen in the Yazoo and Tensas Basins (as well as the Bluff Area)

8 Archaeology of Hopewell and Marksville sites has largely been restricted to burial mounds. Excavation of village sites has been minimal, and so conclusions concerning the role of agriculture have been based on the absence of evidence at areas where evidence would not be expected to be found anyway (Williams 1963:231,94).

as the Issaquena phase (Phillips 1970:893,4; and Williams et al 1966).

Period II can thus be described as a time when great movements into the valley were occurring. The collapse of the Poverty Point culture was probably brought about by the migration of new people of the Tchefuncte and Lake Cormorant cultures from the eastern uplands to the valley. Burial mounds and pottery were two major elements which these people carried with them. The Marksville culture, an extension of Illinois Hopewell, entered the valley about five hundred years after the initial Tchefuncte and Lake Cormorant dispersal. In economic, and possibly religious terms, the lifestyles of the indigenous and intruding cultures were very similar, with the Marksville culture essentially being an elaboration resulting from a high degree of organization. With the severing of northern contact, a new hybrid culture emerged in the valley, characterized by a combination of the various cultures present.

Period III (300 AD - 800 AD)

Of all the periods in the Neo - Indian Era, Period III has undoubtedly been neglected the most. Its seemingly recessive position between the Marksville and Coles Creek - Mississippian florescences, made this period unattractive to archaeologists. On the basis of ceramics, the cultures

of this period were unimpressive, but this does not mean that this was an interval of cultural stagnation throughout the valley. Apparently the opposite was the case. Brain suggests that Period III was of great importance as maize, and possibly squash, agriculture which was the economic base of the future developments in the valley, probably began to develop at this time (Brain 1971:59,60). Although little work has been done, there is considerable evidence to support Brain's hypothesis. On an artifactual basis, large vessels (suggesting use as grain containers), numerous flint chips (used for harvesting), and the increase in the variety of grinding stones, indicate the increasing importance of agriculture in this period (Brain 1971:61). The population increase, as seen by the vast number of sites discovered pertaining to this period, compared to Period II (Phillips 1970:figs. 444 and 445), also suggests the important role of agriculture at this time.

The question immediately arises that if there was such a marked increase in population, based on an economy which was essentially responsible for future developments, why did a cultural recession occur? The nature of the Hopewellian interaction sphere serves to explain this problem. This sphere was based on a great deal of mobility. Artifacts were rapidly transported great distances, undoubtedly due to the efforts of highly organized groups. Each individual probably had some kind of particular duty (food-gatherer, mound-builder, religious personage, etc.), and all depended upon the efforts

of others. With the introduction of agriculture, each individual could raise his own crops, thus providing subsistence for his own existence, and did not have to depend upon the labors of others. The interaction sphere, which arose on the basis of group dependence, hence disintegrated (Brain 1971:64).

The Baytown phase (Phillips 1970:903,4) in the Central subdivision, depicted the above transition best. The economic and cultural change was undoubtedly also occurring throughout the rest of the valley, but the transition is more difficult to discern because of the occurrence of other events. A great deal of cultural movement was occurring in the valley during Period III, especially in the northern, eastern, and southern regions. It was at this time that the Woodland ceramics began appearing in the Lower Mississippi Valley (Williams 1963:296,7). The most important ceramic distinction between the indigenous groups and the intruders was the popularity of Baytown Plain with the former, and Mulberry Creek Cord Marked with the latter⁹. Strongest evidence of this cultural movement is seen in the Hoecake and Dunklin phases of the northern subdivision (Williams 1954:32; Phillips 1970:

9. The bow and arrow also appeared with the intruders from the northeast. Being ultimately of Asiatic origin, the bow and arrow revolutionized hunting, as did the atlatl during the Meso - Indian Era. Man could now become even more independent as hunting no longer required group organization (Brain 1971:62).

902,3), and the Deasonville - Bayland phases of the Southern subdivision (Phillips 1970:907). The influence of these intruders decreased towards the south. Therefore, the Issaquena phase of Period II probably retained its structure for a longer time than the Period II phases to the north. However, the impact of the Woodland groups, combined with influences from the Santa Rosa - Weeden Island cultures along the Gulf Coast (Brain 1971:65), gradually altered the indigenous culture, resulting in what is known as the Troyville phase (Ford and Willey 1940; Phillips 1970:908,9). The Indian Bayou phase in the Tensas Basin (Williams et al 1966), as well as the Hamilton Ridge phase in the Bluff Area (See p.130), were both probably very closely related to the Troyville phase.

Essentially Period III was the transition between the Marksville and Coles Creek - Mississippian cultures. Innovations from Asiatic (bow and arrow) and Mesoamerican (maize) sources served to disintegrate the old existing order, resulting in regional variation (Williams 1963:Period III), and at the same time laid the foundation for the subsequent Coles Creek and Mississippian florescences.

Period IV (800 AD - 1200 AD)

The Lower Mississippi Valley was characterized by a general regeneration during Period IV, but as development differed in spatial, temporal, and cultural terms, it is perhaps wise to divide the area in our discussion. The Southern and Delta subdivisions were characterized by one particular development (Coles Creek culture), while the Northern and Central subdivisions progressed in a different manner (Mississippian culture).

The Tensas Basin seems to have been the area where the Coles Creek culture began to develop, as indicated by the Sundown phase¹⁰ (Williams et al 1966). Population continued to increase and ceramics began to have more elaborate decoration. Perhaps the most important innovation was the construction of a new type of mound. The actual construction of the mounds indicates the revival of a strong socio-political (and probably religious) organization capable of directing large groups of men (Phillips, Ford, and Griffin 1951:441). New functional roles are also suggested by the

10 Belmont believes that Sundown actually was situated at the end of Period III, rather than the beginning of Period IV (See Phillips 1970:918). I do not know the reasons for his contention, but in the Bluff Area there are very close parallels between Sundown and the earlier Hamilton Ridge phase of Period III, suggesting the transitional nature of the Sundown phase (See p.135).

design of the mounds. They were usually large pyramidal structures which had been flattened on top for the purpose of supporting structures rather than containing burials. As demonstrated at the Lake George Site (Williams and Brain: nd), burials which were situated in the mounds were essentially of an incidental nature, and appear to have just been thrown in during the mound construction (Brain 1971:68,9).

The Coles Creek mound complexes never attained the size of the later Mississippian sites. Their location in areas with surrounding villages, suggests that the complexes were ceremonial centers inhabited by small groups, which catered to large populations (Brain 1971:72). A religious role seems to have been the function of these centers, and as suggested by the lack of burials, the religion was probably life-oriented.

As mentioned above, the Coles Creek culture began in the Tensas Basin, but in a very short period of time, it had spread over much of the Southern subdivision and the Delta (Bayou Cutler phase). The lifestyle throughout the period was fairly homogenous, with the only real changes being of a ceramic nature. In the earlier phases (Sundown and Ballina in the Tensas Basin, and Aden in the Lower Yazoo Basin), the ceramic decorations were fairly crudely executed. The decorative styles remained the same in the subsequent phases (Balmoral and Kings Crossing in the Tensas and Yazoo Basins respectively), but were of a much finer execution. By the final phases of the Coles Creek period

(the first half of Gordon and Crippen Point), the ceramics had returned to a very crude level of decoration.

The Coles Creek culture eventually covered all of the Delta and most of the Southern subdivision, yet it was not found to any great extent north of the latitude of Greenwood, Mississippi¹¹. This northern limit appears to have been determined by the conflict of environment and the subsistence base of the Coles Creek culture. Tropical Flint, the maize variety used by the Coles Creek people, was essentially suited to the Gulf Coast environment, but was capable of growing in the Mississippi Valley up to about the middle of the Yazoo Basin. The coincidence of the northern limit of this crop being the same as the Coles Creek culture, suggests that the Coles Creek culture was locally adapted and probably had reached the highest peak (in spatial terms) it was capable of attaining (Brain 1971:69,70).

While this great revival was occurring in the south, the Baytown cultures of the Northern and Central subdivisions remained fairly constant. Mulberry Creek Cord Marked remained the most popular ceramic type, with the appearance of Wheeler Checked Stamped in the Beckwith (Williams 1954) and Black Bayou (Marshall 1965; Williams 1954) phases of the Northern

11 The Winterville Site (Brain 1969) possessed the northern-most Crippen Point component thus far recorded, but there is some evidence of earlier Coles Creek sites further north.

subdivision, which served as a diagnostic indicating contemporaneity with the Coles Creek culture to the south (Phillips 1970:912,4). Eventually these Baytown groups developed from their position as 'good gray cultures' (Williams 1963:296,7), but developed in a manner quite different from Coles Creek. The revival seems to have been the result of an improvement in the already existing agricultural system. It is believed (Brain 1971:70,1; Yarnell 1964:107,110) that Northern Flint, a new variety of maize which had developed to the east of the valley, was introduced during this period,¹² as well as the common bean (*phaseolus*), which arrived in the valley from Mesoamerica via the southwest. Northern Flint had a short growing season and thus was well adapted to northern regions. It was not, like the Tropical Flint, restricted to certain ecological zones. The common bean was not only complementary to the maize diet but, being a legume, also served to return the nitrogen, which had been exhausted by the maize agriculture, back to the soil. Sedentism had been securely achieved as the same land could now be used over and over. Surpluses gave rise to a great increase in

12 The variety of maize which was cultivated prior to the Northern Flint is a moot point. Tropical Flint might have extended this far north (Brain - personal communication) but, because it required a long growing season, it certainly would not have been as dependable a cultigen as it was to the south.

population and a highly sophisticated socio - religious organization, known as the Mississippian culture, began to appear (Brain 1971:71).

Like the Coles Creek culture, pyramidal mounds were an intricate part of Mississippian sites. Similarly, the mounds were arranged around open plazas, and they were built to support structures, but at this point the similarity stopped. Mississippian mounds were much larger than Coles Creek mounds and, on the average, many more of them were constructed on a single site. The functions of the mound complexes were also quite diverse. Whereas Coles Creek appears to have had mounds which served as ceremonial centers for surrounding villages, the Mississippian mound complexes were the actual village sites (Phillips, Ford, and Griffin 1951:343). As shown by the primary Mississippian site of Cahokia (Fowler 1969), located at the confluence of the ^{Missouri}~~Ohio~~ and the Mississippi Rivers, these sites were extremely large and supported, along with the hierarchy and their retainers, a large native population.

In sum, Period IV was characterized by a great deal of diverse cultural revival. While the northern areas remained stagnant, the Coles Creek culture developed in the southern regions. Subsequently, the introduction of Northern Flint and the common bean to the northern areas brought about a very different type of development, which in turn gave rise to the Mississippian culture. The main advantage of the Mississippians over the Coles Creek people was in their

subsistence base. The Northern Flint, being adaptable to any region, could allow the Mississippian culture to flow outside the confines of the Mississippi Valley, which was indeed what occurred during Period V.

Period V (1200 AD - 1820 AD)

Period V was essentially the continuation of a development which began in the Northern and Central subdivisions during Period IV. The Mississippian culture radiated from its point of origin around the Ohio - Mississippi confluence in all directions. Cultural movement in the valley was totally in a southward direction as the Mississippian culture gradually blended with the still viable¹³ Coles Creek culture, to produce the hybrid Plaquemine culture.

Contact between the two cultures seems to have been initially in the form of an actual movement of people. During the Crippen Point phase, small groups of people from Cahokia moved into the sites of Winterville (Brain 1969:307,10) and

13 Whether Coles Creek was still strong at the time of contact with the Mississippian culture is still a great problem. The transitional phases of Crippen Point in the Lower Yazoo Basin and Gordon in the Bluff Area (See p.146) suggest that depopulation and cultural declination was occurring. The problem will remain until more work is completed on these very important phases.

Lake George (Williams and Brain:nd). Although there is evidence elsewhere suggesting that Mississippian contact was not always peaceful in nature (Connaway and McGahey 1970:8; Price 1969:26), the movements into these two sites do not appear to have been accompanied by violence at all. The impression received is that these groups were invited into the area (Brain - personal communication). The fact that such great changes, in terms of architecture more so than ceramics (Belmont 1967:31,2), occurred throughout the Coles Creek area as a result of these small groups, implies that the Mississippians had something which the Coles Creek people wanted.

As stated, the initial merging of the two cultures resulted in the hybrid Plaquemine culture. Plaquemine remained essentially Coles Creek in terms of settlement patterns, with the ceremonial centers and surrounding villages still remaining popular, but the sites became more extensive and the mounds much larger, in the normal Mississippian pattern (Brain 1971:77). Other Mississippian traits, such as shell tempered pottery, certain vessel forms (bottles, plates, jars), triangular arrowheads (Madison, Cahokia, and Nodena types), and rectangular wattle-and-daub houses, also appeared in the Plaquemine culture (Brain 1971:74). This very glamorous florescence of the Mississippianized Coles Creek was represented by the Winterville phase in the Lower Yazoo Basin (Brain 1969:276), the Anna phase in the Bluff Area (See p. 150), the ^{ROOTE} ~~Fitzhugh~~ phase in the Tensas Basin

(Williams et al 1966; Phillips 1970:945), and the Medora phase in the northern Delta (Quimby 1951).

The first major push of the Mississippian culture during the Crippen Point phase effected the Coles Creek culture area to a great degree, but it was not until the second major push that total acculturation occurred (Phillips 1970: 13). The major Plaquemine sites of Lake George and Winterville became totally under the domain of the Mississippian culture (Brain 1971:77). This complete change was only felt as far south as the Lower Yazoo Basin though. Areas below this remained Plaquemine in form, as represented by the Emerald phase in the Bluff Area (See p.155). The Plaquemine culture was eventually surrounded by the Mississippian culture, as the latter radiated throughout the eastern United States and established major outposts in Georgia (Etowah), Alabama (Moundville), and Florida (Fort Walton). The Delta subdivision, forming the southern boundary of the Plaquemine culture, fell into the Mississippian culture as a result of intense contact with the above Mississippian outposts. (Brain 1971:78).

When DeSoto entered the valley, the Plaquemine culture had passed its peak and was beginning to decline, although the Mississippian culture in the Northern and Central subdivisions still retained its viability (Brain - personal communication). A great change was occurring, as illustrated by the marked decrease in population of the Yazoo - Tallahatchie and Sunflower drainages. The heaviest settlements were situated along the St. Francis River in fortified villages (Phillips,

Ford, and Griffin 1951:343). Warfare is the obvious suggestion of this radical demographic and settlement pattern change.

It was at this time that the Southeastern Ceremonial Complex, otherwise known as the "Southern Cult", was at a climax in the Southeast. This complex was the last major phenomenon to unite the people of the Southeast on a socio-religious level (Brain 1971:81). The religion was not concerned with the dead, but with the cosmic deities symbolized by the four world quarters, wind, sun, and rain (Williams 1963:309,10). As shown by its development along the peripheries of the Mississippian culture at such sites as Moundville and Etowah, as well as at sites belonging to different cultural traditions altogether (Caddoan site of Spiro), the "Southern Cult" was neither a strong valley element, nor was it entirely a Mississippian outgrowth (Williams 1963:311). Traits characteristic of this complex were engraved shell, repoussé copper plates, stone sculpture, and finely modeled pottery (Brain 1971:78).

The period of historic contact was treated as a culture period by Brain (1971:Period VI), but I have decided to treat it as a part of Period V in this thesis, in accordance with Phillips:

The ensuing collapse of native culture was so rapid that it seems hardly necessary to provide our sequence with an 'historic' period. The so-called historic phases, Quapaw, Taensa, Natchez, etc., are nine-tenths submerged in the prehistoric past. None so far as I can see can be described in terms of acculturation. It is more intelligible to consider them as phases of late Mississippian and Natchezan culture that survived long enough to enter briefly and disastrously into history. (Phillips 1970:19)

The direct continuity between the Emerald and Natchez phases of the Bluff Area (See p.163) provides additional support for placing the interval of historic contact within Period V.

The discontinuity which did occur between the disappearance of SeSoto and the appearance of LaSalle was demographic in nature rather than cultural. Heavily populated areas were reduced to minor villages and the Yazoo Basin was abandoned entirely, with the exception of a few scattered tribes of different linguistic stocks along the Yazoo River. The only people which still maintained a semblance of strength were the Natchez, but they too were extremely effected by the demographic decimation. The only reason why they managed to retain a high population was that they accepted remnant northern tribes into their domain (Brain 1971b).

There were undoubtedly many reasons for the vast population decrease over the entire valley. As seen in the fortified St. Francis villages and the DeSoto accounts (Bourne 1904), warfare had been extremely prevalent in the late Mississippian Period. As evinced by the great movement of warring tribes (eg Chickasaw) during the seventeenth and eighteenth centuries, warfare probably continued to be an important factor in the demographic situation. However, the most important factor was undoubtedly the spread of European diseases for which the Indians had no immunity which followed, and perhaps preceded, the DeSoto expeditions, and reduced the population to as little as 20% of what it had been previously (Brain 1971:82). By the end of the eighteenth century, only traces of the once

powerful Indian tribes remained in the valley. By 1820, with the Treaty of Doak's Stand (Brain 1971:82), there were none.

In sum, Period V was the longest cultural period of the Neo - Indian Era since Poverty Point. During this period the valley witnessed the rapid rise and equally rapid decline of the Mississippian culture. This culture had developed in the Northern and Central subdivisions of the Mississippi Valley during Period IV, but it was not until Period V that it began to expand to any great extent. Expansion in the valley was totally southward and, by initial small movements of people followed by intensive cultural contacts, the Plaquemine (Mississippianized-Coles Creek) culture developed. Eventually the northern limit of the Plaquemine culture receded as the Mississippian culture pushed further south. Late Period V was characterized by a great deal of disturbance in the valley, as witnessed by a marked population decrease and the evidence of warfare. At the same time another development, the Southeastern Ceremonial Complex, arose along the peripheries, as well as outside of, the Mississippian culture. This served as the last phenomenon to unite the Southeast on a socio - religious level. By the time historic contact in the late seventeenth and early eighteenth centuries occurred, warfare and disease had created such great havoc in the valley that the Indians were easy prey to the Europeans.

Conclusion

The Lower Mississippi Valley has been used by man for more than fifteen thousand years. The manner in which man molded his existence to the valley environment was the criteria for establishing three eras. Although the various periods within each era depict both cultural florescences and degenerations, the overall trend in the Lower Mississippi Valley has been one of cultural advancement.

The Paleo - Indian Era was the longest of the Three eras, having a duration of at least ten thousand years. Little is known about this era, but it has been hypothesized that the lifestyle was characterized by small groups of men traveling far and wide in pursuit of the large Pleistocene megafauna. The increasing number of finds pertaining to the later periods of the Paleo - Indian Era suggests that the population was rising, and the increasing diversity of the artifacts indicates that regionalization was beginning to occur.

The extinction of the Pleistocene megafauna during the seventh millenium B.C. made it necessary for man to place a greater reliance upon the other food sources around him. This shift in emphasis resulted in the Meso - Indian Era. Small game moved around a lot less than mammoths and mastodons, and therefore man moved around considerably less also. He began to become more familiar with local environments and

resources. The discovery of the riverine environment as a source of food was perhaps the most important event in this era. Unlike terrestrial fauna, marine animals were not influenced by the seasons, but remained in one place. Therefore, man no longer had to travel to obtain food. As less effort was required for subsistence, he could begin to devote more of his time to cultural accomplishments.

Continuity between the Meso and Neo - Indian Eras was evinced in the Poverty Point culture (Period I). Dependence upon the riverine systems was manifested both in terms of the location of the sites, and in the artifacts belonging to them. Large earthworks and material imported from distant sources, indicate the socio - political complexity of the Poverty Point culture. Obviously the riverine environment provided a very productive subsistence base for the achievements of this culture.

Poverty Point was probably somewhat responsible for Hopewellian growth in the north, but while the latter was developing, the Poverty Point interaction sphere collapsed as a result of migrations from the eastern uplands. These new people were characterized by the Tchefuncte - Lake Cormorant cultures, and it was at this time (Period II) that pottery and burial mounds were introduced to the valley. Illinois Hopewellian influences resulted in the Marksville culture which, in terms of lifestyle, was essentially an elaboration of the earlier Tchefuncte - Lake Cormorant cultures. Eventually, with the severing of northern contact, a hybrid

culture (represented most extensively by the Issaquena phase) developed.

Following the Marksville florescence there occurred what appears to have been a cultural recession. In terms of artifacts and architectural achievements, Period III (characterized by the Baytown culture) was indeed a recession, but on an economic basis the Baytown culture was very important. Maize and possibly squash agriculture developed during Period III, which was subsequently to be the subsistence base for the Coles Creek - Mississippian florescences. The introduction of agriculture was also directly responsible for the collapse of the Marksville culture in the valley, for man no longer had to depend upon the labors of others in his society.

Period IV of the Neo - Indian Era was characterized by the appearance and full flowering of the Coles Creek culture in the southern half of the Lower Mississippi Valley, and the development of the Mississippian culture in the northern half. The Coles Creek culture, with Tropical Flint as a subsistence base, developed in the Tensas Basin and subsequently spread out over the entire valley, up until about the middle of the Yazoo Basin. Meanwhile, the Baytown culture remained fairly stagnant in the north. The introduction of Northern Flint and the common bean in the latter half of Period IV brought about a great population increase and cultural revival, which resulted in the Mississippian culture.

Overlap of the Coles Creek and Mississippian cultures occurred during Period V, which resulted in the impressive

Plaquemine culture. This hybrid culture developed and extended over all the territory which had previously belonged to the Coles Creek culture. The Mississippian culture continued to thrive and expanded beyond the Mississippi Valley over a large portion of the Southeast. Toward the end of this period, which coincided with the first historic contact, the Southeastern Ceremonial Complex developed which, although found in Mississippian contexts, was not entirely a direct growth from the Mississippian culture. It developed along the peripheries of this culture and spread over most of the Southeast into completely different cultural traditions.

The intense historic contact marked the end of Period V. As a result of European diseases and aboriginal warfare, the Mississippian culture entirely collapsed leaving only minor traces of its past splendor. The Plaquemine culture to the south was not much better off, having only the Natchez as its last vestige of strength. Even the Natchez could not withstand the ever increasing power of the Europeans though, and so eventually they too were forced to abandon their homeland. By the end of the first quarter of the nineteenth century, the Indian no longer played a role in the history of the Lower Mississippi Valley, a niche which he had occupied for over fifteen thousand years.

Chapter 3

Sardine Site (26 - K - 70)

The Sardine Site, a very small occupational area owned by Mrs. Grace MacNeil, was located upon a ridge just south of the city of Natchez and St. Catherine Creek, along U.S. 61 South. A bulldozer cut along the western side of the road exposed a dark layer of soil heavily laden with charcoal. It was this which first aroused interest in the site. A preliminary survey of the area revealed late Coles Creek and Natchez occupations, as indicated by the various pottery varieties of Mott, Vicksburg, Hardy, and Grand Village collected. The history and archaeology of the Natchez Indians has long since been of great concern to me, and the possibility of the Sardine Site being an extension of the Grand Village of the Natchez (located less than a mile to the north - Village Sauvage and Fatherland Sites) was too excellent an opportunity to pass up. Therefore, on July 7, 1972, sixteen days after the initial surface collection, excavation began. With a crew of three people, including myself, and a time allotment of just two weeks, speed was of the utmost importance in our work.

The primary objective was to establish the occupational chronology of the site (ie the phases represented), and along with this, to discover the relative duration of the various phases. As seen by the homogeneity of the dark organic layer in the road cut, the detection of natural stratigraphy would be all but impossible. Therefore, it was hoped that the use of arbitrary levels, and the computation of varietal frequencies henceforth, would reconstruct the stratigraphy.

The secondary objective, more of a personal concern, was an intensive study of the Natchez phase. The preservation of house floors and pits was desperately hoped for. This secondary study never got off the ground, for the Natchez phase was not represented in the excavation¹.

Although the Sardine Site was never occupied to such an extent that it could be termed a village, it did witness a great amount of settlement on a temporal basis. Every period of the Neo - Indian Era since Period I. was represented at the site, as was every phase, with the exception of Point Lake. The greatest occupation occurred during the Anna phase, but Panther Lake, Issaquena, Hamilton Ridge, Gordon, and Emerald also were significantly represented. The site was employed least during the Coles Creek period, at which time settlement was probably of a very sporadic nature.

Posthole Survey²

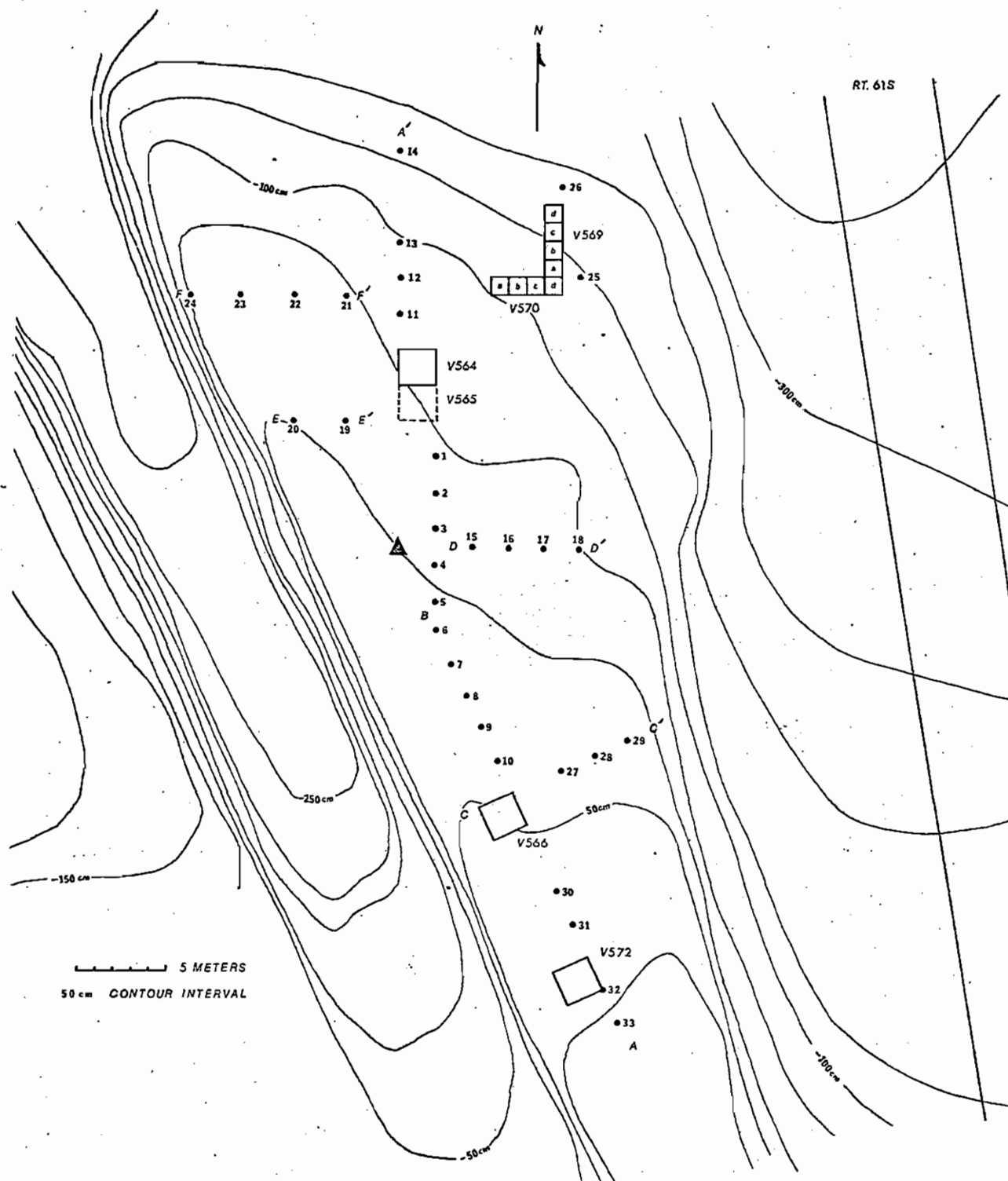
On the first day of excavation three pits were set up (V564, V565, and V566 - See Map 1) and work began immediately on V564 and V566. It was hoped that these two pits would present the overall stratigraphy of the site. As excavation

1 The one Grand Village sherd found in the surface collection was the only evidence of an historic occupation at the site.

2 The postholes were not archaeological features, but were a part of the site excavation.

Map 1

Excavations at the Sardine Site (26-K-70)



proceeded, a series of thirty-seven postholes were dug to fill in the stratigraphic information between the pits. The postholes were also designed to indicate where future excavation should be situated. With the exception of lines AB and CC', the postholes were arranged along cardinal axes. Line AB (fig. 2) radiated from the datum along the 155 ray, while CC' (fig. 4) was alligned along the 130 axis of the north stake of pit V566. It was necessary to deviate from cardinal directions in this area because an old road cut through the southern portion of the site. However, line AB along with line BA' (fig. 3) basically serves to illustrate the stratigraphy along the longitudinal axis, while lines CC', DD' (fig. 5), EE' (fig. 6), and FF' (fig. 7) demonstrates the stratigraphy along the latitudinal axes at four different locations.

There were three different soil layers which continually appeared throughout the site, and were represented in practically every pit and posthole. They occurred in the following sequence. The basal deposits were very hard consolidated clays, dark reddish-brown in color and culturally sterile³. Above the clay was a whitish-tan loess layer of variable thickness. The base of this layer was almost pure white, resulting from the

3 The appearance of clay where wind-blown loess was supposed to be, was a puzzle. The loess deposits in this particular area are comparatively thin though and were obviously of no consequence at this site. The clay probably antedates the Pleistocene.

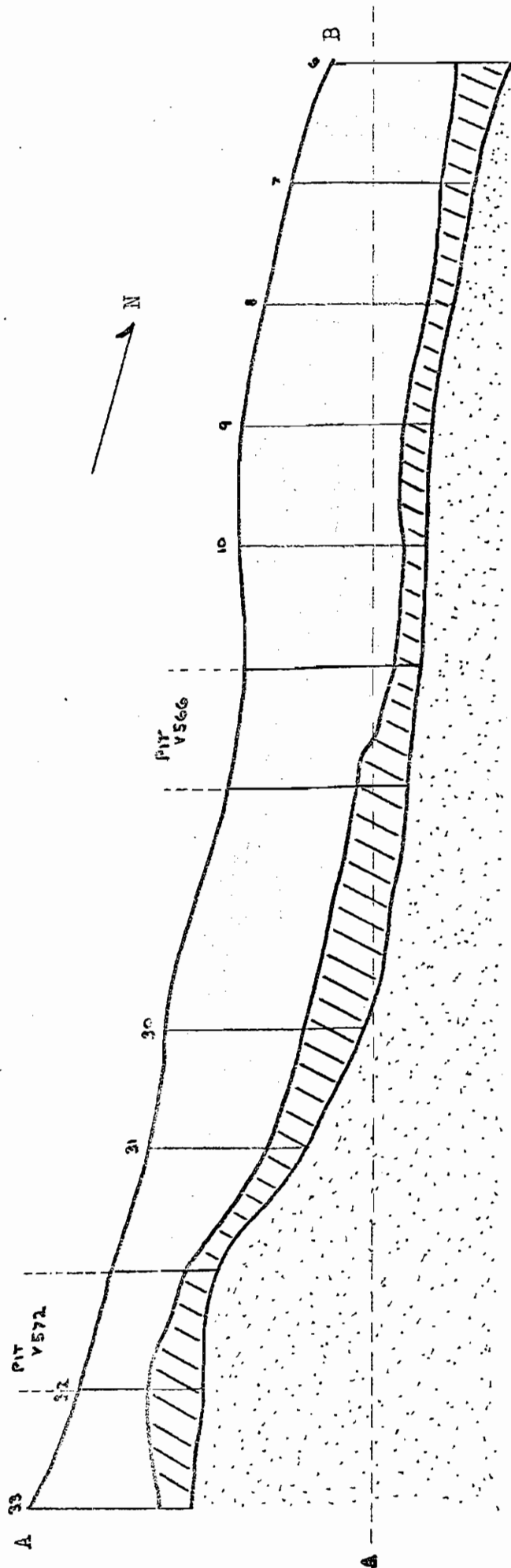
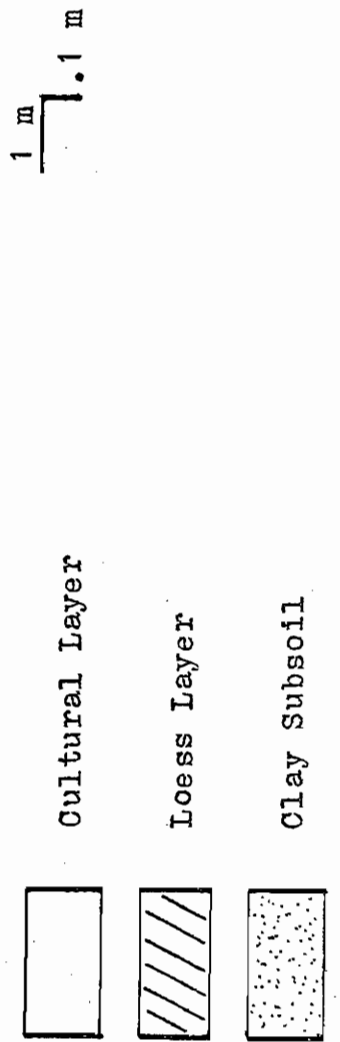


figure 2

Posthole Survey - AB - Stratigraphy Along the Longitudinal Axis
(Postholes 6 - 10 and 30 - 33)



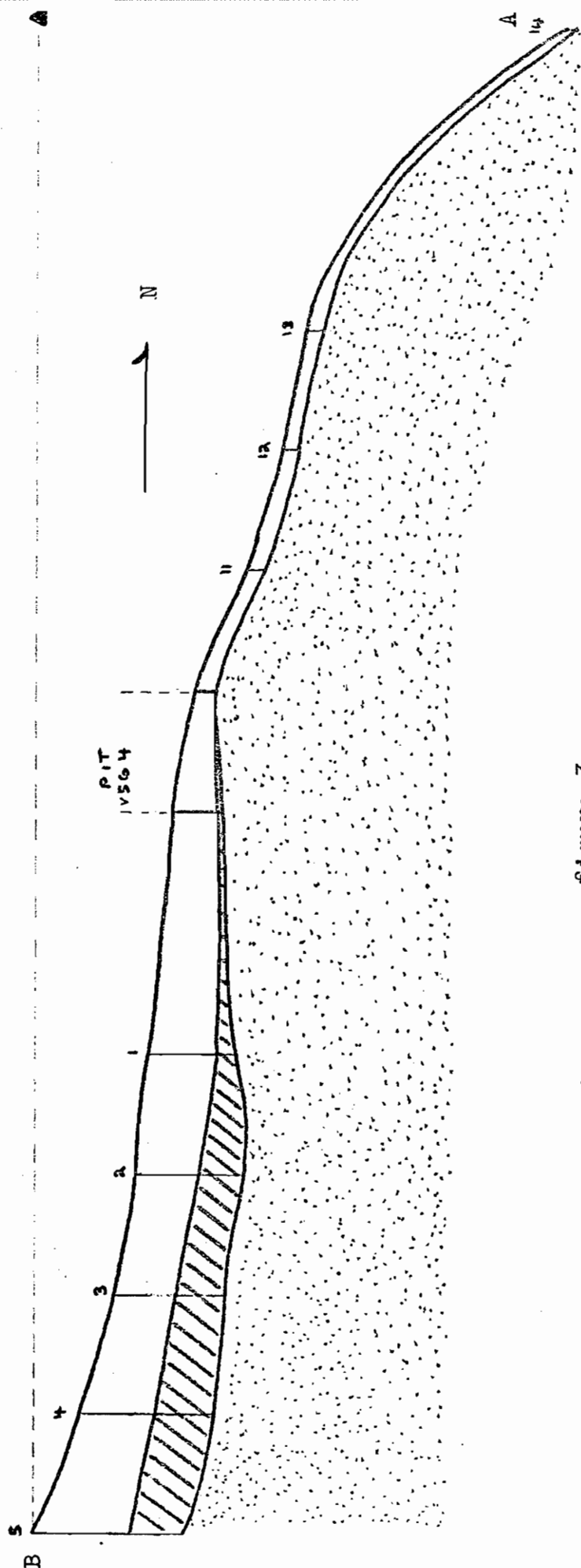


figure 3

Posthole Survey - BA' - Stratigraphy Along the Longitudinal Axes
(Postholes 1 - 5 and 11 - 14)

1 m



Cultural Layer



Loess Layer



Clay Subsoil

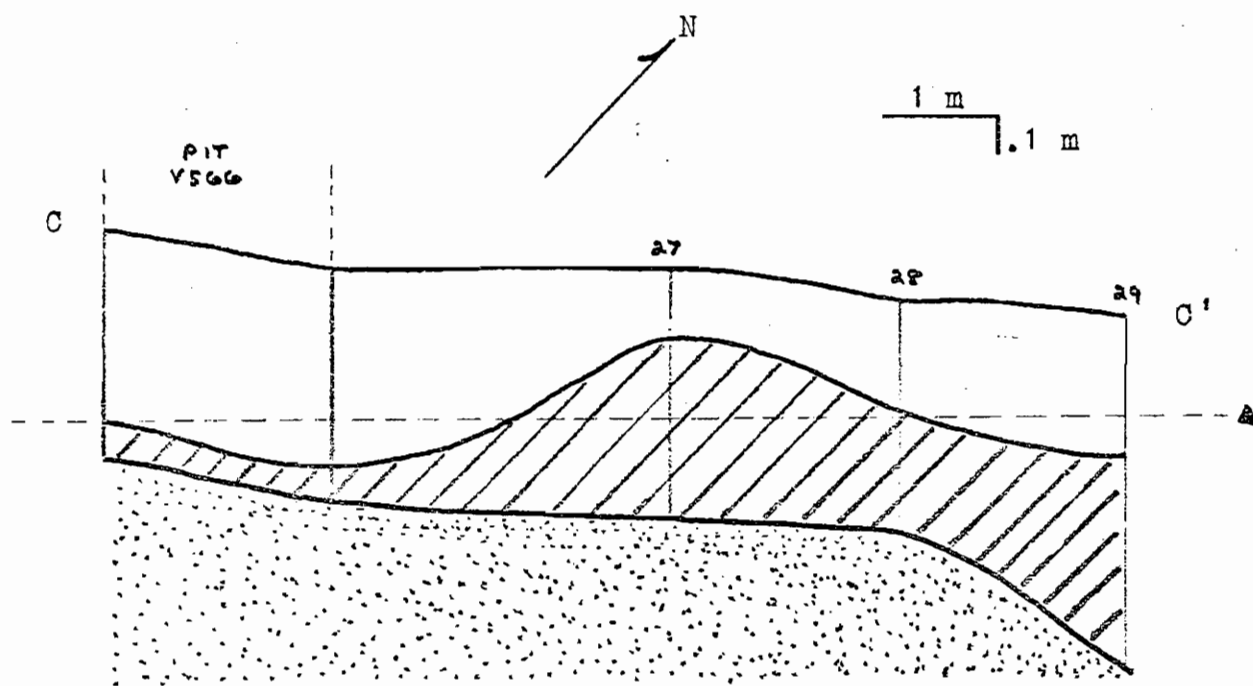


figure 4

Posthole Survey - CC' - Stratigraphy Along the Latitudinal Axes
(Postholes 27 - 29)

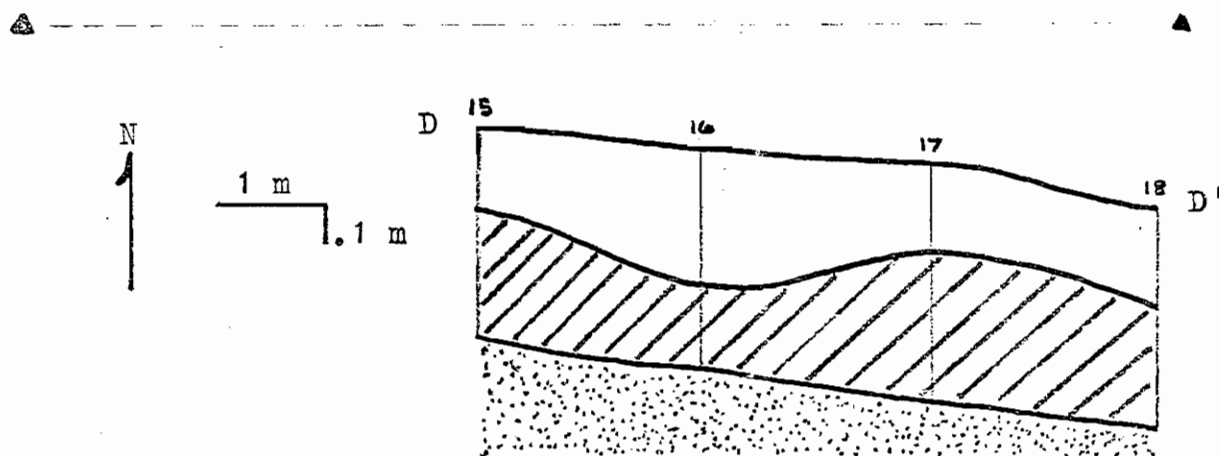
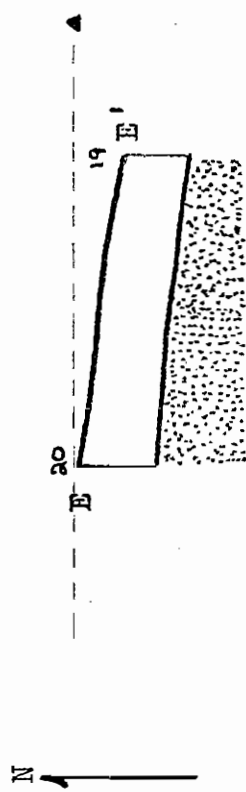


figure 5

Posthole Survey - DD' - Stratigraphy Along the Latitudinal Axes
(Postholes 15 - 18)

figure 6



Posthole Survey - EE' - Stratigraphy Along
the Latitudinal Axes (Postholes 19 - 20)

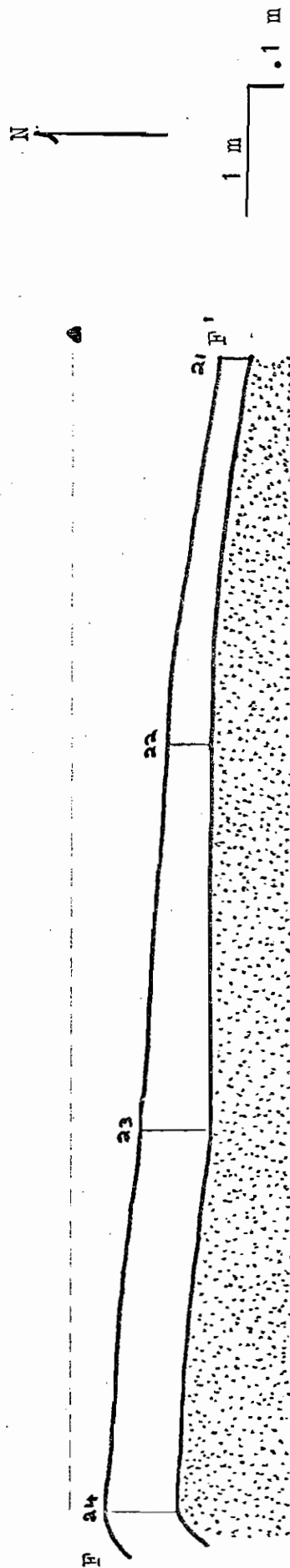


figure 7

Posthole Survey - FF' - Stratigraphy Along the Latitudinal Axes
(Postholes 21 - 24)

leaching of its minerals into the clay below. The tan color appeared towards the top of the layer due to staining from the cultural layer above. The two extremes were joined by a gradual blending of the colors. At the top of this layer was the earliest aboriginal surface. Evidence of this surface was picked up in postholes 18 and 32, and was clearly seen in pit V572 and trenches V569 and V570. Above this surface was the cultural layer, characterized by its dark brown to black color, its variable thickness, and its imperceptible blending into the humus.

The stratigraphy along the longitudinal axis was represented by line AA' which included the northeastern profiles of pits V572 and V566, and the eastern profile of V564 (figs. 2 & 3). From the stratigraphy alone one would expect little cultural evidence between the northern-most wall of V572 and posthole 30, and between the northern profile of V564 and posthole 14. Evidence of direct surface occupation probably would not show up in these two sections because of the severe declivity. Had there actually been any activity in the above areas, the artifacts would have washed down to the flat areas below. The artifact assemblage from the various postholes (Appendix 1; Table 4) sheds some light upon the nature of the site, and what might be expected to be found. On a quantitative basis, there were two notable discontinuities along the longitudinal axis (fig. 8). A high percentage of pottery (20%) was found on the flat area between postholes 33 and 32, which subsequently decreased rapidly upon going down the slope (7.5%). Another

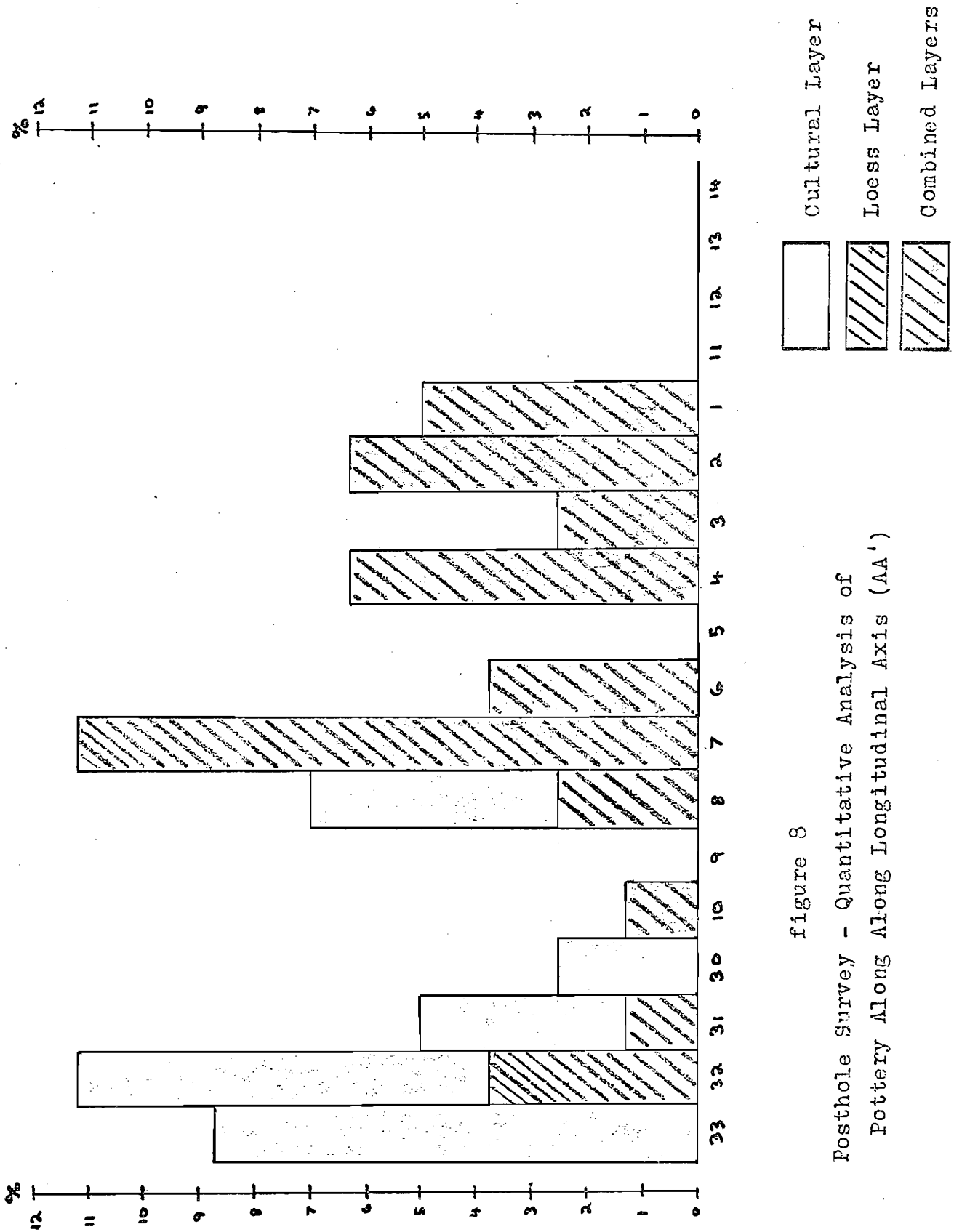


figure 8
Posthole Survey - Quantitative Analysis of
Pottery Along Longitudinal Axis (AA')

concentration (43.75) was depicted along the level platform between postholes 9 and 1, and, as expected, the slope between posthole 11 and 14 was entirely void of artifacts. In terms of sherd percentage per linear meter, the area between postholes 33 and 32 (10 s%/lm) was much more prolific than the lower platform to the north (2.73 s%/lm). Of course, had postholes been drilled farther to the south, the difference may not have been so great.

Quantitative analysis of the stratigraphy along the latitudinal axes (fig. 9) serves to supplement the general conclusions derived thus far. Postholes 27 - 29 along line CC' (fig. 4) had a relatively small pottery representation of 7.5% (1.88 s%/lm) as compared to the corresponding high platform between postholes 32 and 33. This was undoubtedly due to the rough terrain at the former location. Postholes 15 through 18 of line DD', located on the lower platform, had a total percentage of 13.75 and a percentage per linear meter value of 2.29, slightly lower than the ratio obtained in postholes 1 through 9 of line AA' (2.73 s%/lm). The northwestern section of the site, as shown by lines EE' (fig. 6) and FF' (fig. 7), had very little artifactual material (two sherds), indicating the undesirable nature of this area during all periods.

The qualitative study of the artifacts from the various postholes revealed information on horizontal stratigraphy, degree of occupation, and sherd frequencies between the various layers. A quick look at Table 4 of Appendix 1 is sufficient

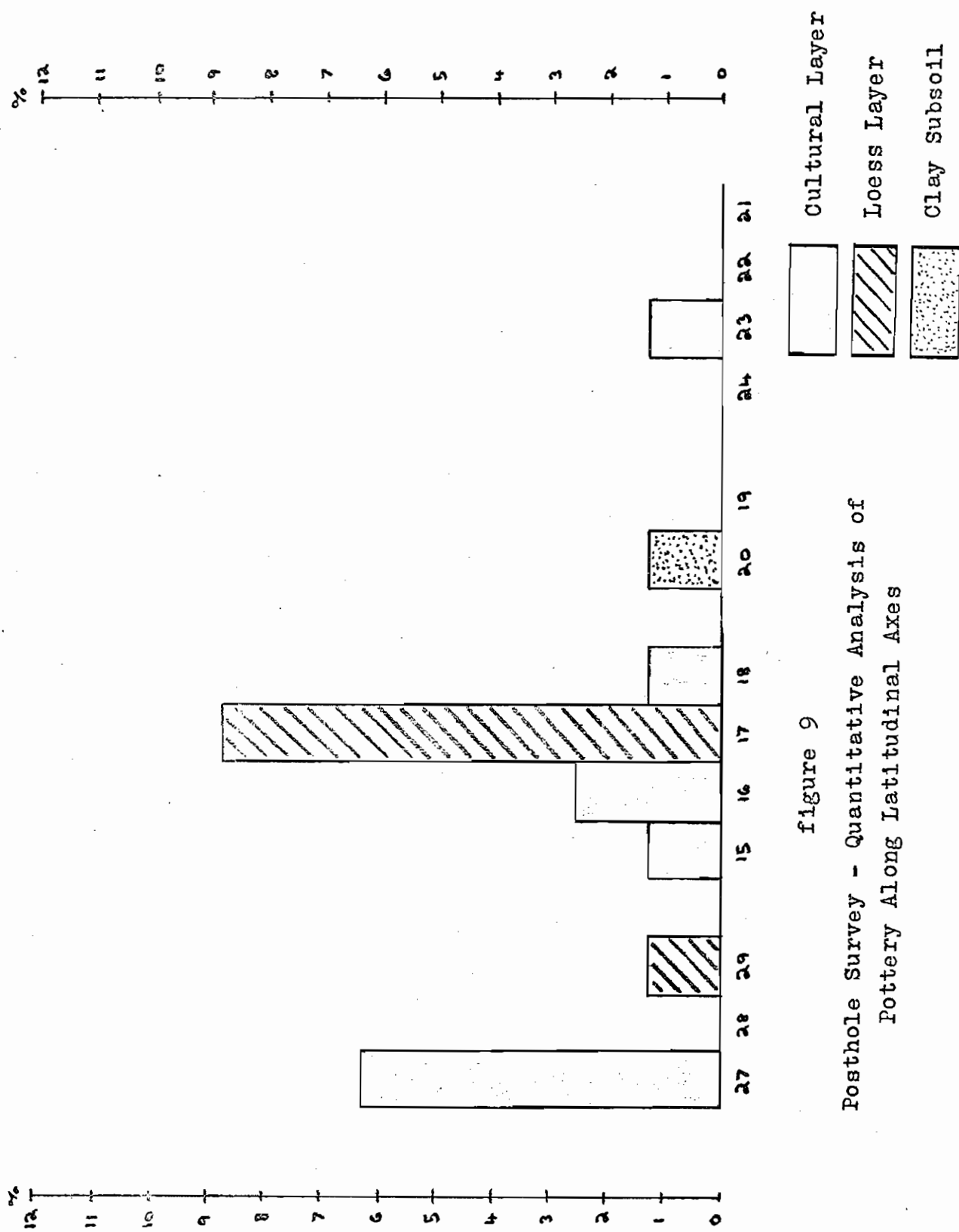


figure 9
Posthole Survey - Quantitative Analysis of
Pottery Along Latitudinal Axes

enough to see that horizontal stratigraphy probably did not appear on the site. All periods are represented throughout the site, with the possible exception of Period IIA. Material of the Tchefuncte culture was discovered only on the lower platform in postholes 1, 4, and 23. Of course, only four sherds were represented and this might not be a statistically valid sample of this period. As the postholes were extended over the entire site, the percentage of sherds for each period (phases cannot be dealt with in the posthole survey, because they did not comprise a large enough sample) should present a fairly reliable estimate of the degree of occupation on the site for each period (fig.10). This is based on the assumption that pottery was made, utilized, and broken in a consistent manner over time and cultures. The assumption may not be correct, especially for Period IIA when pottery was just coming into vogue, but there is no way of testing its validity, as diagnostic phase and period markers other than pottery were practically nonexistent on the site. As shown in figure 10 , the heaviest occupation occurred during Period V (67.5%), with Period IIB - III having the next highest representation at 17.5%, followed by Period IV and IIA with percentages of 10 and 5 respectively. Disregarding the combined assemblages, where the artifacts from the cultural and loess layers were not kept separate, we should be able to determine the expected percentage ratio between the two layers for the entire site. The ratio was 38.75 : 17.5, or a little over 2 : 1. This calculation was based on all the

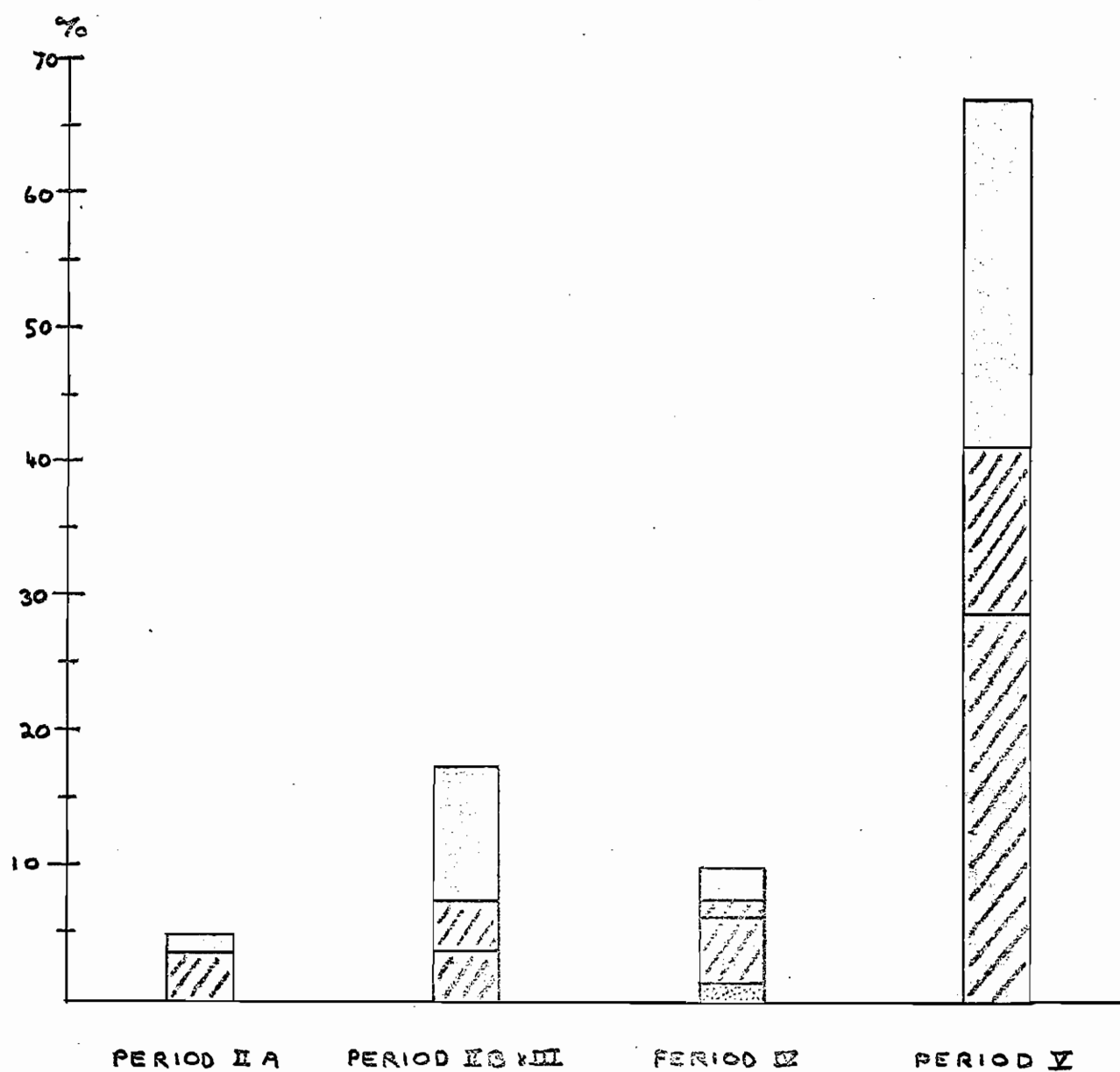


figure 10

Posthole Survey - Qualitative Analysis of
Pottery From Various Postholes

postholes, including 17 and 32, both of which had an usually large amount of sherds in the loess layer. The fact that nine of the sherds were Period V diagnostics suggests the disturbed nature of the deposits at these two locations. Disregarding these two postholes, the more realistic ratio becomes 38.75 : 6.25, or slightly over 6 : 1.

The use of a posthole survey has thus been an essential element in the excavation of the Sardine Site. Most importantly, the survey served to indicate where the most information would be attained as a result of excavation, but it also provided knowledge on site stratigraphy and degree of occupation. All calculations have been based on a total of 69 sherds (decorated and plain). After the entire assemblage from the site has been analyzed and discussed, it will be interesting to turn back to the results of the posthole survey to determine the statistical validity of this small sample of sherds. I maintain, as can be seen by the extensive use of postholes at this site, that this type of survey is necessary and can serve the same function as the pit in terms of gross overall results, but of course the amount of control is minimal and the risk involved is certainly obvious. Whenever unusual stratigraphy (eg. a floor surface) appears in the posthole, drilling should be discontinued immediately in the particular area and careful excavation should ensue (the appearance of the floor surface in posthole 32 was subsequently followed by excavation - Pit V572).

Pits and Trenches

A total of three pits and two trenches were excavated at the Sardine Site. Two pits (V564 and V566) were situated on the lower platform illustrated in figures 2,3 (See p.61). The third pit (V572) was positioned upon the higher platform to the south. Two trenches were also excavated in the northeastern extremity of the site. An early aboriginal surface appeared in the trenches as well as in pit V572, but this surface was not detected in the other two pits, implying a great deal of disturbance on the western side of the lower platform. The individual pits and trenches shall now be discussed in the order in which they were excavated.

V564

Pit V564 was a two - meter square pit set up along the principle north-south axis, and had the following coordinates: N9-E0, N9-E2, N11-E0, N11-E2. The reason for placing a pit in this location was due to its proximity to the cultural layer exposed in the road-cut. Being more centrally located and on flatter terrain, it was hoped that undisturbed stratigraphic control would quickly be attained. Initially a second two-meter square pit (V565) was set up immediately to the south of V564, the idea being to excavate V564 in arbitrary levels and to subsequently dig V565 according to natural layers. This plan soon had to be abandoned though as pit V564 was not productive enough to warrant further excavation in that particular area.

Using the datum as the reference point, pit V564 was lowered to the minus seventy-five centimeter level (level A). As the ground surface was not absolutely flat to begin with, the depth of this level varied throughout the pit from minus twenty-five centimeters in the southwest corner to minus six centimeters in the northeast. As depicted in the stratigraphy of this pit (fig.11), level A consisted of three different natural layers, all of which have already been discussed earlier in the Posthole Survey section. (See p.60). The cultural layer was very thin throughout the pit, averaging only about seven centimeters thick. It quickly blended into a slightly thicker

figure 11

Pit V564 - Stratigraphy

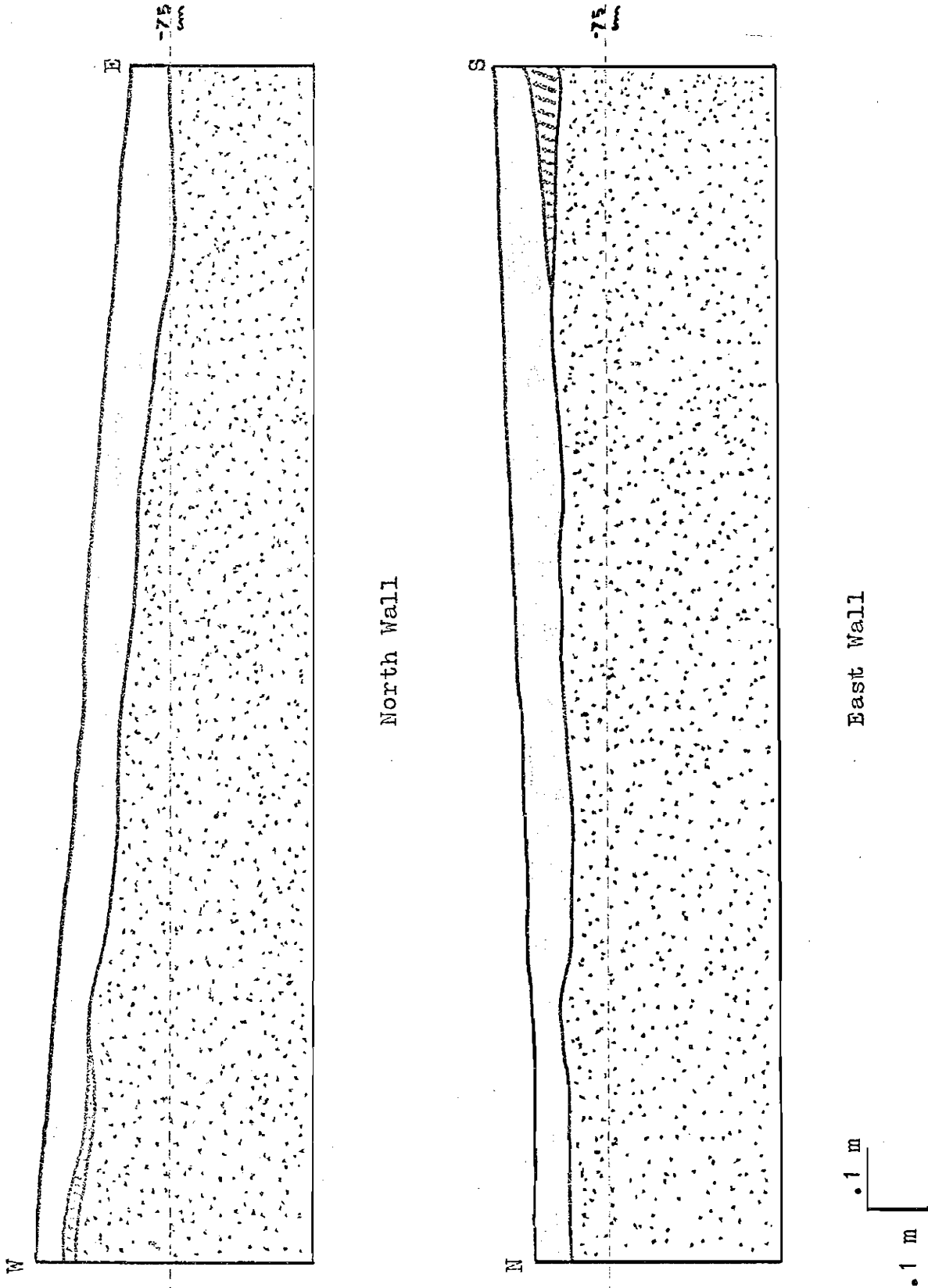
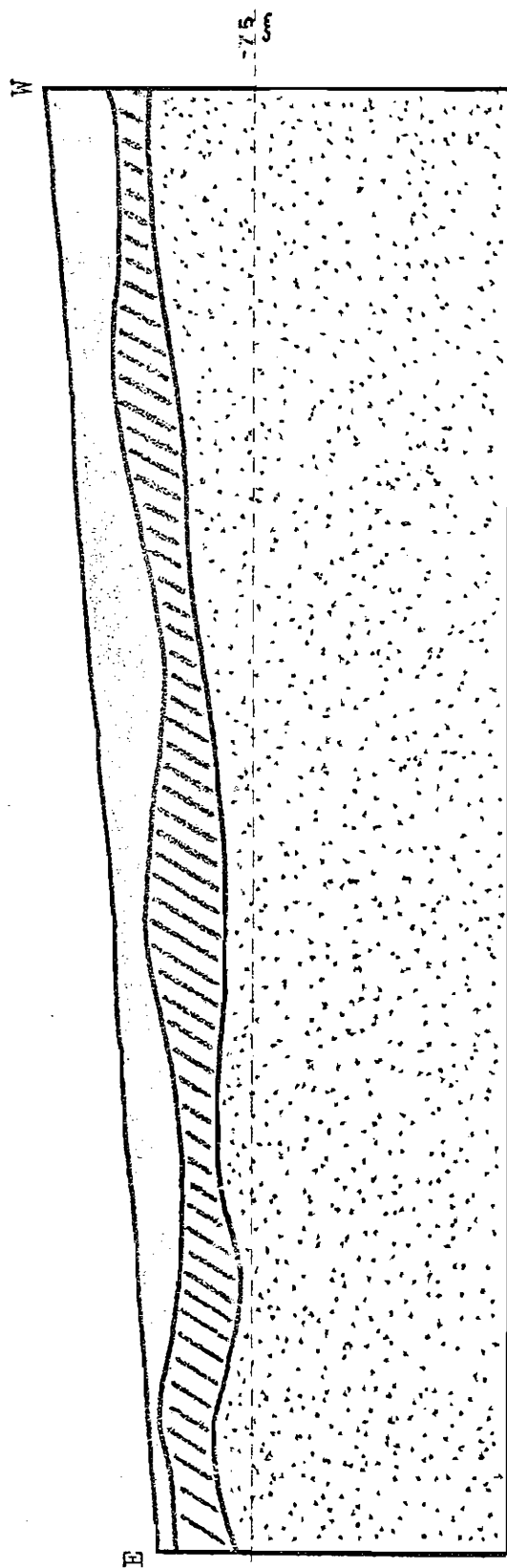
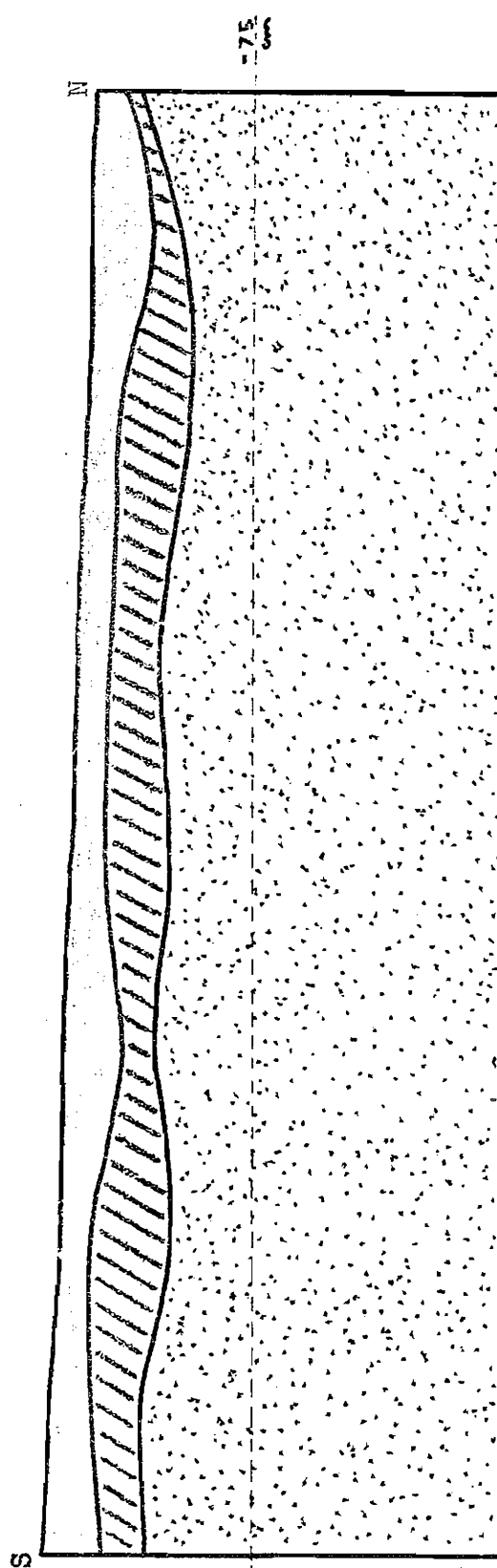


figure 11 (cont.)
Pit V564 - Stratigraphy



South Wall



West Wall

.1 m
|
.1 m

deposit of very fine whitish loess. The loess was highly represented along the southern and western profiles, but rapidly decreased towards the north and east. Below the loess appeared the hard reddish - brown clay deposits. As the posthole survey was just getting underway when this pit was being excavated, I was rather uncertain as to whether this clay was definitely subsoil. Therefore, another twenty-five centimeter level (layer B) was stripped off to determine the nature of the clay. The cultural sterility of this layer, coupled with a posthole drilled in the southwest corner to a depth of minus 154 centimeters below datum, demonstrated that the reddish - brown clay was indeed the subsoil.

There was a total of thirty - one potsherds collected from this pit, all of which were confined to layer A (Appendix 1; Table 5). This sample, though small, contained diagnostics relating to the Panther Lake and Emerald phases, and had ceramic markers from all periods, with a concentration in Period V. The only interesting stone artifact from this pit was a dart point dating to Period IIA (Brain - personal Communication). The point was found at the base of the cultural layer against the middle of the southern profile.

V566

Pit V566, a two - meter square pit with its northern - most stake situated twenty-five meters from the datum along the 155° line (See Map 1), was excavated next. This location

was initially selected for testing due to the fact that the Grand Village sherd from the first surface collection was discovered there. Postholes 1 through 10 had been drilled prior to the excavation of pit V566, and so a thick cultural layer was expected. Therefore, it was decided to strip this layer down by twenty-five centimeter levels unless distinct differences were to appear in the cultural layer itself, at which time we would switch to digging by natural levels. This did not occur. V566A extended to the plus twenty-five centimeter level above datum (fig.12), having a depth ranging from thirty-one centimeters at the southern stake to seventeen at the eastern. The homogeneity of the cultural layer continued through level B which was taken down to the datum level. A slight difference in color appeared between the two levels, with grayish - black shades occurring at the top of Level A and dark brown shades toward the base of Level B. Between these two extremes total blending occurred. The base of Level B corresponded almost exactly with the top of the natural loess layer. Therefore, Level C was a natural layer extending to the reddish-brown clay subsoil. The distinction between the cultural layer and the loess was not as distinct as expected. The white loess was heavily mottled with dark brown soil from the cultural layer above and clay from the subsoil below. Although it was undoubtedly the original land surface at one time, the layer did not demonstrate the compactness one would expect from occupation. The thickness of the cultural layer and the fact that the pit was in a depression formed by high

figure 12

Pit V566 - Stratigraphy

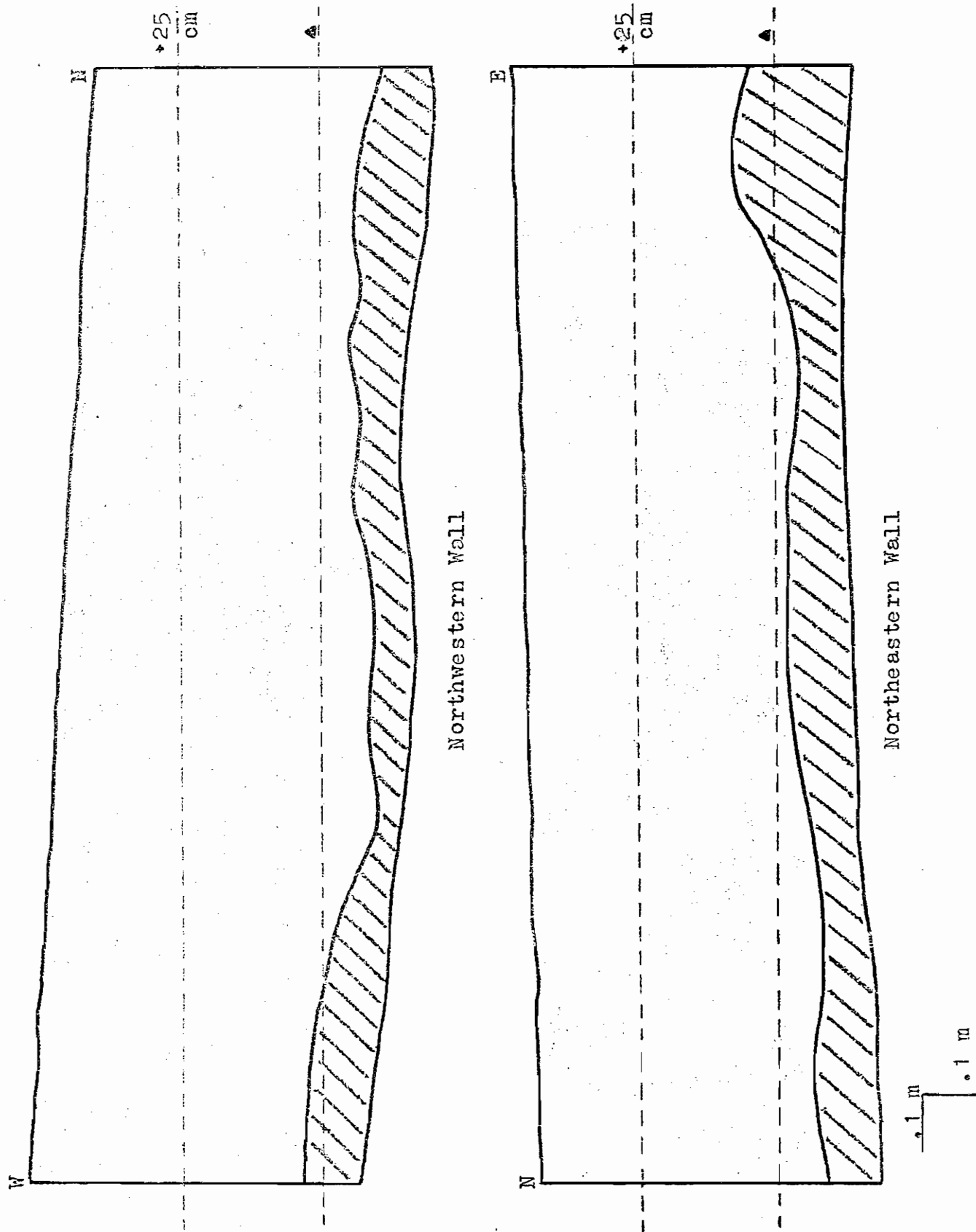
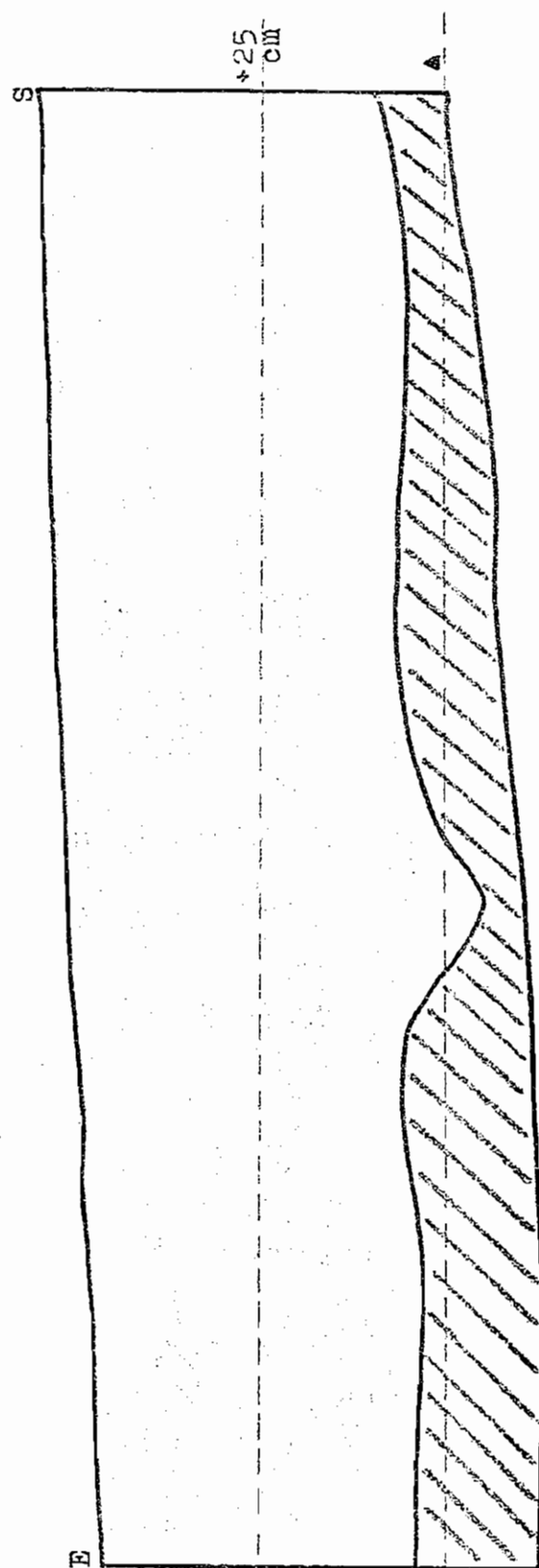
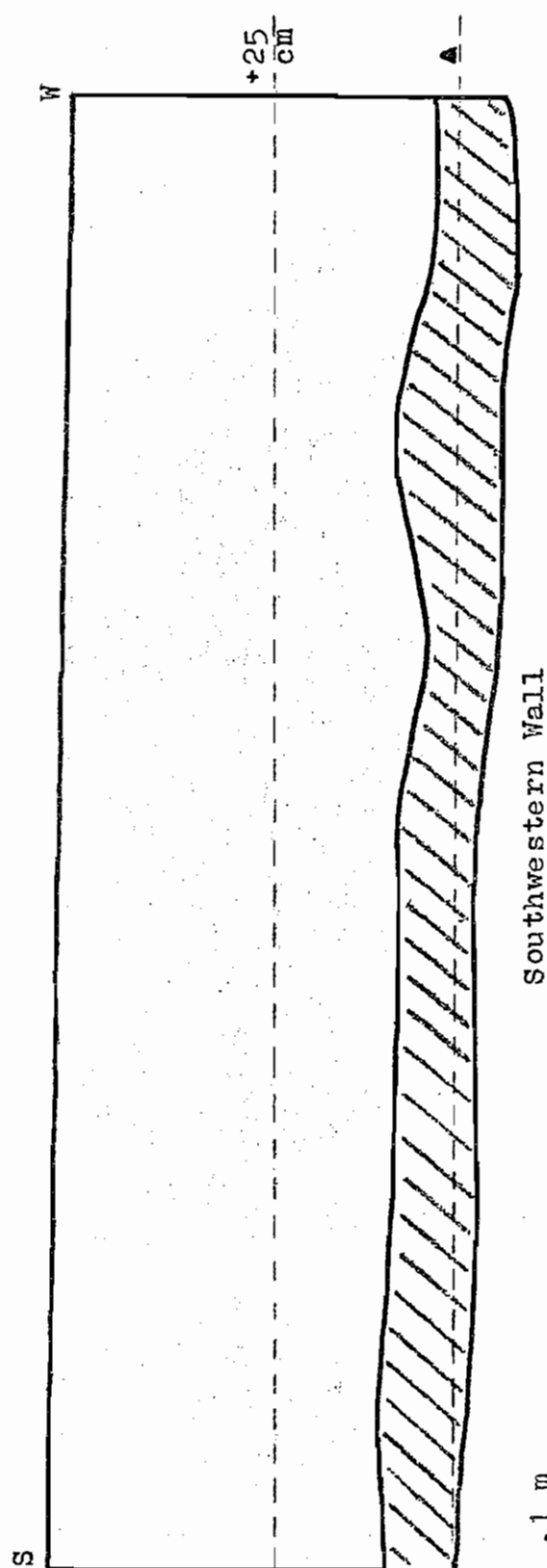


figure 12 (cont.)

Pit V566 - Stratigraphy



Southeastern Wall



Southwestern Wall

.1 m | .1 m

land to the south and east (See figs. 2 and 4), suggested that this pit was either a wash or a midden, or both. The absence of bone does not defeat this hypothesis. The cultural layer at Sardine had a maximum thickness of fifty-six centimeters, and within this homogenous layer were the remains of over two thousand years of occupation. The isolation of a single phase or period was virtually impossible due to the high degree of disturbance from natural causes. It cannot be expected that bones and other remains typical of middens would have stood this double stress of time and man.

Pottery was extremely abundant as compared to pit V564, having a total of 322 sherds, with 215 in Level A, 104 in Level B, and three in the natural loess layer C. Although cultural stratigraphy was not apparent in the profiles of the pit, it did appear in the collections from the various levels. Level A was predominantly Period V (Plaquemine culture), while Level B consisted mainly of Period IIA through III ceramics (Tchefuncte, Issaquena, and Baytown cultures).

V569 and V570

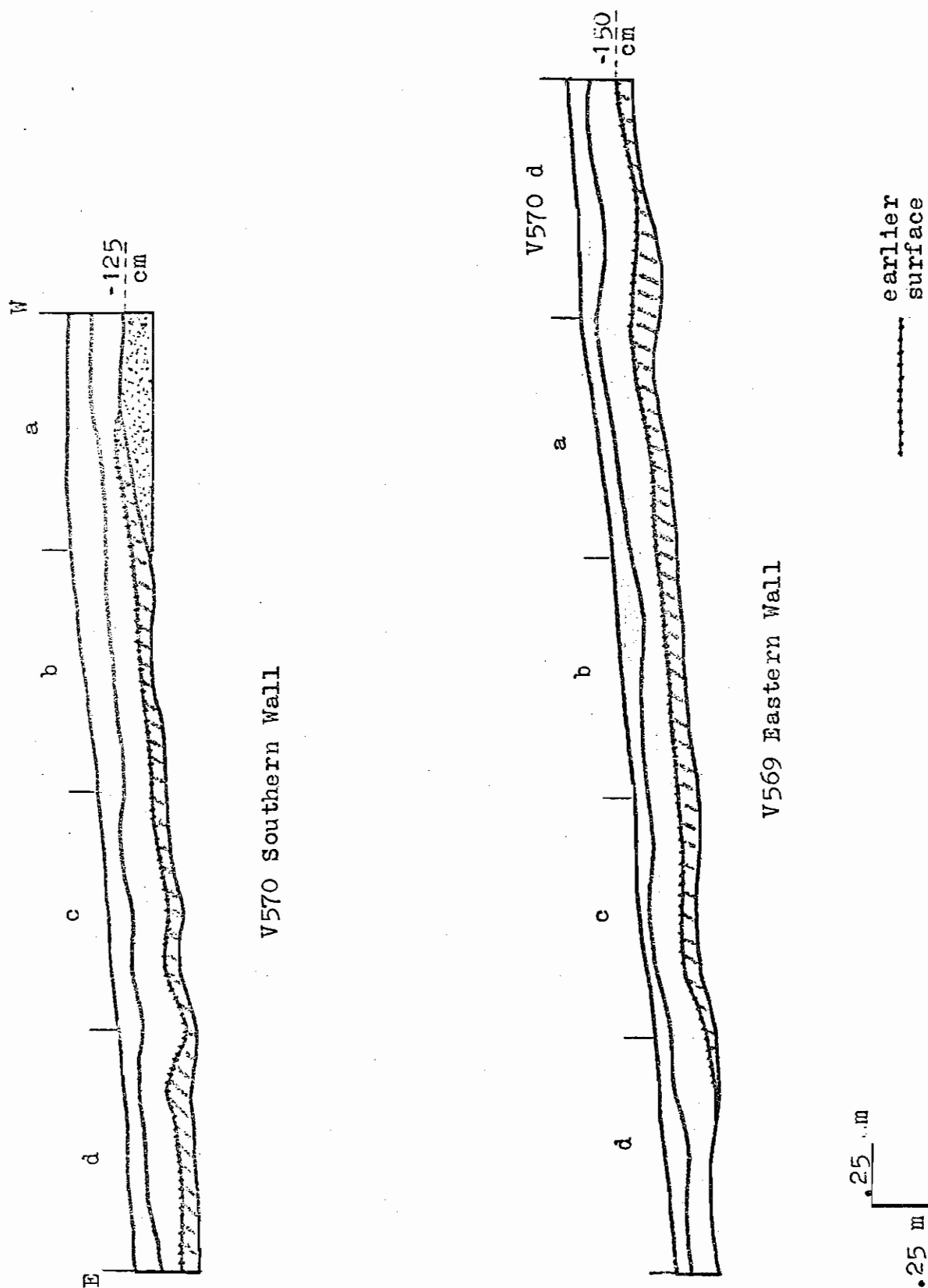
As a result of the failure of pit V564 to produce aboriginal surfaces, we decided to switch our emphasis more towards the east and closer to the road - cut. It was already known that the cultural layer was very thin at this point, so it was thought that two test trenches, one extending north -

south (V569) and the other east - west (V570), would produce better results than a two-meter square pit (See Map 1). Each trench was divided into four one-meter squares (a - d). Prior to the actual excavation, two postholes were drilled to determine the stratigraphy just outside the periphery of the trenches. Posthole twenty - five was situated at N15-E10, one meter to the east of V570d, and posthole twenty-six was located one meter to the north of V569d at N20-E9. The two postholes revealed that the cultural layer was about twenty-nine centimeters thick and the loess eleven centimeters thick to the east of V570d, and the cultural layer was approximately twenty centimeters thick to the north of V569d and the loess disappeared entirely.

It was suspected that V569 would be the more productive of the two trenches, so it was decided to attack the excavation cautiously from the west along V570. V570a was to be lowered to the minus 125 centimeter below datum level (the thickness of this level varied from twenty-two centimeters at the southwest stake to seven centimeters at the northeast) with the intention of abandoning this arbitrary level as soon as a floor appeared. However, as shown in figure 13 , the floor surface was very thin and extended only partially into V570a. Therefore, it was not detected during the excavation. V570a was taken down another twenty-five centimeters (a2) to the minus 150 centimeter level below datum. The actual floor surface made its first appearance in V570c, which was the next section excavated. All the remaining one meter squares

figure 13

Trenches V569 and V570 - Stratigraphy



in both trenches were subsequently lowered to this surface. As in V570a, the floor surface and loess were only fragmentarily represented in V569d (fig. 13). Disappointingly, no features were detected on this surface and no artifacts were found in situ. The loess was subsequently entirely removed until subsoil was reached.

Artifacts were assigned according to their horizontal placement in the two trenches (ie a-e) and according to their verticle positioning (1 - cultural layer; 2 - loess). For purposes of analysis, the 107 sherds from the cultural layer were grouped together in Table 5 of Appendix 1, as were the eleven sherds from the loess. As in pits V564 and V566, Period V was represented most, consisting of almost fifty percent of the collection. Other interesting artifacts were: a chopper from V570c, a broken drill from V570d2, and three chunks of carbonized vegetable matter from V570b2.

V572

As indicated by the original surface found in posthole 32, which was being drilled while excavation in the above two trenches was being completed, it was deemed worthwhile to place a pit in the southern extremity of the site. The pit was two meters square and had its northern-most stake situated twenty-five meters from the datum along the 155° line (See Map 1). As in the earlier excavations, it was decided to employ arbitrary levels until natural stratigraphy could be discerned. Level A, comprised of the humus and the

cultural layer, extended to the plus seventy-five centimeter level from the datum, ranging in thickness from twenty-nine centimeters in the southern corner, to nine centimeters in the northern. The humus had a very high organic content and was predominantly dark brown in color. A thin sandy yellow wash separated the humus (1) from the cultural layer in various places (fig.14). There appeared to be two zones within the cultural layer itself. There was a thin light gray zone (2) found just beneath the humus, but it was not continuous throughout the pit. Beneath this zone was the dark brown to black cultural layer found throughout the site (3).

Level B, comprised almost entirely of the latter cultural zone, extended from the plus seventy-five centimeter level to the original occupational surface. The one and only feature discovered at this site was situated upon this surface against the southern wall. It was a fairly small U-shaped hearth (fig. 15) dating to the Panther Lake phase, as demonstrated by a Tchefuncte rim sherd lying in situ upon the hearth. Carbonized organic matter was found within the hearth and was abundant throughout Level B.

Excavation continued in the northern half of this pit. Level C was an arbitrary level extending from the earlier surface to plus fifty centimeters above datum, and was directly followed by Level D which extended from the base of C to the subsoil. Together these two levels comprised the whitish loess natural layer. The loess in the southern half of the pit was taken out as one layer - Level E. Two zones were also

figure 14

Pit V572 - Stratigraphy

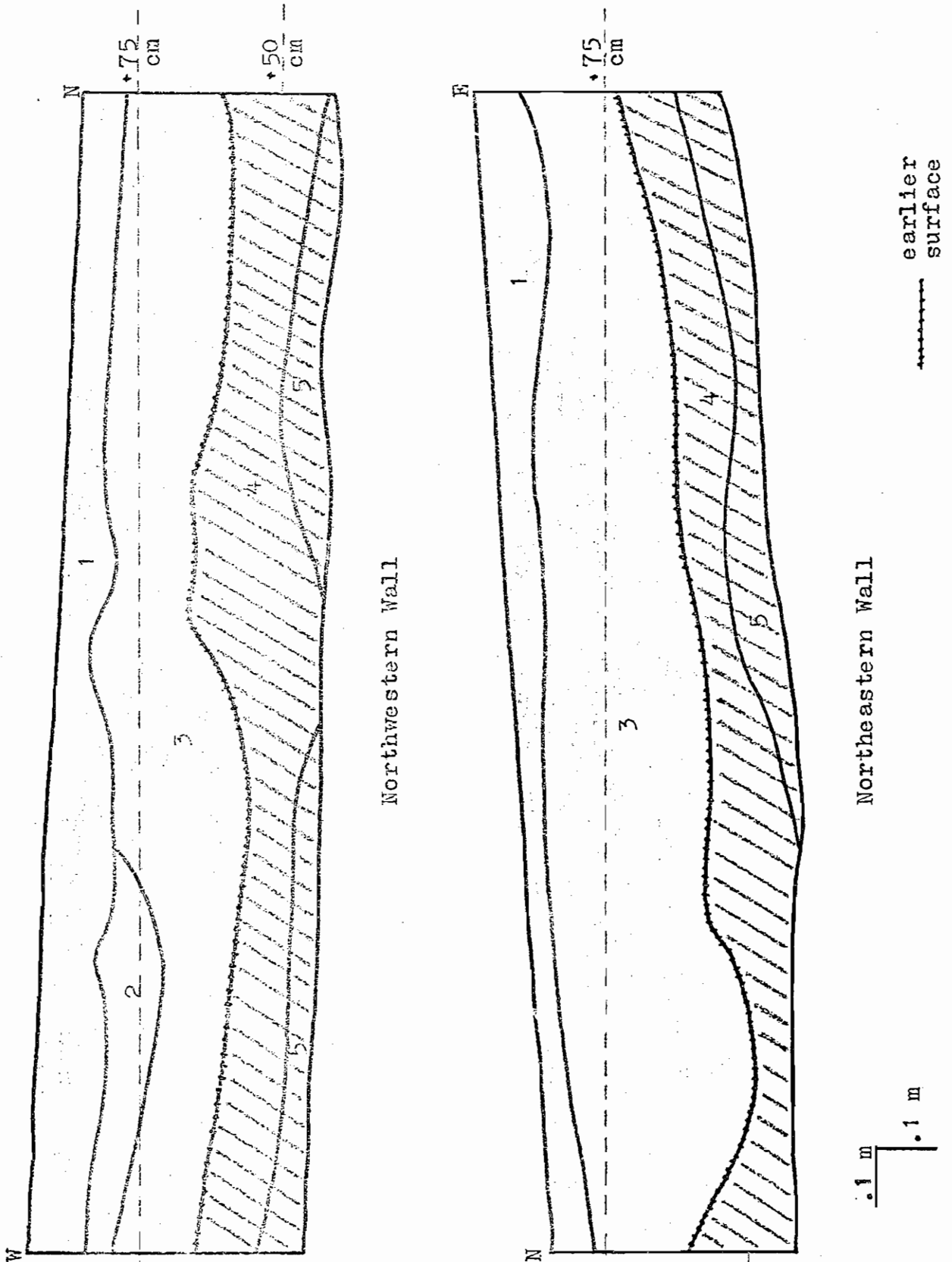
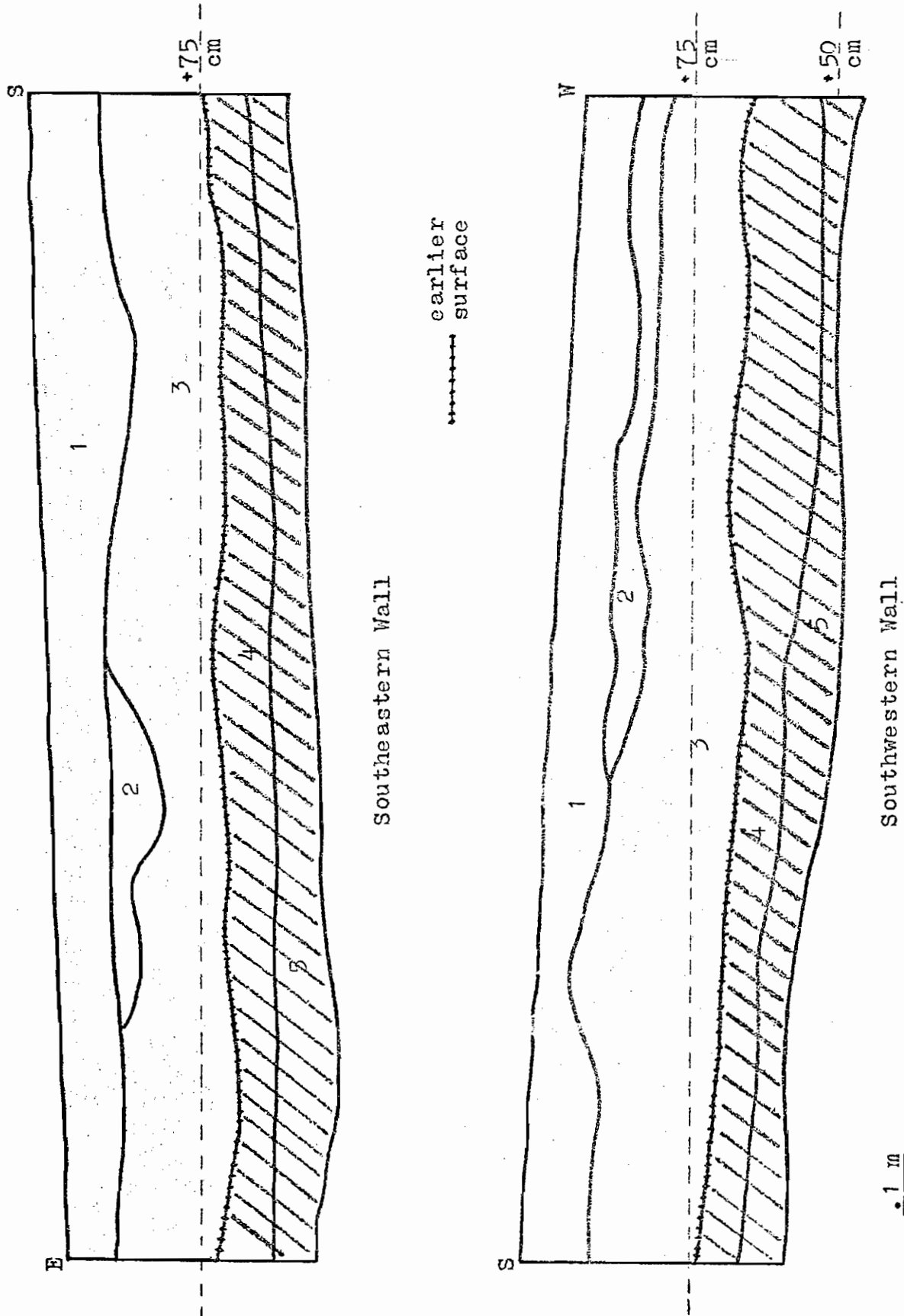


figure 14 (cont.)
Pit V572 - Stratigraphy



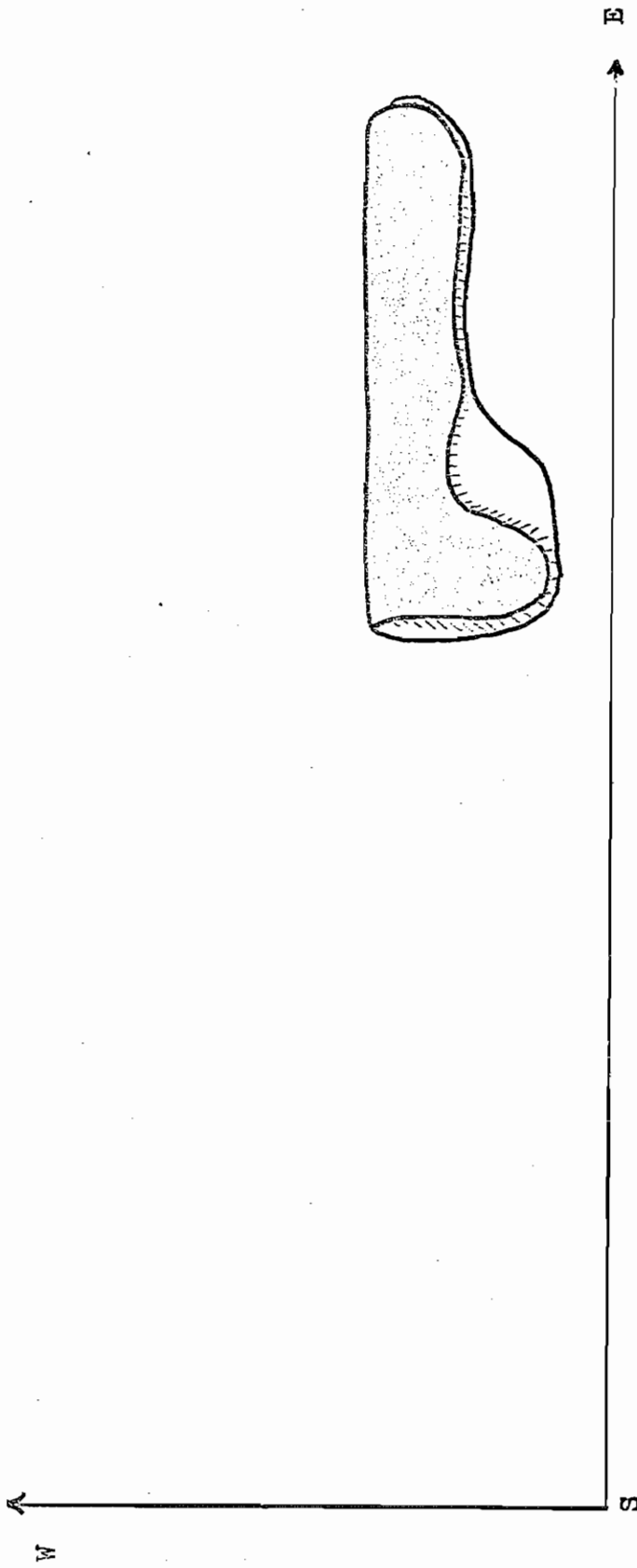
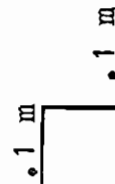


figure 15

Plt V572 - Hearth on Floor of Level B



seen in the loess layer of Levels C, D, and E. The top of the layer (4) was light in color as a result of staining from the cultural layer above. A very fine sandy loess wash (5) appeared at the base of the deposit resting upon the clay subsoil.

Period V was by far the most heavily represented period in this pit, followed by strong Period IIA and IIB markers. As expected, the percentage of Tchefuncte and Issaquena diagnostics increased with depth. The pottery from this pit and the various other excavations shall be dealt with in the next section. Besides the organic remains already referred to, stone tools were also a prominent feature of V572, almost all of which were confined to Level B. Included in this category were: an Alba point, an end-scraper, a scraper - chopper, and an unclassified scraper. A knife-like worked implement was also found in Level E.

Prehistory From Ceramic Analysis

A total of twenty ceramic types comprising twenty-seven varieties have been found at the Sardine Site, as well as five additional types unspecified as to variety. All these types and varieties, with the exception of Bell Plain variety Greenville (Brain 1969:158) can be found in Phillips 1970: 23,238. No new varieties have appeared at this site. As this thesis is concerned with the settlement patterns of the Bluff

Area by first examining a single site and then expanding to view the region as a whole, this section shall differ somewhat from the typical ceramic analysis of a site report. The pottery shall be utilized solely as a means of interpreting when the site was occupied, and the relative intensity of the various occupations (Refer to Table 1 , p. 6). The usual discussion and classification of the ceramic types and stone artifacts shall not be dealt with in this report as this would not be in direct line with the purpose of this thesis, and also that much of the information would be repetitious of Phillips' 1970 work.

There was a total of 191 diagnostic sherds discovered in the Sardine excavations which related to nine of the eleven phases set up for the Bluff Area (See fig. 1 , p. 3). This was an extremely small decorated sample for the amount of excavation which occurred, but nevertheless, much valuable information was obtained from these sherds.

It was first necessary to determine whether the 191 sherds constituted a statistically valid sample. In other words, if another portion of the site was to be excavated, would the phases be represented in the same proportions as found in the earlier excavations, or did the proportions in the earlier finds occur by chance? The chi - square test was appropriate for obtaining this sort of information. The ideal situation for this test would be to correlate each phase with each pit, but the small size of the sample⁴ prevented this type of

4 The sample had to be large enough so that no more than 20% of the expected frequencies were less than 5 (McCollough et al 1963:97).

analysis. However, grouping the various pits together and testing the phase diagnostics as a single sample (appendix 1; Table 6) produced a chi-square value of 406.25 for ten degrees of freedom⁵. The probability that such a large value would have occurred by sampling variability is much less than .001. In other words, the phase sample of 191 sherds was a very accurate representation of what would be found if the entire site was excavated. Using the period and phase markers combined, the sample was large enough (859) sherds) so that each period could be tested against each pit (Appendix 1; Table 7). In this test the chi-square value turned out to be 34.97 for nine degrees of freedom, again demonstrating that the probability that the sample occurred by chance was less than .001.

Now that the assemblages from the excavations have been shown to be statistically valid samples, each pit can be analyzed and correlated to the other excavations. Pit V564 had a mere thirty-one sherds in level A, which was the only level in the pit to have cultural material (Appendix 1; Table 5). Three of these sherds, or rather 9.7% (fig.16),⁶

5 The Panther Lake phase was extremely large because of the inclusion of the Tcheifuncte variety of Tcheifuncte Plain. Panther Lake was the only phase which also was a period unto itself (Period IIA). The plain sherds found in the other phases (Valley Park, Addis, etc.) unfortunately could not be assigned to particular phases, but only to periods. A more appropriate analysis might have been just to select the decorated sherds of the Panther Lake phase (ie 8 sherds).

6 Percentages were calculated according to the number of sherds in the pit and not according to level or the total collection from the site.

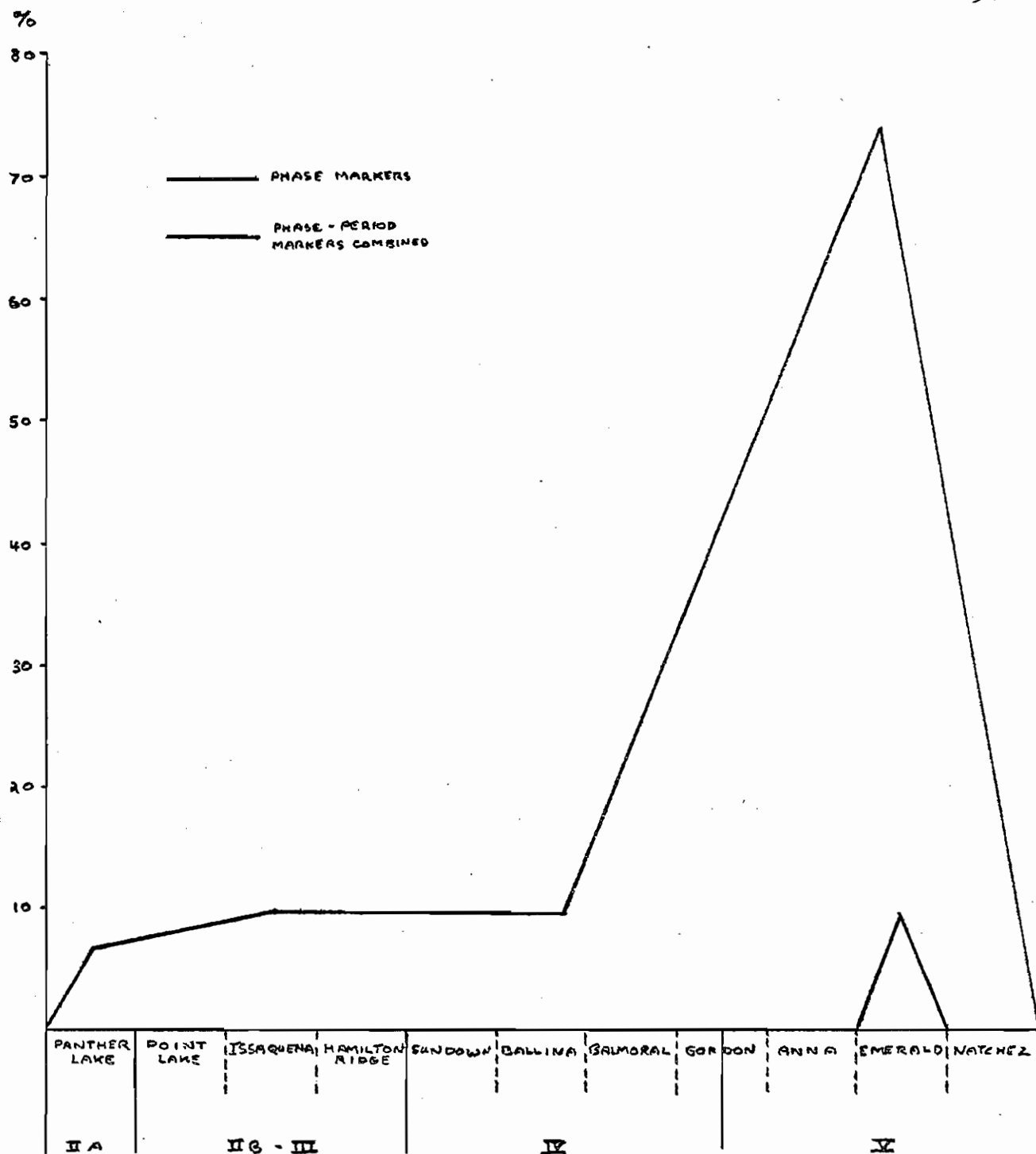


figure 16

Pit V564 - Phase and Phase-Period Markers

were diagnostic of the Emerald phase, whereas the remainder of the collection could only be sorted according to period⁷. Although every period was represented in Pit V564, it is obvious that very little occupation occurred in this portion of the site. The area was utilized most during Period V.

Pit V566 was a bit more complex as 322 sherds were found there, seventy-nine of which were phase markers (Appendix 1; Table 5). Looking first at the phase distribution (fig. 17), one receives the impression of much disturbance. No apparent distinction was perceived between the three layers. The percentages decreased directly with depth, but the ratio between the phases remained approximately the same, with Issaquena and Hamilton Ridge becoming a bit more represented in relation to Anna and Emerald. The appearance of Panther Lake diagnostics and a fairly strong percentage of Hamilton Ridge markers in the A level suggests a great deal of disturbance. However, the period and phase markers combined (fig. 18), which takes into consideration the much more numerous plain varieties and types, does reveal a greater distinction between the three levels. Level A was again mostly Period V with a fairly strong percentage of Period IIB-III, whereas level B demonstrated an increase in the latter and in Period IIA, and an extremely marked decrease in Period V diagnostics. Level C contained only Period IIA-III markers.

7 In this sort of analysis the variety Tchefunte of Tchefunte Plain had to be regarded as a period rather than a phase marker, as otherwise phase comparisons would be ludicrous.

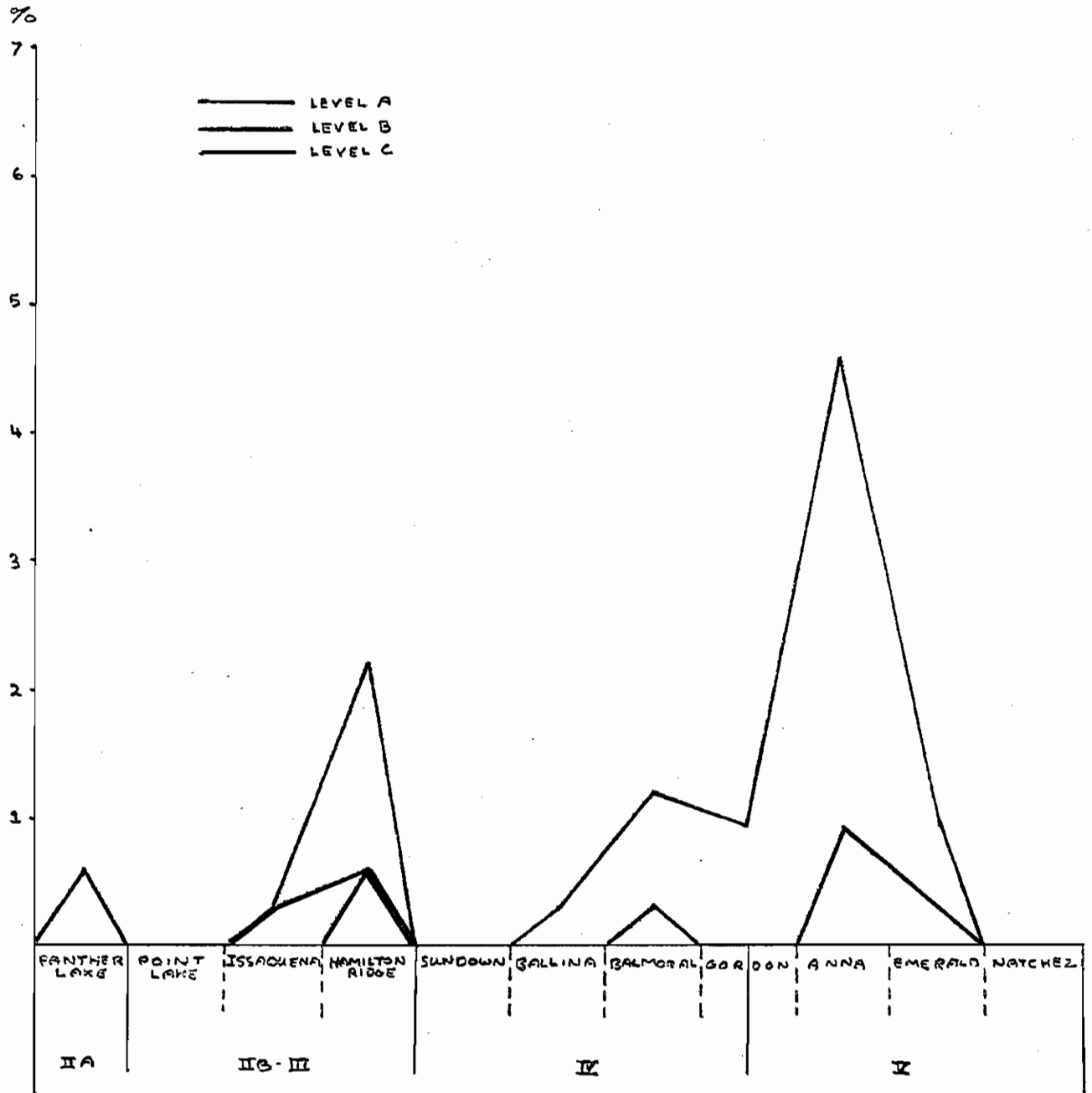


figure 17

Pit V566 - Phase Markers

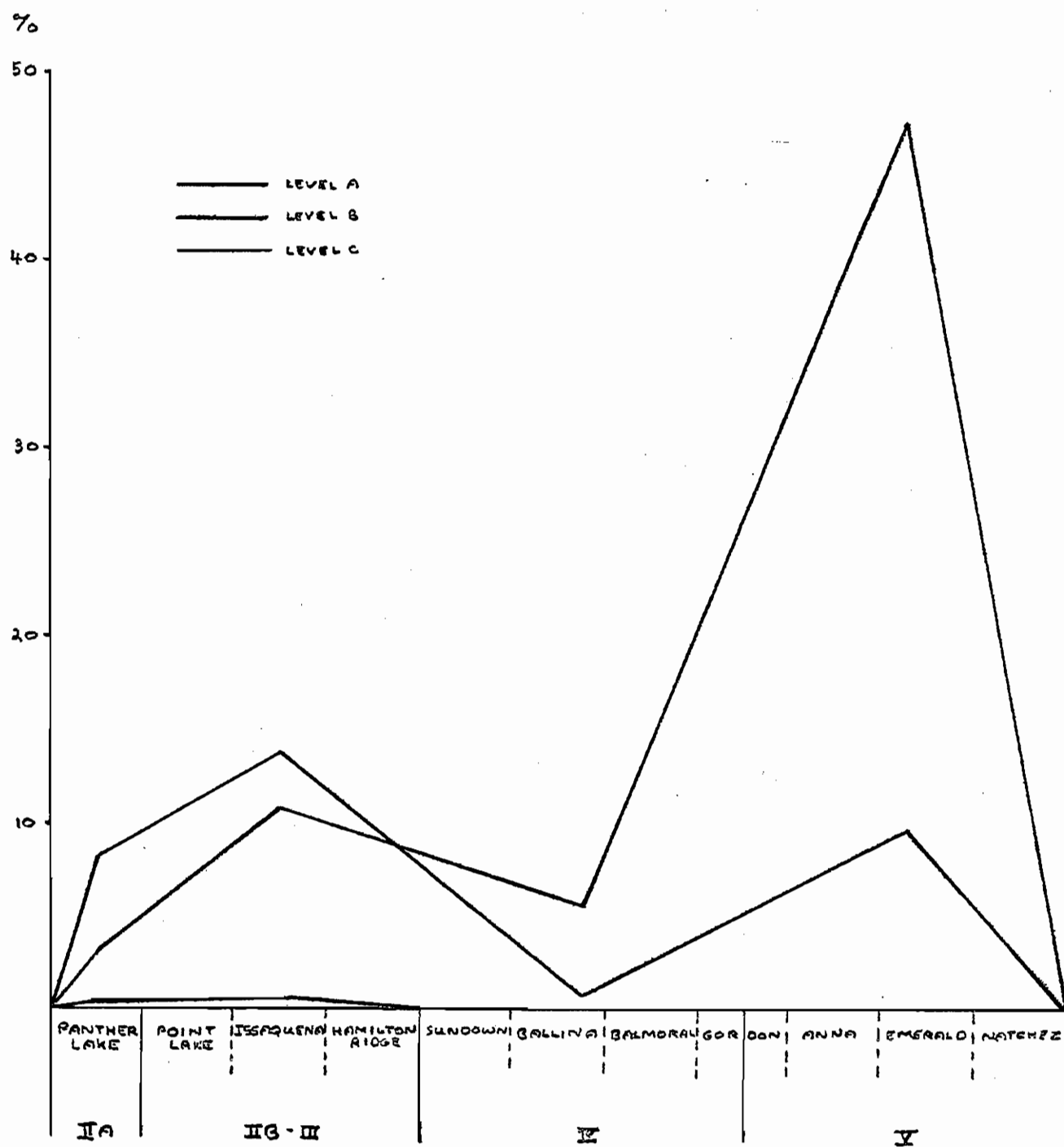


figure 18

Pit V566 - Phase-Period Markers

Trenches V569 and V570 (Appendix 1; Table 5) seem to have been occupied to the same degree during the early periods (IIA - III) and Period V. This was revealed in the combined phase - period diagnostics of $a_1 - d_1$ and $a_2 - d_2$ (fig. 19) which had a percentage ratio of Panther Lake through Hamilton Ridge to Gordon through Anna of 46.5 to 46.5, or rather 1 to 1. 9.2% of the sherds from these trenches were found below the aboriginal surface, obviously due to some sort of disturbance which was not detected in the excavations. The Gordon phase, as depicted in this pit, is an interesting phenomenon which requires further examination. Although this phase was only represented by three sherds (2.4%), all three belonged to different types and varieties (Evansville Punctated, variety Wilkinson; Avoyelles Punctated, variety Dupree; and Harrison Bayou Incised, variety Harrison Bayou).

As in pit V566, pit V572 showed no real distinction between levels A and B in terms of phase distribution (fig. 20). Level A had an extremely strong Anna representation and a fairly strong Issaquena percentage. The ratio between these two phases, as well as the Emerald phase, remained the same in level B, but Hamilton Ridge, Balmoral, and Gordon were no longer represented. Sundown remained at about the same percentage. Panther Lake, although not detected in level B, reappeared in levels C and E with the same percentage as it had in level A. This was the only phase which appeared below the floor surface. The period - phase percentages of each level (fig. 21) gives a clearer picture of the structure of

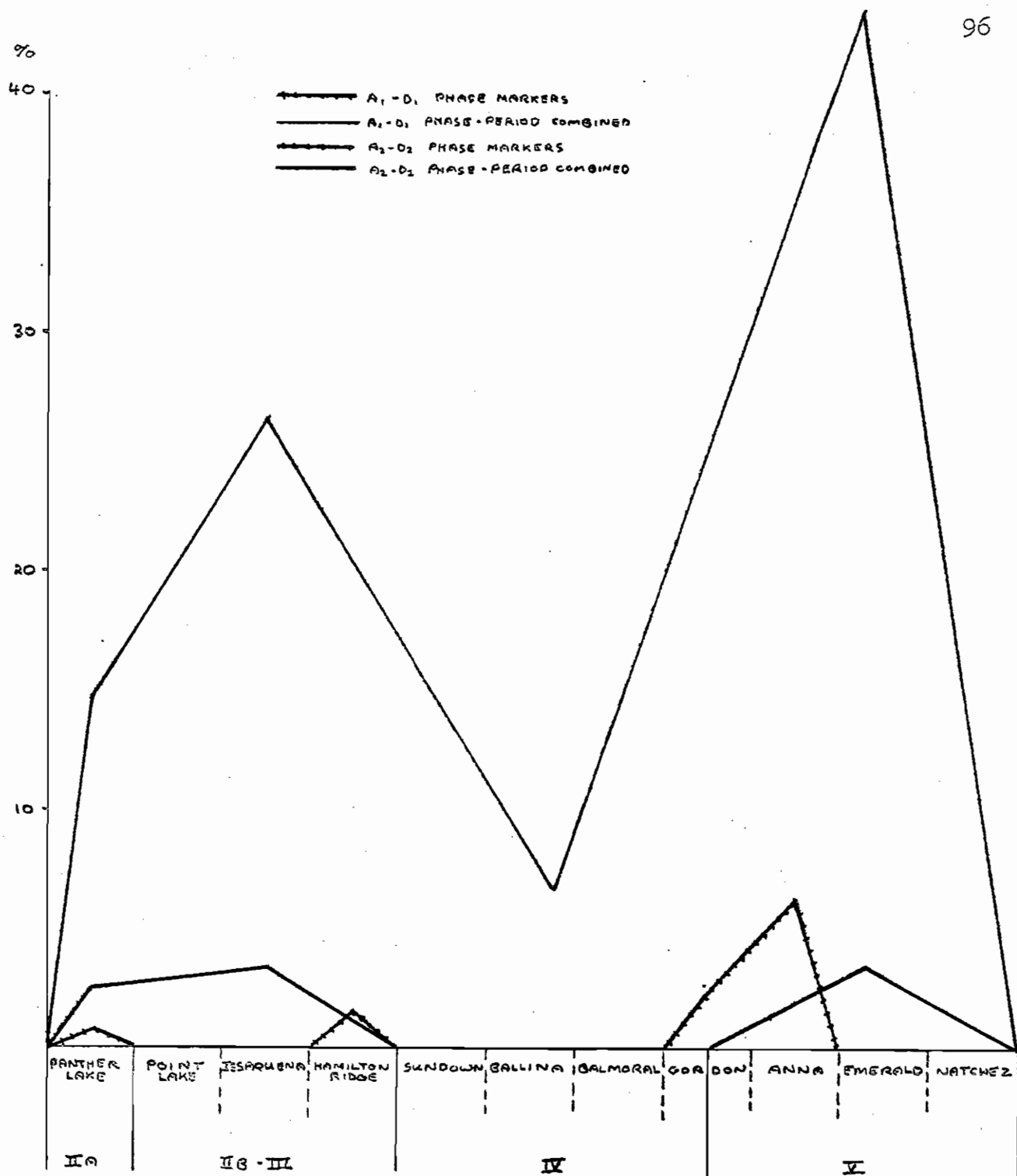


figure 19

Trenches V569-V570 - Phase and Phase-Period Markers

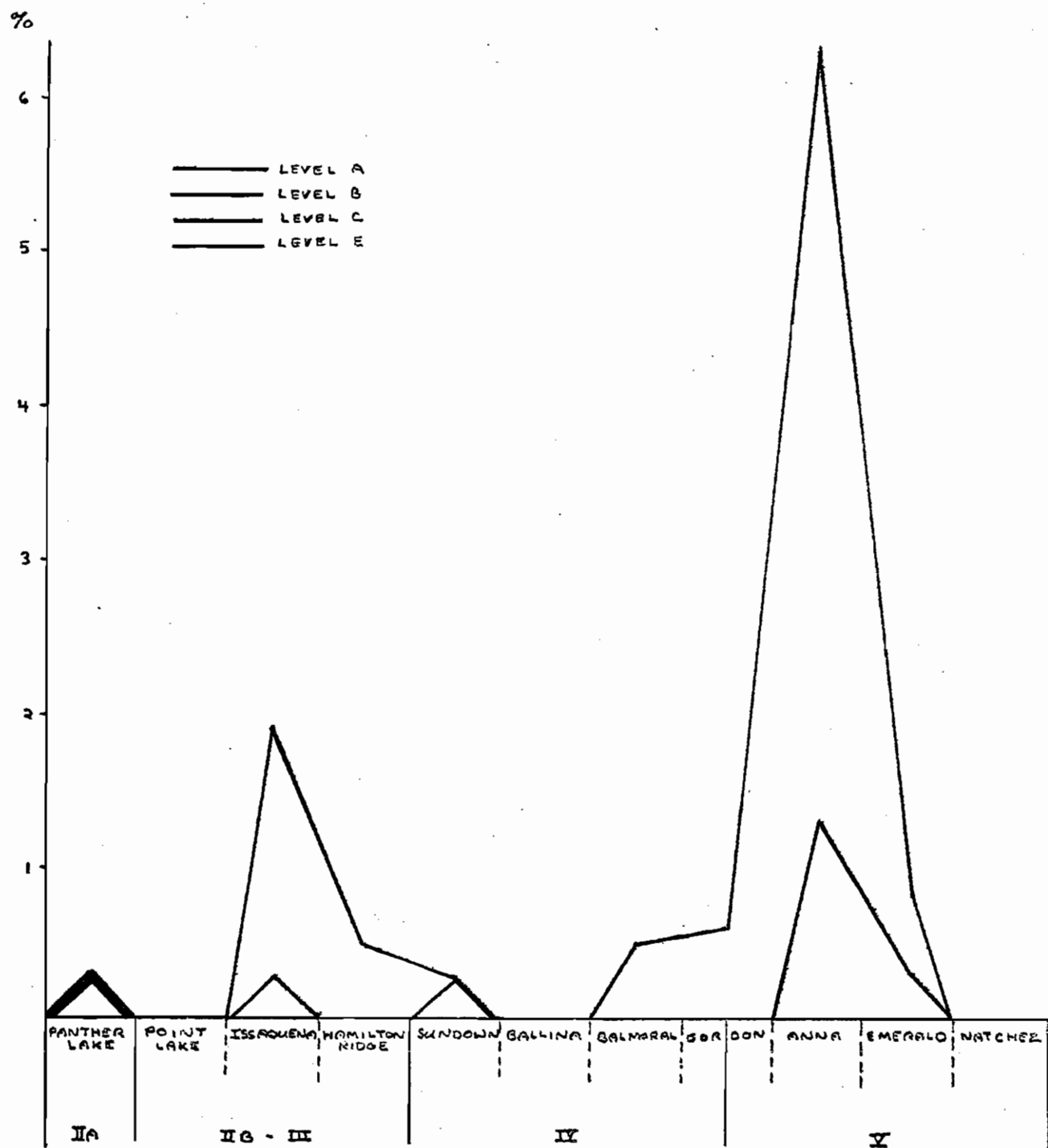


figure 20
Pit V572 - Phase Markers

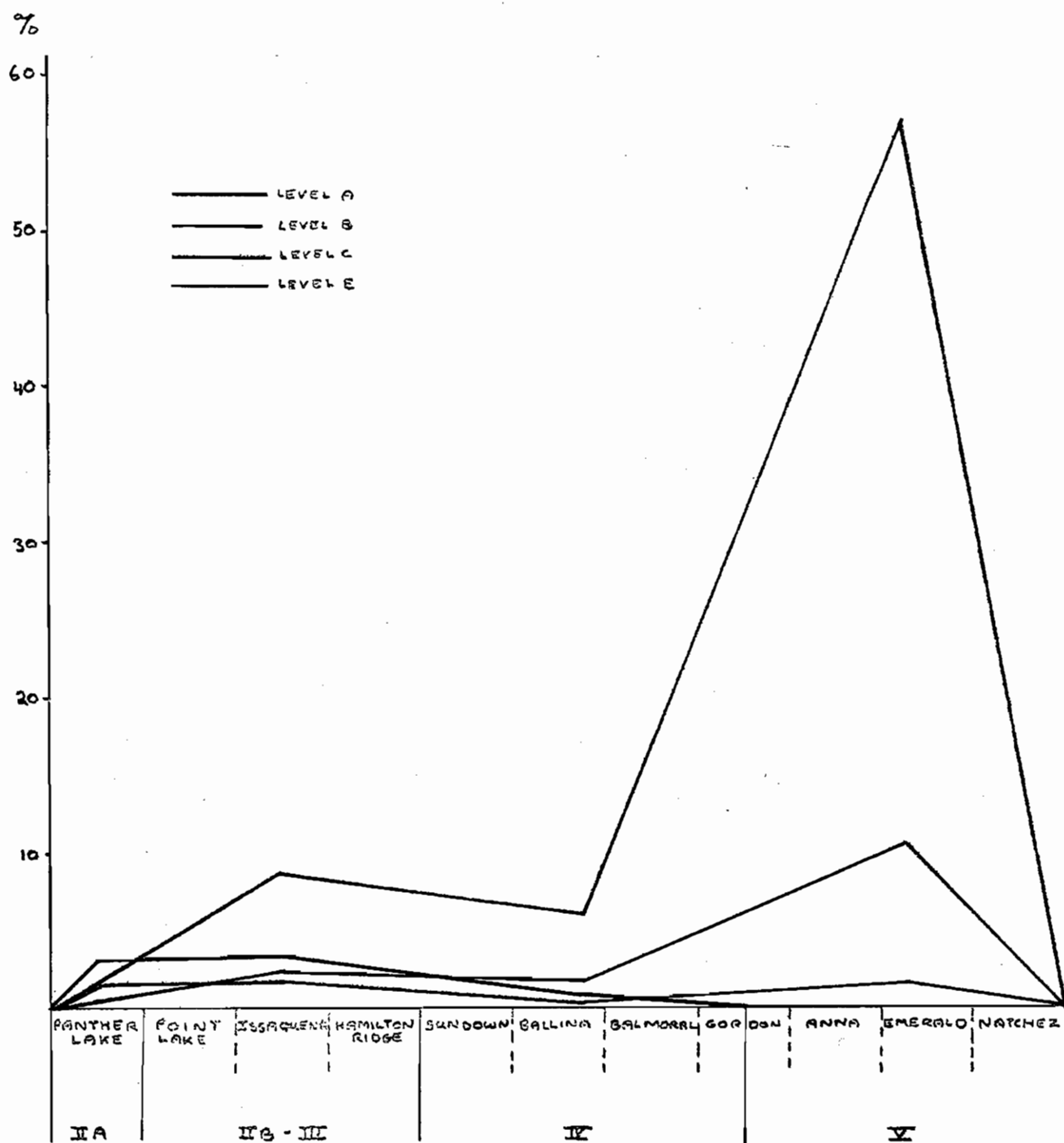


figure 21

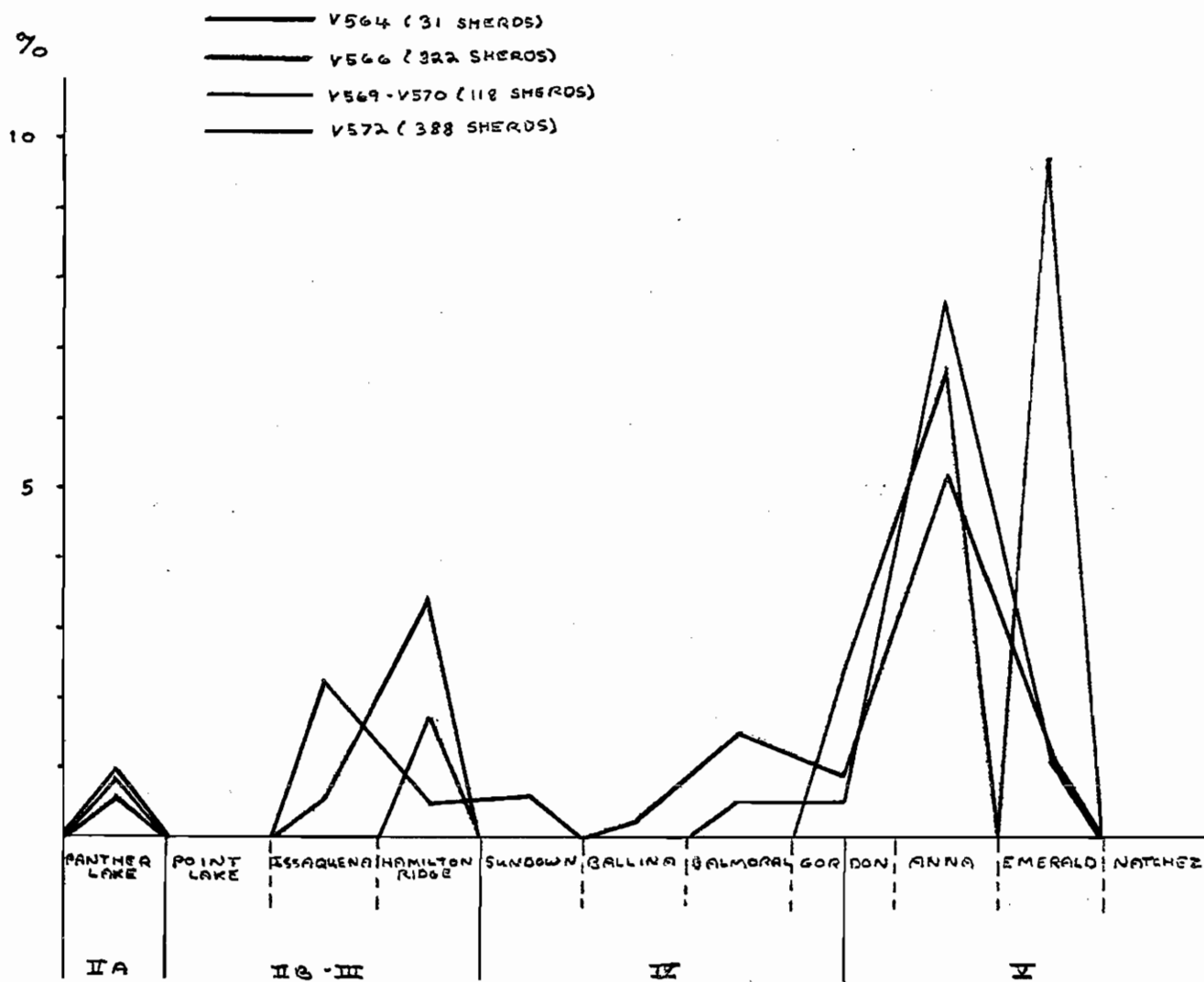
Pit V572 - Phase-Period Markers

the pit than does the phase markers alone. Period V was very strongly represented in level A and decreased markedly in level B, whereas the earlier periods decreased only slightly. Levels C and E, both of which were below the aboriginal surface, were predominantly Period IIA through III, although there was a small sample of Period IV and V cultural material.

A comparison of the phase markers from the four excavations was remarkably similar (fig. 22), and various interpretations were derived. Essentially, there appeared to have been three intervals of intensive occupation divided by three periods of abandonment, and/or sporadic settlement. Panther Lake was the first phase in which occupation occurred. It was followed by an abandonment of the site during the emergence of the Marksville culture in the valley. It is questionable as to whether there was an actual abandonment between the Panther Lake and Issaquena phases though. The lack of Point Lake sites in the Bluff Area (See p. 125) suggests that the pure Marksville culture never reached the hills, and that the Tchefuncte culture remained on the bluffs while the valley cultures changed. Although this was what probably happened in prehistory, there is independent information which indicates that the Sardine Site was abandoned for a significant period between Panther Lake and Issaquena. The discovery of a relatively undisturbed hearth which dated to the Panther Lake phase and an original surface believed to be of this age also, as well as the fact that the sherds relating to this phase were significantly larger than the sherds of subsequent

figure 22

All Excavations - Phase Markers



phases, suggests that a considerable amount of time elapsed between the last occupation of the Tchefuncte culture and the following Issaquena settlement. Occupation was much more intensive during Issaquena and the subsequent Hamilton Ridge phase than it had been during Panther Lake, and there appears to have been no noticeable occupational discontinuity between the two phases. However, during the Sundown phase, which marked the beginning of the Coles Creek culture in the southern portion of the valley, occupation dropped off markedly. There was some settlement during the Sundown and Ballina phases, but it was not until Balmoral and Gordon that the intensity of occupation began again. The site was utilized most in the Anna phase. Occupation dropped off during Emerald⁸ until by the historic Natchez phase, the site was once again abandoned.

Figure 23 again shows the relationship between the various pits, but this time according to periods. The overall trends remained the same with three peaks occurring, each with a greater intensity than the one before it, and two major abandonments. The obvious absence of Point Lake does not appear in this analysis because the classes are entire periods and therefore only indicate changes which occurred throughout the period, and not between particular phases. A quick glance at this frequency polygon immediately raises the question as to whether there were significant differences

8 The percentage of the Emerald phase was large in pit V564 because of the small number of sherds collected from this pit.

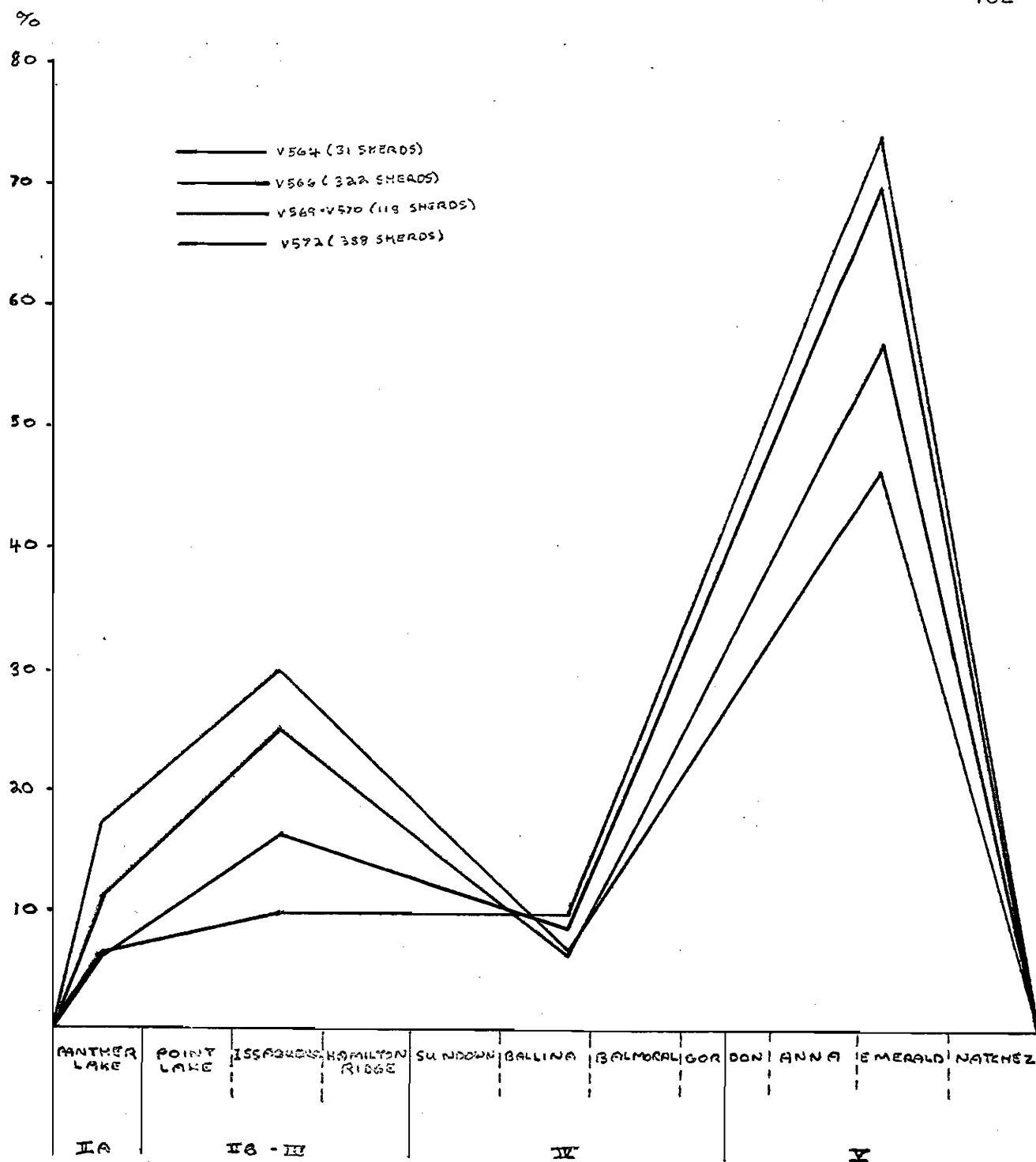


figure 23

All Excavations - Phase-Period Markers

between the individual pits. Between Period IIB-III and Period V there was a range of 19.9% and 27.7% respectively. Even if pit V564 was excluded because of its small sample, the range between the highest and lowest values was still quite high - 13.3% and 23.0%. If these differences are statistically valid, and not just the result of sampling variability, the variances could be the result of horizontal stratigraphy. The chi - square test can again be used to determine the significance, by testing each pit⁹ against all the others for every period (Appendix 1; Table 8). For Period IIA there was no difference in the populations between pits V566 and V572, and trenches V569-V570 and pit V572. However, there seemed to be a significant difference between V566 and V569-V570, as the probability that the quantity variation occurred by chance was between .05 and .02. The possibility that these results were obtained by sampling variability was still tenable though, and the fact that V572, which was a few meters from V566, was closely related to V569-V570, supported this possibility. Therefore, it is believed that during Period IIA the entire site was fairly evenly populated with no area being favored over another.

With the appearance of Period IIB-III, it was evident that particular areas were favored over others. A significant difference was apparent between V566 and V569-V570 and between

9 Pit V564 was excluded from this test because of the small sample collected from this pit.

V569-V570 and V572, but no difference between V566 and V572, thereby suggesting that the people of Period IIB-III preferred living on the southern portion of the site. The same trend continued through Period IV, but during Period V there was an even greater push towards the south. Not only was there a significant difference between pit V566 and trenches V569-V570, and pit V572 and V569-V570, but a significant difference between V572 and V566 was also seen with the former having a much greater occupation during this period. This is not to say that the northern portion of the site was not occupied during Period IIB through V, or was utilized less than during Period IIA, but rather that the concentration tended toward the south with the passing of time. An observation of this type concerning a small site such as Sardine may not be too significant, but it is interesting, and when applied to large sites and regions, the results can be very rewarding.

I have thus far resisted the temptation of discussing the various artifacts, but a few words must be mentioned concerning some interesting phenomena which came to light during the ceramic analysis. The occurrence of iron oxide, or rather red ochre, as a tempering ingredient was very prevalent at the Sardine Site. Phillips mentions that red ochre often appeared in the Tchefuncte variety of Tchefuncte Plain (Phillips 1970:163), but in sorting the sherds from Sardine it became apparent that the iron oxide was neither confined to just this variety nor to the Panther Lake phase alone, but was found throughout the periods and ran across

varietal lines, differing only in frequency. Table 3 is a tabulation of all the decorated phase diagnostics (a) and plain period markers (b) that were discovered on the site and divided according to whether they contained iron oxide or not. Because of the small number of decorated sherds, there was again the problem of testing the validity of the phase sample, but the chi - square test could be applied to the plain period diagnostics very effectively (Appendix 1; Table 9). The possibility that the ratio occurred by chance between the sherds with iron oxide to the sherds without for each period, was less than .001.

Figure 24 is a frequency polygon of Table 3a showing the variance within and between the phases. The use of iron oxide was most prevalent during the Panther Lake phase. It still appeared during the Issaquena phase, but it was not until Hamilton Ridge that the percentage of iron oxide again surpassed (but only slightly) the percentage of sherds without this ingredient. The ratio between the two remained the same during the Sundown phase, but the popularity of iron oxide as a tempering agent was beginning to die out. It was not seen at all during Ballina and Balmoral, but by the Gordon phase it started to reappear in the pottery. The iron oxide was crushed to a much greater degree in the phases of Period V as compared to the earlier phases, where the particles were much larger. Although the percentage of the ceramics containing iron oxide in Period V was not much lower than the earlier phases when the total collection of decorated

Table 3

Percentage of Fe/Ox in Phases and Periods

PHASES / DECORATED DIAGNOSTICS	WITH FE/ox	%	WITHOUT FE/ox	%	TOTAL
PANTHER LAKE	6	5.17	1	.86	7
POINT LAKE	0	0	0	0	0
ISSAQUENA	2	1.72	8	6.89	10
HAMILTON RIDGE	8	6.89	6	5.17	14
SUNDOWN	1	.86	1	.86	2
BALLINA	0	0	1	.86	1
BALMORAL	0	0	3	2.58	3
GORDON	1	.86	8	6.89	9
ANNA	3	2.58	57	49.13	60
EMERALD	4	3.44	6	5.17	10
NATCHEZ	0	0	0	0	0
TOTAL	25		91		116

PERIOD / PLAIN DIAGNOSTICS	WITH FE/ox	%	WITHOUT FE/ox	%	TOTAL
IIA (<u>TEHEFFUNGE</u>)	76	9.62	5	.63	81
IB - III (<u>BAYTOWN PL. 4</u>)	80	10.12	82	10.37	162
IV (<u>VALLEY PARK</u> , <u>VICKSBURG</u>)	15	1.89	36	4.55	51
V (<u>ADDIS</u>)	49	6.20	447	56.58	496
TOTAL	220		570		790

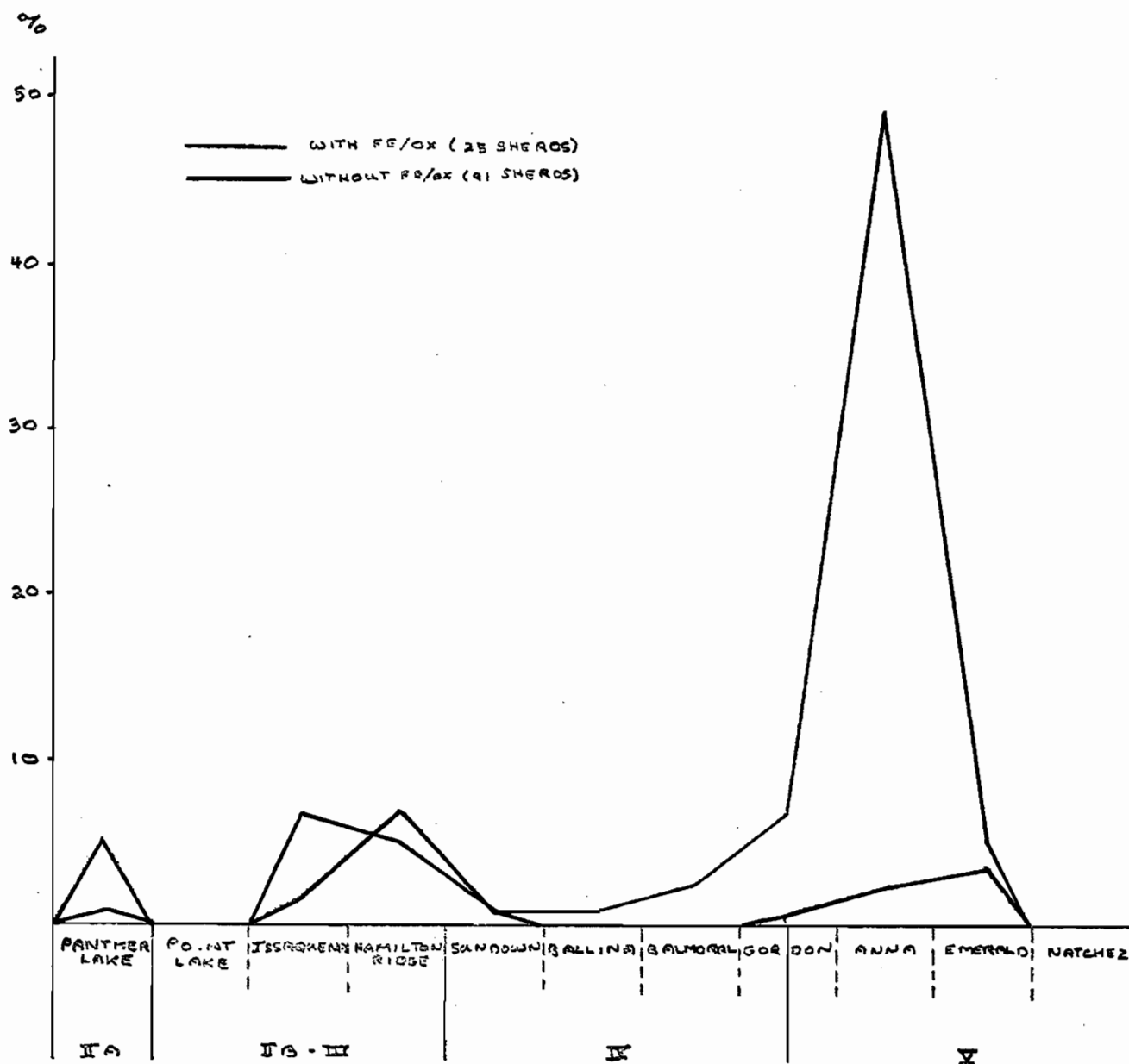


figure 24

Percentage of Fe/Ox in Phases

sherds was considered, an enormous difference existed within the Period V phases. During the Anna phase the sherds with iron oxide were outnumbered twenty to one. However, this ratio decreased by the Emerald phase. Perhaps this tempering material was again beginning to rise in popularity.

The frequency polygon in figure 25 , taken from Table 3b , shows the broad changes in the periods as indicated by the undecorated sherds. The trends were virtually the same as indicated by the phases of figure 24 . Iron oxide was a popular tempering agent during Period IIA, until it was eventually surpassed by pottery without this ingredient during Period IIB-III. By Period IV the use of iron oxide was practically extinct. During Period V there was a slight rise in its popularity again, which finally died out when the site was abandoned. The cultural events being observed by this phenomena are difficult to ascertain, but it certainly was not just a freak accident that the phase (fig. 24) and period (fig. 25) frequency polygons of this ingredient are so similar. Before any theories can be derived, examination of this temper from other sites in the region should be done¹⁰. We might be witnessing a broad regional change over time, or just a local variation.

10 A study of this sort is beyond the scope of this thesis.

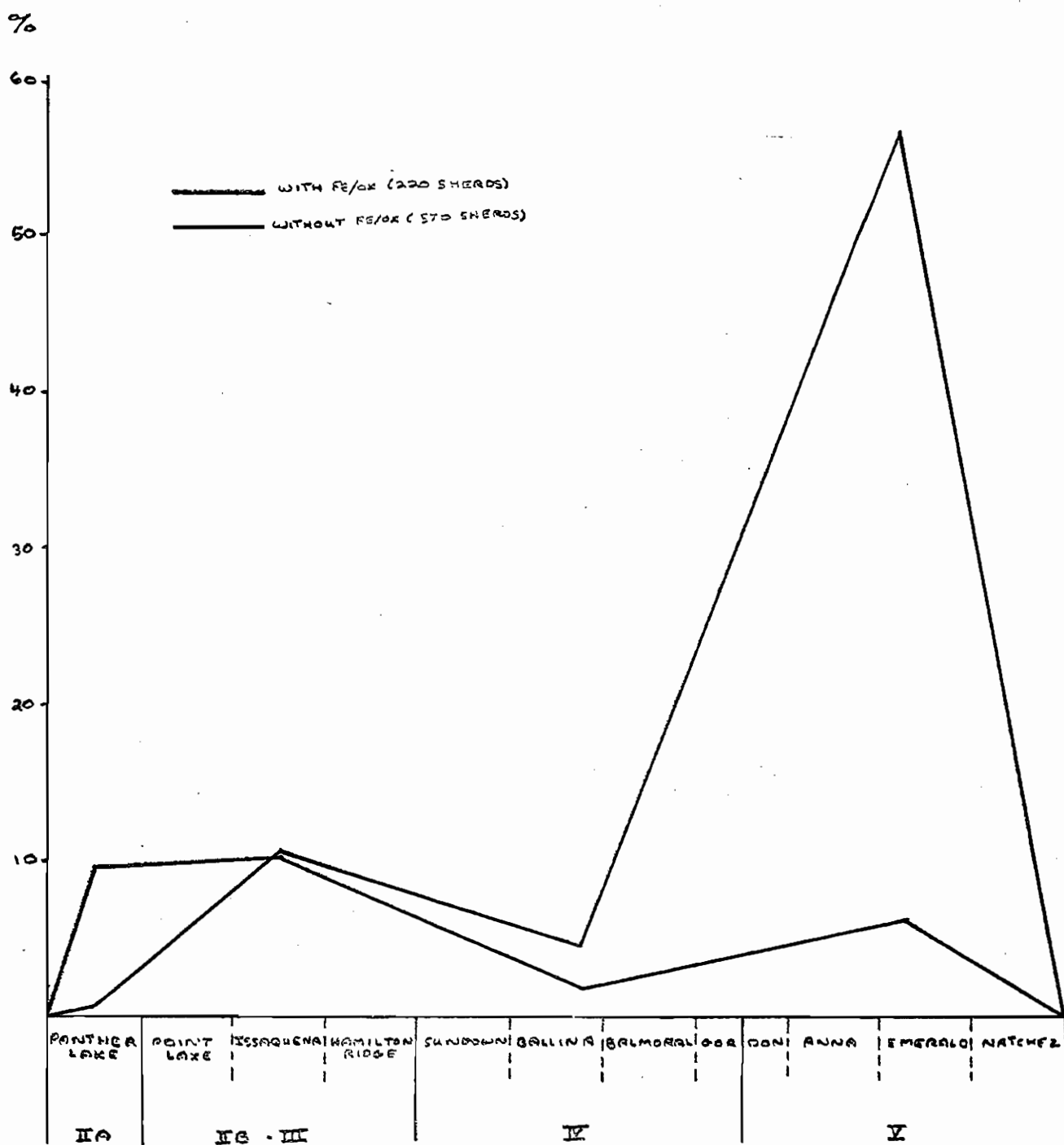


figure 25

Percentage of Fe/Ox in Periods

Conclusion

The study of the ceramics discovered at the Sardine Site presented a general picture of what occurred on the site with the passage of time. The entire assemblage, including excavations, posthole survey, and surface collections, can be seen in the frequency polygon of figure 26 . The phase diagnostics (excluding variety Tchefuncte of Tchefuncte Plain) were 12.5% of the total collection (ie 1/8). Using a scale 1/10 the size of the scale for the phase-period markers combined, the degree of correlation between the phases and periods are remarkably similar. The relationship between the earlier posthole survey (See fig. 10 p. 70) and the phase-period markers from the entire collection is also quite striking:

<u>Period</u>	<u>Posthole Survey</u>	<u>Phase-period</u>
IIA	5	9.6
IIB-III	17.5	20.6
IV	10	7.5
V	67.5	62.4

Three periods of intensive occupation are readily seen. Panther Lake was the first phase in which settlement occurred. Distribution over the entire site was fairly even. At the termination of this phase, the site was abandoned and was not reoccupied until the Issaquena phase. The southern portion of the site was favored more during the Issaquena and subsequent

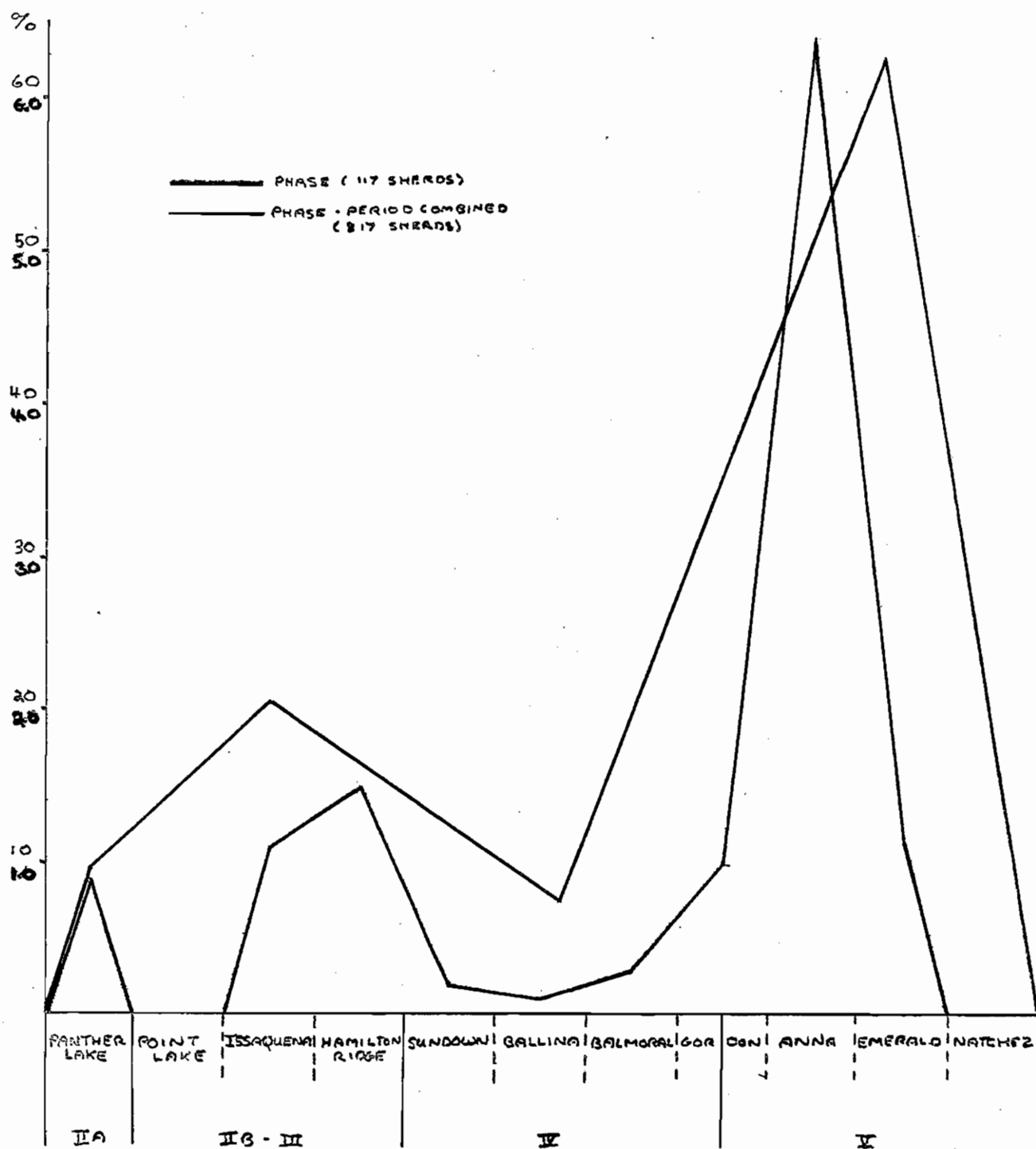


figure 26

Percentages of Entire Collection For Phase and Period

Hamilton Ridge phases, and occupation was much more intensive. Period IV was characterized by a general depopulation. Occupation did occur, but only sporadically, and the southern section of the site was favored as during Period IIB-III. Intensity of occupation began again during the Balmoral phase, and continued through Gordon until it reached a peak during the Anna phase. During this last period (V), the preferred area of settlement moved even further south, even though the entire site still continued to be utilized. Settlement rapidly dropped off in the following Emerald phase until by the historic Natchez phase there was no occupation at all.

Chapter 4

Settlement Patterns in the Bluff Area

A general view of the cultural history of the Lower Mississippi Valley has now been dealt with, along with an intense examination of the prehistory of a specific site within the Bluff Area. With this basic background, it is now possible to expand our research to examine the entire Bluff Area between Vicksburg and the southern Mississippi - Louisiana border (Map 2). This area is very extensive, and thus it was impossible to survey the entire region in a single field season. The survey was therefore designed to sample particular ecological zones which appear throughout the Bluff Area, and derive conclusions for the entire region based upon this sample. There were four different ecological zones apparent in the area: narrow ridges, broad relatively level plains, tributary floodplains, and the Mississippi floodplain at the base of the bluffs. The first three zones were divided on a more specific level, as to whether they were interior or exterior locations in relation to the Mississippi floodplain. If the zones were situated in close proximity to the Mississippi floodplain, they were exterior locations. If they were situated inland away from the valley, they were considered interior zones.

The regions included within St. Catherine's drainage, combined with the broad flat plains surrounding the village of Pine Ridge, essentially constituted the interior zones surveyed. An intensive survey was also made along the edge of the bluffs, and the Mississippi floodplain below, from Vicksburg to the southern Mississippi - Louisiana border.

L

M

23

24

25

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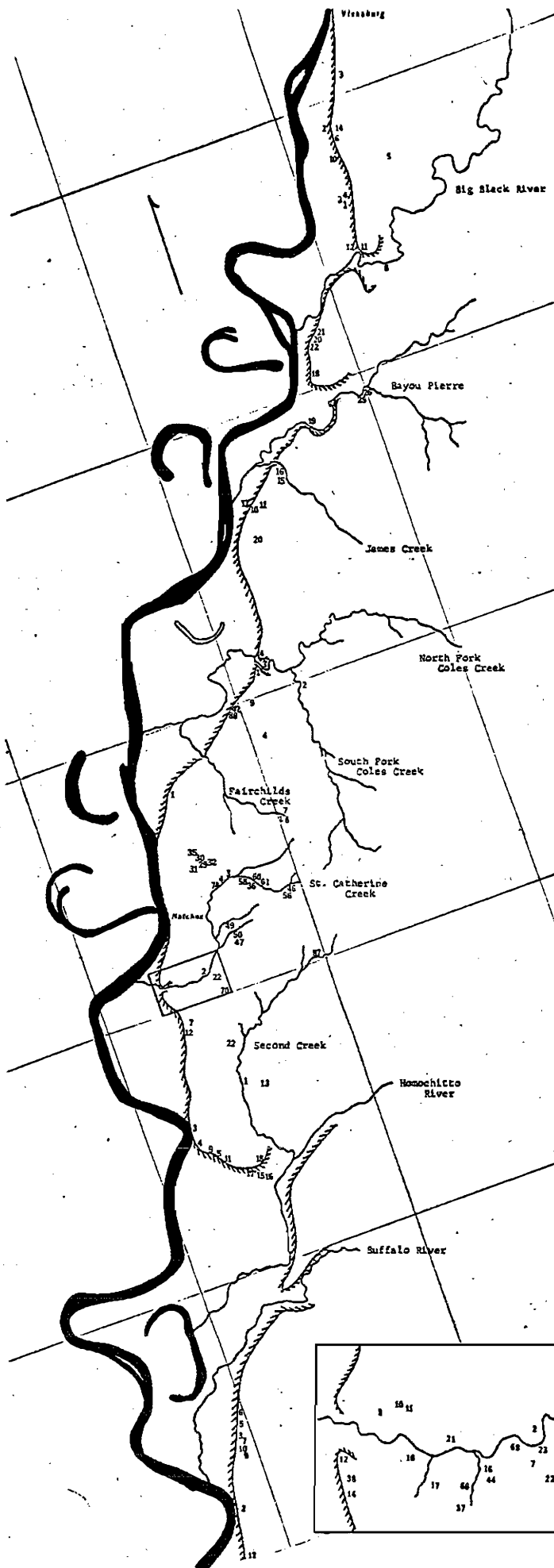
24

25

26

27

28



Map 1

Archaeological Sites in the Bluff Area

J

K

24 - L	36	M.T. Seale
18 Grand Gulf	37	Big James
20 Willy	38	Missed Once
21 Stuck	42	Feltus
22 Relief	43	Junkin Ridge
24 - M	44	Wilson
1 Yokena	46	Ratcliffe
2 Glass	47	Bull Ridge
5 Ring	49	Sylvan Glade
6 Burthe	50	Twin Oaks
10 Hard Days Night	56	Bryandale
11 Farmland #2	58	Dump
12 Farmland #1	60	Morrell
14 Brown	66	Bullhead Bayou
25 - L	68	North
1 Ferguson	70	Sardine
3 Nall	74	Thoroughbred
4 Frasier	88	Pumpkin Lake
10 Petit Gulf	26 - L	
11 Newsome	1 Emerald	
15 Windsor	2 Gordon	
16 Beesley	4 Williams	
17 Smithfield	6 Solo	
19 Cassell	7 Sour Apple	
20 Catledge	9 Bates #2	
23 Big Perry	27 - K	
25 Centers Creek	1 Mazique	
26 Bayou Pierre	3 Ellis	
26 - K	4 Hamilton Ridge	
1 Anna	5 Hutchins Ridge	
2 Fatherland	7 Birch	
3 Foster	9 Bat Ridge	
4 Henderson	11 Whitetail	
7 Trinity School	12 Forgot	
9 Stockyard	13 La Grange	
10 Corral Ridge	15 Shieldsboro	
11 Susie B. West	16 Armstrong	
12 Stoveleg	17 Plateau	
14 Morrison	18 Rocking TT	
16 Brown's Folly	22 Garden of Eden	
17 KBS	28 - J	
18 I.P.	3 Smith Creek	
21 Hog Waller	5 Buena Vista	
22 Village Sauvage	6 Flat-Top	
23 Fort Farine	7 Po'Folk	
29 Rands	9 Dooley	
30 Greenlawn	12 At Last	
31 Pinecrest Place		
32 Schuchs		
35 Jamison		

As seen in Appendix II - Table 12, the number of sites of the interior zones approximately equaled the amount from the exterior. The survey was therefore probably a relatively unbiased study of the two regions. There was also another reason for the intensive investigation of the exterior areas. It was known that the Mississippi River played a major role in the valley concerning the interaction between cultures, and presumably it also exercised a similar role for the cultures that existed upon the bluffs. Hence, it was expected that the influence of the Mississippi River would be manifested in the settlement patterns. This could best be exemplified by studying the settlements along the bluff edge.

Over two hundred sites were discovered as a result of the 1971 survey, only half of which are dealt with in this thesis. This is because many of the sites could not be sorted according to phase. Those which could be assigned to one or more phases are listed in Appendix II. For each of these sites, its location and cultural importance are discussed. Most of the sites were of minor concern, either because they actually were of minor importance in prehistory, or because the surface collections made were too small to derive any conclusions. It is this last possibility which undoubtedly greatly effected the survey results. Sites which were villages at one time would not have been detected, had they presently been under pasture. One or two sherds might have been found indicating the phase in which they were occupied, but the extent of the occupation would be unknown. Fortunately, quite

a few sites were discovered which had significantly large assemblages, and could be classified as major sites during particular phases¹. These sites are discussed along with the others in Appendix II, and the collections made from each are enumerated in Appendix II - Table 13. The first seven sites (Windsor, Foster, International Paper, Village Sauvage, Feltus, Ratcliffe, and Pumpkin Lake) listed had been excavated in part during the field season. The remaining twelve sites were surface collections, and are listed according to their quadrant number.

Essentially, the purpose of this section is to examine the changes in settlement patterns in the Bluff Area by comparing the regions occupied during the particular phases. For each phase, all components will be discussed and the major sites will be isolated². A study of the ecological preferences (interior or exterior, ridge or floodplain, etc.), including the relationship of the settlements to the Mississippi river and its tributaries, will then ensue. Due to the fact that St. Catherine Creek was the only interior drainage adequately surveyed, the results from this investigation must serve as the model for the other tributaries. Included

1 Pyramidal mound sites and villages are what I would term sites of major importance, but burial mounds and cemeteries have also been distinguished on the various maps.

within this group are the Big Black River, Bayou Pierre, Coles Creek, Fairchilds Creek, the Homochito River, and the Buffalo River.

Paleo - Indian Era

(From Appendix II - Table 10)

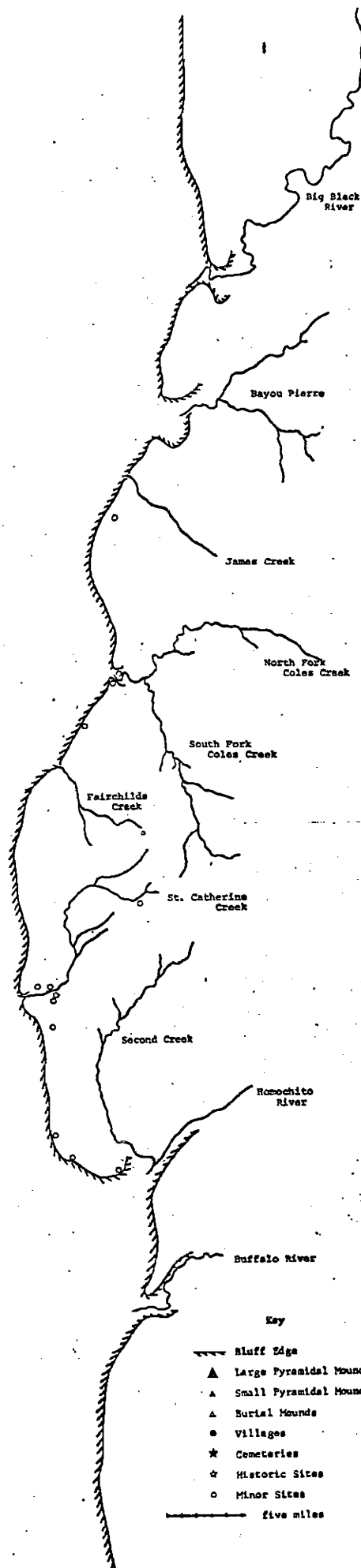
Period IV

Brown's Folly (26-K-16)

(See Map 3)

It was suspected at the commencement of the survey season that the Paleo - Indian Era would have a fairly strong representation in the Bluff Area. Unfortunately this did not occur. Only one site was found which could definitely be assigned to this era. Brown's Folly (26-K-16) possessed a large quantity of lithics, two of which were finely made Quad points dating to Period IV of the Paleo - Indian Era. The site itself was situated on the interior floodplain of

- 2 Due to the varying collecting conditions, the number of major sites listed in this thesis is probably a gross underestimate, but hopefully this underestimation is constant between phases, so that the conclusions on a relative basis are accurate.



St. Catherine Creek, but this ecological positioning cannot be expanded upon to formulate theories concerning the settlement patterns of the Paleo - Indian cultures.

Meso - Indian Era

(From Appendix II - Table 10)

Period I

Brown's Folly (26-K-16)
Bullhead Bayou (26-K-66)

Period II

Nall (25-L-3)
Bryandale (26-K-56)
Ellis (27-K-3)
Birch (27-K-7)
Rocking TT (27-K-18)

Period III

Newsome (25-L-11)
Corral Ridge (26-K-10)
Birch (27-K-7)
Bat Ridge (27-K-9)

Unspecified

Ferguson (25-L-1)
Solo (26-L-6)
Hog Waller (26-K-21)

(See Map 3)

Unfortunately, the number of sites discovered relating to the various periods of the Meso - Indian Era also does not shed too much light on the nature of this era. The sites

appear to have been concentrated upon the lower reaches of the interior drainages. There were quite a few exceptions to this though. Solo (25-L-6) and Bryandale (26-K-56) were both located at the headwaters of the interior drainages, while Newsome (25-L-11), Pumpkin Lake (26-K-88), Ellis (27-K-3), Birch (27-K-7), and Bat Ridge (27-K-9) had no relationship at all to these tributaries. As seen in Appendix II - Table 12, there was no real distinction between the interior and exterior areas. They seem to have been occupied to the same degree. However, there was one notable distinction concerning the ecological zones the Meso - Indians preferred to live upon. The interior broad level areas were avoided in favor of the level areas along the edge of the bluffs.

Differentiation between the three periods of the Meso - Indian Era could not be made, because of the small sample. A quick glance at Map 3 and Appendix II-Table 12, readily demonstrates that no one area or ecological zone was preferred in any one period. The distribution seems to have been fairly constant through time. A larger sample is necessary before this hypothesis can be defended though.

Neo - Indian Era

Period I - Poverty Point Culture

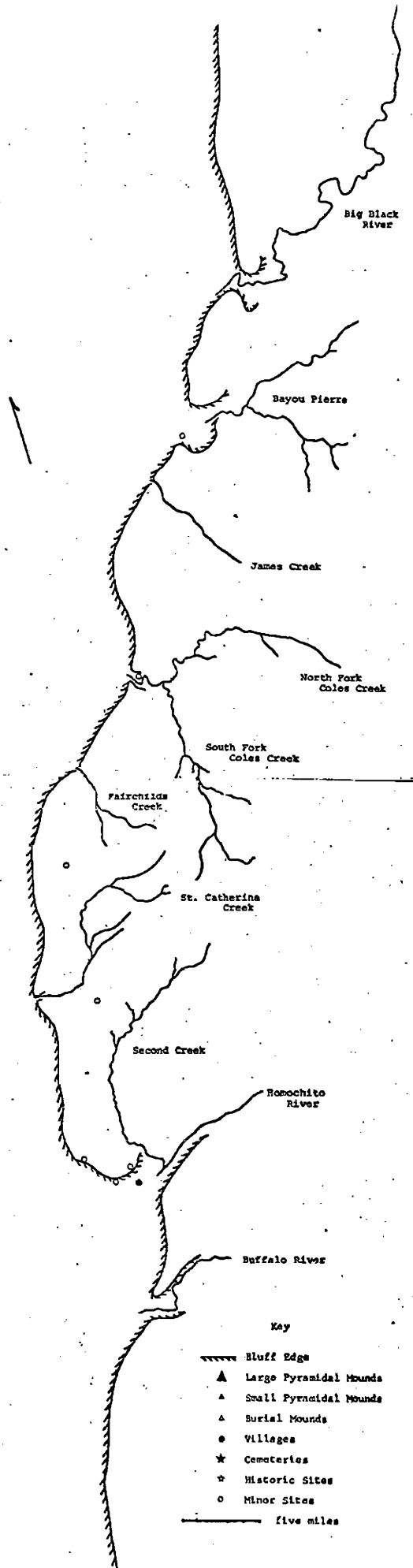
(From Appendix II - Table 10)

Nall (25-L-3)

Jamison (26-K-35)

(See Map 4)

The Poverty Point culture, being a bottomlands phenomenon, was not expected to be found to any great extent in the Bluff Area. These predictions held true, with the exception of two sites. The Jamison Site (26-K-35) had a rather tenuous Poverty Point component. It is recorded in the Lower Mississippi Survey files that the owner of the land had a collection of objects, some of which dated to Period I of the Neo - Indian Era. However, the context of these objects was rather questionable. The Nall Site (25-L-3) was the only true Poverty Point site discovered. It was ideally situated on a terrace of Coles Creek adjacent to the floodplain of the Mississippi River. The material again was in the possession of the owner, but the information presented concerning its discovery established better contextual control. From what is known of the Poverty Point culture, it seems reasonable that other sites of this period would be found as a result of a more intensive survey where the various tributaries emerge from the bluffs.



Period II

Panther Lake Phase

(From Appendix II - Table 10)

Villages: Armstrong (27-K-16)

Minor: Cassell (25-L-19)

Sardine (26-K-70)

Bat Ridge (27-K-9)

Plateau (27-K-17)

Rocking TT (27-K-18)

(See Map 4)

In the transition from the Meso - Indian Era, a definite change in settlement patterns occurred. Period I is only superficially represented in the Bluff Area and was undoubtedly of very short duration. A temporal continuation probably existed in the transition from Period III of the Meso - Indian Era and Period II of the Neo - Indian Era (ie Panther Lake phase). A comparison between Maps 3 and 4 demonstrates the preference of exterior regions over interior ones during Panther Lake (Also see Appendix II - Table 12). St. Catherine Creek appears to have been entirely abandoned, whereas the floodplain and overlooking ridges of the Homochitto River gained in importance. The discovery of a large number of Tchefuncte Plain sherds, variety Tchefuncte, from a surface collection made at the Armstrong Site (27-K-16), suggested that this site may have been a village during the Panther

Lake phase. The discovery of two other Panther Lake sites at the junction of the floodplains of the tributaries and the Mississippi River's floodplain indicates that this ecological zone was the most important habitat during this phase. The tabulations in Appendix II - Table 12, support this hypothesis, but the sample still is quite small.

Point Lake Phase

The Point Lake phase, which marked the highlight of the Marksville culture in the Tensas Basin (Williams et al 1966), was virtually nonexistent in the Bluff Area. Only one site offered of what might be classified a Point Lake diagnostic, and this was a single Marksville cross-hatched rim sherd discovered at the Catledge Site (25-L-20). Similar sherds of this variety were found along the eastern margin of the Yazoo Basin (Brain - personal communication) and in the hills of northwestern Louisiana (Toth - personal communication). Therefore, it is possible that a marginal representation of the Marksville culture is being depicted. Due to the singular nature of this find and the great abundance, both in terms of site and ceramic numbers, of the following Issaquena phase, I believe it is more probable that the Catledge Site was an Issaquena component. The Point Lake phase therefore would not exist in the Bluff Area³.

Issaquena Phase

(From Appendix II - Table 10)

Villages: Yokena (24-M-1)

Cassell (25-L-19)

Schuchs (26-K-32)

Villages and Burial Mounds:

Frasier (25-L-4)

Pumpkin Lake (26-K-88)

Burial Mounds:

Grand Gulf (24-L-18)

Bates #2 (26-L-9)

Minor: Stuck (24-L-21)

Big James (26-K-37)

Windsor (25-L-15)

Peltus (26-K-42)

Catledge (25-L-20)

Junkin Ridge (26-K-43)

Centers Creek (25-L-25)

Sardine (26-K-70)

Fatherland (26-K-2)

Hamilton Ridge (27-K-4)

Stoveleg (26-K-12)

Shieldsboro (27-K-15)

I.P. (26-K-18)

Po'Folk (28-J-7)

Rands (26-K-29)

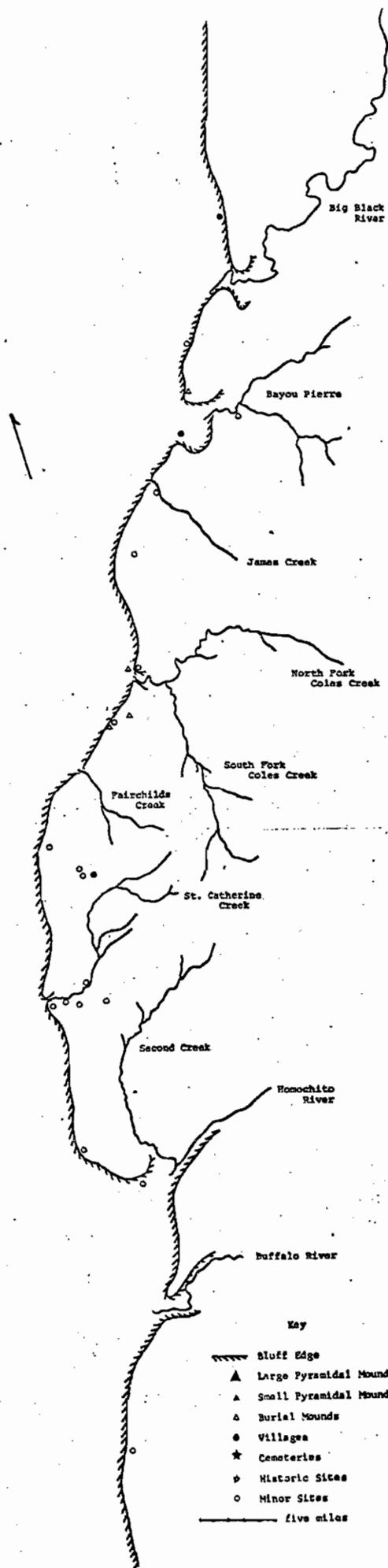
Solo (26-L-6)

Greenlawn (26-K-30)

(See Map 5)

The Issaquena phase was marked by a significant population increase. Villages became more common and, for the first time, burial mounds appeared in the Bluff Area.

- 3 One will notice that all the frequency polygons of the Sardine report and Appendix II leave space for the Point Lake phase. There seems to have been a temporal continuation between Panther Lake and Issaquena, but as there is still room for doubt, I have included Point Lake in the analysis.



The demographic alterations were also accompanied by areal and ecological changes in the settlement patterns. On an areal basis the Homochitto River, which had been so important during the Panther Lake phase, was all but abandoned during Issaquena. The main emphasis shifted to the tributaries to the north. The Big Black River had the village of Yokena (24-M-1) located nearby; Bayou Pierre possessed an important village site - Cassell (25-L-19) - and a burial mound - Grand Gulf (25-L-18); and St. Catherine Creek had numerous minor sites located upon the lower reaches of its drainage. Coles Creek was probably the most important tributary during this phase. Located near where it emerges from the bluffs were three burial mound sites - Bates #2 (26-L-9), Frasier (25-L-4), and Pumpkin Lake (26-K-88) - all of which probably (the latter two definitely) had accompanying village sites, as well as two additional sites of minor importance. This was also the first phase in which occupation was detected south of the Homochitto River⁴.

Whereas the occupations during the Panther Lake phase were essentially concentrated around the confluence of the

4 This is not to say that this region had not been utilized during the preceding phases and periods. The survey was limited to the edge of the bluffs in this region and the interior floodplain of the Buffalo River was not examined at all.

Mississippi River floodplain and the major tributaries, with a preference for settling along the floodplains of the latter, all ecological zones became popular during the Issaquena phase. As seen in Appendix II - Table 12, eleven of the sites were situated in the interior regions while ten were located along the exterior peripheries. No one ecological zone was more popular in comparing the interior and exterior either. The ridges, floodplains, and broad flat areas were occupied to the same degree inland and along the edge of the bluffs. The broad levels seem to have been the preferred occupational areas. It is interesting that this was the first time that this interior ecological zone was employed to any great extent. One would have thought that land with gently rolling hills would be selected over sharp narrow ridges, but previously this had not been the case.

It is difficult to hypothesize what was actually happening during this phase on the basis of surface collections. Obviously, as revealed through the changes in settlement patterns, a cultural change had occurred. The enormous increase in sites also suggests that the population had increased too. The latter may have been the result of a change in subsistence patterns, but it could also have resulted by the influx of new people. The cultural change observed in the settlement patterns supports this last conjecture. The evidence suggests that people were moving up from the valley carrying with them a hybridized form of the Marksville culture, but this cannot be proven until more excavation has taken place.

Period III

Hamilton Ridge Phase

(From Appendix II - Table 10)

Villages: Bull Ridge (26-K-47)

Villages and Burial Mounds:

Centers Creek (25-L-25)

Minor: Yokena (24-M-1)

Farmland #2 (24-M-11)

Bayou Pierre (25-L-26)

Feltus (26-K-42)

Bullhead Bayou (26-K-66)

Sardine (26-K-70)

Gordon (25-L-2)

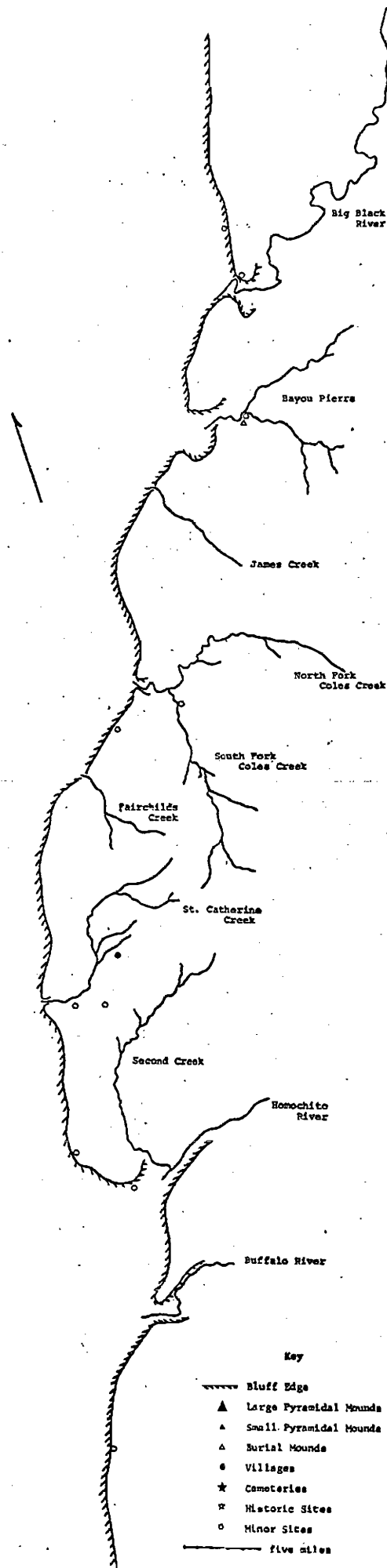
Hamilton Ridge (27-K-4)

Shieldsboro (27-K-15)

Smith Creek (28-J-3)

(See Map 6)

Hamilton Ridge, a phase of the Troyville culture resulting from Deasonville influences among the already established Issaquena culture, was marked by a significant population decrease. For a while I toyed with the theory that perhaps this was a cultural overlap with the Issaquena peoples, possessing spatial rather than temporal distinctions. This theory could not be supported by the evidence though. Five of the eleven sites listed under the Hamilton Ridge phase were occupied during Issaquena, one of which (Centers Creek⁵) developed into a village, thus implying continuity.



Map 6
Hamilton Ridge Sites of the Bluff Area

The depopulation could have been argued as a ceramic rather than a cultural phenomenon, were it not for the fact that the components of the following Sundown phase also indicated a demographic regression from the widely populous Issaquena phase.

As seen in Map 6, there was no concentration of sites in any one area, but a few ecological observations can be made. Although the interior and exterior regions were occupied to the same degree (Appendix II - Table 12), the three ecological zones were not used to a similar extent, as during Issaquena. Along the edge of the bluffs the broad level land was the most popular area chosen for settlement with the ridges and floodplains playing secondary roles, but in the interior the floodplains were of major importance while the level land was ignored. The rolling hills surrounding the village of Pine Ridge, which supported three known Issaquena sites, one of which was a village, was abandoned during the Hamilton Ridge phase.

- 5 I have placed the construction of the burial mound at Centers Creek within the Hamilton Ridge phase, because of the extremely high percentage of Hamilton Ridge diagnostics. It could however, have been built during the Issaquena phase.

Period IV

Sundown Phase

(From Appendix II - Table 10)

Pyramidal Mounds: Feltus (26-K-42)

Villages: Cassell (25-L-19)

Bull Ridge (26-K-47)

Villages and Burial Mounds:

Ellis (27-K-3)

Burial Mounds: Smithfield (25-L-17)

Minor: Farmland #2 (24-M-11)

Farmland #1 (24-M-12)

Centers Creek (25-L-25)

Bayou Pierre (25-L-26)

Sardine (26-K-70)

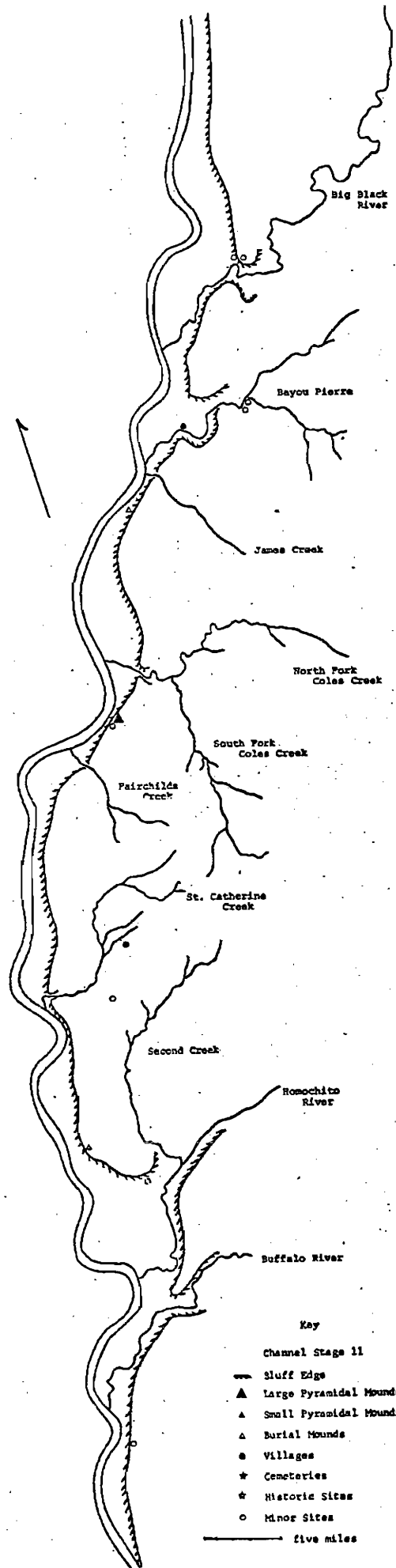
Pumpkin Lake (26-K-88)

Shieldsboro (27-K-15)

Smith Creek (28-J-3)

(See Map 7)

Sundown was a very important phase in the prehistory of the Bluff Area, for it was at this time that the transition from burial mounds to pyramidal mounds was beginning to occur. As the Coles Creek culture was developing in the Tensas Basin, a notable geographical change occurred which greatly effected the subsequent cultural development of the Bluff Area - the Mississippi River abandoned the Walnut Bayou meander belt which it had occupied during Stage 10, and established a new meander belt on the eastern margin of the valley close to



the bluffs (Fisk 1944:43). The course illustrated in Map 7 was Stage 11 of the Mississippi River, as reconstructed from plate 22, sheets 11, 12, and 13 of Fisk's volume. This same course is used in this thesis for the Ballina and Balmoral phases as well (Maps 8 and 9). This channel surely did not remain stable throughout the duration of the Coles Creek period, but I am fairly confident that Stage 12 occurred during the Gordon phase, and Stages 13 and 14 during Anna. I believe that the earliest courses in the new meander belt were not picked up in Fisk's analysis, due to destruction by the later channels. However, Stage 11 was probably very similar to what the actual courses were, and the cultural history for the Coles Creek period can be discussed in terms of this channel stage.

In comparing Sundown to the earlier Hamilton Ridge phase, there appears to have been a direct continuation. Eight of the twelve sites occupied during Hamilton Ridge continued to exist as components of the thirteen discovered Sundown sites (Appendix II - Table 10). However, a shift in settlement patterns was beginning to occur. Centers Creek (25-L-25) decreased in importance at this time, whereas Bull Ridge (26-K-47) remained fairly stable. The Cassell Site (25-L-19) became a village, and burial mounds were constructed both on the Mississippi floodplain - Smithfield (25-L-17) - and on the bluffs overlooking the valley - Ellis (27-K-3). Hence, the important sites were shifting away from the interior regions, and the broad level exterior

bluffs were becoming the most popular ecological zone. This phenomenon is demonstrated in Appendix II - Table 12. The exterior sites outnumbered the interior sites nine to four, whereas in the earlier Hamilton Ridge phase, they were essentially equal in number.

This dramatic shift in emphasis was undoubtedly the result of the change in course of the Mississippi River. A comparison of the distribution map of Hamilton Ridge (Map 6) and Sundown (Map 7) demonstrates that the only site occupied along the bluffs during the former phase, which subsequently came into close contact with the Mississippi River when it abandoned the Walnut Bayou meander belt, was the Feltus Site (26-K-42). This is a very important fact, for it was during the Sundown phase that the first mound construction occurred at Feltus. The Coles Creek culture was beginning to take root in the Bluff Area, but, as seen by the burial mounds which were still being constructed, the Troyville culture was still thriving in the Bluff Area.

Ballina Phase

(From Appendix II - Table 10)

Pyramidal Mounds:

Henderson (26-K-4)
Feltus (26-K-42)
Smith Creek (28-J-3)

Villages:

Cassell (25-L-19)

Bull Ridge (26-K-47)

Mazique (27-K-1)

Shieldsboro (27-K-15)

Minor: Yokena (24-M-1)

Village Sauvage (26-K-22)

Windsor (25-L-15)

Sardine (26-K-70)

Smithfield (25-L-17)

Gordon (26-L-2)

Bayou Pierre (25-L-26)

Po'Folk (28-J-10)

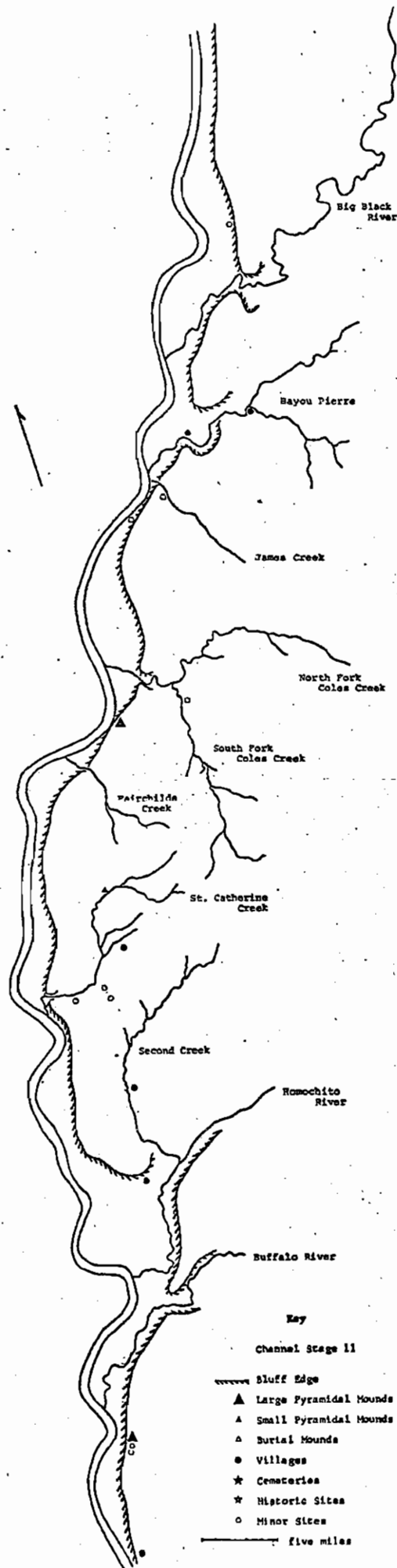
KBS (26-K-17)

Papa's (28-J-10)

(See Map 8)

The Ballina phase was characterized by the continuation of a trend which began during Sundown. The site which became most important during Sundown (ie Feltus) as a result of its proximity to the Mississippi River, continued to grow in importance, as seen by the second construction stage of the pyramidal mounds during the Ballina phase. However, those sites of the Troyville culture which grew up along the exterior region during the Sundown phase to take advantage of the Mississippi River (ie Cassell, Smithfield, and Ellis), decreased radically in importance during the Ballina phase, with Ellis being abandoned altogether.

The Ballina phase can best be described as the time at which the Coles Creek culture rushed into the Bluff Area. The process had started during Sundown, and it had comfortably molded itself to the region by the Balmoral phase, but Ballina was the phase during which the acculturation was occurring with greatest rapidity. It was also an interval of large mound construction. It has been mentioned that Feltus (26-K-42) had its second mound construction during Ballina, and it was



Map 8

Ballina Sites of the Bluff Area

during this phase too that the enormous earthworks at Smith Creek (28-J-3), which had been but a minor occupation during Sundown, were constructed. This was the first time that the regions to the south of the Homochitto River supported populations of notable sizes.

The At Last Site (28-J-12), a village of appreciable size during the Ballina phase, developed undoubtedly as a result of the Mississippi's contact with the bluffs at the southern limit of the survey area. According to what appeared to be occurring during this phase, a pyramidal mound complex should have been built at this location. This was not the case however, and so other factors, independent of the course of the Mississippi, had to be examined. It soon became obvious that the reason why construction did not occur was due to the nature of the terrain. A fairly sizeable village could be maintained upon the plateau At Last was situated upon, but it was much too small to support a mound complex. An area ten miles to the north (ie the location of Smith Creek), was found to be much more suitable for this center. The independent factor of the terrain of the bluffs was very important throughout the entire region. The river often came very close to the bluffs, but in many cases there were no apparent cultural reactions, probably due to the inhospitable nature of the land. However, on the map of the Ballina phase (Map 8) the river came into contact with two areas which could have supported a mound complex, or at least a sizeable village - the mouths of Bayou Pierre and St.

Catherine Creek. The latter area probably did have a mound complex during this phase. The Linwood Site, a flat-topped pyramidal mound twenty-eight feet in height, was reported to have been situated in this region (Moorehead 1932:160), but our survey unfortunately failed to locate the site. The area around the mouth of Bayou Pierre is another question altogether. I could not discover an ecological explanation as to why this area was ignored, especially as it became so important in later phases. Possibly cultural reasons, unbeknownst to the archaeologist, were the independent factors.

We have thus far only been examining the exterior region of the Bluff Area for this was the most important region during the Ballina phase, but interesting changes were also occurring within the interior. As seen in Appendix II - Table 12, the interior was employed to the same extent as the exterior areas, but of course the occupations were of a much more minor nature. The ridges and floodplains were the two ecological zones selected most for settlement, with each having about the same popularity. However, the three interior village sites, with the exception of the Bull Ridge Site (26-K-47), were all situated upon floodplains.

Two interior sites have somewhat questionable histories. The Mazique Site (27-K-1) had, along with its three mounds, strong Ballina and Balmoral components, as revealed in a collection of sherds hastily examined at LSU of Baton Rouge. The mounds could apply to the Ballina phase, but because of

the great interior population increase in the subsequent Balmoral phase, I feel that the Mazique Site was just a village during Ballina. This assumption of course cannot be defended without further investigation of this site. The Henderson Site (26-K-4) is another serious problem. In the survey a few sherds were found around the mound, only one^{of} which was diagnostic of a phase, and the phase was Ballina. As a result of this, I felt compelled to place the Henderson mound within the Ballina phase. It is my belief however, that the Ballina phase was the initial strong dispersal of the Coles Creek culture⁶ and was felt mostly along the exterior region, in terms of mound construction. It was not until the later Balmoral phase that mounds were being built along the interior floodplains. Even this was just limited to Mazique and Henderson though.

6 The nature of the dispersal is difficult to discern. There might have been direct migrations, but it seems more probable that the acculturation occurred as a result of heavy contacts on an economic and perhaps religious level.

Balmoral Phase

(From Appendix II - Table 10)

Pyramidal Mounds:

Feltus (26-K-42)
Mazique (27-K-1)
Smith Creek (28-J-3)

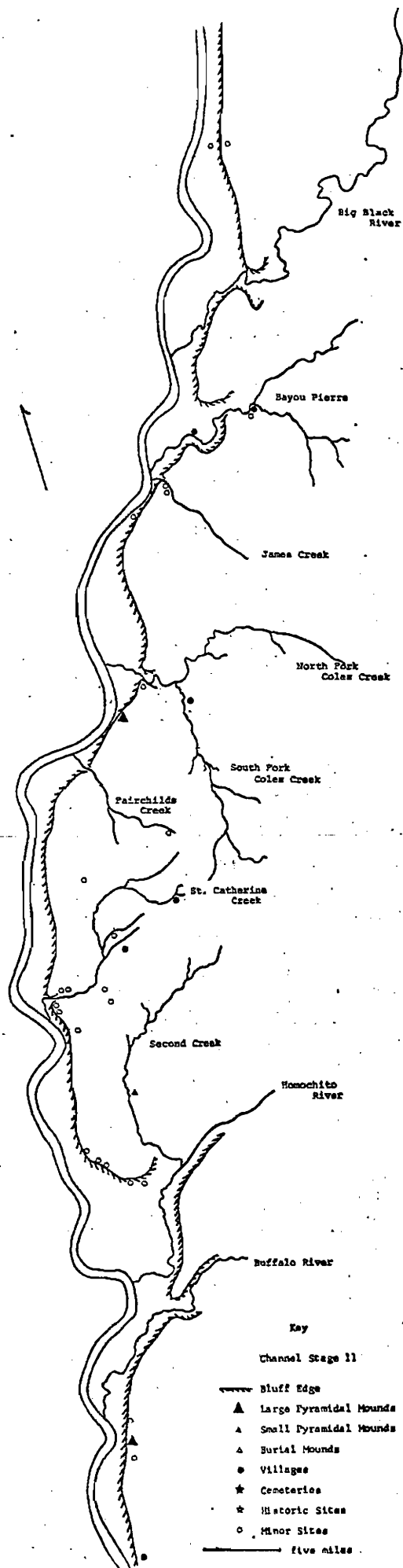
Villages:

Cassell (25-L-19)
Bayou Pierre (25-L-26)
Ratcliffe (26-K-46)
Bull Ridge (26-K-47)
Gordon (26-L-1)
At Last (28-J-12)

Minor: Glass (24-M-2)	Missed Once (26-K-38)
Brown (24-M-14)	Sylvan Glade (26-K-49)
Ferguson (25-L-1)	Sardine (26-K-70)
Windsor (25-L-15)	Emerald (26-L-1)
Beesley (25-L-16)	Hamilton Ridge (27-K-4)
Smithfield (25-L-17)	Hutchins Ridge (27-K-5)
Centers Creek (25-L-25)	Birch (27-K-7)
Stockyard (26-K-9)	Bat Ridge (27-K-9)
Susie B. West (26-L-11)	Shieldsboro (27-K-15)
Stoveleg (26-K-12)	Plateau (27-K-17)
Village Sauvage (26-K-22)	Flat-Top (28-J-6)
Pinecrest Place (26-K-31)	Dooley (28-J-9)

(See Map 9)

The Balmoral phase was the hallmark of the Coles Creek culture in the Bluff Area. As seen by the large number of sites as compared to the Ballina phase, it is evident that a great increase in population was occurring during this



phase. The demographic increase which appeared during the Issaquena phase was explained by the influx of people from the valley (See p. 129). This movement was suggested by the complete change in settlement patterns, but this was not what occurred during the Balmoral phase. A continuation from Ballina to Balmoral is clearly evident. Mound construction had stopped at Feltus (26-K-42), but the site still supported a large population who were undoubtedly using the mounds (Appendix II, p.230). Smith Creek (28-J-3), although having a slight decrease in population as indicated by the ceramics, also continued to be utilized as a ceremonial center⁷. The major Ballina villages of Cassell (25-L-19), Bull Ridge (26-K-47), and Mazique (27-K-1) continued to grow during Balmoral, with the latter probably developing into a mound complex. The only exception to the continuation of the major sites was the Shieldsboro Site (27-K-15). As seen in Appendix II, page 240, this site decreased markedly in importance during the Balmoral phase. Continuation between these two phases was also illustrated in the development of new villages during Balmoral. Two of the three village sites (Bayou Pierre and Gordon) had been minor occupations during Ballina. Ratcliffe (26-K-46) was somewhat of an anomaly, for it appeared as a village with no previous occupation at the site.

7 Assuming that this was the purpose of the various mound complexes.

The population increase during Balmoral cannot then be explained by the influx of new people. It is more probable that this demographic change was the result of a change in subsistence patterns. The Coles Creek culture developed and spread in the southern half of the Lower Mississippi Valley with Tropical Flint as its principle staple (See p.44). This cultigen was probably firmly established in the Bluff Area during the early phases of the Coles Creek period. It is possible that the more dependable Northern Flint (See p.45) was being introduced to the Bluff Area during the Balmoral phase (Brain - personal communication), which would account for the population increase.

As demonstrated above, there was a great similarity and continuity between the settlement patterns of Ballina and Balmoral, but some new trends were also occurring in this later phase. As seen in Appendix II - Table 12, the ratio between the interior and exterior settlements remained the same, each of which doubled in size during Balmoral. However, the preferred ecological zones changed somewhat. The interior remained essentially the same with the ridges and floodplains selected most for settlement, but the increase in occupation along the exterior region was felt mostly along the ridges. However, ridge settlements in both the interior and exterior were essentially minor sporadic occupations.

In sum, the Balmoral phase was a time when the Bluff Area had become acculturated economically (as shown in the increase in sites) and socially (shown ceramically and by

the layout of the mound complexes) to the Coles Creek culture. The flow of the Mississippi River ran in approximately the same course as during Ballina, and so the major sites of Feltus (26-K-42) and Smith Creek (28-J-3) retained their importance. However, the interior drainages gained in importance with the development of the villages of Bayou Pierre (25-L-26), Gordon (26-L-1), and Ratcliffe (26-K-46) in the respective floodplains of Bayou Pierre, Coles Creek, and St. Catherine Creek. The construction of interior mound sites may also have been instituted during this phase, with Mazique (27-K-1) along Second Creek and possibly Henderson (26-K-4) upon the floodplain of St. Catherine Creek.

Gordon Phase

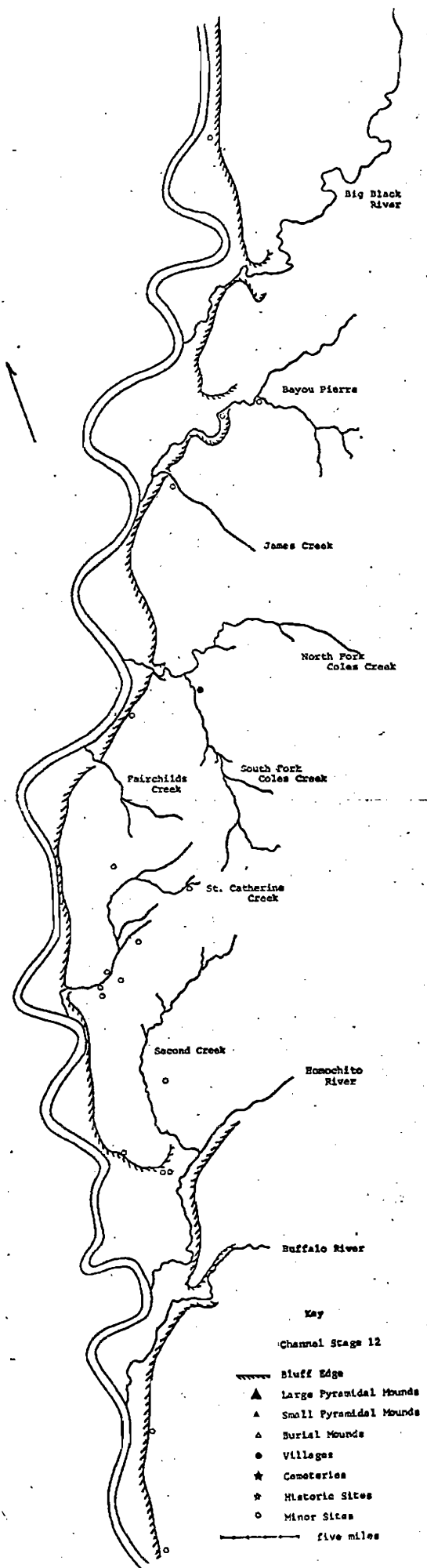
(From Appendix II - Table 10)

Villages:

Gordon (26-L-1)

Minor: Glass (24-M-2)	Ratcliffe (26-K-46)
Windsor (25-L-15)	Bull Ridge (26-K-47)
Big Perry (25-L-23)	Sardine (26-K-70)
Bayou Pierre (25-L-26)	Hutchins Ridge (27-K-5)
Fatherland (26-K-2)	La Grange (27-K-13)
Brown's Folly (26-K-16)	Shieldsboro (27-K-15)
Village Sauvage (26-K-22)	Armstrong (27-K-16)
Schuchs (26-K-32)	Smith Creek (28-J-3)
Big James (26-K-37)	At Last (28-J-12)
Feltus (26-K-42)	

(See Map 10)



An extreme demographic change occurred during the Gordon phase. The number of sites decreased from thirty-three to twenty, but more significantly, it was the larger sites which felt the severest depopulation⁸. The major pyramidal sites of Feltus (26-K-42) and Smith Creek (28-J-3) were reduced to minor settlements during this phase, as were the Balmoral villages of Bayou Pierre (25-L-26), Ratcliffe (26-K-46), Bull Ridge (26-K-47), and At Last (28-J-12). The only site which maintained its village status was Gordon (26-L-2).

As seen in Map 10 and Appendix II - Table 12, there seems to have been a shift in emphasis from the exterior to the interior region. Whereas during Ballina and Balmoral the ratio of interior to exterior remained essentially the same, with the latter area being more important in terms of major sites, the interior sites began to surpass the exterior occupations during the Gordon phase. But more importantly, there was a significant diminution in the size of the groups over the entire Bluff Area. The elements which caused this vast degeneration of the Coles Creek culture in

8 It has been suggested (Brain - personal communication) that the ceramics of the Gordon phase were actually just poorer specimens of the ceramics used at the major centers. In this manner, the Gordon phase would have been indicative of spatial rather than temporal distinctions. The evidence does not support this hypothesis however, for the population decrease is not only evident at the major centers, but also at the villages.

this area are not known, but a few hypotheses can be offered. On an ecological basis, it can be demonstrated (See Map 10) that the Mississippi River, in its Stage 12 channel, was moving away from the bluffs at Feltus (26-K-42) and Smith Creek (28-J-3). This explains why these two sites were becoming less important during the Gordon phase, but it does not explain the entire regional degeneration. The development of the Mississippian culture to the north might serve to explain the circumstances better. The Anna phase marked the interval of intense Mississippian contact with the Bluff Area, but undoubtedly a certain amount of contact occurred during Gordon. Had the initial meeting of the two cultures been of an unfriendly nature, it is probable that the people of the indigenous Coles Creek culture would have rapidly been subdued by the stronger Mississippian peoples⁹. There is no archaeological evidence to support this theory, but the shift in the settlement patterns of the Bluff Area suggests that a major depopulation and cultural change was in process, and at an accelerated tempo.

9 The earliest Mississippian contact in the Yazoo Basin seems to have been peaceful (See p. 48), but this does not necessarily infer that contact was of a similar nature in the Bluff Area.

Period V

Anna Phase

(From Appendix II - Table 10)

Pyramidal Mounds:

Yokena (24-M-1)
 Windsor (25-L-15)
 Bayou Pierre (25-L-26)
 Anna (26-K-1)
 Foster (26-K-3)
 Emerald (26-L-1)
 Gordon (26-L-2)
 Shieldsboro (27-K-15)

Villages:

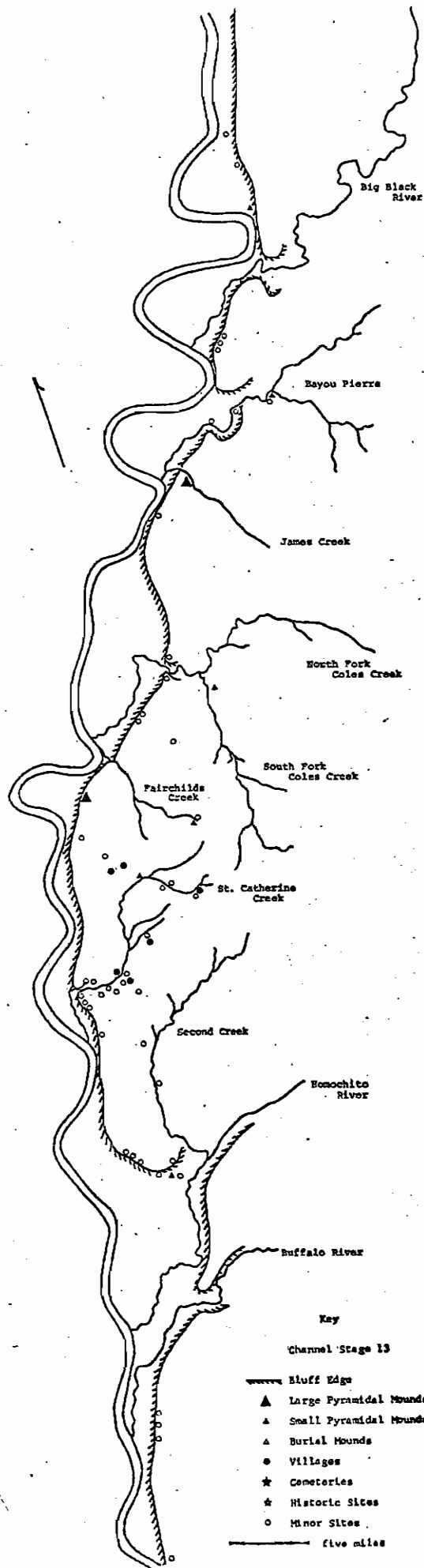
Fatherland (26-K-2)
 Village Sauvage (26-K-22)
 Pinecrest Place (26-K-31)
 Schuchs (26-K-32)
 Ratcliffe (26-K-46)
 Bull Ridge (26-K-47)

Minor: Willy (24-L-20)	Junkin Ridge (26-K-43)
Stuck (24-L-21)	Wilson (26-K-44)
Relief (24-L-22)	Twin Oaks (26-K-50)
Glass (24-M-2)	Bryandale (26-K-56)
Hard Days Night (24-M-10)	Morrell (26-K-60)
Ferguson (25-L-1)	Sardine (26-K-70)
Frasier (25-L-4)	Pumpkin Lake (26-K-88)
Petit Gulf (25-L-10)	Williams (26-L-4)
Cassell (25-L-19)	Sour Apple (26-L-6)
Big Ferry (25-L-23)	Mazique (27-K-1)
Centers Creek (25-L-25)	Hutchins Ridge (27-K-4)
Trinity School (26-K-7)	Bat Ridge (27-K-9)
Stockyard (26-K-9)	Whitetail (27-K-11)

Susie B. West (26-K-11)	Forgot (27-K-12)
Stoveleg (26-K-12)	Armstrong (27-K-16)
Morrison (26-K-14)	Plateau (27-K-17)
Brown's Folly (26-K-16)	Rocking TT (27-K-18)
KBS (26-K-17)	Garden of Eden (27-K-22)
Fort Farine (26-K-23)	Smith Creek (28-J-3)
Jamison (26-K-35)	Buena Vista (28-J-5)
M.T. Seale (26-K-36)	Flat-Top (28-J-6)
Missed Once (26-K-38)	At Last (28-J-12)
Feltus (26-K-42)	(See Map 11)

There seems to have been a direct continuation from the Gordon to the Anna phase. Of the nineteen minor sites occupied during Gordon, three became pyramidal mound sites (Windsor, Bayou Pierre, and Shieldsboro), five became villages, nine maintained their minor status, and two were abandoned in the subsequent Anna phase (Appendix II - Table 10). The Gordon Site (26-L-2), the only site which had been a village during the Gordon phase, had its mounds constructed during the Anna phase. In addition to the continuation of the Gordon phase sites, forty-one new sites appeared during Anna, four of which were mound complexes (Yokena, Anna, Foster, and Emerald), one was a village (Pinecrest Place), and the rest were of minor importance.

Examining first the sites along the exterior region, it is apparent that the location of the major settlements during this phase, like the earlier Coles Creek phases, were dependent upon the flow of the Mississippi River. Stages 13 and 14 were probably in existence during the Anna phase. The



major mound complexes of Yokena (24-M-1) and Windsor (25-L-15) were constructed where the river came in contact with the bluffs. Anna (26-K-1) developed at a location equidistant from the ends of a large meander loop upon the only level land along the bluffs in this area. The Shieldsboro mounds were constructed where the Homochitto emerged from the bluffs. This was the area closest to the confluence of the Homochitto and Mississippi Rivers where it was possible that a large mound center could be built.

The important elements common to all the mound complexes enumerated above were their great size, in comparison to the earlier Coles Creek mounds, and in their control of the interior drainages. They were all situated in positions of easy access to both the Mississippi River and its tributaries. The layout of the mounds for each site is also of some interest. During the Coles Creek period, the major sites of Feltus (26-K-42) and Smith Creek (28-J-3) had mounds arranged in a triangular pattern with the largest mound situated on the edge of the bluffs, facing generally east. Yokena (24-M-1), Windsor (25-L-15), and Shieldsboro (27-K-15) retained the three-mound triangular pattern (although the mounds were much larger and farther apart), whereas the Anna Site (26-K-1) was constructed with even further elaboration. Six of the eight mounds were arranged on a plateau with the largest mound (Md.3) located on the edge of the bluff facing southeast, and the second largest (Md.6) situated due east of Md.3. The smaller mounds were arranged along the fringes of the plateau. Windsor's

largest mound (Md.A) also faced towards the east, whereas Yokena's faced towards the west. The Shieldsboro mounds were too far destroyed to be able to tell which was the largest. Whether the layout of the mounds represented cultural differentiations is a moot point, but this sort of information cannot be derived from the available data.

Although the exterior region was most important in terms of major mound complexes during the Anna phase, the interior was employed to a similar degree. Twenty-nine sites were discovered in the interior as compared to thirty along the edge of the bluffs. Of the six major village sites of this phase, all were situated in the interior, as well as four additional smaller mound sites. Three of the latter sites followed the same pattern as the large mound complexes, in that they were positioned at the confluence of the two major branches of the inland tributaries. The only interior mound site which did not fit this pattern was Emerald (26-L-1). However, its proximity to the oldest known land route in the area (the Natchez Trace), might serve to explain its positioning. The interior mounds, with the exception of Emerald, were located on the floodplains of the tributaries, but this was not the case with the villages. They were evenly distributed throughout the three ecological zones. This was the first phase since Issaquena that the broad level interior bluffs were occupied to any great extent. Essentially, the interior floodplains and ridges maintained the most popularity in terms of the number of sites though.

In sum, Anna was the phase during which the Plaquemine culture had reached a maximum. The influence was felt over the entire Bluff Area but, as during the phases of the Coles Creek period, the exterior region was most important. Large mound sites grew up in positions of easy access to both the Mississippi River and its tributaries. The control of the water routes also determined the location of the smaller interior mound complexes, which were constructed where the two main branches of the tributaries diverged. The population had decreased markedly during this phase, as illustrated by the enormous increase in villages and total sites. Therefore, it is apparent that along with the cultural alterations, there also occurred a change in subsistence which brought about such a radical demographic change. It was probably during this phase that the Northern Flint, bean, and squash complex of the Mississippians was intensely employed in the Bluff Area.

Emerald Phase

(From Appendix II - Table 10)

Pyramidal Mounds:

Glass (24-M-2)
Fatherland (26-K-2)
Foster (26-K-3)
Ratcliffe (26-K-46)
Emerald (26-L-1)

Villages:

International Paper (26-K-18)

Village Sauvage (26-K-22)

Bull Ridge (26-K-47)

Cemeteries:

Ring (24-M-5)

Minor: Willy (24-L-18)

Stuck (24-L-21)

Yokena (24-M-1)

Ferguson (25-L-1)

Windsor (25-L-15)

Cassell (25-L-19)

Big Perry (25-L-23)

Bayou Pierre (25-L-23)

Trinity School (26-K-7)

Stockyard (26-K-9)

Stoveleg (26-K-12)

Brown's Folly (26-K-16)

Fort Farine (26-K-23)

Greenlawn (26-K-30)

Pinecrest Place (26-K-31)

Schuchs (26-K-32)

M.T. Seale (26-K-36)

Feltus (26-K-42)

Wilson (26-K-44)

Bryandale (26-K-56)

Dump (26-K-58)

Morrell (26-K-60)

Sardine (26-K-70)

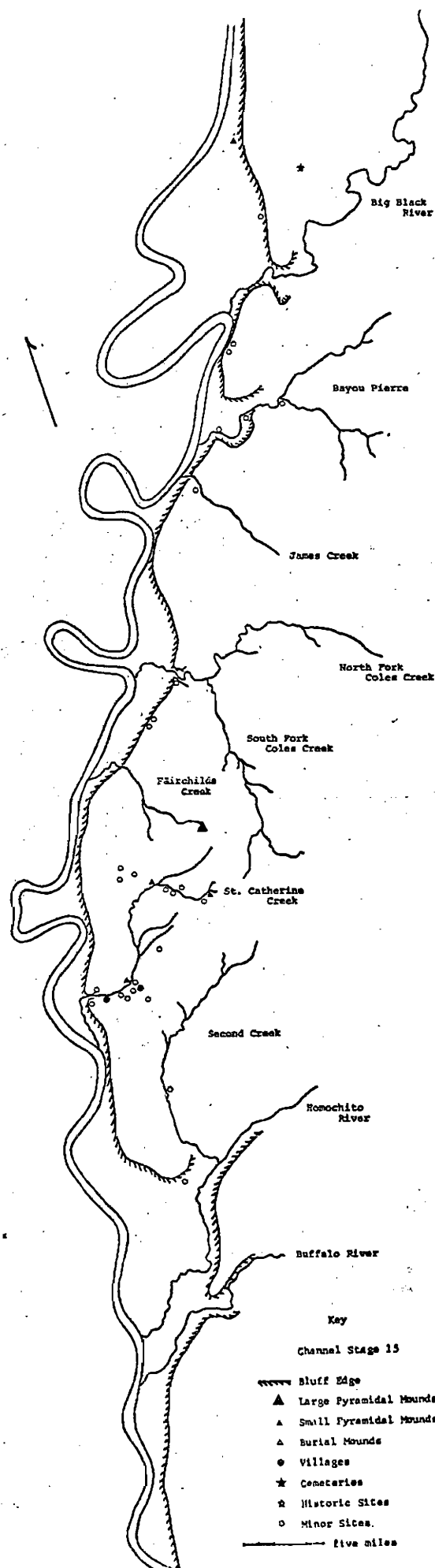
Pumpkin Lake (26-K-88)

Mazique (27-K-1)

Shieldsboro (27-K-15)

(See Map 12)

The Emerald phase was marked by a great alteration in settlement patterns. It was during this phase that the large mound complexes built and used during Anna were abandoned. Anna (26-K-1) itself, as well as the Shieldsboro Site (27-K-15), completely lacked an Emerald component, and Yokena (24-M-1) and Windsor (25-L-15) were reduced to minor settlements. However, this disintegration was only characteristic of the mound sites along the exterior region. With the exception of Bayou Pierre (25-L-26), which was only sparsely occupied, and Gordon (26-L-2), which was abandoned altogether, the mound complexes that were built during the Anna phase in the interior,



Map 12

Emerald Sites in the Bluff Area

continued to thrive during Emerald. Fatherland (26-K-2) and Ratcliffe (26-K-46), both of which had been villages during Anna, had their mounds constructed during the Emerald phase, and Foster (26-K-3) and Emerald (26-L-1)¹⁰ were built up to an even greater degree during this later phase.

Thus, although it is evident that there was a change in regional emphasis during the Emerald phase, it is also obvious that a direct continuation existed from the Anna phase. Of the thirty-five sites discovered relating to the Emerald phase, all but four had been occupied during Anna. Only one large mound complex (the Glass Site 24-M-2), which had been but a minor occupation during the Anna phase, was constructed along the exterior region during Emerald. The reason why this center came into being can be illustrated in ecological terms. By the Emerald phase, it is suggested that the Mississippi River again changed its course, and was flowing in its Stage 15 channel. Had this been the case, the shift would have left the Yokena Site (24-M-1) many miles distant from the banks of the Mississippi (Compare Maps 11 and 12). Glass however, still remained close to this source and so Yokena was abandoned in favor of the latter.

10 It is interesting that the mound layout at the Emerald Site during this phase was very reminiscent of the Anna Site. The artificial plateau at Emerald was not only alligned in an east-west direction, but the largest mound (Md.A0) was positioned at the western extremity of the plateau facing east towards the smaller Md.B. Around the edge of the plateau were constructed smaller mounds as at the Anna Site.

A glance at Map 12 demonstrates that there were two distinct areas of occupation during the Emerald phase. One division was comprised of the Big Black River - Bayou Pierre drainage systems, and the other was the St. Catherine Creek area. There seems to have been a split from the widely spread Anna phase occupations, with a squeezing in on the above two areas leaving the intermediate zone vacant.

The two divisions, although having the same cultural affinities, were characterized by different settlement patterns (Appendix II - Table 12). The northern group was still oriented to the exterior region. Of the eight sites situated within and north of the Bayou Pierre drainage, four were situated on the floodplain of the Mississippi River. Only three sites were discovered in the interior region¹¹. In contrast, the southern division was completely interiorly oriented during the Emerald phase. Twenty-one of the twenty-seven sites of this division were situated inland. The ridges were most popular in quantitative terms, as they supported two villages, one mound complex, and eight minor occupations, but most of the major sites were located on the floodplain of St. Catherine Creek. There were only six sites discovered

11 Survey was rather limited interiorly in this area, but the disintegration of the Bayou Pierre Mound Site (25-L-26) during this phase provides additional support that the interior was of minor importance in the northern division.

along the exterior region which pertained to this phase, all of which were of minor importance.

It is fairly obvious that the Plaquemine culture, which had been so strong during the Anna phase, was degenerating during Emerald. The Mississippi River had been of primary importance in the spread of the Mississippian and in the formation of the Plaquemine culture, but with the decline of the latter, the river began to lose its significance in the south. The interior zone around Natchez had developed to such a degree during Anna that it was able to sustain the widespread Plaquemine degeneration during the Emerald phase. This southern area in fact continued to develop its own regional form of the Plaquemine culture. The northern division never attained the amount of interior development during Anna, which characterized the region to the south. It still remained essentially oriented to the Mississippi River. During the Emerald phase this area still maintained a viable existence, but the collapse of three mound complexes of the previous Anna phase (Windsor, Yokena, and Bayou Pierre) foreshadowed the future developments in the northern division. By the historic Natchez phase, this region was almost entirely abandoned.

Natchez Phase

(From Appendix II - Table 10)

Pyramidal Mounds:

Fatherland (26-K-2)
 Foster (26-K-3)
 Ratcliffe (26-K-46)
 Emerald (26-L-1)

Villages:

Village Sauvage (26-K-22)

Cemeteries:

Burthe (24-M-6)
 Nall (25-L-3)
 North (26-K-68)

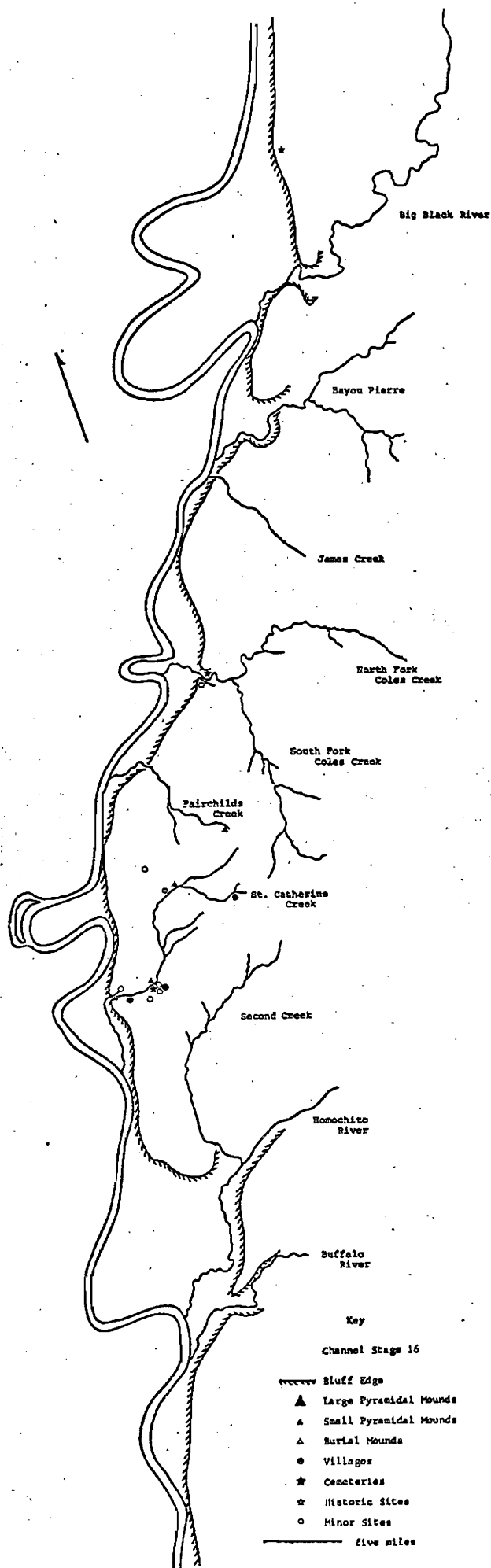
Historic: Thoroughbred (26-K-74)

Minor: Ferguson (25-L-1)	Fort Farine (26-K-23)
Trinity School (26-K-7)	Greenlawn (26-K-30)
Stockyard (26-K-9)	Wilson (26-K-44)
I.P. (26-K-18)	Pumpkin Lake (26-K-88)

(See Map 13)

The events of the Emerald phase foreshadowed the nature of the subsequent Natchez phase. With the sole exception of the historic Burthe cemetery (24-M-6), in the northern division of the Bluff Area, there was no occupation in this region. This abandonment was suspected though (See page 160).

The southern division (St. Catherine Creek's drainage) which had continued to develop during the Emerald phase, also witnessed a marked degeneration during the subsequent Natchez phase. Of the thirteen Natchez aboriginal sites in this region



Map 13

Natchez Sites of the Bluff Area

(excluding the two cemeteries), all had been occupied during Emerald, but twelve Emerald sites had been abandoned, indicating a population decrease. The four major mound complexes of Fatherland (26-K-2), Foster (26-K-3), Ratcliffe (26-K-46), and Emerald (26-L-1) continued to be used, but there was no longer any evidence of mound construction.

In terms of settlement patterns, there was no apparent change (Appendix II - Table 12). The interior floodplains were still of primary importance in terms of major sites, and the interior ridges were the most popular minor settlement areas. The exterior region was again largely avoided, with the exception of a small group which had settled around the confluence of Coles Creek and the floodplain of the Mississippi River. All of these areas and ecological zones showed a marked decrease in terms of occupation though, indicative of a population decrease. The causes for this reduction are not difficult to discern. The presence of European diseases, combined with the cultural turmoil resulting from the complete breakdown of the Mississippian culture to the north (great mobility of warlike tribes), probably were the agents of degeneration of the powerful Emerald phase groups in the St. Catherine Creek drainage.

Conclusion

Throughout prehistory the Bluff Area was continually influenced by the movements of peoples and ideas from all directions. It was mostly effected by the cultural developments which emanated from the valley below. The rapidity of cultural change was greatly enhanced by the movement of the Mississippi River to its present meander belt along the base of the bluffs, but even without this medium, the process of culture change had been prevalent.

Not much can be said of the Paleo - Indian Era, as only one representative site was discovered. Its location upon the lower reaches of a minor tributary, combined with the finding of seven Meso - Indian sites in the same region, suggests that this was the most popular area for settlement in man's early prehistory in the Bluff Area.

Period I of the Neo - Indian Era was sparsely represented in the bluffs, indicating that there was probably a temporal continuity between the Meso - Indian Era and Period II of the Neo - Indian Era. Panther Lake, characterized by the Tchefuncte culture, was found mostly in the floodplains of the minor tributaries as they emerged from the bluffs. The heaviest Panther Lake occupation seems to have been along the Homochitto River, whereas in the earlier eras the smaller tributaries like St. Catherine Creek were generally more popular.

The Point Lake phase of the Marksville culture probably was absent in the Bluff Area, and a temporal continuity between Panther Lake and Issaquena existed. There appears to have been a major cultural break, implying the influx of new people though, as shown by the site increase and the great change in settlement patterns. Burial mounds were introduced for the first time and, although the exterior region was still of minor importance, the interior area was utilized to a much greater degree. The popularity of the various ecological zones remained constant between the interior and the exterior, with the level plains being the zone most commonly chosen for settlement.

Period III, represented by the Hamilton Ridge phase in the Bluff Area, was characterized by the blending of the Deasonville culture from the east with the indigenous Issaquena culture, resulting in the hybrid Troyville culture. Accompanying this phase was a drastic population decrease. The interior and exterior were occupied to the same degree, as during the Issaquena phase, but the popularity of the ecological zones differed between the the two areas. The level plains remained popular along the edge of the bluffs, but the floodplains were the areas most selected for occupation in the interior region.

The Sundown phase, although listed under Period IV of the Coles Creek culture, was probably related closer to the Troyville culture in terms of settlement patterns. Essentially, it was the transition between the two periods. During this

phase the Mississippi River abandoned the Walnut Bayou meander belt and moved to its present position beneath the bluffs. In reaction to this event the exterior region became more important, as evidenced by the appearance of villages and the construction of burial mounds along the edge of the bluffs. The first introduction of the Coles Creek pyramidal mound also appeared during this phase at the Feltus Site (26-K-42).

The Ballina phase was characterized by the intense radiation of the Coles Creek culture into the Bluff Area. The exterior region felt the impact most, as major pyramidal mound complexes were constructed at those points where the Mississippi River and the bluffs came in contact. Although the main emphasis was directed to the exterior area, the interior was occupied to the same degree in terms of site numbers. However, the inland occupations were mostly of a minor sporadic nature,, and were found to an equal extent along the floodplains and upon the ridges. It is possible, but not probable, that the mound complexes of Mazique (27-K-1) and Henderson (26-K-4) were also constructed during this phase.

The Bluff Area had been totally acculturated to the Coles Creek culture by the Balmoral phase. The population had increased immensely, probably due to the introduction of Northern Flint. Construction of the major mound centers had stopped, but they still continued to be used during Balmoral. The interior began to play a much greater role as villages

and probably mound complexes developed. In terms of settlement, the Bluff Area was very homogenous. Large populations were found in both the exterior and the interior, and both regions were occupied to the same extent. The preferred ecological zones were different between the two areas though. As the number of settlements increased in the interior, the rise was equal between the floodplains and the ridges, but in the exterior region the increase was felt largely upon the ridges.

The Gordon phase was characterized by a widespread population decrease. All the major mound complexes died out, as did all the villages in the Bluff Area, with the exception of the Gordon Site (26-L-1). The movement of the Mississippi River away from the major mound complexes serves to explain the decline of the exterior region, but the degeneration of the entire area is somewhat of a mystery. Possibly the manner in which the southward flowing Mississippian culture was transmitted in the Bluff Area, might account for the general cultural collapse.

By the Anna phase the Plaquemine culture had reached its peak in the Bluff Area. The population had increased enormously, undoubtedly the result of the development of the corn-bean-squash complex. As in the earlier Coles Creek period, major mound centers developed where the contemporary channel of the Mississippi (Stages 13 or 14) came in contact with the bluffs. The centers were positioned in such a manner that they not only had easy access to the Mississippi River,

but they also controlled the interior drainages at locations where the tributaries divided into two large branches. Although the mound centers were oriented to the waterways, this was not the case with the major villages. They were all situated in the interior, and were evenly distributed over the three ecological zones.

The Emerald phase was characterized by the beginning of the widespread degeneration of the Plaquemine culture, with two divisions occurring as the result. A northern group, still heavily dependent upon the Mississippi River, were essentially oriented to the exterior region. A southern group, of the St. Catherine Creek drainage, had developed to such a great degree interiorly during the Anna phase, that the collapse of the Plaquemine culture to the north influenced the region only minimally. Settlement was almost entirely confined to the interior in this area, with the major mound sites and villages being situated upon the floodplains. The various mounds, which had been constructed in this area during the Anna phase, were built up during Emerald, as well as the creation of new mound sites.

The trend which began in Emerald, continued in the following Natchez phase. The northern division of the Emerald phase continued to degenerate until it was virtually abandoned during the Natchez phase. The southern division continued to exist with the same settlement patterns, but the population had decreased markedly. The presence of European diseases and mobile warring tribes reduced this once extremely powerful populous area to this unhappy position.

Chapter 5

Conclusion

This thesis has thus far dealt with three interrelated subjects in a fairly disjunct manner. In Chapter 2 a brief prehistory of the Lower Mississippi Valley was presented. Cultural changes, in the form of technological and economical innovations, were dealt with quite heavily. The medium by which these changes came about, whether by migration or diffusion, was also discussed. Chapter 2 was not meant to be an intensive study of the prehistory of the valley though, but rather a general background to aid the reader in comprehending the more detailed chapter concerning the settlement patterns in the Bluff Area (Chapter 4). The Bluff Area, which consists of the loess hills along the eastern margin of the Mississippi Valley between Vicksburg and the southern Mississippi - Louisiana border, was constantly influenced by the cultural events occurring within the valley. The prehistory of the Bluff Area was reconstructed in this thesis by the study of the settlement patterns¹. The relationship of different ecological zones to the various phases and periods was examined, and the prehistory of one site in particular, located on an interior ridge, was intensely investigated in Chapter 3 - the Sardine Site (26-K-70). This concluding chapter is designed to draw together the three areas thus far dealt

1 Obviously there is much more involved to cultural change than just examining where people decided to place their homes, and so this thesis by no means pretends to be the last word on the subject.

with, and to compare and contrast their cultural histories. The Sardine Site was situated within the Bluff Area, which in turn was a part of the Mississippi Valley. The same general cultural trends should be manifested in all three areas.

The Paleo - Indian Era was not seen at the Sardine Site, and only one representative site was discovered in the Bluff Area. It is believed that this era was characterized by a great deal of aboriginal movement though, and so the lack of sites only tends to support this hypothesis. Small groups of men following the extinct Pleistocene herds would not leave too much evidence of their existence behind.

Towards the end of the Paleo - Indian Era and leading into the Meso - Indian Era, the valley was experiencing a marked increase in population. Significant economic changes began to occur. The extinction of the Pleistocene mega-fauna made it necessary for man to place a greater emphasis upon other food sources. Sources which did not move around quite so much as the Pleistocene mega-fauna. Whether the shift in subsistence patterns was directly responsible for the population increase is a moot point. This demographic rise was also quite apparent in the Bluff Area during the Meso - Indian Era. Most of the sites were concentrated upon the lower reaches of minor tributaries, where man was undoubtedly taking advantage of the slow moving waterways as a means of obtaining food. The absence of a Meso - Indian occupation at the Sardine Site, which is quite distant from any large flow of water, further demonstrates the importance of the riverine system during

the Meso - Indian Era.

There was a direct continuation in the valley in the transition from the Meso to the Neo - Indian Era, but the continuity is not as readily seen in the Bluff Area. It has been shown (See p. 30) that the Poverty Point culture was an outgrowth of the Meso - Indian lifestyle in the valley, but Poverty Point was essentially a bottomlands phenomenon and never influenced the Bluff Area to any great extent. Instead, a temporal continuity probably existed between the Meso - Indian Era and Period II (Panther Lake phase) of the Neo - Indian Era. We have seen (See p. 35) that the Tchefuncte - Lake Cormorant cultures appeared in the valley from the eastern uplands, but whether these cultures developed indigenously among the Meso - Indians living on the bluffs is a moot point. In terms of settlement patterns, there appears to have been a cultural break. The minor tributaries were abandoned in favor of the larger ones (especially the Homochito River), and the exterior region became of prime importance during the Panther Lake phase. Previously the interior and exterior had been occupied to the same degree. The only site situated within the interior during Panther Lake was the Sardine Site, which had a fairly significant representation of diagnostics relating to this phase (fig.26). Thus, in terms of settlement patterns, the Tchefuncte culture in the Bluff Area appears to have been as great an intrusion as it was in the valley. Its origins must be much farther to the east.

The Marksville culture appeared in the valley as the

result of Illinois Hopewellian contacts. Although much more extensive than the Poverty Point culture, it was similar in its orientation to the river systems. In this manner, it remained essentially a bottomlands phenomenon in the Lower Mississippi Valley and influenced the Bluff Area very little, if at all. However, with the growth of the Issaquena culture, which was a hybridized form of the Marksville and indigenous Tchefuncte cultures, the Bluff Area was effected greatly. Settlement patterns on the bluffs changed markedly during the Issaquena phase. The Homochitto River, which had been of such importance during the Panther Lake phase, was abandoned in favor of the other tributaries to the north. The interior and exterior regions were occupied to the same degree, with the broad level plains being the most preferred ecological zone for occupation. The interior ridges were also quite popular during Issaquena, and this situation was reflected at the Sardine Site by a fairly high percentage of Issaquena diagnostics (See fig.26). Along with the change in settlement patterns came a great increase in the number of sites. A population increase is indicated, and the introduction of burial mounds to the Bluff Area during the Issaquena phase suggests that this culture was brought into the bluffs by the influx of people from the valley.

Period III was characterized in the valley by a general regression. In cultural terms this appears to be the case, but it has been shown (See p.39) that this period was very important economically. It is believed that maize agriculture

was being developed during this period, which subsequently laid the foundation for the future growth of the Coles Creek - Mississippian cultures. The Yazoo Basin and the areas to the north were demonstrating a great population increase during Period III, but the Hamilton Ridge phase of the Bluff Area, along with the Indian Bayou and Marsden phases of the Tensas Basin (Phillips 1970:compare figs. 444 and 445), was demonstrating just the opposite. Change during the Hamilton Ridge phase was essentially manifested in cultural degeneration and depopulation. There is no evidence supporting the development of agriculture during this phase.

It has been suggested that the Issaquena culture appeared in the bluffs as a result of migration, but the changes which occurred during the Hamilton Ridge phase seem to have been mostly of an indigenous nature. Deasonville influences from the northeast infiltrated into this area, eventually hybridizing the Issaquena culture into Troyville, but there is no evidence of actual movements of people. Settlement patterns remained basically the same, as many of the Issaquena sites continued to be occupied during the subsequent Hamilton Ridge phase, but a shift in the preference of certain ecological zones was indeed beginning to occur. Although the broad level areas of the exterior region remained popular, as during the Issaquena phase, the floodplains and ridges gained in popularity interiorly. This shift in emphasis from the level plains of the interior to the ridges is manifested in the archaeology of the Sardine Site (fig.26). Although a regional

depopulation was occurring during Hamilton Ridge, this phase had a greater representation at Sardine than the earlier Issaquena phase, thus demonstrating the increasing popularity of the ridges.

As the northern and Central subdivisions of the Lower Mississippi Valley remained fairly stagnant at the beginning of Period IV, great changes were occurring to the south. The Coles Creek culture began to develop in the Tensas Basin, as represented by the Sundown phase. This early development was not felt to any great extent in the Yazoo Basin, but it was in the Bluff Area. The Sundown phase in the Bluff Area occurred at about the same time that the Mississippi River shifted from the Walnut Bayou meander belt to its present position along the eastern margin of the valley. Villages and other settlements began to crop up along the exterior region in reaction to this event, and the effects of the Coles Creek culture began to be felt in these settlements. The Troville culture still persisted, as shown by the continued construction of burial mounds, but the construction of pyramidal mounds at the Feltus Site (26-K-42) indicates that the Coles Creek culture was beginning to take root in the Bluff Area. The rise of settlements along the exterior region caused even severer depopulation within the interior. The Sardine Site demonstrates this demographic change excellently (See fig.26). Although the site was occupied during the Sundown phase, the occupation could only have been of very minor significance.

The same general trend continued at the Sardine Site and within the interior during the subsequent Ballina phase. The main emphasis still remained along the exterior region, for it was during this phase that the large Coles Creek mound complexes were being constructed at locations where the Mississippi River came in contact with the bluffs. Large villages were also developing in areas of easy access to the Mississippi, as the Coles Creek culture was becoming firmly implanted in the Bluff Area. It was at this time too that the Lower Yazoo Basin fell under the Coles Creek culture, as shown by the Aden phase. The areas to the north were effected very little by the Coles Creek culture, but a new development, known as the Mississippian culture, was starting to take root.

The economic foundation of the Mississippian culture was the Northern Flint maize variety. Being much more dependable, and less ecologically limited, than the Tropical Flint of the Coles Creek culture, it was undoubtedly responsible for the great increase in population which began to occur in the north, contemporary with the late Coles Creek culture in the south. Northern Flint was obviously not restricted to a single culture though, as it was probably during the Balmoral phase of the Bluff Area that this cultigen started to spread into the Coles Creek culture. By this phase, the Coles Creek culture had molded itself to the Bluff Area. Although the main emphasis, in terms of settlement patterns, was still along the exterior region, actual mound construction appears

to have terminated. The introduction of Northern Flint caused a population increase which was felt equally in both the exterior and interior regions. Although the ridges of the exterior region felt the increase most, the population increase within the interior was divided between the floodplains and the ridges. At the Sardine Site the occupation rose somewhat during the Balmoral phase, but not to any great degree. Had this site been a true representation of what was actually occurring on the interior ridges, the percentage of the Balmoral phase would have been somewhat higher.

The end of Period IV was characterized by the commencement of the Mississippian expansion into the regions of the Coles Creek culture. In the Yazoo Basin this expansion was represented by the latter half of the Crippen Point phase. At this time the actual movement of small groups of people from Cahokia into the Coles Creek territory occurred. The meeting of the two cultures was seemingly peaceful in the Yazoo Basin, but in the Bluff Area the picture is not too clear. The Gordon phase, contemporary with Crippen Point, was characterized by a vast depopulation. Not only were the major Coles Creek mound complexes of Feltus (26-K-42) and Smith Creek (28-J-3) virtually abandoned, but there was a significant diminution of the size of the groups over the entire Bluff Area. It was during this phase that the interior began to play a greater role in terms of settlements. This shift in emphasis was exhibited at the Sardine Site by a marked occupation increase.

(See fig.26). The collapse of the major mound sites has been shown to be partly the result of a shift in the course of the Mississippi River (See p.149), but the reason for the vast regional depopulation is much more complex. I have suggested in this work that the initial reception of the Mississippian culture in this region might have been of a hostile nature, which may perhaps account for the otherwise mysterious collapse of the Coles Creek culture in the Bluff Area.

Period V of the Neo - Indian Era was essentially characterized by the great expansion of the Mississippian culture. It was during this period that the Mississippian culture broke out of the confines of the valley and spread over most of the Southeast. Influence in the Southern subdivision of the Lower Mississippi Valley resulted in the Plaquemine culture, which was essentially Mississippianized - Coles Creek. As represented by the Winterville phase in the Yazoo Basin, the Routh phase in the Tensas Basin, and the Anna phase in the Bluff Area, the Plaquemine culture was extremely well - developed at its peak. The Anna phase was characterized by an enormous population increase, undoubtedly due to the intensive utilization of the maize-bean-squash complex, which formed the economic base of the Mississippian culture to the north. The interior and exterior were occupied to the same degree and, although the exterior region was most important in terms of major "ceremonial centers", the interior region was utilized to a much greater extent than

it ever had been before. The ridges were the most preferred occupational area during this phase, and the Sardine Site demonstrates this excellently (fig.26). The floodplains were the areas most selected for the construction of small mound complexes though and, like the major centers along the exterior region, the interior mound groups were constructed at strategic locations in control of the waterways.

A second major push of the Mississippian culture brought the northern-most areas of the Plaquemine culture under the Mississippian domain. The Plaquemine culture began to retract, and there was somewhat of a breakdown in the uniformity exhibited during the previous Anna phase. The Emerald phase was characterized by a spatial division of the Bluff Area. The northern area, concentrated around the Bayou Pierre - Big Black River drainages, was totally oriented to the Mississippi River, as shown by the concentration of settlements along the exterior region. On the other hand, the southern division of St. Catherine Creek's drainage was totally oriented to the interior region. The reason for this dichotomy was that the southern division had become extremely well - developed interiorly during the Anna phase, whereas the northern division did not. The squeezing in on the above two areas was also accompanied by a marked population decrease. This diminution was reflected in the prehistory of the Sardine Site, where occupation during the Emerald phase was only 1/6 of what it had been during the previous Anna phase. Although Emerald was not as impressive as the earlier Anna phase, it

certainly cannot be considered a degenerate culture though. In the St. Catherine Creek area the culture was extremely viable, as indicated by the great amount of mound construction going on. Nevertheless, future degeneration was being foreshadowed during this phase.

The historic Natchez phase was not represented at the Sardine Site, a site which had occupational evidence of every phase of the Neo - Indian Era, with the exception of Point Lake. This gives some idea of the magnitude of the degeneration which occurred during the Natchez phase. By the period of intense historic contact, the Lower Mississippi Valley supported only remnants of the once powerful groups. European diseases undoubtedly took a large toll of human lives, and the extremely mobile warring tribes also contributed to the regional depopulation. The only area which maintained some semblance of strength was the St. Catherine region of the Natchez phase. Like the rest of the valley, this area remained culturally identical to what it was during the Emerald phase, with the major change being of a demographic nature.

Although it cannot be expected that the history of a specific site would reflect the total history of a local area, or that the local area would represent an entire region, it has been shown in this thesis that the overall trends of a region are indeed reflected in the cultural history of a particular area and a site within that area. The high representation of the Panther Lake phase at the

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Sardine Site and the small percentage of Balmoral markers are anomalous to what was occurring in the Bluff Area overall, just as the depopulation in the Hamilton Ridge and Gordon phases of the Bluff Area cannot be explained through analogies with the rest of the Mississippi Valley. This does not mean that the analysis was wrong though, for cultural history is never reflected uniformly over an entire region, or even a particular area. The overall trends do conform remarkably though, thus demonstrating that the study of settlement patterns can be an excellent device in the interpretation of culture history.

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Appendix I

Sardine Site (26-K-70)

Table 4

Sardine Site (26-K-70) - Assemblage From Postholes

POSTHOLE	LAYER	PERIOD	PERIOD MARKERS	%	PHASE	PHASE MARKERS	%	PHASE %	PERIOD AND PHASE %
1	COMBINED	V	ADDIS (2)	3.75	ARIMA	PAVING PLANK (1)	1.25	1.25	1.25
2	COMBINED	III A				TRASH (1)	2.5	2.5	2.5
3	COMBINED	IV	ADDIS (2)	3.75					3.75
4	COMBINED	V	VALLEY MARK (1)	1.25					1.25
5	COMBINED	VI	ADDIS (2)	1.25					1.25
6	COMBINED	III A							1.25
7	COMBINED	III B	UNIDENTIFIED PLANK (1)	1.25					1.25
8	COMBINED	III C	PAVING PLANK (1)	1.25					1.25
9	COMBINED	IV	ADDIS (2)	1.25					1.25
10	COMBINED	V	VALLEY MARK (2)	2.5					2.5
11	COMBINED	VI	ADDIS (2)	1.25					1.25
12	COMBINED	III A							1.25
13	COMBINED	III B							1.25
14	COMBINED	III C							1.25
15	COMBINED	IV	ADDIS (2)	1.25					1.25
16	COMBINED	V	VALLEY MARK (1)	1.25					1.25
17	COMBINED	VI	ADDIS (2)	1.25					1.25
18	COMBINED	III A							1.25
19	COMBINED	III B							1.25
20	COMBINED	III C							1.25
21	COMBINED	IV	ADDIS (2)	1.25					1.25
22	COMBINED	V	VALLEY MARK (1)	1.25					1.25
23	COMBINED	VI	ADDIS (2)	1.25					1.25
24	COMBINED	III A							1.25
25	COMBINED	III B							1.25
26	COMBINED	III C							1.25
27	COMBINED	IV	ADDIS (2)	1.25					1.25
28	COMBINED	V	VALLEY MARK (1)	1.25					1.25
29	COMBINED	VI	ADDIS (2)	1.25					1.25
30	COMBINED	III A							1.25
31	COMBINED	III B							1.25
32	COMBINED	III C							1.25
33	COMBINED	IV	ADDIS (2)	1.25					1.25
34	COMBINED	V	VALLEY MARK (1)	1.25					1.25
35	COMBINED	VI	ADDIS (2)	1.25					1.25
36	COMBINED	III A							1.25
37	COMBINED	III B							1.25
38	COMBINED	III C							1.25
39	COMBINED	IV	ADDIS (2)	1.25					1.25
40	COMBINED	V	VALLEY MARK (1)	1.25					1.25
41	COMBINED	VI	ADDIS (2)	1.25					1.25
42	COMBINED	III A							1.25
43	COMBINED	III B							1.25
44	COMBINED	III C							1.25
45	COMBINED	IV	ADDIS (2)	1.25					1.25
46	COMBINED	V	VALLEY MARK (1)	1.25					1.25
47	COMBINED	VI	ADDIS (2)	1.25					1.25
48	COMBINED	III A							1.25
49	COMBINED	III B							1.25
50	COMBINED	III C							1.25
51	COMBINED	IV	ADDIS (2)	1.25					1.25
52	COMBINED	V	VALLEY MARK (1)	1.25					1.25
53	COMBINED	VI	ADDIS (2)	1.25					1.25
54	COMBINED	III A							1.25
55	COMBINED	III B							1.25
56	COMBINED	III C							1.25
57	COMBINED	IV	ADDIS (2)	1.25					1.25
58	COMBINED	V	VALLEY MARK (1)	1.25					1.25
59	COMBINED	VI	ADDIS (2)	1.25					1.25
60	COMBINED	III A							1.25
61	COMBINED	III B							1.25
62	COMBINED	III C							1.25
63	COMBINED	IV	ADDIS (2)	1.25					1.25
64	COMBINED	V	VALLEY MARK (1)	1.25					1.25
65	COMBINED	VI	ADDIS (2)	1.25					1.25
66	COMBINED	III A							1.25
67	COMBINED	III B							1.25
68	COMBINED	III C							1.25
69	COMBINED	IV	ADDIS (2)	1.25					1.25
70	COMBINED	V	VALLEY MARK (1)	1.25					1.25
71	COMBINED	VI	ADDIS (2)	1.25					1.25
72	COMBINED	III A							1.25
73	COMBINED	III B							1.25
74	COMBINED	III C							1.25
75	COMBINED	IV	ADDIS (2)	1.25					1.25
76	COMBINED	V	VALLEY MARK (1)	1.25					1.25
77	COMBINED	VI	ADDIS (2)	1.25					1.25
78	COMBINED	III A							1.25
79	COMBINED	III B							1.25
80	COMBINED	III C							1.25
81	COMBINED	IV	ADDIS (2)	1.25					1.25
82	COMBINED	V	VALLEY MARK (1)	1.25					1.25
83	COMBINED	VI	ADDIS (2)	1.25					1.25
84	COMBINED	III A							1.25
85	COMBINED	III B							1.25
86	COMBINED	III C							1.25
87	COMBINED	IV	ADDIS (2)	1.25					1.25
88	COMBINED	V	VALLEY MARK (1)	1.25					1.25
89	COMBINED	VI	ADDIS (2)	1.25					1.25
90	COMBINED	III A							1.25
91	COMBINED	III B							1.25
92	COMBINED	III C							1.25
93	COMBINED	IV	ADDIS (2)	1.25					1.25
94	COMBINED	V	VALLEY MARK (1)	1.25					1.25
95	COMBINED	VI	ADDIS (2)	1.25					1.25
96	COMBINED	III A							1.25
97	COMBINED	III B							1.25
98	COMBINED	III C							1.25
99	COMBINED	IV	ADDIS (2)	1.25					1.25
100	COMBINED	V	VALLEY MARK (1)	1.25					1.25

Table 4 (cont.)

POSTHOLE	LAYER	PERIOD	PERIOD MARKERS	%	PHASE	PHASE MARKERS	%	PHASE %	PERIOD AND PHASE %
20									
21									
22									
23	CULTURAL	IIA			FAIRBANKS LAKE	TEMPERATURE (1)	1.25	1.25	1.25
24									
25									
26									
27	CULTURAL	IEB, IIE	BAYTOWN PL. 14 (1)	1.25					1.25
28		V	ADDIS (4)	5.0					5.0
29	LOESS	IV	VALLEY GARDEN	1.25					1.25
30	CULTURAL	IEB, IIE	BAYTOWN PL. 14 (1)	1.25					1.25
31	CULTURAL	V	ADDIS (1)	1.25	NATION RIDGE	CENTERS CREEK (1)	1.25	1.25	1.25
32	LOESS	V	ADDIS (2)	2.5					2.5
33	CULTURAL	IEB, IIE	BAYTOWN PL. 14 (2)	2.5	ANNA	PLAQUEMINE (2)	2.5	2.5	2.5
34	LOESS	V	ADDIS (3)	3.75					3.75
35	CULTURAL	IV	VALLEY GARDEN (1)	1.25					1.25
36		V	ADDIS (4)	5.0	ANNA	ANNA (1)	1.25	2.5	7.5
37	CULTURAL	V	ADDIS (1)	1.25		PLAQUEMINE (1)	1.25		1.25
38									
39									
40									
41									
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98									
99									
100									
TOTAL			69	66.25		11		13.75	100.00

Table 5

Sardine Site (26-K-70) - Assemblage From Excavations

PIT/TRENCH	LEVEL	PERIOD	PERIOD MARKERS	%	PHASE	PHASE MARKERS	%	PHASE %	PERIOD AND PHASE %
V564	A	II A			PANTHER LAKE	TEHEFANSTE (2)	6.5	6.5	6.5
		II A - III	UNCLASSIFIED INC. (1)	3.2					9.7
			GAYTOWN PL. 14 (2)	6.5					
		IV	UNCLASSIFIED INC. (1)	3.2					9.7
			VALLEY PARK (2)	6.5					
		V	PROG. ROYAL CREEK (1)	3.2	EMERALD	ST. CATHERINE (3)	9.7	9.7	74.3
			ADDIS. (19)	61.4					
			26	83.9					100.1
TOTAL			26	83.9		5		16.2	31
									100.1
V565	A	II A				GREEN POINT (1)	.3		
					PANTHER LAKE	TEHEFANSTE ST. 14 (1)	.3	2.8	2.8
						TEHEFANSTE (7)	2.2		
						TRAYVILLE (1)	.3	.3	
		II A - III	UNCLASSIFIED INC. (1)	.3	ISSAGUENA	CENTERS CREEK (6)	1.9	2.2	10.9
			GAYTOWN PL. 14 (26)	8.1	WAPATON RIDGE	LARTO (1)	.3		
					BALLINA	MARIQUE (1)	.3	.3	
					WALMORAL	MOTT (3)	.9	1.2	
		IV	VALLEY PARK (10)	3.1		VICKSBURG (1)	.3		5.5
						HARDY (1)	.3		
					GORDON	DUPREE (1)	.3	.9	
						HARRISON BAYOU (1)	.3		
						PLACEMINE (9)	2.8		
					ANNA	ANNA (3)	.9	4.3	
		V	UNCLASSIFIED INC. 14 (4)	1.2		CAHNER (1)	.3		47.3
			LELAND INC. 54 (4)	1.2		MISSISSIPPI PL. II (1)	.3		
			ADDIS. (127)	39.4					

[illegible]

Table 5 (cont.)

AT/TRENCH	LEVEL	PERIOD	PERIOD MARKERS	%	PHASE	PHASE MARKERS	%	PHASE	PERIOD AND PHASE %
	TOTAL		ADDIS (125) 995	47.9 51.1		ADDIS (1)	.3		
	B	IIA			WINDY LAKE	TEHEFUNCTE (2)	.5	.5	.5
			DAYTOWN PL. 14 (8)	2.1	TEHEFUNCTE	MAHONY (1)	.3	.3	2.4
		IV	MAZIQUE 14 (1)	.3	SANDS	SILVER CREEK (1)	.3	.3	
			EVANSVILLE PUNCT (1)	.3					1.9
			VALLEY PARK (4)	1.5					
			ICLAVD 14 (1)	.3	ANDIA	ANDIA (2)	.5	.3	
		V	ADDIS (34)	8.8		PLAQUEMINE (2)	.8	.8	10.7
	TOTAL		49	19.8	FRANCO	ST. CATHERINE (1)	.3	.3	
						10	2.7	2.7	15.5
	C	IIA			PORTER LAKE	TEHEFUNCTE (5)	1.3	1.6	1.6
						LAKE BARNETT (1)	.3		
		II B - III	DAYTOWN PL. 14 (7)	1.8					1.8
		IV	VALLEY PARK (1)	.3					.3
		V	ADDIS (6)	1.6					1.6
	TOTAL		14	3.7				1.6	2.0
									5.3
	E	IIA	UNCLASSIFIED INC (1)	.3	PANTHER LAKE	TEHEFUNCTE (10)	2.6	2.9	3.2
						TEHEFUNCTE ST. 14 (1)	.3		
		II B - III	DAYTOWN PL. 14 (13)	3.4					3.4
		IV	MAZIQUE 14 (1)	.3					.6
			VALLEY PARK (1)	.3					
	TOTAL		16	4.2				2.9	2.7
						11			7.2
			314	81.9		714		19.7	388
									101.6
	TOTAL		668	77.8		191		22.2	859
	OVERALL TOTAL								100

Phases	Combined Excavations		
	f_o	f	$\frac{(f_o - f)^2}{f}$
Panther Lake	84	17.36	248.19
Point Lake	0	17.36	17.36
Issaquena	10	17.36	3.12
Hamilton Ridge	15	17.36	.32
Sundown	2	17.36	13.59
Ballina	1	17.36	15.42
Balmoral	7	17.36	6.18
Gordon	8	17.36	5.05
Anna	54	17.36	77.33
Emerald	11	17.36	2.33
Natchez	0	17.36	17.36
Total	191		

Table 6
Chi-Square Test of the
Validity of the Phase
Diagnostics Sample

for 10 degrees of
freedom, $\chi^2 = 406.25$
Probability $< .001$

Pit or Trench Period	V564			V566			V569 - V570			V572			Total
	f.	f	$\frac{(f_o - f)^2}{f}$	f.	f	$\frac{(f_o - f)^2}{f}$	f.	f	$\frac{(f_o - f)^2}{f}$	f.	f	$\frac{(f_o - f)^2}{f}$	
IIA	2	3.03	.35	36	31.49	.65	20	11.54	6.20	26	37.94	3.76	84
IIB - III	3	6.53	1.91	81	67.84	2.55	35	24.86	4.14	62	81.76	4.78	181
IV	3	2.35	.18	21	24.37	.47	8	8.93	.10	33	29.36	.45	65
V	23	19.09	.80	184	198.30	1.03	55	72.67	4.30	267	238.94	3.30	529
Total	31			322			118			388			859

Table 7

Chi-Square Test of the Validity of the
Phase-Period diagnostics Sample

for 9 degrees of
freedom, $\chi^2 = 34.97$
Probability $< .001$

Table 8
Chi-Square Test of Assemblages
Between Pits and Periods

Period Pit/Trench	IIB - III			x^2	Probability
	f	f	$\frac{(f_o - f_e)^2}{f_e}$		
V569 - V570	35	48.5	3.76		
V572	62	48.5	3.76		
Total	97			7.52	.01 - .001
	IV				
V566	21	14.5	2.9		
V569 - V570	8	14.5	2.9		
Total	29			5.8	.02 - .01
V566	21	27	1.33		
V572	33	27	1.33		
Total	54			2.66	.2 - .1
V569 - V570	8	20.5	7.62		
V572	33	20.5	7.62		
Total	41			15.24	<.001
	V				
V566	184	119.5	348.1		
V569 - V570	55	119.5	348.1		
Total	239			696.2	<.001

Table 8 (cont.)

Period Pit/Trench	IIA			x^2	Probability
	f_o	f	$\frac{(f_o - f)^2}{f}$		
V566	36	28	2.29		
V569 - V570	20	28	2.29		
Total	56			4.58	.05 - .02
V566	36	31	.81		
V572	26	31	.81		
Total	62			1.62	.2
V569 - V570	20	23	.39		
V572	26	23	.39		
Total	46			.78	.5 - .3
	IIB - III				
V566	81	58	9.12		
V569 - V570	35	58	9.12		
Total	116			18.24	.001
V566	81	71.5	1.26		
V572	62	71.5	1.26		
Total	143			2.52	.2 - .1

Table 8 (cont.)

Period Pit/Trench	V			x ²	Probability
	f	f	$\frac{(f-f)^2}{f}$		
V566	184	225.5	7.64		
V572	267	225.5	7.64		
Total	451			15.28	.001
V569 - V570	55	161	69.79		
V572	267	161	69.79		
Total	322			139.5	.001

PERIOD PLAIN DIAGNOSTICS	WITH FE/OX			WITHOUT FE/OX			TOTAL	χ^2	PROBABILITY
	f_o	f	$\frac{(f_o - f)^2}{f}$	f_o	f	$\frac{(f_o - f)^2}{f}$			
IIA	76	22.56	126.59	5	58.44	48.87	81		
IIB-III	80	45.11	26.99	82	116.89	10.41	162		
IV	15	14.20	.05	36	36.80	.02	51		
V	49	138.13	57.51	447	357.87	22.20	496		
TOTAL	220			570			790	292.64	<.001

Table 9

Chi-Square Test of Fe/Ox in Periods

Appendix II

Site Survey

Sites in the Bluff Area

24 - L - Quadrant

18) Grand Gulf (NW $\frac{1}{4}$ 1rr S12, T12N, R2E) Claiborne County

This site consisted of a single conical burial mound located $\frac{1}{4}$ miles south of the village of Grand Gulf on the edge of the bluffs overlooking the Mississippi Valley. No material was discovered, but the size and shape of the mound was characteristic of the Issaquena phase.

20) Willey (SW $\frac{1}{4}$ NW $\frac{1}{4}$ S5, T12N, R2E) Claiborne County

The Willey site was a small occupational area situated on the Mississippi floodplain adjacent to an unnamed bayou, $1\frac{1}{4}$ miles to the east of the confluence of the Big Black River and the Mississippi. Anna and Emerald diagnostics were discovered at the site.

21) Stuck (SE $\frac{1}{4}$ NW $\frac{1}{4}$ S5, T12N, R2E) Claiborne County

This site was located just to the north of Willey (24-L-20), $\frac{1}{2}$ mile south of where the Big Black River emerges from the bluffs. It too was situated on the Mississippi floodplain and possessed ceramic diagnostics relating to Issaquena, Anna, and Emerald phases, with the latter having the highest representation.

22) Relief (SE $\frac{1}{4}$ NW $\frac{1}{4}$ S6, T12N, R1E) Claiborne County

This was a small ridgetop occupation $\frac{1}{2}$ mile to the southwest of the Willey Site (24-L-20). An Anna phase

component was in evidence.

24 - M - Quadrant

1) Yokena (SW $\frac{1}{4}$ irr S39, T14N, R3E) Warren County

The Yokena Site consisted of three mounds and a village. The site was situated on the Mississippi floodplain at the base of the bluffs, 2 $\frac{1}{2}$ miles south of Yokena Station. A surface collection made at the site (Table 13; fig. 27) revealed minor Hamilton Ridge and Ballina components and very strong Issaquena and Anna phase components, with the mounds relating to the latter. The ramp of the largest mound faced west (Md.A).

References: Ford 1936:234,5 & fig.43

2) Glass (W $\frac{1}{2}$ irr S36, T14N, R3E) Warren County

The Glass Site was composed of four mounds arranged in a circular fashion in the floodplain of the Mississippi Valley, one mile NNE of the Glass railroad Station. A surface collection made at the site (Table 13, fig. 28) gave evidence of Issaquena, Gordon, Anna, and Emerald occupations. The mounds were built during the Anna phase.

References: Ford 1936:69,71

Moore 1911:381,8 & fig. 6-12

5) Ring (NE $\frac{1}{4}$ S27, T14N, R3E) Warren County

The Ring Site was an aboriginal cemetery located on an interior bluff ridge three miles east of the Yokena

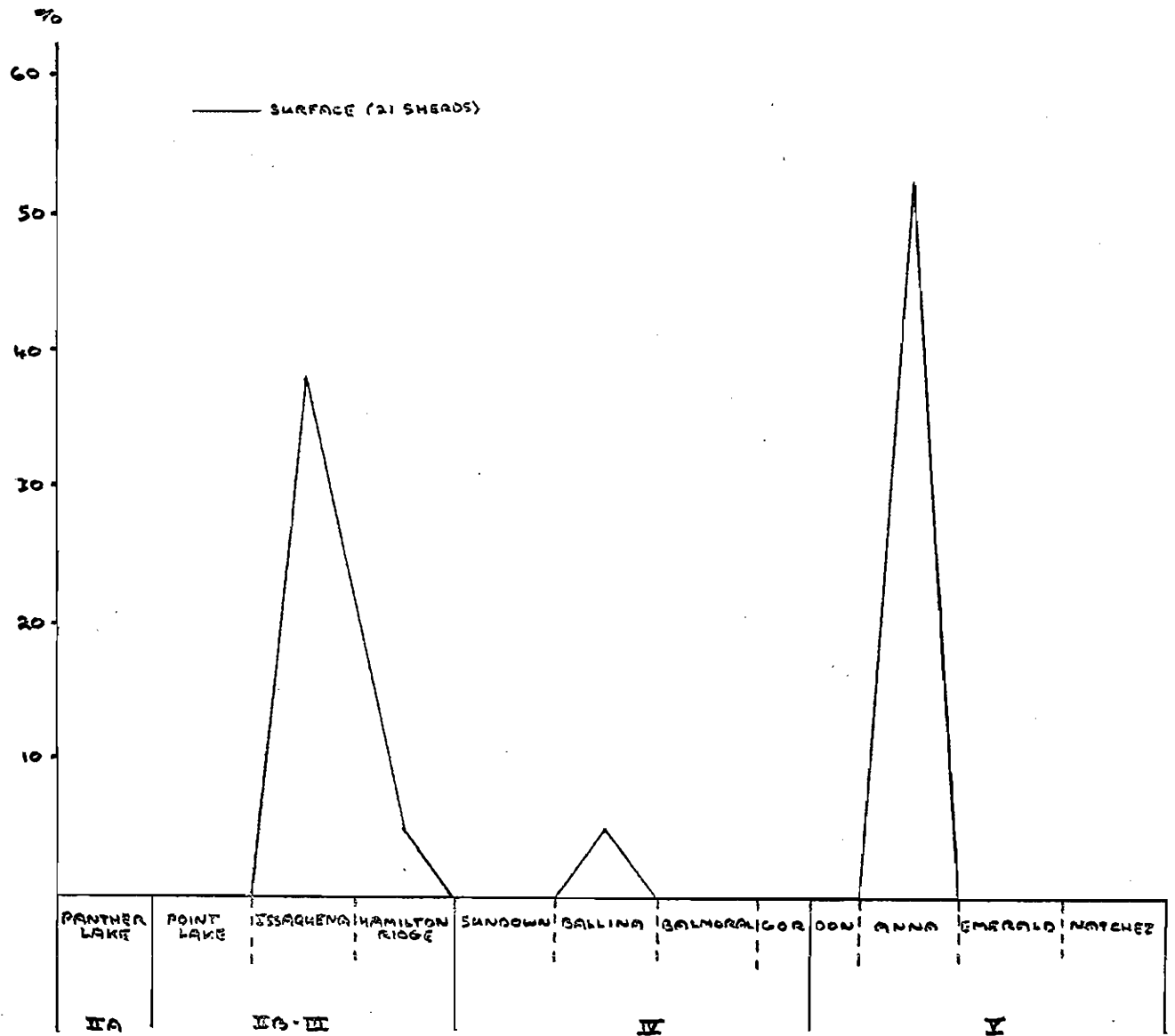


figure 27

Yokena (24-M-1)

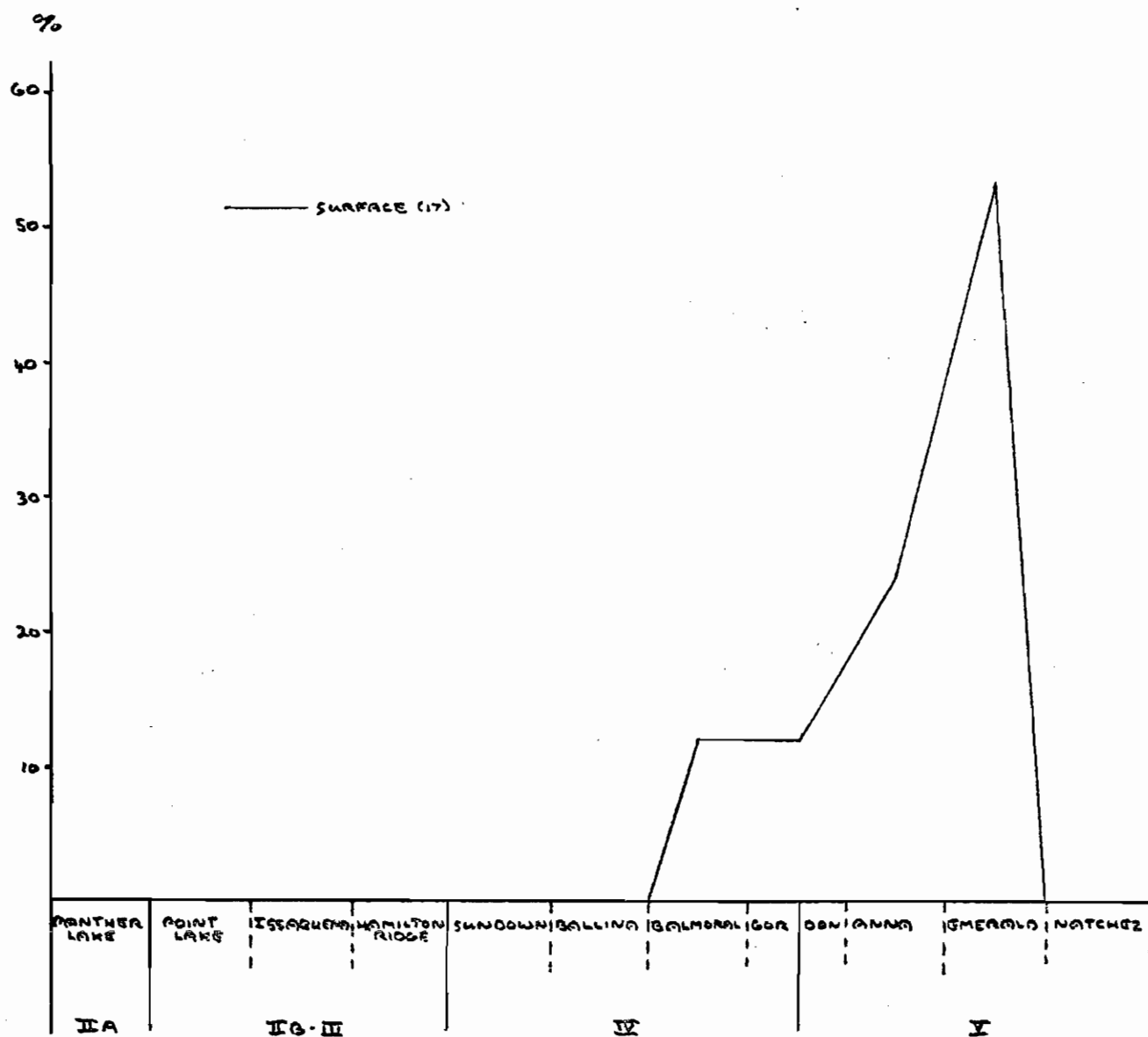


figure 28

Glass (24-M-2)

Site (24-M-1). The burials dated to the Emerald phase.

References: Ford 1936:29

6) Burthe (NW $\frac{1}{4}$ NW $\frac{1}{4}$ irr S6, T14N, R3E) Warren County

This site was another aboriginal cemetery which dated to the Natchez phase. The site was located on a ridge overlooking the Mississippi Valley, $\frac{1}{2}$ mile northeast of the Glass Site (24-M-2). Accompanying the burials were glass beads, small sheet copper cones, C-shaped iron bracelets, and native pottery.

References: Ford 1936:71

10) Hard Days Night (Center SW $\frac{1}{4}$ S10, T14N, R2E) Warren Co.

This site was a small occupational area located on the Mississippi floodplain $\frac{1}{2}$ mile due south of the village of Simrall. An Anna phase component was apparent in the small collection made.

11) Farmland #2 (SW corner S10, T13N, R2E) Warren County

This site was located on a broad flat ridge which extended out into the floodplain of the Big Black River. The site itself was situated on the edge of this plateau. Hamilton Ridge and Sundown occupations were observed.

12) Farmland #1 (NE $\frac{1}{4}$ SE $\frac{1}{4}$ S10, T13N, R2E) Warren County

This was a small site situated at the base of the bluffs on the Mississippi floodplain, $\frac{1}{2}$ mile to the northwest of Farmland #2 (24-M-11). A tributary to the Big Bogue Desha forms the northern boundary of the site. A

Sundown occupation was in evidence.

14) Brown (SW $\frac{1}{4}$ SE $\frac{1}{4}$ S37, T15N, R3E) Warren County

This site, composed of sparse occupational debris relating to the Balmoral phase, was situated on a ridge which now overlooks the Vicksburg Municipal Airport on the Mississippi floodplain below.

25 - L - Quadrant

1) Ferguson (Center irr S12, T9N, R1W) Jefferson County

This site was situated on the edge of the bluffs just to the south of where Coles Creek enters the Mississippi Valley. A strong Meso - Indian occupation existed at this site, as well as minor Balmoral, Anna, Emerald, and Natchez settlements.

3) Nall (Center irr S11, T9N, R1W) Jefferson County

This site was located on a northern terrace of Coles Creek upstream of where this tributary enters the Mississippi Valley, directly opposite from the Ferguson Site (25-L-1). A collection from the site, in the possession of the landowner (Louis Nall), revealed Meso II and Poverty Point occupations, as well as its function as a cemetery during the Natchez phase.

4) Frasier (NE $\frac{1}{4}$ SW $\frac{1}{4}$ irr S45, T10N, R12E) Jefferson County

This site consisted of a small mound situated on the Mississippi floodplain along the western bank of

an unnamed bayou which empties into Coles Creek. No material was found on or around the mound, but the ridges above (also included under the Frasier Site) demonstrated a strong Issaquena component, as well as a substantial Anna phase representation. The size and shape of the mound suggests that it was built during the Issaquena phase.

10) Petit Gulf (N corner S 1/4 S8, T11N, R1W) Claiborne Co.

This site, a scattered ridgetop occupation dating to the Anna phase, was situated in the Petit Gulf Hills four miles northeast of the town of Rodney.

11) Newsome (NW 1/4 NE 1/4 S32, T11N, R1W) Claiborne County

This site was located northeast of the Petit Gulf Hills, 1 1/2 miles southeast of Bruinsburg. The area was set up as a site on the basis of a single find - a jasper bead dating to Period II of the Meso - Indian Era.

13) Laman (SE 1/4 NW 1/4 1/4 S14, T9N, R1W) Jefferson County

This site consisted of a small mound fifteen meters in diameter and one meter in height situated on the edge of an old natural levee of the Mississippi River. It was located about three quarters of a mile west of where Coles Creek emerges from the bluffs, and had been under cultivation for many years. Only plain sherds were collected from the site, but the concentration of Issaquena burial mounds in this area might indicate its cultural affinities.

15) Windsor (Center irr S58, T11N, R1E) Claiborne County

The Windsor Site was an extremely large mound center located on a broad flat plain just to the south of James Creek, and $1\frac{1}{2}$ miles from the edge of the bluffs. Three mounds were arranged in a triangular pattern, with the largest (Md. A) situated farthest to the west and facing east. Two test pits were placed in this mound, one at the top and the other at the base. The combined results, including a small surface collection, are depicted in Table 13 and illustrated in figure 29. Minor occupations occurred during Balmoral, Gordon, and Emerald, but the mounds were built and the site utilized most during the Anna phase.

16) Beesley (SW $\frac{1}{4}$ irr S11, T11N, R1E) Claiborne County

This site was located at the base of the bluffs on the floodplain of James Creek, $\frac{1}{2}$ of a mile to the north of the Windsor Site (25-L-15). A Balmoral occupation was in evidence.

17) Smithfield (SE $\frac{1}{4}$ SW $\frac{1}{4}$ irr S13, T11N, R1E) Claiborne Co.

This site consisted of a single small conical burial mound situated on a talus slope at the base of the bluffs, one mile south of Bruinsburg. A surface collection made at the site (Table 13; fig. 30) suggests that the mound was constructed during the Sundown phase. Minor Ballina and Balmoral occupations were also depicted.

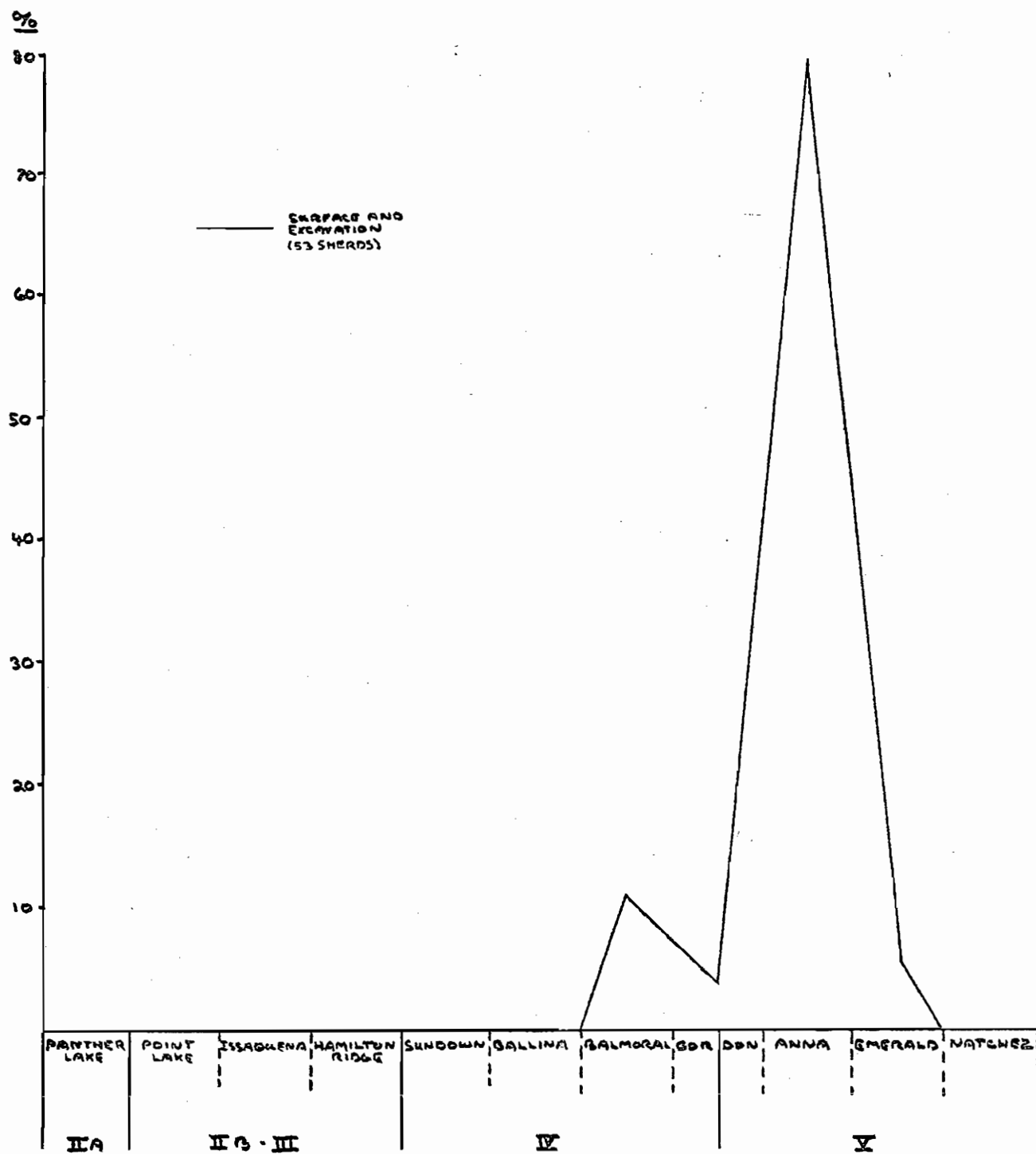


figure 29

Windsor (25-L-15)

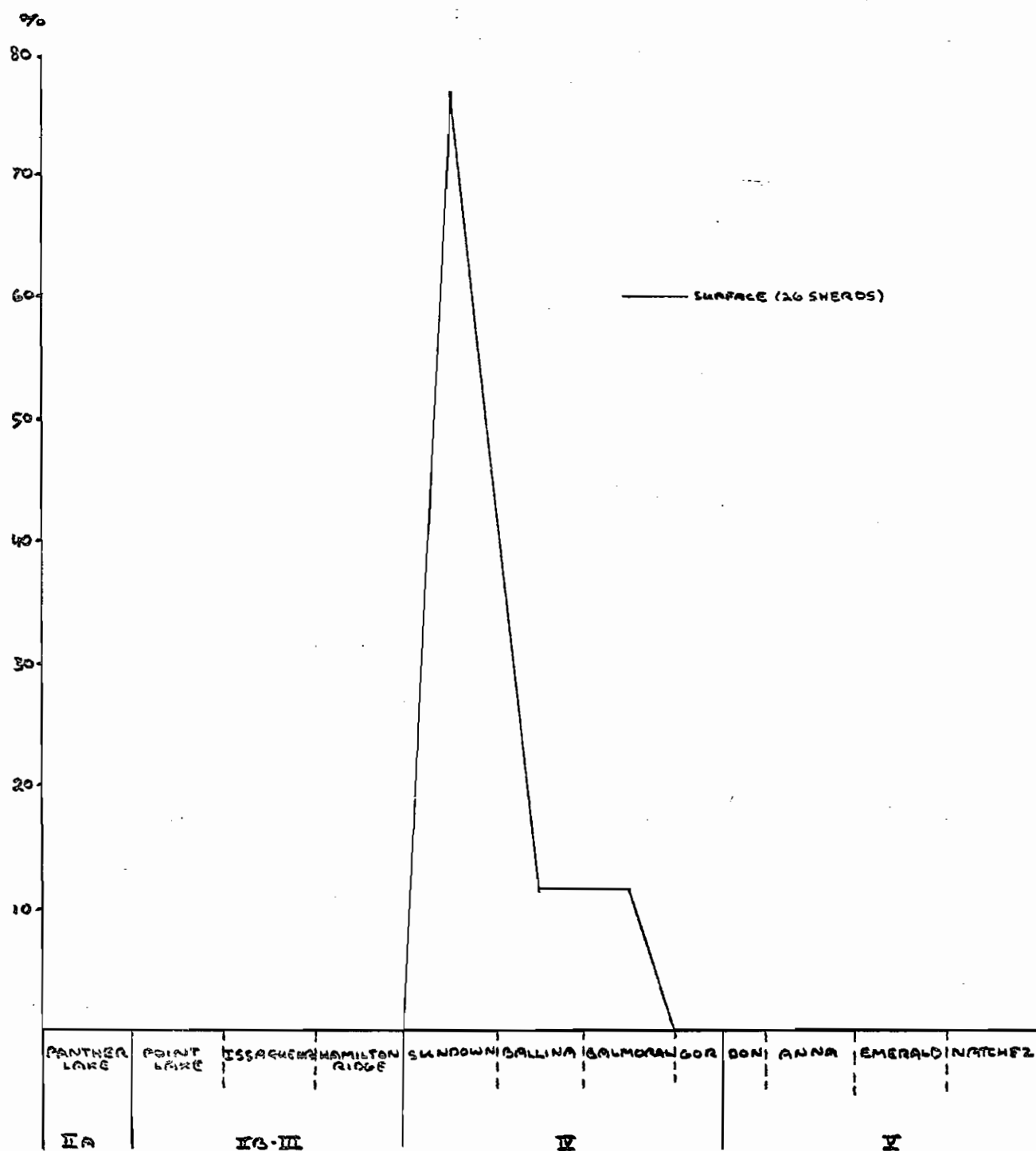


figure 30
Smithfield (25-L-17)

- 19) Cassell (SW $\frac{1}{4}$ NW $\frac{1}{4}$ irr S29, T12N, R1E) Claiborne County

This site, located on an old terrace of Bayou Pierre, had a very rich occupational debris. 678 sherds were collected, sixty-one of which were phase diagnostics (Table 13; fig. 31). The site supported a fairly large population during Issaquena, Sundown, Ballina, and Balmoral, the largest of which was Sundown. Minor occupations also occurred during Panther Lake, Anna, and Emerald.

- 20) Catledge (NE $\frac{1}{4}$ NE $\frac{1}{4}$ irr S13, T11N, R1W) Claiborne County

The Catledge Site was located on the banks of Judy Bayou approximately two miles northeast of the town of Alcorn. Three small mounds found at this site were arranged in the classic triangular Coles Creek pattern, but strangely enough, not a single Period IV ceramic was found. However, there was considerable evidence supporting an Issaquena occupation. It is possible that the mounds dated to this phase. The only evidence in the Bluff Area of the early Marksville culture occurred at this site, in the form of a single cross-hatched rim. This variety does not appear in the valley, but is commonly found in the hills of northeastern Louisiana (Toth - personal communication), and on the eastern fringes of the Yazoo Basin (Brain - personal communication).

- 23) Big Perry (NE Center irr S15, T12N, R2E) Claiborne Co.

This site was situated on an early terrace of Bayou Pierre a short distance below where this tributary emerges from the bluffs. Evidence of Gordon, Anna, ^{and} Emerald

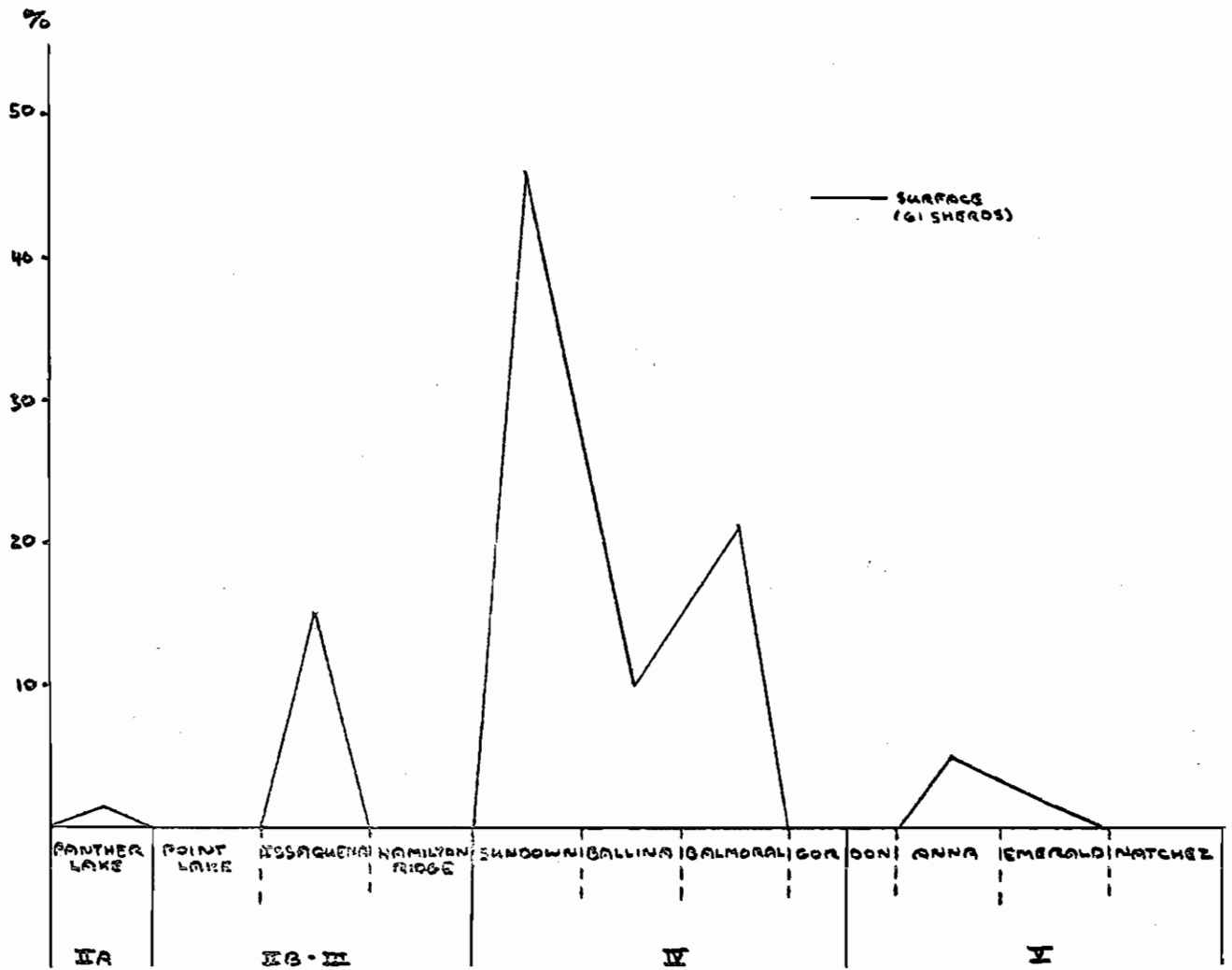


figure 31

Cassell (25-L-19)

phase components was discovered at this site.

25) Centers Creek (NW $\frac{1}{4}$ SE $\frac{1}{4}$ S12, T12N, R2E) Claiborne Co.

This was a multi-component site situated on the east bank Centers Creek, just before its confluence with Bayou Pierre. The land was at one time within the floodplain of Bayou Pierre. The site consisted of a single conical burial mound and village refuse. As indicated by the surface collection (Table 13; fig. 32), the heaviest occupation occurred during the Hamilton Ridge phase, and it was also probably during this phase that the mound was constructed. Minor occupations also occurred during the Issaquena, Sundown, Balmoral, and Anna phases.

26) Bayou Pierre (NW $\frac{1}{4}$ SE $\frac{1}{4}$ S 12, T12N, R2E) Claiborne Co.

This site consisted of four mounds situated less than $\frac{1}{2}$ mile to the northeast of the Centers Creek Site (25-L-25) on the same terrace overlooking the present-day floodplain of Bayou Pierre. A surface collection made at this site (Table 13; fig. 33) revealed strong Balmoral and Anna components and minor Hamilton Ridge, Sundown, Ballina, and Gordon occupations. It is possible that the mounds were built during the Balmoral phase, but more probable that they were constructed during Anna (See p. 153).

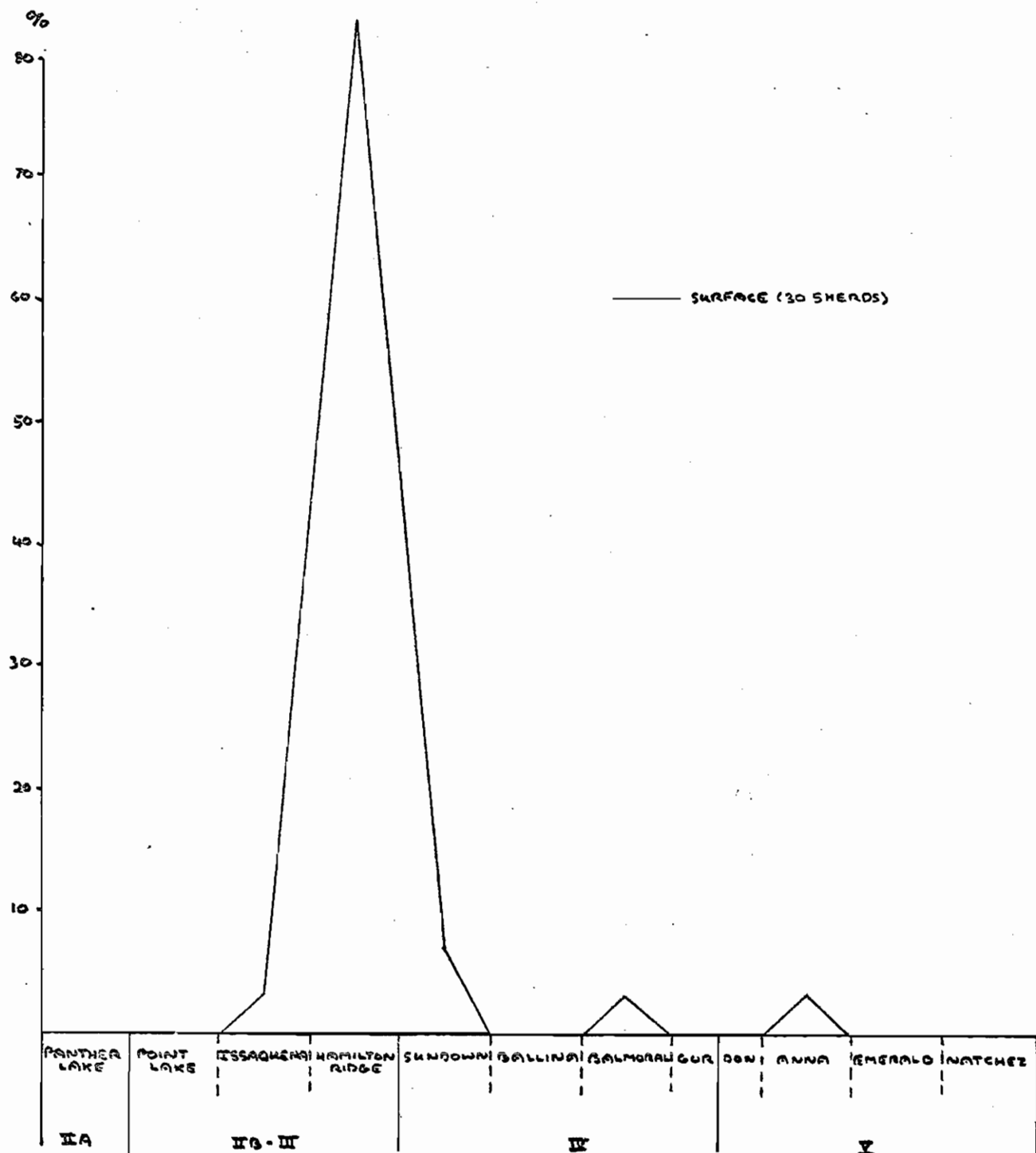


figure 32

Centers Creek (25-L-25)

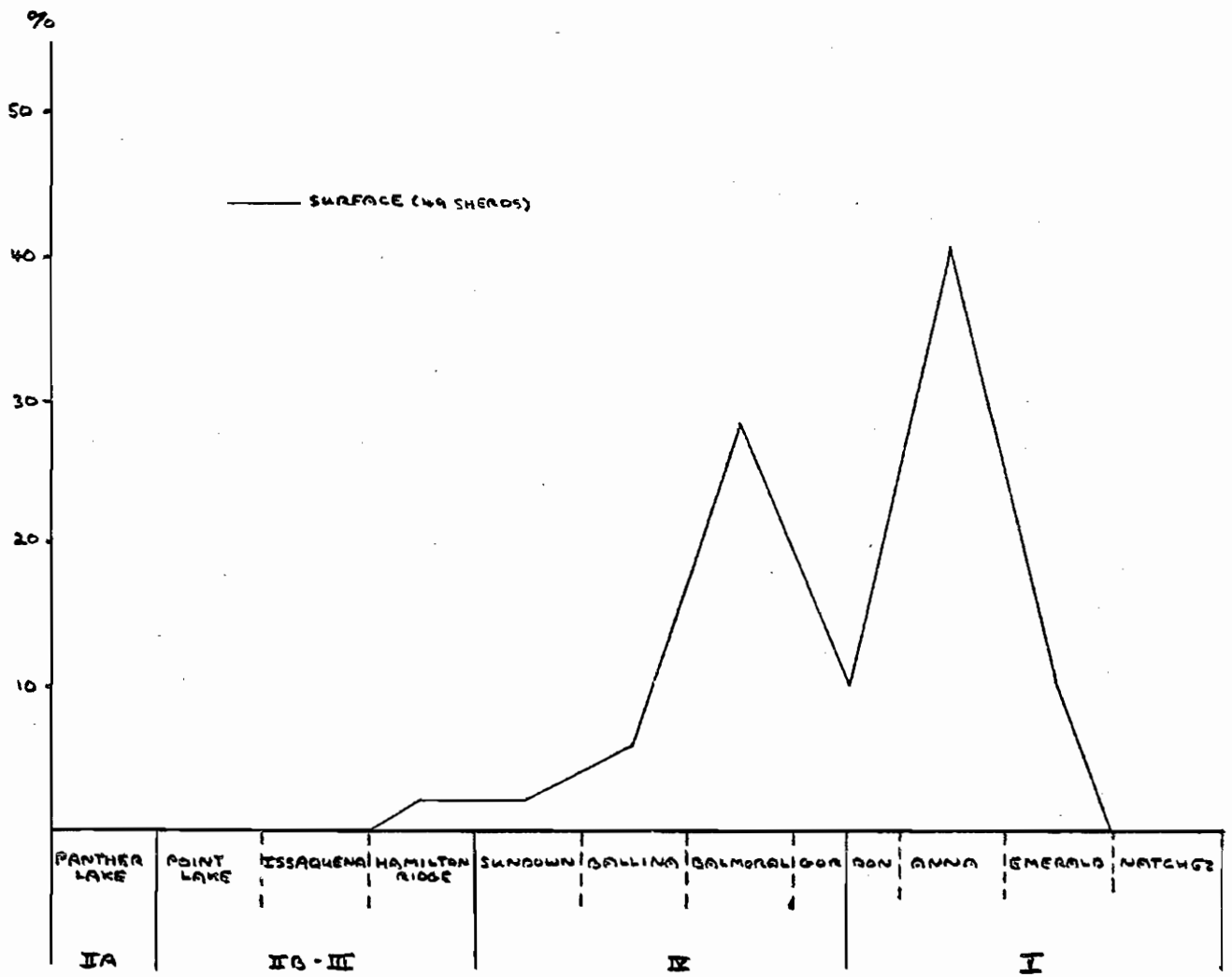


figure 33

Bayou Pierre (25-L-26)

1) Anna (1rr S9,T8N,R11E) Adams County

The Anna Site was composed of eight mounds, six of which were arranged along the fringes of a large flat bluff. This site was located approximately ten miles NNE of Natchez, and overlooks the Mississippi Valley. Although the site seems to have had only one component (Anna), it was undoubtedly the principle center in the area during this phase. Windsor (254L-15), which was the principle mound center in the north during this phase, shared many of its characteristics with Anna, one of which was the placement of the largest mound. The principle mound at Anna (Md.3), like at Windsor, was situated on the western extremity of the plaza and faced southeast.

References: Brown 1926:40,2 & figs. 9,10

Cotter 1951

Ford 1936:111,4

Jennings and Wagner 1940

Moorehead 1932:162,3 &fig.104a

2) Fatherland (1rr S46, T7N, R3W) Adams County

The Fatherland Site was located on the west bank of St. Catherine Creek three miles southwest of Natchez. The site was composed of three mounds and village refuse. Ceramics collected demonstrated occupation during Issaquena and continuous occupation from Gordon through the Natchez phase. Settlement was probably of a sporadic nature until the Anna phase, at which time a village occupation came about. The mounds were constructed during the Emerald phase

and were used, but not added on to, in the subsequent Natchez phase. The Fatherland Site was the historic Grand Village of the Natchez Indians.

References: Ford 1936:61,5 & figs.9-12

Neitzel 1965

3) Foster (S corner irr S10, T7N, R2W) Adams County

The Foster Site consisted of two mounds situated on an old terrace of St. Catherine Creek. A test trench placed in the smaller of the two mounds (Md.B) revealed two building stages (Table 13, fig. 34). The first occurred during the Anna phase, followed by an equally represented Emerald phase¹. This pattern was virtually identical in the surface collection. A minor Natchez occupation was also evident at Foster.

4) Henderson (NW $\frac{1}{4}$ SE $\frac{1}{4}$ irr S12, T7N, R2W) Adams County

The Henderson Site was located 1 $\frac{1}{2}$ miles west of the Foster Site (26-K-3). The site was situated on the bank of St. Catherine Creek and consisted of a single mound under pasture. Excavation produced sparse results, but enough evidence to indicate a Ballina occupation around the mound.

¹ The stratigraphic percentages cannot be seen in fig.32. All of the frequency polygons in Appendix II are designed only to represent the relative occupations for the entire site, and cannot differentiate between levels in particular pits.

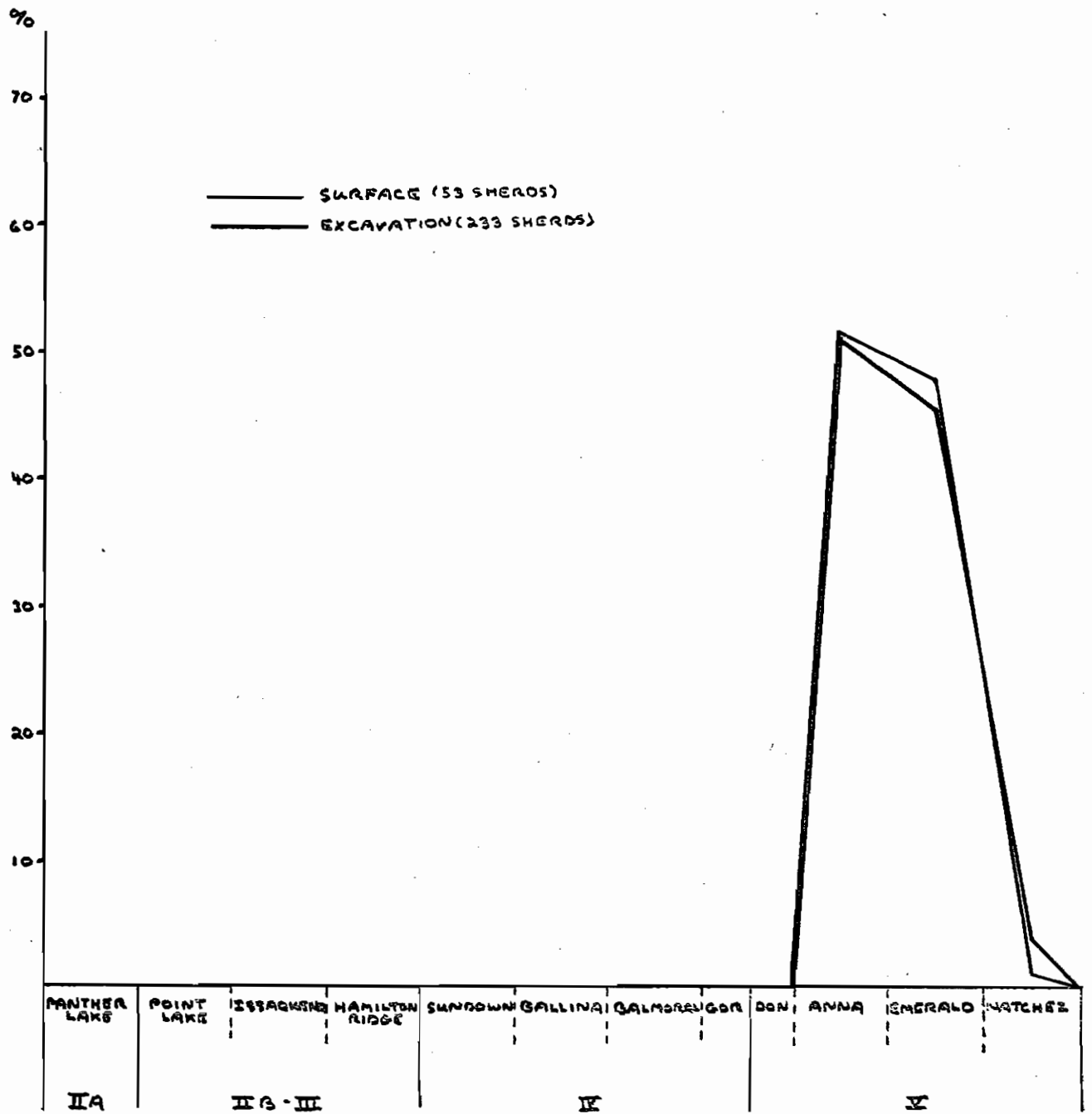


figure 34

Foster (26-K-3)

- 7) Trinity School ($NE\frac{1}{4}$ $NE\frac{1}{4}$ S4, T6N, R3W) Adams County

This site was situated south of St. Catherine Creek approximately $\frac{1}{2}$ mile from the Fatherland Site (26-K-2). Scattered cultural debris representing Anna and Emerald occupations was collected.

- 9) Stockyard ($S\frac{1}{4}$ irr S29, T7N, R3W) Adams County

This site consisted of scattered material on a ridge two miles south of Natchez and $\frac{1}{2}$ mile north of St. Catherine Creek. Evidence of Balmoral, Anna, Emerald, and Natchez occupations appeared in the surface collection.

- 10) Corral Ridge ($NE\frac{1}{4}$ $SE\frac{1}{4}$ S29, T7N, R3W) Adams County

This site was located on the same ridge as the Stockyard Site (26-K-9). A ground quartzite atlatl dating to Period III of the Meso-Indian Era was discovered at this site.

- 11) Susie B. West ($SW\frac{1}{4}$ $SW\frac{1}{4}$ S52, T7N, R3W) Adams County

This site was located on a ridge $\frac{1}{4}$ of a mile to the southeast of Corral Ridge (26-K-10), north of and overlooking the floodplain of St. Catherine Creek. Material relating to the Balmoral and Anna phases was collected at this site.

- 12) Stoveleg ($NW\frac{1}{4}$ S10, T6N, R3W) Adams County

Stoveleg was a multi-component site located on the lower slopes of the bluffs just to the south of where St. Catherine Creek enters the Mississippi Valley. Represented

at the site were Issaquena, Balmoral, Anna, and Emerald phase components.

14) Morrisson (NE $\frac{1}{4}$ SW $\frac{1}{4}$ S10, T6N, R3W) Adams County

This site was a small ridgetop occupation of the Anna phase situated on the edge of the bluffs overlooking the Mississippi Valley, three-quarters of a mile northwest of Cloverdale.

16) Brown's Folly (Central NW $\frac{1}{4}$ S4, T6N, R3W) Adams County

This site was located in the southern floodplain of St. Catherine Creek, just to the west of Bullhead Bayou. Two Quad points were found here dating to the last period of the Paleo-Indian Era, as well as many projectile points dating to Period I and the later periods of the Meso-Indian Era. Minor occupations also occurred during the Gordon, Anna, and Emerald phases. This was the earliest site discovered in the Bluff Area thus far.

17) KBS (Central S15, T6N, R3W) Adams County

This site was situated on a small ridge on the eastern bank of Saragossa Bayou to the south of and overlook the floodplain of St. Catherine Creek. Evidence of Ballina and Anna occupations was discovered here.

18) International Paper (NE $\frac{1}{4}$ NE $\frac{1}{4}$ S10, T6N, R3W) Adams Co.

This site was situated upon the southern terrace of St. Catherine Creek, $\frac{1}{4}$ of a mile to the west of Saragossa Bayou. A small surface collection made at this site revealed

a Natchez phase occupation, and excavation verified this (Table 13; fig. 35). The frequency polygon depicts a very strong Emerald occupation, but this percentage undoubtedly should be lowered in favor of the Natchez phase, as many of the Emerald varieties continued into this next phase. The discovery of beads, gunflints, and other articles of European manufacture at this site demonstrated its importance during the Natchez phase.

20) Saragossa Bayou (NW $\frac{1}{4}$ S15, NE $\frac{1}{4}$ S5, T6N, R3W) Adams Co.

This site, consisting of a single mound almost entirely destroyed as a result of cultivation, was located south of St. Catherine Creek between Saragossa Bayou and Bullhead Bayou. The lack of diagnostic ceramics precludes the assignment of phase, but the finding of Addis sherds in the fields suggests a Period V construction.

21) Hog Waller (Central S58, T6N, R3W) Adams County

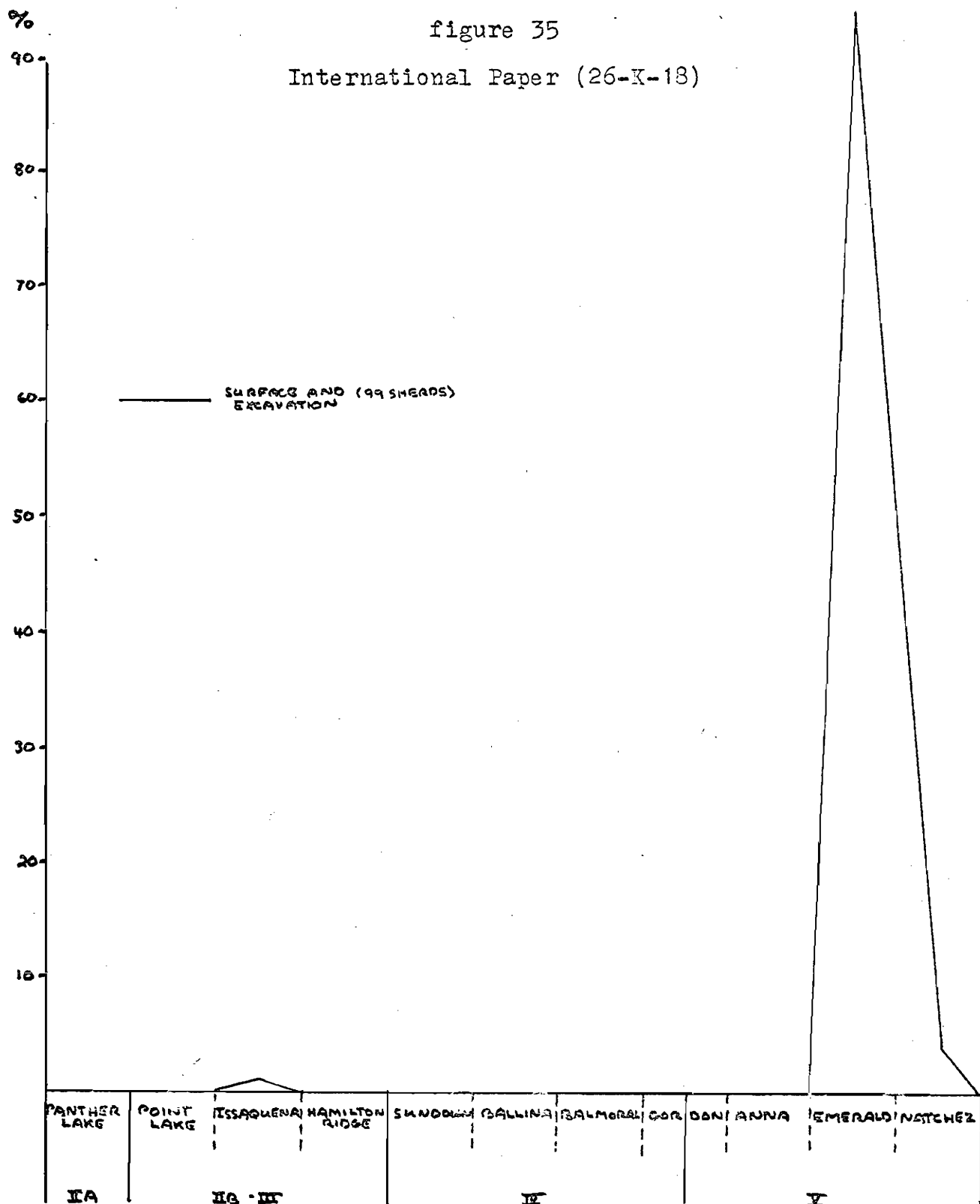
This site was situated on a ridge two miles south of Natchez, just to the north of St. Catherine Creek. Projectile points were found dating this site to the Meso-Indian Era.

22) Village Sauvage (E Central 1rr S3, T6N, R3W) Adams Co.

This site was an extensive occupational area including two ridges and the adjacent valley. It was located south of St. Catherine Creek, three-quarters of a mile from the Fatherland Site (26-K-2). The initial surface collection (Table 13; fig. 36) revealed very strong Emerald

figure 35

International Paper (26-K-18)



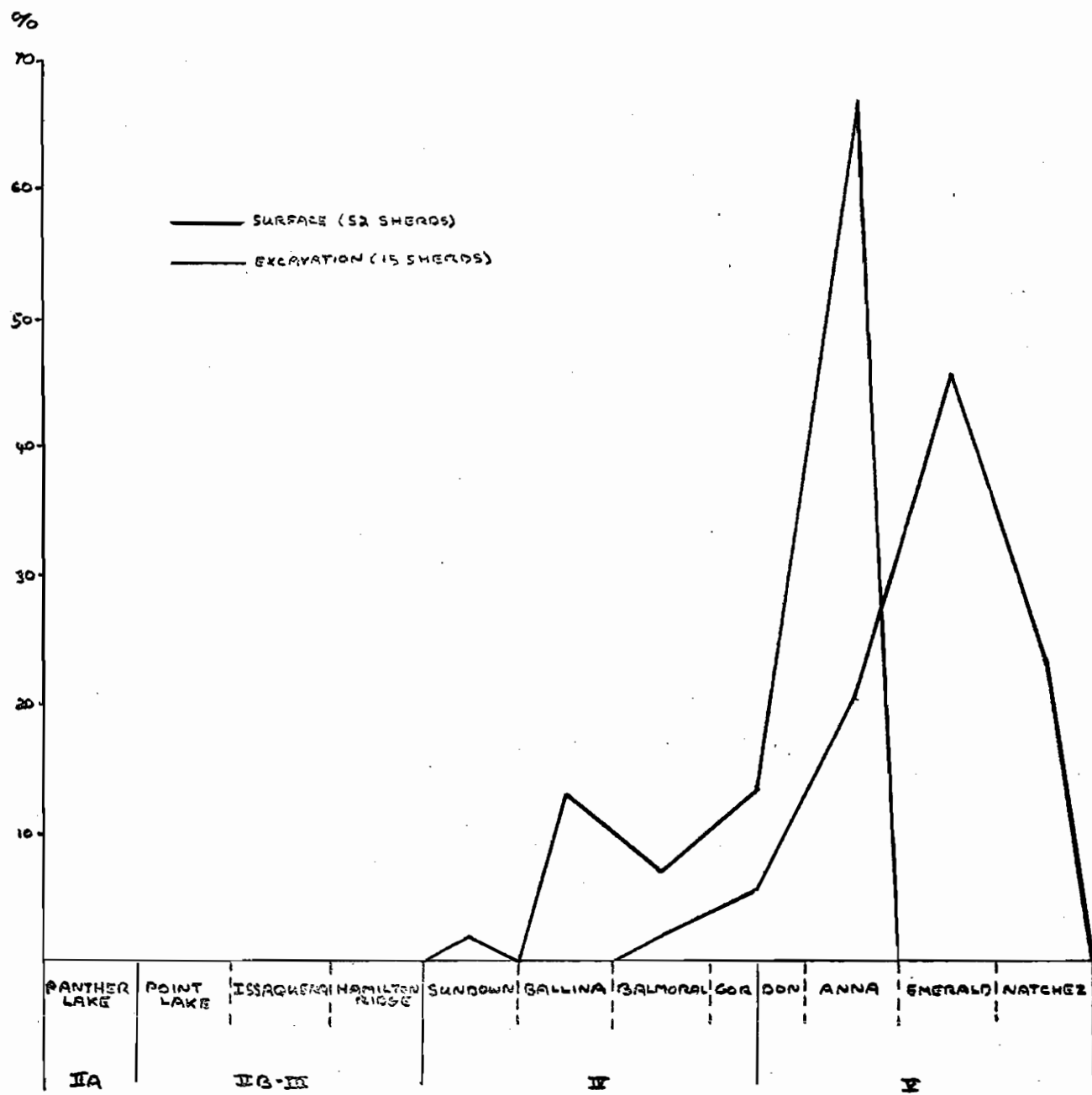


figure 36
Village Sauvage (26-K-22)

and Natchez components, but these two phases unfortunately did not appear in the excavations. The surface collection was probably a more accurate representation of what occurred over the total site. Village Sauvage was a village during the Anna, Natchez, and Emerald phases (with an emphasis on the latter), and supported minor settlement during the Sundown, Ballina, Balmoral, and Gordon phases.

23) Fort Farine (E Central 1rr S3, T6N, R3W) Adams County

This site was located on a steep bank of St. Catherine Creek $\frac{1}{2}$ of a mile, and on the opposite side of the creek, from the Fatherland Site (26-K-2). Our survey revealed only Anna and Emerald components, but in the early 1960's numerous gun flints and lead balls were reported to have washed out of the bluff at this location (Joe Frank - local resident), suggesting its role as Fort Farine in the famous war between the French and the Natchez Indians.

29) Rands (SW $\frac{1}{4}$ 1rr S5, T7N, R2W) Adams County

This was a ridgetop occupational area located one mile south of the town of Pine Ridge. Survey here resulted only in the collection of lithics and undiagnostic sherds, but a collection made by the landowner revealed an Issaquena component.

30) Greenlawn (E Central 1rr S56, T8N, R2W) Adams County

The Greenlawn Site was located $\frac{1}{2}$ mile south of the town of Pine Ridge in the cemetery by that name. Issaquena and Emerald phase components were in evidence.

31) Pinecrest Place (S58, T8N, R2W) Adams County

This site was a very extensive village occupation on a series of gently rolling ridges three miles north of Natchez on the east side of the Natchez - Pine Ridge road. As seen by the surface collection (Table 13; fig. 37), the site was a village during the Anna phase, and witnessed only minor settlement during the Balmoral and Emerald phases.

32) Schuchs (N Central irr S61, T8N, R2W) Adams County

This site was situated on a similar form of terrain as pinecrest Place (26-K-31) and, as shown by the surface collection (Table 13; Fig. 38), was a village during the Anna phase also. The site was located about $1\frac{1}{2}$ miles southeast of Pine Ridge along the Pine Ridge - Foster road. Besides the Anna phase, a strong Issaquena component and minor Gordon and Balmoral occupations were represented. The material classified from this site was all in the private collection of the landowner.

35) Jamison (N corner irr S48, T7N, R2W) Adams County

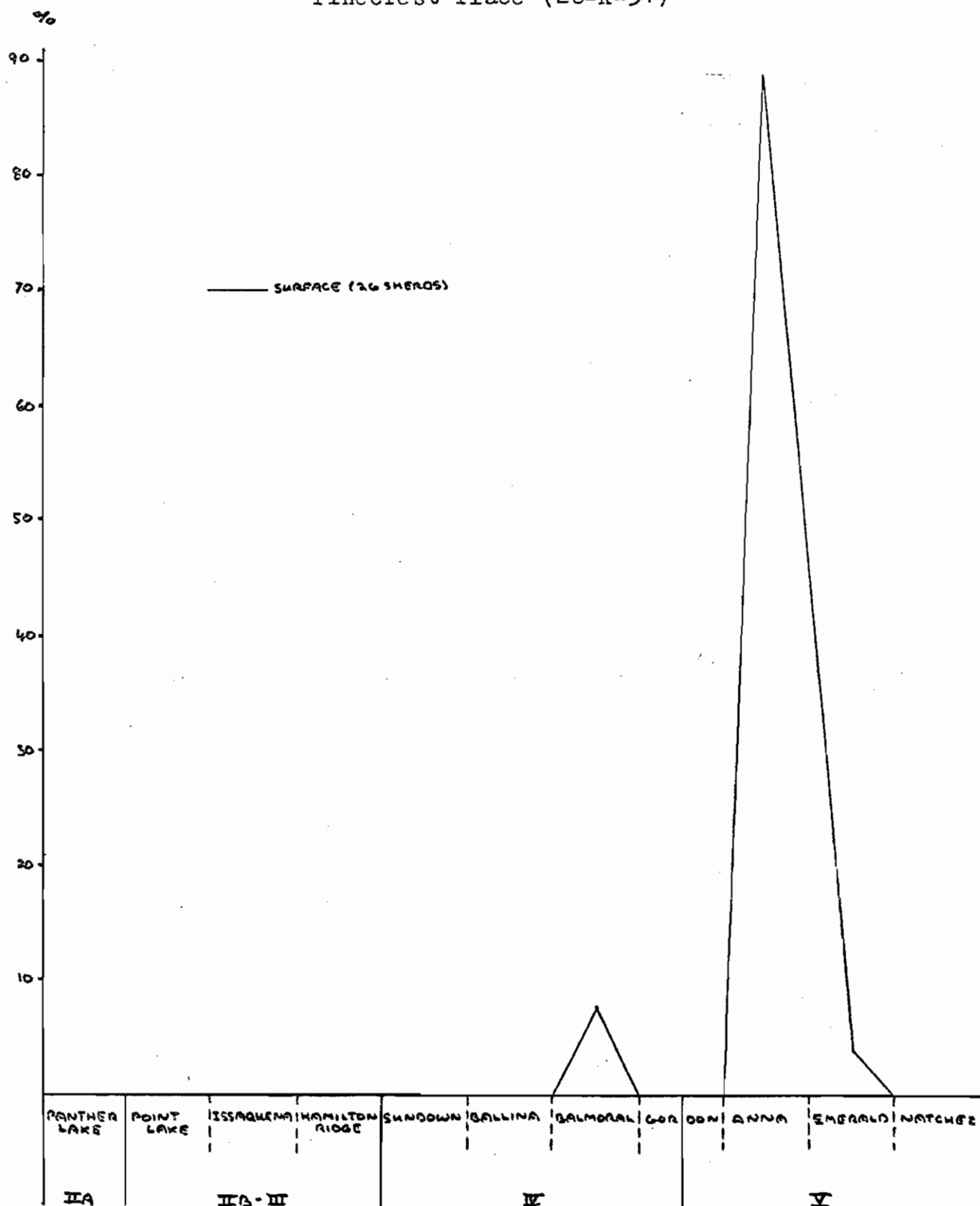
This site was situated $\frac{1}{4}$ of a mile to the northwest of the Greenlawn Site (26-K-30) on the same gently rolling hills typical of this area. Our survey revealed an Anna phase component, but a collection by the landowner depicted Natchez and Poverty Point occupations.

36) M.T. Seale ($NE\frac{1}{4}$ $NE\frac{1}{4}$ S29, T7N, R2W) Adams County

This site was composed of a series of ridges

figure 37

Pinecrest Place (26-K-31)



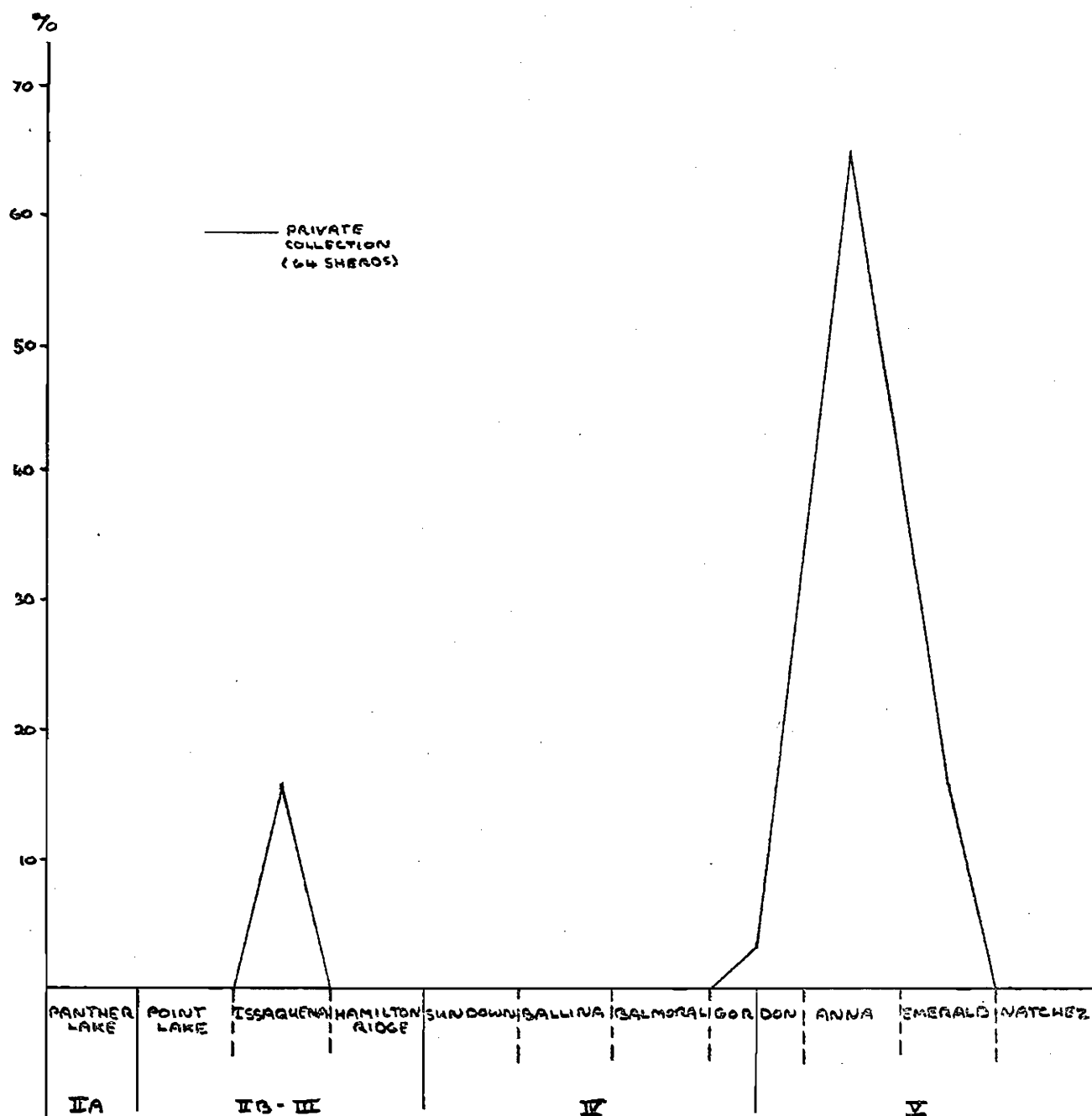


figure 38

Schuchs (26-K-32)

located south of St. Catherine Creek and southeast of the Foster Site (26-K-3). Many surface collections were made, all of which demonstrated Anna and Emerald occupations.

37) Big James ($N\frac{1}{2}$ $S\frac{1}{2}$ S5, T6N, R3W) Adams County

This site was spread out over a series of ridgetops located on the west bank of Bullhead Bayou, one mile above where it enters St. Catherine Creek. Both Issaquena and Gordon occupations have been recorded at this site.

38) Missed Once (E Central irr S10, T6N, R3W) Adams Co.

This was a small ridgetop occupational area located halfway between the Morrisson (26-K-14) and Stoveleg (26-K-12) Sites. It too overlooks the Mississippi Valley and had Balmoral and Anna components represented.

42) Feltus (S corner irr S42, T9N, R1W)

The Feltus Site was situated on a steep bluff overlooking the Mississippi Valley three miles south of where Coles Creek emerges from the bluffs. Ford's description of Truly Place (1936:198,201) also perfectly describes the Feltus Site, yet he assigned this mound group closer to Coles Creek. This was probably the result of a careless error in recording the section number though.

The Feltus Site consisted of three mounds arranged in a triangular pattern with the largest mound located on the bluff edge facing towards the east. Two pits were excavated at the base of Mound B and the results, in relation to the surface collection from the entire site,

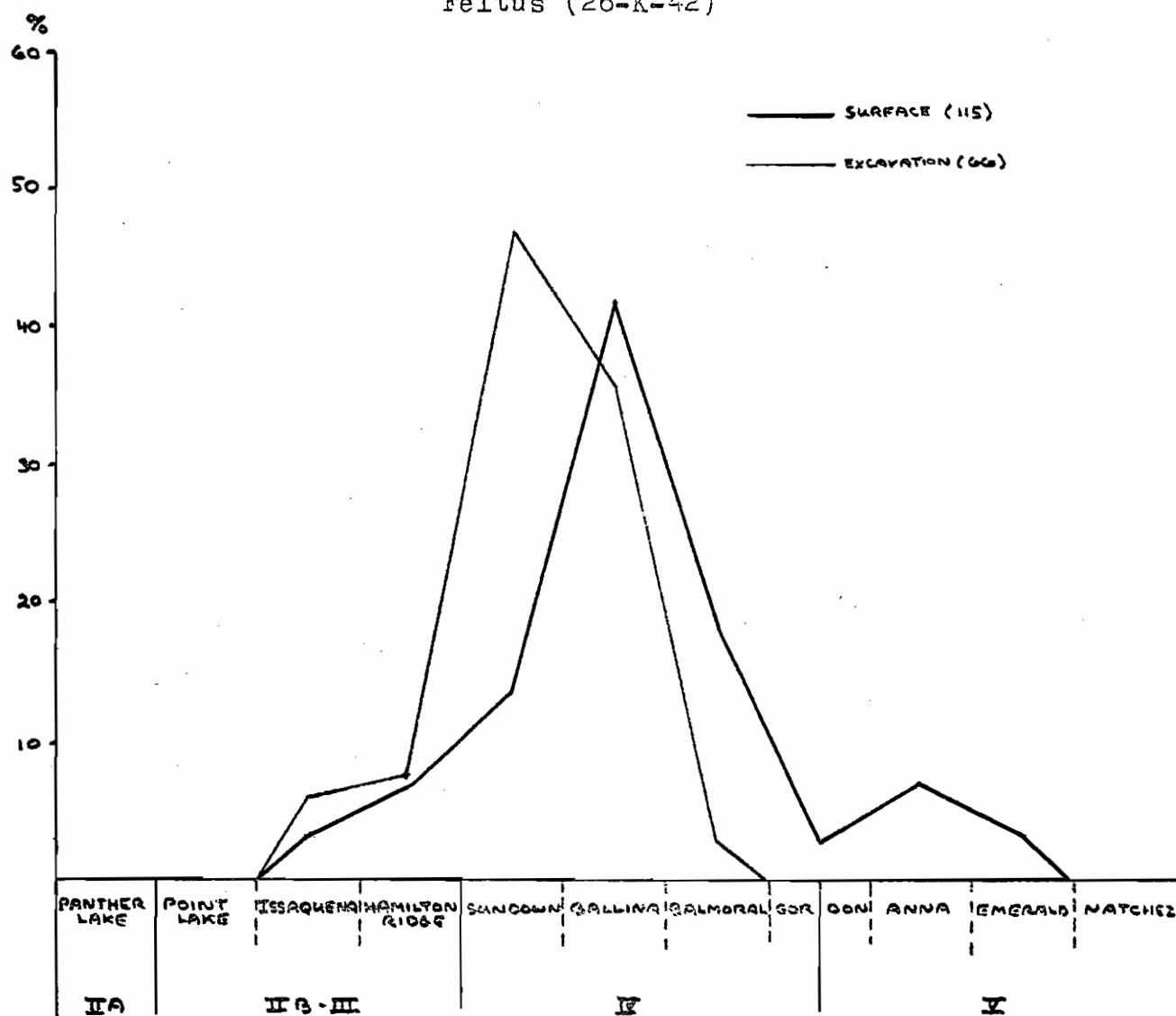
were very interesting (Table 13; fig. 39). Ballina had the strongest overall representation at the site, followed by Balmoral and Sundown, but the mound possessed very few diagnostics relating to the Balmoral phase. It seems that two building stages occurred in the construction of this mound, the first of which occurred in Sundown and the second during Ballina. If this was true for all the mounds at the site, as I am suggesting, the Balmoral phase might not be as significant, in terms of mound construction, in the Bluff Area as was originally supposed². This was also the first appearance of a pyramidal mound in the Bluff Area thus far recorded. Minor occupations during the Issaquena, Hamilton Ridge, Gordon, Anna, and Emerald phases also occurred at this site.

43) Junkin Ridge (N corner S41, T8N, R3W) Adams County

This site extended over two ridges and was located $\frac{1}{2}$ of a mile inland from the edge of the bluffs, equidistant from Greens and Quitman Bayou (one mile from each). The phases represented at this site were Issaquena and Anna.

2 There is of course the possibility that a Balmoral occupation on top of the mound, which has since washed away, was responsible for the last mound construction. But surely more evidence for this would have appeared in the two pits at the base of the mound.

figure 39
Feltus (26-K-42)



44) Wilson (Center irr S4, T6N, R3W) Adams County

This site was situated upon a ridgetop one mile south of Brown's Folly (26-K-16). Occupations occurred during the Anna, Emerald, and Natchez phases.

46) Ratcliffe (SW $\frac{1}{4}$ NW $\frac{1}{4}$ irr S46, T7N, R2W) Adams County

The Ratcliffe mound and village site was located on the southern bank of the headwaters of St. Catherine Creek, $1\frac{1}{2}$ miles southeast of the town of Washington. Both excavation and surface collection (Table 13; fig. 40) revealed similar prehistories. The Emerald phase had the most concentrated occupation followed by strong Anna and Balmoral representations. The site was occupied sporadically during the Issaquena and Gordon phases, and probably also during the Natchez phase. It is possible that, like at International Paper (26-K-18), the ceramics designated as Emerald may actually have belonged to the Natchez phase, but I do not believe this was the case. The complete absence of historic artifacts supports the pre-contact positioning of this site.

47) Bull Ridge (NW $\frac{1}{4}$ NW $\frac{1}{4}$ irr S90, T7N, R2W) Adams County

This site was a very rich occupational area situated upon a ridgetop $3\frac{1}{2}$ miles southeast of Natchez. The site is very interesting because of its isolated position and its almost continuous occupation. If a site was occupied to the same degree through time, the frequency polygon of the site would be horizontal. This was not quite

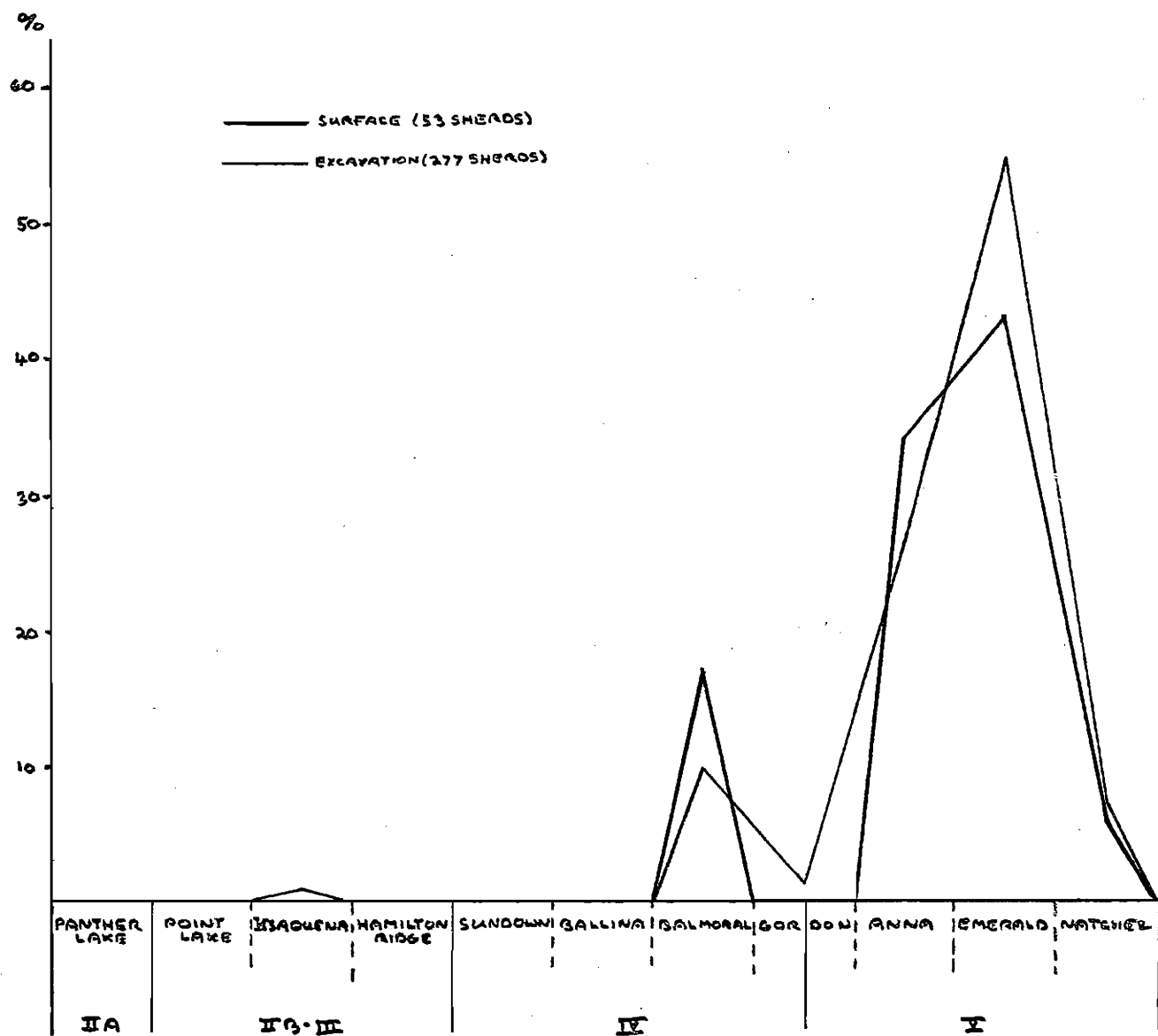


figure 40

Ratcliffe (26-K-46)

the case with Bull Ridge, but a large surface collection of 792 sherds, thirty-nine of which were decorated (Table 13; fig. 41), revealed a fairly constant occupational level. Of the seven phases represented at this site, the only interval when the site probably did not support a village was during the Gordon phase.

49) Sylvan Glade (SW $\frac{1}{4}$ SW $\frac{1}{4}$ irr S59, T7N, R2W) Adams County

This site was located on a ridgetop on an unnamed tributary to Kittering Creek, 1 $\frac{1}{2}$ miles from where the latter enters St. Catherine Creek. A very sparse surface collection was made that was indicative of a Balmoral occupation.

50) Twin Oaks (SW irr S68, T7N, R2W) Adams County

Twin Oaks was a small ridgetop occupation of the Anna phase located about one mile to the north of the Bull Ridge Site (26-K-47).

56) Bryandale (NW corner irr S44, T7N, R2W) Adams County

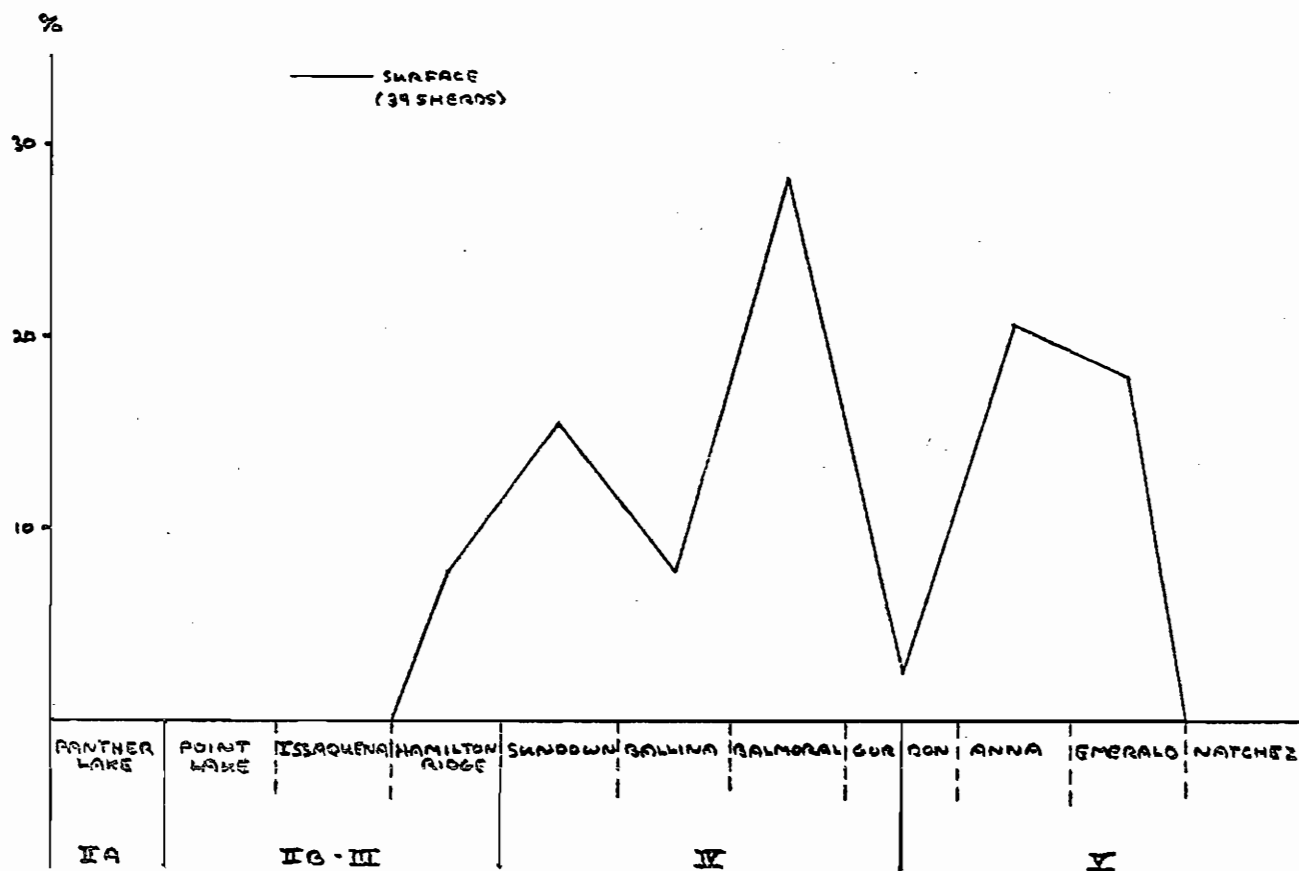
This site was situated on a ridgetop 1 $\frac{1}{4}$ miles southeast of the town of Washington along Route 84. Evidence was found here of a Period II Meso - Indian occupation.

58) Dump (SW $\frac{1}{4}$ SW $\frac{1}{4}$ irr S23, T7N, R2W) Adams County

This site consisted of scattered refuse on a ridge adjacent to the M.T. Seale Site (26-K-36). Material from this site was related to the Emerald phase.

figure 41

Bull Ridge (26-K-47)



- 60) Morrell (SE $\frac{1}{4}$ SW $\frac{1}{4}$ 1rr S23, T7N, R2W) Adams County

The Morrell Site was situated on the northern bank of St. Catherine Creek three-quarters of a mile north of where Route 61N crosses the creek at Washington. The site had an Emerald phase component as well as some later historic material (early 19th century) dating to the occupation of Fort Dearborn and Jefferson College located nearby.

- 66) Bullhead Bayou (NE $\frac{1}{4}$ S5, T7N, R3W) Adams County

This site was situated on a ridge on the west bank of the stream by that name, overlooking the floodplain of St. Catherine Creek. Period I of the Meso-Indian Era and Hamilton Ridge components were represented at the site.

- 68) North (W Center 1rr S3, T6N, R3W) Adams County

The North Site was an aboriginal Natchez cemetery situated on the edge of a bluff to the south of and overlooking St. Catherine Creek. It was less than $\frac{1}{2}$ mile to the southwest of the Fatherland Site (26-K-2).

- 74) Thoroughbred (S 1rr S13, T7N, R2W) Adams County

This was a historic site located $1\frac{1}{2}$ miles to the west of the Foster Site (26-K-3), on the northern bank of St. Catherine Creek. The abundance of lead-glazed earthenware and faience, as well as the absence of aboriginal artifacts, suggests the European nature (trading post?) of this site.

87) Second Creek (N corner irr S29, T6N, R2W) Adams County

This site consisted of a single large mound located 5 and three-quarter miles southeast of Natchez along the northern bank of Second Creek. The mound had been heavily cultivated and is now under pasture. Surface collecting was severely limited as a result of this and only a few plain sherds and lithics were found. The mound can neither be assigned to a phase nor a period.

88) Pumpkin Lake (NW $\frac{1}{4}$ irr S27, T9N, R1W) Jefferson County

The Pumpkin Lake Site was located $\frac{1}{2}$ mile to the southwest of the Feltus Site (26-K-42), and appears to have had very little association with this major center. The site was composed of a small irregularly shaped mound and a surrounding village. As seen in the frequency polygon of this site (Table 13; fig. 42), the Issaquena phase had the strongest representation. Excavation revealed that the mound was constructed during this phase too. Minor occupations also occurred during the Sundown, Anna, and Emerald phases. The Natchez phase was not apparent in the ceramics collected, but a single glass bead found at the base of the mound demonstrated its occupation during the Natchez phase as well.

26 - L - Quadrant

1) Emerald (NE $\frac{1}{4}$ SW $\frac{1}{4}$ irr S41, T8N, R1W) Adams County

The Emerald Site was located at the headwaters

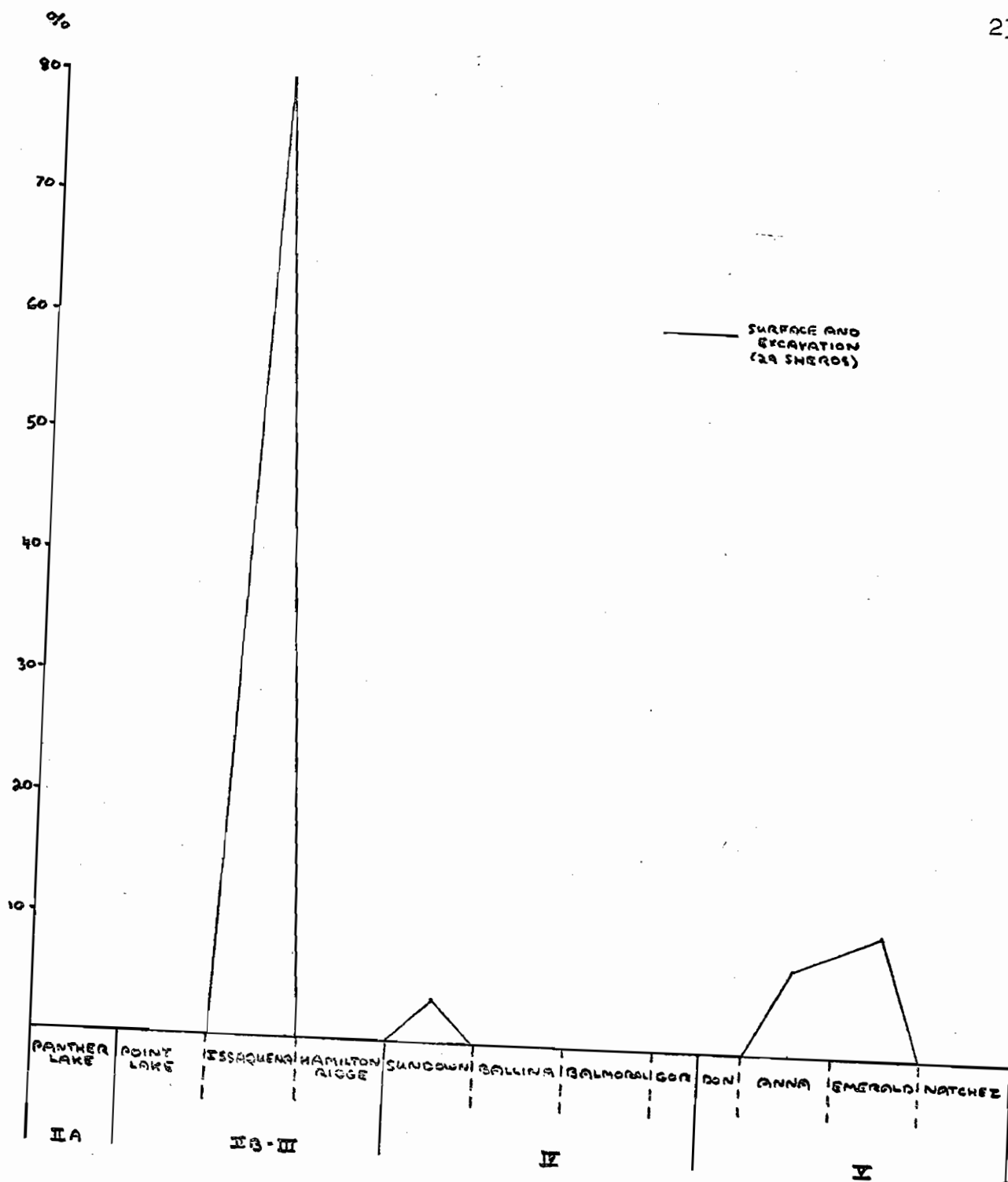


figure 42

Pumpkin Lake (26-K-88)

of Fairchilds Creek $1\frac{1}{2}$ miles northwest of the village of Stanton. Two mounds, oriented along the east-west axis with the larger mound (Md.A) facing east, were constructed upon a large base mound, but as many as eight mounds have been reported to have been on top of this platform. The arrangement of these mounds along the fringes of the man-made plateau, had a striking similarity to the Anna mound group (26-K-1). Excavations during the summer of 1972 revealed that a large portion of the site was constructed during the Anna phase, but the greater portion of the site, including the upper part of the plateau and the secondary mounds, were built during the Emerald phase.

References: Brain 1972

Cotter 1951

2) Gordon (S31, T9N, R1W) Jefferson County

The Gordon Site consisted of two mound remnants and an accompanying village site. It was located on the edge of a low terrace on the east side of South Fork Coles Creek. From the illustrations and stratigraphy which Cotter presented, evidence of Hamilton Ridge, Ballina, Balmoral, Gordon, and Anna occupation was apparent. The two mounds were probably constructed during the Anna phase, as there occurred with the building of the mounds the appearance of rectangular structures - a Mississippian trait. The site was probably only sporadically occupied during Hamilton Ridge and Ballina, while settlement became more

intensive during Balmoral and Gordon.

Reference: Cotter 1952

4) Williams (NW $\frac{1}{4}$ SW $\frac{1}{4}$ irr S71, T9N, R1W) Jefferson County

This site consisted of sparse material scattered over several ridgetops. The site was located about one mile south of the village of Church Hill along Route 553. The ceramics collected date to the Anna phase.

6) Solo (E corner irr S41, T8N, R1W) Adams County

The Solo Site was located $\frac{1}{4}$ mile to the south of the Emerald Site (26-L-1). Evidence of a Meso-Indian occupation was discovered.

7) Sour Apple (SW $\frac{1}{4}$ NE $\frac{1}{4}$ S40, T9N, R1W) Jefferson County

The Sour Apple Site was situated directly across from the Emerald Site (26-L-1) on the eastern bank of Fairchilds Creek. Material was sparse, but was extensively scattered. The decorated sherds demonstrated Anna phase occupation.

8) Bates #1 (SW $\frac{1}{4}$ NE $\frac{1}{4}$ S40, T9N, R1W) Jefferson County

This site, consisting of a single pyramidal mound 3.3 meters tall and 23 meters on each side, was located two miles due north of the village of Church Hill. Very little cultural material was found as the area was under pasture, but the Addis sherds collected on the mound suggests that it was constructed during Period V.

9) Bates #2 (1rr S38, T9N, R1W) Jefferson County

This site consisted of a single conical mound two meters high, located $\frac{1}{2}$ mile to the northeast of Bates #1 (26-L-8). It probably dated to the Issaquena phase, but this cannot be verified by the available evidence.

27 - K - Quadrant

1) Mazique (W Center 1rr S10, T5N, R3W) Adams County

The Mazique Site, composed of three mounds, was located on the west bank of Second Creek 1 and three-quarter miles north of Sibley and twelve miles south of Natchez. It was at one time believed to be the historic Natchez White Apple Village (Culin 1900:128), but it was actually built during the Coles Creek period. A collection of material from this site (in possession of LSU of Baton Rouge) revealed very strong Ballina and Balmoral components, as well as minor Anna and Emerald representations.

References: Ford 1936:172,3

3) Ellis (1rr S16, T5N, R3W) Adams County

The Ellis Site was a mound and village complex located $\frac{1}{2}$ mile southeast of Ellis Cliffs on the bluffs overlooking the valley. The mound was originally excavated by Moore, but he recovered very little material, none of which was illustrated. A surface collection from the village area revealed evidence of a Meso - Indian and a Sundown occupation.

References: Moore 1911:377

- 4) Hamilton Ridge (NE $\frac{1}{4}$ NE $\frac{1}{4}$ S29, T5N, R3W) Adams County

This site was situated on a ridgetop $3\frac{1}{4}$ miles due west of the village of Sibley. A surface collection here demonstrated Issaquena, Hamilton Ridge, Sundown, and Balmoral occupations, all of which were of minor sporadic occurrence.

- 5) Hutchins Ridge (SE $\frac{1}{4}$ NW $\frac{1}{4}$ irr S32, T5N, R3W) Adams Co.

This site was a multi-component ridgetop occupation situated $2\frac{1}{2}$ miles southeast of the Ellis Site (27-K-3) on a small tributary of Hutchins Creek. Balmoral, Gordon, and Anna phases were represented at the site.

- 7) Birch (E Central irr S15/S14, T6N, R3W) Adams County

This site was located on a ridge due south of Cloverdale. A projectile point dating to either Period II or III of the Meso - Indian Era was found there. A Balmoral phase occupation was also apparent.

- 9) Bat Ridge (SW $\frac{1}{4}$ NW $\frac{1}{4}$ irr S32, T5N, R3W) Adams County

This site was a ridgetop occupation overlooking the valley, $2\frac{1}{2}$ miles southeast of the Ellis Cliffs. A Gary Point dating to Period III of the Meso - Indian Era, and ceramics belonging to the Tchefuncte, Balmoral, and Anna phases were collected.

- 11) Whitetail ($SE\frac{1}{4}$ $SW\frac{1}{4}$ S32, T5N, R3W) Adams County

This site was situated three-quarters of a mile to the southeast of Hutchins Ridge (27-K-5) along the western bank of Hutchins Creek. It was a small ridgetop occupation dating to the Anna phase.

- 12) Forgot ($SE\frac{1}{4}$ $NE\frac{1}{4}$ irr S19, T6N, R3W) Adams County

This site was a scattered occupation on the top of a steep bluff overlooking the Mississippi Valley, $1\frac{1}{4}$ miles south of the village of Cloverdale. A single occupation dating to the Anna phase was recorded.

- 13) La Grange ($SW\frac{1}{4}$ $NW\frac{1}{4}$ S18, T5N, R2W) Adams County

This site was a small ridgetop occupation located one and three-quarter miles due east of the Mazique Site (27-K-1). A Gordon phase component was recorded.

- 15) Shieldsboro ($NE\frac{1}{4}$ $SW\frac{1}{4}$ irr S5, T4N, R3W) Adams County

This site consisted of three mounds arranged in a triangular pattern. It was located at the confluence of the floodplain of the Mississippi and the Homochito River. Unfortunately, cultivation has all but destroyed the site, but it also provided for an excellent surface collection (Table 13; fig. 43). Occupation was of a minor nature during the Issaquena, Hamilton Ridge, Balmoral, and Emerald phases, and was a bit more concentrated during Ballina. The heaviest concentration, including the mound construction, occurred during the Anna phase.

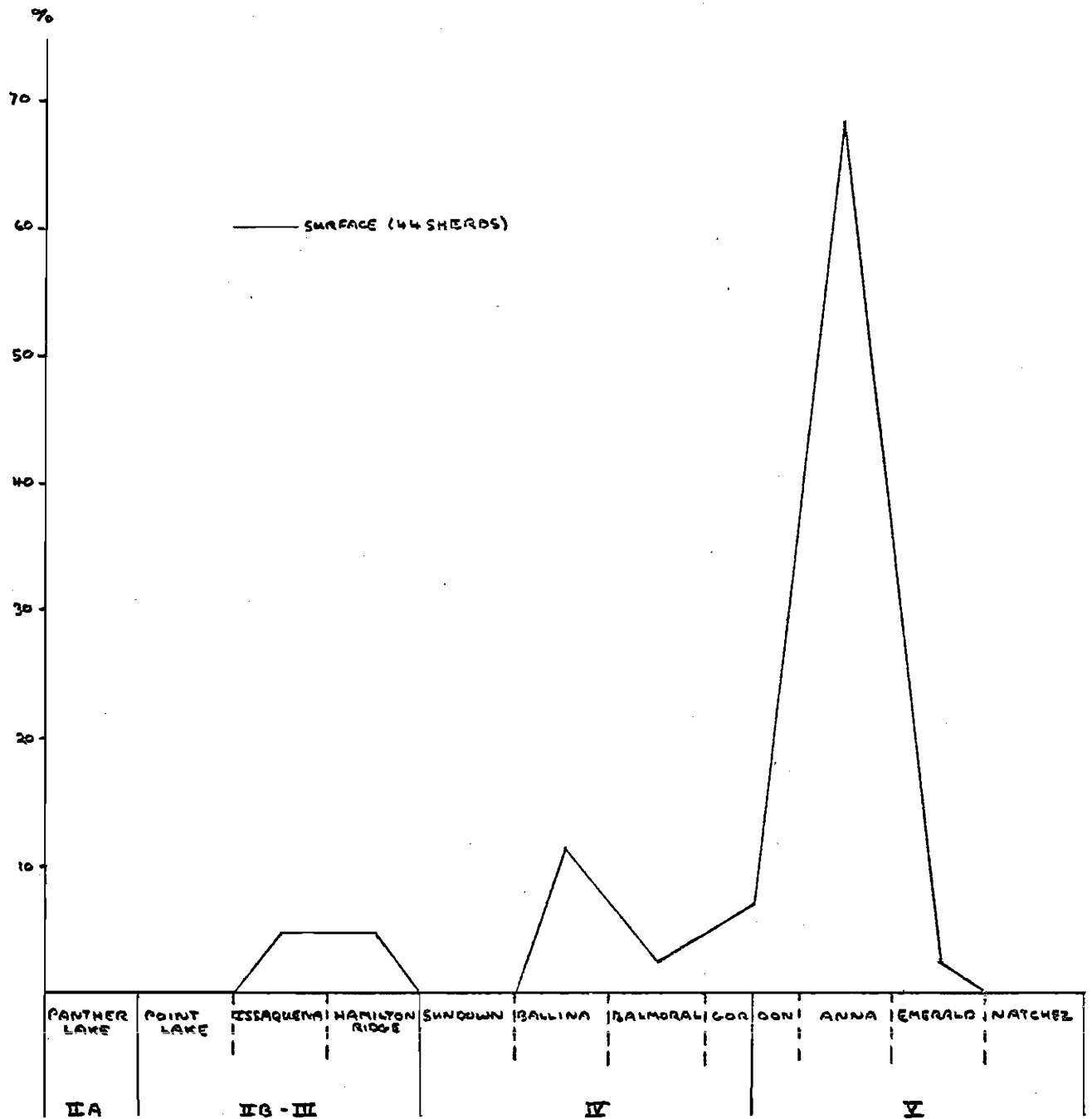


figure 43

Shieldsboro (27-K-15)

16) Armstrong (SW $\frac{1}{4}$ SE $\frac{1}{4}$ irr S5, T4N, R3W) Adams County

This site was situated on the Homochito floodplain less than $\frac{1}{2}$ mile to the southeast of the Shieldsboro Site (27-K-15). The appearance of forty-nine Tchefuncte Plain variety Tchefuncte sheras in the surface collection suggested that this site was a village during the Panther Lake phase. There was also evidence of minor Gordon and Anna occupations.

17) Plateau (SW $\frac{1}{4}$ SE $\frac{1}{4}$ irr S7, T4W, R3W) Adams County

This site was situated on a talus slope north of and extending into the floodplains of the Homochito and the Mississippi. Most of the material collected were lithics, but there was some evidence of Balmoral and Anna occupations.

18) Rocking TT (NE $\frac{1}{2}$ SE $\frac{1}{4}$ S5, T4N, R3W) Adams County

This site was located on a small ridgetop overlooking the floodplain of the Homochito River, $1\frac{1}{4}$ miles due east of the Plateau Site (27-K-17). Strong Panther Lake and Anna components were discovered, as well as minor Meso II and Balmoral representations. The prehistory of this site appears on the surface to be very similar to the Sardine Site (26-K-70).

22) Garden of Eden (NE $\frac{1}{4}$ SW $\frac{1}{4}$ S28, T6N, R3W) Adams County

This site was located on a ridgetop three miles north of the Mazique Site (27-K-1) along Route 61S. An Anna phase component was represented in the surface collection.

28 - J - Quadrant

3) Smith Creek (N 1/4 S21, T2N, R4W) Wilkinson County

The Smith Creek Site was a large mound complex consisting of three mounds arranged in a triangular pattern around an open plaza, again with the largest mound on the edge of the bluff facing east. The site was located on the west bank of the creek by that name, four miles NNW of Fort Adams. A surface collection from the mounds (Table 13; fig. 44) revealed that Ballina and Balmoral had the strongest representations at this site and were undoubtedly the phases during which the mounds were constructed. Minor occupations during Hamilton Ridge, Sundown, Gordon, and Anna, have also been recorded.

5) Buena Vista (S. Center 1/4 S5, T2N, R4W) Wilkinson Co.

This site was composed of scattered occupational debris on a series of ridgetops to the north of and overlooking Percy Creek. The material collected dates to the Anna phase.

6) Flat-Top (NE 1/4 NW 1/4 S13, T2N, R4W) Wilkinson County

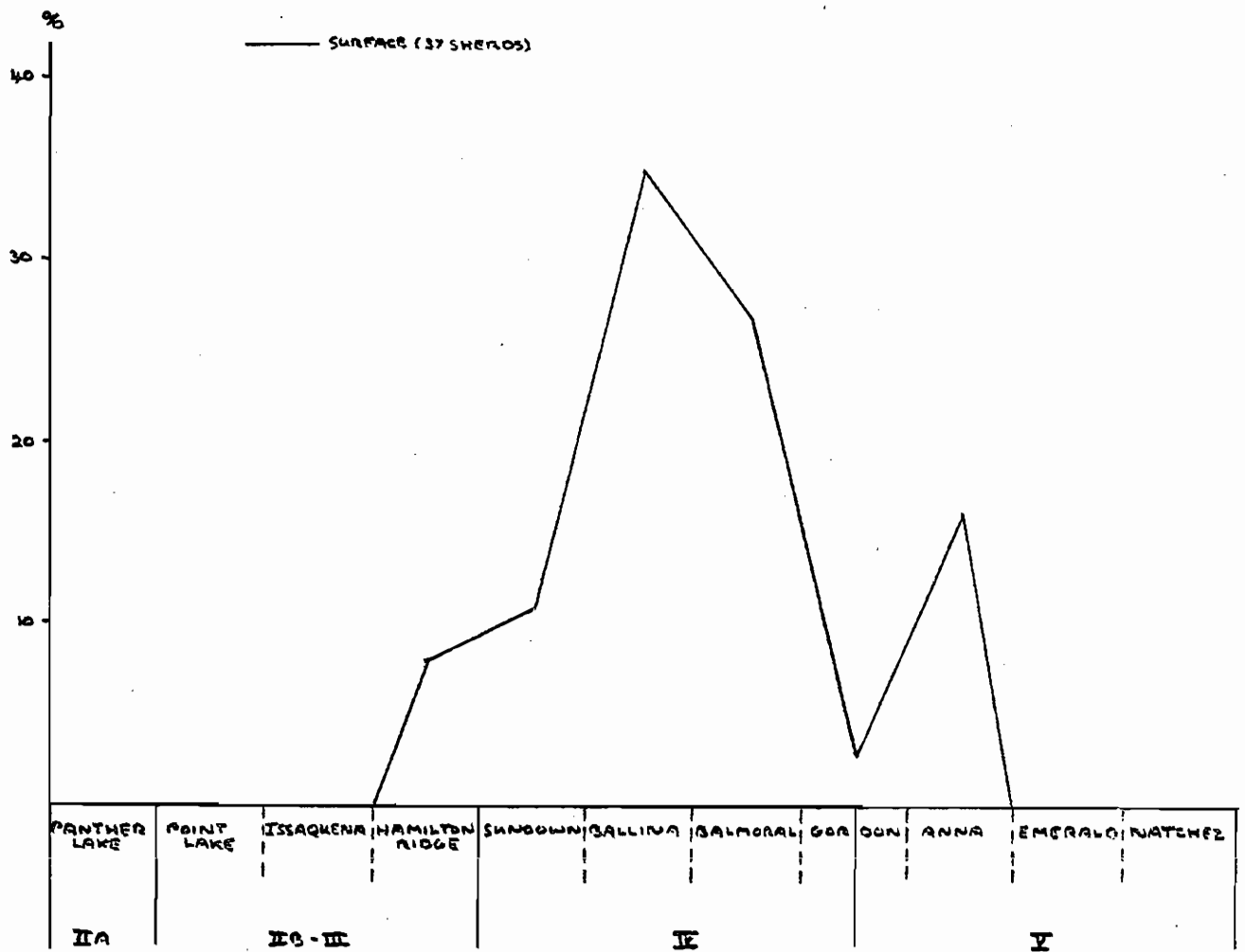
This site was located on a flat promontory to the south of and overlooking Percy Creek and the Mississippi Valley. Balmoral and Anna phases were represented.

7) Folk (SW 1/4 NW 1/4 S21, T2N, R4W) Wilkinson County

This site was situated upon a ridge one-eighth of a mile to the southeast of the Smith Creek Site (28-J-3).

figure 44

Smith Creek (28-J-3)



Material dating to the Issaquena and Ballina phases was collected.

9) Dooley (E Center irr S21, T2N, R4W) Wilkinson County

This was an extensive ridgetop occupation located $\frac{1}{2}$ mile south of the Po'Folk Site (28-J-7). A Balmoral occupation was in evidence at this site.

10) Papa's (E Center irr S21, T2N, R4W) Wilkinson County

This site was a ridgetop occupation situated three-quarters of a mile to the south of the Smith Creek Site (28-J-3). A Ballina phase component was discovered here.

12) At Last (SE $\frac{1}{4}$ NW $\frac{1}{4}$ S8, T1S, R5W) Wilkinson County

This site was an extremely rich village midden located on a high flat bluff overlooking Hunter Creek and the Mississippi Valley. A surface collection made at this site (Table 13; fig. 45) revealed very strong Ballina and Balmoral components (as at Smith Creek), and a gradual ebbing out of the settlement in the following Gordon and Anna phases.

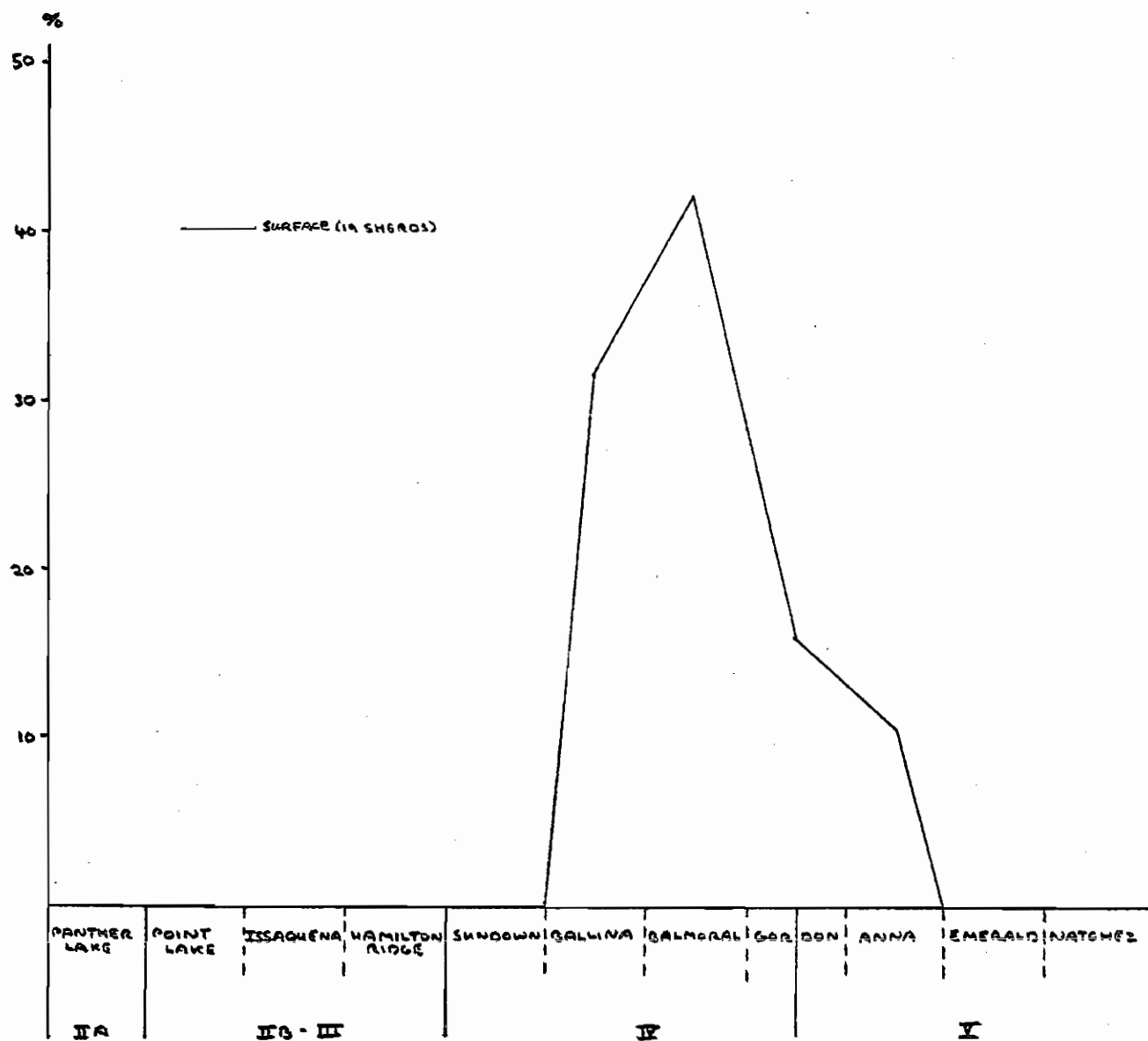


figure 45

At Last (28-J-¹²3)

Table 10

Site Components

Key

PM Pyramidal Mounds
Constructed
PM Pyramidal Mounds Used
V Village
BM Burial Mound
C Cemetery
H Historic
Mi Minor

Sites	Paleo Era	Meso Era	Poverty Point	Panther Lake	Point Lake	Issaquena	Hamilton Ridge	Sundown	Ballina	Balmoral	Gordon	Anna	Emerald	Natchez
24-L														
18 Grand Gulf						BM								
20 Willy												Mi	Mi	
21 Stuck						Mi						Mi	Mi	
22 Relief												Mi		
24-M														
1 Yokena						V Mi			Mi			<u>PM</u>	Mi	
2 Glass										Mi	Mi	Mi	<u>PM</u>	
5 Ring													C	
6 Burthe														C
10 Hard Days Night												Mi		
11 Farmland #2							Mi	Mi						
12 Farmland #1								Mi						
14 Brown										Mi				
25-L														
1 Ferguson		Mi								Mi		Mi	Mi	Mi
3 Nall		Mi	Mi											C
4 Frasier						V BM						Mi		
10 Petit Gulf												Mi		
11 Newsome		Mi												
15 Windsor						Mi			Mi	Mi	Mi	<u>PM</u>	Mi	

Sites	Paleo Era	Meso Era	Poverty Point	Panther Lake	Point Lake	Issaquena	Hamilton Ridge	Sundown	Ballina	Balmoral	Gordon	Anna	Emerald	Natchez
16 Beesley										M1				
17 Smithfield								BM	M1	M1				
19 Cassell				M1		V		V	V	V		M1	M1	
20 Catledge					? M1									
23 Big Perry											M1	M1	M1	
25 Centers Creek						M1	V	M1		M1		M1		
26 Bayou Pierre						M1	M1		M1	V	M1	<u>Pm</u>	M1	
26-K														
1 Anna												<u>PM</u>		
2 Fatherland						M1					M1	V	<u>PM</u>	PM
3 Foster												<u>PM</u>	<u>PM</u>	PM
4 Henderson									<u>PM</u>					
7 Trinity School												M1	M1	M1
9 Stockyard										M1		M1	M1	M1
10 Corral Ridge	M1													
11 Susie B. West										M1		M1		
12 Stoveleg						M1				M1		M1	M1	
14 Morrison												M1		
16 Brown's Folly	M1	M1									M1	M1	M1	
17 KBS									M1			M1		
18 I.P.						M1							V	M1
21 Hog Waller		M1												
22 Village Sauvage									M1	M1	M1	V	V	V
23 Fort Farine												M1	M1	M1
29 Rands						M1								
30 Greenlawn						M1							M1	M1
31 Pinecrest Place										M1		V	M1	
32 Schuchs						V					M1	V	M1	
35 Jamison			M1									M1		

Sites	Paleo Era	Meso Era	Poverty Point	Panther Lake	Point Lake	Issaquena	Hamilton Ridge	Sundown	Ballina	Balmoral	Gordon	Anna	Emerald	Natchez
36 M.T. Seale												Mi	Mi	
37 Big James						Mi					Mi			
38 Missed Once										Mi		Mi		
42 Feltus						Mi	Mi	<u>PM</u>	<u>PM</u>	PM	Mi	Mi	Mi	
43 Junkin Ridge						Mi						Mi		
44 Wilson						Mi						Mi	Mi	Mi
46 Ratcliffe										V	Mi	V	<u>PM</u>	PM
47 Bull Ridge							V	V	V	V	Mi	V	V	
49 Sylvan Glade										Mi				
50 Twin Oaks												Mi		
56 Bryandale		Mi										Mi	Mi	
58 Dump													Mi	
60 Morrell												Mi	Mi	
66 Bullhead Bayou		Mi					Mi							
68 North														C
70 Sardine				Mi		Mi	Mi	Mi	Mi	Mi	Mi	Mi	Mi	
74 Thoroughbred														H
88 Pumpkin Lake		Mi		^V BM			Mi					Mi	Mi	Mi
26-L														
1 Emerald										Mi		<u>PM</u>	<u>PM</u>	PM
2 Gordon							Mi		Mi	V	V	<u>PM</u>		
4 Williams												Mi		
6 Solo		Mi				Mi								
7 Sour Apple												Mi		
9 Bates #2						BM								
27-K														
1 Mazique									V	<u>PM</u>		Mi	Mi	
3 Ellis		Mi						^V BM						
4 Hamilton Ridge						Mi	Mi	Mi		Mi				
5 Hutchins Ridge										Mi	Mi	Mi		

Sites	Paleo Era	Meso Era	Poverty Point	Panther Lake	Point Lake	Issaquena	Hamilton Ridge	Sundown	Ballina	Balmoral	Gordon	Anna	Emerald	Natchez
7 Birch		M1								M1				
9 Bat Ridge		M1		M1						M1		M1		
11 Whitetail												M1		
12 Forgot												M1		
13 La Grange											M1			
15 Shieldsboro						M1	M1		V	M1	M1	<u>PM</u>	M1	
16 Armstrong				V							M1	M1		
17 Plateau				M1						M1		M1		
18 Rocking TT		M1		M1								M1		
22 Garden of Eden												M1		
28-J														
3 Smith Creek							M1	M1	<u>PM</u>	PM	M1	M1		
5 Buena Vista												M1		
6 Flat-Top										M1		M1		
7 Po'Folk						M1			M1					
9 Dooley										M1				
12 At Last									V	V	M1	M1		
91 Sites*														
Total		1-	14-	2-6-	1?-	24-	12-	13-	18-	33-	20-	59-	35-	17

* In Appendix IIA and C ninety-five sites are discussed. Four of those sites are not listed here (Laman (25-L-13), Saragossa Bayou (26-K-20), Second Creek (26-K-87), and Bates #1 (26-L-8)). They are mound sites which could not be assigned to phases on the basis of the available data.

Table 11

Ecological Zones of the
Various Sites

Key

LP Level plain
 FP Tributary floodplain
 mFP Mouth of tributary
 floodplain
 R Ridge
 MFP Mississippi
 floodplain

Sites	Interior			Exterior			
	LP	FP	R	LP	mFP	R	MFP
24-L							
18 Grand Gulf				X			
20 Willy							X
21 Stuck							X
22 Relief						X	
24-M							
1 Yokena							X
2 Glass							X
5 Ring			X				
6 Burthe						X	
10 Hard Days Night						X	
11 Farmland #2				X			
12 Farmland #1							X
14 Brown						X	
25-L							
1 Ferguson				X			
3 Nall					X		
4 Frasier					X	X	
10 Petit Gulf						X	
11 Newsome						X	
13 Laman							X
15 Windsor				X			
16 Beesley		X					
17 Smithfield							X
19 Cassell					X		
20 Catledge	X						
23 Big Perry		X					
25 Centers Creek		X					
26 Bayou Pierre		X					

Sites	Interior			Exterior			MFP
	LP	FP	R	LP	mFP	R	
26-K							
1 Anna				X			
2 Fatherland		X					
3 Foster		X					
4 Henderson		X					
7 Trinity School			X				
9 Stockyard			X				
10 Corral Ridge			X				
11 Susie B. West			X				
12 Stoveleg				X			
14 Morrison						X	
16 Brown's Folly		X					
17 KBS			X				
18 I.P.		X					
20 Saragossa Bayou		X					
21 Hog Waller			X				
22 Village Sauvage			X				
23 Fort Farine			X				
29 Rands			X				
30 Greenlawn	X						
31 Pinecrest Place	X						
32 Schuchs	X						
35 Jamison	X						
36 M.T. Seale			X				
37 Big James			X				
38 Missed Once						X	
42 Feltus				X			
43 Junkin Ridge						X	
44 Wilson			X				
46 Ratcliffe		X					
47 Bull Ridge			X				
49 Sylvan Glade			X				
50 Twin Oaks			X				
56 Bryandale			X				
58 Dump			X				
60 Morrell		X					
66 Bullhead Bayou			X				
68 North			X				
70 Sardine			X				
74 Thoroughbred		X					
87 Second Creek	X						
88 Pumpkin Lake				X			
26-L							
1 Emerald			X				

Sites	Interior			Exterior			
	LP	FP	R	LP	mFP	R	MFP
2 Gordon		X					
4 Williams			X				
6 Solo			X				
7 Sour Apple		X					
8 Bates #1				X			
9 Bates #2				X			
27-K							
1 Mazique		X					
3 Ellis				X			
4 Hamilton Ridge						X	
5 Hutchins Ridge						X	
7 Birch						X	
9 Bat Ridge						X	
11 Whitetail						X	
12 Forget						X	
13 La Grange			X				
15 Shieldsboro					X		
16 Armstrong					X		
17 Plateau					X		
18 Rocking TT						X	
22 Garden of Eden			X				
28-J							
3 Smith Creek				X			
5 Buena Vista						X	
6 Flat-Top						X	
7 Po'Folk						X	
9 Dooley						X	
10 Papa's						X	
12 At Last						X	
Total 95*	6	16	26	12	6	23	7

* Frasier (25-L-4) is counted once as a site, but twice in the ecological zones.

Table 12

Ecological Zones of the Paleo,
Meso, and Neo - Indian Eras

Era / Phase	Interior			Exterior				Total
	LP	FP	R	LP	mFP	R	MFP	
Paleo Era	0	1	0	0	0	0	0	1
Meso Era	0	1	5	4	1	3	0	14
Poverty Point	1	0	0	0	1	0	0	2
Panther Lake	0	0	1	0	3	2	0	6
Point Lake	1	0	0	0	0	0	0	1
Issaquena	4	3	4	5	2	3	3	24
Hamilton Ridge	0	3	3	3	1	1	1	12
Sundown	0	2	2	5	1	1	2	13
Ballina	0	4	4	3	2	3	2	17
Balmoral	1	6	7	5	3	9	2	33
Gordon	1	6	5	3	2	2	1	20
Anna	3	11	15	8	4	13	5	59
Emerald-Northern	0	2	1	0	1	0	4	8
Southern	3	7	11	4	1	1	0	27
Natchez	1	5	7	2	1	1	0	17
Total	14	51	64	43	23	39	20	253

Assemblages From Various Sites

SITE	COLLECTION	BOYTOWN PL. 4 ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
WINDSOR (25-L-15)	COMBINED	RAY PL. 4 (51)	IX	MAZIQUE 4 (1)	PALMORAL	MOTT (3)	9.4	11.3	
						KINGS POINT (1)	1.9		
					GORDON	WILKINSON (1)	1.9	3.8	
						HARRY (1)	1.9		
						PLAQUEMINE (32)	60.4		
						ANNA (4)	7.5		
					ANNA	BETHLEHEM (1)	1.9	79.2	
						PATMOS (4)	7.5		
						COLEMAN (1)	1.9		
					EMERALD	DARNEY (1)	1.9	5.7	
FOSTER (26-K-3)	SURFACE	RAY PL. 4 (25)		7		MANCHAC (2)	3.8		
						53	100	100	590
						GREENVILLE (16)	30.2		
					ANNA	PLAQUEMINE (10)	18.4	51.0	
						ANNA (1)	1.9		
						EMERALD (7)	13.2	45.3	
						MANCHAC (17)	32.1		
						CHICKS CREEK (1)	1.9	3.8	
					NATCHEZ	OWENS 4 (1)	1.9		
EXCAVATION	RAY PL. 4 (76)		Y	2		53	100.1	100.1	532
						GREENVILLE (32)	44.2		
						PLAQUEMINE (70)	30.0		
					ANNA	DEAN NOBLE (1)	.4	51.1	
						ANNA (12)	5.2		
						CARTER (3)	1.3		
						EMERALD (10)	4.3		
					EMERALD	MANCHAC (95)	40.8	47.6	
						FATHERLAND (5)	2.1		

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN AREA ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
						BARTON 14 (1)	.14		
					NATCHEZ	CHICKACHEE (1)	.14	1.3	
						GRAND VILLAGE (2)	.9		
	TOTAL	25.34		8		333	100	100	2475
I.P.									
(26-K-18)	COMBINED	BAY PL. 14 (27)	III		FOURMORAL	EMERALD 14 (1)	1	1	
						MANCHEE (45)	45		
					EMERALD	FATHERLAND (45)	45	94	
			X	MISSISSIPPI PL. (20)		BELL PLAIN 14 (1)	1		
		ADDIS (721)		S/V UNC. INC. (1)		NATCHEZ (2)	2	4	
						FATHERLAND 14 (2)	2		
	TOTAL	749				99	99	99	870
VILLAGE SAWYER	SURFACE				SUNBOWN	SMITH CREEK (1)	1.9	1.9	
(26-K-20)		BAY PL. 14 (25)	II		BYLMOORE	"BAYOU CUTTER" (1)	1.9	1.9	
					BARBON	HARRISON BAYOU (2)	3.8	5.7	
						HARRY (1)	1.9		
						GREENVILLE (1)	1.9		
					ANNA	PLAQUEMINE (2)	5.2	21.2	
						R/S SLIPPER (7)	13.5		
			X	MISSISSIPPI PL. (1)	EMERALD	MANCHEE (8)	15.4	46.2	
		ADDIS (211)				FATHERLAND (16)	30.8		
						NATCHEZ (2)	3.8		
						GRAND VILLAGE (8)	15.4	23.0	
						FATHERLAND R/P (2)	3.8		
	TOTAL	239		1		52	99.9	99.9	292
EXCAVATION					BALLINA	CHEVALIER (2)	13.3	13.3	
		BAY PL. 14 (106)	II		BALMORAL	MOTT (1)	6.7	6.7	

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PLY ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
					GORDON	HARRISON BAYOU (1)	6.7	13.4	
						HARDY (1)	6.7		
						PLAQUEMINE (3)	2.0		
			V		ANNA	ANNA (4)	66.7	66.7	
						R. B. SHIPPO (3)	3.3		
	TOTAL	462				15	100.1	100.1	477
						MOTT (6)	11.2		
			IV		BALMORAL	GREENHURST (1)	1.9	17.0	
						AYOVELLES (2)	3.8		
						PLAQUEMINE (1)	20.8		
						ANNA (4)	7.5		
					ANNA	CARTER (1)	1.9	34.0	
						SANSON (1)	1.9		
						COLEMAN (1)	1.9		
			V			MANCHEE (12)	22.6		
					EMERALD	FATHERLAND (10)	18.4	43.4	
						WINTERVILLE (1)	1.9		
					NATCHEZ	GRAND VILLAGE (2)	3.8	5.7	
						FATHERLAND (1)	1.9		
	TOTAL	481				53	100.1	100.1	534
	EXCAVATION		IIQ		ISSAQUEUA	CHICAPPA (2)	.7	.7	
						MOTT (23)	8.3		
					BALMORAL	FIELDSEA (1)	.4	9.8	
			IV	EVANSVILLE (4)		AYOVELLES (1)	.4		
						KINGS POINT (2)	.7		
					GORDON	HARRISON BAYOU (3)	1.1	1.5	
						HARDY (1)	.4		
						PLAQUEMINE (58)	20.4		

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PL. & ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
						LEAK NOISE (2)	.7		
					ANNA	ANNA (8)	3.2	26.2	
						CARTER (2)	.7		
						COLEMAN (2)	.7		
						DEEP WADDA (1)	.4		
						FOSTER (6)	2.2		
						EMERALD (11)	4.0		
					EMERALD	MANCHAS (115)	41.5	54.5	
						FATHERLAND (7)	2.5		
						PARTON H (5)	1.8		
						WINTERVILLE (3)	.7		
						BELL PLAIN H (4)	1.4		
						NATCHIEZ (16)	5.8		
					NATCHIEZ	NOBENA H (3)	1.1	7.3	
						FATHERLAND RIDGE (1)	.4		
	TOTAL	1832		15		277	100	100	3124
FELTUS (20-K-43)	SURFACE					CHURUPA (1)	.9		
			II		ISSAQUEUA	CHURUPA H (1)	.9	3.5	
						MATKSVILLE INC (2)	1.7		
			III		HAMILTON RIDGE	CENTERS GREEN (2)	2.6		
						VARIO (2)	1.7	6.9	
						WOODVILLE INC (3)	3.6		
						SUNDOWN (2)	1.7		
						STONIER (2)	2.6		
					SUNDOWN	WADE (2)	1.7	16.4	
						CHASE (1)	.9		
						SMITH CREEK (2)	1.7		
						FITLER (9)	7.3		
						CHEVALLIER (8)	7.0		

Table 13 (cont.)

SITE	COLLECTION	DAYTON PL 5 ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
		DAY PL 4 (1564)				COLES CREEK (33)	28.7		
					BALLINA	CLASSIC MODE (2)	1.7	41.7	
				COLES CREEK (13)		FRENCH FORK (2)	1.7		
			IV	FRENCH FORK (3)		LARKIN (1)	.9		
				VAZIOQUE (4)		RHINEHART (2)	1.7		
						CLASSIC MODE (1)	.9		
						MOTT (12)	10.4		
						PLAQUELY (1)	.9		
					WALMORAL	GREENHOUSE (3)	2.6	18.3	
						MC NULTY (1)	.9		
						PONCHATRIN (2)	1.7		
						WYATON CUTLER (1)	.9		
					GORDON	LEW-LINEAR (1)	.9	2.6	
						HARDY (2)	1.7		
						PLAQUEMINE (6)	5.2		
					ANNA	CARTER (1)	.9	7.0	
		ADDIS (72)	X	MISSISSIPPI PL 4 (2)		COLEMAN (1)	.9		
					EMERALD	MARCHAL (3)	2.6	3.5	
						FATHERLAND (1)	.9		
	TOTAL	1641		22		115	99.9	99.9	1778
	EXCAVATION					SHARUPA (1)	1.5		
			III B		ISSAQUEHA	MANNIX (1)	1.5	6.0	
					HAMILTON RIDGE	MARKSVILLE INCH (2)	3.0		
			III			CENTERS CREEK (5)	7.6	7.6	
						SUNDOWN (2)	3		
						STONER (6)	9.1		
					SUNDOWN	WADE (3)	4.5	46.9	
						CHASE (1)	1.5		
		DAY PL 4 (758)				SMITH CREEK (7)	10.6		

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PL. & ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
			IV	COLES CREEK (11) FRENCH FORK (4)		FITTER (12) CHEYENNE (3) RHINEHART (1) COLES CREEK (10) CLASSIC MODE (9) CAMPELLEVILLE (1) CLASSIC MODE (1) BELDORA (1)	18.2 4.5 1.5 15.2 12.6 1.5 1.5 1.5		
		ADDIS (3)							
	TOTAL	761		15		66	99.8	99.8	842
PUMPKIN LAKE (26-K-88)	COMBINED		II B		ISSAQUANA	TRIOVILLE (11) CHUCKAWA (1) MARKSVILLE INC. (8) MARKSVILLE ST. (3) SMITH CREEK (1) PLACERVILLE (1) BETHLEHEM (1) EMERALD (1) MANCHESTER (2)	32.9 3.4 27.6 10.3 3.4 3.4 3.4 6.9		
		DAY PL. (163)							
			IV	COLES CREEK (1)	SUNSHINE				
		ADDIS (4)	V		ANNA				
	TOTAL	167		1		29	99.7	99.7	197
YOKENA (24-M-1)	SURFACE		II B		ISSAQUANA	TRIOVILLE (2) MARKSVILLE INC. (5) MANNY (1) CHERRY CREEK (1) MANNY (1) PLACERVILLE (1) JONES (1)	9.5 23.8 4.8 4.8 4.8 4.8 4.8	38.1	
		DAY PL. (79)							
			III		HAMILTON RIDGE				
			IV		ISSAQUANA				
		ADDIS (42)	V	MISSISSIPPI PL. (1)	ANNA				
	TOTAL			1		21	100.1	100.1	143

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN P.L.# ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
GLASS (24-M-2)	SURFACE				BALMORAL	MOTT (1)	5.9	11.8	
		DAY P.L.# (12)	IV			GREENHOUSE (1)	5.9		
					GORDON	WILKINSON (1)	5.9	11.8	
						HARBOY (1)	5.9		
						PLACEMINE (2)	11.8		
					ANNA	BETHLEHEM (1)	5.9	23.6	
						COLEMAN (1)	5.9		
		ADDIS (16)	V	MISSISSIPPI P.L.# (9)		DEEP CANYON (2)	11.8		
					EMERALD	DANIELY (4)	23.5	53	
						EMERALD (2)	11.8		
						BARTON (1)	5.9		
	TOTAL	58		9		17	100.2	100.2	84
SMITHFIELD (25-L-17)	SURFACE					STONER (3)	11.5		
					SUNDOON	WADDE (2)	7.7	79.8	
						CHASE (1)	3.8		
		DAY P.L.# (79)	IV	COLES CREEK (3)		SMITH CREEK (14)	53.8		
					PALLINA	CHEVALIER (1)	3.8	11.5	
					BALMORAL	CLASSIC MOORE (2)	7.7		
						MOTT (3)	11.5		
	TOTAL	79		3		26	99.8	99.8	108
CASSELL (25-L-19)	SURFACE		IIA		PANTHER LAKE	ICEFANTIE (1)	1.6	1.6	
						YORKINA (14)	6.6		
			II B		ISSAQUIMA	MARKVILLE INC. (2)	4.9	14.8	
						MANNY (2)	3.3		
						STONER (2)	3.3		
					SUNDOON	WADDE (3)	4.9	45.9	
						SMITH CREEK (23)	37.7		
		DAY P.L.# (610)		EVANSVILLE (1)		CHEVALIER (3)	4.9		

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PL. ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
CENTERS CREEK (25-L-25)	SURFACE		IV	MAZIQUE 4 (2)	BALLINA	COLES CREEK (2)	3.3	9.8	
				FRENCH FORK 4 (1)		LARKIN (1)	1.6		
				COLES CREEK 4 (3)		MOTT (5)	8.2		
					BALMORAL	GREENHOUSE (4)	6.6		
						McNUTT (1)	1.6	21.3	
			V			KINGS POINT (1)	1.6		
						"RAYON CUTLER" (2)	3.3		
					ANNA	PLAQUEMINE (3)	4.9	4.9	
					EMERALD	MANCHAC (1)	1.6	1.6	
				7		61	99.9	99.9	678
RAYON PIERRE (25-L-26)	SURFACE		II B		ISSAQUEUA	CHURUPA (1)	3.3	3.3	
					HAMILTON RIDGE	CENTERS CREEK (24)	80	83.3	
						INDIAN BAY ST. 4 (1)	3.3		
						SUNDOWN (2)	6.7	6.7	
					BALMORAL	KINGS POINT (1)	3.3	3.3	
			V		ANNA	P/S SLIPPED (1)	3.3	3.3	
				2		30	99.9	99.9	105
					HAMILTON RIDGE	LARTE (1)	2.0	2.0	
					SUNDOWN	CHASE (1)	2.0	2.0	
					BALLINA	COLES CREEK (2)	4.1	6.1	
RAYON PIERRE (25-L-26)	SURFACE		III			LARKIN (1)	2.0		
						MOTT (9)	18.4		
					BALMORAL	PLAQUEMINE (2)	4.1	28.6	
						BEDELL (1)	2.0		
						AYVALE (2)	4.1		
			IV		GORDON	HARRISON BAYON (2)	4.1	10.2	
						HARDY (3)	6.1		
						PLAQUEMINE (10)	20.4		

Table 13 (cont.)

SITE	COLLECTION	DAYTOWNALY ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
		ADDIS (94)	V		ANNA	ANNA (9)	18.4	40.8	
						R/B SLIPPED (1)	2.0		
					EMERALD	MANCHAC (5)	10.2	10.2	
	TOTAL	540		2		49	99.9	99.9	591
PINECREST PLAT (26-K-31)	SURFACE	DAY PL. (54)	IV	MAZIQUE 6 (1)	BALMORAL	MOTT (2)	7.7	7.7	
						PLACQUEMINE (18)	69.2		
		ADDIS (227)	V		ANNA	ANNA (4)	15.4	88.4	
						SANDER (1)	3.8		
					EMERALD	DARTON 4 (1)	3.8	3.8	
	TOTAL	381		1		26	99.9	99.9	408
SCHUCHS (26-K-32)	PRIVATE		III		ISSAQUENA	TRAYVILLE (6)	9.4		
						CHURCH (1)	1.6	15.7	
						YOUNG (3)	1.7		
			IV		SANDER	DARTON 4 (1)	1.6	3.2	
						HARRY (1)	1.6		
						PLACQUEMINE (15)	33.4		
						LENN NOBLE (21)	33.8		
			V		ANNA	ANNA (3)	4.7	65.6	
						CARTER (2)	3.1		
						PATTON (1)	1.6		
					EMERALD	MANCHAC (10)	15.6	15.6	
	TOTAL					64	100.1	100.1	634
HULL RIDGE (26-K-47)	SURFACE		III	EVANSVILLE 4 (1)	HAMILTON RIDGE	CENTERS CREEK (1)	2.6	7.7	
						LATO (2)	5.1		
						WAGG (1)	2.6		
					SANDER	SOUTH CREEK (2)	5.1	15.4	
						ENTER (3)	7.7		

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PLY ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
		BAY PLY (776)	IV	COLES CREEK (7)	BALINA	COLES CREEK (1)	2.6		
				MAZIQUE (2)		CLASSIC MOORE (1)	2.6	7.8	
					BALMORAL	MAZIQUE (10)	2.6		
						MAZIQUE (10)	25.7	28.3	
					GOSSARD	GREENHOUSE (1)	2.6		
						HARRY (1)	2.6	2.6	
						BLACKSTONE (3)	7.7		
		MAZIQUE (10)	V		ANNA	COLES CREEK (4)	10.3	20.6	
						MAZIQUE (1)	2.6		
					EMERALD	MANCHAS (7)	17.9	17.9	
	TOTAL	792		9		21	100.3	100.3	
SHIELDS BORO (27-K-15)	SURFACE		IV G		ISSINGTON	MARSHVILLE INCK (2)	4.5	4.5	
			III		HAMILTON HILL	PATTER BAYMAN (1)	2.3	4.6	
						LALTO (1)	2.3		
					BALINA	CHEVALIER (1)	2.3		
						FRENCH FORD (1)	2.3	11.4	
		BAY PLY (132)	IV			LARKIN (1)	2.3		
				COLES CREEK (3)		MAZIQUE (2)	4.5		
				MAZIQUE (1)	BALMORAL	MOTT (1)	2.3	2.3	
						WILKINSON (1)	2.3		
					GORDON	DUPRE (1)	2.3	6.9	
						HARRY (1)	2.3		
						PLACHEMINE (20)	45.5		
		ADDIS (81)	V		ANNA	LEAGUE NOIRE (1)	2.3	68.3	
						ANNA (9)	20.5		
					EMERALD	BAYMAN GOWAN (1)	2.3	2.3	
	TOTAL	213		4		44	100.3	100.3	261

Table 13 (cont.)

SITE	COLLECTION	BAYTOWN PL. & ADDIS	PERIOD	PERIOD MARKERS	PHASE	PHASE MARKERS	%	PHASE %	TOTAL
SMITH CREEK (28-J-3)	SURFACE		III		HAMILTON RIDGE	CENTERS CREEK (3)	8.1	8.1	
						SUNDOWN (1)	2.7		
					SUNDOWN	STONEP (1)	2.7	10.8	
						WADE (1)	2.7		
						FITLER (1)	2.7		
			IV			CHEVALIER (1)	2.7		
						COLES CREEK (1)	2.7		
					BALLINA	LAPKIN (3)	8.1	35.1	
						FRANCIS POND (2)	5.4		
						MAZIQUE (6)	16.2		
						MATT (5)	13.5		
						BLANKLEY (1)	2.7	27.0	
					RAZOR	GREENHOUSE (2)	5.4		
						PONCHY (RAIN) (2)	5.4		
					GORDON	HARDY (1)	2.7	2.7	
			V			PLAQUE MINES (4)	10.8		
					ANNA	ANNA (1)	2.7	16.2	
						CEASE (1)	2.7		
				5		37	99.9	99.9	428
AT LAST (28-J-12)	SURFACE				BALLINA	CHEVALIER (6)	21.6	31.6	
						MATT (1)	5.4		
					BALMORAL	AVOYELLES (1)	5.4	42.2	
			IV			PONCHY (RAIN) (1)	5.4		
						KING'S POINT (5)	26.3		
						LULL LINEAR P. (1)	5.4		
					GORDON	HARRISON BAYOU (1)	5.4	15.9	
						HARDY (1)	5.4		
			V		ANNA	CANTER (2)	10.5	10.5	
				3		19	100.2	100.2	357