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Michael L. Loughlin, Student

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EL MESÓN REGIONAL SURVEY: SETTLEMENT PATTERNS AND POLITICAL ECONOMY IN THE EASTERN PAPALOAPAN BASIN, VERACRUZ, MEXICO

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Arts and Sciences
at the University of Kentucky

By
Michael L. Loughlin

Lexington, Kentucky

Director: Dr. Christopher A. Pool, Professor of Anthropology

Lexington, Kentucky

2012

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ABSTRACT OF DISSERTATION

EL MESÓN REGIONAL SURVEY: SETTLEMENT PATTERNS AND POLITICAL ECONOMY IN THE EASTERN PAPALOAPAN BASIN, VERACRUZ, MEXICO

This dissertation examines settlement patterns and political and economic organization at the archaeological site of El Mesón, located in the Eastern Lower Papaloapan Basin, in the Mexican state of Veracruz. Monumental art from the site indicated that the primary occupation dated to the Late Formative (400 B.C.-A.D. 1) or Protoclassic period (A.D. 1-300), however aside from a small surface collection of ceramic sherds, the area remained uninvestigated archaeologically. The Recorrido Arqueológico was initiated in 2003 to provide data about the development of settlement in the area around El Mesón, and to examine how the area was organized politically and economically.

The settlement data indicate that over the course of the Formative period El Mesón expanded from a medium sized village to become a secondary center to Tres Zapotes during the Late Formative period. The replication of Tres Zapotes's civic-ceremonial architecture in the core of El Mesón indicates its subordinate status to the larger center. Over the course of the Protoclassic period, El Mesón was abandoned and a series of new architectural complexes proliferated in the area until the Late Classic period (A.D. 600-900), settlements in the El Mesón area declined.

In assessing the political organization I focus on how exclusionary strategies that focus of the personal prestige of the leader were combined with corporate strategies that promote group solidarity. I argue that based on the architectural layouts and internal organization of the civic-ceremonial complexes that exclusionary strategies predominated in the area, but corporate strategies were also promoted to reinforce group solidarity among factions.

This work complements ongoing work at Tres Zapotes by providing a perspective on the use of exclusionary and corporate strategies within secondary centers. This work contributes to the study of political systems more broadly by focusing on how different political strategies were integrated within political systems at the regional and local scale.

KEYWORDS: Mesoamerica, Epi-Olmec, Formative Period, Settlement Patterns, Political-Economic Strategies

Michael L. Loughlin

February 29, 2012

EL MESÓN REGIONAL SURVEY: SETTLEMENT PATTERNS AND POLITICAL ECONOMY IN THE EASTERN PAPALOAPAN BASIN, VERACRUZ, MEXICO

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February 29, 2012

For my parents Dale and Nancy Loughlin

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AppendixD.xls (79 KB)

CHAPTER 1
INTRODUCTION

Traditionally, Formative period research in Mesoamerica's southern Gulf lowlands (Figure 1.1) has focused on the Olmec culture that dominated the region during the Early (1500-1000 B.C.) and Middle (1000-400 B.C.) Formative periods (Table 1.1). This attention is certainly warranted as the Olmec represent one of the earliest expressions of a hierarchically organized society in Mesoamerica (Pool 2007:11). Moreover, the Olmecs created a sophisticated art style that was rendered on monumental sculpture as well as other media, and they participated in long distance exchange networks that extended throughout Mesoamerica.

One of the unintended consequences of this research focus was that the Late Formative (400 B.C.-A.D. 1) and Protoclassic periods (A.D. 1-300) were largely ignored. As a result, the decline of Olmec culture at the end of the Middle Formative period has been cast as a cultural collapse (Bernal 1969:112; Diehl 1989:32; Coe and Diehl 1995). Diehl and Coe (1995:13) characterize the Late Formative and Protoclassic societies of the region as "…a derived epigonal culture." Bernal (1969:112) states that by the Late Formative period "…the Olmec world ceased to predominate, to be the creator of ideas, falling to the level of many other groups culturally directed by outsiders." For Bernal (1969:112), this cultural influence was coming from groups in the highlands of Central Mexico. Others argue, based on stylistic comparisons of Late Formative and Protoclassic art, that the external influence in the region came from Izapa, a large center located to the south in modern Mexican state of Chiapas (Diehl 1996:32).

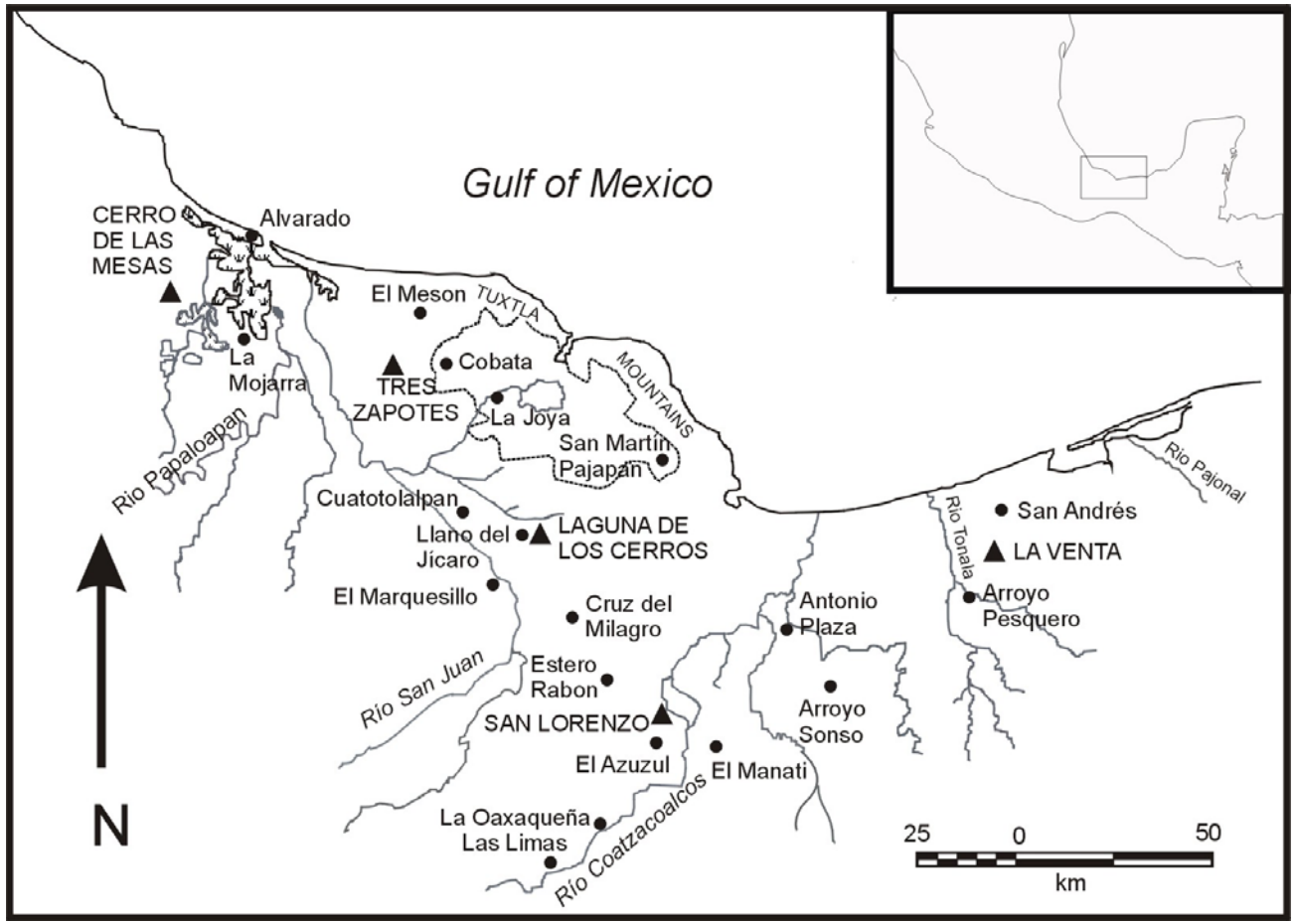

Figure 1.1. Map of Olman with important sites. Triangles represent large centers. Tuxtlas boundary indicated by dotted line (Pool 2007a:5, Figure 1.3).

Table 1.1. Regional Chronology.

Date (cal)	**Period**	**Tres Zapotes** (Ortiz Ceballos 1975; Pool 2007; 2008)	**Central Tuxtlas** (Ortiz Ceballos and Santley 1988; Santley and Arnold 1996; Pool and Britt 2000	**Mixtequilla** (Stark 1998)	**This Study**
1500					
1400				Late Postclassic	
1300				Middle Postclassic	
1200					
1100			Postclassic		
1000		Soncauntla			Postclassic
	Postclassic				
900					
800			Late Classic, Matacapan Phase F		
700				Limon	Quemado
	Late Classic	Quemado	Late Middle Classic, Matacapan Phase E		
600					
			Early Middle Classic, Matacapan phase D		
500					
400			Late Early Classic, Matacapan Phase C		
	Early Classic	Ranchito		Camaron	Ranchito
300					
200			Late Bezuapan, Early Early Classic at Matacapan		
100					
A.D.					
B.C.	Protoclassic	Nextepetl			Nextepetl
				Terminal Preclassic	
100					
200					
300	Late Formative	Hueyapan	Early Bezuapan, Matacapan Phase B	Late Preclassic, Late Pozas Phase	Hueyapan
400					
500				Late Preclassic Early Pozas Phase	
600					
700					
800					
900	Middle Formative	Tres Zapotes	Gordita	Middle Preclassic	Tres Zapotes
1000					
1100	Early Formative				
1200		Arroyo	Coyame		Arroyo

Recently, archaeologists have started to focus attention on the Late Formative and Protoclassic societies in Olman (the Olmec Heartland), the Epi-Olmecs. In particular, research in western Olman has begun to revise these earlier views of the region becoming a cultural backwater. Ironically, the best information regarding the Late Formative and Protoclassic occupation of the region comes from Tres Zapotes, the site where the first Olmec colossal head was identified, and the first archaeological investigations of the Olmec took place (Drucker 1943; Melgar y Serrano 1869; Stirling 1943; Weiant 1943) (see Figure 1.1).

Research at Tres Zapotes shows that, although the decline of La Venta saw populations dwindling in eastern Olman, Tres Zapotes flourished as the dominant center in the region (Pool ed. 2003). At its height, the site covered an area of approximately 500 ha, making it comparable in size with the Early Formative center San Lorenzo at its apogee (Pool 2007:247), and the largest center in the region during the Late Formative period. Pool (2000a:149) describes the transition from Olmec to Epi-Olmec at Tres Zapotes as a gradual evolution rather than a collapse. He notes that although Epi-Olmec art from the site is distinct from Olmec art, there are similarities between the two, both thematically and stylistically, and argues that the similarities reflect an evolution artistic style rather than an outside influence (Pool 2000).

As a political center, Late Formative Tres Zapotes was the largest and most complex center in the region during the Late Formative period. Pool (2006a:216; 2007a; 2008) argues that the site was headed by a group of elite faction leaders who shared governance of the center. At its height, Tres Zapotes would have dominated the Eastern Lower Papaloapan River Basin (ELPB) politically and economically.

This dissertation focuses on the Olmec to Epi-Olmec transition in the area around the center El Mesón. Surface collections of pottery from the site (Scott 1977) as well as its small corpus of stone monuments indicate that the El Mesón's primary occupation dates to the Late Formative period. However, despite being recognized as an important locus of Prehispanic settlement (Coe 1965:679; Stirling 1943), prior to this survey, there had been no systematic investigations of El Mesón or its immediate hinterland. In this dissertation I address the development and decline of settlement in the area, its political and economic organization, and its relationship with Tres Zapotes which is located approximately 13 km to the south. Moreover, this research complements the ongoing research at Tres Zapotes by providing a perspective on the Olmec to Epi-Olmec transition from the hinterland.

Olmec and Epi-Olmec

The term Olmec comes from the name that the Aztecs gave to the Postclassic residents of the Gulf coast (Diehl 2004; Pool 2007:12). We have no indication of what these people called themselves, but the application of the term to the Formative period residents of the Gulf coast dates to the early twentieth century. A second issue concerning the name Olmec is that it has been used to denote both an archaeological culture and a distinctive art style from the Early and Middle Formative period. The earliest usage of Olmec in archaeology was in reference to an artistic style (e.g., Beyer 1927; Saville 1929a, 1929b). Later, investigations on the Gulf coast identified objects attributed the Olmec style and the term Olmec became attached to the Early and Middle Formative residents of the region. Specifically the region that has been labeled the

"Olmec Heartland" or Olman includes the area between the Papaloapan River in southern Veracruz and the Grijalva River in western Tabasco (Pool 2007:4-5). Some (e.g., Grove 1989) have suggested that this conflation of the archaeological culture and art style has led to an overemphasis of the influence of the Gulf coast Olmec (archaeological culture) on the Early Formative developments of Mesoamerica; specifically, that the Olmec were the "Mother Culture" of Mesoamerica.

Pool (2007:12-13) notes that in current research Olmec is used at least three different ways. The first and most restrictive use applies only to the archaeological culture (e.g., Grove 1989). The second usage implies both the archaeological culture and the distinctive artistic style to which the term was originally applied. Under this usage, the term Olmec is applied to archaeological sites and works of art from both inside and outside of the southern Gulf lowlands (Pool 2007:13). More recently Clark and Pye (2000) have suggested that the term Olmec should be applied to a set of cultural practices associated with rulership and governance as well as their religious and cosmological underpinnings. Artwork and other objects in the Olmec style are materializations of these practices. Because this dissertation is focused on the evolution of settlement in the southern Gulf lowlands I restrict my usage of Olmec to the Early and Middle Formative people of the Gulf coast and their material culture.

Epi-Olmec refers to the Late Formative and Protoclassic cultures of the Eastern Lower Papaloapan basin and portions of the Western Lower Papaloapan Basin. Far from being decadent or a culture in decline, the current view of the Late Formative and Protoclassic periods is one characterized by "… a cultural and intellectual florescence… adapting ancient Olmec traditions to the requirements of a more competitive political

landscape" (Pool 2007:243). One of the cultural achievements of this culture is a sophisticated art style that shows clear stylistic and thematic ties to Olmec antecedents, but is clearly distinct. Epi-Olmec monuments and some smaller objects have been recovered from an area that extends from the Tuxtlas to the Mixtequilla region in south-central Veracruz.

The Epi-Olmec were also amongst the first people in Mesoamerica to use calendrics and hieroglyphic texts to record important events. Justeson and Kaufman's (1993) decipherment of the Epi-Olmec script (also called Isthmian) indicates that these inscriptions are associated with rulership; however, this decipherment has recently been called into question (Houston and Coe 2003). Epi-Olmec culture evolved into the Classic period Veracruz culture during the Early Classic period.

Political Organization and Political Strategies

Because political organization is a fundamental aspect of societies, understanding how past societies were organized politically has a long history in archaeology. For the past 50 years the archaeological study of political organization has usually been couched in terms of neoevolutionary stages. The most widespread frameworks that archaeologists have used are based on the band, tribe, chiefdom, state typology devised by Service (1962), or Fried's (1960, 1967) egalitarian, rank society, stratified society, state typology. By the imposition of a neoevolutionary framework on these typologies, societal types become stages through which societies pass.

One of the problems of these neoevolutionary stages is that they do not capture the variability present in human societies (Blanton et al. 1996; de Montmollin 1989).

Because admission into any particular stage within these typologies is based on the presence or absence of certain traits (e.g.,, agricultural economy and inheritable social status among others) (e.g., Peebles and Kus 1977), all groups within any particular category are seen as homogeneous. The consequence of this view is that the stages are essentialized and change is transformational from simpler to more complex sociopolitical formations.

The perspective I use for discussing political organization is Blanton et al.'s (1996) "Dual-Processual" model. Rather than focus on stages of development, the dual-processual model focuses on the politico-economic strategies employed by leaders to build, maintain, and extend their power. Blanton et al. (1996) outline two major strategies: exclusionary, which focus on the individual leader's personal prestige and attempts to monopolize sources of power, and corporate strategies that focus on promoting group solidarity and cohesion. Because of the different aims of these strategies, each is associated with different material and symbolic sources of power. Exclusionary strategies are associated with the long distance exchange for high value prestige items, which leaders use to attract a faction of supporters. Successful monopolization of such trade networks results in a more centralized political economy (Pool 2008:123). Corporate strategies, in contrast, suppress the competition between factions and promote group solidarity. The result is that political power may be shared by different segments within a society. These strategies are discussed in greater depth in Chapter 3.

While these two strategies are antagonistic they are not mutually exclusive (Blanton et al. 1996:5). The expectation is that a given political system will reflect a

combination of both strategies. At Tres Zapotes, Pool (2007a; 2008) argues that the major civic-ceremonial complexes at the site represent political seats for faction leA.D.ers. However, he interprets the replication of the specific architectural layout of these complexes as indicating that at the scale of polity governance, power was shared by these leA.D.ers. My use of this perspective in this dissertation is designed to complement the investigations at Tres Zapotes by examining how these strategies were employed in the hinterland, and how these strategies changed over time.

El Mesón and the Recorrido Arqueológico El Mesón

The project area for this investigation is located around the archaeological site of El Mesón, located 13 km north of Tres Zapotes (see figure 1.1). The site has been in the archaeological literature since the 1940s (Stirling 1943); however, it has received only cursory archaeological attention. Prior to this project the site was primarily known for its small corpus of Late Formative and Protoclassic sculpture, the most famous of which, Stela 2, is known as the El Mesón Stela (Covarrubias 1957; Drucker 1968; Scott 1977). Aside from mentions of the numerous mounds in the area (Coe 1965:679), and a small surface collection of ceramics gathered by Scott (1977) that indicated that El Mesón dated to the Late Formative period, little was known of the site, or the area around it.

In 2003 I initiated the *Recorrido Aqueológico El Mesón* (RAM) to examine settlement patterns and politico-economic organization in the area around El Mesón. The specific research questions that guided this research were: 1) How long was the RAM area occupied, and what are the spatial extents of the components?; 2) How was the area

organized politically and economically, and how did this organization change through time?; and 3) What was the RAM area's relationship with Tres Zapotes?

During the course of this project, an area of approximately 27 sq km centered on the modern town of Angel R. Cabada was intensively surveyed using a "siteless survey" technique that focused on the identification of architectural features and artifact concentrations. This method was based on Stark's (1991; Stark and Heller 1991) survey method for the Mixtequilla. Field crews walked the entire survey area with a 20 m interval between transects. This tight interval spacing allowed for household-scale data to be collected and allowed for greater comparability of the survey data with other surveys in the region. When a mound or artifact concentration was encountered, the size, height and location of the feature were recorded and a collection of surface artifacts was made. In an effort to make collections manageable, yet retain the maximum amount of temporal and functional information, collections included up to 100 rims or decorated sherds. All other artifacts were collected, except for large pieces of groundstone which were recorded and left in the field.

The survey resulted in the identification of 397 features distributed across the RAM survey area, and the recovery of 29,294 artifacts. While large Late Formative and Protoclassic components were identified, the recovered artifacts indicate that the area was continuously occupied from the Early Formative period through the Postclassic period, a span of more than 3,500 years.

The settlement data indicate that the earliest occupation in the RAM area dated to the Early Formative period Arroyo phase (1200-1000 B.C.). Evidence for this occupation was scarce; however, it is possible that a more extensive occupation was

present, but has been buried by alluvium. Recent excavations at Tres Zapotes identified Arroyo phase deposits at depths of six meters below the current ground surface (Pool et al. 2010). Populations expanded in the Middle Formative Tres Zapotes phase (1000-400B.C.). At this time El Mesón may have been a small village. The recent identification of two Middle Formative Olmec monuments in the area, however, suggests that the Middle Formative occupation may have been more extensive and more complex politically.

During the Late Formative period Hueyapan phase (400 B.C.-A.D. 1) the RAM area experienced a demographic explosion, and El Mesón emerged as a local center. Based on the architectural layout of the main civic-ceremonial complex at the site, which replicates the civic-ceremonial complexes at Tres Zapotes, I argue that El Mesón was a secondary center to Tres Zapotes.

The Protoclassic Nextepetl phase (A.D. 1-300) was a time of important political and demographic changes in the region. At Tres Zapotes, the shared governance of the Late Formative period began to fray and the site experienced an important political and demographic reorganization (Pool 2008). El Mesón started the Protoclassic period as the ranking center in the RAM area, but by the end of the Nextepetl phase it had ceded political primacy to a series of new civic-ceremonial complexes, none of which featured the same architectural layout. I argue that at this time, the RAM area broke with Tres Zapotes, and became politically autonomous, and the replacement of El Mesón with new civic-ceremonial complexes represents a rejection of Tres Zapotes's symbol of authority. The unique layouts of these new complexes, suggests a heightened degree of factional

competition in the region that extended through the Early Classic period Ranchito phase (A.D. 300-600).

By the Late Classic period Quemado phase (A.D. 600-900) the settlement data indicate that populations in the RAM area were declining. The area was virtually abandoned in the Postclassic period (A.D. 900-1520).

Organization of this Dissertation

In the following chapters I present the results of the RAM survey. Chapter 2 is an introduction to the RAM survey area and the archaeological site of El Mesón. I begin by addressing the geographic and environmental setting of the project area. Next I present a description of El Mesón and a history of the archaeological investigations there. Finally I describe the corpus of stone monuments from El Mesón.

Chapter 3 is concerned with the theoretical frameworks I use in this study. These frameworks can be broken down into two groups. The first deals with locational models associated with settlement patterns. Specifically, I address central-place theory (Christaller 1966; Lösch 1954; von Thünen 1966) and heteracrchy (Crumley 1979, 1995). The second set of theories are integrated frameworks for using settlement data to reconstruct political organization. These theories include bundled continua of variation (de Montmollin 1989), factionalism (Brumfiel and Fox eds. 1994), and dual-processual theory (Blanton 1998, Blanton et al. 1996, Feinman 2001.

Chapters 4 and 5 present the field and laboratory methods used in the RAM survey. Chapter 4 includes a detailed discussion of the theoretical and methodological issues with surface surveys. Specific topics addressed in this chapter include site-based versus "siteless" survey techniques, full-coverage versus probabilistic sampling, and artifact collection strategies. In particular I focus on how different survey and collection strategies affect the scale and comparability of survey data. I conclude this chapter with a discussion of the survey techniques used for the RAM survey. Chapter 5 addresses the laboratory methods for processing and analyzing the artifacts once they were brought in from the field.

In Chapter 6 I discuss the ceramic chronology used to temporally assess the architectural features and artifact concentrations in the RAM area. Because of the similarity between the ceramic assemblages from the RAM area and Tres Zapotes, I used the Tres Zapotes ceramic typology. This classificatory system is based on Ortíz Ceballos' (1975) study of ceramics in the Tuxtlas region, and the classifications used at Matacapan (Ortíz Ceballos and Santley 1988). Further refinements have been made during the *Recorrido Arqueológico de Tres Zapotes* (RATZ) (Pool 1997a) and the *Proyecto Arqueológico* de *Tres Zapotes* (PATZ) (Pool et al. 2010). I discuss and describe the temporally sensitive ceramic types for each phase, including the forms and decorations encountered during the RAM survey, and compare the RAM assemblage to the ceramics from Tres Zapotes, the Tuxtlas, and the Mixtequilla. Ceramic figurines are also discussed in this chapter.

Chapter 7 presents the results of the settlement pattern survey. I begin with a discussion of the typology of features identified during the RAM survey. Next I present

the settlement pattern for each phase. These data show a general trend of growth throughout the Formative period, stability into the Early Classic period, and decline during the Late Classic and Postclassic periods. These data are used to place the RAM area within the broader context of the ELPB.

In Chapter 8 I discuss the formal architectural complexes in the RAM area. I describe the layout and temporal placement of each complex. These data indicate that during the Protoclassic period El Mesón was replaced for political primacy by a series of new architectural complexes, all of which feature unique architectural layouts. The only constant in these mound groups was that all included a large, flat-topped, quadrilateral platform. Based on comparisons with the Mixtequilla and Cotaxtla Basin, I argue that these structures represent palaces. This palatial function and the variation in the architectural layouts of the complexes in which these structures are found suggest that exclusionary political strategies were pursued. Moreover, I interpret the proliferation of these complexes during the Protoclassic period as representing heightened factional competition in the RAM area.

The focus of Chapter 9 is the economic organization of the RAM area. Specifically, I address evidence for the RAM area's participation in regional trade networks, the evidence for craft production in the RAM area, and implications of the RAM area's setting along an important trade route into the western Tuxtlas. The best data for nonlocal exchange comes from obsidian which was a nonlocal resource but was ubiquitous in collections. These data suggest an orientation of trade networks toward the highlands of Central Mexico.

Evidence for a number of craft activities was also identified in the RAM collections including production indicators for ceramic vessels, obsidian and groundstone basalt tools, cotton spinning, and an unidentified craft that was associated with obsidian drills. These data suggest that craft production was a part-time activity, organized at the household level, and geared toward low intensity production. Two loci of specialized craft production were also identified during the survey; one associated with groundstone production and one associated with obsidian tool production and the obsidian drills. I argue that the organization of these production locales represent household economic diversification strategies intended to reduce risk associated with agriculture. Specifically, I argue that groundstone production most likely represents intermittent crafting and that obsidian production and the obsidian drills are associated with multicrafting strategies (Hirth 2009).

Finally, I address the role of the RAM area's location along a trade corridor connecting the ELPB with the Tuxtlas Mountains. I argue that it was this location that allowed the RAM area to prosper following its political break with Tres Zapotes. Moreover, control of this trade route may have driven factional competition in the area during the Protoclassic and Early Classic periods.

In Chapter 10 I bring all of the lines of data together to address the politico-economic organization of the RAM area. I argue that the growth of the RAM area during the Late Formative period was intimately tied to the emergence of Tres Zapotes as the ranking political center in the ELPB. The use of Tres Zapotes's symbols of political authority and power in the form of a specific architectural configuration indicate that El Mesón was a secondary center to Tres Zapotes. However, unlike Tres Zapotes, at the

scale of site governance, exclusionary strategies predominated. I suggest that El Mesón's political leadership may also have promoted corporate strategies among their factions of supporters as a means of solidifying their base of support. During the Protoclassic period the political break with Tres Zapotes provided an opportunity for new political leaders to emerge in the RAM area. Between the Protoclassic period and the Early Classic period new civic-ceremonial complexes emerged as political rivals competed with each other for local political dominance. As Tres Zapotes influence over the El Mesón area waned, new contacts with groups in the Mixtequilla region of south-central Veracruz were forged; however, there is no indication that the RAM area was ever under the control of the Mixtequilla. By way of a conclusion, I highlight some potential avenues of future research based on the findings from the RAM survey.

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CHAPTER 2
EL MESÓN AND THE RAM AREA

This chapter is an introduction to the archaeological site of El Mesón and the RAM survey area. I begin by describing the geographic placement of the area. Next I address the environmental setting. Finally I describe the archaeological site of El Mesón, discuss the history of previous research there, and briefly describe its corpus of monumental art.

Geographic and Environmental Setting

The RAM area is located in the Eastern Lower Papaloapan Basin of the southern Gulf lowlands in the modern state of Veracruz, Mexico. Specifically the area centers on the town of Angel R. Cabada Mexico (Figure 2.1), the political seat of the *municipio* of the same name. Mexico's National Institute of Statistics and Geography (INEGI) lists the population of the *municipio* as 33,528 people (www.inegi,org.mx).The town of Angel R. Cabada is located along Highway 180, a major transportation route into and out of the western Tuxtlas mountains. The western skirt of the Tuxtlas is located approximately 8 km from Angel R. Cabada. El Mesón is located immediately east of the town along the highway in the floodplain of the Tecolapan River which flows west out of the Tuxtla Mountains and through the RAM survey area before flowing into the Rio San Agustín (Figure 2.2).. The entire survey area lies below 20 m above mean sea level (INEGI:1995).

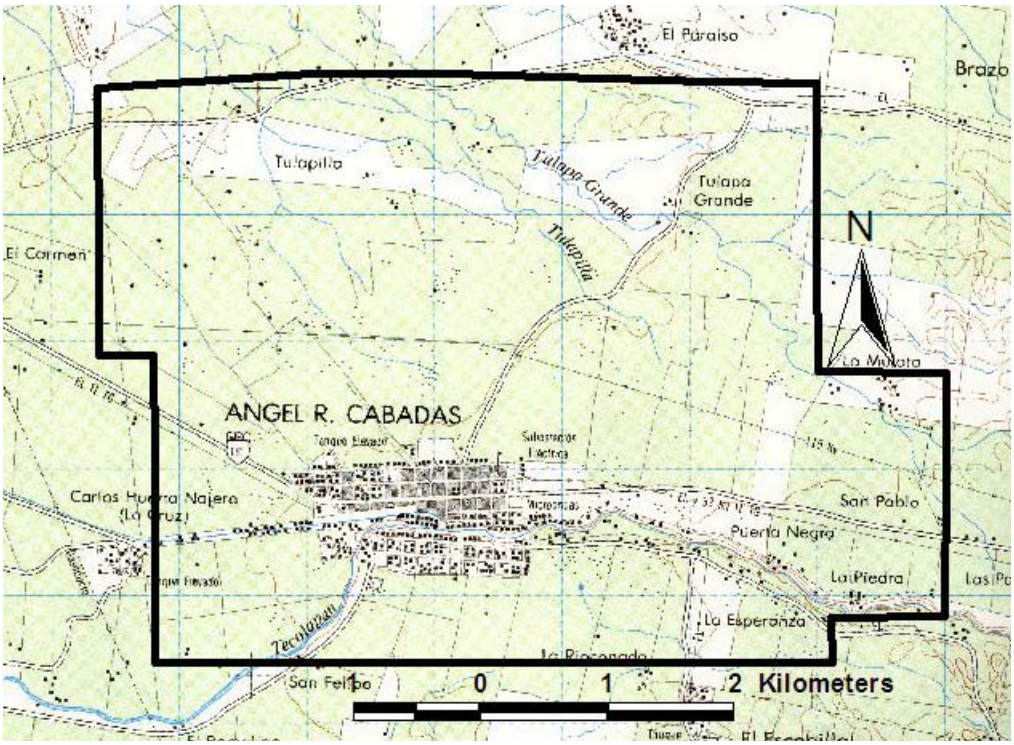

Figure 2.1. Portion of INEGI 1:50,000 scale Carta Topografica Lerdo de Tejada showing location of Angel R. Cabada and RAM Survey Area.

Figure 2.2. Portion of INEGI 1:250,000 Coatzacoalcos Carta Topográfica showing location of El Mesón.

The area can generally be described as a hot moist lowland environment with mean temperatures ranging between 22 and 26 degrees centigrade. (Gómez-Pompa 1973: Figure 3; Soto y Gama 1997:Apéndice 1.2). Frost is unknown in this portion of Veracruz and maximal temperatures exceed 40º C in the summer (Soto y Gama 1997: Cuadro 1.4, Apéndice 1.2). The region receives 2000-2500 mm of precipitation annually (Gómez-Pompa 1973:81 Figure 6), the majority of which falls between June and November (Soto y Gama 1997:Apéndice 1.2). Prior to clearing, this climatic regime probably supported high evergreen or semi-evergreen selva vegetation (Gómez-Pompa 1973:106,110-111, 114). Today the area around Cabada is known as a sugar cane growing region, and this provides most of the economic base for the people who live there. Soils throughout the RAM survey area have been classified in the FAO-UNESCO soil classification system (1971-1978) as luvic phaeozems. These soils are characterized as "dark coloured soils rich in organic matter with deep leaching of carbonates…" and capable of "…very high biomass production" (Bridges 1997:56, 109).

This environmental setting would have provided a wide range of subsistence resources for the residents of the region. Recent research indicates that domesticated maize was in the southern Gulf lowlands by approximately 5000 B.C. (Pope et al. 2001). By the Early Formative period, rainfall maize agriculture was a feature of Olmec subsistence practices (VanDerwarker 2006; Borstein 2000), however Pool (2007:73) notes that there is some debate about the degree of maize's importance relative to other foodstuffs (Arnold 2000). By the Middle Formative period, rainfall maize agricultural systems were firmly in place and the Olmec were increasingly reliant on maize (Rust and Leyden 1994:192-194). The use of maize as a staple would continue to characterize

subsistence patterns in the area (and Mesoamerica generally) throughout the prehispanic period until today. In addition to maize, beans and squash, the other two Mesoamerican staples, were also present in the region by the Early Formative period (Cyphers 1996:66).

Agricultural production was augmented by a variety of plant and animal resources. Plant resources that have been identified archaeologically in the Tuxtlas include *coyol* palm fruits, *zapote mamey* (a fleshy fruit with a "…sweet, pumpkin-like flavor" [Pool 2007:75]), and avocado (VanDerwarker 2006:87-88). Animal resources that were exploited include a variety of fresh and saltwater fish, turtles and other reptiles, amphibians, and birds (see Pool 2007:76-77, Table 3.2 for a list of exploited animals) (Pope et al. 1981; Rust and Leyden 1994; Wing 1980; VanDerwarker 2003, 2006). Mammals that were consumed include white tailed and red brocket deer and two types of peccary. Smaller mammals including squirrel, opossum, rabbit, and dog were also consumed (Wing 1980; VanDerwarker 2006). At the Large Center San Lorenzo, Wing (1981) argues that dog was a significant source of protein.

El Mesón

The archaeological site of El Mesón comprises approximately 40 earthen mounds that extend east from the eastern edge of Angel R. Cabada along both sides of the modern Highway 180. The civic-ceremonial core of the site is located immediately adjacent to the town boundary, and it is possible that the growth of the town has obliterated portions of the site.

Previous Research at El Mesón

The first archaeologist to visit El Mesón was Mathew Stirling, who passed through the site in 1939 as part of his survey of stone sculpture from southern Veracruz (Stirling 1943). While at El Mesón, Stirling identified one monumental sculpture, Monument 1, a columnar basalt stela. Although he did not provide a detailed description or a map of the site, Stirling did comment on the number of mounds in the area, remarking "…it would appear that El Meson was a very important center in aboriginal times" (Stirling 1943:30).

El Mesón is next mentioned in the literature when Miguel Covarrubias published a drawing of Monument 2, the El Mesón Stela. This monument was recovered from the same area of the site as Monument 1 by local farmers. The monument was discovered in a face-down position. Rather than move the monument, the locals excavated a hollow under the monument to allow people to view the carving on its face (Scott 1977). This monument was later removed to the side of highway 180. Based on the style of the carving Covarrubias suggested that the monument dated to the Late Formative period. Presently this monument is located in the town plaza at Angel R. Cabada. In 1968 Philip Drucker published a second drawing of the monument, and suggested that it dated to the Classic period.

While he did not visit the site, Michael Coe (1965:679) commented on the density of mounds in the area around El Mesón. Coe (1965:679) states "The frequency of such [mound] groups is so great that one may drive for 11 km. along the road passing through the sugar fields near Angel Cabada and Lerdo de Tejada and never be out of site of mounds." Coe goes on to suggest that the El Mesón is located in "…one of the richest

archaeological zones in the world, probably having the highest density of pre-Columbian sites per square kilometer in Mesoamerica" (1965:679). Despite these descriptions, however, El Mesón continued to garner little archaeological attention.

Prior to the current study, the only collections of artifacts from El Mesón were gathered by John Scott who visited the site in spring of 1975, during his study of post Olmec art (Scott 1977). Scott (1977:124, Figure 4) provided the first map of El Mesón, although it was a simple sketch map lacking scale (Figure 2.3). Based on Stirling's (1943: 28-29) and Drucker's (1968:41) descriptions, Scott places the original location of Monuments 1 and 2 to the west of Mound B (Scott 1977:84). Additionally, Scott identified two new monuments, including Monument 3 an unworked piece of columnar basalt that was located to the north of Mound B, and Monument 4, a cylindrical altar that was reported to have come from the same vicinity as Monuments 1 and 2 (Scott 1977:85). Monuments 3 and 4 were not identified during the RAM survey. To aid in the dating of El Mesón's stone monuments, Scott made a collection of ceramics and figurines from the site. Based on comparisons of the El Mesón materials with Tres Zapotes, Scott argued that the primary occupation of the site dated to the Late and Terminal Formative periods, with smaller Middle Formative and Classic period occupations (1977:85-89).

One additional project has been carried out in areas near the RAM area. The Proyecto de Rescate Arqueológico Jimba 3D, directed by Ignacio León Pérez, was initiated in 2001 in advance of seismic petrochemical exploration. The project focused on an area of 356.19 km^2 between Tres Zapotes and Lerdo de Tejada. Eighty-two archaeological sites were documented during the survey, 15 of which were subsequently tested through the excavation of sounding pits. While the chronological resolution for the

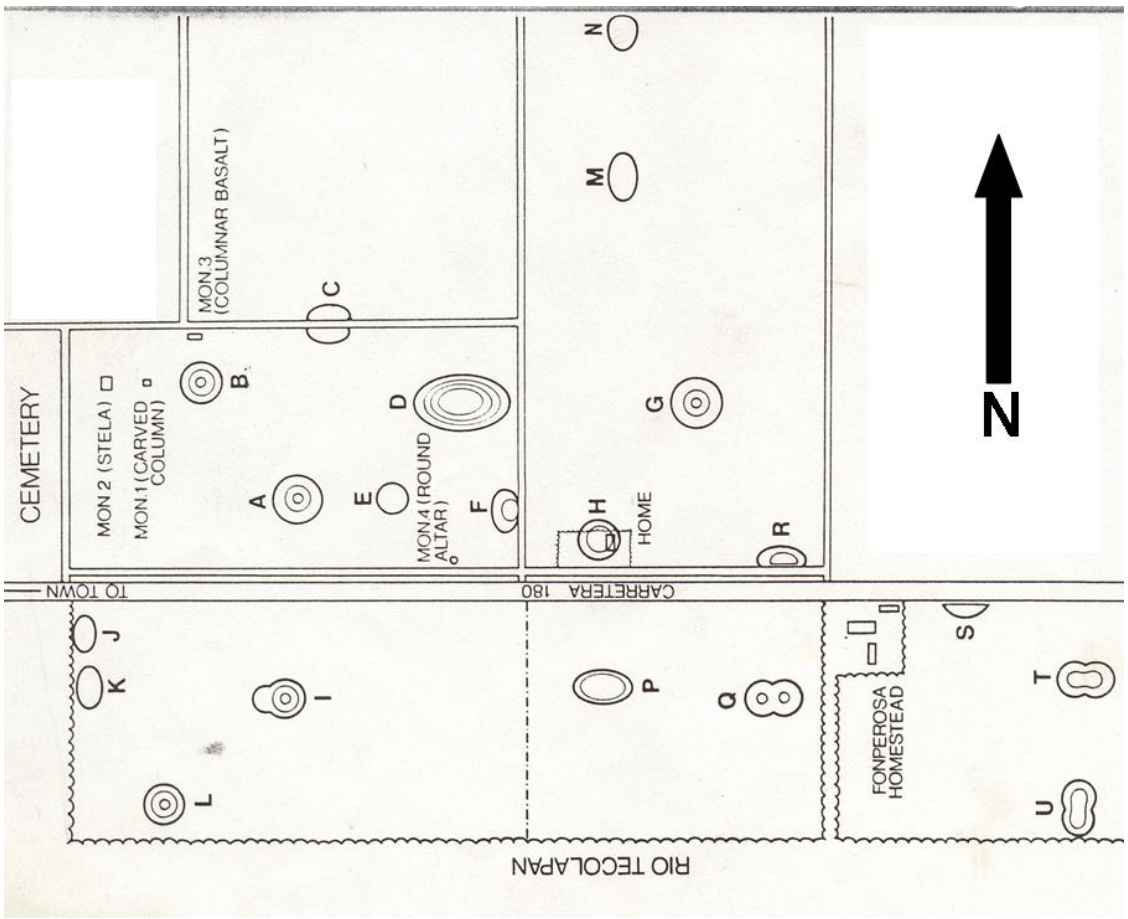

Figure 2.3 Civic-Ceremonial Complex at El Mesón (modified from Scott 1977, Figure 4:124).

Jimba 3D project was too coarse to provide detailed information about the dating of sites, the survey resulted in the identification of 82 archaeological sites dating from the Formative period through the Classic period (León-Pérez 2003). A total of 31 Formative period sites were identified. These sites reflect a dispersed settlement pattern with sites being located in low lying areas along rivers, swamps, and smaller arroyo systems. The majority of the sites are small and feature mounded architecture. Three Formative period sites, Casas Viejas A, Hacienda Vieja, and La Gallarda are all described as ceremonial

centers, with the remaining sites representing smaller domestic occupations with architecture under 5 m tall (León Pérez 2003).

Stone Monuments from El Mesón

To date four stone monuments have been identified at El Mesón, including two stelae, a round altar, and a piece of columnar basalt. Another stela has been associated with El Mesón, but the original location of the monument is unclear. In the following presentation, I keep with Scott who numbers the monuments in the order in which they were recovered. Where possible the other names are also listed.

El Mesón Monument 1(Angel R. Cabada Monument 2[De la Fuente 1973])

Monument 1 measures 12 feet (3.66 m) long and 2 feet (.61 m) in diameter, and tapers towards the top (Stirling 1943:28) (Figure 2.4). Carved in low relief across three sides of a natural basalt column, this monument depicts a standing human male with face in profile, shoulders in full view, and right foot in front of the left. The figure wears a cap or headdress and may have a belt and cape. On the figure's headdress is an oval motif with tripartite extensions. Scott (1977:98-99) associates these motifs with other Formative period monuments and art objects from Chacatzingo, La Venta, and other sites, and argues (following Joralemon 1971) that this motif has associations with maize and fertility. Below the figure is a scroll motif that he associates with similar bottom line motifs on Stelae 4 and 18 and Altars 3 and 20 at Izapa, and Stela 11 from Kaminaljuyu

Figure 2.4. El Mesón Monument 1 (photo Pérez de Lara and Justeson 2006).

(Scott 1977:97). Scott (1977:97) interprets this motif as the upper jaw of the Earth Monster. Pérez de Lara and Justeson (2006) note that this motif is an "EARTH" symbol and is stylistically more similar to depictions of the same icon in the Epi-Olmec script than any other Epi-Olmec monument. On El Mesón Monument 1, this motif serves as a base for the platform on which the central figure stands. Above the figure is fleur-de-lis motif with a hole in the center over a bar dot numeral six. Scott (1977:101-102) suggests that the fleur-de-lis may represent a day sign. The top line design is interpreted by Scott as a representation of the Sky Monster that is closer in style to Olmec depictions rather than Izapan (1977:102). Above this design is an oval motif that is interpreted as a ballcourt marker (Scott 1977:102; see also Cervantes 1976). Today this stela is on display in the Museo de Antropología, in Xalapa, Veracruz, Mexico.

El Mesón Monument 2 (El Mesón Stela 1[Pérez de Lara and Justeson 2006])

El Mesón Monument 2 is the most famous of the stone sculptures associated with the site (Figure 2.5. Recovered by local farmers in the 1950s this monument is a slab stela. The carved panel of the stela features two principle figures. The first is a standing personage wearing an elaborate headdress that appears similar to the headdress of the figure in La Mojarra Stela 1 (see Justeson and Kaufman 1993, Figure 2; Winfield Capitaine 1988). Additionally this figure carries two objects that appear to be staffs or weapons in his hands, and wears an elaborate costume that includes a cape and possibly a skirt. This figure stands on a platform with scroll designs that recall similar bottom-line designs in other Late and Protoclassic stelae including Monument 1 from El Mesón, Stela

Figure 2.5. El Mesón Monument 2 (photo Pérez de Lara and Justeson 2006).

D from Tres Zapotes as well as the stelae from Izapa (Scott 1977). This bottom line motif likely is a representation of the Earth Monster. To the figure's left is a smaller seated figure with an outstretched hand. The scene as a whole recalls the Alvarado stela where there is a similar depiction of a standing figure over a smaller seated one (Figure 2.6). In the Alvarado Stela the smaller figure's hands appear to be bound suggesting domination. On El Mesón Monument 2, the face of the standing figure has been obliterated, possibly the result of intentional defacement of the monument. After its initial find, Miguel Covarrubias drew this monument and commented that stylistically it was similar to late and Terminal Formative sculptures from Veracruz as well as Izapa (Covarrubias 1957: Figure 68 p. 91, 241). Although this drawing does capture the imagery in the stelae, Drucker and Scott acknowledge that Covarrubias' drawing includes some interpolation of the features of the two figures, giving each an Olmec feel. Drucker (1968) redrew the monument placing it temporally in the Classic period; however, and drew stylistic comparisons between this monument and Teotihuacan. Probably the most accurate drawing of the stela was made by John Scott, who drew it in 1975. Scott's drawing lacks the "Olmec" feel of Covarrubias's drawing and provides more detail than Drucker's rendering. However, Scott (1977:84) acknowledges that the placement of the monument near Highway 180, where it was exposed to rain and pollution from vehicle traffic, has caused the images to erode rapidly, obscuring much of the details of the figures. Today, this monument is located just outside the municipal offices in the town plaza at Angel R. Cabada.

Figure 2.6. Alvarado Stela (photo Pérez de Lara and Justeson 2006).

El Mesón Monument 3

Monument 3 is an unworked piece of columnar basalt that was identified at El Mesón by John Scott (1977:85). The monument measures 1.63 m in height,and was discovered north of Mound B where it had been deposited after being removed from a field (Scott 1977:85). According to Scott (1977:85), this monument was originally encountered standing with approximately 30 cm visible above the ground. This monument could not be relocated during the RAM survey.

El Meson Monument 4

Monument 4 is a cylindrical altar that was also identified by John Scott (1977:85). This monument measures 47 cm high and 90 cm in diameter and was identified along the side of an access road that paralleled Highway 180 in the main plaza of El Mesón (Scott 1977:85; 124, Figure 4). According to local informants, this monument was originally identified in the vicinity of Monuments 1 and 2 (Scott 1977:85). Like monument 3, Monument 4 could not be relocated during the RAM survey.

El Ingenio Monument 1 (Angel R. Cabada Monument 1 [De la Fuente 1973])

A third stela that has been associated with El Mesón, although its original find location is not known, is a columnar basalt stela known as El Ingenio Monument 1 (Figure 2.7). According to Scott this monument was recovered near the San Pedro Ingenio (sugar cane mill) after it was thrown from the back of a truck by looters during a chase with local police (Scott 1977:84). The monument is a columnar piece of basalt

measuring 2.25 m tall and weighing 3 tons (Fuente 1973:267-268). The bas relief image carved into this monument is a standing personage. The face is in profile and the shoulders are in full view. Like El Mesón Monument 1, the figure appears to be striding with the right leg in front of the left. The right arm is bent in front of the chest and the left arm hangs at the figure's side. The personage appears hunched over to the left and has an emaciated appearance. In describing this monument, Scott (1977:94-95) notes that the position of the figure as well as the execution of the image recalls the danzantes of Monte Albán and Stela 9 from Kaminaljuiyú. Based on these stylistic connections, Scott suggests that this monument is earlier than the other monuments from El Mesón, possibly dating to the middle of the Late Formative period (1977:112). This monument is now located in the Museo de Antropología, in Xalapa, Veracruz, Mexico.

Figure 2.7. El Ingenio Monument 1 (photo Author).

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CHAPTER 3
INTERPRETIVE FRAMEWORKS

This chapter focuses on the frameworks used to interpret the settlement pattern in the El Mesón area and to reconstruct the area's political and economic organization. Because the field method for this research is surface survey, the data generated are largely spatial in nature. Such data sets include locational and morphological information for architectural features and artifact concentrations and the artifacts recovered from surface collections. Thus, the interpretive frameworks used must be amenable to these sorts of data. In the following discussion I discuss two groups of related theory. The theories in the first goup are locational models.. Specific theories discussed include central-place models and heterarchy. The second group of theories is concerned with the use of settlement data address questions of sociopolitical organization. These theories include "bundled continua of variation," (deMontmollin 1989), factionalism, and the "dual-processual" model (Blanton et al. 1996).

Locational Models

Central-Place Theory

Interlocking Central-Place Systems

One of the most influential interpretive frameworks for using settlement data to address issues of political and economic organization is central-place theory. This body

of theory was developed within economic geography (Christaller 1966; Lösch 1954; von Thünen 1966), to model marketing systems. Although the intent of this theoretical orientation was explicitly economic in focus, central-place theory also has been invoked to examine political organization (e.g. Ball and Taschek 1991; Inomata and Aoyama1996). Santley (1994, 2007) has used central-place models to examine the political economy of Tuxtlas.

While several researchers are associated with central-place theory (e.g. Lösch 1954; von Thünen 1966), the models of Walter Christaller have had the largest impact in archaeological studies of economic and political systems. Christaller's models, which Santley (1994:245) has labeled "interlocking central-place systems." describe the hierarchical integration of rural markets with urban markets. Santley (1994:245) describes such systems as "…being organized as a network of hierarchical and horizontal relationships" where consumers at all levels of the hierarchy have access to all goods within the system.

At the core of Christaller's models is the notion that central places will be distributed across the landscape so as to maximize the number of consumers serviced by a particular market at any level within the hierarchy and to minimize the competition between central-places at the same level within the hierarchy. In considering the idealized models, Christaller posited an unbounded and featureless landscape where the population and material resources are homogeneously distributed (Smith 1976a:12). Smith (1976a:12-13) notes that, given these assumptions, two basic principles, range and threshold, will dictate the structure of the central-place arrangement. Range refers to the distance in which a consumer will be willing to travel to acquire a specific good (Smith

1976a:12). The premise for the range is that there will be a distance beyond which the consumer will not be willing to travel to acquire a good because the cost is greater than the demand. Threshold refers to the level of exchange a supplier has to generate to maintain their business (Smith 1976a:13). This concept is modeled as the area around the marketplace where there is sufficient consumer demand to meet this threshold. Thus, for marketing to be successful, the threshold must be equal to or less that the range for a given good (Smith 1976a:13).

The range and threshold of a particular good or service will vary. Some goods (high-order) will have much greater ranges and thresholds because they are rare, extremely durable and do not need to be replaced with great frequency, or are expensive to produce. Other goods and services will have smaller ranges and thresholds. Such goods tend to have high demand, lower cost, and/or must be replaced more regularly (low-order goods.

The hierarchical nature of interlocking central-place systems reflects the variation in range and threshold, as markets at various levels throughout the hierarchy will offer different goods and services. Generally speaking markets at higher levels in the hierarchy will offer the greatest range of goods. At the top of the hierarchy the market will offer both high-order and low-order. Moving lower through the hierarchy of central-places, markets will have less variation in their offerings. At the lowest levels the markets only low-order-goods will be available.

The spacing between market centers will reflect a desire to reduce competition between centers of the same size, but maximize the number of consumers being serviced. The spacing between centers is modled as being circular, however, as new market centers

are added to the system the spacing between centers at any level within the hierarchy will be reduced to a minimum distance based on the market's threshold (Smith 1976a:13). The resulting hierarchical system takes on a hexagonal lattice appearance with each hexagon representing the area serviced by a particular market at a particular level within the hierarchy.

Christaller defined three basic spatial patterns for interlocking central-place systems (Smith 1976a:20). These models are defined by a K value where K is "…the amount of territory in the hinterlands of lower-level centers that is encapsulated by the hinterland of the next-higher-level center" (Smith 1976a:19). The most basic pattern, K=3, is called the marketing landscape (Smith 1976a:20). Smith (1976a:20) characterizes this type of hierarchy as "maximize[ing] consumer travel efficiency and central-place competition by locating each lower-level center between *three* [author's italics] higher-level centers." She goes on to note that such an arrangement would be expected in areas with a dispersed, rural population where transportation systems are not highly developed (Smith 1976a:20).

The second of Christaller's models is the K=4 arrangement; the transport landscape. Rather than servicing a largely dispersed rural populations, the K=4 arrangement focuses on servicing populations that are living in the central-places themselves. Under such conditions goods come to market from specialized centers (Smith 1976a:20). In this arrangement lower-level centers are arranged so that each is between two higher-level centers, reducing the number of transportation routes between centers.

Christaller's third model, K=7, is called the administrative landscape. This arrangement subdivides an area into discrete hexagonal sections, where the central-place will be located in the center of each subsection. Lower-level centers will be oriented to only one higher-level center (Smith 1976a:20). Smith (1976a:20) notes that this arrangement is designed to divide an area into "administrative areas."

Irregular and Primate Central-Place Systems

In addition to Christaller's models, other researchers have identified other central-place systems that are organized differently than the interlocking systems. Such systems include bounded network systems and primate systems. These models have been used in the south Gulf lowlands by Santley (1994, 2007) to study the political economy of the Tuxtlas.

Santley (1994:244) describes bounded network system s as those where "…households or communities have links to a nodal center that allocates some specialties among them." Essentially, such systems function as closed systems where food producers are focused on a single central place, and there is little interaction between central places (Santley 1994:244). Because production is organized at the household level and most production is geared toward utilitarian goods, there is little or weak elite control over production and there are few economic specialists. Santley (1994:244-245). Unlike the other central-place models, the settlement hierarchy is weakly developed in bounded network systems.

Primate systems, in contrast, feature central places that are much larger than other centers within the hierarchy. Smith (1976a:30) suggests that the disparity of the size of the central place relative to the rest of the system is indicative of inequalities in servicing of some sectors of the system. Two of the best documented forms of primate organization are solar marketing systems and dendritic systems.

Solar marketing systems are characterized by an urban primate centralplace that has political as well as economic control over it's hinterland (Smith 1976a:36). Unlike other central-place arrangements, solar marketing systems do not have intermediate centers. Rather, large permanent markets are located within the primate center, and rotating markets are located in the lower-level settlements (Santley 1994:245; Smith 1976a:36-37). Santley (1994:245) argues that these systems result under conditions where there are full-time craft specialists, but the demand for goods does not permit full-time markets or full-time craftspeople outside of the central place. The consequence is that markets in the rural hinterland are periodic.

Spatially, the primate center for a solar marketing system will be centrally located in relation to the lower level settlements around it (Santley 1994:245). Elites would only be found within the primate centers (Santley 1994:37). Politically, Smith (1976a:37) describes these systems as resembling "feudal principalities." The spatial characteristics of these systems suggest tight political and economic control of the hinterland by the primate center.

Dendritic marketing systems feature a large primate center and a marketing system geared toward the export of goods outside the system. Santley (1994:246) notes that this focus stands in contrast to interlocking, network, and solar systems where the

majority of exchange occurs within the system. In dendritic systems, the hinterland areas are poorly serviced by the primate center. Lower-level centers within these systems function as collection points for raw materials bound for the primate center and as intermediate distribution nodes for finished materials bound for areas outside of the system (Santley 1994:246). Because of the monopolistic control exerted on the economic system, the primate center sets prices low on materials coming in from its hinterland. The result is that rural markets are poorly developed, and the majority of economic exchange is carried out within the primate center.

Spatially, dendritic systems have a size sequential settlement pattern where lower-level centers are located at increasingly distant from the primate as you more through the hierarchy (Santley 1994:247). Moreover, given the focus of these types of systems on exporting goods outside of the system, it is expected that central-places will be located along transportation routes (Santley 1994:247). Because raw materials are taken out of the hinterland, evidence for craft specialization should be largely found within the primate center. Production in the rural hinterland is expected to be organized at the household level and oriented toward production for domestic use (Santley 1994:247).

In applying these models to Classic period archaeological sites in the Tuxtlas, Santley used population estimates (based on area and intensity of occupation and number and variety of mounded architecture [Santley and Arnold 1996:228, footnote 2]) to perform a rank-size analysis (see Santley 1994:250; Santley et al. 1997:188-189 for a discussion of rank-size ordering). The results suggest a primate distribution. Using settlement data on settlement and data concerning ceramic production, Santley (1994) argues that during the Early Classic period, Matacapan headed a bounded network

economy. During Middle Classic period, the Tuxtlas political economy became dendritic (Santley 1994:261). Santley (1994:261) argues that the overall settlement pattern reflect a top down organization where the large center of Matacapan was established first then settlement spread into the hinterland where size of lower-ranking centers decreased with increased distance from Matacapan. Santley (1994:261) suggests that the economy of Matacapan, at this time, was oriented toward production for export out of the Tuxtlas to Teotihuacan.

Archaeologists have critiqued central-place theory based on its assumptions (e.g., Crumley 1976; Smith 2003:43-35), and Santley has been critiqued for his use of rank-size analysis (Smith and Schreiber 2006:16). With regard to the RAM survey, however, it is the scale at which central-place systems can be recognized that presents problems. Because modeling of such regional systems requires a regional view large enough to capture the majority, if not all of the, system, the application of central-place theory relies on having a thorough knowledge of a region's settlement system. While some areas of Mesoamerica (e.g. the Valley of Oaxaca, Central Mexico) have experienced sufficient survey to accurately model the regional settlement system, the Eastern Lower Papaloapan Basin has not. Rather survey in this area has been on a smaller scale than in these other regions. The result is that significant gaps in our understanding of the regional settlement system here are limited, and make the application of central-place models difficult. Considering that the RAM survey covers a relatively small area (27 sq. km), the window on the regional settlement system is too small for the application of central-place models.

Heterarchy

Dissatisfaction with hierarchical locational models such as Central-Place theory led Crumley (1979) to introduce the concept of heterarchy into archaeology. Borrowing the concept from the study of cognitive structures (McCulloch 1945), heterarchy allows for different organizational structures that may or may not be hierarchical . Crumley (1995:3) defines heterarchy as "…the relation of elements to one another when they are unranked or possess the potential for being ranked in a number of different ways."

According to Crumley (1995:3) studies of "*complex"* (Crumley's italics) society often construe hierarchy as indicating order. The result is that other forms of organization are not considered. Crumley (1995:3) states "This conflation of hierarchy with order makes it difficult to imagine much less recognize and study, patterns of relations that are complex but not hierarchical"

This is not to say that heterarchy is a rejection of the notion that hierarchical organization was a feature of past societies. Heterarchy provides for the possibility of other forms of organization. Rather than being in opposition, heterarchy subsumes hierarchy as one of a number of organizational possibilities. Moreover, hiererchies may be variable depending on the criteria used to evaluate them. For example, in the Commonwealth of Kentucky, the head of the political hierarchy is the capitol, Frankfort. However, if we were to use population, size, or economic criteria to create a hierarchy, Frankfort, despite its political clout, would rank behind Lexington or Louisville. Other heterarchical forms of organization may not have a hierarchical organization. For example, Potter and King (1995) argue that lowland Maya utilitarian ceramic and lithic economies were based on the lateral movement of goods from producers at small sites

located nearby to strategic resources such as clay or lithic raw material sources. In constrast, the economies of prestige goods were focused on the large centers where they were produced and then trickled down to elites living in smaller centers.

Moreover, heterarchy and hierarchy are not mutually exclusive. The organizational structure of a polity, for example, may feature hierarchical organization at some scales and heterarchical organization at others. In Olman, Tres Zapotes presents a good example of the integration of hierarchical and heterarchical organization. Pool (2008) reconstructs the Late Formative Period political organization as a confederation of faction leaders that shared governance of the site as a whole. While the structure of each faction is hierarchical, the sharing of site governance between faction leaders can been seen as heterarchical. This example illustrates that the assessment of hierarchy or heterarchy must be made in reference to a particular scale (e.g., intra-site, site, region, etc.), and that changing the scale may necessitate a reevaluation of organization.

Methodologically, heterarchy does not present a discrete archaeological pattern that contrasts hierarchy. Rather, it is more appropriate to consider heterarchy as a reminder that other types of organization are possible, and that archaeologists should not always expect hierarchy.

Integrated Interpretive Frameworks

Bundled Continua of Variation

Another interpretive framework that questions the a priori assumption of hierarchical organization is that of bundled continua of variation (de Montmollin 1989). Reacting to what he sees as a tendency to idealize and reify social or political types, de Montmollin (1995 11-16) argues that the use of social typologies leads to categorical thinking, which glosses over the internal processes that make up a political system. He states "This [categorical thinking] is a limiting way to conceptualize what may turn out to be a continuum of variation in variable values between polar extremes" (de Montmollin 1995:13). In short, the use of social types serves to oversimplify and generalize exceedingly complex and variable processes.

Drawing on the work of Easton (1959), de Montmollin (1995:16) asserts that one way of avoiding the pitfalls of social types is to break "multivariate social types" into constituent variables that can be measured along a "continua of variation." Examining how these continua covary allows for a more nuanced and sophisticated understanding of how political structure is organized and how political structures change. This perspective builds on earlier work by Blanton and his colleagues (Blanton et al 1981) who suggest that the evolution of societies is best studied by focusing on the "core" features of a society, including scale, integration, complexity, and boundedness. These core features function for Blanton et al. as continua of variation do for DeMontmollin.

In examining lowland Maya political structure , DeMontmollin (1995) evaluates the Rosario polity along five major continua of variation: segmentary versus unitary structure, pyramidal versus hierarchical regime, group versus individual stratification, mechanical versus organic solidarity, and segmenting versus non-segmenting organization.. For each continuum, settlement data are used to evaluate the Rosario polity through time. By looking at the clustering of evaluations along each continuum, DeMontmollin is able to reconstruct the settlement and political history of the Rosario polity and address how and why the polity changed over time.

Like heterarchy, bundled continua of variation should not be construed as an absolute rejection of the nested hierarchies that characterize many of the central-place models. Rather, this interpretive framework is an acknowledgement that many of the assumptions of central-place models are problematic. Instead of assuming that a hierachical structure will be present, the hierarchical structure must be demonstrated.

Methodologically, this framework is particularly useful for considering the types of data gathered during archaeological surveys. Architecture is particularly amenable for this type of analysis as variables such as height, area, spacing, etc. can easily be modeled as continua. Data relating to economic production such as production scale also can be easily considered using this framework.

Factionalism

In contrast to the other frameworks discussed here, factionalism explicitly emphasizes the role of political actors in the development and maintenance of political

and economic systems. At the core of this framework is the idea that the competition between leaders or aspiring leaders to attract a faction of supporters is a "force of social transformation" (Brumfiel 1994:3). Through this competition, political actors are able to parlay their success into political leadership.

Factions, according to Brumfiel (1994:4) are "…*structurally and functionally similar groups which by virtue of their similarity, compete for resources and positions of power or prestige*" (Brumfiel's italics). As a mechanism of political change, factions provide a base of support and legitimacy for leaders. The most successful political leaders then, are those that can out-compete their rivals and attract the largest faction of supporters.

The process of factional competition is not focused initially on achieving political power. Rather, the goal of faction leaders, variously referred to as "aggrandizers" (Clark and Blake 1994) or "accumulators" (Hayden and Gargett 1990) is to increase their personal prestige at the expense of their rivals (Clark and Blake 1994:17). The transformation of personal prestige into positions of political authority or power, at least initially, is epiphenomenal to factionalism. Clark and Blake (1994:17) state "…it [the development of social inequality] was a long-term, unexpected consequence of many individuals promoting their own aggrandizement." However, once faction leaders do rise to positions of political authority, maintaining their faction may be important to legitimizing their control.

How are these aggrandizers or accumulators able to build a faction? The answer to this question, in part, relies on understanding why individuals would support one leader or another. In short, people will support the faction leader that is best able to

provide benefits for them. Just as the faction leaders are motivated by self interest to build the largest faction, so too are faction members who will choose to support one leader or another based on what that leader can provide. The benefits leaders may provide vary, and could include access to nonlocal or high value goods, access to new technologies, protection from an enemy, or access to important deities or ancestor spirits (through ritual). For example, in the Soconusco, Clark and Blake (1994) argue that aggrandizers imported ceramic technology and maize as part of factional competition during the Early Formative period. In exchange the faction members may provide labor or other services (e.g., military service) to their leader.

Archaeologically, there are several indicators that are suggestive of factional competition. One is a decentralized settlement pattern with multiple civic-ceremonial complexes, each with an accompanying hinterland of domestic settlement. In cases where there is heightened factionalism, the expectation is that there may be no single complex demonstrably dominant over the others. Moreover, there may be some variability in the layout of these complexes, as faction leaders strive to distinguish themselves from their rivals.

Another indicator of factionalism is differential distributions of specific resources. Because faction leaders will provide their supporters with high value or nonlocal goods, discrete distributions of such artifacts is indicative of the existence of different trade networks. Presumably each leader would exploit a different exchange network than their rivals. Because there are no local obsidian sources in the ELPB, yet this material is ubiquitous in the archaeological record there, obsidian should be particularly reflective of different exchange networks. It would be expected that if obsidian from different sources

is available, different obsidian types would be associated with different factions. Clark (1991) has noted such patterning amongst Early Formative groups in the Mazatan region of the Soconusco. The same premise would hold for other nonlocal goods such as jade or greenstone, or imported ceramics.

Alternatively, faction leaders may control the distribution of resources by controlling its production. One way of doing this would be through attached specialists who work exclusively for a patron (faction leader), with the finished products being distributed by the faction leader to his or her supporters.

Other sources of prestige and/or power may leave other material signatures, thus the locations of shrines or temples associated with architectural complexes, differential distributions of ceremonial paraphernalia (e.g., censers, figurines, etc.), the use of specific civic-ceremonial architectural plans, and the architectural details of civic-ceremonial structures may also indicate a factionalized social environment. Moreover, monumental art that includes portraits or depictions of leaders and/or inscriptions recounting the deeds (literal or mythic) of leaders may also indicate factionalism.

Dual Processual Model

The dual processual model, which was first articulated by Blanton and his colleagues (Blanton et al 1996; see also Blanton 1998; Feinman 2001), was proposed out of dissatisfaction with traditional neoevolutionary approaches to social and political organization based on social stages. According to Blanton et al (1996:1) "Current neoevolutionary theory is inadadequate to the analysis of past social change because it

lacks a suitable behavioral theory and because its simple stage typology fails to account for variation among societies of similar complexity and scale." Rather than focusing on the movement of a society through evolutionary stages, the dual processual model emphasizes the strategies employed by leaders to build and maintain political power. This model is an agent-based framework that is also couched in political economy.

At the core of the dual processual model is the tension between two political strategies: exclusionary and corporate. The exclusionary strategy emphasizes personal prestige as a mechanism of achieving political power. Blanton et al. (1996:4) argue that this strategy is the result of the development, maintenance and growth of "individual centered" exchange with individuals or groups beyond the individual's own local group. These exchange ties allow for differential access to highly valued exotic items, marriage partners, and specialized knowledge, which translates into leadership among the local group (Blanton et al. 1996:4). The result is a dynamic political and economic landscape in which individuals compete with each other for these external relations and local political power. To compete successfully leaders must be able to control the flows of "prestational goods and followers (i.e., a faction) away from potential competitors (Blanton et al 1996:4).

According to Blanton et al. (1996:4) leaders control "*patrimonial rhetoric*" (*sensu* Weber 1978) and "*prestige-goods systems*" (following Friedman and Rowlands 1978). Patrimonial rhetoric is a system of vertical propaganda (Marcus 1992:11) used by leaders or aspiring leaders to attract and consolidate a faction of supporters, by extolling the genealogy, deeds, or social position of a leader. Through this propaganda, political actors exercise control over the mobilization of labor and material resources (Blanton et al.

1996:5). Moreover, leaders may also try to manipulate kin relations through marriage alliances to stem the flow of individual faction members to other factional groups by creating kin ties to these individuals (Blanton et al. 1996:5). However, the rhetoric is intended to extend beyond kin groups. Aggrandizers reinforce this patrimonial rhetoric through manipulating symbolic systems to sanctify and legitimize their political control. Commonly, artistic representations depict individual political actors involved in important historic or mythological events, which may or may not be of a religious character, or they may be portraits of individual rulers. In Mesoamerica the Olmec colossal heads and the stelae of the Classic period lowland Maya typify this sort of imagery (Marcus 1992:14).

Blanton et al. (1996:3) characterize political systems that are dominated by exclusionary strategies as wealth-based political economies. In these systems, political actors achieve local prominence and prestige by way of their interactions with nonlocal groups (through the trade of prestige items). *Prestige-goods systems* are manipulated by political actors to limit the access to specific resources by the populace at large (Blanton et al. 1996:5). This control may take the form of monopolies over the exchange of important resources, through restricting access to the raw material, the production of resources, or the access to markets (Blanton et al. 1996:5). The raw materials and goods that are circulated in these systems are exotic in origin, require complex technological knowledge to produce, or are labor intensive to produce (Blanton et al. 1996:5).

In addition to operating at the local scale, Blanton et al. (1996:5) also suggest that exclusionary strategies may be pursued at the regional scale between political actors in adjoining groups. This competition is a component of what Renfrew and Cherry (1986)

refer to as "peer polity interaction." Like the competition at the local level, this regional-scale competition favors individuals who can better manipulate long distance trade networks to provide and control the acquisition, production, and distribution of exotic high-value resources. Blanton et al. (1996:5) state "At this [regional] scale, the fragmented macroregional political landscape reproduces many of the same features of the network dynamic as smaller-scale systems, namely, fluidity, competitiveness, and an emphasis on individual skills in the establishment and maintenance of exchange networks." As part of these interactions, political actors make use of what Blanton et al. (1996:5) call an "international style." This international style serves as a symbolic set that would be understood across local political borders with the presumed purpose of identifying a particular political actor (Blanton et al. 1996:5). This "international style" may in some cases function as a system of horizontal propaganda (Marcus 1992:11) that was used by competitive regional political actors to identify each other. Alternatively, such styles may simply reflect participation in these exchange networks.

The corporate strategy emphasizes the cohesiveness of the group. For this strategy, personal prestige is not as important as the unity of the group as a whole. Thus the factionalism that characterizes exclusionary strategies is suppressed and group solidarity is promoted

At the core of corporate strategies is the development of a cognitive code that emphasizes group solidarity, and checks the development of competitive factions by deemphasizing the importance of personal prestige. Instead of patrimonial rhetoric, the corporate cognitive code emphasizes the interdependence of all of the subgroups within the society (Blanton et al 1996:6; Lamberg-Karlovsky 1985). One mechanism that

Blanton et al. (1996:6) emphasize as important in constructing such a cognitive code is ritual. In corporate strategies, ritual is concerned with universal themes such as fertility and renewal of the group as a whole (Blanton et al. 1996:6). This cognitive code allows for the inclusion of ethnically distinct groups in the system (Blanton et al. 1996:6).

Blanton et al (1996:3) characterize the corporate political strategy as based on a "knowledge-based" political economy. By this, the authors mean that political action is focused on the local group. Material flows are based on intergroup reciprocal obligations (Blanton et al 1996:4). In essence, the cognitive code emphasizes the interdependence of all members of the group to the success of the group. Thus, corporate dominated political systems have political economies based more on staple finance than wealth finance (Feinman 2001:160). The focus of the economy is the production of foodstuffs that are redistributed throughout the group. Consequently, prestige-goods systems are deemphasized, resulting in fewer wealth items and a more equitable distribution of those items. (Blanton et al. 1996:7).

The corporate strategy should not be taken as implying an egalitarian form of social organization. Although the cognitive code promotes group solidarity, this does not mean that there is no social differentiation between members of a society. Blanton et al. (1996:6) note that the ties of interdependence that unify subgroups within a society can also extend to the relationship between people of different social rank. The implication is that corporate strategies may be pursued by political leaders in socially differentiated hierarchical societies (e.g., Teotihuacán, Postclassic Maya states).

Because of the antagonistic nature of the exclusionary and corporate strategies, the dual-processual model has been critiqued as simply offering new subdivisions of the

well-worn categories offered in the neoevolutionary stages (e.g., exclusionary chiefdom vs. corporate chiefdom or exclusionary state vs. corporate state). Specifically, some confuse (with some reason) the dichotomy of corporate and exclusionary strategies as implying that the two are mutually exclusive. In his commentary on Blanton et al. (1996) Clark (1996:52) characterizes the dual processual model as replacing previous approaches with "…[political] actors capable of only pursuing one or the other of two mutually exclusive strategies [exclusionary or corporate]." Some of this confusion is clearly warranted, as in their discussion of the model, Blanton et al. (1996) present the Mesoamerican cultural historical record as a series of pendulum swings between exclusionary strategies (e.g., the Olmec and Classic period Maya) and corporate strategies (e.g., Formative Maya, Teotihuacán) (see also Blanton 1997; Feinman 1995, 2002). Despite this presentation however, the authors are clear that that both strategies may be applied in varying degrees in any society at any time. Blanton et al. (1996:5) state "Although either the corporate or exclusionary strategy may dominate the political process of a social formation at any given time, elements of both may coexist, and cyclic change between forms may be found." This confusion may in part result from a perspective that sees exclusionary and corporate strategies as operating as a single continuum where "pure" exclusionary strategies are counter-posed with "pure" corporate strategies as the endpoints (Figure 3.1). The result is that: 1) a society is characterized by the strategy that predominates and often the role of the minority strategy is not equally considered; and 2) there is little or no consideration of how these two strategies may operate at different scales within the same society (e.g., regional vs. local). Thus, societies like the Olmec or the Classic Maya are essentialized as exclusionary with little

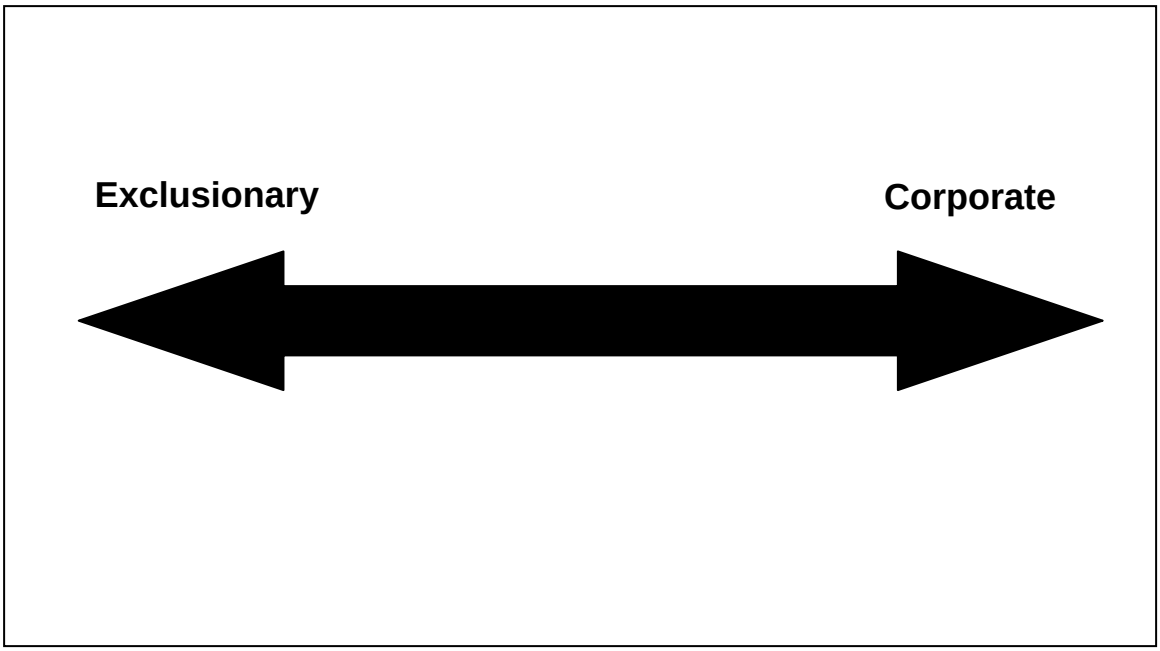

Figure 3.1. Exclusionary vs. Corporate Strategy Continuum.

regard for the roles of corporate strategies to the overall political-economic system. Under this view the dual-processual model does only yield new subdivisions of societies that can be incorporated into existing typologies (e.g., an exclusionary or corporate chiefdom). However, in laying out this corporate-network dynamic, Blanton et al. (1996:1-2) are emphatic that the dual-processual model is concerned with elaborating a "political behavior theory of social change" not the creation of static types. To avoid this potential pitfall, it is necessary to reconceptualize the exclusionary/corporate dynamic. Rather than viewing the particular political strategy pursued in any society as inhabiting a point along a single continuum, we should consider the exclusionary and corporate strategies as two lines of independent but related variation (Pool personal communication). This conceptual framework is similar to De Montmollin's (1989) "bundled continua." However, under the model adopted here, exclusionary and corporate strategies are not viewed as completely independent of each other. Rather, if both

strategies are present in some degree in all societies, there is a potential for these strategies to be combined in myriad ways. Pool (2008:123) argues that the "tension" between exclusionary and corporate strategies "…constitutes a critical force for political change." The decisions concerning how these two strategies will be combined are situational and specific to any polity at a particular place and time. While it is expected that one strategy will be dominant, the other may also be pursued. For example Pool (2007:287) observes that while the Colossal heads and elaborate elite residences at San Lornzo indicate the importance of exclusionary strategies, corporate strategies are also evidenced by other sculptures (e.g., animals) and the offerings at the shrines of El Manatí and La Merced.

The ways in which exclusionary and corporate stategies are combined may change from one scale of society to another. Just because network strategies dominate at the level of site governance does not mean that corporate strategies may be more prominent for intrasite relationships. Pool's (2008) reconstruction of Tres Zapotes' political organization during the Late Formative period illustrates this point. At the scale of site governance, the Tres Zapotes polity was controlled by a confederation of elites that shared power. However, these leaders rose to prominence at the site by attracting their own factions of supporters. Thus, corporate interests prevail at the level of the center's governance, and network strategies operate at the level of the faction. Even at the level of the faction, it is reasonable to expect that some degree of corporate strategy will also be pursued to promote faction unity and curb the defection supporters to rival factions. Factionwide rituals would be one expression of this strategy.

A clearer picture of a society's political organization emerges if these lines of variation are seen as intersecting with one axis representing exclusionary strategies and the other representing cooperative strategies (Pool personal communication) (Figure 3.2). Thus, any point within the grid will reflect the degree of combination of both strategies, at a particular scale. The emphasis on scale is significant, as the pervasiveness of one strategy at a particular scale does not mean that the same combination of strategies will be pursued at higher or lower levels.

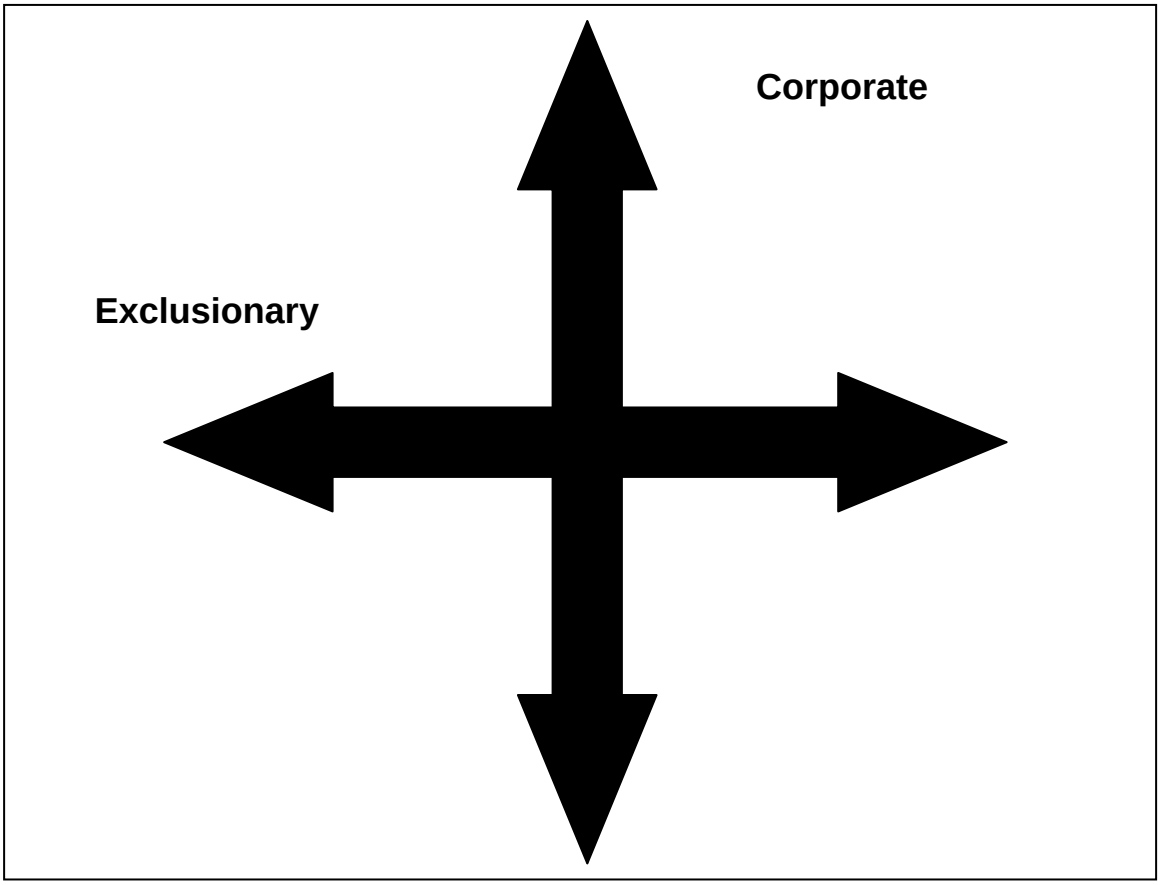

Figure 3.2. Exclusionary and Corporate Strategies as Intersecting Continua.

Archaeological Correlates

Because exclusionary and corporate strategies have different political foci, they produce different archaeological signatures. Exclusionary strategies, which are geared toward the legitimation of individual political actors at the expense of their rivals, should reflect this dichotomy of "haves" and "have-nots." Pronounced wealth distinctions reflect the differential access to exotic goods that the leader provides his supporters. This differential access may also be inferred from the location of settlements along important trade routes or near sources for high-value raw materials (e.g., obsidian, jade, etc.). Additionally, political leaders may control production through the patronage of attached craft specialists (Brumfiel and Earle 1987) who are located near the leader's residence, and work exotic raw materials into finished goods for use by political leaders and their faction. Also, the establishment of a patrimonial rhetoric will be evidenced by imagery focused on individuals and their actions. Architecturally there should be pronounced distinctions between the leader and his followers. Specifically it is expected that the leader's house will be larger and more elaborate than his supporters' and potentially his rival's. Additionally the overall settlement pattern should reflect the consolidation of political power by successful political actors. This consolidation will be evidenced by centralized hierarchical settlement pattern. Under conditions of multiple competitive actors, it may be possible that the settlement patter will reflect this competition by the presence of pockets of centralized settlements attached to particular leaders surrounded by zones of less consolidated settlements serving as buffers. In these buffer areas, the competition between actors would be particularly intense as, the allegiance of these unattached settlements would be courted by multiple competitors.

In contrast, corporate political strategies should reflect group unity. To that end the differential access to specific goods and materials seen in exclusionary systems should be reduced in societies dominated by corporate strategies. Thus wealth distinctions should be minor among individuals of the same social rank. Blanton et al. suggest that throughout the society as a whole wealth distinctions should not be great. Craft production is expected to be focused more on utilitarian goods than high-value goods. Moreover, because craft specialization is expected to carried out by independent specialists, the loci of production are expected to be located away from elite residential precincts. Rather than promoting important individuals, artistic imagery is "faceless" focusing on themes of renewal and unity. In terms of settlement patterns, individual residential units will show little variation in their size and elaboration among individuals of the same status. Rather than large elaborate residences, the largest structures will be public or religious in function (e.g., temples). In addition, architectural complexes will be oriented toward public spaces such as large, centrally-located plazas that would be used for mass gatherings of people.

The Dual Processual Model and the Southern Gulf Lowlands

In considering the Early and Middle Formative periods in Mesoamerica, Blanton et al. (1996:8) argue that exclusionary strategies predominate. The establishment of long distance trade networks based on high-value prestige items, the use of an international style during the Early Formative periods (in the form of so-called Olmec or X Complex motifs[see Grove 1989]), and the focus of artwork on the individuals (e.g., Olmec

colossal heads) suggest exclusionary strategies (Blanton et al. 1996:8). Additionally, Blanton et al. (1996:8) suggest that the location of prominent sites in ecologically marginal areas that are along important trade routes also indicates the dominance of exclusionary strategies (although this characterization of Olman as marginal is an overstatement). Other aspects of Olmec culture, including, nonportrait sculpture, shrines, and massive offerings, suggest that corporate strategies also had a place in Early and Middle Formative Olmec society (Pool 2007:287; Stark 2000). Moreover, in smaller viallages located away from the large Early and Middle Formative centers, corporate strategies may have been pursued over exclusionary strategies (Pool 2007:287).

During the Late Formative and Protoclassic periods, however, Blanton et al. (1996:9) argue that the use of exclusionary strategies wanes and more emphasis is placed on corporate strategies. The authors argue that the decline in representations of rulers in figurines and art objects, and the emphasis placed on communal ritual (particularly in the Maya lowlands) indicate that corporate strategies began to predominate. In the Gulf lowlands, however, the archaeological data suggest that exclusionary strategies persisted, and possibly became more pronounced. Whereas in other areas of Mesoamerica, such as the Maya lowlands, Late and Terminal Formative period imagery shifted away from portraying individuals, in the Gulf lowlands Epi-Olmec art has elements derived from the earlier Olmec sculptural style (Pool 2000). In some Late Formative and Protoclassic monumental art, including La Mojarra Stela 1, the Alvarado Stela, and El Mesón Stela 1 and Stela 2, the theme of individual portraiture persists. Moreover, the development of the Long Count and Epi-Olmec script allowed not only for the images of important rulers to be captured, but also for their acts to be recorded in text, and placed within a historical

framework. La Mojarra Stela I, for example, portrays the Protoclassic ruler Harvester Mountain Lord, according to Justeson and Kaufman (1993, 1997). Although not universally accepted, Justeson and Kaufman (1993, 1997) interpret the accompanying text as describing many of Harvester Mountain Lord's acts, including autosacrifice and the military defeat of a rival (see Houston and Coe 2003 for critique of this decipherment). In the nearby Mixtequilla, Barbara Stark (1997:288) suggests that during the Late and Terminal Formative periods, there was a contraction of ceramic style zones which corresponds to regional population growth and a "growing number of political domains."

At Tres Zapotes, Pool (2008) argues that both exclusionary and corporate strategies were important to the Late Formative and Protoclassic political organization of the site. The political structure of the site featured three to four large factions whose leaders shared power at the site. The architecture of the major complexes at the site indicates the integration of exclusionary and corporate strategies. The replication of the TZPG layout in the major complexes, the temporal overlap of these complexes, and the lack of a dominant complex, all reflect the corporate strategies that led the faction leaders at the site to share power. The inclusion of elaborate elite residences within the TZPG complexes reflects the importance of the personal prestige of the individual faction leaders.

The integration of these strategies is also suggested by the corpus of Monumental sculpture at the site. Unlike the stelae from El Mesón, Alvarado, and La Mojarra, the Epi-Olmec stelae from Tres Zapotes do not feature portraiture of living people (Pool 2008:145, also see Pool 2010). However, the reuse of earlier Olmec monuments,

including the colossal heads, in the major civic-ceremonial complexes, indicates that faction leaders legitimized their positions by using these images of former rulers (i.e., patrimonial rhetoric) (Pool 2010:124)

During the Protoclassic period, the corporate ties that underlaid the shared governance of the site began to fray, and factionalism intensified. The best evidence of this shift is the alteration of some of the TZPG complexes through additional construction episodes that included the reorientation of some complexes, as well as new structures (Pool 2008:127, 141). The alterations reflect a rejection of the Late-Formative symbols of shared power (the TZPG layout) and new emphasis on leaders distinguishing themselves through their building programs.

Summary

This analysis of the political organization of the El Mesón area focuses on how exclusionary and corporate strategies were employed by political leaders in the area. Because architecture is an expression of political ideology, analyses of the location, form, function, and organization of architectural complexes can be used to infer political strategies. Moreover, changes in architectural programs over time reflect shifts in the combination of these strategies. My intent is not to simply characterize the political organization of the RAM area at any one point in time as either exclusionary or corporate, nor is it to model changes in political strategies over time as pendulum swings between the two strategies. These types of characterizations reduce exclusionary and corporate strategies to static types. Rather, I address how both strategies were employed at the regional and local levels for governance and how the combination of these

strategies shifted over time. Moreover, this analysis complements Pool's (2008) work at Tres Zapotes by offering a perspective on the use of exclusionary and corporate strategies by intermediate political leaders at a secondary center.

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CHAPTER 4
SETTLEMENT PATTERNS AND SURVEY

Because the RAM study area was poorly known archaeologically, in addition to answering questions about the evolution of regional political and economic systems, the RAM survey was designed to also provide basic data on the regional settlement pattern. These data include: 1) how many architectural features and artifact concentrations were located in the survey area; 2) How were features distributed throughout the survey area; 3) when did settlements in the area develop and decline 4) how are individual architectural features and artifact concentrations associated; and 5) how do settlements in the RAM survey area compare to other nearby regions (such as the Central Tuxtlas and the Mixtequilla). Given the nature of the research questions, a settlement survey would provide the basic data outlined above, as well as data regarding political and economic organization.

Archaeological Survey

Archaeological survey refers to a set of methods designed to provide basic locational, temporal, and spatial data on archaeological resources. In its most basic application, survey consists of walking the survey area and identifying archaeological resources on the surface (reconnaissance). However, subsurface testing programs, such as shovel testing and augering, that provide baseline data about the depth and extent of subsurface archaeological deposits, are also included in survey. Nance (1983:289) notes that "Survey has been an integral part of archaeology practically from the outset." As

survey became a more prominent feature of archaeological investigation, various techniques were developed and refined for carrying out survey projects more efficiently and with better data recovery.

Because the reliability of settlement pattern data is largely dependent on the methods employed by the researcher, the research design for survey projects must be tailored to the research questions being asked. In considering survey methods, three primary issues present themselves. The first concerns the basic unit of analysis. Specifically this question relates to issues of site identification and definition. At issue is the appropriateness of the site as the basic unit of analysis. The second issue is the level and intensity of coverage. This issue can be broadly phrased as "full coverage" vs. a representative sample, but it also is concerned with the intensity of ground coverage as measured by the spacing between transects or sampled survey blocks. The third issue deals with how archaeological materials will be collected. Depending on the questions being asked, one strategy for collecting and documenting archaeological resources may provide better results than others. The following discussion addresses each of these issues separately. The intent is to review the decision-making process that led to the methods used for the RAM survey. The RAM methods are then presented in the following section.

Site based vs. "Siteless" Survey

A first methodological issue concerns the unit of analysis. At issue is the definition and recognition of sites as the basic unit of analysis for archaeological survey.

Dunnel and Dancey (1983:271) note that because the "site" is such a core concept in archaeology that the definition and use of the concept are rarely critically examined. That is to say that the definition and application of the concept have varied greatly archaeologist to archaeologist and project to project. In reviewing various definitions of "sites," Gallant (1986:408) points to three primary problems with site definitions: 1) the use of the concept is not critically evaluated; thus any datable archaeological remains on the landscape are sites; 2) that definitions are "correct but vague" resulting in difficulties in distinguishing sites from background noise in instances where artifacts have a continuous low-density distribution across the landscape; and 3) that definitions that are based on rigid criteria may leave out important archaeological resources, particularly if they are low-density. Despite these criticisms site-based surveys continue to predominate. In the Southern Gulf Lowlands, the majority of settlement pattern surveys have been site-based (Borstein 2001; Daneels 1997, 2002; León Pérez 2002; Santley and Arnold 1996; Santley et al. 1997; Stoner 2011; Symonds 1995; Symonds and Lunagómez 1997; Symonds et al. 2002).

One way to avoid the potential pitfalls of the site concept is to replace the site as the basic analytical unit with lower-order units of analysis, such as the feature or artifact concentration. This strategy has been labeled "siteless" or "off-site" archaeology (Dunnel and Dancey 1983; Folley 1981 Gallant 1986:409). Rather than view the landscape as a series of discreet sites separated by interstitial spaces, "siteless" techniques see the survey universe in terms of distributions of artifacts or features, with some areas having higher densities than others. This technique has advantages in situations where long term or multiple occupations of the same area overtime create a relatively

continuous scatter of artifacts, obscuring site boundaries. In these situations siteless techniques allow for the variability in the settlement history of an area to be considered (Stark 1990:44). Similarly, Gallant (1986) argues that siteless methods provide a medium through which sites can be distinguished from background noise (low-density continuous artifact scatters) on the landscape.

The use of siteless techniques should not be taken as a rejection of the site concept. Rather these techniques provide a method for evaluating the archaeological record prior to the designation of site boundaries. That is to say that site boundaries need not be defined in the field. By using siteless techniques, the data can be collected in the field and analyzed, and then site boundaries can be drawn if they usefully describe the archaeological record.

While not as common as site-based surveys, siteless techniques have been applied to the southern Gulf Lowlands. In the *Proyecto Arqueológico la Mixtequilla* (PALM), Barbara Stark used a siteless technique to survey 40 sq. km around the large center, Cerro de la Mesas (Stark 1991, 1997, 1999). Her decision to use siteless methods was based on the nature of the archaeological record in the Mixtequilla, which is characterized by continuous distributions of artifacts and architectural features across the landscape. The problem with site-based methods in such situations is the placement of site boundaries. She states "For our purposes, it was impossible to treat all areas with scattered artifacts as 'sites'" (Stark 1991:44). One solution to this problem is to define the entire area as a macrosite and separate internal temporal components. However, Stark (1991:44) notes that in the Maya region where this practice is more common, the difficulty in drawing adequate samples to date architectural features makes the temporal assessment of the

internal components and their spatial distribution difficult. Moreover, she (Stark 1991:44) also indicates that while the practice of identifying macrosites in the Maya area may reflect a large site and its sustaining hinterland, this assumption may not be appropriate for the Mixtequilla, where there are "distinct settlements within the background 'noise' of the total prehistoric cultural remains." If the area is defined as a large macrosite, the distinction between settlements may be obscured.

To avoid this potential confusion, Stark opted for a siteless technique that focused on the identification of architectural features and artifact concentrations. By considering each feature or concentration as the base unit of analysis, the ubiquitous distributions of features and artifact concentrations was manageable and allowed for a more detailed analysis of the growth and decline of settlements in the region. Siteless techniques have also been used with great success in the Hueyapan region of the Tuxtlas Mountains (Killion and Urcid 2001).

A final issue concerning the use of site-based versus "siteless" survey techniques is the potential bias that the strategies have on the archaeologist's perception of the settlement pattern. This issue is largely related to the methods used in each type of survey. For site-based surveys, because the basic analytical unit is the site, the distance between transects is often greater than in "siteless" surveys, typically varying between 50 and 100 m. The consequence of this spacing is that small housemounds, which often measure approximately 20 m in diameter (Stark 1991:42; Winter 1976:228) may not be identified because they may occur in the areas between transects (see discussion below for more details). The result is that these household-scale features may be underrepresented in these surveys (Daneels 2002:109-122; Pool 2006:209; Pool and

Ohnersorgen 2003:14). The effect of this lack of visibility is that areas between larger architectural complexes may not be identified as having evidence of settlement, and may be excluded when site boundaries are drawn. Thus, the overall settlement pattern will appear to be more nucleated, with discrete sites separated by areas with no settlement.

"Siteless" techniques in contrast, often use a smaller spacing (e.g., 20 m) between transects because the basic units of analysis are artifact scatters and architectural features. Thus, this technique is more sensitive to smaller household-scale features. Consequently, "siteless" methods will also be more sensitive to settlement patterns characterized by continous distributions of settlement where larger formal architectural complexes are interspersed with areas of lower density domestic occupation and there is little in the way of discrete site boundaries.

For the southern Gulf lowlands, the potential biases of these techniques are best illustrated by the differences in the settlement patterns in the central Tuxtlas and the Mixtequilla. The Tuxtlas survey, which used a site-based strategy, has a more nucleated settlement pattern characterized by discrete sites (Santley et al. 1997). The Mixtequilla on the other hand, was surveyed using a siteless technique and features a settlement pattern characterized by a continuous distribution of architectural features and artifact concentrations (Stark 1991:44, 1999:198). At issue is the question of whether the discrete settlement pattern of the Tuxtlas is real or if it is an artifact of the site-based survey strategy. Pool (2006:209) argues that the only way to test this proposition is through surveys that focus on the smallest units of analysis (i.e., household-scale data). Moreover, because "siteless" strategies do not rely on drawing site boundaries in the field, they do not have a bias toward identifying discrete, nucleated settlements.

However, if settlements are discrete and nucleated, this pattern should be identifiable through analyses of the distribution of architectural features and artifact concentrations.

Full Coverage vs. Probabilistic Sampling

The two techniques of archaeological survey are "full coverage" strategies and probabilistic sampling strategies. "Full coverage" survey, simply stated, is a survey strategy by which the entire project area is systematically investigated at a consistent intensity (Fish and Kowalewski 1990:2). Full coverage survey is described by Fish and Kowalewski (1990:2) as "…an actualization of the basic survey paradigm, the settlement pattern, insofar as that pattern is expressed by observable surface remains." Within this framework, however, there is considerable variation in the intensity (as measured by interval or transect spacing) of coverage from one project to another. This variation is largely related to differences in the scale of the phenomenon that archaeologists try to find. Smaller phenomena will require tougher spacing and larger phenomena will require broader spacing. For example, surveys focusing on household–scale data will require a transect spacing small enough (e.g, 20 m) to allow housemounds to be identified (e.g., Stark 1991). For larger phenomena, such as centers, the transect spacing may be expanded to hundreds of meters (e.g., Daneels1997, 2002). Parsons (1990:11) notes "What is full coverage for one archaeologist could well be something less for another." Regardless of how the full coverage survey is operationalized the basic premise of the technique is the same, to identify all archaeological remains of a specific type, or types, within the survey area.

The advantage of this technique is that rather than relying on a characterization of a region based on a sample of the survey area, full coverage techniques provide a complete view of the survey area. This level of coverage is necessary for specific types of statistical analyses, like nearest neighbor, and locational models like central-place theory, that deal with spatial relationships (see Kowalewski 1990). Additionally, full coverage techniques are more appropriate in areas where there is little or no previous knowledge of the type and extent of archaeological resources that will be present in an area. The drawbacks of full coverage surveys are that they can be both labor and financially intensive undertakings. Fish and Kowalewski (1990:3), however, argue that this is often a perception more than a reality.

It should be noted that the term "full coverage" is a bit of a misnomer. While the goal of "full coverage" techniques is to systematically investigate the entire survey universe, Cowgill (1990:254) notes that "full coverage" really refers to a systematic sampling strategy based on tight interval transects. The intensity of the coverage then is a function of the surface visibility, the spacing between transects, and the scale of the phenomenon the archaeologist seeks to find. A true "full coverage approach would require teams to cover the landscape shoulder to shoulder, a research design that would be operationally untenable.

The basic question when considering transect spacing is, "at what spacing can you expect to identify all of the archaeological resources of a certain size? The answer to this question will vary from project to project. However, a general rule of thumb is that, to insure that all cases or a particular phenomenon (e.g., sites, house mounds, etc.) are identified, the transect spacing must be small enough that at least on transect will cross

the boundary of that phenomenon. That is to say, then, that if household-scale data are required to answer certain research questions, and house mounds generally have a diameter not smaller that 25 m, then transects have to be spaced at an interval not greater than 25 m to be sure that all house mounds in the survey area will be identified. This example is a best-case scenario, as it is granted that issues such as ground cover, labor cost, and time constraints can and do impact the ability of a researcher to survey an area efficiently with acceptable data recovery. The final decision on transect spacing, then, will be a compromise between these factors.

"Full coverage" survey techniques have a long history in Mesoamerican archaeology. Arguably the most influential full coverage surveys were the Basin of Mexico Survey (Sanders, Parsons, and Santley 1979) and the Valley of Oaxaca Survey (Blanton 1978; Blanton et al. 1982; Kowalewski et al. 1989). The techniques used in these two survey projects have become the models for latter survey projects all over Mesoamerica. Beginning with Robert Santley and his associates' work in the Tuxtlas mountains (Santley and Arnold 1996; Santley et al. 1997), full coverage survey techniques have been applied over much of south-central and southern Veracruz. Full coverage techniques have been used by Daneels (1997, 2002) in the Cotaxtla Basin and by Stark (1991; Stark and Heller 1991) in the Mixtequilla region of south-central Veracruz. In southern Veracruz, full coverage methods were used by León Perez (2002) in the eastern lower Papaloapan basin and by Killion and Urcid (2001) and Stoner (2008, 2011) in the Hueyapan de Ocampo region and Tepango valley of the Tuxtlas mountains, respectively. In the Coatzacoalcos basin Stacey Symonds and Roberto Lunagómez (Symonds 1995; Symonds and Lunagómez 1997; Symonds et al. 2002) used full

coverage techniques in their settlement pattern study of the area around the large Olmec center San Lorenzo.

While full coverage as a technique has been the preferred survey method in the southern Gulf lowlands, the intensity of coverage has been more variable. Projects where smaller scale occupations were expected or there was an emphasis on recovery at the household-scale generally used smaller spacing between survey crew members. In The Hueyapan de Ocampo area, spacing between crew members was 10-20m (Killion and Urcid 2001:4). Around San Lorenzo crew members were spaced at intervals of 20 m (Symonds and Lunagómez 1997:151). This same spacing was used in the Mixtequilla (Stark 1991:42) in areas with good surface visibility. The spacing was expanded to 40-50 m in areas where there was low surface visibility. In projects where the identification of sites, not housemounds, was emphasized, broader transect spacing is more typical. In the Central Tuxtlas transects were spaced at 40 m intervals, a spacing closer to that used in highland Mesoamerica (Blanton et al. 1982:7; Sanders et al 1979:24; Santley and Arnold 1996:226; Santley et al. 1997:177). In the ELPB, León Pérez (2002) surveyed approximately 356 km^2 during the Rescate Arqueológico Jimba 3D using a 70 m spacing. This spacing was based on the distances between lines of subsurface seismic tests that were part of a much larger oil and gas prospecting program initiated by PEMEX, rather than issues of site or feature visibility. In the Cotaxtla Basin, Daneels (1997:209-212, 2002:109-125) used a transect spacing of 400 m during the initial phase of survey, then resurveyed an area of 13.52 km^2 using Stark's methods from the Mixtequilla, in order to get finer-grained data on settlement density. This resurvey indicated that broad transect sampling was appropriate for identifying large and medium-sized mound groups, as well

as small mound groups with architectural features less than 3 m tall. The broader spacing, however, was not as successful at identifying small habitation mounds and off mound artifact concentrations.

Pool and Ohnersorgen (2003: 9-12; see also Pool 2006:209) noted the same phenomenon at Tres Zapotes. Although this survey was of a single large site, rather than regional in focus, the results are instructive about the potential biases of transect spacing. The Tres Zapotes survey employed two strategies. The first was a systematic broad interval transect survey where a series of north-south oriented transects spaced 100 m apart were walked. Along each transect, surface collections measuring 3 × 3 m were made every 20 m along each transect (Pool and Ohnersorgen 2003:7-9). This method is similar in design to the methods used at Matacapan. The second strategy was more similar to the methods used in the Mixtequilla; focusing on the identification of architectural features and artifact concentrations. In this phase of the survey, transects spaced 20 m apart were walked. When architectural features or artifacts concentrations were identified, systematic 3 × 3 m surface collection were made every 20m along each transect within the artifact concentration or architectural feature (Pool and Ohnersorgen 2003:9).

The results of the Tres Zapotes survey indicate that each of these methods have different biases. The systematic broad interval transects were less successful for identifying off-mound artifact concentrations and low density artifact concentrations (Pool and Ohnersorgen 2003:9). Taller architectural features, and architectural features with greater breadth were more easily identified (Pool and Ohnersorgen 2003:12-17). Thus, low mounds and small artifact concentrations are underrepresented in surveys

using this method (Pool and Ohnersorgen 2003:14). That these features are underrepresented is a given, however, it is the degree to which they are underrepresented that presents serious issues to reconstructing and interpreting the settlement pattern. If a high percentage of these features go identified, then, reconstructions of the spatial extent and intensity of settlement, and interpretations based on these reconstructions will be affected.

In contrast, the tighter interval, full coverage technique, was more effective at identifying both low mounds and mounds with smaller extents on the axis perpendicular to the transect. Clearly this increased visibility is a byproduct of the closer transect spacing. However, this method tended to underestimate the extent of low-density artifact concentrations. Pool and Ohnersorgen (2003:9) suggest that in cases where there is a low-density "continuous background scatter of sherds," field crews often had difficulty discerning off-mound artifact concentrations from the "background noise" (Gallant 1986). In essence the archaeologists are desensitized by the low density scatter and fail to recognize denser artifact distributions.

Comparing the biases of these two methods, Pool and Ohnersorgen (2003:17) conclude that while the results of the two techniques are complimentary, the biases of the systematic broad interval method are more serious because of the underrepresentation of household-scale features, which can affect population estimates as well as reconstructions of social and economic systems. The tradeoff for the coarser grain of the data is that a greater area can be covered due to the broader intervals between transects. The choice of one method or the other should be based on the scale of data needed to answer particular research questions.

The other technique for regional survey is sample surveys. These techniques rely on probabilistic sampling (For a review of sampling strategies see Nance 1983; Plog 1976). The goals of sample surveys differ from the goals of full coverage techniques (Flannery 1976:132-136). In full coverage surveys the intent is to identify all archaeological remains of a particular scale within the survey area. Sampling, on the other hand, is designed to provide a statistically valid characterization of a survey area. The rationale for sampling in archaeological survey projects has often resulted from limited field time or funding. Generally speaking, if time, funding, and logistics permit, full coverage survey is always preferable to sampling. Cowgill (1990:250) states "To put it another way, it is most unwise to leave unexamined or only lightly examined any appreciable fraction of the region one is trying to understand." However, if the full survey area cannot be systematically surveyed, probabilistic sampling can provide a method to characterizing the area.

The only survey in the South Gulf Lowlands that has relied on a probabilistic sampling strategy is Borstein's (2001) survey of the San Juan drainage. Borstein combined judgemental sampling around known sites with a proportionate cluster sampling design to examine lowland vs. upland settlement in the area between the Lower Coatzacoalcos drainage and the southern foothills of the Tuxtla Mountains. Borstein first stratified the area into upland and lowland areas and then systematically placed 25 km^2 survey blocks according to the proportion that each ecological setting represented of the entire survey universe (upland 65%, lowland 35%). These survey blocks were then surveyed using transects with a 40-50m spacing. Additional judgmentally placed survey blocks were located around known centers, such as Laguna de los Cerros. Of the 800

km^2 universe, 109 km^2 of lowland area and 211 km^2 of upland area were surveyed (Borstein 2001:21).

The advantage of Borstein's research method is that it allowed for an efficient characterization of an extremely large survey area. In particular, the stratified systematic sample allowed for the comparison of settlement in both the lowland and highland ecological areas, and the changes in settlement to be tracked over time. Moreover, the relatively tight interval spacing between transects, and the large size of the survey blocks provides "full-coverage-scale" data for the individual survey blocks.

However, the use of probabilistic sampling in this survey does have some drawbacks. These weaknesses are more related to issues with probabilistic sampling in general than Borstein's use of sampling. One of the deficiencies of sampled data is that it is not amenable to studies that rely on spatial data such as the spacing of sites (Kowalewski 1990:39-41). Thus, sampled data cannot be used for some types of analyses such as central-place studies or catchments. Moreover, some statistical methods such as analyses of spatial clustering or nearest neighbor analyses are not possible because they rely on knowledge of the entire data universe (see Plog 1990:246 for a discussion of other spatial statistical methods that can be applied to sampled data).

A second potential weakness of sampled data is that it cannot be used to assess the role of sites in broader systems, such as political hierarchies or exchange networks. Kowalewski (1990:74-75) argues that in order to situate a site (or any other unit of analysis) within a broader system, you must be able to study the broader system. If the broader system cannot be known, then understanding the roles of specific units of analysis within it is not possible.

Sampling also presents difficulties for identifying unique or rare phenomena (Kowalewski 1990:41-47). Unlike full-coverage methods that are geared to identifying all units of analysis (e.g., sites, mounds, etc) of a specific scale (e.g., household) within the survey area, the goal of sampling is a characterization based on observations of a representative sample of the data universe. The expectation is that sites in the sampled area will occur in the same proportion that they represent in the total survey area (Flannery 1976:135). Thus, site types (or any other unit of analysis) that are rare may not be identified because they may be located in the unsurveyed areas. In some cases such sites may be obvious by their size, Teotihuacán for example (Flannery 1976:133-135). However, in the case of smaller sites, or in areas where there is dense vegetatation, such as the southern Gulf lowlands, it is possible that even primary centers may go unnoticed if they are not located within the sampled areas.

Artifact Collection Strategy

A third important methodological concern for survey projects is collection strategy. This issue concerns how artifacts are collected from surface deposits. At the most basic level this issue is important because for most sites it is logistically unfeaseable to collect every artifact encountered. Therefore, this issue is really a question of how best to sample the artifacts encountered during survey, taking into account, first, the data required to answer the research questions, and second, issues relating to the allocation of time, money, and labor for the collection, processing, analysis, and curation of materials. Like the other methodological issues discussed above, archaeologists have employed

varying collection programs. The most basic collection strategy is judgemental "grab" samples of artifacts. Under this strategy artifacts are simply collected opportunistically from a site. The desired intent is that the collection will provide basic chronological data regarding when the site was occupied. Given the unstructured nature of this strategy, however, establishing whether or not the sample is representative is difficult (Stark 1991:47). To establish site chronology, "grab" samples of artifacts may be sufficient; because of potential biases, however, they may not provide appropriate data for functional or activity-related analyses (Stark 1991:47). "Grab" samples of artifacts were collected by Daneels (2002:113) in the Cotaxtla Basin, Borstein (2001: 32) in the San Juan Drainage and by León Pérez (2002) in the ELPB. "Grab" samples were combined with systematic controlled collections in the Central Tuxtlas (Santley and Arnold 1996:226) .

Judgmental sampling has also been used in more systematic ways in some surveys. Around San Lorenzo, Symonds (Symonds and Lunagómez 1997:151) used a two-tiered collection strategy that combined "grab" samples of sherds from each site with controlled collections from each site. In addition to the "grab" sample, at least one judgmentally placed 3 × 3 m block was collected from each identified site. For sites with multiple components or large sites, multiple 3 × 3 m blocks were collected. (Symonds and Lunagómez 1997:151). In the Hueyapan de Ocampo area 30 chronologically diagnostic sherds (rims) were judgmentally collected from each identified locality (Killion and Urcid 2001:5). In both of these cases the role of the collections was to provide chronological information about the site/localities identified. Due to the nature

of how these collections were made, however, they are of limited use for addressing issues of activity areas or internal variation in the use the site.

Another strategy for surface collections is to systematically collect artifacts in consistent intervals along survey transects. This strategy has advantages over judgmental sampling in that it lends itself more easily to analyses of the distribution of artifacts across the landscape such as trend surface analysis. The drawback of this method is that the investment of time and labor to make the collections is high. Researchers must weigh the detail of this strategy against the desire to cover more territory. In most regional scale projects, the need for broad areal coverage makes systematic collection strategies, difficult to operationalize because the grain of the data collected will be coarser as the spacing between collection units increases. At too broad a scale (e.g., one collection per km), the data will be too coarse grained to provide much useful information. If collections are made at too tight a scale (e.g., every 10 or 20 m within a large survey area), the data are more fine-grained, but the areal coverage is sacrificed because of the higher labor investment.

Because there is generally a desire for more fine-grained data, systematic collection designs more typically are applied to intensive surveys of sites rather than regions. For example , at Tres Zapotes a systematic collections were made every 20 m along the systematic interval transects, as well as the architectural features at the site. In the Tuxtlas, Santley and his associates used a systematic collection strategy during the intensive stage of the Tuxtlas Survey (Santley andArnold 1996:228). During this stage of survey, 19 of the 188 sites identified during the extensive survey were investigated. Each site was surveyed by transects spaced at intervals of 40-75 m. At 13 m intervals along

each transect, a 3 X 3 m area was collected. It should be noted, however, that this systematic collection strategy is really geared more toward intrasite surveys than regional-scale projects.

A different strategy for collections was used in the Mixtequilla (Stark and Heller 1991:3). Rather than using "grab" samples or a systematic method, the collection strategy for the PALM survey focused on collections made from each architectural feature or artifact concentration identified. Because surface scatters of ceramics can be extremely dense, instead of collecting all sherds from each collection unit, only those sherds that contained the most information about vessel form, function, and age were collected. Thus, all rims, decorated sherds, or unusual sherds were collected until a maximum of 100 sherds was recovered. This strategy balanced the desire for collections to have sufficient numbers necessary for chronological analysis and to be representative collections (Stark and Heller 1991:3). This strategy also allows for the numbers of artifacts collected to be more manageable from a processing and analytical perspective, yet maintain the maximum information. Stark (1991:47) notes that because these collections did not focus exclusively on temporally diagnostic ceramics, the PALM collections are more useful for functional and activity analyses.

In addition to ceramics, all other artifacts were collected from each architectural feature or artifact concentration. The only exception was groundstone implements (e.g., manos and metates), which can be large, heavy, and difficult to recover from the field. When large pieces of groundstone, such as metate fragments, were identified, they were recorded then left in the field.

While the PALM collection strategy was an efficient method, it does have some weaknesses. One potential problem is that not all architectural features could be collected. Only architectural features with good surface visibility were collected. Because much of the region was in crops, most of the survey area was amenable to collection. In some cases, however, the surface groundcover was too dense to allow for surface collections. In these cases, no collections were made. A second issue with this collection strategy is that because the collections are not drawn systematically across the site, they are not amenable to some statistical techniques, such as trend surface analysis, that examine variability in ceramic densities across the area (Pool and Ohnersorgen 2003:8). Stark (1991:44) recognized this shortcoming and tried to compensate for it by using hand clickers to measure surface sherd densities in the areas between architectural features and artifact concentrations.

Archaeological Survey in Alluvial Settings

The location of the RAM area in the floodplain of the Arroyo Tecolapan presents some issues for archaeological survey. Because of this alluvial setting, there is a potential for the burial of mounds and artifact concentrations beneath alluvium deposited during flooding episodes. This potential is compounded in the RAM area by a lack of existing archaeological information about local stratigraphy. A visual inspection of the exposed bank of the Arroyo Tecolapan indicates that at least two three meters of alluvium has been deposited in the floodplain.

For archaeological surveys that focus on surface remains, the burial of archaeological deposits can have consequences on the reconstruction and interpretation of settlement patterns. Specifically, the burial of deposits or mounds may lead to an underrepresentation of settlement because fewer artifacts remain on the surface. For example, during the surface survey at Tres Zapotes, ceramics dating to the Early Formative period were relatively rare (Pool and Ohnersorgen 2003:24). However, excavations at the site in 2003 identified intact Early Formative deposits at depths greater than five meters below the current ground surface, leading to the definition of the Arroyo phase (Pool et al. 2010). Given the similar flood plain setting of the RAM survey area, the same potential for deeply buried deposits is also present in the area around El Mesón. It should be noted that this potential is not restricted to earlier deposits. While their age, does mean that older deposits have been exposed to alluvial deposition for a longer period of time, it is also possible that more recent deposits may also be buried. In particular, the low frequency of Postclassic artifacts in the RAM area may be the result of more recent alluvial deposition, especially if the Postclassic settlement was smaller in scale, compared to the Formative and Classic period occupations, and not located on mounds.

Beyond the burial of deposits from particular phases or periods, alluvial deposition, more generally, will lead to an underrepresentation of all settlement in an area. Because mounds rise above the alluvial deposits, they are the most visible indicators of occupation, and the least affected by alluvial deposition. However, not all habitations may have been constructed on mounds. Because of their lower elevations, these occupations are more likely to be buried, and thus, not identified during surface

surveys. Moreover, mounds can also be buried or partially buried by alluvial deposition. Wendt (2003:37) reports the identification of several mounds ranging in height from 3 to 5 m that were buried in the floodplain at Tres Zapotes (here the alluvial deposition was compounded by volcanic ash). A similar potential may exist in the RAM area. The partial burial of mounds may affect how they are perceived during surveys. Because the bases for these structures may be buried, the heights of the identified mounds may actually be greater than they appear at the surface.

The potential for buried deposits does not mean that surface survey is not an effective method for studying settlement patterns. To the contrary, surface surveys in alluvial area in the gulf lowland have been successful at reconstructing and interpreting settlement patterns at both the site and regional levels (e.g. Pool ed. 2003; Stark ed. 1991; Symonds et al. 2002). This bias, however, should be a reminder that what is on the surface may not represent the totality of Prehispanic occupation. Rather, the mounds and artifact concentrations that are visible from the surface indicate the minimal settlement in the area.

RAM Survey Methods

After weighing the potential benefits and drawbacks of the various methods addressed above, and taking into account the ecological setting of the survey area, and the research questions being addressed, I chose a full coverage "siteless" technique for the RAM survey. This decision was largely guided by a lack of good information on the survey area, and the need for household-scale data to address the research questions.

As I have stated previously, this project represents the first systematic investigation in this area of the ELPB. Prior descriptions (Coe 1965:679; Stirling 1943:28-29), however, suggested that there was dense prehispanic settlement in the area. Based on these descriptions, particularly Coe's (1965:679) statement that one is never out of sight of mounds in this area, I expected the distribution of architectural features and artifact concentrations to be similar to the Mixtequilla region where Stark (1991:44) notes a continuous distribution of mounds and artifact concentrations across the landscape. Thus, I anticipated similar problems with site definition that Stark experienced in the Mixtequilla. A "siteless" technique allowed for the identification of discrete features on the landscape in the field, as well as the potential for analytically grouping these features into larger settlement units (i.e., sites) in the laboratory.

The project area was surveyed by a team of two archaeologists and four local workers walking transects with a 20 m spacing between each person. This spacing was chosen because of the desire for household-scale data. Because the majority of the survey area was under active sugar cane cultivation, transects were oriented so that the field crew could walk between the rows of sugar cane.

The identification of architectural features was facilitated by the topography of the survey area, which is a relatively flat alluvial plain with few hills or other natural rises. Thus, architectural features were generally identified by a change in elevation. Artifact concentrations, on the other hand, were identified on the basis of changes in surface artifact density. Areas with surface densities of more than 1 artifact per square meter were considered to be concentrations. Once an architectural feature or artifact concentration was identified in the field, its location was recorded using a Magellan

Meridian Platinum handheld GPS receiver. This GPS receiver has a horizontal accuracy of 3 m. The location of each architectural feature or artifact concentration was recorded on a 1:50000 scale topographic quadrangle of the area (INEGI Carta Topografica Lerdo de Tejada , Veracruz E15A62 1995). The dimensions for each architectural feature and artifact concentration were recorded using a Brunton pocket transit and tape. Due to the density of vegetation in the cane fields, however, measured pace was used to record the feature's or concentration's dimensions. The edges of artifact concentrations were defined by a drop in surface artifact density below one artifact per square meter. The orientation of each feature was measured using the pocket transit. The heights of the architectural features were measured in several ways. Mounds under approximately 2m in height were measured using a line level and measuring tape, or using a level sight with the pocket transit and shooting to a tape measurer (the instrument height was 1.7 m, the author's eye height). Mounds over 2 m tall were measured using the pocket transit's goniometer. A sketch map and a brief description of each feature or concentration were also recorded.

The collection strategy for the RAM survey follows Stark's (1991:46-47) collection strategy in the Mixtequilla. Because the individual architectural feature or artifact concentration is the basic analytical unit for the survey, it is important to have chronological as well as functional data for each identified feature or concentration. To that end, as in the Mixtequilla, each architectural feature and artifact concentration was collected separately. Collections continued until at least 100 rims or decorated sherds were collected or the boundary of the feature or concentration was crossed. An area of approximately 1 m around the base of each feature was included in the surface collection

to account for the possibility of slope wash. Only rims and decorated sherds were retained because they contain the most chronologically and functionally sensitive information. Additionally, because ceramics were the most ubiquitous artifact class encountered during the survey, limiting the collections to 100 sherds allowed for more manageable collections (Stark 1991:46-47). All other artifacts encountered were collected, with the exception of large stone artifacts such as metates which were documented and left in the field.

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CHAPTER 5
LABORATORY METHODS

A total of 29,294 artifacts were recovered during the course of the RAM survey. Once these artifacts were recovered from the field they were washed and taken to the laboratory facility at Tres Zapotes where they were analyzed. This chapter presents the laboratory methods that were used to complete the artifact analysis.

Ceramics

Ceramic sherds comprise the majority of artifacts recovered during the RAM survey, accounting for 76.2 % all artifacts (n=22,325). As stated previously, the collection strategy for this artifact class focused on the collection of rim sherds and decorated sherds, as these were considered to provide the best temporal data, as well as data on vessel form and function.

The ceramic sherds recovered during the RAM survey were classified using the ceramic typology developed for Tres Zapotes. The decision to use this typology was based on the proximity of Tres Zapotes to the RAM area, as well as the presumed temporal and cultural similarities of the two areas. Because acidic soils, humidity and other processes take a heavy toll on ceramics in the southern Gulf lowlands, sherds that are recovered in archaeological contexts (especially surface contexts) are often heavily eroded. This poor preservation means that in many cases slips, paints, and surface treatments such as burnishing survive as remnants, or not at all. For this reason the divisions within the classificatory system are largely based on paste attributes such as

texture, color, tempering agent, and temper size. The broadest division separates fine paste and coarse paste ceramics. These categories are further divided into wares based on paste color and temper type. Within the ware categories, types are defined by paste attribute modes, although in some cases other attributes such as vessel form, surface treatment, and decorative techniques are also considered. These types are further divided into varieties based upon decorative technique and surface treatment. This classificatory system is based on the classifications developed by Ortiz (1975) during his study of ceramic sequences in the Tuxtlas and the classification used at the large Middle Classic center Matacapan (Ortiz and Santley 1989), and has been expanded and refined during the *Recorrido Arqueológico de Tres Zapotes* (RATZ) (Pool 1997) and *Proyecto Arqueológico de Tres Zapotes* (PATZ) (Pool et al. 2010).

The majority of recovered sherds could be placed into a type in the Tres Zapotes typology. However, there were some sherds that could not be placed within an existing type These sherds were classified based on comparisons of ceramics from other areas including the Mixtequilla (Stark nd, 1989, 2006), Agaltepec (Arnold 2007, Arnold and Venter 2004), and Totogal (Venter 2008). In all of these cases the types either dated to the Postclassic period, were nonlocal in style, or both.

Once sherds were classified into types, attributes of vessel form were recorded, including basic vessel form, wall form, rim form, and lip form. Additional attributes were recorded for some sherds such as presence of handles or supports, lip, sidewall, or basal flanges, lip or rim channels or grooves, adornos, etc. Sherds were counted and weighed by type or variety within collections. When decorated sherds were identified, the decoration was noted and the sherd was drawn. Additionally, a sample of

undecorated rim sherds was drawn for each type, with the intent of having at least one drawing of each vessel form per ceramic type. A total of 1,037 sherds were drawn. Orifice diameters were also recorded for all drawn rims. The distributions of temporally diagnostic ceramic types are discussed in detail in the following chapter (see Appendix B for all ceramic recovered).

Chipped Stone

Chipped stone was the second largest artifact class recovered during the RAM survey. A total of 4,617 chipped stone artifacts (15.8 % of all artifacts) were recovered; all were made from obsidian. One objective of the obsidian analysis was to characterize the obsidian sources used in the RAM area. Because there are no local obsidian sources in this region of Mesoamerica, identifying the obsidian sources that were exploited allowed for the reconstruction of regional trade routes. Despite Sheets's (1977) criticism of using obsidian color as a means of visual source analysis, elemental analyses have largely supported source identification via color association in the southern Gulf lowlands (Cobean et. al 1991; Knight 1999, 2003 ; Santley, Arnold, and Barrett 1997; Stark et. al 1992).

The RAM analysis used a simplified version of the color analysis used at Tres Zapotes (Knight 2003:73) which was based on three base colors (black, green, and clear) and ten subcolors. In the RAM analysis, no subcolors were assigned and the base colors were expanded to include black banded, black with gray bands, clear with gray /black bands, medium gray, and lechoso (clear with brownish tint) categories. The associations

of these color categories are summarized in Table 5.1. The results of this analysis are discussed in detail in Chapter 9 (see Appendix C for all chipped stone artifacts recovered).

In addition to the visual characterization, a morphological analysis was also preformed on all of the obsidian recovered. This analysis focused on identifying broadly the types of obsidian artifacts within the RAM area. This analysis was a simplified version of the obsidian typology used by Knight (2003) at Tres Zapotes. This typology was based on the typologies developed for Matacapan and the Tuxtlas survey (Barrett 1996; Santley et al. 1984), which were ultimately derived from the typology developed by Healan for Tula, Hidalgo (Healan, Kerley, and Bey III 1983).

Knight's (2003:73) typology divides the obsidian artifacts into 91 artifact types which are then placed within technological categories to track production stages. Because the focus of the current analysis was geared toward providing a more general overview of the obsidian assemblage, the artifact type categories have been abbreviated. The basic artifact categories used include flakes, blades (or blade segments) cores, tools made on blades, bifaces, and unifaces. When tools were identified they were further classified by type (drill, burin, etc.). The debitage was also classified based on morphology; however, there was no attempt to classify the debitage into production stages. Additional attributes of prismatic blades and blade segments recorded include fragment recovered (proximal, medial, distal, complete), platform morphology and modification, and length, width, and thickness measurements. Counts and weights were recorded for each unique artifacts type, per color category, per collection. The results of this analysis are presented in Chapter 9.

Table 5.1 Obsidian Colors and Source Associations.

Color	Probable Source(s)
Black	Zaragoza/Oyameles
Clear	Guadalupe Victoria/Pico de Orizaba
Black Banded	Zaragoza/Oyameles
Black with Grey Bands	Zaragoza/Oyameles
Green	Pachuca
Clear with Grey/Black Bands	Pico de Orizaba/Zaragoza/Oyameles
Medium Grey	Guadalupe Victoria
Lechoso (clear with brownish tint)	possible Otumba
Other	Unknown

Construction Debris

Consisting of 1,349 artifacts, construction debris was the third largest artifact class recovered during the RAM survey, accounting for 4.6% of the artifact assemblage. The typology used for the analysis of these materials was based on Hoag's (1997, 2003) typology for burned earthen artifacts from Tres Zapotes. This typology divides artifacts into three categories: daub, kiln debris, and burned earth. Daub refers to an earthen construction material typically applied to a structure made of poles, thatch, or bundles of twigs and grass. As a building technique, wattle-and-daub construction is known archaeologically and ethnographically from all over Mesoamerica (Beals 1944; Fay 1970; Hoag 1997, 2003; Kelly and Palerm 1952; Stenholm; Wauchope 1938; Willey et al. 1965). Wendt (2003:192) notes that archaeological daub represents the remains of a wattle-and-daub wall that has deteriorated. Hoag adds to this stating that archaeological

daub has usually been fired, usually through the burning of the structure (either accidentally or intentionally). This burning protects the material from disintegrating through the action of water and wind, and preserves organic impressions and finishes (Hoag 2003:48). Analytically, the salient attribute that guided the classification of an artifact as daub was the presence of pole or stick impressions.

Kiln debris refers to fragments of ceramic updraft kilns. Such kilns have been documented both ethnographically and archaeologically in southern and south-central Veracruz (Arnold 1991; Arnold et al. 1993; Arnold and Santley 1993; Diehl et al. 1997; Pool 1990, 1997; Santley, Arnold, and Pool 1989; Stark 1992). In the Tuxtlas, archaeological kilns were made from "puddled fiber-tempered adobe walls" (Pool 1997:160). The two chambers of the kiln (oven and fire box) were separated by adobe arches (arcos). Because of the high heats generated by kilns, often the interior wall fragments are vitrified. Arnold et al. (1993:183) note kiln walls also display a color gradation that runs from the interior of the wall to the exterior of the wall; the result of repeated differential heat exposure. Vitrification of the interior wall surface, and color gradation within the wall were used as salient attributes for identifying kiln debris in the RAM assemblage.

The burned earth category was a catch-all category that was used for burned earthen artifacts that could not be confidently placed into the daub or kiln debris categories. Often these artifacts were small or so fragmentary that a more refined classification was not possible.

Finally the RAM analysis added a category that was not a part of Hoag's typology; Laja. Laja refers to volcanic tuff. This material was used as a construction material, often for house foundations.

Once artifacts were classified they were counted and weighed by context.

Figurines

Figurines make up the fourth largest artifact class recovered during the RAM survey. A total of 529 figurine fragments were collected; no complete figurines were recovered. The analysis of these materials focused on the form of the artifact as well as its method of manufacture. Attributes recorded for these artifacts included whether the figurine was hand-modeled or mold-made, whether it was anthropomorphic or zoomorphic, and whether it was hollow or solid. The paste of each fragment was classified based on the current Tres Zapotes ceramic typology (Drucker 1943, Ortiz Ceballos 1975; Pool 1997 ;Weiant 1943). Additionally, each fragment was sorted as to the body part represented (e.g., head, arm, leg, etc.). In the case of torsos, the posture of the body was recorded (e.g., seated, standing, etc.), as well as the sex. Notes were also taken on the presence of clothing or other paraphernalia represented (e.g., ballgame equipment) and other decoration, including slips, paints, and chapopote (asphaltum). Figurine heads tended to be the most temporally diagnostic fragments. All figurine heads were photographed and described with regards to headdress as well as the rendering of the eyes and other facial features. When possible, figurine heads and body fragments were placed into previously defined figurine types (e.g., Los Lirios, Trapiche, Tres

Zapotes, San Marcos, hollow baby, etc.) (Drucker 1943; Weiant 1943). Descriptions and distributions of temporally sensitive figurine types are discussed in the following chapter.

In addition to figurines, several ocarinas or whistles were also included in this artifact class. Eight such artifacts were recovered during the survey. These artifacts were all analyzed using the same criteria as the figurines.

Groundstone

Groundstone refers to a class of lithic artifacts that are produced through grinding, pecking, and polishing. These artifacts include a widely varying range of artifacts that include relatively mundane utilitarian items such as manos and metates, as well as ritual or ceremonial items such as colossal heads and stelae. Groundstone artifacts compose the fifth largest artifact class, accounting for approximately 1.4 % of all recovered artifacts (n=407).

The analysis of groundstone artifacts was a simplification of the system devised by Pool and Kruszczynski for Tres Zapotes. All groundstone artifacts were classified based on their morphology and raw materials. The morphological analysis divides the artifacts into 12 artifact types. These types include tools, such as manos, metates, axes, etc., as well as groundstone production detritus (flakes). Additionally the shape of the artifact in cross-section was also recorded. Measurements in centimeters were taken for the long and short axes as well as the thickness of each artifact. Notes were taken on observed use-wear and polish. Each artifact was also counted and weighed.

The raw material analysis focused on identifying and characterizing the type of stone from which groundstone implements were made. Because of the RAM survey area's location, near the western slope of the Tuxtla Mountains, it was not surprising that basalt was the most common raw material. Previous studies indicate that basalt from the Tuxtlas was used all over the southern Gulf Lowlands (Williams and Heizer 1965). For artifacts made from basalt, additional attributes of the stone were also recorded including whether the stone was massive or vesicular; whether the stone was fine-grained or porphyritic; and for porphyritic basalt, whether the stone contained olivine or pyroxene phenocrysts. Other less common raw material types identified included gabbro, granitic porphery, scoria, greenstone, and sandstone.

Special Objects

The final class of artifacts recovered during the RAM survey is special objects. This artifact class is more or less a catch-all category for artifacts that are unique or do not easily fit into any of the previously discussed classes. These artifacts include ceramic artifacts such as spindle whorls, worked sherds, ear spools, grooved sheres, a *candelario*, and stamps. Other artifacts, such as a basalt bead, were made from stone. Because of the diversity of materials within this artifact class, no single set of attributes was consistently recorded; rather, the analysis of these artifacts was driven by the object itself. For ceramic materials, for example, the paste was recorded as well as the shape, and appropriate measurements (in centimeters) were taken (e.g., length, width, or diameter).

For objects that were perforated, such as beads and spindle whorls, the diameter of the perforation was also recorded.

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CHAPTER 6
CERAMIC ARTIFACTS

Settlement pattern studies are concerned with two basic elements; time and space. Basic questions that these types of studies must answer are: (1) Where are settlements located? (2) When was an area occupied? and (3) What is the area of the settlement, site, or other unit of analysis? The inability to accurately place and order settlements in time and space makes addressing more sophisticated questions about social, political, or economic organization virtually impossible. Because ceramics are ubiquitous at archaeological sites in the southern Gulf lowlands, and because they are the class of artifact most sensitive to temporal changes, they provide important data for answering these most basic of research questions.

This chapter presents the ceramic artifacts that were recovered during the RAM Survey. Because these artifacts form the backbone of the dating of architectural features within the survey area, I focus on the temporally sensitive ceramic types. Of the almost 22,325 ceramic sherds recovered, 9,609 (43.04%) (Table 6.1) were considered to be diagnostic (raw data for the remaining sherds are found in Appendix B). The chapter is divided by phases. Ceramic types diagnostic for each phase are discussed in terms of the types of vessels represented in the assemblage, decorations, and the distribution of the assemblage across the survey area (see Appendix B for Descriptions of Vessel form and wall forms). I also address temporally sensitive ceramic figurines in this chapter.

Table 6.1. Diagnostic Ceramics Types by Phase.

Phase	Type Code	Type Name	n	% for Phase
Arroyo	2518	Calzadas Carved	2	100
Total			**2**	**100**
Tres Zapotes	2113	Coarse Gray	18	15.13
	2123	Plain Medium Polished Black	58	48.74
	2123.11	Incised Medium Polished Black	11	9.24
	2302	Cream-Slipped Coarse Whiteware	7	5.88
	2512	Plain Coarse Polished Black	6	5.04
	2512.13	Coarse Polished Black with Channeled Neck	1	0.84
	2519.11	Incised Polished Medium Brown	15	12.61
	2617		3	2.52
Total			**119**	**100**
Hueyapan	2111	Plain Coarse Gray with White Temper	151	32.13
	2111.1	Incised Coarse Gray with White Temper	24	5.11
	2122.4	Thin Walled Polished Black with Orange to Gray Paste	74	15.74
	2212.1	Plain Fine Paste Differentially Fired Black and White	13	2.77
	2225.1	Plain Coarse Paste Differentially Fired Black and Tan	179	38.09
	2225.2	Incised Coarse Paste Differentially Fired Black and Tan	22	4.68
	2519.12	Engraved Medium Polished Brown	3	0.64
	2904.5	Polished Orange Macetas	4	0.85
Total			**470**	**100**
Nextepetl	1212	Sandy Fine Orange	1887	39.95
	2122	Plain Fine Paste Polished Black	140	2.96
	2122.1	Incised Fine Paste Polished Black	71	1.50
	2224	Fine Paste Differentially Fired Black and Tan	91	1.93
	2224.1	Plain Fine Paste Differentially Fired Black and Tan	213	4.51
	2224.2	Incised Fine Paste Differentially Fired Black and Tan	35	0.74
	2224.3	White-Slipped Fine Paste Differentially Fired Black and Tan	112	2.37
	2224.4	Incised White-Slipped Fine Paste Differentially Fired Black and Tan	20	0.42
	2653	Coarse Orange with White Temper	918	19.44
	2654	Coarse Brown with Coarse White Temper	1236	26.17
Total			**4723**	**100**

Table 6.1. Continued

Phass	Type Code	Type Name	n	% for Phase
	1211	Plain Fine Orange	286	7.70
	1221	Fine Orange with Simple Incision	88	2.37
	1232	Brown-Slipped Fine Orange	3	0.08
	1234	Orange-Slipped Fine Orange	45	1.21
	1261	Red on Fine Orange	13	0.35
	1263	Black on Fine Orange	16	0.43
	1272	Orange on White-Slipped Fine Orange	47	1.27
	2611	Brown-Slipped Fine Coarse Brown	62	1.67
	2614	Brown-Slipped Coarse Brown with Paste with White Inclusions	2501	67.32
	2614.1	Incised Brown-Slipped Coarse Brown with Paste with White Inclusions	167	4.50
	2615	Coarse Pink	15	0.40
	2616	Coarse Brown with Soft Brushing	2	0.05
	2811	Coarse Orange	54	1.45
	6006	Patarata Coarse Red-Orange	17	0.46
	6007	Patarata Coarse Plain	55	1.48
	6008	Acula Red-Orange Monochrome	341	9.18
	6010	Acula Red-Orange Engraved	1	0.03
Ranchito	6011	Red and White Bislip	2	0.05
Total			**3715**	**100**
	1111	Plain Fine Gray	37	6.99
	1112	Black-Slipped Fine Orange	172	32.51
	1115	Mottled Light Brown with Matte Finish	207	39.13
	1121	Fine Gray with Simple Incision	35	6.62
	1131	White-Slipped Fine Gray	10	1.89
	1131	Black Wash on Fine Gray	1	0.19
	1281	Polychrome on Unslipped Fine Orange	39	7.37
Quemado	1291	Tuxtlas Polychrome	28	5.29
Total			**529**	**100**
Postclassic	2902	Fondo Sellado (Stamped Base)	5	9.80
	8015	Texcoco Molded	1	1.96
	8016	Totogal Engraved	1	1.96
		Comales	42	82.35
		Sherds with Postclassic Motifs	2	3.92
Total			**51**	**100**
Grand Total			**9609**	

Chronology

Because of the similarity in material culture, the RAM survey uses the same chronology as Tres Zapotes. This chronological framework divides the Formative and Classic periods into six phases (Table 6.2).

Table 6.2 Chronology of the ELPB**.**

Date*	Period	Phase
1200-1000 B.C.	Early Formative	Arroyo
1000-400 B.C.	Middle Formative	Tres Zapotes
400-1 B.C.	Late Formative	Hueyapan
A.D. 1-300	Protoclassic	Nextepetl
A.D. 300-600	Early Classic	Ranchito
A.D. 600-900	Late Classic	Quemado

* Dates are presented in Calendar Years

In addition to these phases, a Postclassic component has also been identified at Tres Zapotes in the form of the Soncauntla Complex (Coe 1965:710-711; Drucker 1943:102-107). However, additional excavation at Tres Zapotes has failed to identify a substantial Postclassic occupation at the site. Recently Venter's, (2008) work at the site of Totogal on the southeastern slope of Cerro El Vigía, has identified two phases that broadly correspond to the Postclassic period. The Vigía phase extends from the late Late Classic period through the Early Postclassic period and dates from A.D. 800-1250, and the Totogal phase comprises the Late Postclassic, dating from A.D. 1250-1520 (Venter 2008:282-283). In defining these two phases, Venter (2008: 274-362) notes that the

diagnostic ceramics for each phase were largely classified based on relative frequencies of decorative attributes and surface treatments such as paints, slips and incised designs, and that ceramic pastes show considerable overlap with the Classic period Fine Orange and Fine Gray traditions. Unfortunately for the RAM survey, the heavily eroded state of much of the ceramic assemblage means that identifying many Postclassic types is difficult if not impossible. This is not to say that I ignore the Postclassic settlement of the RAM area. Rather, I suggest that the eroded state of the ceramic assemblage may contribute to under-presenting Postclassic settlement in the RAM survey area.

Ceramic Sherds

Arroyo Phase

The earliest materials identified during the RAM survey correspond to the Arroyo Phase. This phase dates from approximately 1200-1000 B.C. and is roughly coeval with the San Lorenzo B Phase at San Lorenzo (Coe and Diehl 1980; Pool et al. 2010). While Early Formative ceramics had been recovered from Tres Zapotes, these materials were exceedingly rare. In 2003, however, stratified Early Formative deposits were identified during test unit excavations. Diagnostic ceramics for this phase include Calzadas Carved and Limón Carved-Incised, types that were originally defined at San Lorenzo (Coe and Diehl 1980).

At San Lorenzo, the San Lorenzo Phase is characterized by tecomates, collared jars with restricted orifices, cylindrical vessels, and bowl and plate forms with vertical

and outslanting walls (Coe and Diehl 1980:159-187). Diagnostic decorations from this phase include, differential firing, rocker-stamping, punctation, and incision (Coe and Diehl 1980:159-187). The most diagnostic decoration is carving or excision, which was executed when vessels were in a leather-hard state. A tool was used to excise portions of the exterior surface in complex designs that have associations with Olmec religion and cosmology. This technique is exemplified by Calzadas Carved (Coe and Diehl 1980:159-187). In the Central Tuxtlas, Arnold (2003a; Arnold and McCormack 2002) identified similar vessel forms at La Joya. At Tres Zapotes, Pool and his colleagues (Pool et al. 2010:96) note similarities between Arroyo phase ceramics and the San Lorenzo Phase materials at San Lorenzo. However, the Arroyo phase ceramics do show some distinction from San Lorenzo, as black ware, differentially fired wares, and white slipped pottery were more common at Tres Zapotes (Pool et al. 2010:96-97).

In the RAM area, only two sherds dating to the Arroyo phase were recovered; both Calzadas Carved (Code 2518). One sherd was from a straight-walled plate/bowl with everted rim and direct rounded lip. The other was from a cylindrical jar with vertical-concave walls and a direct rounded lip. Both of these forms are consistent with Calzadas Carved vessels from San Lorenzo (Coe and Diehl 1980:162-170). One sherd was recovered from the eastern portion of the survey area (Feature 232), and the other was recovered south of the Arroyo Tecolapan (Feature 366). Early Formative figurines were also recovered during the RAM survey. These are discussed below.

Tres Zapotes Phase

The Tres Zapotes phase represents the Middle Formative period in the eastern lower Papaloapan basin. This phase dates from 1000-400 B.C. and broadly corresponds to The Initial Picayo phase (El Picayo), Gordita phase (La Joya), and Phase A (Matacapan) in the Tuxtlas Mountains, the Nacaste and Palangana phases at San Lorenzo, the Early Puente through the middle of the Late Franco phase in western Tabasco, and the Pozas Phase in the western lower Papaloapan Basin (Arnold 2003a; Arnold and McCormack 2002; Coe and Diehl 1980:188-207; Ortíz Ceballos 1975; Ortíz Ceballos and Santley 1988; Pool 2007: 7, Figure I.4; Stark 2001:139, Figure 8.16; Stoner 2011). A total of 119 diagnostic ceramic sherds dating to the Tres Zapotes Phase were recovered during the RAM survey. Seven ceramic types are represented in the Tres Zapotes Phase assemblage. These types and their distributions are described in detail below.

In general, the Tres Zapotes phase ceramics from the RAM area are dominated by plates/bowls and simple silhouette bowls. Oustloping and outflaring walls were most common on the plates/bowls. Two types, Coarse Gray and Medium Polished Black, account for approximately 73% of the Tres Zapotes Phase pottery recovered. Decoration, when present, was primarily incised. Motifs represented include filled triangles and double line breaks.

Coarse Gray with Volcanic Ash Temper and Incised Coarse Black are also common from Middle Formative contexts in the central Tuxtlas (Ortíz Ceballos and Santley 1988), and at Tres Zapotes (Stoner 2011:236). Other types, including Medium Black and Tan and white slipping on brown or orange pastes are less common in the RAM area. At Matacapan and La Joya, Coarse Brown (Code 2701) tecomates with

rocker-stamping, fingernail punctation, and zoned stick punctation were recovered from Middle Formative contexts (Ortíz Ceballos and Santley 1988; Arnold and McCormack 2002). Tecomates of this same paste were recovered during the RAM survey; however, none of these decorative techniques was identified on these sherds, thus they were not considered to be temporally diagnostic, although some may date to the Tres Zapotes phase or earlier.

Decorations from the RAM area, especially line breaks are associated with Middle Formative ceramics from Tres Zapotes (Stoner 2011:236; Venter 2001:77, Figure 6.1), the Tepango Valley (Stoner 2011:237), The Mixtequilla (Stark 1997:287), and Nacaste phase ceramics from San Lorenzo (Coe and Diehl 1980:188). Other decorations such as sine curves, sine curves with pendant lines, and stick and fingernail punctation are less common in the RAM area.

Coarse Gray (Code 2113)

Coarse Gray accounted for approximately 15.1% (n=18) of all of the Tres Zapotes Phase ceramics. Four vessel types are represented in the Coarse Gray assemblage; plates/bowls, simple silhouette bowls, cylindrical jars, and necked jars (Table 6.3). Of these forms, the simple silhouette bowls (n=8) and plates/bowls (n=5) are the most numerous; with cylindrical jars and necked jars each represented by only one or two sherds. All of the recovered rim sherds had direct lips that were rounded, tapered, or beveled. One sherd had a labial ridge. Two sherds could not be classified.

Table 6.3. Code 2113 Sherds.

Code	Vessel Form	Wall	n	%
2113	Plate/bowl	Outsloping-straight	3	16.7
		Outflaring	2	11.1
	Simple Silhouette Bowl	Insloping-convex	3	16.7
		Outsloping-convex	5	27.8
	Cylindrical Jar	Vertical-straight	2	11.1
	Necked Jar	Outflaring Neck	1	5.6
	Indeterminate		2	11.1
2113 Total			**18**	**100**

Medium Polished Black (Codes 2123 and 2123.11)

Sixty-nine sherds were classified as Medium Polished Black (Table 6.4). These artifacts account for 58% of all the Tres Zapotes phase sherds recovered. The majority of these sherds were classified as Code 2123, Plain Medium Polished Black. The remainder was all incised (Code 2123.11). Among the plain sherds plates/bowls (n=21) and simple silhouette bowls (n=14) were the most common vessel forms. Outflaring walls and outsloping-straight walls were prevalent among the plates/bowls. Direct lip forms were also prevalent although some thickened and everted examples were also identified. Wall forms for the simple silhouette bowls were evenly split between insloping-convex and outsloping-convex which each had seven examples. Lip forms were similar to those observed for the plates/bowls. Seven necked jars were also identified in this assemblage. The majority of these vessels (n=4) had outsloping necks. The remaining necked jars had either outflaring (n=2) or channeled (n=1) necks. All of these vessels had direct lip forms. Other vessel types represented by only a few examples include composite

Table 6.4. Code 2123 Sherds.

Code	Form	Wall	n	%
2123	Plate/bowl	Insloping-convex	1	1.7
		Outsloping-straight	5	8.6
		Outflaring	15	25.9
	Simple Silhouette Bowl	Insloping-convex	7	12.1
		Outsloping-convex	7	12.1
	Composite Silhouette Bowl	Outsloping-convex	1	1.7
	Cylindrical Vessel	Vertical-straight	1	1.7
	Necked Jar	Outsloping-neck	4	6.9
		Outflaring-neck	2	3.4
		Outsloping-channeled neck	1	1.7
	Tecomate	Insloping-convex	2	3.4
		Outsloping-convex	2	3.4
	Neckless Jar	Vertical-neck	1	1.7
		Outsloping-neck	1	1.7
	Unidentified	Lip only	8	13.8
2123 Total			**58**	**100**
2123.11	Plate/bowl	Outsloping-straight	1	9.1
		Outflaring	3	27.3
	Simple Silhouette Bowl	Insloping-convex	1	9.1
		Outsloping-convex	2	18.2
	Composite Silhouette Bowl	Outsloping-convex	1	9.1
	Necked Jar	Outsloping-channeled neck	1	9.1
	Tecomate	Outsloping-convex	1	9.1
	Unidentified		1	9.1
2123.11 Total			**11**	**100**
Grand Total			**69**	

silhouette bowls (n=1), cylindrical jars (n=1), tecomates (n=4), and neckless jars (n=2). Eight sherds could not be classified.

Eleven incised Medium Polished Black (Code 2123.11) sherds were also identified during the RAM survey. Like the plain variety, plates/bowls (n=4) and simple

silhouette bowls (n=3) were the most common vessel forms. Most of the plates/bowls (n=3) had outflaring walls, with one examples with outsloping-straight walls. All of these vessels had direct lip forms. Two of the simple silhouette bowls had outsloping-convex walls; the other had insloping-convex walls. All of the simple silhouette bowls had direct lips. Other vessels represented by only one example include composite silhouette bowls, necked jars, and tecomates. One sherd could not be classified by vessel form. The most common decoration on the Code 2123.11 sherds was a single or double incised line on the exterior of the vessel. One plate/bowl had a rim line that was intersected by a curved line.

Incised Polished Medium Brown (Code 2519.11)

Fifteen sherds from the RAM collections were classified as Incised Polished Medium Brown (Table 6.5). These sherds accounted for 12.6% of all of the Tres Zapotes Phase sherds recovered. Plates/bowls and simple silhouette bowls were the most common forms associated with this type, although cylindrical jars, tecomates, and neckless jars are also represented. Direct lip forms are the most common for this type; however, everted and thickened examples were also collected.

Incised decorations for this type were dominated by incised lines that occur on the interior and exterior lips in single or double lines. More complicated designs are present on five sherds. These decorations are primarily geometric designs that include triangles filled with vertical lines, and double line breaks. One sherd has a portion of what may be a paw wing motif; a common Olmec design. This motif was executed through excision,

Table 6.5. Code 2519.11 Sherds.

Code	Form	Wall	n	%
2519.11	Plate/bowl	Outflaring	4	26.7
	Simple Silhouette Bowl	Insloping-convex	5	33.3
		Outsloping-convex	2	13.3
	Cylindrical Jar	Vertical-straight	1	6.7
	Tecomate	Insloping-convex	1	6.7
	Neckless Jar	Insloping-concave	1	6.7
	Indeterminate	Lip Only	1	6.7
2519.11Total			**15**	**100**

or carving, a technique that is more prevalent during the Early Formative period on types such as Calzadas Carved. On Early Formative examples, the designs are sharp with no excess clay remaining in the excised lines. During the Middle Formative period, however, the lines often have bits of clay that were not removed. The result is that the lines are not as clean as the Early Formative examples. Because of the excess material in the excised lines on this sherd, this sherd is attributed to the Middle Formative period and likely represents a Middle Formative copy of an Early Formative technique

It should be noted that at Tres Zapotes three different varieties of Medium Polished Brown have been identified. In addition to the incised variety there is also a plain (Code 2519) variety and an engraved variety (Code 2519.12). Temporally, the plain and incised varieties are coeval and associated with the Tres Zapotes Phase. The engraved variety is later dating to the Late Formative Hueyapan Phase. In addition to the 15 incised sherds described above, 122 plain Polished Medium Brown sherds were also recovered. However, because these sherds were small, I could not be sure that these examples were truly plain,or if they were undecorated portions of incised or engraved vessels. Due to this uncertainty, these “plain” sherds were not included as diagnostics.

As a result, the extent of the Middle Formative occupation may be slightly underrepresented.

Cream-Slipped Coarse Whiteware (Code 2302)

Seven sherds (5.9% of Tres Zapotes Phase sherds) of Cream-Slipped Coarse Whiteware were recovered during the RAM survey (Table 6.6). Simple silhouette bowls were the most common form associated with this type. These vessels feature insloping-convex and outsloping-convex walls, and direct and thickened lips. One plate/bowl fragment with outflaring vessel walls was also recovered. Two sherds could not be classified as to vessel type.

Table 6.6. Code 2302 Sherds.

Code	Vessel Form	Wall	n	%
2302	Plate/bowl	Outflaring	1	14.3
	Simple Silhouette Bowl	Insloping-convex	1	14.3
		Outsloping-convex	3	42.9
	Indeterminate	Outflaring	1	14.3
		NA	1	14.3
2302 Total			**7**	**100**

Coarse Polished Black (Codes 2512 and 2512.13)

Another 5.9% of the Tres Zapotes Phase assemblage was accounted for by Coarse Polished Black. This assemblage comprises six undecorated sherds and one sherd with a channeled neck (variety 2512.13) (Table 6.7). Of the undecorated sherds, plates/bowls

Table 6.7. Code 2512 Sherds.

Code	Vessel Form	Wall	n	%
2512	Plate/bowl	Outsloping-straight	3	50
		Outflaring	1	16.7
	Simple Silhouette Bowl	Outsloping-convex	1	16.7
	Indeterminate		1	16.7
2512 Total			**6**	**100**
2512.13	Necked Jar	Outsloping Neck	1	100
2512.13 Total			**1**	**100**
Grand Total			**7**	

were the most common vessel form (n=4). The only other identifiable form was one example of a simple silhouette bowl. Outsloping-straight walls were the most common wall form, although one plate/bowl had outflaring walls. The one bowl had outsloping-convex walls. For both forms, direct lips were the most common. One undecorated sherd could not be classified as to vessel form. The one sherd of the 2512.13 variety was a necked jar with an outsloping, channeled neck.

Burnished Brown (Code 2617)

Three Burnished Brown sherds were recovered during the RAM survey (Table 6.8). These sherds account for 2.5% of the Tres Zapotes Phase assemblage. One plate/bowl with outsloping-straight walls, one simple silhouette bowl with outsloping-convex walls, and one composite silhouette bowl with outflaring walls are included in this assemblage. All vessels of this type had direct lip forms. Incised decoration was noted on both bowl forms. The composite silhouette vessel had a .4 cm wide exterior rim

band. The simple silhouette bowl has deeply excised radiating lines that had deep punctation or drilling at their termini (Figure 6.1).

Table 6.8. Code 2617 Sherds.

Code	Form	Wall	n	%
2617	Plate/bowl	Outsloping-straight	1	33.3
	Simple Silhouette Bowl	Outsloping-convex	1	33.3
	Composite Silhouette Bowl	Outflaring	1	33.3
2617 Total			**3**	**100**

Figure 6.1. Burnished Brown with Excavated Decoration (scale in centimeters).

Hueyapan Phase

The Hueyapan Phase represents the Late Formative period in the eastern lower Papaloapan Basin. This phase dates from 400-1 B.C., and broadly corresponds to the Remplás Phase at San Lorenzo, the Picayo phase in the Tepango Valley, and the Early

Bezuapan Phase in the Central Tuxtlas (Coe and Diehl 1980:208-213; Ortíz Ceballos 1975; Pool 2007, Figure I.4; Stoner 2011:230, Table 6.1). A total of 470 sherds diagnostic of this phase were recovered during the RAM survey. The diagnostic ceramic types for this phase are described below.

The Hueyapan phase ceramics in the RAM area are dominated by simple silhouette bowls, and flat-bottomed plates and bowls. Differentially fired ceramic types including Fine Paste Black and White, and Coarse Paste Black and Tan were common, as well as Coarse Gray with White Temper, Polished Black with Orange to Gray Paste, and Polished Orange (macetas form). The most common decoration was incised lines on the exterior rims of vessels. More complex decorations include scallops, hatched lines, curvilinear designs, scroll-like elements, line breaks, and curl motifs. These types, forms, and decorations are all consistent with Late Formative ceramic assemblages throughout the ELPB and Tuxtlas regions (Arnold and McCormack 2002; Ortíz Ceballos and Santley 1988; Pool and Britt 2000; Stoner 2011; Venter 2001).

Coarse Gray with White Temper (Codes 2111 and 2111.1)

One hundred seventy five sherds classified as Coarse Gray with White Temper were recovered during the RAM survey; accounting for 37.2% of all of the Hueyapan Phase ceramics recovered (Table 6.9). Two varieties of the type were identified; plain (Code 2111) and incised (Code 2111.1). Of these varieties, 2111 was the most common, accounting for 86.3 percent of the type assemblage (n=151). The majority of these sherds were from simple silhouette bowls (n=67) or plates/bowls (n=43). The bowls primarily

Table 6.9. Code 2111 Sherds.

Code	Vessel Form	Wall	n	%
2111	Plate/bowl	Insloping-convex	1	.7
		Outsloping-straight	23	15.2
		Outsloping-convex	1	.7
		Outflaring	18	11.9
	Simple Silhouette Bowl	Insloping-convex	18	11.9
		Insloping-concave	1	.7
		Vertical-straight	1	.7
		Vertical-convex	2	1.3
		Outsloping-convex	45	29.8
	Composite Silhouette Bowl	Outflaring	1	.7
	Cylindrical Jar	Vertical-straight	2	1.3
	Necked Jar	Insloping Neck	1	.7
		Vertical Neck	1	.7
		Outsloping Neck	2	1.3
		Outflaring Neck, no break at neck	1	.7
		Outsloping, Channeled Neck	2	1.3
		NA	1	.7
	Tecomate	Insloping-convex	2	1.3
		Outsloping-convex	2	1.3
	Neckless Jar	Insloping-convex	2	1.3
		Insloping Neck	1	.7
	Unidentified	Lip only	23	15.2
2111 Total			**151**	**100**
2111.1	Plate/bowl	Outflaring	4	16.7
	Simple Silhouette Bowl	Insloping-convex	6	25
		Vertical-convex	1	4.2
		Outsloping-convex	8	33.3
	Cylindrical Jar	Vertical-convex	1	4.2
	Unidentified	NA	4	16.7
2111.1 Total			**24**	**100**
Grand Total			**175**	

had insloping or outsloping, convex walls, although three examples were from bowls with vertical straight or convex walls, and one had an insloping-concave wall profile. Direct lip forms were most common; however examples with everted and thickened lips were` also recovered. Plates/bowls tended to have outsloping-straight or outflaring walls, and direct lips. Like the simple silhouette bowls, a few sherds with everted and thickened lips were also recovered. The next most common form, necked jars, was represented by only eight sherds. The majority (n=5) of these vessels had outsloping necks (one channeled). One example each of insloping and vertical necked jars was also recovered. One sherd had a neck seam (a horizontal seam at the juncture of the neck and the vessel body); however, the neck form could not be classified. Direct lip forms also dominate this assemblage. Other vessel forms represented by less that five sherds include a composite silhouette bowl (n=1), cylindrical jars (n=2), tecomates (n=4), and neckless jars (n=3). The wall forms are summarized in Table 6.8. Twenty-three sherds of this type could not be classified by form.

Twenty-four sherds were classified as the incised variety of Coarse Gray with White Temper (Code 2111.1). Like the plain variety simple silhouette bowls (n=15) and plates/bowls (n=4) were the most common forms associated with this variety. .All of the plates/bowls had outflaring walls. The only other form identified for this variety was a cylindrical jar which was represented by one sherd. On all vessel forms, direct lips were most common, although some everted and thickened lips were also identified.

The most common decoration on the 2111.1 sherds was a single line incised on the exterior of the vessel rim. Some vessels, however, had double or triple lines. One sherd had a double line on the vessel interior and a single line on the exterior. Other

motifs identified include scallops, hatched lines (Venter 2001: 80, Figure 6.2), and an unidentified curvilinear design executed between two deeply incised lines.

Thin Walled Polished Black with Orange to Gray Paste (Code 2122.4)

Seventy-four sherds recovered during the RAM survey were classified as Thin Walled Polished Black with Orange to Gray Paste (Table 6.10). These artifacts account for 15.7% of all of Hueyapan Phase ceramics. Numerous vessel forms are represented in this assemblage. The most common was simple silhouette bowls (n=50) which account for 67.6 percent of all sherds recovered. Outsloping-convex walls (n=31) were the most common wall type followed by insloping-convex (n=10) and vertical-convex (n=8), one simple silhouette bowl with a vertical-straight wall was also recovered. The majority of vessels had direct lips, although some thickened examples were also identified. Plates/bowls with outsloping-straight or outflaring walls were the next largest vessel form category identified (n=13). Other vessel forms in this assemblage are a cazuela (n=1), composite silhouette bowls (n=2), necked jars (n=2), and a neckless jar (n=1). Five sherds could not be classified as to vessel form. Decorations, where present, took the form of incised lines usually on the exterior lip. A couple of examples have double lines.

Plain Fine Paste Differentially Fired Black and White (Code 2212.1)

Thirteen sherds were classified as Plain Fine Paste Differentially Fired Black and Tan (Table 6.11). These artifacts account for 2.8% of all Hueyapan Phase ceramics.

Table 6.10. Code 2122.4 Sherds.

Code	Vessel Form	Wall	n	%
2122.4	Cazuela	Outflaring	1	1.4
	Plate/bowl	Outsloping-straight	4	5.4
		Outflaring	9	12.2
	Simple Silhouette Bowl	Insloping-convex	10	13.5
		Vertical-straight	1	1.4
		Vertical-convex	8	10.8
		Outsloping-convex	31	41.9
	Composite Silhouette Bowl	Insloping-convex	1	1.4
		Outsloping-convex	1	1.4
	Necked Jar	Vertical Neck	1	1.4
		Outflaring Neck	1	1.4
	Neckless Jar	Vertical Neck	1	1.4
	Unidentified	Lip only	5	67.6
2122.4 Total			**74**	**100**

Table 6.11. Code 2212.1 Sherds.

Code	Vessel Form	Wall	n	%
2212.1	Plate/bowl	Outsloping-straight	3	23
		Outflaring	1	7.7
	Simple Silhouette Bowl	Vertical-convex	1	7.7
		Outsloping-convex	6	46.2
	Tecomate	Insloping-convex	1	7.7
	Unidentified	NA	1	7.7
2212.1 Total			**13**	**100**

Three vessel forms are represented in this type; plates/bowls, simple silhouette bowls, and tecomates. Of these forms, simple silhouette bowls was the most common accounting for just over half of all of the 2212.1 vessels. All but one of these bowls (n=6) had outsloping-convex walls. The other had vertical-convex walls. Of the plates/bowls, three had outsloping-straight walls, and one had outflaring walls. One tecomate with insloping-convex walls was also identified. All of these vessels had direct oriented lips. One sherd could not be classified by vessel form.

Coarse Paste Differentially Fired Black and Tan (Codes 2225.1 and 2225.2)

A total of 201 sherds were classified as Coarse Paste Differentially Fired Black and Tan (Table 6.12). These artifacts represent 42.8 % of all Hueyapan Phase sherds. Eighty-nine percent (n=179) of all of the sherds assigned to this type were classified as the plain variety of the type (Code 2225.1). The majority of the 2225.1 sherds were from simple silhouette bowls (n=104) or plates/bowls (n=46). Outsloping convex (n=70) and insloping-convex (n=28) were the most common wall forms for the simple silhouette bowls, with vertical-straight and vertical convex walls, only represented by a few sherds. All of the plates/bowls had outflaring (n=28) or outsloping-straight (n=17) walls. With the exceptions of one bowl and one plate/bowl with everted lips, all of the remaining plates/bowls and simple silhouette bowls had either direct or thickened lip forms. Other vessel forms identified within the 2225.1 assemblage include composite silhouette bowls, cylindrical jars, necked jars, neckless jars, a cazuela, and tecomates. None of these forms

Table 6.12. Code 2225 Sherds.

Code	Form	Wall	n	%
2225.1	Cazuela	Outflaring	1	.6
	Plate/bowl	Outsloping-straight	17	9.5
		Outflaring	28	15.6
	Simple Silhouette Bowl	Insloping-convex	28	15.6
		Insloping-carinated	1	.6
		Vertical-straight	1	.6
		Vertical-convex	4	2.2
		Outsloping-convex	70	39.1
	Composite Silhouette Bowl	Outsloping-convex	1	.6
	Cylindrical Jar	Vertical-straight	1	.6
	Necked Jar	Insloping Neck	1	.6
		Outsloping Neck	1	.6
	Tecomate	Insloping-convex	5	2.8
	Neckless Jar	Insloping-convex	2	1.1
		Insloping Neck	2	1.1
	Unidentified		16	8.9
2225.1 Total			**179**	**100**
2225.2	Plate/bowl	Outsloping-straight	5	22.7
		Outflaring	1	4.5
	Simple Silhouette Bowl	Insloping-convex	3	13.6
		Outsloping-convex	10	45.6
	Tecomate	Insloping-convex	1	4.5
	Unidentified		2	9.1
2225.2 Total			**22**	**100**
Grand Total			**201**	

was represented by more than five examples. Fifteen sherds could not be classified by vessel type.

Twenty-two sherds were classified as Incised Coarse Paste Black and Tan (Code 2225.2). This variety was dominated by simple silhouette bowls (n=13) and plates/bowls (n=6). Ten bowls had outsloping-convex walls, and three had insloping-convex walls.

The plates/bowls were dominated by outsloping wall forms; one had outflaring walls. Additionally one tecomate was identified with insloping-convex walls. Direct lip forms were most common on all vessels for this variety. Two sherds could not be classified by vessel form.

The most common incised decoration on these vessels was a single incised line on the exterior rim of the vessel. Three sherds had more complex incision. One example is a simple silhouette bowl with a partial geometric design incised on its interior. The other two examples were plates/bowls with incised everted rims. One had a linear design with a partial "scroll-like element" (Venter 2001: 80, Figure 6.2). The other has a deeply incised, almost excavated, line break.

Engraved Medium Polished Brown (Code 2519.12)

Three sherds were identified as the engraved variety of Medium Polished Brown. This assemblage consisted of two plates/bowls and one composite silhouette bowl. Both plates/bowls had outflaring walls with direct lip forms. The bowl form had outsloping-convex walls and a thickened, exterior, beveled lip. The engraved decoration on all three vessels was on the exterior of the vessel. Triangles with hatched lines were identified on one plate/bowl. One had a single triangle with hatched lines, and the other had a partial curl element with hatched lines (Venter 2001:80; Figure 6.2).

Polished Orange Macetas (Code 2904.5)

Four sherds were classified as the Macetas variety of Polished Orange. This variety is identified by the unique maceta form that only occurs within the Polished Orange type. All four examples from the RAM survey area have insloping-convex walls and everted, flat lip forms.

Nextepetl Phase

The Nextepetl phase corresponds to the Protoclassic period in the eastern lower Papaloapan basin (Coe1965). This phase dates from A.D. 1-300 and broadly corresponds to the Late Early Bezuapan and Late Bezuapan phases in the Central Tuxtlas (Pool 2007:7, Figure I.4). A total of 4,723 diagnostic ceramic sherds dating the to Nextepetl phase were recovered during the RAM survey. These artifacts are described in detail below.

Because the Protoclassic period is transitional, it is expected that the ceramics will display a mixture of both Formative and Classic period ceramic styles. The major trend in the Nextepetl phase ceramics is the emergence of fine paste ceramics, a hallmark of the subsequent Classic period. Sandy Fine Orange, an early attempt at true fine paste (lacking temper) pottery was the most numerous Nextepetl phase type in the RAM collections. This type occurs primarily in plates/bowls and simple silhouette bowls, although necked jars and composite silhouette bowls also occur. There is also a trend toward finer pastes among the coarse paste wares that are more stylistically consistent with the Formative period. Such types include Fine Paste Black and Tan and Fine Paste

Polished Black. It should be noted that these types do not lack temper; however, the size of the tempering agents are smaller, and the amount of temper in the paste may be reduced. These types also most commonly occur on plates/bowls and simple silhouette bowls. Decoration when present typically takes the form of horizontal incised lines near the exterior rim. Other motifs On Nextepetl phase ceramics include line breaks, diagonal hatched lines, and pendant triangles.

Sandy Fine Orange, Fine Past Black and Tan, and Fine Past Polished Orange are known from Protoclassic deposits in the Tuxtlas Mountains at Bezuapan (Pool and Britt 2000), and at Tres Zapotes (Ortíz Ceballos 1975; Stoner 2011:252). In the Tepango Valley Stoner (2011) is more conservative, only using Sany Fine Orange as a temporal marker if it was identified in association with other Protoclassic materials. Excavations of Protoclassic deposits at Tres Zapotes; however, show a strong association with this type (Pool personal communication). With the introduction of Fine Orange in the Early Classic period, Sandy Fine Orange largely disappears.

Sandy Fine Orange (Code 1212)

A total of 1887 sherds were classified as Sandy Fine Orange (Table 6.13). These artifacts account for approximately 40% of all of the Nextepetl phase sherds recovered. Numerous vessel forms are represented in this assemblage including cazuelas, plates/bowls, simple silhouette bowls, composite silhouette bowls, necked jars, tecomates, neckless jars, censers, and lids. The most common vessel form represented in

Table 6.13. Code 1212 Sherds.

Code	Form	Wall	n	%
1212	Strap Handle	NA	5	.3
	Annular Base	NA	2	.1
	Adorno	NA	7	.4
	Cazuela	Insloping-carinated	5	.3
		Vertical-straight	1	.05
		Outsloping-convex	2	.1
		Outflaring	2	.1
	Plate/bowl	Insloping-convex	3	.16
		Vertical-concave	1	.05
		Outsloping-straight	198	10.5
		Outsloping-convex	5	.3
		Outflaring	238	12.6
	Simple Silhouette Bowl	Insloping-convex	276	14.5
		Insloping-carinated	1	.05
		Vertical-straight	3	.16
		Vertical-convex	63	3.3
		Vertical-concave	3	.16
		Outsloping-straight	2	.1
		Outsloping-convex	429	22.7
		Outflaring	5	.3
	Composite Silhouette Bowl	Insloping-straight	1	.05
		Insloping-concave	1	.05
		Insloping-carinated	2	.1
		Vertical-straight	1	.05
		Vertical-convex	1	.05
		Vertical-concave	3	.16
		Outsloping-straight	3	.16
		Outsloping-convex	18	.95
		Outflaring	14	.74
	Cylindrical Vessel	Vertical-straight	13	.69
		Vertical-convex	3	.16
		Vertical-concave	6	.32

Table 6.13 Continued.

Code	Form	Wall	n	%
1212	Necked Jar	Insloping-neck	4	.21
		Vertical-neck	17	.90
		Outsloping-neck	61	3.2
		Outflaring-neck	34	1.8
		Outflaring-no break at neck	24	1.3
		Outsloping-convex neck	1	.05
		Outsloping-channeled neck	1	.05
		Composite Neck	1	.05
		NA	4	.21
	Neckless Jar	Insloping-convex	3	.16
		Insloping-neck	10	.53
		Vertical-neck	3	.16
		Outsloping-neck	18	.95
		Outflaring-neck	1	.05
		NA	1	.05
	Censer	Outsloping-straight with spikes	1	.05
		Outsloping-convex	7	.37
		Outflaring	1	.05
	Lid	Outsloping-straight	1	.05
		Outsloping-convex	1	.05
	Other	Insloping-straight	1	.05
		Outsloping-straight	1	.05
		Outsloping-convex	2	.1
	Unidentified	Insloping-convex	1	.05
		Insloping-carinated	1	.05
		Vertical-straight	1	.05
		Outsloping-convex	2	.1
		Outflaring	2	.1
		Lip only	208	11
		Indeterminate	2	.1
		Body Sherds	154	8.2
		Flat	1	.05
Grand Total			**1887**	**100**

this assemblage is simple silhouette bowl (n=782) which accounts for 41% of all Sandy Fine Orange sherds. The most common wall forms for these vessels were insloping-convex (n=476) and outsloping-convex (n=429). Other wall forms identified among the simple silhouette bowls include insloping-carinated (n=1), vertical-straight (n=3), vertical-convex (n=63), vertical-concave (n=3), and outflaring (n=5). Direct and thickened lips were most common for this vessel form, although everted and inverted lips were also identified.

Plates/bowls were the second most common vessel form, representing 23.6% (n=445) of the Sandy Fine Orange assemblage. The majority of plates/bowls had either outflaring (n=238) or outsloping-straight walls (n=198). Other wall forms represented include vertical-concave (n=1) and outsloping-convex (n=5). The outsloping-straight walled plates/bowls were dominated by everted (n=98) and direct (n=84) lip forms with thickened lips representing only a small percentage of vessels. For plates/bowls with outflaring walls, direct lip form were most common (n=183), followed by everted (n=29) and thickened (n=26) lip forms.

One hundred forty-seven Sandy Fine Orange sherds were classified as necked jars. Of these, 82 percent (n=127) had either outsloping or outflaring neck forms. The remaining examples primarily had vertical neck forms, although some insloping examples and one composite neck were also identified. For all neck forms, direct and thickened lip forms were prevalent.

Thirty-six neckless jars were identified in the 1212 assemblage. In most cases for this type, the jars were not truly neckless, rather most had a “vague” or abbreviated neck. The most common wall/neck forms for this type were outsloping (n=18). Other

wall/neck forms observed include insloping, vertical, and outflaring. Direct lip forms are the most common for this vessel type.

Vessel forms represented in smaller percentages in the 1212 assemblage include cazuelas (n=10), censers (n=9) and lids (n=2). These vessels, as well as their wall morphologies are summarized in Table 6.13. Three hundred seventy-two Sandy Fine Orange sherds could not be classified by vessel form.

Fine Paste Polished Black (Codes 2122 and 2122.1)

Approximately 4.5% (n=211) of the Nextepetl Phase sherds were classified as Fine Paste Polished Black (Table 6.14). This assemblage includes 140 plain sherds (classified as Code 2122) and 71 incised sherds (classified as Code 2122.1). Plates/bowls (n=50) and simple silhouette bowls (n=49) dominate the plain variety accounting for 70.7% of all of the undecorated sherds. Plates/bowls had outflaring (n=27) or outsloping-straight (n=23) walls. The majority of plates/bowls had direct lip forms although some everted and thickened examples were also identified. Among the simple silhouette bowls, outsloping-convex (n=30) and insloping-convex walls were most common (n=21). Direct lip forms were also most common for this vessel type. Other forms represented include, necked jars (n=5) and cylindrical jars (n=4). The majority of necked jars had outflaring necks, although one insloping neck and one channeled neck were also identified. All of the recovered necked jars had direct lip forms. All but one of the cylindrical jars had vertical-straight walls. The exception has vertical-convex walls. Direct lips were most common on these vessels. Other vessel

Table 6.14. Code 2122 Sherds.

Code	Form	Wall	n	%
2122	Plate/bowl	Outsloping-straight	23	16.4
		Outflaring	27	19.3
	Simple Silhouette Bowl	Insloping-convex	21	15
		Vertical-straight	1	.7
		Vertical-convex	3	2.4
		Outsloping-convex	30	21.4
		NA	1	.7
	Composite Silhouette Bowl	Insloping-carinated	1	.7
		Outsloping-convex	2	1.4
	Cylindrical Vessel	Vertical-straight	3	2.4
		Vertical-convex	1	.7
	Necked Jar	Insloping-neck	1	.7
		Outflaring-neck	3	2.4
		Outsloping-channeled neck	1	.7
	Neckless Jar	Insloping-neck	2	1.4
		Outsloping-neck	1	.7
	Censer	Insloping-convex	2	1.4
	Unidentified	Lip only	17	12.1
2122 Total			**140**	**100**
2122.1	Cazuela	Outsloping-convex	1	1.4
	Plate/bowl	Outsloping-straight	6	8.5
		Outflaring	12	16.9
	Simple Silhouette Bowl	Insloping-convex	18	25.4
		Vertical-straight	1	1.4
		Vertical-convex	2	2.8
		Vertical-concave	1	1.4
		Outsloping-convex	16	22.5
		NA	1	1.4
	Cylindrical Vessel	Vertical-straight	2	2.8
		Vertical-concave	1	1.4
	Unidentified	Lip only	10	14.1
2122.1 Total			**71**	**100**
Grand Total			**211**	

forms represented in lower numbers include composite silhouette bowls (n=3), neckless jars (n=3), and censers (n=2). The wall forms for these vessels are summarized in Table 6.13. Seventeen sherds could not be classified by vessel form.

Like the plain variety, plates/bowls (n=18) and simple silhouette bowls (n=39) were the most common forms of the incised variety; however, in the incised variety, the bowl form was more plentiful than the plates/bowls. Wall forms for both vessel forms were consistent with the undecorated variety. Other vessel forms represented in this assemblage include a cazuela (n=1), and two cylindrical jars. The wall forms for these vessels are summarized in Table 6.14. The most common decoration for this variety was an incised line on the exterior of the vessel rim. In several cases there are two relatively wide lines. Other motifs identified in this assemblage include hatched lines, triangles filled with hatched lines, cross hatching, and two examples of possible sine curves (Venter 2001:77, Figure 6.1; 82, Figure 6.3). The majority of these motifs are consistent with motifs on Nextepetl Phase sherds from Tres Zapotes; however, Venter (2001) places the sine curve into the earlier Tres Zapotes Phase.

Fine Paste Black and Tan (Codes 2224, 2224.1, 2224.2, 2224.3, and 2224.4)

Fine Paste Differentially Fired Black and Tan accounted for 10% of all of Nextepetl sherds recovered during the RAM survey (n=471) (Table 6.15). This type includes four varieties; plain (Code 2224.1), incised (Code 2224.2), white-slipped (Code 2224.3), and white-slipped, incised (Code 2224.4). Ninety-one sherds (19.3% of the type) could not be confidently placed into one of the four varieties, and were classified as

Table 6.15. 2224 Sherds.

Code	Vessel Form	Wall	n	%
2224	Cazuela	Outflaring	1	1.1
	Plate/bowl	Outsloping-straight	19	20.9
		Outflaring	9	9.9
	Simple Silhouette Bowl	Insloping-convex	9	9.9
		Vertical-straight	2	2.2
		Vertical-convex	3	3.3
		Outsloping-convex	30	33
	Composite Silhouette Bowl	Insloping-carinated	2	2.2
	Necked Jar	Outflaring-neck	1	1.1
	Tecomate	Insloping-convex	1	1.1
	Unidentified	Lip only	14	15.4
2224 Total			**91**	**100**
2224.1	Cazuela	Outsloping-convex	1	.5
		Outflaring	1	.5
	Plate/bowl	Outsloping-straight	53	24.9
		Outflaring	25	11.7
	Simple Silhouette Bowl	Insloping-convex	12	5.6
		Vertical-straight	1	.5
			1	.5
		Vertical-convex	4	1.9
		Vertical-concave	1	.5
		Outsloping-convex	88	41.3
	Cylindrical Vessel	Vertical-straight	3	1.4
	Necked Jar	Vertical-neck	1	.5
		Outsloping-neck	1	.5
	Tecomate	Insloping-convex	2	.9
	Unidentified	Lip only	19	8.9
2224.1 Total			**213**	**100**

Table 6.15 Continued

Code	Form	Wall	n	%
2224.2	Cazuela	Outflaring	1	2.9
	Plate/bowl	Outsloping-straight	12	34.3
		Outflaring	3	8.6
	Simple Silhouette Bowl	Insloping-convex	3	8.6
		Vertical-straight	2	5.7
		Outsloping-convex	9	25.7
	Composite Silhouette Bowl	Outflaring	1	2.9
	Tecomate	Insloping-convex	1	2.9
	Unidentified	Lip only	3	5.7
2224.2 Total			**35**	**100**
2224.3	Cazuela	Outsloping-convex	1	.9
		Outflaring	1	.9
	Plate/bowl	Outsloping-straight	19	17
		Outflaring	13	11.6
	Simple Silhouette Bowl	Insloping-convex	11	9.8
		Vertical-straight	2	1.8
		Vertical-convex	2	1.8
		Outsloping-convex	45	40.2
	Composite Silhouette Bowl	Outsloping-convex	3	2.7
	Cylindrical Vessel	Vertical-straight	2	1.8
	Neckless Jar	Insloping-neck	2	1.8
		Outsloping-neck	1	.9
	Unidentified	Lip only	10	8.9
2224.3 Total			**112**	**100**
2224.4	Cazuela	Outsloping-straight	1	5
	Plate/bowl	Outsloping-straight	3	15
		Outflaring	2	10
	Simple Silhouette Bowl	Vertical-convex	1	5
		Outsloping-convex	12	60
	Cylindrical Vessel	Vertical-straight	1	5
2224.4 Total			**20**	**100**
Grand Total			**471**	

simply Code 2224. Of these sherds, 44 were classified as simple silhouette bowls. Outsloping-convex walls (n=30) were the most common wall form for these bowls, followed by insloping-convex (n=9). Five bowls were classified as having straight walls (vertical-straight n=2, vertical-convex n=3). Direct lip forms were most common for this form, although several thickened lips were also identified. The next most common form for Fine Paste Black and Tan was plates/bowls (n=9). All plates/bowls had either outsloping-straight (n=19) or outflaring (n=9) walls. Direct lips were most common for this form, although some thickened and everted examples were also identified. Other vessel forms occurring in minor percentages include cazuelas (n=1), composite silhouette bowls (n=2), necked jars (n=1), and tecomates (n=1). Fourteen sherds could not be classified by vessel form.

The plain variety (Code 2224.1) accounted for just over 45% of all of the Fine Paste Black and Tan Assemblage (n=213). Approximately half of these sherds (n=107) were from simple silhouette bowls. Of these bowls, 88 had outsloping-convex walls, and 12 had insloping-convex walls. The remaining vessels all had vertical wall forms (vertical-concave n=1, vertical-convex n=4, vertical-straight n=1). All but five vessels had direct lip forms. These vessels had thickened (n=4) or everted (n=1) lips. The second most common form was plates/bowls (n=78) which had either outsloping-straight (n=53) or outflaring (n=25) walls. All of the plates/bowls had direct lip forms except two examples which had thickened lips. The remaining sherds include cazuelas (n=2), cylindrical vessels (n=3), necked jars (n=2), and tecomates (n=2). These vessels, including their wall forms are summarized in Table 6.15. Eight sherds could not be classified by vessel form.

Thirty-five sherds were classified as the incised variety of Fine Paste Black and Tan (Code 2224.2). Like the other varieties of the type, this variety is also dominated by simple silhouette bowls (n=14) and plates/bowls (n=15). All of the plates/bowls had outsloping-straight walls, except for three which had outflaring walls. With the exception of one plate/bowl with an everted lip, all of the plates/bowls had direct lip forms. The majority of simple silhouette bowls had outsloping-convex walls (n=9). The others had either insloping-convex (n=3) or vertical straight (n=2) walls. All of the simple silhouette bowls had direct lip forms. Other vessels included in this variety in minor percentages are a cazuela (n=1), a composite silhouette bowl (n=1), and a tecomate (n=1). These vessels are summarized in Table 6.15. Three sherds could not be classified by vessel form.

The most common decorations on these vessels are incised lines executed on the exterior of the vessel just below the lip. Some examples have double or triple lines. Other motifs (usually only singular examples) include line breaks, diagonal hatched lines, pendant triangles, and a fragment of what may be a sine curve motif (Venter 2001:77 Figure 6.1, 82-83, Figure 6.3). Most of these motifs are similar to motifs Venter (2001) documents for Nextepetl Phase ceramics at Tres Zapotes; however, she argues that sine curves are more indicative of the Tres Zapotes Phase.

One hundred twelve sherds were classified as White-Slipped Fine Paste Black and White (Code 2224.3). This variety is dominated by simple silhouette bowls which account for more that 50% of the variety (n=60). Seventy-five percent (n=45) of these bowls had outsloping-convex walls. The remaining vessels had insloping-convex (n=11), vertical-straight (n=2), or vertical-convex (n=2) walls. Direct lips were most common

with a few examples of thickened or everted lips also identified. Plates/bowls were the next most common form accounting for 38.6% of the variety (n=32). The majority of plates/bowls (n=19) had outsloping-straight walls, and the remainder had outflaring walls. All of the plates/bowls had direct lip forms except for eight vessels with thickened lips. Other vessel forms that occurred in minor percentages include cazuelas (n=2), composite silhouette bowls (n=3), cylindrical jars (n=2), and neckless jars (n=2). These vessels are summarized in Table 6.15. Ten sherds could not be classified by vessel form.

The rarest of the Fine Paste Black and Tan varieties encountered during the RAM survey was White-Slipped Incised Fine Paste Black and Tan (Code 2224.4). Only20 sherds were classified as this variety. Simple silhouette bowls account for more that half (n=13) of all of the sherds recovered. All of these vessels had outsloping-convex walls, except for one which had vertical-convex walls. All of these vessels had direct lips except for one which had a thickened lip. Five plates/bowls were recovered. These vessels had either outsloping-straight (n=3) or outflaring (n=2) walls. All plates/bowls had direct lips. The remaining sherds include one cazuela and one cylindrical jar. These vessels are summarized in Table 6.15. Incised decoration on these vessels consists of incised lines that were executed on the exterior of the vessel just below the lip. In most cases these are single lines, although a couple of examples of double lines are also present. Some vessels also have a single line incised on the interior of the vessel just below the lip.

Coarse Orange with White Temper (Dark Core) (Code 2653)

Approximately 19 percent of the Nextepetl Phase assemblage (n=918) was classified as Coarse Orange with White Temper (Dark Core) (Code 2653) (Table 6.16). The most common vessel form for this type was plates/bowls (n=425). The majority these vessels had outflaring walls (n=315). One hundred eight plates/bowls had outsloping-straight walls, and two plates/bowls had outsloping-convex walls. Direct lips were most common for this form, although some thickened, everted, and recurved lips were also noted. The second most common vessel form was necked jars (n=248). These vessels had outsloping (n=139), outflaring (n=79), outflaring with no break (n=16), and vertical (n=3) neck forms. The neck form could not be determined for 11 necked jars. Direct lips were most common for these jars. Sixty simple silhouette bowls were also identified. The majority of these vessels had outsloping-convex walls (n=29). Other wall forms include insloping-convex (n=27), vertical-convex (n=3), and vertical-concave (n=1). Most simple silhouette vessels had direct lip forms; however, some thickened lips were also observed. Other vessel forms occurring in minor percentages include cazuelas (n=3), tecomates (n=9), and neckless jars (n=10). These vessels are summarized in Table 6.16. Additionally, five lug handles were also recovered. The vessel form could not be determined for 167 sherds.

Twenty-nine sherds had incised decoration consisting of single or double incised lines executed below the lip, usually on the exterior of the vessel. Two plates/bowls with remnant paint were also identified. Each had a painted interior rim band; one red, the other orange.

Table 6.16. Code 2653 Sherds.

Code	Vessel Form	Wall	n	%
2653	Lug Handle	NA	5	.5
	Cazuela	Outsloping-convex	2	.2
		Outflaring	1	.1
	Plate/bowl	Outsloping-straight	108	11.8
		Outsloping-convex	2	.2
		Outflaring	315	34.3
	Simple Silhouette Bowl	Insloping-convex	27	3
		Vertical-convex	3	.3
		Vertical-concave	1	.1
		Outsloping-convex	29	3.2
	Necked Jar	Vertical-neck	3	.3
		Outsloping-neck	139	15.1
		Outflaring-neck	79	8.6
		Outflaring-no break at neck	16	1.7
		NA	11	1.2
	Neckless Jar	Insloping-convex	2	.2
		Outsloping-neck	7	.8
		Outflaring-neck	1	.1
	Unidentified		167	18.2
2653 Total			**918**	**100**

Coarse Brown with Coarse White Temper (Code 2654)

Just over a quarter of all of the Nextepetl Phase ceramics recovered during the RAM survey (n=1236, 26.2%) were classified as Coarse Brown with Coarse White Temper (Code 2654) (Table 6.17). The most common vessel form for this type was plates/bowls (n=554) which accounted for almost 45% of the assemblage. Vessel walls were typically outflaring (n=391) or outsloping-straight (n=161). For outflaring-walled plates/bowls direct lips (n=187) and thickened lips (n=166) were most common. A minor percentage had everted lips. Almost 68% of the outsloping-straight-walled plates/bowls

Table 6.17. Code 2654 Sherds.

Code	Vessel Form	Wall	n	%
2654	Lug Handle	NA	18	1.5
	Annular Base	NA	1	.08
	Escudilla	Extreme Outflaring to Flat	2	.16
	Cazuela	Vertical-convex	1	.08
		Outsloping-straight	1	.08
		Outsloping-convex	10	.81
		Outflaring	5	.4
	Plate/bowl	Outsloping-straight	161	13
		Outflaring	389	31.5
		Outflaring with sidewall ridge	1	.08
		Extreme Outflaring to Flat	1	.08
		Indeterminate	2	.16
	Simple Silhouette Bowl	Insloping-convex	66	5.3
		Vertical-straight	13	1.1
		Vertical-convex	3	.24
		Outsloping-convex	49	4
	Composite Silhouette Bowl	Outsloping-convex	2	.16
		Outflaring	6	.49
	Cylindrical Vessel	Vertical-straight	1	.08
		Vertical-convex	1	.08
		Vertical-concave	1	.08
	Necked Jar	Insloping-straight	1	.08
		Insloping-neck	3	.24
		Vertical-neck	2	.16
		Outsloping-neck	87	7
		Outflaring-neck	86	7
		Outflaring-no break at neck	11	.89
		Outsloping-channeled neck	1	.08
		NA	13	1.1

Table 6.17 Continued.

Code	Form	Wall	n	%
2654	Neckless Jar	Insloping-convex	1	.08
		Insloping-neck	3	.24
		Vertical-neck	4	.32
		Outsloping-neck	9	.73
		Outflaring-neck	3	.24
	Censer	Outflaring	1	.08
	Unidentified	Outsloping-convex	279	22.6
2654 Total			**1236**	**100**

had direct lip forms (n=109), with both thickened and everted lips represented in lower percentages (16.8% and 15.5% respectively).

The next most common vessel form for this type was necked jars (n=204). The majority of these vessels had either outsloping (n=87) or outflaring (n=86) necks. For both of these neck forms, direct and thickened lips were most common. Among outsloping necked jars, 56.3% (n=49) had direct lips, and 34.5% (n=30) had thickened lips. The remaining vessels had either everted (n=7) or inverted (n=1) lip forms. Of the outflaring necked jars, 47.7% (n=41) had direct lips and 43% (n=37) had thickened lips. Seven outflaring necked jars had everted lips. The third most common neck form was outflaring with no break at the neck. Eleven vessels with this neck form were identified. The majority of these vessels (n=7) had thickened lips, and the remainder had direct lips. Other neck forms that occurred in small numbers include insloping straight (n=1), insloping (n=3), vertical (n=2), and channeled (n=1). These vessels are summarized in Table 6.17. Neck forms could not be determined for 13 necked jars. These vessels consisted of body sherds with neck seams; however the necks themselves were not present.

The third most common vessel form for the type was simple silhouette bowls which accounted for approximately 10.4 percent (n=129) of the type. The majority of these vessels had either insloping-convex (n=66) or outsloping-convex walls (n=49). These wall forms account for 51.2% and 38% of the simple silhouette bowls respectively. All of the bowls with insloping-convex walls had either direct (n=39) or thickened lips (n=27). For the bowls with outsloping-convex walls, 81.6 percent (n=40) had direct lips, with the remainder having thickened (n=7) or everted (n=2) lips.

The remaining vessel forms represent minor percentages, with no vessel type having more than 20 examples. These forms include escudillas (n=2), cazuelas (n=17), composite silhouette bowls (n=8), cylindrical vessels (n=3), neckless jars (n=20), and a censer (n=1). These vessels are summarized in Table 6.17. Additionally, 18 lug handles and one annular base were identified. Two hundred seventy-nine sherds could not be classified by vessel form.

A few sherds had incised lines executed near the vessel lip. These lines usually occurred on the exterior, although some examples with incised lines on the interior of the rim were also identified. These decorations usually occurred as single or double lines; however, one vessel had four incised lines on the interior of the rim. Additionally one sherd was identified with chapopote (asphaltum) on the interior of the vessel. Rather than a decoration, the asphaltum may have been used as a sealant on this vessel.

Ranchito Phase

The Ranchito Phase represents the Early Classic period in the ELPB. This Phase dates from A.D. 300-600 and broadly corresponds to Phases C, D, and E in the Central Tuxtlas region, the Santiago Phase in the Tepango Valley, and the Camaron I, II, and III phase in south-central Veracruz (Ortíz 1975; Ortiz and Santley 1988; Stark 1989:94, Table 4.1; Stoner 2011). A total of 3715 diagnostic ceramic sherds dating to the Ranchito Phase were recovered during the RAM survey. These artifacts are described in detail below.

In terms of its material culture, the Ranchito phase is marked by the widespread adoption of fine paste ceramic wares. The production of such wares began during the Late Formative and Protoclassic periods; however, they became most popular during the Classic period. Types within these ware categories are defined based on decorative technique including incision and painting, as well as surface treatment such as slipping. Generally, Fine Orange was most popular during the Ranchito Phase and Fine Gray during the later Quemado phase. As these fine paste wares became more prevalent, the black and differentially fired wares that were common in the Formative period were no longer in use. Moreover, forms such as tecomates disappear from ceramic assemblages.

In the RAM area Fine Orange ceramics occur primarily in plates/bowls and simple and composite silhouette bowls. Surface treatments include brown and orange slips and wet paste polishing. Decoration on Fine Orange sherds includes red, orange, and black paint. Incised decorations include horizontal lines rendered on the exterior rim.

Other ceramic types associated with the Ranchito phase in the RAM area include several coarse paste types including Brown-Slipped Fine Coarse Brown, which occurs on

cazuelas and other forms, Coarse Pink, and Coarse Orange, a type strongly associated with the large center Matacapan. Additionally non-local types associated with the Mixtequilla also appear in the RAM area at this time. One of these types Patarata Coarse Red-Orange features pattern burnished decoration, a technique that is rare in the ELPB.

The ceramic trends in the RAM area are largely consistent with the ceramics from elsewhere in the ELPB, although there is some variation in the forms represented for some types. For example, at Matacapan, Brown-slipped Fine Coarse Brown occurs primarily on cazuelas (Ortíz Ceballos). Pool (nd) notes that at Tres Zapotes this type also occurs on some bowl forms as wall as some cylindrical jar forms

The following presents the RAM ceramics associated with the Ranchito phase. The Fine Orange discussion is restricted to forms associated with the Ranchito phase. The determination of diagnostic vessel forms, wall forms, or lip forms is taken from Ortíz Ceballos and Santley's (1988) analysis of the ceramics from Matacapan. Because of this restriction, this presentation of the Ranchito phase ceramics is conservative, as clearly other forms with Fine Orange paste were in use during this time. Unfortunately I cannot accurately attribute these forms to the Ranchito or Quemado phases, or potentially the Postclassic period. The result is that the reconstruction of the Classic period settlement pattern will also be conservative.

Plain Fine Orange (Code 1211)

A total of 286 sherds were classified as Plain Fine Orange, accounting for 7.7% of all of the Ranchito phase sherds recovered (Table 6.18). Vessel forms associated with this type during the Ranchito phase include plates/bowls with outsloping walls (n=230), simple silhouette bowls (n=21), and composite silhouette bowls (n=35). Approximately 74% (n=170) of the plates/bowls had everted lips. Fifty percent (n=116) of all of the plates/bowls had everted, flat lips. Approximately 21% of the plates/bowls had everted, curved lips. Other lip types identified in this assemblage include direct (n=50), inverted (n=1), and thickened (n=9).

Composite silhouette bowls (n=35) account for approximately 15% of the Ranchito phase Plain Fine Orange assemblage. The majority of these vessels (n=20) had outsloping-convex walls. Other wall types represented among the composite silhouette bowls include insloping-convex (n=4), insloping-concave (n=1), insloping-carinated (n=1), vertical-convex (n=1), and outflaring (n=7). The wall form could not be determined for one composite silhouette bowl. The majority (n=17) of these bowls had direct lip forms. Everted and thickened lips were each represented by nine examples.

Twenty-one simple silhouette bowls were also identified. The majority of these bowls (n=12, 57%) had outsloping-convex walls. Approximately 30% (n=6) had vertical-straight walls. Other wall forms identified include insloping-convex (n=2), and outsloping-straight (n=1). With the exception of one bowl with an everted, flat lip, all of the simple silhouette bowls had direct lip forms.

Table 6.18. Ranchito Phase Code 1211 Sherds.

Code	Vessel Form	Wall	n	%
1211	Plate/bowl	Outsloping-Straight	230	80.4
	Simple Silhouette Bowl	Insloping-Convex	2	.7
		Vertical-Straight	6	2.1
		Outsloping-Straight	1	.35
		Outsloping-Convex	12	4.2
	Composite Silhouette Bowl	Insloping-Convex	4	1.4
		Insloping-Concave	1	.7
		Insloping-Carinated	1	.7
		Vertical-Convex	1	.7
		Outsloping-Convex	20	7
		Outflaring	7	2.4
		IND	1	.7
1211 Total			**286**	**100**

Fine Orange with Simple Incision (Code 1221)

This type has the same paste as Fine Orange; however, the sherds all bear simple incision on the vessel exterior. Also like Fine Orange, this type spans multiple phases; however, Ortiz and Santley (1988) note that simple silhouette bowls with insloping-convex walls are associated with Phase E at Matacapan, which corresponds to the end of the Ranchito phase in the ELPB. Eighty-eight sherds of these bowls were identified during the RAM survey (Table 6.19). The majority of which had either direct rounded (n=26), direct, tapered, interior (n=22), or thickened, interior-beveled lips. Other lip

Table 6.19. Code 1221 Sherds.

Code	Vessel Type	Wall	n
1221	Simple Silhouette Bowl	Insloping-Convex	26 1 1 22 2 4 2 2 3 1 17 4 1 1 1
1221 Total			**88**

forms include various direct and thickened forms, and one vessel had an everted lip. On one bowl the lip was damaged and the lip form could not be identified.

The incised decoration on these vessels occurred on the exterior of the vessel. The most common decoration was incised lines which tended to occur as double or triple lines just under the vessel's lip. One sherd however had a partial rectilinear design composed of two lines that intersected perpendicular to each other.

Brown-slipped Fine Orange (Code 1232)

Three sherds from the RAM ceramic assemblage were identified as Brown-slipped Fine Orange. These artifacts include two sherds from simple silhouette bowls. The first had insloping-convex vessel walls and a direct, rounded lip. The other had outsloping-convex walls and a direct, tapered, interior lip. The third sherd was an everted lip. The vessel form could not be determined for this sherd.

Orange-Slipped Fine Orange (Code 1234)

A total of 45 sherds were identified as Orange-slipped Fine Orange (Table 6.20). The majority of these (n=24) were from simple silhouette bowls. Just over half of these bowls had outsloping convex walls (n=13). Other wall forms represented in this assemblage include vertical-concave (n=1), vertical-convex (n=6), and insloping-convex (n=3). Direct lip forms were the most common forms for this vessel type, although two simple silhouette bowls had thickened lips. The next most common vessel form represented in this assemblage was plates/bowls (n=12). The majority of plates/bowls had outsloping straight walls (n=11). All but two of these vessels had direct lips. Of the other two, one had an everted, flat lip, and the other had a thickened, symmetrical, tapered lip. Other vessel forms represented by only a single example include composite silhouette bowls, necked jars, and neckless jars. Vessel forms could not be determined for five sherds.

Table 6.20. Code 1234 Sherds.

Code	Vessel Form	Wall	n	%
1234	Plate/bowl	Outsloping-Straight	11	24.4
		Outflaring	1	2.2
	Simple Silhouette Bowl	Insloping-Convex	5	11.1
		Vertical-Convex	6	13.3
		Vertical-Concave	1	2.2
		Outsloping-Convex	13	28.9
	Composite Silhouette Bowl	Vertical-Concave	1	2.2
	Necked Jar	Outflaring Neck	1	2.2
	Neckless Jar	Outsloping Neck	1	2.2
	Unidentified	Lip Only	5	11.1
1234 Total			**45**	**100**

Red on Fine Orange (Code 1261)

Code 1261, Red on Fine Orange is another of the types that has a relatively long uselife during the Classic period. However, Ortíz Ceballos and Santley (1988) note that some forms, including plates/bowls and simple silhouette bowls with outsloping-straight walls, are temporally sensitive. At Matacapan these forms are diagnostic of Phases D and E which correspond to the Ranchito Phase at Tres Zapotes (Ortíz Ceballos and Santley 1988). For the RAM survey, all of the Red on Fine Orange vessels were plates/bowls (n=13). Ten plates/bowls had direct lips, two had everted lips, and one had a thickened lip.

Black on Fine Orange (Code 1263)

Sixteen sherds from the RAM assemblage were classified as Black on Fine Orange (Table 6.21). Approximately 38 percent of these sherds (n=6) were simple silhouette bowls. All but one bowl had outsloping-convex walls. The other had insloping-convex vessel walls. All of the simple silhouette bowls had direct lip forms. Three plates/bowls were also identified in the Code 1263 assemblage. Two plates/bowls had outsloping-straight walls with everted lips. The other plate/bowl had outflaring walls and a direct, rounded lip. Two necked jars with outsloping necks were also identified. The lip form could only be determined for one of these vessels, a direct tapered, symmetrical lip with a labial ridge. The final vessel identified was a neckless jar with a vague vertical neck and direct, rounded lip. Vessel form could not be determined for four 1263 sherds.

Table 6.21. Ranchito Phase Code 1263 Sherds.

Code	Form	Wall	n	%
1263	Plate/bowl	Outsloping-Straight	2	12.5
		Outflaring	1	6.3
	Simple Silhouette Bowl	Insloping-Convex	1	6.3
		Outsloping-Convex	5	31.3
	Necked Jar	Outsloping Neck	2	12.5
	Neckless Jar	Vertical Neck	1	6.3
	Unidentified	Lip Only	4	25
1263 Total			**16**	**100**

Orange on White-Slipped Fine Orange (Code 1272)

A total of 47 sherds were classified as Orange on White-Slipped Fine Orange (Table 6.22). Just over half of these sherds (n=25) were from simple silhouette bowls. Almost half of these bowls (n=17) had outsloping-convex walls, but other wall forms including insloping-convex (n=1), insloping-carinated (n=1), and vertical-convex (n=6) were also identified. All of the simple silhouette bowls had direct lip forms with direct, rounded being the most common (n=16). The second most common vessel form was plates/bowls (n=18). With the exception of one plate/bowl with outflaring walls, all of the plates/bowls had outsloping-straight walls. The majority of plates/bowls had everted lips (n=14).

Table 6.22. Code 1272 Sherds.

Type	Form	Wall	n	%
1272	Plate/bowl	Outsloping-Straight	18	38.3
		Outflaring	1	2.1
	Simple Silhouette Bowl	Insloping-Convex	1	2.1
		Insloping-Carinated	1	2.1
		Vertical-Convex	6	12.8
		Outsloping-Convex	11	23.4
			3	6.4
			3	6.4
	Composite Silhouette Bowl	Outflaring	1	2.1
	Necked Jar	Outflaring, no break at neck	1	2.1
	Unidentified		1	2.1
1272 Total			**47**	**100**

Brown-Slipped Fine Coarse Brown (Code 2611)

The name of this type is a misnomer, as it is not slipped, and while the paste does have temper, it is not particularly coarse. This type has a distinct reddish yellow soft to moderately hard paste with fine quartz and feldspar temper (Ortíz Ceballos and Santley 1988; Pool 1990, n.d.). The slip indicated in the type's name is actually a self-slip resulting from wet paste smoothing. Because the temper is so fine, Brown-slipped Fine Coarse Brown is sometimes confused with Sandy Fine Orange (Code 1212) (Pool n.d.). At Matacapan this type was most common on cazuelas with loop handles (Ortíz Ceballos and Santley 1988; Pool n.d.). However, at Tres Zapotes this type also occurs on small bowls with restricted orifices and some cylindrical jars (Pool n.d.).

Sixty-two sherds from the RAM survey were classified as Brown-slipped Fine Coarse Brown (Table 6.23). The most common vessel form for this type was simple

silhouette bowls which accounted for 42% of all sherds. The most common wall form for these bowls was outsloping convex (n=14). Other wall forms present include insloping-convex (n=7) and vertical-convex (n=5). The majority of these vessels had direct lips (n=17), although everted and thickened lips were also identified. The second most common vessel form was plates/bowls (n=16), which had either outsloping-straight (n=12) or outflaring (n=4) walls. All of the plates/bowls had either direct (n=9) or everted (n=7) lips. Four necked jars were also identified. Two of these vessels had outsloping necks with thickened, exterior, tapered lips. The other two had outflaring necks with direct, tapered lips. Vessel form could not be determined for 15 sherds. One annular base was also identified. It should be noted that in the Central Tuxtlas, this form is associated almost exclusively with cazuelas (Ortíz Ceballos and Santley 1988). It is possible that the lack of cazuelas in the RAM assemblage is from misidentification of vessel forms, especially due to small sizes of sherds.

Table 6.23. Code 2611 Sherds.

Code	Form	Wall	n	%
2611	Annular Base	NA	1	1.6
	Plate/bowl	Outsloping-Straight	12	19.4
		Outflaring	4	6.5
	Simple Silhouette Bowl	Insloping-Convex	7	11.3
		Vertical-Convex	5	8.1
		Outsloping-Convex	14	22.6
	Necked Jar	Outsloping Neck	2	3.2
		Outflaring Neck	2	3.2
	Unidentified		15	24.2
2611 Total			**62**	**100**

Brown Slipped-Coarse Brown with Paste with White Inclusions (Codes 2614 and 2614.1)

Brown-slipped Coarse Brown with Paste with White Inclusions (Code 2614) and its incised variety (Code 2614.1) account for more than 70% of all of the Ranchito phase sherds (n=2668) (Table 6.24). A total of 2501 sherds were classified as the plain variety. The most common vessel forms were simple silhouette bowls, which accounted for 35.3% of the variety (n=884). The majority of these vessels had either insloping-convex (n=547) or outsloping-convex (n=305) walls. Bowls with insloping-convex walls had either direct (n=392) or thickened (n=154) lips. The Outsloping-convex walled bowls also tended to have either direct (n=217) or thickened (n=72) lips; however, some examples with everted (n=14) or recurved (n=1) lips were also identified. The only other wall form with more than 5 examples is vertical-convex (n=46). With the exception of one bowl with an everted lip, all of these bowls had either direct (n=26) or thickened (n=19) lips. Other wall forms occurring in the simple silhouette bowls include insloping-concave (n=1), insloping-carinated (n=1), vertical straight (n=3), vertical-concave (n=3), and outflaring (n=3). The wall form could not be determined for three simple silhouette bowls.

The second largest category of vessels represented in the Code 2614 assemblage was plates/bowls (n=686) (see Table 6.24). These vessels account for 27.4% of the Code 2614 assemblage. Most of the plates/bowls (n=467, 68 percent) had outflaring or extreme outflaring walls. Direct lips were the most common for these plates/bowls (n=383) followed by thickened (n=73) and everted (n=10). A total of 215 plates/bowls with outsloping-straight walls were identified. Like the outflaring walled plates/bowls,

direct lips were most common with everted, thickened, and inverted lips accounting for minor percentages. Four plates/bowls had outsloping-convex walls. All of these vessels had direct lips.

The third largest vessel form category represented was cazuelas (n=336) which accounted for 13.4 percent of the plain variety. The most common wall form for these vessels was outsloping-convex (n=159), and they had either direct (n=133) or thickened (n=26) lips. Slightly more than a third of the cazuelas (n=104) had outflaring walls. Direct lips (n=84) were most common for these cazuelas followed by thickened lips (n=18). One had a recurved lip and, the lip form could not be identified on one cazuela. The third most common wall form was outsloping –straight (n=42). All of these vessels had either direct (n=29) or thickened (n=13) lips. Other wall forms identified for cazuelas include insloping-convex (n=10), insloping-carinated (n=11), vertical-straight (n=5), and vertical-convex (n=2).

One hundred four necked jars were identified in the plain variety (see Table 6.24). Neck forms for these vessels include outsloping (n=50), outflaring (n=40), vertical (n=5), outflaring with no break at the neck (n=2), outsloping-convex (n=1), and channeled (n=1). All of these vessels had either direct (n=79) or thickened (n=13) lips, except for five vessels that had everted lips.

Other vessels represented minor percentages in the plain variety include composite silhouette bowls (n=30), cylindrical jars (n=8), neckless jars (n=35), and censers (n=1). These vessels are summarized in Table 6.23. Vessel forms could not be determined for 379 sherds.

Table 6.24. Code 2614 Sherds.

Code	Vessel Form	Wall	n	%
2614	Loop or Strap Handle	NA	4	.16
	Lug Handle	NA	3	.12
	Adorno	NA	2	.08
	Cazuela	Insloping-Convex	10	.4
		Insloping-Carinated	10	.4
		Insloping-Carinated with Loop Handle	1	.04
		Vertical-Straight	5	.2
		Vertical-Convex	2	.08
		Outsloping	2	.08
		Outsloping-Straight	42	1.68
		Outsloping-Convex	159	6.4
		Outflaring	104	4.2
		NA	1	.04
	Plate/bowl	Outsloping-Straight	215	8.6
		Outsloping-Convex	4	.16
		Outflaring	464	18.6
		Extreme Outflaring to Flat	3	.12
	Simple Silhouette Bowl	Insloping-Convex	547	21.9
		Insloping-Concave	1	.04
		Insloping-Carinated	1	.04
		Vertical-Straight	3	.12
		Vertical-Convex	46	1.8
		Vertical-Concave	3	.12
		Outsloping-Convex	305	12.2
		Outflaring	3	.12
		Lip Only	1	.04
		IND	1	.04
		NA	1	.04
	Composite Silhouette Bowl	Insloping-Straight	1	.04
		Insloping-Convex	3	.12
		Insloping-Concave	2	.08
		Insloping-Carinated	1	.04
		Vertical-Convex	1	.04
		Outsloping-Convex	15	.6
		Outflaring	7	.28

Table 6.24 Continued

Code	Form	Wall	n	%
2614	Cylindrical Jar	Vertical-Straight	8	.32
	Necked Jar	Indeterminate	1	.04
		Vertical Neck	5	.2
		Outsloping Neck	50	2
		Outflaring Neck	40	1.6
		Outflaring, no break at neck	2	.08
		Outsloping Convex Neck	1	.04
		Outsloping Channeled Neck	1	.04
		NA	4	.16
	Neckless Jar	Insloping-Convex	7	.28
		Outsloping-Convex	3	.12
		Insloping Neck	8	.32
		Vertical Neck	3	.12
		Outsloping Neck	15	.6
	Censer	Outsloping-Convex	1	.04
	Unidentified	Insloping-Convex	379	15.2
2614 Total			**2501**	**100**
2614.1	Cazuela	Insloping-Convex	1	.6
		Outsloping-Convex	7	4.2
		Outflaring	1	.6
	Plate/bowl	Outsloping-Straight	30	18
		Outflaring	42	25.1
		NA	1	.6
	Simple Silhouette Bowl	Insloping-Convex	22	13.2
		Vertical-Straight	1	.6
		Vertical-Convex	2	1.2
		Outsloping-Convex	31	18.6
		Outflaring	1	.6
		Extreme Outflaring to Flat	1	.6
		Lip Only	1	.6
		NA	1	.6
	Composite Silhouette Bowl	Insloping-Carinated	1	.6
		Outsloping-Convex	1	.6
	Necked Jar	Insloping Neck	1	.6
	Unidentified	Lip Only	22	13.2
2614.1 Total			**167**	**100**
Grand Total			**2668**	

A few sherds showed evidence of slipping or paint. Six sherds had remnant white slip, and one sherd had remnant red paint.

A total of 167 sherds were classified as the incised variety of the type (Code 2614.1 (see Table 6.24). The most common vessel form for this variety was plate/bowl (n=73). These vessels had either outflaring (n=42) or outsloping-straight (n=1) walls. The wall form could not be determined for one sherd. All of the plates/bowls had direct lips except for two examples with everted lips and one with a thickened lip. Lip form could not be determined for three sherds.

The second most common form was simple silhouette bowls (n=60). The majority of these vessels (n=31) had outsloping-convex walls. Most of these bowls had direct lips, although some thickened lips (n=4) and one everted lip were also identified. The next most common wall form was insloping-convex (n=21). Of these bowls, 19 had direct lips, one had a thickened lip, and the lip could not be identified for one vessel.

Nine cazuelas were also identified (see Table 6.24). Outsloping-convex walls (n=7) were most common for these vessels. One cazuela had outflaring walls, and one had insloping-convex walls. Other than two vessels with thickened lips, all of the cazuelas had direct lips.

Other vessel forms in the assemblage that were only represented by only one or two examples include composite silhouette bowls (n=2) and necked jars (n=1). These vessels are summarized in Table 6.23. The vessel form could not be determined for 14 sherds.

Decoration on these vessels consisted primarily of single, double, or triple incised horizontal lines executed on the exterior of the vessel below the lip. On a few vessels

lines were also incised on the interior just below the lip. One vessel was brushed (rastreado).

More complex designs were also noted on some sherds. Common designs include hatched and cross-hatched lines used as fills between horizontal lines, irregular crossed lines, double lines, complex line breaks, curls, panel dividers, mat-like elements, herring-bone and "S" curves, and other complex rectilinear designs (Venter 2001: 61 Figure 6.1, 80 Figure 6.2, 83 Figure 6.3). It should be noted that at Tres Zapotes many of these designs were more closely associated with the Formative period. The use of these motifs on Early Classic ceramics may indicate the transitional nature of these ceramics between the Protoclassic and Early Classic periods.

Coarse Pink (Code 2615)

A total of 15 sherds were classified as Coarse Pink (Table 6.25). Vessel forms for this type include plates/bowls (n=5), simple silhouette bowls (n=5), cazuelas (n=2), and a neckless jar (n=1). Of the plates/bowls, three had outflaring walls, and two had outsloping-straight walls. Three had direct lips, one had an everted lip, and one had a thickened lip. All of the simple silhouette bowls had insloping-convex walls. Four of these bowls had direct lips, and one had a thickened lip. Both of the cazuelas had outsloping walls; one straight and the other convex. Both of these vessels had direct lips. The neckless jar had a vague outflaring neck and direct lip. The vessel form could not be determined for two sherds.

Table 6.25. Code 2615 Sherds.

Code	Form	Wall	n	%
2615	Cazuela	Outsloping-Straight	1	6.7
		Outsloping-Convex	1	6.7
	Plate/bowl	Outsloping-Straight	2	13.3
		Outflaring	3	20
	Simple Silhouette Bowl	Insloping-Convex	5	33.3
	Neckless Jar	Outflaring Neck	1	6.7
	Unidentified		2	13.3
2615 Total			**15**	**100**

Coarse Brown with Soft Brushing (Code 2616)

Two sherds in the RAM assemblage were classified as type Coarse Brown with Soft Brushing. One sherd was from a simple silhouette bowl with insloping-convex walls and a direct rounded lip. The vessel form could not be determined for the other sherd.

Coarse Orange (Code 2811)

A total of 54 sherds were classified as Coarse Orange (Code 2811) (Table 6.26), a ceramic type that is closely associated with the large Middle Classic Center Matacapan. The most common vessel form for this type was necked jars (n=13). Seven of these jars had outsloping necks, and four had outflaring necks with no break at the throat of the vessel. The neck form could not be determined for two necked jars. All of these vessels had direct lips. The second most common vessel form was plates/bowls (n=12). These vessel had either outflaring (n=9) or outsloping-straight walls (n=3). All of these vessels had direct lips except for two with everted lips and one with a thickened lip. The next

most common vessel form was simple silhouette bowls (n=11). Most of these vessels (n=7) had outsloping-convex walls. Four bowls had insloping-convex walls. Eight bowls had direct lips, and three had thickened lips. Six neckless jars or jars with a vague neck were also recovered. One truly neckless jar had insloping-convex walls and a direct, rounded lip. Seven vessels had vague outsloping necks, and four had vague outflaring necks with no break at the throat. All of these jars had direct lip forms. Other vessels in the assemblage represented by only a couple of examples include cazuelas (n=1), composite silhouette bowls (n=2), and cylindrical jars (n=1). These vessels are summarized in Table 6.25. Eight sherds could not be classified by vessel form.

Table 6.26. Code 2811 Sherds.

Code	Form	Wall	n	%
2811	Cazuela	Outflaring	1	1.9
	Plate/bowl	Outsloping-Straight	3	5.6
		Outflaring	9	16.7
	Simple Silhouette Bowl	Insloping-Convex	4	7.4
		Outsloping-Convex	7	13
	Composite Silhouette Bowl	Outsloping-Convex	1	1.9
		Outflaring	1	1.9
	Cylindrical Jar	Vertical-Straight	1	1.9
	Necked Jar	Outsloping Neck	7	13
		Outflaring, no break at neck	4	7.4
		NA	2	3.7
	Neckless Jar	Insloping-Convex	1	1.9
		Insloping Neck	4	7.4
		Outsloping Neck	1	1.9
	Unidentified	Insloping-Convex	8	14.8
2811 Total			**54**	**100**

Non-local Early Classic Ceramics

In addition to ceramics from Tres Zapotes and the Tuxtlas region, some non-local ceramic types were also identified in the RAM assemblage. Specifically several ceramic types from the Mixtequilla region of south-central Veracruz were identified. These materials are all associated with the Camaron phase in the Mixtequilla, which is roughly coeval with the Ranchito phase in the ELPB. The following section summarizes these ceramics.

Patarata Coarse Red-Orange (Code 6006)

Patarata Coarse Red-Orange (Code 6006) is described as having a "moderately gritty, medium texture or very gritty, coarse texture…" with a medium brown surface color, and coarse quartz sand temper with a dark core (Stark 1989:70). The surface treatment includes an orange to red slip and pattern burnished decoration. Typical pattern burnishes include wavy lines, criss-crossed lines, vertical lines, and slanting lines (Figure 6.2). These decorations are usually on basins and large open jars (Stark 1989:71).

A total of 17 sherds from the RAM assemblage were classified as Patarata Coarse Red-Orange (Table 6.26). The most common vessel form was plate/bowl (n=11). Five plates/bowls had outsloping-straight walls, and six had outflaring walls. With the exception of one vessel with a thickened lip all of these vessels had direct lips. Two simple silhouette bowls with outsloping-convex walls and direct lips were also identified. Additionally two composite silhouette bowls were also present in the assemblage. One

had outflaring walls and a direct lip, and the other had outsloping-convex walls with a direct lip. The vessel form could not be determined for two sherds.

Figure 6.2. Patarata Coarse-Red Orange (scale in centimeters).

Table 6.27. Code 6006 Sherds.

Code	Vessel Form	Wall	n	%
6006	Plate/bowl	Outsloping-Straight	5	29.4
		Outflaring	6	35.3
	Simple Silhouette Bowl	Outsloping-Convex	2	11.8
	Composite Silhouette Bowl	Outsloping-Convex	1	5.9
		Outflaring	1	5.9
	Unidentified		2	11.8
6006 Total			**17**	**100**

The slipping and pattern burnished designs of the RAM sherds are consistent with Stark's (1989:71) description. In particular the wavy line decoration is common in the RAM assemblage.

The lack of necked jars in the RAM assemblage is troubling as in the Mixtequilla this form is the most common for Patarata Coarse Red-Orange. The most likely

explanation to this problem is that the sherds that were classified as plates/bowls may actually represent jar necks that were simply misidentified. This possibility seems more likely considering the coarseness of the past and lack of smoothing or poor smoothing on the unslipped portions of the sherds. Alternatively, the lack of jars may indicate that these vessels are local copies of a Mixtequilla style that has been applied to different types of vessels in the RAM area to suit the local needs. While the later scenario is certainly likely, I consider the former to be more likely.

Patarata Coarse Plain (Code 6007)

Patarata Coarse, Plain has a similar paste as Patarata Coarse Red-Orange; however, Code 6007 lacks the orange to red slip. Fifty-five sherds in the RAM assemblage were identified as Code 6007 (Table 6.28). Plates/bowls were the most common vessel form associated with this type (n=47). The majority of plates/bowls (n=26) had outsloping-convex walls. All of the others had outflaring walls (n=21). All had direct lips except for two with thickened lips. The lip form could not be determined for one vessel. In discussing this type, Stark (1989:81) notes that while plates do occur in the Mixtequilla they are rare. The most common vessel form is necked jars. Like with the Patarata Coarse Red-Orange sherds, the high incidence of plates/bowls in the Patarata Coarse Plain assemblage may indicate that these vessels were actually necked jars that have been misidentified.

Table 6.28. Code 6007 Sherds.

Code	Form	Wall	n	%
6007	Plate/bowl	Outsloping-Straight	26	47.3
		Outflaring	21	38.2
	Simple Silhouette Bowl	Insloping-Convex	1	1.8
		Outsloping-Convex	1	1.8
	Necked Jar	Indeterminate Neck	1	1.8
		Vertical Neck	1	1.8
		Outflaring Neck	1	1.8
	Unidentified		3	5.5
6007 Total			**55**	**100**

Other vessel forms identified in the RAM assemblage include simple silhouette bowls (n=2) and necked jars (n=3). One bowl had insloping-convex walls, and the other had outsloping-convex walls. Both had direct lips. One necked jar had a vertical neck and one had an outflaring neck. The neck form could not be determined for the third necked jar. All necked jars had direct lips. The vessel form could not be determined for three sherds in the 6007 assemblage.

Like Patarata Coarse Red-Orange, decoration on Patarata Coarse Plain consists of pattern burnishing (Stark 1989:81). The decorative motifs on this type are the same as on the Code 6006 sherds, consisting primarily of wavy lines and some criss-crossed lines.

Acula Red-Orange Monochrome (Code 6008)

Stark (1989:27) describes this type as having a "moderately fine paste with sand inclusions…" and a red-orange slip. A total of 341 sherds in the RAM assemblage were identified as Acula Red-Orange Monochrome (Code6008) (Table 6.29). These materials represent approximately nine percent of all of the Ranchito phase ceramics. Initially

these sherds were identified as variants of Brown-slipped Coarse Brown with a Paste with White Inclusions (Code 2614) or Brown-slipped Coarse (Code 2621), both of which have a coarse brown paste tempered with quartz sand. The majority were associated with Code 2621 paste which has a dark core. Stark (1989:27) states that in the Mixtequilla a dark core is common for Acula Red-Orange Monochrome, although some examples do not have this attribute.

In the RAM assemblage plates/bowls were the most common vessel form (n=247) accounting for 72.4% of the Acula Red-Orange Monochrome sherds. Sixty-eight percent of the plates/bowls had outflaring walls. All of the remaining plates/bowls had outsloping-straight walls. Most of the plates/bowls had direct lips (n=230), 13 had thickened lips, and four had everted lips. Sixty-three simple silhouette bowls were also identified in the RAM assemblage. Most of these vessels (n=49) had outsloping-convex walls. The remainder had insloping-convex (n=6), vertical convex (n=6), or vertical-straight walls. Direct lips were most common for this vessel forms with everted and thickened lips having just two examples each.

Sixty-three simple silhouette bowls were also recovered. The majority of these vessels (n=49) had outsloping-convex walls. Approximately 92% of these vessels (n=45) had direct lips. Thickened and everted lips were each represented by two examples. Bowls with insloping-convex or vertical-convex walls were each represented by six examples. All of these bowls had direct lips. Two bowls with vertical-straight walls and direct lips were also recovered.

No other vessel form was represented by more than six examples. Six necked jars were recovered, one with an insloping neck, two with outsloping necks, and three with

outflaring necks. One of the outflaring necks had no break at the vessel throat. All of these vessels had direct lips except for one which had a thickened lip. Three simple silhouette bowls were also recovered. One had vertical-convex walls, one had outsloping-convex walls, and one had outflaring walls. All of these bowls had direct lips. Two cylindrical jars were identified. Both had vertical-straight walls and direct lips. Two jars with vague outsloping necks were recovered. Both of these vessels had direct lips. Vessel forms could not be identified for 24 sherds.

Table 6.29. Code 6008 Sherds.

Code	Form	Wall	n	%
6008	Plate/bowl	Outsloping-Straight	79	23.2
		Outflaring	168	49.3
	Simple Silhouette Bowl	Insloping-Convex	6	1.8
		Vertical-Straight	2	.6
		Vertical-Convex	6	1.8
		Outsloping-Convex	49	14.4
	Composite Silhouette Bowl	Vertical-Concave	1	.3
		Outsloping-Convex	1	.3
		Outflaring	1	.3
	Cylindrical Jar	Vertical-Straight	2	.6
	Necked Jar	Insloping Neck	1	.3
		Outsloping Neck	2	.6
		Outflaring Neck	2	.6
		Outflaring, no break at neck	1	.3
	Neckless Jar	Outsloping Neck	2	.6
	Unidentified	Lip Only	24	7
6008 Total			**341**	**100**

Acula Red-Orange Engraved (Code 6010)

Acula Red-Orange Engraved is a variant of Acula Red-Orange. In addition to the orange slip that distinguishes the type, Code 6010 also bears red painted and engraved designs, usually executed on the exteriors of bowls (Stark 1989:30). Stark (1989:30) notes that the engraving was usually rendered when the clay was "moderately dry;" however some examples from Patarata were executed when the clay body was still pliable and thus, were incised. Typically these vessels carry a red rim band and engraved lines delimit panels on the exterior of the vessel. Depictions of running animals are usually rendered inside the panels. Stark (1989:30) notes that the slipped portion of the vessels are typically well smoothed or sometimes polished.

Comparing this type to other regions, Stark (1989:33) indicates that vessels similar to Acula Red-Orange Engraved were reported at Tres Zapotes by Weiant (1943:30, 51) as Dubonnet Red-Orange. These sherds were recovered from surface burial that was attributed to Upper Tres Zapotes. Coe's (1965) realignment of the Tres Zapotes chronology attributes these sherds within the portion of Upper Tres Zapotes that includes part of the Early Classic and Late Classic periods. While this type is more common at Patarata earlier in the Camaron phase, Stark states that Coe's temporal placement of these sherds from Tres Zapotes is comparable to Patarata (Stark 1989:33)

One sherd in the RAM assemblage was classified as Acula Red-Orange Engraved. This sherd was from a simple silhouette bowl with outsloping-convex walls and a direct, tapered, interior lip. This sherd carries a red painted rim band on the exterior of the vessel, and a portion of an animal head is engraved into the panel.

Red and White Bislip (Code 6011)

Red and White Bislip is described as having a medium to coarse textured, paste with relatively thick sherds with a white slip and a red rim band (Stark et al 2001:110). Initially these sherds were attributed to Tres Zapotes Type Zoned Polished Orange with quartz temper (Code 2904.3). However, the paste color for the RAM sherds was too brown to be Polished Orange. Two sherds were classified as Red and White Bislip. Both were classified as plates/bowls. One had outsloping-straight walls and the other had outflaring walls. Both had direct lips. In the Mixtequilla this type usually occurs on large thick walled bowls and some jars (Stark n.d.). Given the coarseness of the past is possible that the forms for this type were misclassified and the RAM examples may be jars.

Quemado Phase

The Quemado Phase represents the Late Classic period in the ELPB. This Phase dates from 600-900 A.D. and broadly corresponds to Phase F in the Central Tuxtlas region, and the Limon phase in south-central Veracruz (Ortiz and Santley 1988; Stark 1989:94, Table 4.1). A total of 529 diagnostic ceramic sherds dating to the Quemado Phase were recovered during the RAM survey. These artifacts are described in detail below.

In the Central Tuxtlas, Ortíz and Santley (1988) note that Fine Grey becomes more common during the Late Classic period. Additionally some vessel forms such as plates with straight or concave outsloping walls and strongly everted “droopy lips”

(Matacapan Form 5), plates with straight outsloping walls and everted rims (Matacapan Form 7) and flat bottomed bowls with concave outsloping walls (Matacapan Forms 4 and 8) are also associated with the Late Classic period (Ortíz and Santley 1988). Polychrome Fine Orange types (Tuxtlas Polychrome and Polychrome on Unslipped Fine Orange are also typical of the Late Classic period.

In the RAM area Fine Gray types (e.g. Codes 1111, 1112, 1115, and 1121) typically occur in plates/bowls and simple silhouette bowls, although other forms are present in minor percentages. Small amounts of the polychrome types were also identified usually in plates/bowls or simple silhouette bowls. The paints on these types; however, were usually only remnants. These artifacts are consistent with Late Classic materials from the Tepango Valley (Stoner 2011), Totogal (Venter 2008), and Tres Zapotes.

Plain Fine Gray (Code 1111)

A total of 37 Plain Fine Gray (Code 1111) sherds were identified during the RAM survey. All of these sherds were from plates/bowls (n=22) or simple silhouette bowls (n=15) (Table 6.30). All of the plates/bowls (n=22) had outflaring walls. The majority of these vessels have everted lips (n=20), although direct lip forms were also identified (n=2). Most of the simple silhouette bowls had vertical convex walls (n=12), and the remainder (n=3) had vertical-straight walls. These vessels all had direct lip forms except for two sherds which had thickened lips.

Table 6.30. Code 1111 Sherds.

Code	Form	Wall	n	%
1111	Plate/bowl	Outflaring	22	59.5
	Simple Silhouette Bowl	Vertical-Straight	3	8.1
		Vertical-Convex	12	32.4
1111 Total			**37**	**100**

Black-Slipped Fine Orange (Code 1112)

Although this type is referred to as Black-slipped Fine Orange (Code1112), this type is not slipped. Rather, the black exterior of this type is the result of firing. A total of 172 Black-slipped Fine Orange sherds were identified during the RAM survey (Table 6.31). The majority of these sherds (n=95) were from simple silhouette bowls. Approximately 58% (n=55) of these bowls had outsloping-convex walls. Twenty-four simple silhouette bowls had insloping-convex walls, 14 had vertical-convex walls, one had outsloping-straight walls, and one had insloping-carinated walls. With the exception of two bowls with thickened lips, all of the simple silhouette bowls had direct lips.

The second largest category of vessels identified in this assemblage was plates/bowls (n=50) which accounts for almost 29 percent of the Black-slipped Fine Orange sherds (Table 6.30). Most of these vessels (n=36) had outflaring wall forms, and the remainder (n=14) had outsloping-straight walls... Almost half of the plates/bowls (n=23) had everted lips; the rest had direct or thickened lips. Everted lips were most common on plates/bowls with outsloping-straight walls (n=13).

Table 6.31. Code 1112 Sherds.

Code	Vessel Form	Wall	n	%
1112	Cazuela	Insloping, Carinated	1	.6
		Outsloping-Convex	2	1.2
		Outflaring	1	.6
	Plate/bowl	Outsloping-Straight	14	8.1
		Outflaring	36	20.9
	Simple Silhouette Bowl	Insloping-Convex	24	14
		Insloping, Carinated	1	.6
		Vertical-Convex	14	8.1
		Outsloping-Convex	55	32
		Outsloping-Straight	1	.6
	Composite Silhouette Bowl	Insloping-Concave	1	.6
		Vertical-Convex	1	.6
	Cylindrical Jar	Vertical-Straight	2	1.2
	Necked Jar	Vertical Neck	1	.6
		Outsloping Neck	1	.6
	Neckless Jar	Outsloping Neck	1	.6
	Other	Outsloping-Convex	1	.6
	Indeterminate		15	8.7
1112 Total			**172**	**100**

All of the remaining vessel forms identified in this assemblage were represented by fewer than five examples each. These forms include cazuelas (n=4), composite silhouette bowls (n=2), cylindrical jars (n=2), necked jars (n=2), neckless jars (n=1), and a lid (n=1). These vessels are summarized in Table 6.30. The vessel form could not be determined for 15 sherds.

Mottled Light Brown with Matte Finish (Code 1115)

Approximately 39% of all of the Quemado Phase ceramics recovered during the RAM survey were Mottled Light Brown with Matte Finish (Code 1115) (n=207) (Table 6.32). The majority of these sherds (n=146) were simple silhouette bowls. Forty-six percent of these bowls (n=67) had outsloping-convex walls, and 36.3% (n=53) had insloping-convex walls. Other wall forms for the simple silhouette bowls include insloping-carinated (n=1), vertical-straight (n=4), vertical-convex (n=19), and outsloping-straight (n=2). The most common lip form was direct which accounted for 81.5% (n=119) of these sherds. Twenty-four simple silhouette bowls had thickened lips, mostly bowls with insloping-convex walls (n=14). Two bowls had everted lips, and the lip form could not be determined for one bowl.

The second most common vessel form was plates/bowls (n=29). Sixteen plates/bowls had outflaring walls, and 13 had outsloping-straight walls. Just over half of these vessels (n=15) had direct lips. Twelve plates/bowls had everted lips, the majority of which (n=9) had outsloping-straight walls. One vessel had an inverted lip.

No other vessel form was represented by more than four examples. These forms include a cazuela (n=1), composite silhouette bowls (n=3), cylindrical jars (n=1), necked jars (n=4), miniature necked jars (n=1), and neckless jars (n=3). These vessels are summarized in Table 6.31. The vessel forms could not be determined for 19 sherds.

Table 6.32. Code 1115 Sherds.

Type	Form	Wall	n	%
1115	Cazuela	Outsloping-Convex	1	.5
	Plate/bowl	Outsloping-Straight	13	6.3
		Outflaring	16	7.7
	Simple Silhouette Bowl	Insloping-Convex	53	25.6
		Insloping, Carinated	1	.5
		Vertical-Straight	4	1.9
		Vertical-Convex	19	9.2
		Outsloping-Straight	2	1
		Outsloping-Convex	67	32.4
	Composite Silhouette Bowl	Insloping-Convex	1	.5
		Vertical-Convex	1	.5
		Outsloping-Convex	1	.5
	Cylindrical Jar	Vertical-Concave	1	.5
	Necked Jar	Vertical Neck	2	1
		Outsloping Neck	1	.5
		NA	1	.5
	Necked Jar-Miniature	Vertical Neck	1	.5
	Neckless Jar	Insloping-Convex	1	.5
		Outsloping Neck	2	1
	Unidentified		19	9.2
1115 Total			**207**	**100**

The most common decoration for the Mottled Light Brown with Matte Finish sherds was horizontal lines incised on the exterior of the vessel below the lip. They occur as single, double, and triple lines. Rarely, vessels will also have an incised line on the interior below the lip. Three examples have punctate decoration. In two cases the

punctation occurs with more elaborate incised designs. One vessel had incised panel dividers filled with punctation. Another vessel, a necked jar has scallop designs incised around the throat of the vessel with punctation below. Finally one sherd has remnants of what may be an orange painted band.

Fine Gray with Simple Incision (Code 1121)

Thirty-five sherds were identified as Fine Gray with Simple Incision (Code 1121). All of these sherds are from simple silhouette bowls with insloping-convex walls and either direct (n=19) or thickened (n=16) lips. Incised decorations on these sherds consists of single, double, and triple horizontal incised lines on the exterior of the vessel just below the lip.

White-slipped Fine Gray (Code 1131)

Ten sherds from the RAM survey were characterized as White-slipped Fine Gray (Code 1131) (Table 6.33). The majority of these vessels (n=6) were simple silhouette bowls. Half of these bowls had vertical-convex walls, and the other half had outsloping-convex walls. All of these bowls, with one exception, had direct lips. The other had an everted lip. Two plates/bowls were also identified. One had outsloping straight walls, and the other had outflaring walls. Both had direct, rounded lips. One sherd was from a cazuela. This vessel had insloping-carinated walls and a direct, tapered, interior lip form.

Table 6.33. Code 1131 Sherds.

Code	Form	Wall	n	%
1131	Cazuela	Insloping-Carinated	1	10
	Plate/bowl	Outsloping-Straight	1	10
		Outflaring	2	20
	Simple Silhouette Bowl	Vertical-Convex	3	30
		Outsloping-Convex	3	30
1131 Total			**10**	**100**

Black Wash on Fine Gray (Code 1141)

One sherd from the RAM survey was identified as Black Wash on Fine Gray (Code 1141). This sherd was from a plate/bowl with outsloping-straight walls and an everted, flat lip.

Polychrome on Unslipped Fine Orange (Code 1281)

Thirty-nine sherds of Polychrome on Unslipped Fine Orange (Code 1281) were identified in the RAM assemblage (Table 6.34). Approximately 54% (n=21) of these sherds were identified as simple silhouette bowls. The majority (n=16) of these bowls had outsloping-convex walls. Other wall form identified in minor percentages include insloping-convex (n=3), vertical-straight (n=1), and vertical-convex (n=1). All of these bowls had direct lips except for one with a thickened lip and one with an everted lip. Plates/bowls were the next most common vessel form accounting for 25.6% of the 1281

Table 6.34. Code1281 Sherds.

Code	Form	Wall	n	%
1281	Plate/bowl	Outsloping-Straight	4	10.3
		Outflaring	6	15.4
	Simple Silhouette Bowl	Insloping-Convex	3	7.7
		Vertical-Straight	1	2.6
		Vertical-Convex	1	2.6
		Outsloping-Convex	16	41
	Composite Silhouette Bowl	Outsloping-Convex	1	2.6
	Cylindrical Jar	Vertical-Straight	2	5.1
	Necked Jar	Vertical Neck	1	2.6
	Indeterminate	Lip Only	4	10.3
1281 Total			**39**	**100**

assemblage (n=10). These vessels had either outflaring (n=6) or outsloping-straight (n=4) walls. All of the plates/bowls had direct lips except for one with an everted lip. Other vessel forms identified in minor percentages include one composite silhouette bowl, two cylindrical jars, and one necked jar. These vessels are summarized in Table 6.34. The vessel form could not be determined for four sherds.

As the name implies, these vessels were painted in multiple colors, including red, black, brown, white, and orange. In most cases the paints are only remnant with no discernable motifs. In many cases, however, bands around the lip are present. Black is the most common color for these bands. Often red diagonal lines extend from this band. Other motifs observed include curls, horizontal lines, and pendant loops from the rim band. In other cases areas were filled with colors, usually red.

Tuxtlas Polychrome (Code 1291)

The major distinction between Tuxtlas Polychrome (Code 1291) and Polychrome on Unslipped Fine Orange is that on Tuxtlas Polychrome paints are applied over a white slip. Twenty-eight sherds from the RAM survey were identified as Tuxtlas Polychrome (Table 6.35). The most common vessel form for this type was plates/bowls (n=15). The majority of these vessels had outsloping-straight walls (n=8). Other wall forms identified include outflaring (n=5) and outsloping-convex (n=1). The wall form could not be determined for one plate/bowl. With the exception of one plate/bowl with a direct lip and one plate/bowl where the lip was broken and could not be classified, all of the lips on these vessels were everted.

All of the remaining vessels that could be identified were simple silhouette bowls. Ten bowls had outsloping-convex walls. One bowl had vertical-convex walls, and the wall form could not be determined for one bowl. All of these vessels had direct lips. The vessel form could not be determined for one sherd.

Table 6.35. Code 1291 Sherds.

Code	Form	Wall	n	%
1291	Plate/bowl	Outsloping-Straight	8	28.6
		Outsloping-Convex	1	3.6
		Outflaring	5	17.9
		IND	1	3.6
	Simple Silhouette Bowl	Vertical-Convex	1	3.6
		Outsloping-Convex	10	35.7
		NA	1	3.6
	Unidentified		1	3.6
1291 Total			**28**	**100**

In almost all cases, the paints on these sherds were only remnants. Often these remnants were of rim bands or diagonal lines originating at the rim band. One body sherd had a single line break and an eye-like motif. Colors identified include red, orange, black, and brown.

Postclassic

The most poorly defined occupation on the ELPB is the Postclassic period which extends from approximately A.D. 900 through the arrival of the Spaniards in the sixteenth century. The Postclassic component at Tres Zapotes consists of the "Soncautla Complex" which was associated with cremation burials at the site (Drucker 1943:122-123). The complex, which consisted of red-and-black-on-cream necked jars, spouted vessels, composite silhouette bowls, a "shoe-shaped" vessel, jars with three strap handles, a double dish, and bowls with fine line incision, was argued by Drucker (1943:122-123) to be similar to Postclassic vessels from the Central Highlands. Coe (1965:711), however, notes that there are similarities between the Soncautla Complex vessels with Postclassic ceramics from Central Veracruz.

In the Tuxtlas Mountains, the Postclassic period has also been poorly defined. Pool (1995:42-43) notes that a few examples of Tohil Plumbate, False Plumbate, and Tres Picos Engraved were recovered in excavations conducted by Valenzuela (1945a, 1945b) at Matacapan and Isla Agaltepec. More recently, however, Arnold's (2003; Arnold and Venter 2004) work at Agaltepec, and Venter's (2008) work at Totogal have identified substantial Postclassic settlements in the Tuxtlas area. In terms of ceramics, these projects indicate that the Postclassic period was marked by the persistence of Fine

Orange pastes (Arnold 2003; Arnold and Venter 2004; Venter 2008). Moreover, the most temporally sensitive aspect of the Postclassic ceramics was their decoration, including paint and slip color, motifs, and technique of execution. Additionally, new vessel forms such as comales come into use at this time. These vessels have extremely divergent to flat walls, indicating their use as tortilla griddles. Comales were documented at Tres Zapotes during Stirling's work at the site (Drucker 1943:71-72, Figure 42), however, in Drucker's illustrations the form is more like a cazuela.

In the RAM area, Postclassic ceramics were rare. Only 51 sherds in the RAM assemblage were classified as Postclassic in date. These materials account for approximately 0.2 percent of all of the sherds collected. Because so few ceramic types are associated with the Postclassic period (only three types are considered diagnostic), this discussion also focuses on specific attributes that are temporally sensitive.

Fondo Sellado (Stamped Base) (Code 2902)

One of the two temporally diagnostic ceramic types associated with the Postclassic period is Fondo Sellado (Code 2902) which is characterized, as its name implies, by stamped designs on the base of vessels. The result is that the designs are raised from the surface of the vessel base. Five sherds of Type 2902 were recovered during the RAM survey. The vessel form for these vessels could not be determined for the RAM examples; however in the Mixtequilla this type occurs on "open convex or straight to outflaring…" vessel forms (Stark n.d.). Stark (n.d.) notes that the stamped designs consist of curved and ray motifs. The RAM examples, although small and fragmentary, exhibit mostly curved motifs

Totogal Engraved (Code 8016)

Totogal Engraved is a local Tuxtlas ceramic type defined by Venter (2008) that is most likely a local expression of Tres Picos II esgrafiado, a ware from Central Veracruz. The type has an oxidized fine paste with brown slip and black paint. Designs were then engraved through the paint and slip. At Totogal, Venter (2008:374) states that the engraved motifs include filled triangles, stepped frets, and avian-reptilian elements.

One sherd of Totogal Engraved was identified in the RAM collections (Figure 6.3). This was an isolated find recovered from a soccer field on the west side of Angel R, Cabada. This sherd was a reworked sherd disk that still bore traces of the slip, paint and engraved designs. The engraved designs include wavy lines, a paw-shaped motif and part of what may be a volute.

Figure 6.3. Totogal Engraved Sherd Disk.

Texcoco Molded (Code 8015)

Texcoco Molded is a ceramic type exclusively associated with "frying pan" censers dating to the Postclassic period in the Central Highlands, although even there it is not a common ceramic type (Charlton et al. 1991; Parsons et al. 1982). The type is signified by it's molded decorative embellishment which consists of zones of raised bumps, and may also include cutout triangles (Venter 2008:357). The paste for this ceramic type is variable. At Totogal the paste typically contains fine to medium mixed volcanic ash and quartz (Venter 2008:357). In the Gulf Lowlands, this type is rare, but has been identified in the Cotaxtla drainage and Mixtequilla regions of south-central Veracruz (Daneels 1997, 2005; Garraty and Stark 2002; Ohnersorgen 2001) and in the Tuxtlas region of southern Veracruz (Arnold 2003; Arnold and Venter 2004; Kruszcynski 2001; Stoner 2011; Venter 2008). At Totogal, Venter (2008) also recovered two mold fragments for Texcoco Molded indicating some local manufacture of these censers. She argues that local elites used these censers in attempts to smooth relations between local tribute paying populations and Imperial agents at the site. Only one sherd of Texcoco Molded was identified during the RAM survey. The paste and decoration of this sherd are consistent with Venter's (2008:357) description of the type at Totogal.

Comales

Comales are tortilla griddles, which come into use in the Southern Gulf Lowlands during the Postclassic period. These vessels are typically thin-walled vessels with extreme outflaring to flat walls. In the Tuxtlas region these vessels are associated with

the Late Postclassic period (Venter 2008:296). Stark (2008:52) notes that these vessels appear in the Mixtequilla during the Middle Postclassic period.

Of the 52 Postclassic sherds identified in the RAM assemblage, 42 (80.8%) were comales (Table 6.36). All on these vessels had extreme outflaring to flat walls. Most of these vessels (n=39) had direct lip forms with direct, rounded being the most common (n=20) accounting for 47.6% of all of the comales. Four comales had thickened lips.

A variety of pastes are represented in the comales. Two had fine pastes. One was Mottled Light Brown with Matte Finish (Code 1115) paste and the other had Fine Orange with Metallic Sound (Code1214) paste. All of the remaining comales had coarse pastes. The most common pastes for comales were Brown-slipped Coarse with a Paste with White Inclusions (Code 2614) (n=13) and Coarse Brown with Coarse White Temper (Code 2654) (n=16). Of the coarse paste comales, 31 (73.8%) were tempered with quartz sand. The other nine had volcanic ash temper (Type 2701). Two comales had single lines bands incised on the exterior rim of the vessel.

Postclassic Motifs

Two additional sherds were associated with the Postclassic period based on their decorative motifs. The motif consists of two laced undulating lines that most likely extended all of the way around the vessel. This motif is similar to motifs identified in Epiclassic and Postclassic contexts elsewhere in Mesoamerica (Rice 1983; Ringle etal. 1998).

Table 6.36. Comales.

			Ceramic Type							
Form	**Wall**	**Lip**	**1115**	**1214**	**2614**	**2621**	**2654**	**2655**	**2701**	**n**
Comal	Extreme Outflaring to Flat	direct, rounded		1	6		5	1	7	**20**
		direct, tapered, symmetrical			1		1			**2**
		direct, tapered, Interior	1		3		3		2	**9**
		direct, tapered, exterior			1	1	5			**7**
		thickened, interior, rounded			1					**1**
		thickened, exterior, rounded			1		2			**3**
Total			**1**	**1**	**13**	**1**	**16**	**1**	**9**	**42**

Although the depiction is similar on both sherds, the technique of execution is different. One example has the incision cut through a brown slip on Fine Orange paste (Code 1232). The other example of this motif was rendered on a Fine Gray vessel with black paint (Code 1141). On this example, material around the design was excised leaving the motif raised above the surface of the sherd.

Figurines

Like ceramic vessels, the style of ceramic figurines may also be temporally sensitive. In this section I present descriptions of temporally sensitive figurine types identified in the RAM collections. Like the ceramic sherds, these artifacts were also used to date specific architectural features.

Arroyo Phase

Hollow Baby Figurines

One fragment from an Olmec hollow baby figurine was recovered during the RAM survey. This fragment was of an arm made of a coarse brown (Code 2600) paste (Figure 6.4).

Trapiche Type Figurines

Trapiche Figurines correspond to Weiant's Morelos type at Tres Zapotes (Payón 1971:521; Weiant 1943:92-93) (Figure 6.5). Five Trapiche figurine heads were recovered during the RAM Survey. All of these artifacts were had coarse pastes. The majority had Coarse Brown with Volcanic Ash Temper (Code 2700). The others were made of a coarse brown paste with fine quartz and feldspar temper. The face of one of these figurines is covered in chapopote. Two other have remnants of slip, one white and the other cream.

Tres Zapotes Phase

Uaxactun Type

The majority of the Tres Zapotes phase figurines recovered during the RAM survey are what Weiant (1943:90) described as Uaxactun Type figurines (n=13) (Figure 6.6). Olmec figurines of this style have also been recovered from the Middle Formative center of La Venta (Drucker 1952: Plates 25-27). All of these figurines have a coarse

paste, most with Coarse Brown with Fine Quartz and Felspar Temper or Coarse Brown with Volcanic Ash Temper paste. Most of the examples in the RAM assemblage have remnants of white slip.

Figure 6.4. Hollow Baby Arm .

Figure 6.5. Trapiche Figurines.

Figure 6.6. Uaxactun Type Figurines.

Middle Formative solid head

The only other Middle Formative Figurine recovered during the RAM survey is a solid figurine clearly made in the Olmec style. This figurine lacks hair or a headdress. Its eyes are narrow slits rather than the filleted eyes of the Uaxactun type (Figure 6.7). The nose is triangular and the mouth is a single deeply incised line. The ears of this figurine have large spools. Like many of the other Middle Formative figurines, this figurine has Coarse Brown with Fine Quartz and Feldspar Temper paste.

Figure 6.7. Middle Formative Figurine.

Hueyapan Phase

Tres Zapotes Type Figurines

All but two of the Late Formative figurines recovered during the RAM survey are Tres Zapotes Type. These solid figurines were first described by Weiant (1943: 84-90) after working at Tres Zapotes. The RAM assemblage of Tres Zapotes Figurines

comprises 14 bodies and 11 heads (Figures 6.8 and 6.9). The bodies include standing and seated examples. The seated figurines have crossed legs, and one may be holding an infant (Figure 6.9).

Figure 6.8. Tres Zapotes Type Heads.

Figure 6.9. Tres Zapotes Type Bodies.

One torso had an elaborate necklace and the body is covered in chapopote. Many bodies have remnants of white slip. The heads vary in size, and in the style of headdress, but all have the punctate eyes, nostrils, and mouths common to the type. Several of the heads, like the bodies, exhibit remnants of white slip. The majority (n=12) of these figurines have Coarse Brown with Fine Quartz and Feldspar paste. Seven figurines have Coarse Brown with Volcanic Ash Temper paste and three have Coarse with Coarse White Temper (Code 2650).

Classic Period

Teotihuacan Type

These figurines are all solid, modeled heads, roughly triangular in shape, and all have Coarse Brown with Volcanic Ash Temper paste (Figure 6.10). Weiant (1943: Plate 38) published figurines of a similar style from Tres Zapotes that he calls Teotihuacan Type. He notes that similar figurines have also been reported from Central Veracruz and the Huaxteca (Batres 1908: Plates. 6, 9, 10, 15, 28; Danzel 1923: vol 2 Figure 44; Stout 1938: Plate 8; Weiant 1943:101-102). Weiant (1943:102) goes on to note that figurines of a similar style were common at Teotihuacan (Peñafiel 1900: Plate 5) and Coyolatelco (Vaillant 1938: 537, Figure 2q). These figurines most likely date to the Ranchito phase.

Figure 6.10. Teotihuacan Type Figurines.

Los Lirios Figurines

Los Lirios figurines were named for the site of Los Lirios which is located to the north of Tres Zapotes on the Arroyo Hueyapan (Drucker 1943:83). These large hollow figurines have modeled heads and bodies. Drucker (1943:83) describes these figurines as

having a reddish brown paste with quartz temper, similar to what he termed "Incensario ware." In the current Tres Zapotes typology this ware would fall into the Coarse Brown with Fine Quartz and Feldspar Temper (Code 2655) paste category. Drucker (1943:83) notes that at Tres Zapotes, Los Lirios figurines were recovered from the same stratigraphic levels as San Marcos figurines, indicating a Classic period date for the type. Coe (1965) suggests an Early Classic date for these figurines, but they may extend into the Late Classic.

Twenty-two fragments of Los Lirios figurines were recovered during the RAM survey. These include nine fragments of heads, and 13 fragments of bodies or adornments (Figures 6.11 and 6.12). Four of the heads appear to be of old men (Figure 6.13). These figurines have wrinkled faces, "crows' feet" around the eyes, and down-turned mouths. Weiant (1943:103, Plate 39) suggests that similar figurines from Tres

Figure 6.11. Los Lirios Figurine Head.

Figure 6.12. Los Lirios Figurine Leg.

Figure 6.13. Los Lirios “Old God.”

Zapotes may be images of the "Old God" (equivalent to the Aztec God Huehueteotl). Stark (2001:204) also notes a possible Old God figurine from the Mixtequilla.

San Marcos Figurines

San Marcos figurines are hollow, mold-made figurines with a Fine Orange (Code 1200) paste and white slip. The type is named for the site of San Marcos, located to the east of Tres Zapotes. Figurines of this type include flutes and ocarinas, and the figurines include depictions of humans, animals, and supernatural beings. Drucker (1943:81) notes that these figurines were recovered in the Upper deposits at Tres Zapotes, which would place them temporally in the Classic period.

Seventeen fragments of San Marcos figurines were recovered during the RAM survey. Most of the figurines appear the depict humans, although one bird foot was also identified (Figure 6.14). The anthropomorphic examples include fragments of heads and

Figure 6.14. San Marcos Figurines.

bodies, as well as costume adornments such as belts and headdresses. On some of these figurines only remnants of the white slip remained. One San Marcos ocarina was also recovered.

Axle Mounts and Marionette Limbs

The distinguishing characteristic for these artifacts is a perforation that would allow for the placement of an axle for wheeled figurines, or for the articulation of the limbs on marionettes. Stark (2001:203) notes that while axle mounts and marionette limbs appear similar, there is some distinction between them. Axle Mounts tend to be thicker than marionette limbs and the ends tend to be flatter r squared off. Additionally, Stark (2001:203) indicates that axle mounts have larger perforations that often have clay along the margins of the opening. In contrast, marionette limbs tend to be more slender and have a smaller perforation that lacks excess clay on the margins (Stark 2001:203). One axle mount was recovered during the RAM. This artifact has a Sandy Fine Orange paste, and the perforation has excess clay around its margins (Figure 6.14). Of the three marionette limbs recovered, one has a Fine Orange paste (Code 1200), one has Sandy Fine Orange (Code 1212) paste, and one has a paste consistent with Fine Paste Black and White (Code 2212) (Figure 6.15). Two of the three are flattened on the articulating end; the other has a slight curve. No excess clay is present on the margins of the perforations (Figure 6.14). It is unclear if these examples represent arm or leg fragments.

Figure 6.15. Axle Mount (lower) and Marionette Limbs (upper left and right).

Postclassic Period

One figurine dating to the Postclassic period was identified in the RAM collections (Figure 6.16). This artifact has a 2600 paste with a reduced surface. The facial attributes were deeply incised. A similar figurine is illustrated from the area near Maltrata in Central Veracruz, and attributed to the Postclassic period (Lira López 2004:123, Figure 67).

Figure 6.16. Postclassic Figurine.

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CHAPTER 7
SETTLEMENT PATTERNS AND ARCHITECTURE

While Coe's (1965:679) suggestion that the El Mesón area potentially had the densest prehispanic settlement in Mesoamerica is an overstatement, his observation that in this area one is never out of sight of mounds is accurate. Within the 27 km^2 survey area, 398 architectural features or artifact concentrations (features) were identified, representing a continuous occupational sequence of more than 2,000 years (Figure 7.1; Appendix A). The majority of features were artificial mounds or artifact concentrations, many of which likely represent destroyed mounds.

The settlement pattern in the El Mesón area is relatively dense but dispersed, with 14.7 features per km^2. However, this density is not uniform throughout the survey area. Rather, the area is characterized by zones of relatively dense features interspersed with areas of more isolated lighter density occupation (Figure 7.1). Generally speaking the density is higher in the immediate area of large civic-ceremonial architectural complexes.

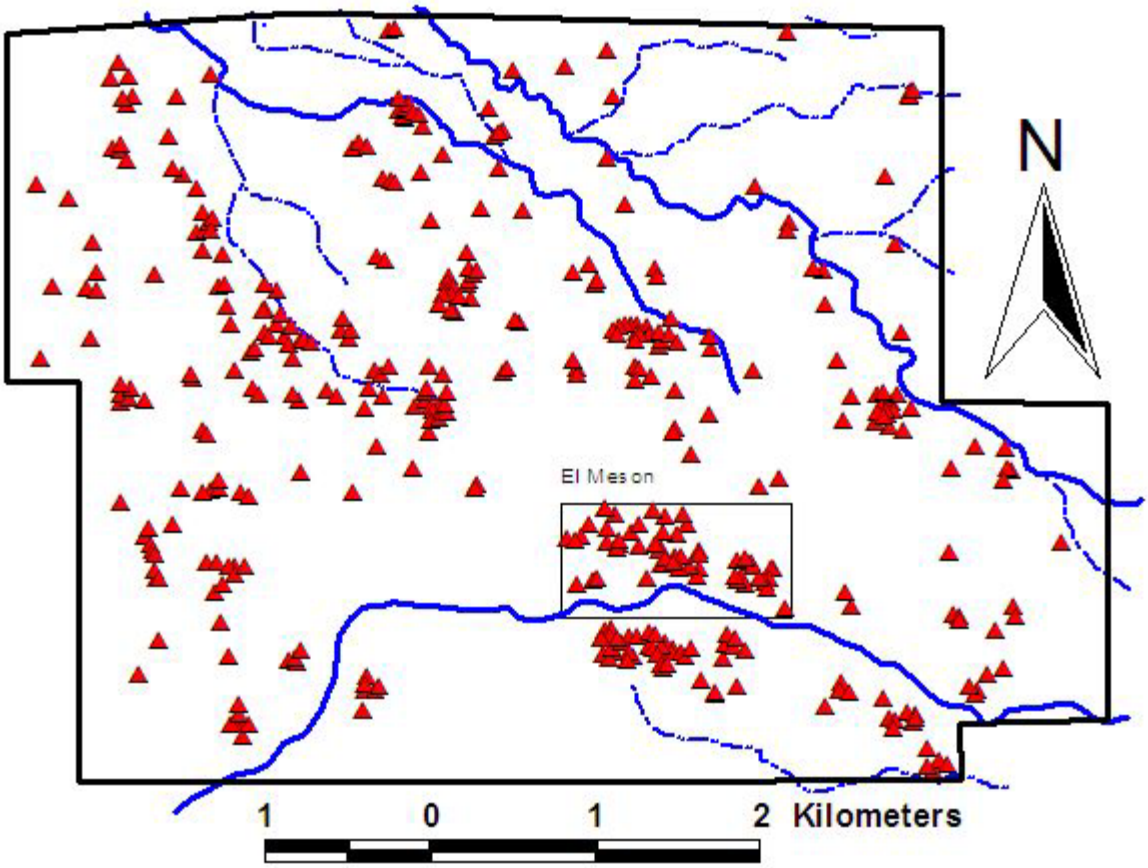

Figure 7.1. Architectural features and artifact concentrations identified during RAM survey.

The area is crossed by three permanent streams, the Arroyos Tulapilla and Tulapa Grande which cross the survey area northwest to southeast, and the larger Arroyo Tecolapan which flows out of the Tuxtla mountains and crosses the southern portion of the survey area. In addition, smaller tributary arroyo systems flow into these larger water courses. Generally speaking, settlements are arranged along these arroyos throughout the survey area. The only area where this pattern is not evident is the western portion of the survey area, which lacks any surface water source.

Based on diagnostic ceramics, The El Mesón area was initially settled during the Early Formative period. Settlements in the area expanded throughout the Formative

period, and during the Late Formative period El Mesón emerged as a secondary center to the regional center, Tres Zapotes, located approximately 13 km to the south (see discussion below). By the Protoclassic and Early Classic period the El Mesón area broke with Tres Zapotes and became independent (see discussion below). Settlement declined during the Late Classic period, a trend that continued into the Postclassic period.

This chapter presents the results of the RAM survey. First I present the typology of architectural features used for the survey. Next, the growth and eventual decline of the area is discussed chronologically. Finally the settlement pattern is compared to other nearby areas as a means of contextualizing how the RAM area fits in to the overall developmental sequence of the southern Gulf Lowlands.

Architectural Features in the RAM Survey Area

The basic units of analysis employed for the RAM Survey are architectural features and artifact concentrations. Like the majority of the southern Gulf Lowlands, the architecture in the RAM survey area primarily consists of artificial earthen mounds and platforms which may be the result of either accretion or formal construction. Other types of features that were identified during the survey include artificial depressions or *bajos*, modified natural elevations, and plazas. After the survey, these features were grouped into types using a paradigmatic classification based on feature morphology. These types were then subdivided by height, based on modal breaks in the distribution for feature heights (Figure 7.2). Low structures are less than three meters in height, medium structures are between three and six meters in height, and.tall features had a height of

over six meters. Flat-topped platforms with a height of over nine meters were labeled monumental (Table 7.1).

Conical/Pyramidal Mounds

This category includes mounds with a round or oval plan. While in use, these structures may have been pyramidal in shape, however, as they entered disuse or abandonment their structure eroded leaving the rounded morphology visible today (Daneels 2002:165). Conical/Pyramidal mounds were the most common architectural features recorded during the RAM survey accounting for 60% (n=239) of all features identified.

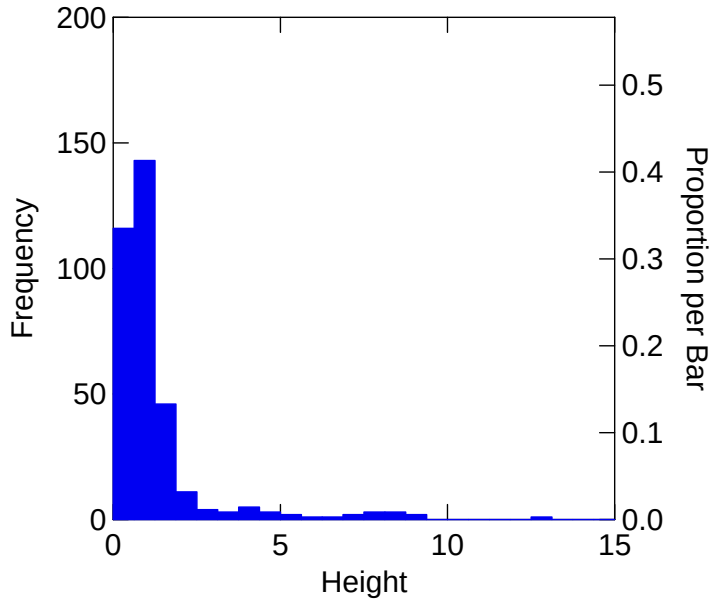

Figure 7.2. Histogram of Architectural Feature Height.

Table 7.1. Architectural Feature Typology.

Feature Type	Descriptor	Height	N	Percent of total
10	Conical/Pyramidal	Unknown	14	3.5%
11	Low Conical/Pyramidal	<3 m	187	47%
12	Med. Conical/Pyramidal	3-6 m	11	2.8%
13	Tall Conical/Pyramidal	>6 m	6	1.5%
14	Conical/Pyramidal with Fronting Platform		14	3.5%
15	Low Conical/Pyramidal on platform		6	1.5%
16	Low Conical/Pyramidal in Formal Complex	<3 m	1	0.3%
20	Long	Unknown	3	0.8%
21	Low Long	<3 m	78	19.6%
22	Med. Long	3-6 m	2	.5%
23	Tall Long	>6 m	3	0.8%
31	Low Platform	<3 m	13	3.3%
32	Med. Platform	3-6 m	2	0.5%
33	Fronting Platform		10	2.5%
35	Monumental Platform	≥9 m	2	0.5%
36	Circular Flat-Topped Platform		1	0.3%
40	Other		4	1%
41	Plaza		4	1%
42	Ramp		6	1.5%
43	Bajo		2	0.5%
50	Artifact Concentration		16	4%
60	Natural Elevation		8	2.0%
70	Unidentified		5	1.3%
Grand Total			**398**	**100.0%**

Low Conical /Pyramidal Mounds

Small conical/pyramidal mounds were the single largest category of architectural features identified during the survey accounting for 47% (n=187) of all of the architectural features identified (see Table 7.1). These structures had an average height of .8 m and average length and breadth of 33.6 m × 32.9 m. These means are slightly smaller than the averages for similar features in the nearby Mixtequilla (Stark 1991:45)

(note the maximum height for this class of features in the Mixtequilla was set at 3.4 m [mean height 1.1 m ± 0.7, mean length and breadth = 41.9 m ± 15.6 m and 33.6 m ± 12.5 m] for comparability with similar structures at Barton Ramie). These structures are widely distributed across the survey area; however, they typically do not appear as part of large formal architectural complexes. Given their high frequency, low height, small size, absence in formal complexes, and the artifact assemblages, these structures likely represent basal platforms for domestic houses constructed of perishable materials (Daneels 2002:171) (note Stark's [1991:45] comparisons with the Maya area indicate that such mounds are broader than their Maya counterparts, small size here is in reference to the other architectural features identified). Excavations of similar structures in the Cotaxtla basin and the Mixtequilla (Daneels 2002:171; Stark [editor] 2001) support this interpretation. Stark (1991:45) suggests that these type of structures constitute basic "residential units," comparable to *plazuela* groups in the Maya lowlands (See also Daneels 2002:171). The use of such raised platforms would have been preferred in flood prone areas, such as the ELPB, to raise the houses above the floodline. Hall (1991, 1994) suggests that in the Mixtequilla region these structures represent accretional "tells" that expand over time as the structure is continually reoccupied. Similar processes of accretion almost certainly characterize these mounds in the RAM survey area.

Medium and Tall Conical/Pyramidal Mounds

Medium conical/pyramidal mounds have a round or oval shape and a height of between three and six meters. Eleven such structures were identified during the RAM survey (2.8% of the total features identified) (see Table 7.1). These features have an average height of 4.06 m and average length and breadth measurements of 46.7 m ×45.4 m. Tall conical/pyramidal mounds have a height of over 6 m. Six structures within this category were identified during the survey (see Table 7.1). These Features have an average height of 7.8 m and average horizontal dimensions of 37.7 m × 40 m.

Both the medium and tall conical/pyramidal mounds are distinguished from the small conical/pyramidal mounds by their location. While the medium and tall mounds may appear as isolated features, both are also incorporated into larger formal architectural complexes. Additionally, unlike the small conical/pyramidal mounds, the medium and tall mounds are most likely the result of formal construction episodes rather than accretion.

In discussing similar mounds at Tres Zapotes, Pool (2007; 248, 2008:128) argues that the reduced surface area and low density of associated artifacts suggests that these structures were most likely temple bases. Daneels (2002:165) suggests a similar use for these features in the Cotaxtla Basin (although she extends the interpretation to include political seats for leaders). This interpretation also likely holds for the tall conical mounds in the RAM survey area. The medium conical class is more ambiguous, as some mounds within this category are found outside of formal architectural complexes and artifact densities are high enough to suggest that at least some of these structures (most likely those outside of formal complexes) served as residential platforms.

Conical/Pyramidal Mound with Fronting Platform

This category of architectural feature includes conical mounds with an attached fronting platform. The overall footprint of these structures has a "keyhole" shape (Figure 7.3). Fourteen such structures were identified during the RAM survey (see Table 7.1). For these structures, the mound and the terrace were recorded separately to allow for the identification of separate construction phases. In three cases the attached terrace had been destroyed, however its footprint was still visible on the landscape as a rise in elevation, often with a dense scatter of artifacts. The mounds had average horizontal dimensions of 44 m × 48 m, and an average height of 2.26 m. Two of these structures, however, were much taller than the others, with heights of 5.04 m and 7.66 m respectively. If these two structures are removed from the calculation, the average height is 1.44 m.

The majority of the "fronting platforms" (n=10) had rectangular footprints. These structures had average horizontal dimensions of 32.1 m by 27.3 m, and an average height of 1.1 m. Given these horizontal dimensions, the flat summits of these structures, and the articulation with the conical mounds, these platforms are not ramps.

Similar structures are reported for some habitation mounds in the Mixtequilla (Stark 2003:401). Stark (2003:401) argues that these platforms were added to provide more surface area, and hence more space for activities on the mound. Because the construction of these terraces requires a higher labor investment than for construction of a simple conical mound, she suggests that these terraces may be indicative of higher social status (Stark 2003:401).

One of these fronting platforms, Feature 154, has a rounded footprint (Figure 7.4). Because of its different shape this feature was placed into a separate category. This platform measures 80 m north/south by 108 m east west and has a height of 7.5 m. This structure is attached to Feature 153, a 4 m tall rectangular platform.

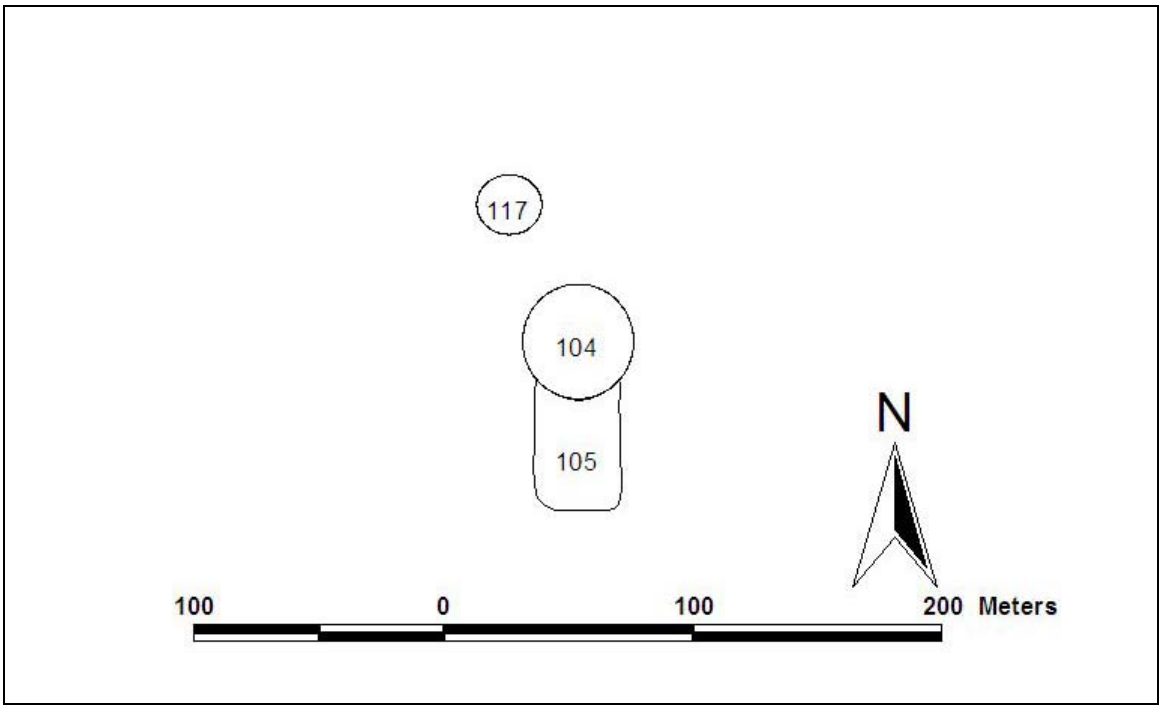

Figure 7.3. Conical/Pyramidal Mound with Fronting Platform.

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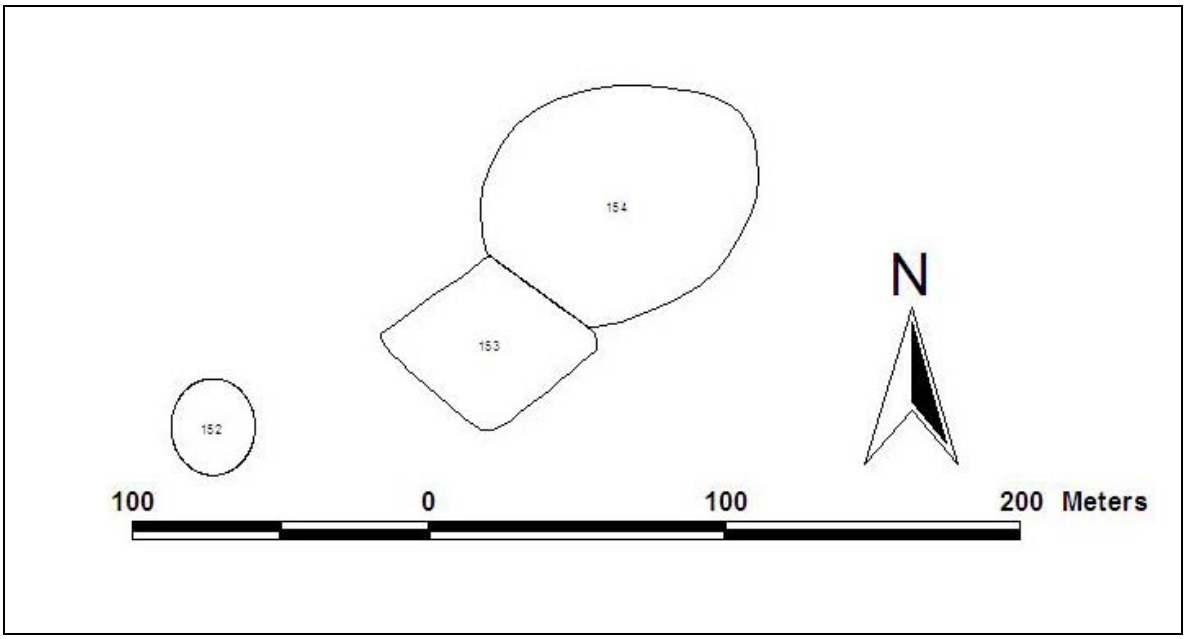

Figure 7.4. Fronting Platform with Rounded Footprint.

Conical Mounds on Platforms

This class of structures includes all mounds that have a rounded footprint and are located atop flat topped basal platforms. Six such structures were identified during the RAM survey (see Table 7.1). These conical mounds have mean horizontal dimensions of 34.5 m × 29.8 m, and an average height of 1.1 m (note these measurements only refer to the conical mound. The platform is treated separately). All of these structures, except one, were located either within or adjacent to formal architectural complexes.

These structures probably served a variety of functions including domestic, administrative, and ceremonial. In the Mixtequilla, Stark and Hall (1993:261, Table 3) suggest that conical mounds on platforms with heights of four meters of less were probably domestic mounds. Daneels (2002:167) states that similar structures in the

Cotaxtla Basin are typically located next to formal complexes or serve as the principal structure of a poorly ordered architectural complex. The size of these structures in the RAM survey area is generally smaller than those in the Cotaxtla Basin and easily fit within Stark and Hall's (1993) domestic mound category, however, the location of at least one of these structures (Feature 9) suggests a non-domestic use. Feature 9 is located near the center line of the main plaza at El Mesón itself, and most likely served as an *adoratorio* (altar).

Low Conical Mound in Formal Complex

The final category of conical mound is that of low conical mounds within formal architectural complexes. Only one mound, Feature 6, was placed within this category. Feature 6 is located on the west side of Plaza B at El Mesón and measures 56 m by 52 m, and 1.5 m tall. This mound was separated from the other low conical mound category because of this location. It is not clear if this mound is a residential platform (possibly elite) or if it served another civic or ritual function.

Long Mounds

This class of architectural features includes mounds with a long, loaf-shaped plan, in which one axis is significantly longer than the other. A total of 86 such features were identified during the course of the RAM survey, 21.6% of all of the features identified. Like the conical mounds, long mounds were subdivided based on their height into low

medium and tall categories. Low long mounds had a height of less than three meters. Seventy-eight low long mounds were recorded during this survey, accounting for 19.6 % of all recorded features (see Table 7.1). These features had average horizontal dimensions of 49.5 m × 32.7 m, and an average height of 1 m. Medium long mounds had a height of between three and six meters, and all long mounds over six meters tall were considered tall. Two medium long mounds were recorded (see Table 7.1). These features measured 37 m × 78 m and 60 m × 40 m, and had heights of 4.6 m and 5.1 m respectively. Three tall long mounds were recorded during the survey (see Table 7.1). These structures measured 38 m × 25 m, 33 m × 51 m, and 42 m × 51, and had heights of 7.8 m, 9 m, and 7 m respectively. Three additional structures were placed into the long mound category; however, due to a lack of visibility caused by the height of the sugar cane at the time of recording, no heights were recorded.

Long mounds are widely distributed across the RAM survey area. Low long mounds were documented as parts of formal architectural complexes, and as isolated architectural features in areas between larger mound groups. Medium and Tall long mounds were only identified in formal complexes.

These mounds also express substantial functional variability, especially the low long mound category. Low long mounds that occur outside of formal complexes are most likely domestic house platforms. The loaf-shaped foot print maybe the result of erosion of adjoining low conical mounds, or slumping of taller conical mounds. The loaf-shape may also be the result of patterns of building collapse and mound accretion.

Long mounds of all height categories also occur as parts of formal architectural complexes. In the Southern Gulf lowlands such complexes are typically interpreted as

having civic/ceremonial functions because they are usually larger than the surrounding architectural features, they tend to be centrally located relative to the surrounding constructions, and they are often located around plazas. In the Mixtequilla, long mounds that form parts of civic/ceremonial complexes are interpreted as serving administrative functions or as base platforms for corporate structures similar to the council houses which have been identified in the Maya area (Fash 1991:130-134; Stark 1999:209, 2003:415; Stomper 1996).

Additionally Stark (1999:209) suggests that long mounds that are located on top of large rectangular platforms may serve palace functions. This elite residential function has also been identified in the Maya area (Andrews 1975:43; de Montmollin 1995:66; Stark 1999:209). In addition to serving as elite residences, such palace structures also likely had administrative functions. While there are some large rectangular platforms in the RAM survey area, most of these do not have recognizable long mounds on their summit; however, the La Mulata group does have a rectangular platform topped with a long mound. Closer to The RAM survey area Pool (2007:248, 2008:128) argues, based on recent excavations behind the long mounds that form parts of the Nextepetl Group, Group 2, and Group 3 civic/ceremonial complexes at Tres Zapotes, that while the long mound may have served an administrative function, that there is also evidence suggesting an elite residential function as well.

Finally, paired long mounds, with a narrow spacing may also serve as ballcourts. Such structures have been identified in south-central and Southern Veracruz, in the Cotaxtla Basin (Daneels 2002:169-170), the Mixtequilla (Stark 1999:209-210), the southern Tuxtlas (Killion and Urcid 1999); the central Tuxtlas (Santley 1994, 2007;

Thompson et al. 2009); and the middle San Juan and lower Coatzacoalcos drainages (Borstein 2001, 2005:16). No clear ballcourts were identified during the RAM survey; however a possible ballcourt may be located in the La Mulata group.

Flat-Topped Platforms

The third major category of architectural features identified during the RAM had survey is flat-topped platforms. These structures typically have a square or rectangular footprint with a truncated or flattened summit (although in one case a platform had a round footprint). The majority of these structures serve as bases for other constructions. A number of these structures were topped with conical or long mounds. Others presumably were bases for perishable structures that have not survived. As a group, platforms accounted for 7% (n=28) of all the architectural features identified. Like the conical and long mounds, these structures were further divided based on height measurements. Low platforms had heights of less than 3 m. Thirteen low platforms were identified during the survey (see Table 7.1). These structures had average horizontal dimensions of 51.6 m × 44.1 m , and an average height of .98 m. The average basal area of these structures is 2729.9 m^2. Medium platforms had a height of 3-6 m. Two such structures were identified during the RAM survey (see Table 7,2). These features measure 60 m × 80 m and 64m × 45 m, and had heights of 4.15 m and 3.9 m respectively.

Monumental platforms had heights of at least nine meters. Two Monumental platforms were identified during the RAM survey (see Table 7.2). These two structures were the two single largest constructions documented during the RAM survey. The first

is Feature 53, a structure known locally as La Paila. This platform measures 76 m north/south × 71 m east/west, and has a height of approximately 13 m. The basal area of La Paila is 5396 m^2. Feature 94, known locally as Chico Loco, measures 42.8 m north/south by 40 m east/west, has a basal area of 1712 m^2, and a height of approximately 9 m.

The majority of basal platforms were identified in formal complexes, although several were noted outside of the formal complexes. These platforms supported a variety of structures, both earthen and perishable (based on daub with pole impressions), including domestic, civic/ceremonial, and ritual. Feature 10, located at El Mesón was most likely a base for an adoratorio located in the main plaza of the architectural complex. La Paila and Chico Loco both correspond to what Daneels (2002:168)) calls "Monumental Platforms." In the Cotaxtla Basin, these structures have heights of 3-12 m and a basal area of at least 8,000 m^2. They often are the largest structures in formal architectural complexes, possibly serving as bases for palaces (Daneels 2002:168). Recent Excavations of two such structures at the site of La Joya in Central Veracruz have confirmed this interpretation (Daneels 2007:3; 2008a). Monumental platforms in the RAM survey area have smaller basal areas; however, they are clearly the largest structures in the complexes where they are found, and probably had an elite residential and administrative function.

Other Architectural Features

Several other classes of features were identified during the course of the survey. These features included specialized structures such as ramps (steps) on mounds and platforms, artificial bajos that may have been used to hold water and formal open spaces such as plazas, as well as natural terrain features such as hills and terraces that had been culturally modified. None of these architectural features accounted for more than two percent of all of the identified architectural features (see Table 7.1).

Artifact Concentrations

In addition to the architectural features described above, The RAM survey also focused on the identification of artifact concentrations on the landscape. Artifact concentrations are discrete clusters of artifacts that are not associated with extant architecture, although it is possible that some artifact clusters may be the result of secondary deposition in the form of slope wash off of mounded architecture. During the RAM survey an artifact concentration was identified by an increase in artifact density on the surface. Concentrations were identified if the visual estimation of surface artifact density exceeded one artifact per square meter. The boundary of these features was placed where the artifact density dropped below one artifact per square meter. A total of 17 artifact concentrations were identified during this survey (see Table 7.1). These features had average horizontal dimensions of 36.1 m by 33.8 m, very close to the mean for low conical mounds (note when calculating this mean one artifact concentration, Feature 260, an unusually large feature measuring 160 m by 100 m was dropped from the

calculation because it skewed the results. With this outlier included the mean dimensions were 47.4 m by 39.8 m).

Artifact concentrations may form in several ways. First, they may represent secondary deposition of materials, most likely from erosion from mound surfaces. Second, a concentration may result from the destruction of a mound through natural or anthropogenic means. Natural factors include the complete erosion of a mound or the shallow burial of a low mound in alluvial areas. Anthropogenic sources of mound destruction include plowing or the use of heavy machinery to level the mound or the intentional destruction of the mound to reuse the soil for building projects. Some artifact concentrations may be the residues of domestic structures that were constructed on level ground with no basal structure. Finally, some artifact concentrations may be the result of cultural deposition of refuse. Because the RAM survey area is located in an active agricultural zone, in the alluvial plain of the Tecolapan River, and evidence of mound destruction for soil reuse was observed in the field, the artifact concentrations identified may have resulted from any and all of the aforementioned forces.

Settlement in the El Mesón Area

Olmec Settlement

Arroyo Phase

The earliest evidence for occupation in the El Mesón area dates to the Early Formative period Arroyo phase (1250-1000 cal. B.C.) which is coeval with the San Lorenzo B Phase at San Lorenzo (1250-1000 cal. B.C.) (Coe and Diehl 1981; Symonds et al. 2002). Early Formative materials were recovered from 29 architectural features or artifact concentrations within the survey area, including 23 conical mounds, 10 long mounds, one plaza, one bajo, and one concentration; a settlement density of 1.1 feature per square km (Figure 7.5; Table 7.2). These materials are distributed along the arroyo systems in the central and southern portions of the survey block. With the exception of two small mounds, all of the Early Formative materials were recovered within 400 m of a water source. This distribution is also relatively dispersed. The only area with any real agglomeration of materials is at El Mesón where nine mounds and one plaza (34.5% of all collections with Early Formative materials) yielded Early Formative materials. Across the remainder of the survey area, groupings of mounds with Early Formative materials contained no more than two mounds located within 100 m of each other. None of the mounds with Early Formative materials was over 3 m in height. Additionally, all collections with Early Formative materials also contained much higher densities of materials dating to later periods,

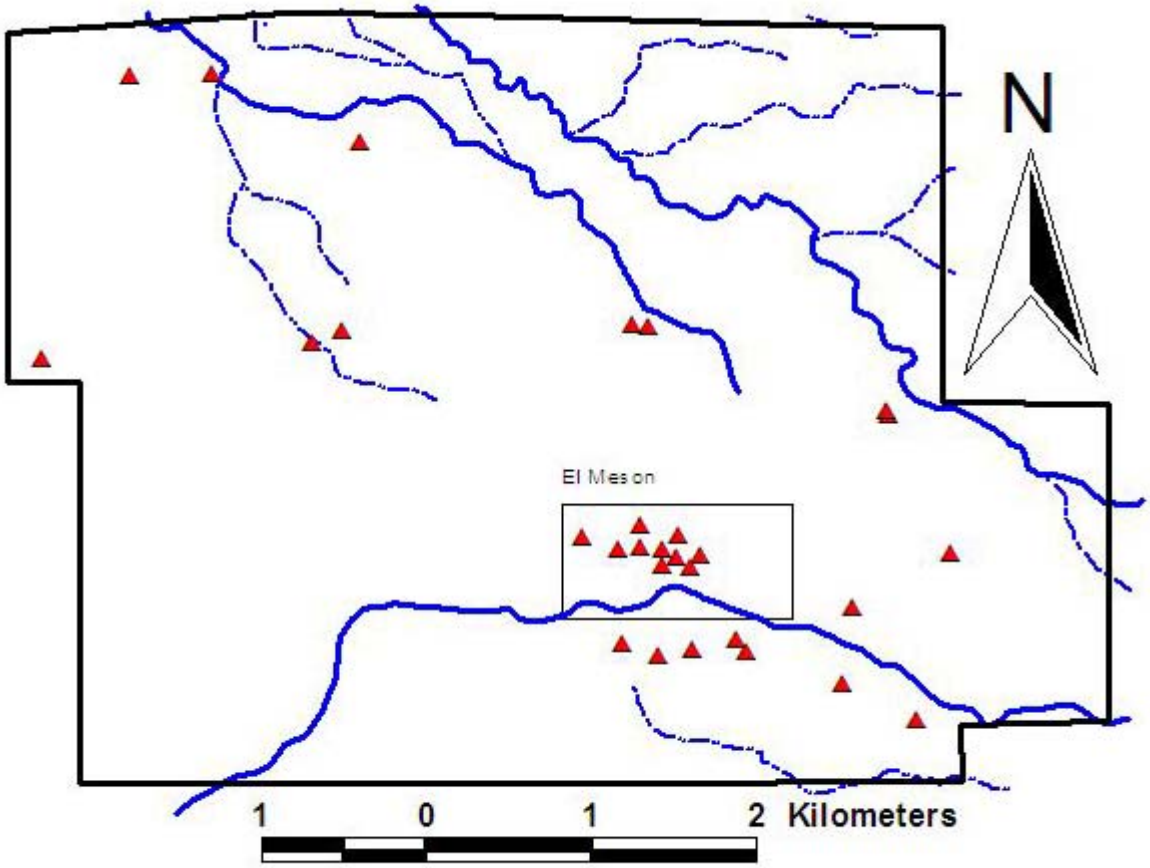

Figure 7.5. Arroyo Phase Collections.

Table 7.2. Early Formative Architectural Features.

Feature Type	**Total**	**Percent Total**
Conical/Pyramidal	1	3.45%
Low Conical/Pyramidal	11	37.93%
Conical/Pyramidal with fronting platform	1	3.45%
Low Long	10	34.48%
Low Platform	3	10.34%
Plaza	1	3.45%
Bajo	1	3.45%
Artifact Concentration	1	3.45%
Total	**29**	**100.00%**
settlement density = 1.1/sq km		

suggesting that Early Formative artifacts were included in the fill of later constructions. In most cases, the Early Formative artifacts consist of a single sherd or figurine fragment per collection.

Because of this possibility that the Early Formative materials were secondarily deposited, they may not precisely reflect the location of Early Formative settlement. However, the fill was most likely brought in from the general area of occupation. These artifacts may more accurately reflect the density of settlement in the area. If this assumption is correct, then at best the Early Formative component of the RAM survey area was likely a medium-sized village..

Further blurring the picture of Early Formative settlement in the area is the potential for the burial of Early Formative deposits beneath deep alluvium. The entire survey area is located in an alluvial plain. While the locals stated that the area rarely witnessed extensive flooding, the potential of flooding in the past must be considered. The larger center, Tres Zapotes, is located in a similar location, the flood plain of the Arroyo Hueyapan. While some scholars speculated that Tres Zapotes did have an Early Formative occupation (Lowe 1989; Ortiz Ceballos 1975), Early Formative materials were scarce during the surface survey of the site. Intact Early Formative deposits were not encountered until 2003 (Pool et al. 2010). These deposits were first identified in Group 2 (the Arroyo Group) at depths greater than 5 m below the surface. Named the Arroyo Phase, Pool et al. (2010:96) estimates that the Early Formative occupation covered an area of approximately 17 ha and likely represented a small village. If similar site formation processes were in action in the RAM survey area, then there is a potential for a more extensive Early Formative occupation.

Tres Zapotes Phase

During the Middle Formative Tres Zapotes phase (1000-400 cal. B.C.) settlement in the El Mesón area expands slightly. Diagnostic Middle Formative ceramics and figurines were recovered from 53 architectural features or artifact concentrations including 46 mounds, two plazas, a ramp, one bajo, and three artifact concentrations. (Figure 7.6; Table 7.3). Twenty-three of the 29 collections containing Early Formative materials (79.3%) also produced Middle Formative artifacts. The distribution of Middle Formative materials is also similar to the Early Formative distribution. Settlement tends to follow the watercourses, although there is more agglomeration of settlement during the Trez Zapotes Phase. The largest cluster of settlement is at El Mesón, where 16 (30.2%) of the 53 collections with Middle Formative artifacts were located within 100m of each other. Other areas that show some clustering of settlement include El Mesón South, (seven features) located on the south side of the Arroyo Tecolapan, and the Norte Group (eight features), located approximately one kilometer north of El Mesón..

Also, like the Early Formative period, all of the collections that produced Middle Formative materials also yielded artifacts from later periods in greater densities. Additionally, the majority of mounds from which Middle Formative materials were identified were less than three meters in height. The three exceptions to this were Mound 159, a 6.4m tall conical mound, Mound 313, an 8.3 m tall conical mound and Mound 3, a

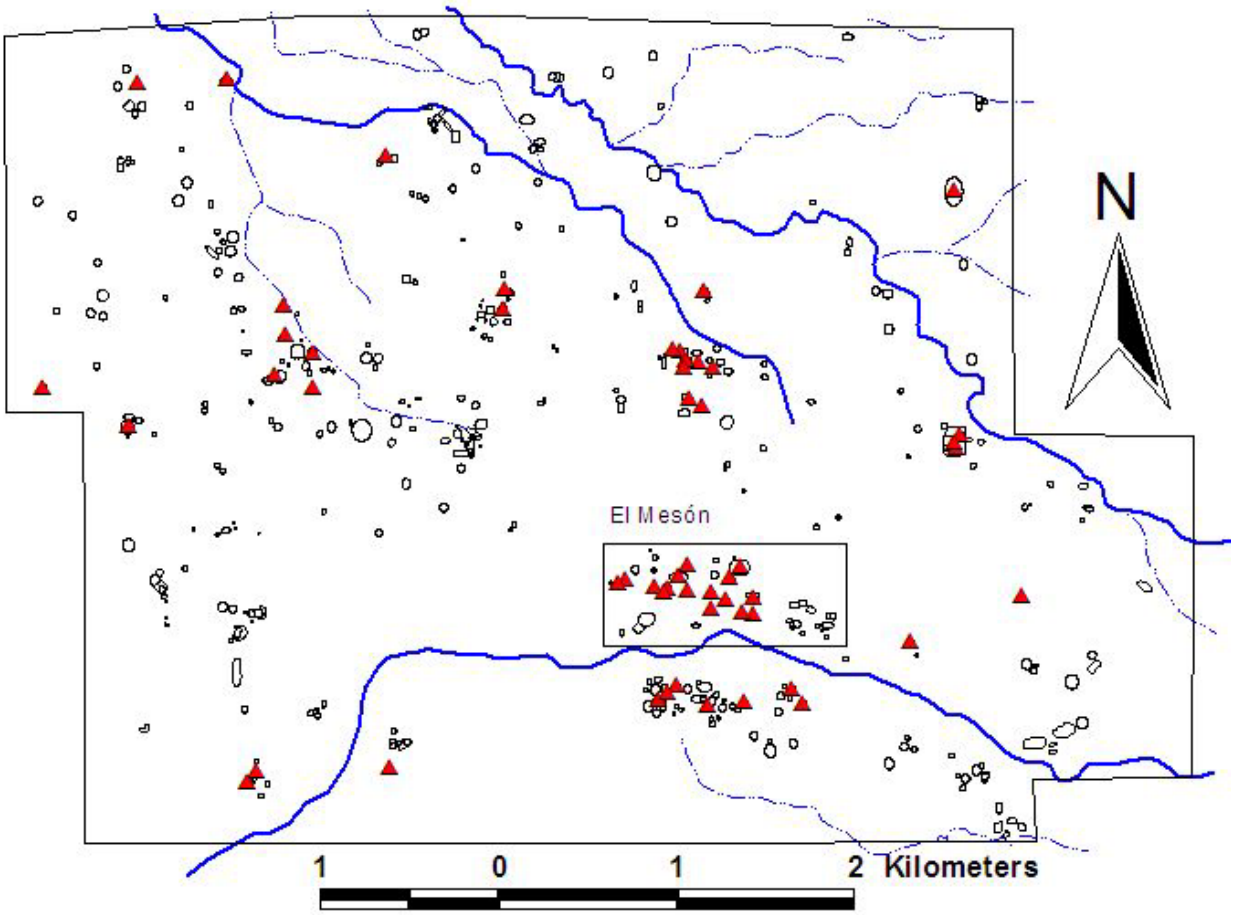

Figure 7.6. Tres Zapotes Phase Settlement.

conical mound taller than 8 m located at El Mesón. However, in these cases the diagnostic materials were figurines and a few ceramic sherds. Combined, all three of these structures had only 11 diagnostic Tres Zapotes Phase sherds. Given these low densities, these artifacts may reflect feature fill rather than Middle Formative occupation. Based on this pattern, the Middle Formative settlement in the RAM survey area was still likely organized as dispersed farmsteads and a medium-sized village. However, the potential for more extensive deeply buried Middle Formative deposits remains possible.

Table 7.3. Tres Zapotes Phase Architectural Features.

Feature Type	Total	Percent Total
Conical/Pyramidal	1	1.9%
Low Conical/Pyramidal	21	39.6%
Tall Conical/Pyramidal	3	5.7%
Conical/Pyramidal with Fronting Platform	1	1.9%
Low Conical/Pyramidal on Platform	1	1.9%
Low Conical in Formal Complex	1	1.9%
Low Long	14	26.4%
Low Platform	4	7.5%
Plaza	2	3.8%
Ramp	1	1.9%
Bajo	1	1.9%
Artifact Concentration	3	5.7%
Grand Total	**53**	100.0%
settlement density = 2/sq km		

The recent identification of two Olmec sculptures just outside the RAM survey area adds to this potential (Pool et al. 2010). The first monument, which is now in the Casa de Cultura in Lerdo de Tejada, was recovered from a cemetery between Lerdo de Tejada and Angel R. Cabada, approximately 4 km from the western boundary of the RAM survey area. This monument depicts a kneeling individual, and is stylistically similar to the San Martín Pajapan Monument, though the Lerdo monument is missing its upper face and head, right arm and leg, and the bar it presumably grasps (Figure 7.7) (Loughlin and Pool 2006a; Pool et al. 2010). The head of a similar monument (Monument 44) has also been recovered at La Venta (de la Fuente 1973:96-98). The second monument was recovered from just south of the RAM survey area, and is currently located in the plaza of Angel R. Cabada. Though this monument is missing its head, arms, and legs, the attachment for the limbs indicate that the monument depicts a

Figure 7.7. Middle Formative Olmec Monument from Lerdo de Tejada (photos Pool).

Figure 7.8. Middle Formative Olmec Monument from Angel R. Cabada (photos Pool).

figure seated with legs crossed who wears a stiff cape (Figure 7.8). The posture and position of this monument recall similar monuments from San Lorenzo (e.g. Monuments 12 and 47). Stylistically, the Cabada Monument is more similar to La Venta Monument 77 than the San Lorenzo Monuments (Pool et al. 2010:100). Specifically the rope design in the cape is the same as the La Venta monument. Additional stylistic similarity between the Lerdo monument and La Venta Monument 77 is the belt design (Pool et al. 2010:100). Typically Olmec monumental sculpture is not found outside of political centers or shrines, so the presence of this monument so close to the RAM survey area suggests a more substantive Middle Formative Olmec presence in the region than does the survey data.

EpiOlmec Settlement

Hueyapan Phase

During the Late Formative Hueyapan phase (cal. 400 B.C.-A.D. 1), the El Mesón area (and the Eastern Lower Papaloapan Basin as a whole) experienced a pronounced demographic shift, as populations in the area greatly expanded. The number of collections with diagnostic materials grows from 53 during the Middle Formative period to 131 during the Late Formative period, an increase of 168% (Figure 7.9; Table 7.4). There does appear to be considerable continuity from the Middle Formative settlement pattern, as 72% (n=38) of the collections with Middle Formative materials also contained Late Formative artifacts.

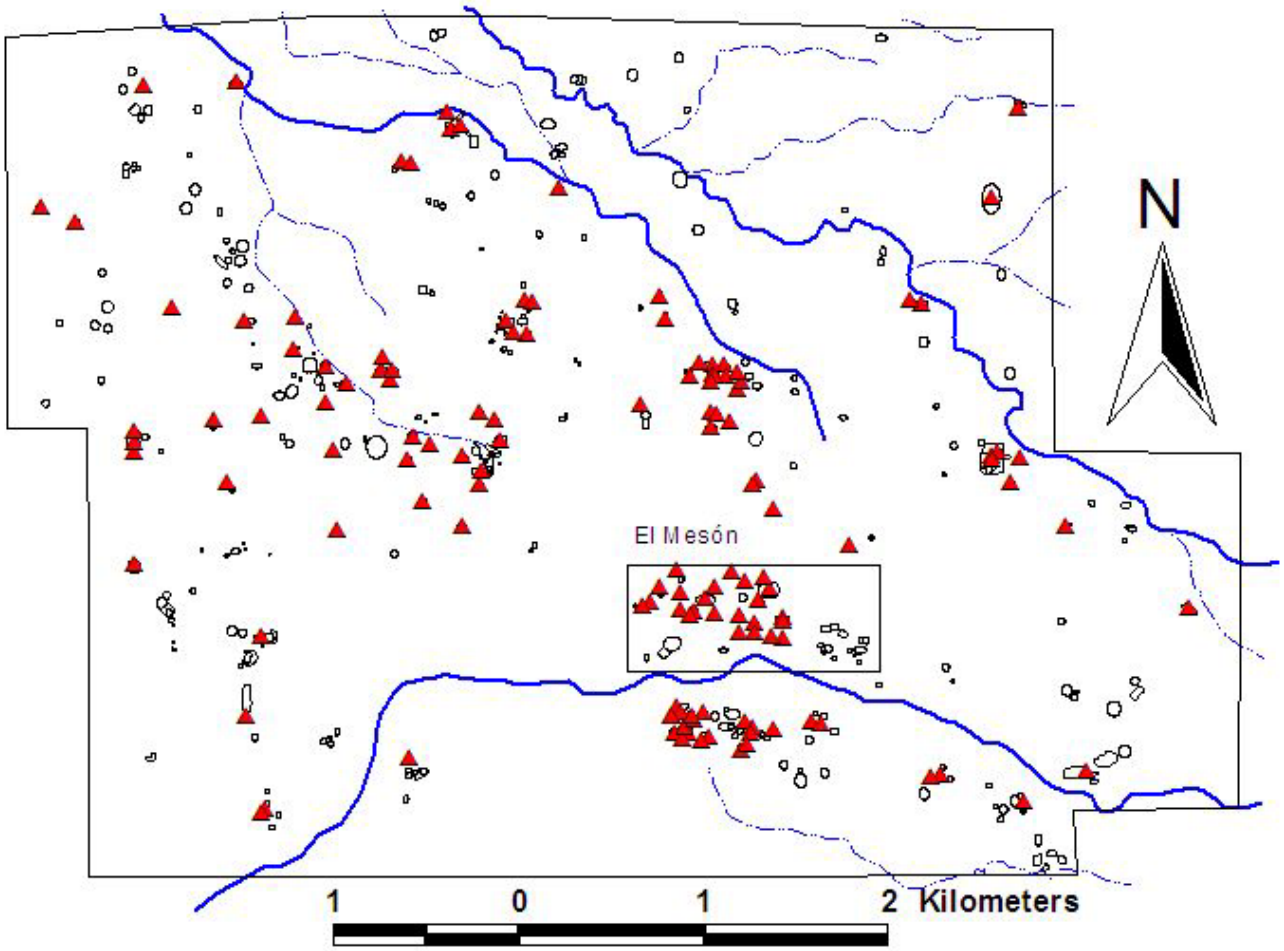

Figure 7.9. Hueyapan Phase Settlement.

Late Formative settlement in the RAM area contrasts with the settlement pattern from earlier periods in its distribution and in the scale of individual architectural features. While the Middle Formative was lightly distributed across the area with some agglomeration at El Mesón, the Late Formative settlement was much denser. Across the survey area, settlement density rises from 2 collections per sq km in the Middle Formative period to 5.3 per sq km during the Late Formative period. Where the Middle Formative settlement was more focused in the eastern half of the survey area, the Late Formative pattern shows that settlement spreads across the entire survey area.

Table 7.4. Hueyapan Phase Architectural Features.

Feature Type	**n**	**Percent Total**
Conical/Pyramidal	5	3.47%
Low Conical/Pyramidal	55	38.19%
Medium Conical/ Pyramidal	6	4.17%
Tall Conical/Pyramidal	3	2.08%
Conical/Pyramidal with fronting platform	4	2.78%
Low Conical/Pyramidal on platform	2	1.39%
Low Conical in formal complex	1	0.69%
Low Long	33	22.92%
Medium Long	1	0.69%
Tall Long	1	0.69%
Low Platform	5	3.47%
Fronting PLatform	3	2.08%
Monumental Platform	1	0.69%
Other	1	0.69%
Plaza	4	2.78%
Ramp	2	1.39%
Bajo	1	0.69%
Artifact Concentration	11	7.64%
Natural Elevation	4	2.78%
Unidentified	1	0.69%
Total	**144**	**100.00%**
settlement density =5.3/sq km		

During the Hueyapan phase, there is greater clustering of features than the preceeding Tres Zapotes phase. In addition to El Mesón, there is significant grouping of settlement in the central portion of the survey area along an unnamed tributary of the Arroyo Tulapilla; in two areas along the Arroyo Tulapilla, Along the Arroyo Tulapa Grande, in the south western portion of the survey area south of the modern highway, and on the south side of the Rio Tecolapan (the clusteringing of settlement is discussed in greater detail below).

The settlement pattern during the Late Formative period is characterized by dense settlement at El Mesón, El Mesón South, and The Norte Group, and more dispersed domestic occupations (mostly low conical mounds in the areas away from the architectural complexes. Thispattern contrasts the Mixtequilla region to the west, as well as the Central Tuxtlas region to the East. In the Mixtequilla there is a similar pattern of nucleated civic ceremonial complexes, however the interstitial areas have a more continuous or homogenous scattering of domestic architecture (Pool and Ohnersorgen 2003:7; Stark 1991:45). Around El Mesón, the domestic occupations in the areas between civic/ceremonial complexes are more discontinuous. The result is that there is more agglomeration of domestic architecture with wider expanses having no evidence for occupation.

In the Central Tuxtlas, The Late Formative settlement pattern is much more nucleated than either the El Mesón area or the Mixtequilla. During the Late Formative period the region had a settlement hierarchy of three levels featuring two large centers, eight small villages, and 33 hamlets (Santley 2007:33-34). However, Pool and Ohnersorgen (2003:8; also see Santley et al. 1984; Santley, Ortíz Ceballos and Pool 1987; Santley and Ortíz Ceballos 1985) note that the low domestic mounds that are found in abundance in the El Mesón area and the Mixtequilla are less common in the Tuxtlas. The lower density, or possibly visibility of these architectural features may contribute to this more nucleated appearance. This nucleation could also be a byproduct of the location of these sites within the mountains where the topography does not permit settlements to spread as extensively as the lower lying floodplains found in the RAM and Mixtequilla areas. Alternatively, the transect spacing used in the Matacapan and Tuxtlas

survey may have resulted in these low residential mounds being underrepresented. Consequently the settlement pattern may appear more nucleated (see Chapter 3 for detailed discussion of effect of survey methods on feature visibility). While the survey strategy may have contributed to the identification of a nucleated settlement in the Central Tuxtlas, recent survey in the Tepango valley (Stoner 2011) also identified a more nucleated settlement pattern, suggesting that the more discrete nature of sites in the Tuxtlas is probably cultural and not a consequence of archaeological survey strategy.

Additionally, the settlement data suggest a growing degree of social distance between people living in the RAM area. Assuming that elites will reside on larger mounds than their nonelite counterparts, the ratio of low (nonelite) domestic architecture to tall, and monumental (elite) architecture can be used a proxy for evaluating the development of social/political hierarchy Table 7.5. The expectation is that the greater the ratio, the greater the development of hierarchy.

During the Arroyo Phase the ratio of nonelite to elite architecture is 22:0, suggesting no hierarchical organization. During the Tres Zapotes Phase the ratio is 11.7:1, and for the Hueyapan Phase the ratio is 16.6:1. This change suggests that as the settlement expands from the Early Formative period through the Late Formative period, there is a similar increase in social differentiation and the development of social/political hierarchy.

Table 7.5. Ratios of Nonelite to Elite Architecture.

Phase	Ratio of Nonelite to Elite Architecture
Arroyo	22:00
Tres Zapotes	11.7:1
Hueyapan	16.6:1
Nextepetl	20.6:1
Ranchito	18.1:1
Quemado	19.8:1
Postclassic	5.3:1

Nextepetl Phase

The Protoclassic Nextepetl phase settlement pattern in the RAM area continues the growth trend that characterized the Formative period. Diagnostic Protoclassic materials were recovered from 247 locations within the RAM area (Figure 7.10; Table 7.6). In terms of the number of collections, this period represents the apex of settlement. However, as is discussed below, this apogee may in part be an artifact of the ceramic chronology. Nextepetl phase settlement displays a remarkable level of continuity with the Hueyapan phase, as all of the locations with Late Formative period occupation were also occupied during the Protoclassic period. Moreover, with a settlement density of 9.1 features per sq. km, the Protoclassic period also is the time of densest occupation in the region (Table 7.6).

The Nextepetl phase marked the largest expansion of architectural features at El Méson. During the preceding Hueyapan phase, 24 architectural features were occupied. This number expands to 27 during the Nextepetl phase. At this time, El Mesón was clearly the largest cluster of architectural features in the area.

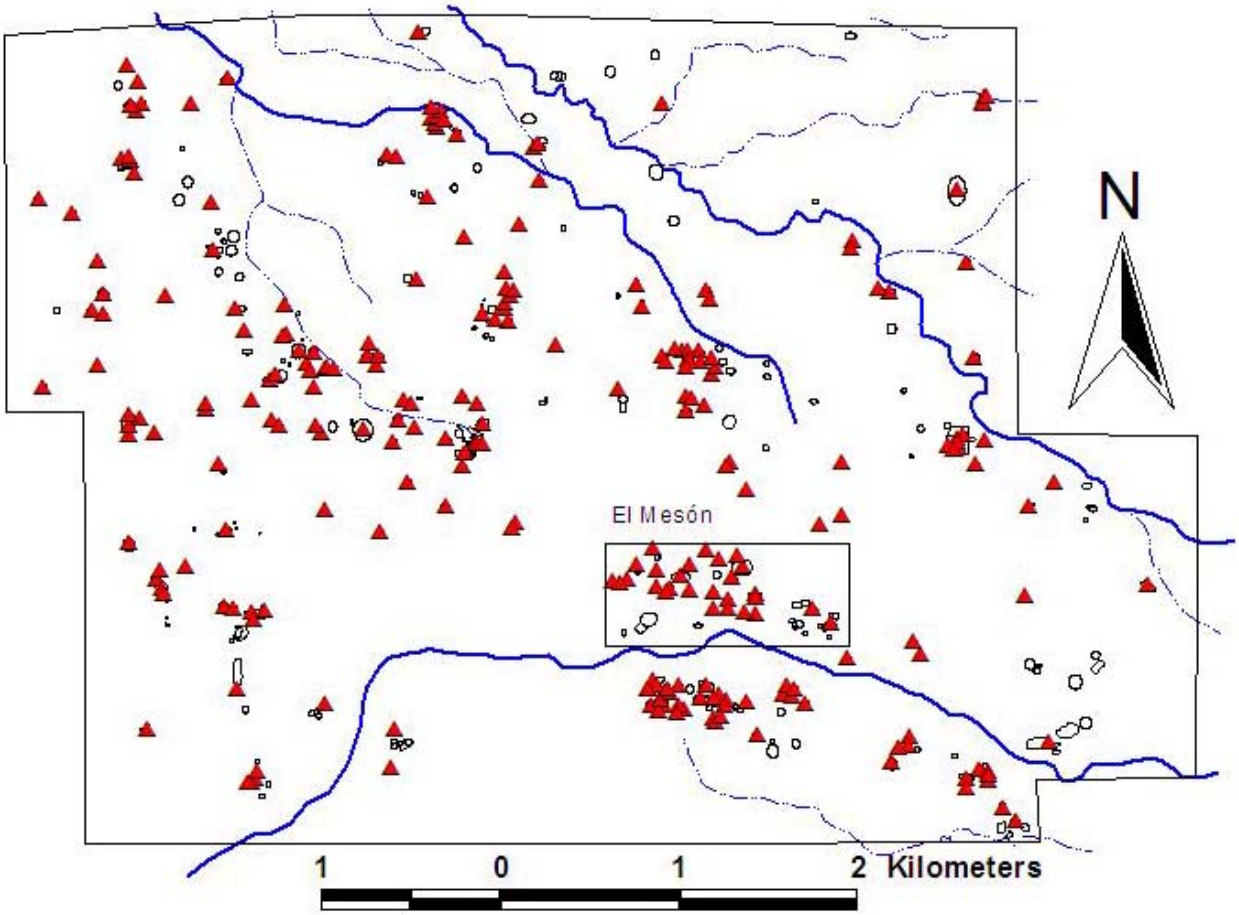

Figure 7.10. Nextepetl Phase Settlement.

In addition to becoming larger, the Nextepetl phase was also the peak of El Mesón's political influence. The best evidence of its role as a political center was the placement of two stelae. Although the precise locations of these monuments is not entirely clear, Scott (1977:124) places them to the west of Mound 2, a medium-sized conical mound on the north side of a secondary plaza located to the west of El Mesón's main plaza (Figure 7.11). No other monuments like these have been reported from the

Table 7.6. Nextepetl Phase Architectural Features.

.Feature Type	Total	Percent Total
Conical/Pyramidal	7	2.8%
Low Conical/Pyramidal	111	44.9%
Medium Conical/Pyramidal	7	2.8%
Tall Conical/Pyramidal	5	2.0%
Conical/Pyramidal with Fronting Platform	7	2.8%
Low Conical/Pyramidal on Platform	4	1.6%
Low Conical in Formal Complex	1	0.4%
Low Long	54	21.9%
Medium Long	1	0.4%
Tall Long	2	0.8%
Low Platform	7	2.8%
Medium Platform	1	0.4%
Fronting Platform	5	2.0%
Monumental Platform	1	0.4%
Other	2	0.8%
Plaza	3	1.2%
Ramp	3	1.2%
Bajo	2	0.8%
Artifact Concentration	16	6.5%
Natural Elevation	5	2.0%
Unidentified	3	1.2%
Grand Total	**247**	**100.0%**
settlement density =9.1/sq km		

anywhere else in the RAM survey area. One other monument, a round altar (Monument 4), was identified on the south side of the main plaza a El Mesón (Scott 1977:125, Figure 4) (Figure 7.11).

Architectural data support this interpretation. The nonelite to elite architecture ratio at this time was 20.6:1, the largest for any period. These data suggest that the Nextepetl Phase was the time of greatest social differentiation in the RAM area.

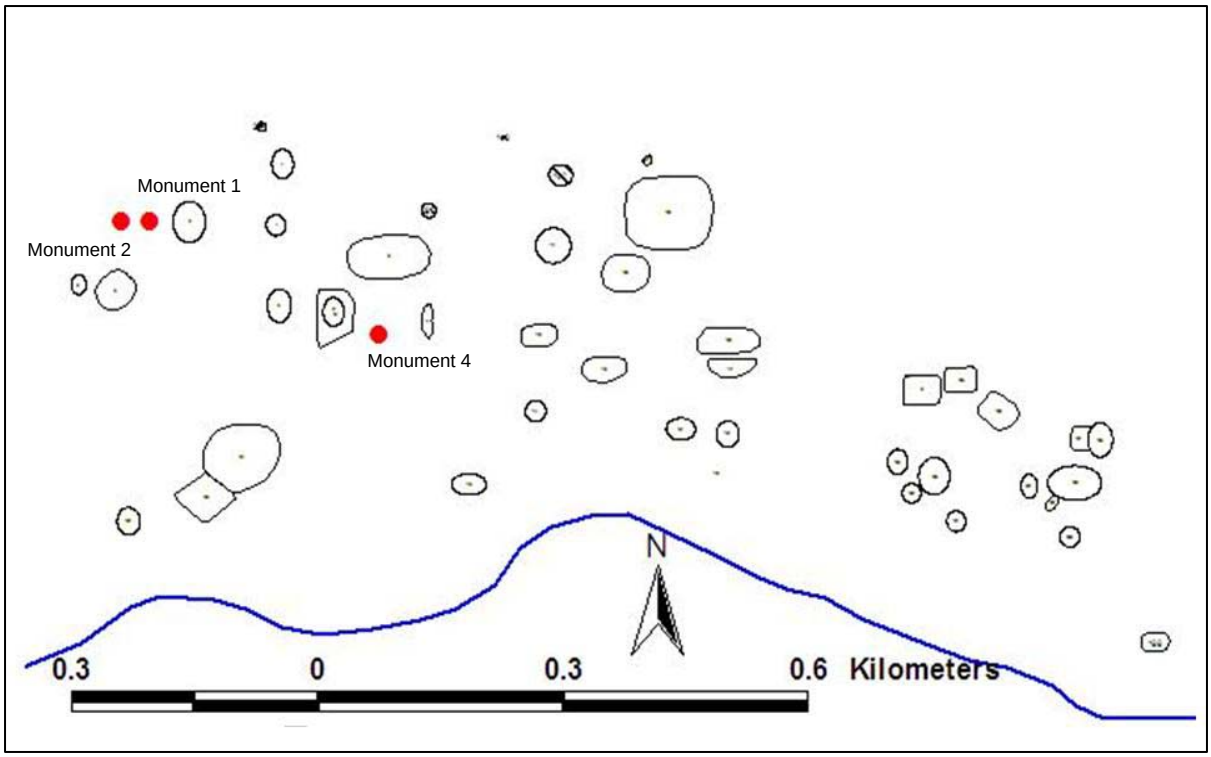

Figure 7.11. Core of El Mesón (note monument placements after Scott [1977]).

While El Mesón began the Nextepetl phase as the ranking political center, there is some evidence suggesting that over the course of the Protoclassic period, its influence had already begun to fade. Nextepetl phase artifacts were recovered from a number of other mound groups with civic-ceremonial architecture as well as El Mesón (Figure 7.12). In addition to El Mesón South and the Norte Group, which show some agglomeration in the Middle and Late Formative periods, these new complexes include La Paila, Chico Loco, Tulapilla, and La Mulata. While the most intensive use of these complexes dates to the Classic period, the survey data suggest that by the end of the Nextepetl phase, construction of these complexes had already begun.

Some evidence of this reorganization can be seen in the density of Sandy Fine Orange ceramics (Code 1212) in the formal architectural complexes. One of the

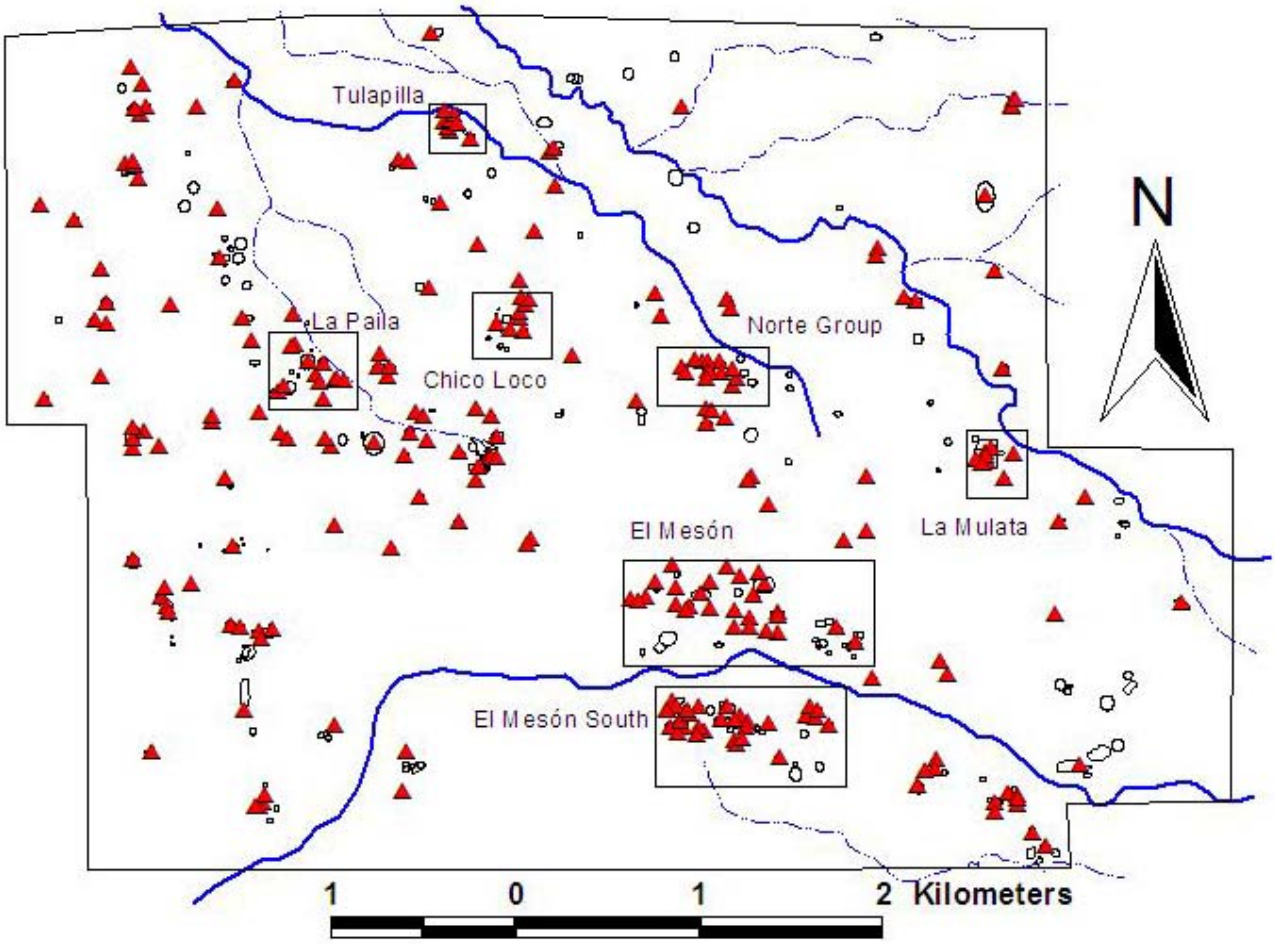

Figure 7.12. Nextepetl phase Settlement Showing Location of Architectural Complexes.

hallmarks of the Classic period in this region of the southern gulf lowlands is the widespread adoption of fine paste ceramics, and the use of kiln firing in ceramic production (Pool and Britt 2000). Transitional types, including Sandy Fine Orange and Fine Buff (Code 1213), represent early efforts to produce fine orange ceramics (Code 1200). Of these two types, Sandy Fine Orange is more diagnostic of the Nextepetl phase, and can be used as an indicator of occupational intensity.

The major difference between Sandy Fine Orange and Fine Orange ceramics is the amount of naturally occurring quartz sand in the paste. As its name implies, Sandy

Fine Orange tends to have more sand inclusions. A review of the densities of Sandy Fine Orange in the formal architectural complexes indicates that El Mesón had the lowest density of this ceramic type (Table 7.7). In collection from El Mesón, the average density of Sandy Fine Orange sherds was .0033 per sq meter, the lowest average density for any of the formal architectural complexes. The greatest density of Sandy Fine Orange sherds was in collections from El Mesón South which had an average density of .0151 sherds per sq meter.

These data illustrate a trend toward the reorganization, not only of settlement, but also of political organization in the region, a process that would become complete in the s Classic period. At the beginning of the Protoclassic period, El Mesón served as the ranking political center in the area. Over the course of the period, however, its position in the local political sphere began to erode. This decline is evident by the construction of new complexes that differ from El Mesón in terms of their constituent features. In particular, flat-topped platforms, a structure type not present at El Mesón, become prominent in these new complexes. The low density of Sandy Fine Orange at El Mesón also suggests the center's influence was waning. That is not to say that at this time El Mesón had collapsed or even ceased to function as a center. Rather, these data only suggest that by the end of the Nextepetl phase, the RAM area was in the midst of an important reorganization.

Table 7.7. Sandy Fine Orange (Code 1212) Sherds in Architectural Complexes.

Architectural Group	Feature	Collection Area (sq m)	Sandy Fine Orange Sherds	Density (sherds/sq m)
	85	1717	2	0.0012
	86	356	7	0.0197
	87	1152	9	0.0078
	88	288	8	0.0278
	89	289	10	0.0346
	93	1374	2	0.0015
Chico Loco	388	1346	9	0.0067
Average Density				**0.0142**
	106	1389	11	0.0079
	108	1174	9	0.0077
	110	1966	1	0.0005
	112	1098	2	0.0018
	113	232	1	0.0043
	115	195	2	0.0103
	116	1169	3	0.0026
	118	406	1	0.0025
Norte Group	119	138	6	0.0435
Average Density				**0.0090**
	159	1013	7	0.0069
	160	785	7	0.0089
	165	19480	21	0.0011
	166	628	10	0.0159
	167	925	13	0.0141
	168	850	8	0.0094
La Mulata	382	1020	10	0.0098
Average Density				**0.0094**
	55	2279	11	0.0048
	56	3325	6	0.0018
	57	4779	1	0.0002
	61	1659	3	0.0018
	62	614	1	0.0016
	221	2544	8	0.0031
	230	477	13	0.0273
	231	244	5	0.0205
	232	320	6	0.0188
La Paila	233	641	19	0.0296
Average Density				**0.0110**

Table 7.7 Continued.

Architectural Group	Feature	Collection Area (sq m)	Sandy Fine Orange Sherds	Density (sherds/sq m)
	295	2647	7	0.0026
	297	787	2	0.0025
	298	397	3	0.0076
	299	1116	9	0.0081
	300	1379	7	0.0051
	301	863	8	0.0093
Tulapilla	302	1569	5	0.0032
Average Density				**0.0055**
	326	535	19	0.0355
	328	2354	27	0.0115
	329	467	8	0.0171
	330	1479	22	0.0149
	331	2704	30	0.0111
	332	1561	26	0.0167
	333	1604	19	0.0118
	334	1581	15	0.0095
	335	809	13	0.0161
	336	1403	12	0.0086
	338	450	7	0.0156
	339	337	2	0.0059
	340	291	5	0.0172
	341	3046	2	0.0007
	343	881	11	0.0125
	344	380	1	0.0026
	345	1389	9	0.0065
	346	1643	1	0.0006
	347	3190	13	0.0041
	350	611	6	0.0098
	351	901	9	0.0100
	354	934	6	0.0064
	360	1330	14	0.0105
	361	515	42	0.0816
	363	993	1	0.0010
	364	1314	2	0.0015
El Meson South	393	206	14	0.0680
Average Density				**0.0151**

Table 7.7 Continued.

Architectural Group	Feature	Collection Area (sq m)	Sandy Fine Orange Sherds	Density (sherds/sq m)
	2	1376	1	0.0007
	4	20450	7	0.0003
	5	323	2	0.0062
	6	1632	3	0.0018
	10	627	1	0.0016
	136	8126	2	0.0002
	138	2071	1	0.0005
	140	944	1	0.0011
	142	523	2	0.0038
	144	464	2	0.0043
	148	623	4	0.0064
	151	678	2	0.0029
	189	1443	3	0.0021
El Meson	397	73	1	0.0137
Average Density				**0.0033**

Classic Period Settlement

Ranchito Phase

The Ranchito phase settlement pattern in the El Mesón area was largely a continuation of the preceding Nextepetl phase settlement pattern. The number of architectural features and concentrations (n=246, settlement density of 9.11 per sq. km) remains virtually identical to the Protoclassic period (Figure 7.13, Table 7.8). Early Classic period settlement largely reflects the continued use of areas that were previously inhabited during the Formative period, as 239 of the 247 (97%) Ranchito phase collections also produced materials dating to the Protoclassic period.

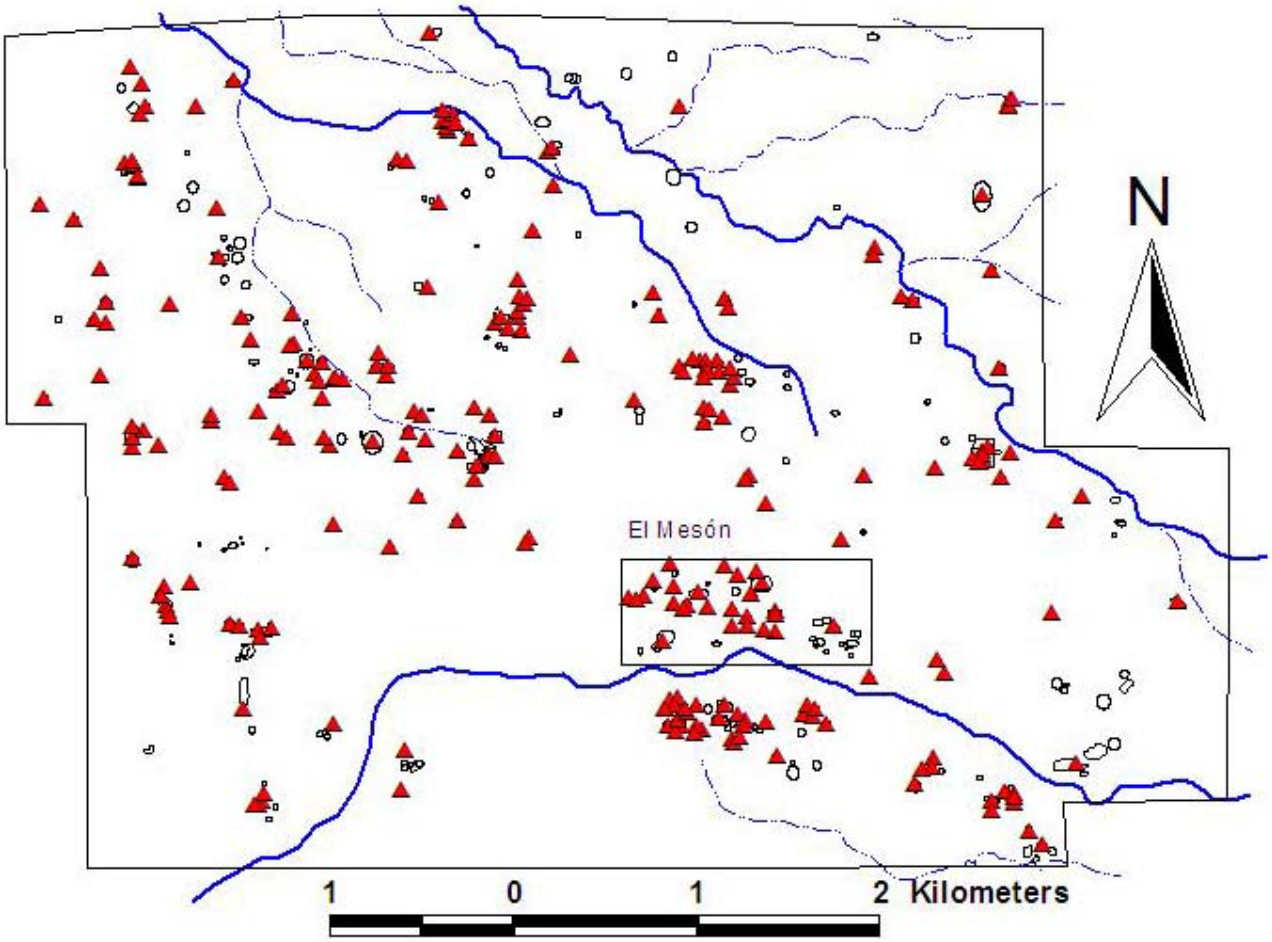

Figure 7.13. Ranchito Phase Settlement.

Table 7.8. Ranchito Phase Architectural Features.

Feature Type	Total	Percent Total
Conical/Pyramidal	8	3.3%
Low Conical/Pyramidal	112	45.5%
Medium Conical/Pyramidal	7	2.8%
Tall Conical/Pyramidal	5	2.0%
Conical/Pyramidal with Fronting Platform	7	2.8%
Low Conical/Pyramidal on Platform	4	1.6%
Low Conical in Formal Complex	1	0.4%
Low Long	51	20.7%
Medium Long	1	0.4%
Tall Long	2	0.8%
Low Platform	7	2.8%
Medium Platform	1	0.4%
Fronting Platform	5	2.0%
Monumental Platform	2	0.8%
Circular Flat-Topped Platform	1	0.4%
Other	1	0.4%
Plaza	3	1.2%
Ramp	3	1.2%
Bajo	2	0.8%
Artifact Concentration	15	6.1%
Natural Elevation	5	2.0%
Unidentified	3	1.2%
Grand Total	**246**	**100.0%**
Density =9.1/sq km		

One of the most important developments of the Early Classic period is a significant reorganization of the El Mesón site. While the overall trend for the area during the Early Classic period is stability, El Mesón experiences a decrease in settlement intensity. During the Ranchito phase, the number of temporally sensitive ceramics in the main civic-ceremonial complex declines (Table 7.9). At Feature 8, the long mound on the north side of the plaza, the number of diagnostic sherds drops from 19 during the

Table 7.9. Nextepetl and Ranchito Phase Sherds from TZPG at El Mesón.

Feature	Nextepetl Phase Sherds	Ranchito Phase Sherds
3	9	8
8	19	5
9	12	15
10	15	11
11	22	8
Total	**77**	**47**

Nextepetl phase to five during the Ranchito phase, a 74% decrease. A similar drop is seen at Feature 11, a conical mound on the east side of the plaza, as the number of diagnostic sherds decreases from 22 during the Nextepetl Phase to eight during the Ranchito Phase,. Feature 9 was the only mound at El Mesón where more Ranchito Phase sherds (n=15) than Nextepetl Phase sherds (n=12) were recovered. The reason for these increases is likely related to the ritual function of Feature 9. Although the domestic and civic activities at the former center were no longer pursued, ritual activities at the adoratorio continued or possibly increased.

Further evidence of the decline of El Mesón comes from the distribution of ceramics types that are common in the Mixtequilla, but rare in the Eastern Lower Papaloapan Basin. These types include Patarata Coarse Red-Orange (Type 6006), Patarata Coarse Plain (Type 6007), Acula Red-Orange Monochrome (Type 6008), Acula red-Orange Engraved (Type 6010), and Red and White Bislip (Type 6011). Because it is unclear if the RAM examples of these types are nonlocal or are local copies of Mixtequilla pottery, I refer to these artifacts as being Mixtequilla-style ceramics. Roughly half of the Ranchito phase architectural features and concentrations contained at least one sherd of Mixtequilla-style ceramics, and these ceramics were recovered from all of the major civic-ceremonial complexes except El Mesón (Figure 7.14). Two sherds of Acula Red-Orange Monochrome (Type 6008) were recovered from two low long mounds

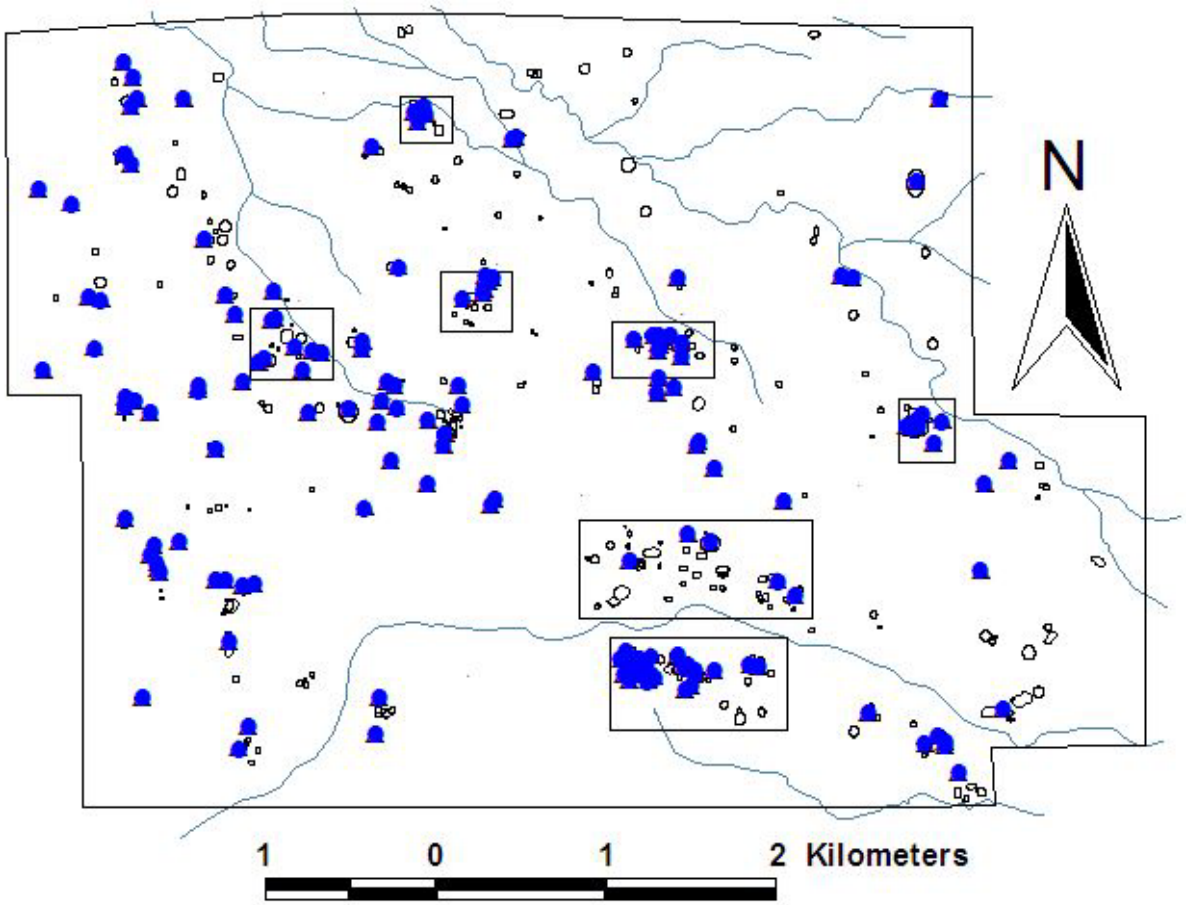

Figure 7.14. Distribution of Mixtequilla Ceramics.

within the El Mesón group; however, neither of these features was located within the major civic-ceremonial complex.

As El Mesón declined, it was eclipsed in importance by the other architectural complexes in the area. Many of these complexes featured constructions as large as, or larger than, the largest mounds at El Mesón. Additionally, the internal organization of these complexes is different from the layout of El Mesón. These complexes are discussed in detail in the next chapter. Despite these changes; however, there does not appear to be a great shift in social differentiation among people living in the RAM area.

The nonelite to elite architecture ration drops to 18.1:1, but still reflects a relatively well developed social and political hierarchy.

Quemado Phase

By approximately A.D. 600, settlements in the El Mesón area were in a state of decline. The number of architectural features and artifact concentrations declines from 246 during the Ranchito phase to 154 during the Late Classic Quemado phase, a decrease of about 37% (Figure 7.15; Table 7.10). Settlement density decreases to 5.7 features per sq. km. While there appears to be some loss of settlement in the areas between architectural complexes, especially to the north of El Mesón, the most striking loss of architectural features comes from the architectural complexes themselves. El Mesón is virtually abandoned at this time. Slightly more than 81% of the features occupied during the Ranchito phase were unoccupied during the Quemado phase (Table 7.11). Most of the other complexes, save La Mulata, experience similar losses, although less pronounced. At La Paila and Chico Loco, the large monumental platforms that form the core of civic-ceremonial architecture fall into disuse during the Quemado phase. The only complexes that continue into the Late Classic period without significant loss of occupation were La Mulata and El Meson South.

Despite the loss of settlement in the civic-ceremonial complexes, the settlement data also indicate that the area was still hierarchically organized. The nonelite to elite

architecture ratio at this time is 19.8:1, a similar ratio to the Nextepetl phase. This ratio may be inflated for this period, however, as remnant populations may have occupied former elite structures.

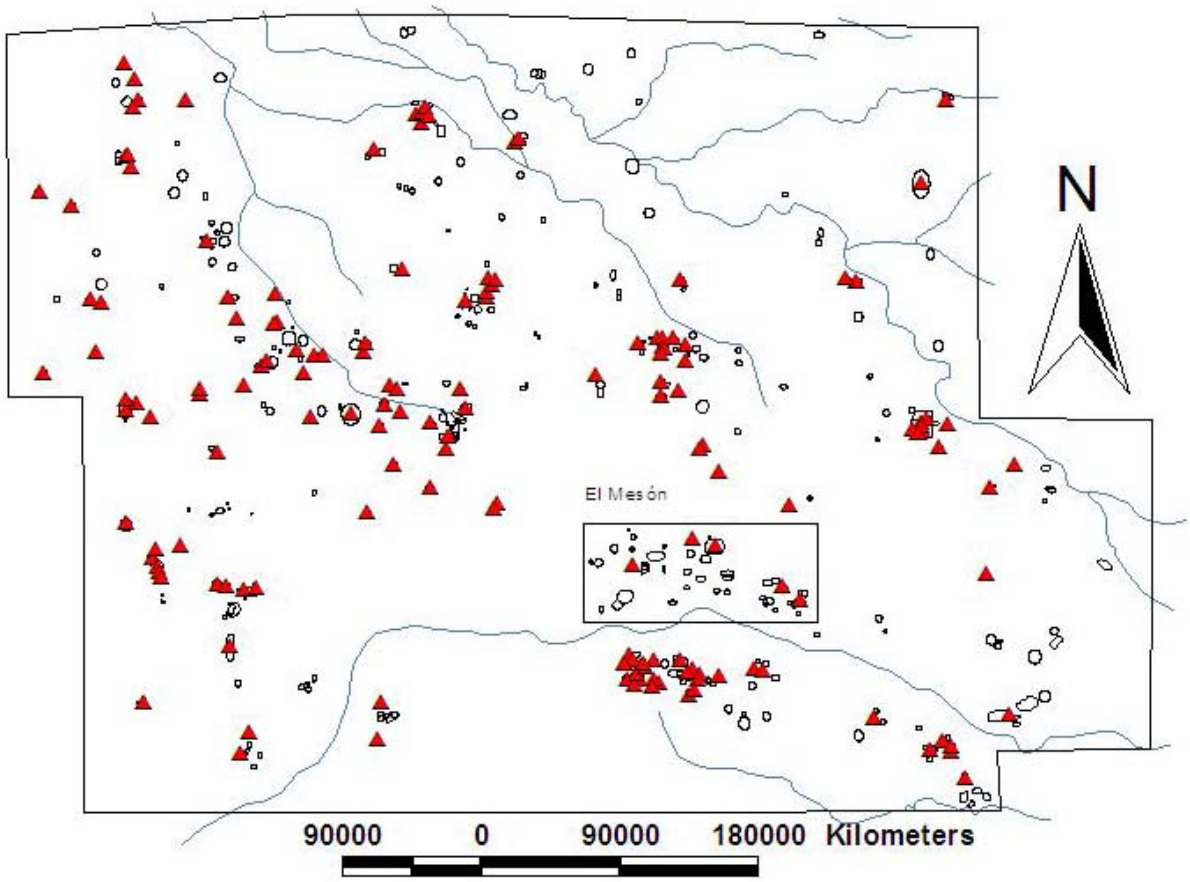

Figure 7.15. Quemado Phase Settlement.

Table 7.10 Quemado Phase Architectural Features**.**

Feature Type	**Total**	**Percent Total**
Conical/Pyramidal	6	3.9%
Low Conical/Pyramidal	70	45.5%
Medium Conical/ Pyramidal	5	3.2%
Tall Conical/Pyramidal	4	2.6%
Conical/Pyramidal with Fronting Platform	7	4.5%
Low Conical/Pyramidal on Platform	2	1.3%
Low Long	29	18.8%
Medium Long	1	0.6%
Tall Long	1	0.6%
Low Platform	5	3.2%
Fronting Platform	4	2.6%
Other	1	0.6%
Plaza	1	0.6%
Ramp	2	1.3%
Bajo	2	1.3%
Artifact Concentration	10	6.5%
Natural Elevation	3	1.9%
Unidentified	1	0.6%
Grand Total	**154**	**100.0%**
settlement density = 5.7/ sq km		

Table 7.11. Features in Architectural Complexes.

Complex	**Ranchito Phase Features**	**Quemado Phase Features**	**Percent loss**
El Mesón	27	5	81.4%
Tulapilla	8	5	37.5%
Chico Loco	10	6	40%
La Paila	12	8	33.3%
Norte	13	9	30.8%
Meson South	30	23	23.3%
La Mulata	8	8	0.0%

Postclassic

By the Postclassic period, the settlements in the RAM survey area declined further. Diagnostic materials dating to the Postclassic period were recovered from only 29 locations within the RAM survey area, a decrease of approximately 81% (Figure 7.16; Table 7.12). Settlement density falls to 1.1 architectural features/artifact concentrations per square km, the lowest density since the Early Formative Period. Just over half of the areas with evidence for Postclassic settlement (n=16) were located within former civic/ceremonial complexes.

The Postclassic settlement pattern shows evidence of decline in all of the civic-ceremonial complexes. At El Mesón, the trend toward decline that began during the Early Classic period was completed, as the former center was completely abandoned. It also appears that Chico Loco was abandoned at this time. Of the remaining architectural complexes, only El Mesón South had more than two architectural features with Postclassic materials. In most cases, the architectural features that did have Postclassic materials were not civic-ceremonial constructions. Rather, the majority were low conical or long mounds. One exception to this pattern was the monumental platform at La Paila; however, given that the only other feature within that complex with Postclassic materials was an artifact concentration, it is doubtful that the platform continued to serve a civic-ceremonial function at this time.

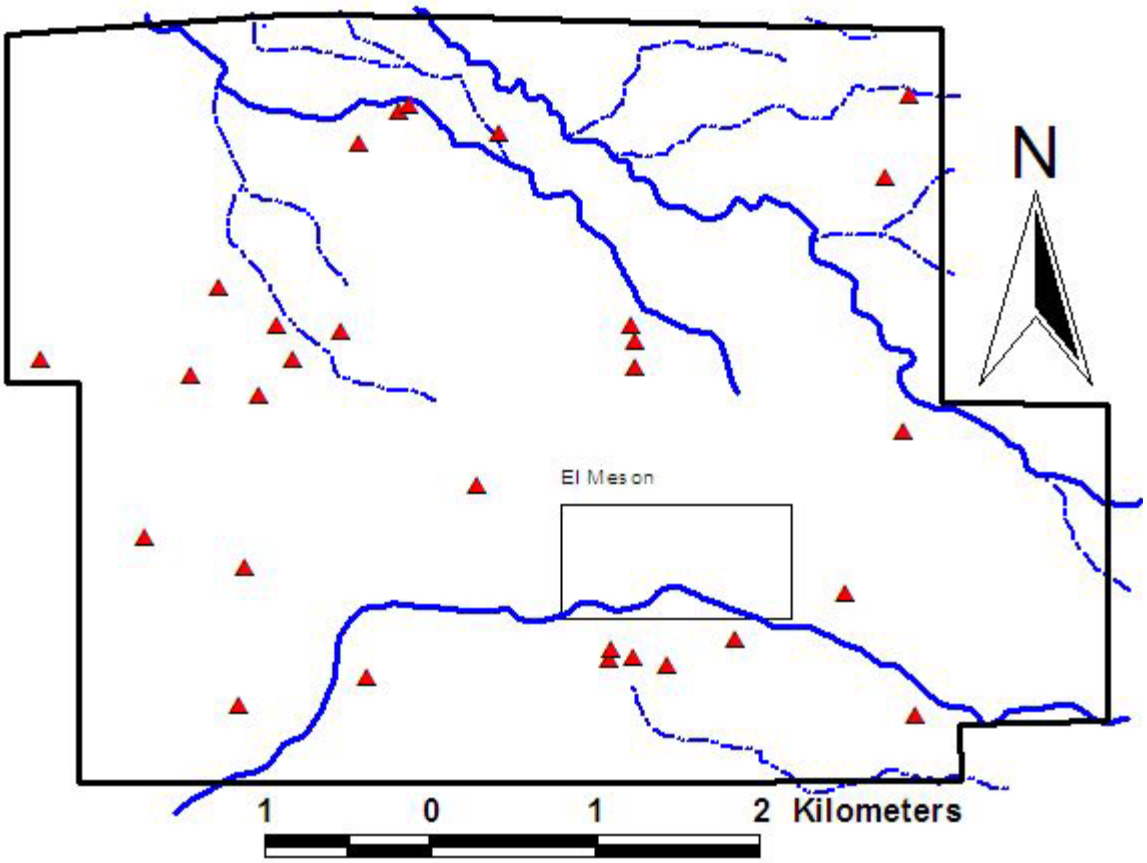

Figure 7.16. Postclassic Settlement.

Table 7.12. Postclassic Architectural Features.

Feature Type	n	Percent Total
Low Conical/Pyramidal	15	51.7%
Medium Conical/Pyramidal	1	3.4%
Conical/Pyramidal with fronting platform	2	6.9%
Low Long	1	3.4%
Fronting Platform	3	10.3%
Monumental Platform	1	3.4%
Bajo	1	3.4%
Artifact Concentration	4	13.8%
Unidentified	1	3.4%
Total	**29**	**100.0%**
settlement density =1.1/sq. km		

The areas outside of the former architectural complexes also experienced a pronounced reduction in occupation. This decline is particularly evident in the central portion of the RAM survey area, previously the most densely occupied part of the survey area. During the Postclassic period, these hinterland settlements become more isolated with little agglomeration of mounds or artifact concentrations.

Discussion

The settlement history of the El Mesón area reflects over 2,000 years of continuous occupation. From relatively meager beginnings during the Early and Middle Formative periods, the region experiences a florescence that spans the Late Formative to Early Classic periods, and ultimately a decline during the Late Classic and Postclassic periods (Figure 7.17). Comparing this settlement history with the settlement history of Tres Zapotes (Figure 7.18) suggests that both areas have broadly similar trajectories of growth through the Formative period. At Tres Zapotes the growth is more rapid from the Early Formative period through the Late Formative period. I interpret this similarity as an indication that, at least for a time, the fortunes of El Mesón and its surrounding area were tied to the larger center.

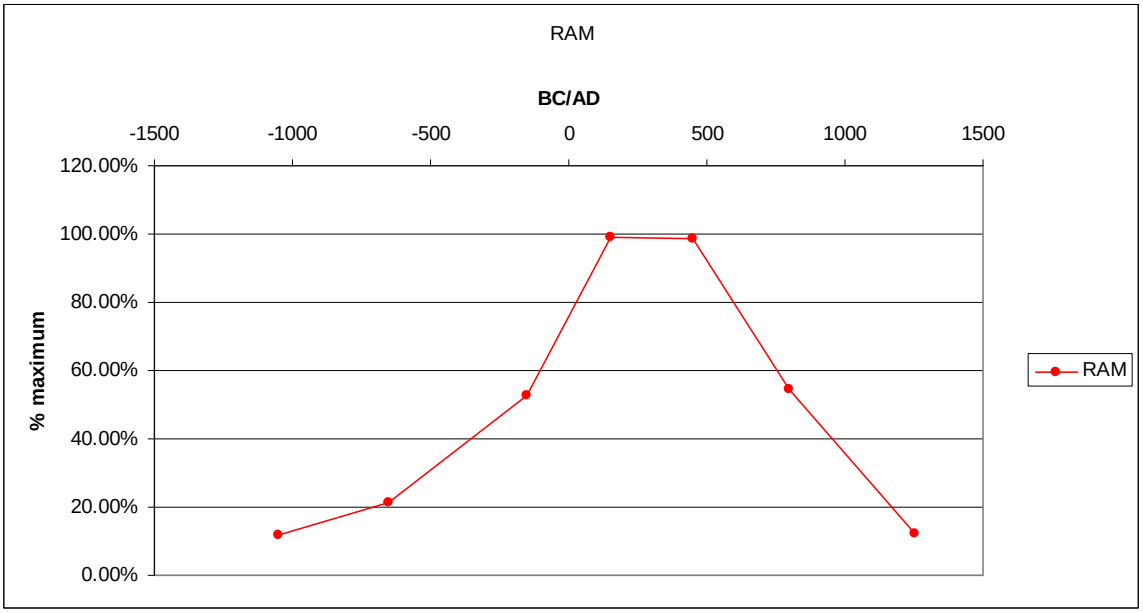

Figure 7.17. Growth and Decline of El Mesón Area(based on number of collections).

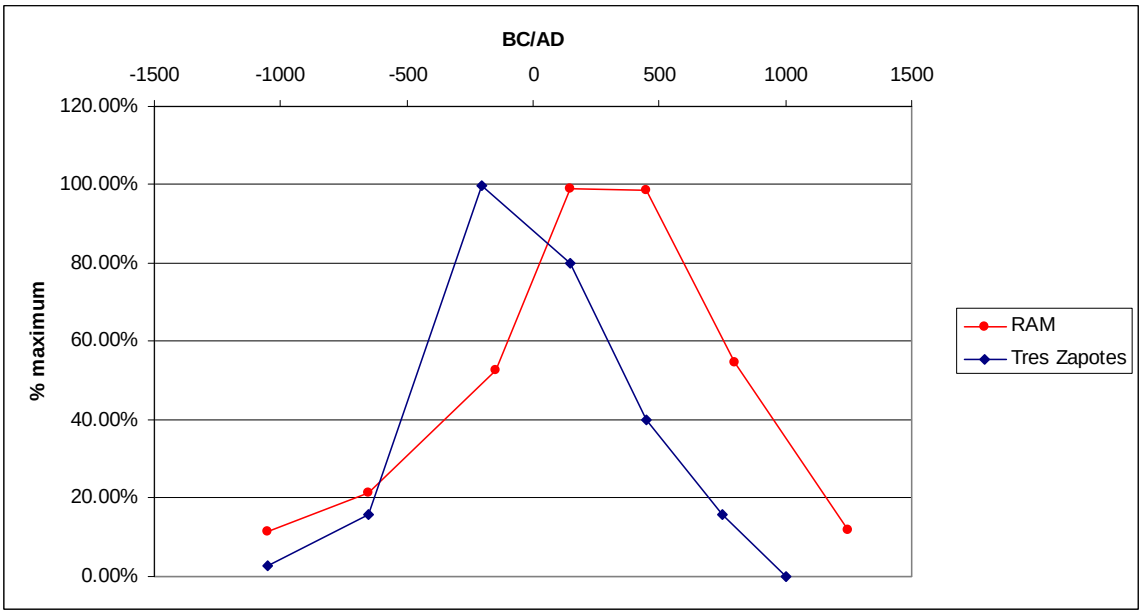

Figure 7.18. Growth and Decline of El Mesón Area (number of collections) and Tres Zapotes (percent of maximum area [Pool et al. 2010; Pool and Ohnersorgen 2003:24-31).

Tres Zapotes has been recognized as having reached its zenith during the Late Formative and Protoclassic periods (Pool 2000, 2007:246-255; Pool and Ohnersorgen 2003:24-31). Early and Middle Formative components had been documented at the site, however, the Early Formative settlement had been poorly known. Recent excavations (Pool et al. 2010) at the site, have better documented the earlier occupations which date to the Arroyo Phase (1250-1000 B.C.). Arroyo phase materials were recovered from excavation, augers, and surface collections from an area of approximately 17 ha, and the site is interpreted as a medium village (Pool et al. 2010). Based on comparisons of the Arroyo Phase materials with coeval materials from San Lorenzo, Pool (2006b) finds that there is little evidence for political domination of Tres Zapotes by the much larger center of San Lorenzo. During the Middle Formative period, Tres Zapotes expands becoming a regional center. At this time the core of the size measured approximately 80 ha, and the total extent of the site may have been as large as 150 ha, making Tres Zapotes just smaller than La Venta, which covered approximately 200 ha (Pool 2006a; González Lauck 1996). This interpretation of Tres Zapotes as a regional center is bolstered by the presence of at least 11 Middle Formative Olmec monuments at the site (Pool 2007). Of these, the two colossal heads (Monuments A and Q) and two stelae (Stelae A and F) are the most indicative of a regional center as both monument styles elsewhere in Olman are associated with primary centers (Pool 2006b).

The RAM data indicate that the El Mesón area's initial settlement and growth is similar to the Early and Middle Formative development of Tres Zapotes. While the settlement pattern for the RAM area as a whole was extremely dispersed, there was one large concentration of settlement at El Mesón that covered an area of approximately 20

ha, comparable to the Arroyo Phase settlement at Tres Zapotes. Based on its size, this settlement most likely represents a medium village. Other than basic similarities in ceramic types and vessel forms (a trait also shared with other Early Formative Olmec sites throughout Olman) there is no indication that Tres Zapotes exerted any real political or economic influence over the El Mesón area at this time. Rather, Tres Zapotes and El Mesón both appear to represent small settlements on the western edge of Olman.

During the Middle Formative period settlements continued to expand; however, the growth documented in the El Mesón area indicates that it did not approach the expansion experienced by Tres Zapotes. Like the Early Formative period, The Middle Formative Settlement saw the only agglomeration of settlement at El Mesón. While some architectural elements were added, the overall extent of the site core does not change from the Early Formative period; unlike Tres Zapotes, which experienced exponential growth during the Middle Formative period. The core of the site experienced 470 percent growth from the Early Formative period to the Middle Formative period. Presently, the nature of interaction between Tres Zapotes and El Mesón during the Middle Formative period is unclear; however, based on the sizes of the two sites, any direct interactions they had would probably have been asymmetrical.

Although the Middle Formative growth in the RAM survey area was minimal, compared to Tres Zapotes, the presence of Middle Formative Olmec monuments in the area around El Mesón hints that there may have been a stronger Olmec presence within this portion of the ELPB during the Middle Formative period than previously thought. Pool et al. (2010) note that the costume elements of both the Lerdo and Cabada Monuments show a greater resemblance to the corpus of stone monuments from La

Venta, rather than Tres Zapotes (see also Loughlin and Pool 2006). This similarity has been the basis for attributing these two monuments to the Middle Formative period. Given that these types of monuments have associations with themes of rulership and ritual, does the presence of these monuments reflect a possible La Venta influence in the ELPB? In the 1960s, William and Heizer (1965) suggested that basalt columns at La Venta may have originated at Roca Partida, which is located 30 km from El Mesón on the Gulf of Mexico. Pool (2006b.) suggests several alternative propositions that could characterize the nature of relations, including political domination, the establishment of a colony, and alliance with local political rulers; however, these suggestions are largely speculation, and the data necessary to evaluate these propositions does not currently exist. However, the possibility of La Venta having an influence in the ELPB presents some potentially significant implications for understanding the development of Tres Zapotes, El Mesón, and the ELPB as a whole. If La Venta directly controlled the El Mesón area, either through conquest or the establishment of a colony, then it would have controlled an important communication and transportation route into and out of the western Tuxtlas. Tres Zapotes occupies a similar location for the southern Tuxtlas. Control over these routes would have eased the flow of goods coming into and out of Eastern Olman. La Venta may have tried to circumvent the growing center at Tres Zapotes by moving goods through the western Tuxtlas through El Mesón. Based on the RAM data, any domination of the El Mesón area would have been fragile and short-lived. Alternatively, the residents of the El Mesón area may have sought out an alliance with the larger Olmec center as a means of resisting the growing influence of Tres Zapotes. Under this

scenario, La Venta would still have had access to the transportation routes through El Mesón.

The Late Formative period (B.C. 400-A.D. 1) marks an important shift in the southern gulf lowlands. By 400 B.C. La Venta was in decline and the eastern portion of Olman was largely depopulated. Similarly, the Olmec culture which had dominated the Early and Middle Formative periods evolved into the Epi-Olmec culture.. At the same time, western Olman experienced a demographic explosion as populations grew throughout the region. It is not clear if this population expansion is the result of events in eastern Olman (i.e., movement of populations from the east to the west) or the result of local processes within western Olman. In addition to larger populations, western Olman was also the focus of the Epi-Olmec culture, which characterized the region through the Protoclassic period. This new culture clearly represents an evolution of the earlier Olmec cultural system, and included new traits, one of the most important of which was the invention of a hieroglyphic writing system.

During the Late Formative Hueyapan phase, Tres Zapotes ballooned to its maximum extent, covering 500 ha, an increase of 625 percent from the Middle Formative period (Pool 2007: 247), making it not only the largest site in the ELPB, but also the whole of the southern gulf lowlands. Settlement at Tres Zapotes, at this time, spread across the floodplain of the Arroyo Hueyapan and onto the surrounding terraces. Pool (2007:247) notes that the site comprised over 160 mounds, platforms, and residential terraces. The civic ceremonial core of the site included four civic/ceremonial complexes with virtually identical arrangements. Pool (2000, 2003, 2007:248-250, 2008) argues that these complexes represent political seats for factional rulers who shared governance of

the center. Settlement at the site was most concentrated in an area of approximately 180 ha within the site core, and becomes more diffuse outside of the core toward the site's margins (Pool 2007:247-248).

The settlement pattern data indicate that the El Mesón area was also expanding during the Late Formative period. The number of collections with diagnostic materials increases to 131, a change of 168 % from the Middle Formative period (Table 7.13). Like Tres Zapotes, the majority of architectural features in the RAM survey area were low habitational mounds or platforms, and account for approximately 60 percent of all architectural features/artifact concentrations with Late Formative occupation. However, unlike Tres Zapotes, domestic habitation is not as concentrated around the core of El Mesón. Rather, the densest occupation during the Late Formative period is located to the north and west of the civic/ceremonial core (see Figure 7.9). Another distinction between the El Mesón area and Tres Zapotes is the scale of civic/ceremonial architecture. Within the RAM survey area there is only evidence for one civic/ceremonial complex, El Mesón. In terms of its layout and internal organization, this complex is the same as the four major mound groups at Tres Zapotes (see next chapter), a layout that Pool (2006a, 2007, 2008) calls the Tres Zapotes Plaza Group (TZPG). However, the scale of TZPG complex at El Mesón is smaller than the two largest TZPG complexes at Tres Zapotes (Groups 2 and 3). I suggest that the replication of this layout at El Mesón indicates, that during the Late Formative period, El Mesón was integrated into a regional polity headed by Tres Zapotes, and most likely served as a secondary center. The reduced scale of the TZPG at El Mesón reflects its subordinate status relative to Tres Zapotes. Controlling El Mesón

Table 7.13 Diachronic Changes in Frequencies of Architectural Types in RAM Area.

Feature Type	Code	Arroyo Phase	Tres Zapotes Phase	Hueyapan Phase	Nextepetl Phase	Ranchito Phase	Quemado Phase	Post-classic
Conical/Pyramidal	10	1	1		7	8	6	0
Low Conical/ Pyramidal	11	11	21	50	111	112	70	15
Medium Conical/ Pyramidal	12	0	0	6	7	7	5	1
Tall Conical/Pyramidal	13	1	3	3	5	5	4	0
Conical/Pyramidal with Fronting Platform	14	0	1	3	7	7	7	2
Low Conical/ Pyramidal on Platform	15	0	1	2	4	4	2	0
Low Conical in Formal Complex	16	0	1	1	1	1	0	0
Low Long	21	10	14	33	54	51	29	1
Medium Long	22	0	0	0	1	1	1	0
Tall Long	23	0	0	1	2	2	1	0
Low Platform	31	3	4	4	7	7	5	0
Medium Platform	32	0	0	0	1	1	0	0
Fronting Platform	33	0	0	2	5	5	4	3
Monumental Platform	35	0	0	1	1	2	0	1
Circular Flat-Topped Platform	36	0	0	0	0	1	0	0
Other	40	0	0	1	2	1	1	0
Plaza	41	1	2	3	3	3	1	0
Ramp	42		1	2	3	3	2	0
Bajo	43	1	1	1	2	2	2	1
Artifact Concentration	50	1	3	9	16	15	10	4
Natural Elevation	60	0	0	4	5	5	3	0
Unidentified	70	0	0	1	3	3	1	1
Total		**29**	**53**	**131**	**247**	**246**	**154**	**29**

would have allowed Tres Zapotes to control access to the Tuxtlas from the south and west, effectively cutting off competition form other centers such as Cerro de las Mesas.

During the Nextepetl phase, Tres Zapotes experienced a demographic reorganization. Settlement began to retract from the lower-lying areas along the Arroyo Hueyapan and expanded on the terraces surrounding the floodplain (Pool 2008:127).

Pool (2008:127; see also Pool and Ohnersorgen 2003:25) notes that a volcanic eruption likely hastened this population shift. Wendt (2003:46) identified ash deposits up to four meters thick associated with this eruption, in the floodplain. This settlement disruption, however, does not appear to coincide with a depopulation of the center. Rather, this shift could, be a response to this natural disaster, as the areas that were abandoned correspond to the areas of densest ash fall. Conversely, the newly settled areas were located on higher ground where the volcanic ash would have eroded downslope, redepositing the ash in the valley.

Despite the changes in settlement during the Nextepetl phase, the total area of the site was only slightly smaller than during the preceding the Hueyapan Phase (Pool 2008:127). Tres Zapotes maintained its status as the largest and most politically and economically powerful center in the ELPB. However, there is some evidence in the form of architectural modifications to Mound Groups 2 and 3 that suggest that the organizational principles that held the center together were beginning to change (Pool 2007). I defer this discussion until the next chapter.

The settlement data from the RAM survey area indicate that the El Mesón area experienced a demographic explosion during the Nextepetl phase, as the area grew to its maximum. These data also indicate that, at least early in the Protoclassic period, El Mesón maintained its position as a political center. The placement of Monuments at the center at this time indicates El Mesón's political importance. Over the course of the Nextepetl phase, however, there is some data to indicate that a reorganization of settlement, similar to that at Tres Zapotes, was beginning to take place, as construction began on several new civic-ceremonial complexes during the Protoclassic period.

Although Tres Zapotes remained a political and economic center during the Early Classic period, there is evidence that its influence was on the wane. Within the site, there was a further retraction of settlement. Ranchito phase settlement consisted of discontinuous areas of intensive settlement that focused on the southern floodplain and the surrounding terraces, broken up by zones of sparser settlement including the Ranchito, Burnt Mounds, and New Lands mound groups (Pool 2008:127-128). This settlement spread over an area of approximately 200 ha, less than half of its former extent. Despite this retraction, the modifications to Groups 1, 2, and 3 suggest that the site was still an important political center (Drucker 1943:144-146; Pool 2008:128; Pool and Ohnersorgen 2003:25; Weiant 1943:6-7, 12-15). However, these alterations also suggest that the confederation of factions that previously controlled the site were breaking apart.

In contrast, the Early Classic period in the El Mesón area was marked by relative stability in settlement. The number of collections with Early Classic artifacts was virtually identical to the preceding Protoclassic period, and settlement spread throughout the RAM survey area covering an area of approximately 2,691 hectares. Within this area, however, the densest settlement was located in the northern and western portions of the survey area.

Despite the overall stability of the area, El Mesón itself appears to have been less intensively occupied during the Early Classic period. The main civic/ceremonial complex, which had been modeled on the TZPG groups at Tres Zapotes, was less intensively occupied. Moreover, the focus of settlement in the west and north around La Paila, Chico Loco, and other new civic ceremonial complexes indicates that El Mesón

had lost its former prestige, and presumably its political and economic importance. This shift is reflects an important change in the regional political organization of the ELPB. As Tres Zapotes's power declined, its former subordinates took the opportunity to establish themselves as independent centers. This growing independence was manifested by the emergence of at least five new civic/ceremonial complexes that were spread throughout the survey area. The largest of these were La Paila and Chico Loco, which were both focused on large monumental platforms surrounded by smaller conical structures.

The RAM survey data mirror the Early Classic growth of the regions to the east and the west. To the west in the Mixtequilla region, the Early Classic period is characterized by the emergence of Cerro de las Mesas as a large and important political and economic center. With a monumental core of more than 160 mounds, at least 20 sculptures dating to the Early Classic period, and covering an area of 1.46 sq km, Stark (2008:90) notes that Cerro de las Mesas "…has no equal in the WLPB [Western Lower Papaloapan Basin]…." This large center extended its control, incorporating smaller centers into a regional polity. Stark (2008:90-92) suggests that at its apogee Cerro de las Mesas may have directly or indirectly controlled an area of approximately 1700 sq km, including the estuarine areas at the mouth of the Papaloapan River. The settlement pattern that accompanied the development of Cerro de las Mesas featured numerous formal architectural complexes located in relatively close proximity to each other, and a near continuous scatter of smaller-scale residential architecture located within the interstitial areas between complexes (Stark 1999:218-219).

The Tuxtla Mountains located to the east of the RAM survey area also experienced substantial growth during the Early Classic period. In the Catemaco Valley, Matacapan emerged as an important political and economic center. Settlement in the Central Tuxtlas is documented as early as the Early Formative period, when a series of small villages and hamlets were established in the area (Santley 2007:25; Santley and Arnold 1996:228). Settlement continued to expand during the subsequent Middle and Late Formative periods. Using area and intensity of occupation to derive population, Santley and Arnold (1996:231) estimate that 3,200 people were living in the Catemaco valley, and there is evidence of a hierarchical settlement pattern with at least one tier above the village/hamlet level. Two sites, La Joya and Chuniapan de Abajo, with areas of 50 ha and 45 ha respectively, were the largest and most nucleated settlements in the area, and served as political seats (Santley 2007:34). Santley and Arnold (1996:231) estimate that during the Late Formative period approximately 16.7 percent of the total population of the Catemaco valley resided in Chuniapan de Abajo. After a period of settlement retraction during the Protoclassic period, most likely caused by volcanic activity, settlement rebounded during the Early Classic period, and Matacapan was established (Santley 2003). During the Early Classic period, this center covered an estimated 50 ha (Santley 2007:45-46; Santley and Arnold 1996:232). The presence of Teotihuacán style cylindrical tripod vessels and *candeleros*, has been invoked as an indication that the large Central Mexican city played an important role in the establishment of Matacapan (Pool and Britt 2000; Santley 2007:46-47; Santley and Arnold 1996:232-233). Santley et al. (1987) have suggested that Matacapan was home to an enclave of Teotihuacanos. Regionally, all of the other sites documented in the

Catemaco Valley were small hamlets. Santley (2007:46) estimates the regional population to have been 1,700 persons, 1,200 of which resided at Matacapan.

Between A.D. 460 and 650, the Middle Classic period in the Tuxtlas (later Early Classic in the ELPB plain), populations in this region of the Tuxtlas exploded. The Tuxtlas survey documented a total of 122 sites dating to the Middle Classic period: three large centers, Matacapan, Ranchoapan, and Teotepec; five small centers; one large village; 25 small villages; and 88 hamlets (Santley 2007:48). Population estimates indicate a 3,118 percent increase over the Early Classic population (Santley 2007:48). Santley (2007:48) places the maximum population at 53,000 persons, with 35,000 of those living at Matacapan, the ranking center in the region. The regional settlement pattern was organized with small centers located away from the large centers and large and small villages and hamlets distributed across the interstitial areas (Santley 2007:48; Santley and Arnold 1996:235). Santley and Arnold (1996:235) note that rural sites tend to cluster around Matacapan and along the lower Rio Catemaco, the Rio Tajalate, and their smaller tributaries.

To the west, similar processes of growth and sociopolitical evolution were also in action in the Rio Tepango Valley. Recent survey in this area of the Tuxtlas indicates that beginning in the Middle Formative period, Totocapan emerges as a nucleated village (Stoner 2011:305). Settlements expand in the area during the Late Formative and Protoclassic periods, before retracting during the Early Classic period (Stoner 2008:11-17; 2011:318-327). Like the Catemaco Valley, the Middle Classic period was a period of unequaled growth in the Tepango Valley. One hundred twenty-five sites with Middle Classic occupation were documented in the Tepango Valley; a growth of 140.7 percent

from the Early Classic period (Stoner 2011:335). The organization of these settlements, also like the Catemaco Valley, was strongly primate, as El Picayo, the largest center in the valley, was more than double the size of the next largest center and covered an area of approximately 585.76 ha (Stoner 2011:336, Table 7.5, 345). With 127 mounds, El Picayo had six times as many mounds as the largest "large center" in the area (Tilzapote) (Stoner 2011:343, Figure 7.24, 347). Settlement in the Rio Tepango and Xoteapan valleys, at this time, was dispersed with the majority of sites located along the two rivers. During the Middle Classic period, the settlement pattern is similar to the Catemaco Valley in that secondary centers appear to be located away from the larger centers. Smaller settlements, probably small villages and hamlets or farmsteads, fill in the interstitial areas. However, Stoner (2011) does note some differences in the organization of settlements in the Tepango Valley and the Catemaco valley. Where Santley (1991, 1994) has argued that the Catemaco Valley settlement pattern had a size-sequential organization in which the size of centers decreased with increasing distance from Matacapan, Stoner (2011:355-357) argues that this organizational pattern is not evident in the Tepango Valley. Rather, in the Tepango Valley small centers are located within the hinterlands of large centers, and large centers are located closer to the polity boundaries. Stoner (2011:356) suggests, following Daneels (2008b), that this pattern suggests less centralized control and that large centers would have had some degree of autonomy.

Similar patterns of growth have also been documented in the Hueyapan region of the southern Tuxtlas. Following a decline in settlement during the Early Classic period (A.D. 200-400), the Middle Classic period (A.D. 400-700) saw tremendous population growth in the southern Tuxtlas (Killion and Urcid 2001:9). Killion and Urcid (2001:11)

note that of the 1244 mounds identified within their 178 sq km survey area, over 85 percent exhibited evidence of Middle and/or Late Classic period settlement. Killion and Urcid (2001:11) describe the settlement pattern at this time as "…relatively continuous and not particularly site-oriented." They also note that although the settlements in the Hueyapan region show less nucleation than their counterparts in the central Tuxtlas, the dispersal of settlements in the southern Tuxtlas is roughly similar to the distribution of settlement around Matacapan during the Middle and Late Classic periods (Killion and Urcid (2001:11). One of the features of the Middle and Late Classic settlement pattern in this part of the Tuxtlas is the presence of formal mound groups located less than three km from each other (Killion and Urcid 2001:11). Variation in the size and volume of the mounds within these complexes suggests the development of a three-tiered settlement hierarchy in the region (Domínguez Covarrubias 2001:104-122; Killion and Urcid 2001:11). It is unclear, however, if these complexes represent a single integrated polity or if these complexes were "estates" for local independent elites (Killion and Urcid 2001:13)

A comparison of the settlement patterns of the surrounding areas to the pattern identified in the RAM survey area shows greater similarity between the RAM area and the Mixtequilla. In both areas, settlement is distributed extensively across the landscape, with little evidence for nucleation into discreet sites. This pattern contrasts with the pattern in the western and central Tuxtlas where sites appeared to be more discrete. This difference may in part be related to differences in survey methods as both of these regions in the Tuxtlas were surveyed using site-based methods that may under-represent low density habitation in the areas between larger architectural complexes. The

difference may also in part be related to topography, as the mountainous terrain of the Tuxtlas may have limited where people could live. The less nucleated Hueyapan region, which is located at a lower elevation and in the less rugged southern slope and foothills of the Tuxtlas provides some evidence for topography affecting the settlement pattern.

While the RAM area and the Mixtequilla are more similar, there are some important differences between the areas. First the near-continuous distribution of domestic architecture seen in the Mixtequilla region is not as evident in the RAM area. Rather, the RAM settlement pattern during the Early Classic period shows more agglomeration of settlement, especially in the areas around civic\ceremonial complexes.

One method of evaluating the degree of agglomeration is the nearest neighbor statistic. This statistic, expressed as a ratio of the average observed distance of a phenomenon to its nearest neighbor to the mean distance expected for a random distribution at a set density, is a descriptive statistic that measures the deviation of a distribution from random (Earle 1976:197). This ratio will vary between 0 and 2.1491. A ratio of 0 indicates maximum clustering (i.e., all examples of a phenomenon are clustered together). A ratio of 2.1491 represents the maximum for a regular distribution. A ratio of 1 indicates that the observed instance is equal to the expected random distance, and thus reflects a random distribution (Earle 1976:198). Ratios below 1 are reflect clustering, and ratios above 1 reflect more regular spacing.

For the RAM settlement data, the nearest neighbor ration was calculated for features for each phase (note the Arroyo phase and Postclassic were excluded because of the dispersed settlement pattern indicated by the maps) (Table 7.14). All calculations were made in ArcGIS 10.0.

Table 7.14. Nearest Neighbor Indices.

Phase	Nearest Neighbor Ratio
Tres Zapotes	0.563
Hueyapan	0.598
Nextepetl	0.621
Ranchito	0.605
Quemado	0.546

Average nearest neighbor analyses of the RAM area settlement pattern shows a moderate tendency toward agglomeration that begins in the Middle Formative period and extends into the Late Classic period (Table 7.14). The nearest neighbor ratios vary between .546 during the Quemado phase and .621 during the Nextepetl phase. The clustering of settlement in the area is most pronounced in the areas around the civic\ceremonial complexes. The close proximity of these complexes (generally less than 1.5 km between complexes), however, creates a settlement pattern that appears more continuous than nucleated.

During the Late Classic period, much of the ELPB was in decline. The decline of Tres Zapotes that started during the Ranchito phase continued during the subsequent Quemado phase. By A.D. 900 Tres Zapotes was largely abandoned. In the RAM survey area, a similar process was underway. The number of collections declined from 246 to 154. In addition to a decline in the number of inhabited small domestic mounds, larger civic\ceremonial constructions, including the monumental platforms in the La Paila and Chico Loco groups, were also abandoned (see Table 7.13). Of the five civic ceremonial complexes that emerged during the Early Classic period, only La Mulata continued into the Late Classic period.

Like the Early Classic growth, the Late Classic decline of the RAM area appears to be part of a larger trend that characterized much of the southern south-central and southern Gulf lowlands. In the Mixtequilla region, Stark (2008:102) reports a reorganization of the political landscape during the Late Classic period that included the decline of Cerro de las Mesas as a regional center, and the division of its realm into three different polities.

In both the central and western Tuxtlas, declining populations are reported for both the Catemaco and Tepango river valleys (Santley 2007:65-75; Santley and Arnold 1996:236-240; Stoner 2008:24, 2011). In the Central Tuxtlas, Santley and Arnold (1996:236-237) note that during the early Late Classic period (A.D. 650-800) there is a 23.8 percent population decline from the Middle Classic maximum. After A.D. 800 Matacapan is largely abandoned and the regional population drops to approximately 16,000 people distributed through 93 sites (Santley 2007:70; Santley and Arnold 1996:238-239). At this time the population of Matacapan dropped to just over 1200 persons (Santley 2007:70).

In the Tepango valley, Stoner (2008, 2011) argues that the Late Classic period was a time of decline. The number of sites reported in the region during the Late Classic period falls to 89, Stoner (2011:357) notes that the majority of population decline in the region is a consequence of the fragmentation of the Middle Classic centers. Although it remained the largest and most powerful center in the Tepango Valley, the intensity of settlement drops at Totocapan (Stoner 2011:357).

The causes for this widespread population decline remain as yet unclear. However, both Stark (2008. 104) and Santley (2007:69-70) suggest that the decline of

Cerro de Las Mesas and Matacapan may be related to the decline of the large Central Mexican city Teotihuacán. Santley (2007:69-70) has suggested that the disruption of trade routes associated with the exchange of obsidian may have been a contributing factor to the decline of Matacapan.

Recent analysis of a soil core from Lago Verde suggests that the Tuxtlas region experienced an important environmental shift environmental shift near the end of the Late Classic period (Lozano-García et al. 2010). The soil core data indicate that between the Middle Formative and Early Classic (Middle Classic in the CentralTuxtlas[see Figure 1.2]) periods the Tuxtlas area was relatively drier. Around 800 A.D., however, the data indicate that lake levels were higher indicating wetter environmental conditions. Moreover, pollen data from the cores indicates that at the same time agriculture was abandoned in the area (Lozano-García et al. 2010:187). Considering these data along with the archaeological data suggests that this shift from drier to wetter conditions may have contributed to the depopulation of the area.

In the southern Tuxtlas, however, as stated above, there is no indication of this trend toward population decline. Rather the Middle and Late Classic periods represent a period of growth for the area. To the East of the Tuxtlas, in the San Juan and Coatzacoalcos drainages, the period after A.D. 700 also represented a period of population and settlement expansion. In the San Juan drainage, Borstein (2005:13) notes that the period from A.D. 700-1000 saw the development of populations that exceeded the Olmec occupation of the same region. In the Coatzacoalcos drainage rebounding populations also characterize the Epiclassic and Early Postclassic periods (Symmonds and Lunagomez 1997:167). These developments may indicate that by the Late Classic

period the southern Tuxtlas was oriented more toward the San Juan and Coatzacoalcos drainages and less toward the west.

By the Postclassic period, The RAM area was largely abandoned. The number of architectural features with evidence of Postclassic occupation is roughly comparable to the Early Formative occupation of the region. All of the civic/ceremonial complexes that had been operating in the area appear to have been abandoned leaving only remnant occupations. Regionally, the scale of decline in the RAM area is more comparable to the Tuxtlas than the Mixtequilla region. In both the Catemaco and Tepango valleys settlements are greatly reduced from their Classic period maxima. Santley (2007:75) notes that in the central Tuxtlas, only four sites had evidence for Postclassic occupation; all small centers. He estimates the regional population at this time as approximately 1100 persons. Recent work, however, at Isla Agaltepec and Totogal suggests that the continuity of Classic period ceramic traditions into the Postclassic may have led to under-representation of Postclassic occupations during the Tuxtlas survey (Arnold 2005; Arnold and Venter 2004; Venter 2008; see also Pool 1995). To the west of the RAM area, the Mixtequilla region maintained a substantial population, however Stark, (2003:403-405) argues that this period was marked by a substantial reorganization of settlement and an accompanying cultural shift that broke with the local Classic period cultural traditions.

Conclusions

The settlement data for the RAM area reflect an uninterrupted sequence of settlement of more than 2000 years. These data indicate that the growth and decline of the area did not take place in a vacuum. To the contrary, the demographic changes experienced in the RAM area were part of broader trends across much of the south-central and southern gulf lowlands. The initial settlement in the area, like much of the ELPB region, consisted of small scale occupations with minimal evidence for hierarchical organization. Following the decline of eastern Olman at the end of the Formative period, The RAM area experienced a demographic explosion. The data suggest that during the Late Formative period El Mesón became incorporated into a regional polity headed by the large center Tres Zapotes. During the Late Formative and Protoclassic periods, El Mesón served as an important secondary center to Tres Zapotes. During the Early Classic period, however, Tres Zapotes began to decline. At this time the inhabitants of the RAM area were able to break with Tres Zapotes, symbolically signifying their independence by abandoning El Mesón's main civic/ceremonial complex, a symbol of Tres Zapotes's rule. Although settlements in the RAM area experienced an important reorganization in the Early Classic period, there is no evidence of declining populations, as is seen at Tres Zapotes. After A.D. 600, however, the area begins to decline. The loss of settlement at this time reflects an overall trend of settlement reorganization that also touched the central and western Tuxtlas, as well as the Mixtequilla. By the Postclassic period the area was largely abandoned.

CHAPTER 8
FORMAL COMPLEXES

Whereas the preceding chapter focused on the distributions of architectural features and broad settlement patterns within the RAM survey area, the current chapter focuses on the formal architectural complexes. Stark (1999:205) defines formal complexes as "…monumental architecture with smaller constructions that form one or more groups arranged in an orderly fashion that suggests a planned layout, e.g., around a plaza." Because these complexes served functions beyond domestic habitation, they can provide insight into other aspects of culture. Typically such complexes in Central and Southern Veracruz are interpreted as representing political seats of power. Pool (2008:124) notes that architecture is one of the "…most visible and durable media for expressing political ideologies." Smith (2003:76-77) goes farther, arguing that landscapes themselves are created through both cultural practice and natural processes. Rather than being passive reflections of political organization, "they [landscapes] are political order" (Smith 2003:77).

In this chapter I discuss the formal architectural complexes in the RAM survey area. I begin with a discussion of the lines of variation on which the complexes were evaluated. Then, I describe the formal architectural complexes within the RAM survey area. Finally, I use this analysis to draw inferences about the nature of political organization in The RAM area, as well as how this organization changed over time.

Variation in Complexes

A total of seven formal architectural complexes were identified within the RAM survey area (Figure 8.1). In considering these complexes, I focus on four lines of variation including temporal affiliation, internal organization, monumentality and replication. I use these variables to characterize each of the complexes. I then use these characterizations to draw inferences about the political organization of the RAM area.

Temporal affiliation refers to the period or periods when these complexes would have been constructed and in use. The temporal attribution of each complex was based on the chronologically sensitive artifacts recovered in collections from the constituent features that compose each complex and comparisons with similar features from other areas of the southern Gulf lowlands.

The use of surface artifacts to estimate the intensity of use relies on the assumption that the relative frequency of temporally sensitive artifacts reflects the intensity of use. This assumption does have some potential pitfalls, One potential issue is that the artifacts on the surface of the structures may represent the most recent period of occupation. The implication is that earlier occupations may be underrepresented, especially in cases where structures have been enlarged or built over previous constructions, or where low structures have been covered by alluvium.

A second potential issue is the incorporation of earlier materials into moundfill. The implication is that earlier materials may be recovered from a later structure. It is

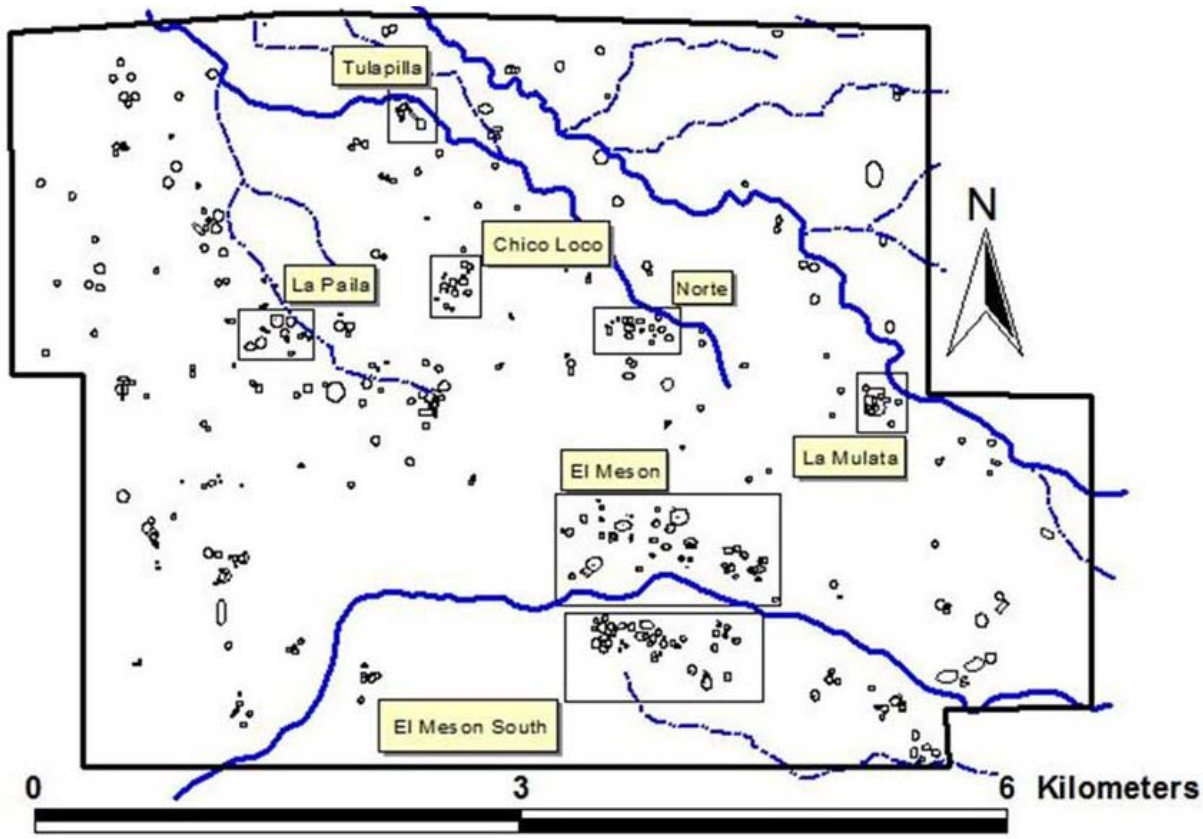

Figure 8.1. RAM Architectural Complexes.

assumed that borrowed soil used in mound construction was most likely taken from the vicinity of the mound being built. Thus, these artifacts may still be indicative of earlier occupations of the area.

Internal organization refers to the layout and orientation of the complexes. This aspect is concerned with the physical characteristics of each complex, including the number of constituent features (e.g., mounds and plazas); the height, width, and breadth of the features; and how features are combined to form complexes. Pool (2008:124)

argues that such characteristics "…reflect the physical requirements of the architectural space, shared precepts about the relationships of individual leaders to followers and both to the cosmos, and the imprint of individual leaders or groups on construction programs."

Monumentality is defined as "…the ways individuals perceive and experience architectural spaces" (Pool 2008:125). Monumentality can be created in two ways. The first is through the construction of large structures or architectural spaces such as plazas. In this regard, monumentality would include the height, width and breadth of structures or spaces.

Alternatively, monumentality can be created by manipulating space or perspective. Pool (2008:125) notes that creating the effect of larger structures or monumentality can be achieved in several ways. One method is to place a larger structure near smaller structures. Another is to reduce the size of the upper portion of a structure in relation to its base. Finally monumentality may be enhanced by incorporating distance in the form of long or wide plazas.

Finally replication refers to the repetition or redundancy of architectural features or layouts. Pool (2008:125) argues that such repetition "provides an index of similarity in the functions and services they provide." Additionally, this replication indicates shared ideas about how specific architectural features should be arranged (Pool 2008:125).

The basis of architectural redundancy may be different depending on the political strategies operating within a society. In polities where exclusionary strategies predominate, civic/ceremonial architecture may emphasize specific architectural forms, such as palaces or elite residences because they represent the physical manifestations of

the power and authority of a leader or leaders. Under conditions of heightened factional competition, such structures may be present in multiple architectural complexes; however, the configuration of each complex may be distinct, as leaders strive to distinguish themselves from their peers and rivals. Alternatively, in societies where corporate or cooperative strategies are more vigorously pursued, the replications of specific types of structures or layouts are considered to be born of the shared cognitive codes that underpin such strategies and reflective of a shared vision for governance.

At the regional scale, architectural redundancy may reflect inclusion into a regional polity or settlement segments of a large polity. In such situations it is expected that the organization of the civic/ceremonial architecture in the ranking center will be repeated in secondary and tertiary centers. Stark has suggested (2008:100) that the repetition of the "Standard Plan" arrangement (see below) represents different settlement segments within the Cerro de las Mesas polity. In the outlying segments this arrangement was modified from the larger variants and was smaller in size, likely representing the local affiliation of these mound groups. Daneels (2008:203) also suggests that the replication of the Standard plan in the Cotaxtla basin reflects nodes of political control, but not necessarily of the same polity. At lower levels of the settlement hierarchy, the number of Standard plans within settlements decreases, and in tertiary centers, the layout is abbreviated, suggesting the incorporation of more integrative functions in the larger centers.

Architectural Complexes within the RAM Survey Area

El Mesón

El Mesón comprises more than 40 mounds located in the central portion of the survey area on the north side of the Rio Tecolapan. The civic/ceremonial core of El Mesón covers an area of approximately 12.5 ha and consists of 11 mounds arranged around two plazas (Table 8.1). Plaza A is an east-west oriented plaza that measures approximately 160 m east-west and 90 m north-south (Figure 8.2). The north side of the plaza is bounded by an east-west oriented long mound (Feature 8). On the west side of the plaza is an eight to nine meter tall conical mound (Feature 3). Approximately 32 m to the east of this mound is a compound structure comprising a .5 m tall platform topped by a .9 m tall conical mound (Features 9 and 10). Based on their location in the plaza, Features 9 and 10 likely represent an adoratorio. The east side of the plaza is closed by a low north-south oriented mound that could have been either conical or loaf-shaped (Feature 11). The layout of this complex conforms to what Pool (2008:128) calls the Tres Zapotes Plaza Group (TZPG) layout. This layout is discussed in detail below.

A second plaza (Plaza B) is located on the west side of Feature 3 (Figure 8.1). This plaza measures approximately 166 m east-west by 117 m north-south, and is closed on the north side by a 3.58 m tall conical mound (Feature 2) and a 1.5 m tall conical mound on the west (Feature 6). A small conical mound (Feature 5) is located just to the west of Feature 6. The south side of this plaza is open.

Table 8.1. Architectural Features in Civic/ceremonial Core of El Mesón.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
1	Low Conical/Pyramidal	28	26	0.4
2	Medium Conical/Pyramidal	48	40	3.58
3*	Tall Conical/Pyramidal	43	32	8.5
5	Low Conical/Pyramidal	24	21	0.4
6	Low Conical in Formal Complex	56	52	1.5
7	Low Long	63	56	1.1
8*	Low Long	58	104	2.2
9*	Low conical/Pyramidal on Platform	38	24	0.9
10*	Low Platform	58	104	.5
11*	Low Long/Low Conical/Pyramidal	38	24	1.3
396	Artifact Concentration	16.8	16.3	
Plaza A*		90	160	
Plaza B		252	153	
Total Area=12.5 ha				

* TZPG Layout

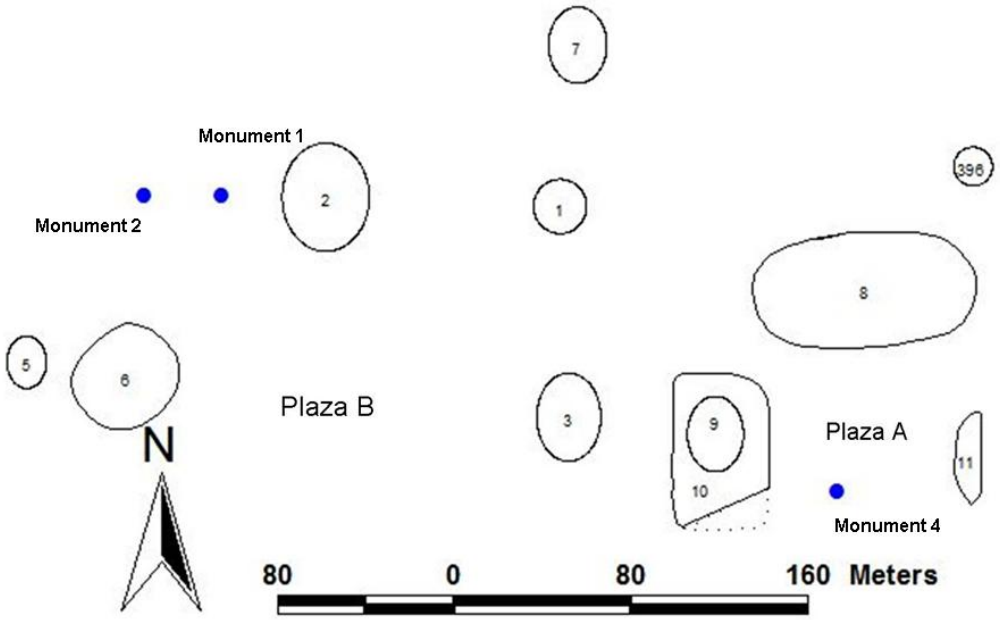

Figure 8.2. Layout of Civic-Ceremonial Complex at El Mesón.

Three of the stone monuments reported from the site are associated with this architectural complex (Figure 8.2). John Scott (1977:85) reported that Monument 4, the cylindrical altar was located along the south side of the main plaza, across from Feature 8. However, he notes that this may not have been the original placement of the monument. Local informants said that this monument was originally found near Monuments 1 and 2. These monuments were identified on the west side of Feature 2, the conical mound on the north side of Plaza B (Scott 1977:124). Again these locations are approximations based on informant accounts, and may not represent the original locations of the monuments.

Ceramic frequencies for temporally sensitive types indicate that the use of the civic/ceremonial complex at El Mesón was in use from the Hueyapan phase through the Ranchito Phase (Table 8.2). Just over 25% of the temporally sensitive sherds recovered from this complex date to the Hueyapan phase. The Middle Formative Tres Zapotes phase only accounted for almost seven percent of the diagnostics ceramics. I take this dramatic increase as indicating that the construction of the civic/ceremonial architecture most likely occurred during the Late Formative Hueyapan phase.

This trend is supported by data related to the occupation of specific features. In addition to ceramic frequencies, another method of examining settlement intensity is to compare the number of newly occupied features to the number of abandoned features diachronically. I do this for each phase by taking the total number of occupied features from the previous phase, adding the number of newly occupied features, then subtracting the number of abandoned features. The resulting number is the net change (see Table 8.2). Positive numbers indicate growth, negative numbers indicate loss of settlement, and

Table 8.2. Temporally Sensitive Sherds from Civic -Ceremonial Core of El Mesón.

Feature	Tres Zapotes	Hueyapan	Nextepetl	Ranchito	Quemado	Total
1		2	5	3		**10**
2		5	8	6		**19**
3	1	6	11	8	1	**27**
4	7	16	53	21		**97**
5			2	1		**3**
6	1	2	34	12		**49**
7						**0**
8	6	21	16	5		**48**
9	3	10	9	26		**48**
10	5	19	11	20		**55**
11	5	25	23	8		**61**
12						**0**
396	1	1	1			**3**
Total	**29**	**107**	**173**	**110**	**1**	**420**
% Total	**6.9**	**25.5**	**41.2**	**26.2**	**0.2**	**100.0**
New Features Occupied	**8**	**2**	**1**	**0**	**0**	
Features Abandoned	**0**	**0**	**0**	**1**	**9**	
Net Change	**8**	**2**	**1**	**-1**	**-9**	
Features Occupied	**8**	**10**	**11**	**10**	**1**	

by the Late Classic period. This decline is also seen as the number of features occupied zero indicates no change. Comparisons of this total from one phase to the next highlight the net change in occupation for the complexes, and allows for occupational intensity to be assessed based on the occupation or abandonment of features. In the case of El Mesón, the net change indicates that the area begins expands from the Middle Formative period to the Late Formative period.

This growth trend continues into the Protoclassic period as approximately 41% of the diagnostic ceramics date to the Nextepetl phase. Growth is also indicated as one additional architectural feature at El Mesón was newly occupied (see Table 8.2) During the Ranchito phase, the ceramic data suggests a decrease in the intensity of use as the

percentage of diagnostic sherds decreases to approximately 26%. The low percentage of Quemado phase ceramics suggests that the complex had been abandoned.

These data would suggest that the center was at its height during the Protoclassic period. At this time more architectural features in the civic/ceremonial core were in use, and diagnostic ceramics also indicate that this was the time of the most intensive use of the complex. The placement of Stela 2, during the Protoclassic period is also indicative of El Mesón's prominence at this time.

Although the overall trend from the Hueyapan to the Nextepetl phase is one of growth, the evidence also suggests that the TZPG at El Mesón had begun to decline by the Protoclassic period. A total of 239 temporally sensitive sherds were recovered from the five architectural features that compose the TZPG complex (Table 8.3). Approximately 34% date to the Hueyapan phase. This percentage drops 29.3% during the subsequent Nextepetl phase, and approximately 28% (n=67) during the Ranchito phase. The numbers of architectural features occupied is stable from the Hueyapan phase through the Ranchito phase (Figure 8.3); however, the ceramic data indicate that some features may have been less intensively occupied during the Nextepetl and Ranchito phases.

Table 8.3. Temporally Sensitive Sherds from TZPG at El Mesón.

Feature	Tres Zapotes	Hueyapan	Nextepetl	Ranchito	Quemado	Total
3	1	6	11	8	1	**27**
8	6	21	16	5		**48**
9	3	10	9	26		**48**
10	5	19	11	20		**55**
11	5	25	23	8		**61**
Total	**20**	**81**	**70**	**67**	**1**	**239**
% Total	**8.4**	**33.9**	**29.3**	**28.0**	**0.4**	**100.0**
New Features Occupied	5	0	0	0	0	
Features Abandoned	0	0	0	0	4	
Net Change	**5**	**0**	**0**	**0**	**-4**	
Features Occupied	**5**	**5**	**5**	**5**	**1**	

I take this decrease in ceramic frequencies as indicative of a shift in the use of space at El Mesón during the Nextepetl phase. Specifically, I suggest that the TZPG began to lose prestige over the course of the Protoclassic period, and by the Early Classic period was in decline. By the Ranchito phase, the structure with the most intensive use was the adoratorio in the plaza (Features 9 and 10), suggesting that the complex may have retained some ritual significance even as its political influence had waned. This shift is consistent with the architectural changes at Tres Zapotes, as the Protoclassic period was marked by alterations of the TZPG layouts in the major mound groups (Pool 2008:127). I discuss the political implications of this change below.

The ceramic data from El Mesón indicate that as the TZPG was declining, the focus of activity in the complex shifted to the plaza on the west side of Feature 3 (Plaza B). Feature 6 was constructed on the west side of this plaza during the Nextepetl phase. With basal dimensions of 56 m × 52 m, this structure is larger than would be expected for nonelite residence. The ceramics collected from Feature 6 include a variety of coarse-paste utilitarian vessels, as well as differentially fired serving vessels. Based on the size

of the structure and the ceramic assemblage, the structure likely represents an elite residence, an indication that although the TZPG complex was in decline, the local elites were still living in El Mesón's civic/ceremonial core.

La Paila

The La Paila Group is located approximately 2.4 km northwest of El Mesón in the eastern portion of the RAM survey area (see Figure 8.1). This mound group comprises 15 mounds and artifact concentrations that are distributed over an area of 17.75 ha (Figure 8.3; Table 8.4). The complex is named for the largest structure in the group, a 12 to 14 m tall, flat-topped, quadrilateral platform (Structure 57), known locally as La Paila (Figurs 8.3 and 8.4). This structure measures approximately 76 m north-south by 71 m east-west. The mound was likely larger at the time it was in use, as cuts along the north and west flanks of the platform suggest that mound fill has been borrowed from it. This is the largest single structure documented during the RAM survey. The platform is surrounded on the north, south, and west side with low conical and long mounds, none of which are more than .9 m tall (Table 8.4, Figure 8.3). A possible plaza measuring 224 m east-west by 114.5 m north-south is located to the west of the platform. A low long mound approximately .6 m tall is located on the west side of this possible plaza.

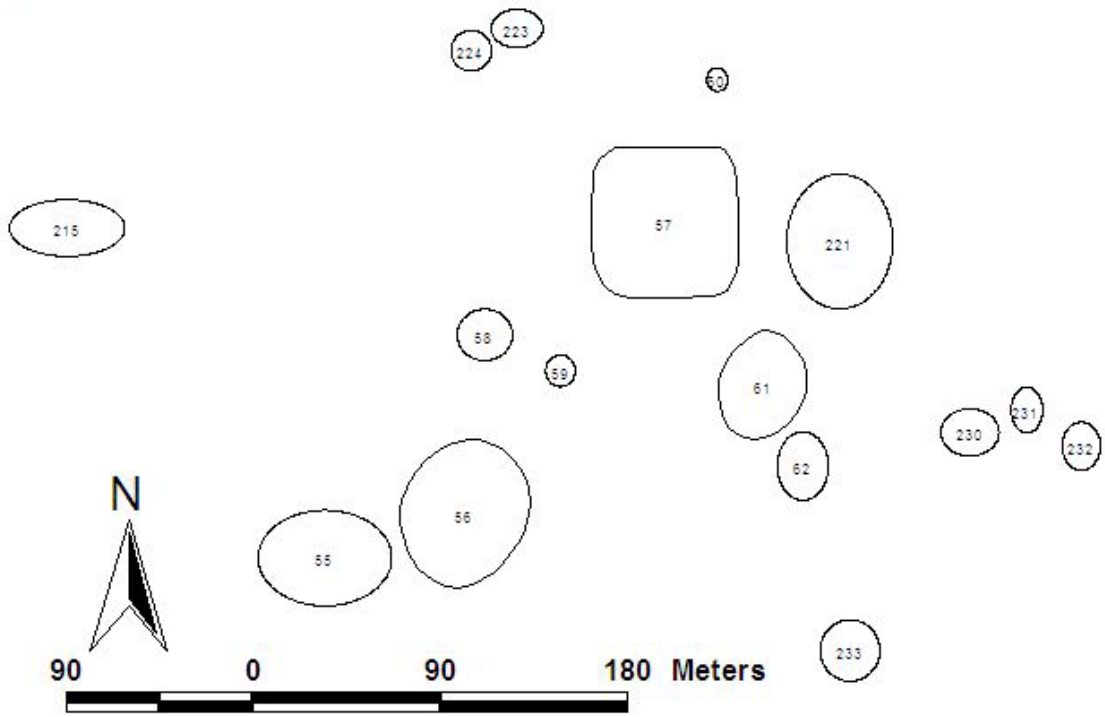

Figure 8.3. Layout of La Paila.

Table 8.4. Architectural Features of the La Paila Architectural Complex.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
55	Low Long	42	63	0.6
56	Low Conical/Pyramidal	61	61	0.9
57	Monumental Platform	76	71	13
58	Low Conical/Pyramidal	25	27	0.6
59	Low Conical/Pyramidal	17	15	0.8
60	Low Conical/Pyramidal	12	9	0.5
61	Low Conical/Pyramidal	52	43	1.2
62	Low Conical/Pyramidal	37	32	0.8
215	Low Long	24	55	0.6
223	Low Conical/Pyramidal	18	25	0.5

Table 8.4 Continued

224	Artifact Concentration	20	20	
230	Low Long	23	32	1.1
231	Low Conical/Pyramidal	22	18	0.8
232	Low Long	24	19	0.8
233	Artifact Concentration	30	30	
Total Area = 17.75 ha				

Figure 8.4. Monumental Platform at La Paila.

A total of 522 temporally sensitive sherds were recovered from the La Paila Group. Unfortunately, because the monumental platform was in pasture, only a few sherds were recovered from this structure. The frequencies of the recovered ceramics indicate that the primary construction of this mounds group occurred during the Nextepetl phase (Table 8.5). Slightly more than half of all of the temporally sensitive ceramics dates to this time. Intense occupation of this group continues into the Early Classic

period. Ranchito phase ceramics account for approximately 43 percent (n=249) of the temporally sensitive ceramics recovered. By the Quemado phase, however, the ceramic frequencies indicate that the group was in decline. Late Classic sherds account for only about six percent (n=36) of the temporally sensitive materials recovered.

Data relating to the occupation and abandonment of features indicates that the greatest addition of architectural features was during the Nextepetl phase, when seven new mounds were occupied. This growth extended through the Ranchito phase with one Additional feature occupied and no features abandoned (Table 8.5). Like the other complexes in the RAM area, however, La Paila was in decline by te Quemado phase.

Table 8.5. Temporally Sensitive Ceramics Recovered from La Paila.

Feature	Tres Zapotes	Hueyapan	Nextepetl	Ranchito	Quemado	Total
55			42	34	8	**84**
56	1		21	12	2	**36**
57			7	5		**12**
58						**0**
59						**0**
60				3		**3**
61			9	1		**10**
62						**0**
215						**0**
223	1		17	13	2	**33**
224		2	27	20	2	**51**
230			42	29	6	**77**
231			25	35		**60**
232		1	20	37	2	**60**
233	1	1	54	37	3	**96**
Total	**3**	**4**	**264**	**226**	**25**	**522**
% Total	**0.6**	**0.8**	**50.6**	**43.3**	**4.8**	**100.**
New Features Occupied	3	2	7	1	0	
Features Abandoned	0	2	0	0	4	
Net Change	**3**	**0**	**7**	**1**	**-4**	
Features Occupied	**3**	**3**	**10**	**11**	**7**	

Chico Loco

A second mound group centered on a monumental platform is located approximately 850 m northwest of La Paila (see Figure 8.1). This complex, Chico Loco, is also named for its largest structure. The platform at Chico Loco (Feature 94) measures approximately 42.8 m north-south by 40 m east-west at its base, and rises approximately 9-10 m above the floodplain surface (Figure 8.5, Table 8.6). Also like La Paila there is evidence that fill has been borrowed from this structure. The platform is paired to the southwest by a large conical mound approximately 7-8 m in height (Feature 93). Two low conical mounds were located to the north of this mound. A second large conical

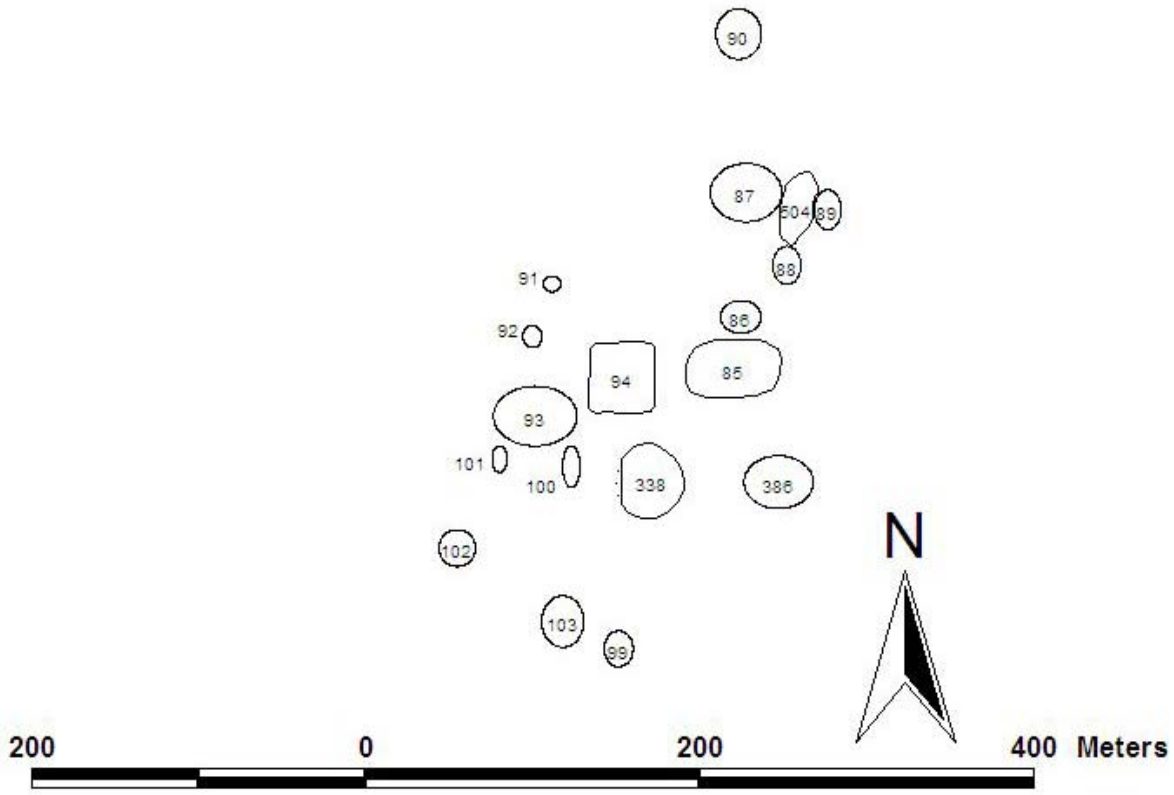

Figure 8.5. Layout of Chico Loco.

mound (Feature 338) is located to the south of the platform. Two small low conical structures (Features 99 and 103) and a natural rise (Feature 102) were located to the south. A low long mound was located to the east of Chico Loco (Feature 85). To the north of the long mound a series of low conical mounds and one artifact concentration extend for a distance of approximately 200 m. To the south of Feature 85 is a second large conical mound, approximately 10 m

Table 8.6. Architectural Features in Chico Loco Complex.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
85	Low Long	19	57	0.9
86	Low Long	35	27	0.4
87	Low Conical/Pyramidal	37	46	0.5
88	Low Conical/Pyramidal	23	18	0.3
89	Low Conical/Pyramidal	23	17	0.4
90	Low Conical/Pyramidal	30	25	0.4
91	Low Conical/Pyramidal	10	13	0.6
92	Low Conical/Pyramidal	12	11	0.5
93	Tall Conical/Pyramidal	35	48	7.5
94	Monumental Platform	42.8	40	9
99	Low Conical/Pyramidal	21	18	0.6
100	Long	27	10	
101	Long	17	10	
102	Natural Elevation	20	24	
103	Lowl Conical/ Pyramidal	30	20	
338	Low Conical/ Pyramidal	27	25	0.6
386	Tall Conical/ Pyramidal	30	40	10
Total Area = 7.9 ha				

in height (Feature 386). If this complex has a plaza, one candidate is the area immediately to the north of Feature 94 (Figure 8.5). This potential plaza would have been closed on its south side by the Chico Loco platform and to the east by a line of low conical mounds (Features 86, 87, and 90). The plaza would have been open on its west and north sides. In total this plaza would have measured approximately 200 m north-south by 75 m east west. A second potential plaza may have been located to the east of Features 93 and 100, south of Features 94 and 85, and north of Features 338 and and 385 (Figure 8.5). This potential plaza measures approximately 132 m × 31 m, and is open on its eastern side. The total area covered by the Chico Loco complex is approximately 7.9 ha.

Temporally sensitive ceramics recovered from Chico Loco show a different pattern than those recovered from La Paila (Table 8.7). Lighter occupation is indicated for the Tres Zapotes and Hueyapan phases, but the intensity of settlement for the Nextepetl phase is lower than at La Paila. Approximately 35% of the diagnostic artifacts recovered from the complex are Protoclassic in date (Table 8.7). This phase likely represents the time of construction for the group. Intense occupation of this group continued into the Early Classic period. More than 60 % of the diagnostic sherds date to the Ranchito phase. In terms of the general trend, however, the Nextepetl and Ranchito phase ceramics account for more than 95% of the diagnostic ceramics recovered at Chico Loco, a figure comparable to the percentage from La Paila (93.9%) (see Table s8.5 and 8.7). By the Quemado phase this architectural complex was in decline. Quemado phase diagnostic ceramics only account for just over two percent of the temporally sensitive ceramics recovered.

The trend for feature occupation largely supports the ceramic data (Table 8.7). Throughout the Formative period new architectural features are added, with most new additions coming in the Nextepetl Phase. The complex reaches its maximum in terms of occupied features in the Early Classic period, and is in decline by the Late Classic period.

Table 8.7 Temporally Sensitive Ceramics recovered from Chico Loco.

Feature	**Tres Zapotes**	**Hueya-pan**	**Nexte-petl**	**Ranchito**	**Quemado**	**Total**
85	1		28	23	1	**53**
86			15	86	1	**102**
87	1	1	34	87	1	**124**
88			23	37	1	**61**
89		1	30	37	2	**70**
90			9	3		**12**
91						**0**
92						**0**
93			6	2	1	**9**
94		1		2		**3**
99						**0**
100						**0**
101						**0**
102						**0**
103						**0**
338		1	10	7	4	**22**
386		1	10	11		**22**
Total	**2**	**5**	**165**	**295**	**11**	**478**
% Total	**0.4**	**1.0**	**34.5**	**61.7**	**2.3**	**91.6**
New Features Occupied	2	4	5	1	0	
Features Abandoned	0	1	1	0	3	
Net Change	**2**	**3**	**4**	**1**	**-3**	
Features Occupied	**2**	**5**	**9**	**10**	**7**	

Tulapilla

The Tulapilla mound group is located approximately 1 km to the north of the Chico Loco Group (see Figure 8.1). This complex, which comprises eight architectural features, is both smaller and more compact than most of the other complexes in the RAM area (Figure 8.6; Table 8.8). The complex covers an area of approximately four hectares.

Like La Paila and Chico Loco, the largest structure at Tulapilla is a large quadrilateral platform (Feature 295) (Figure 8.6). This feature measures approximately 64 m north-south by 45 m east-west at its base, and has a height of just under 4 m. This structure is located at the southern edge of the group. A low earthen causeway (Feature 302) extends from the northwest corner of this platform and connects Feature 295 with a large "keyhole" consisting of a 1.6 m tall conical mound (Feature 299) and a 1.3 m tall fronting platform (Feature 300). A possible plaza is located to the south of Feature 299 and to the west of Feature 295. This area measures approximately 120 m north-south by 80 m east-west. The west side of this possible plaza is closed by two long mounds (Features 297 and 298) oriented perpendicular to each other and a conical mound (Feature 296), all of which are 1m or less in height. A third low long mound is located approximately 43 m to the north of Feature 298.

Temporally sensitive ceramics recovered from the Tulapilla group suggest that the group was constructed during the Protoclassic period (Table 8.9). A total of 299 temporally sensitive ceramic sherds were recovered. Nextepetl phase ceramics account for more than half of these artifacts. This complex continued to be intensively used during the subsequent Ranchito phase. Almost 45% of the recovered diagnostic ceramics from Tulapilla date to the Early Classic period. Like La Paila and Chico Loco, Nextepetl

and Ranchito phase sherds account for more than 90% of all of the diagnostic sherds recovered from the complex. By the Late Classic period Quemado Phase, the Tulapilla group was in decline. Temporally sensitive Quemado Phase ceramics accounted for only three percent of the recovered diagnostics.

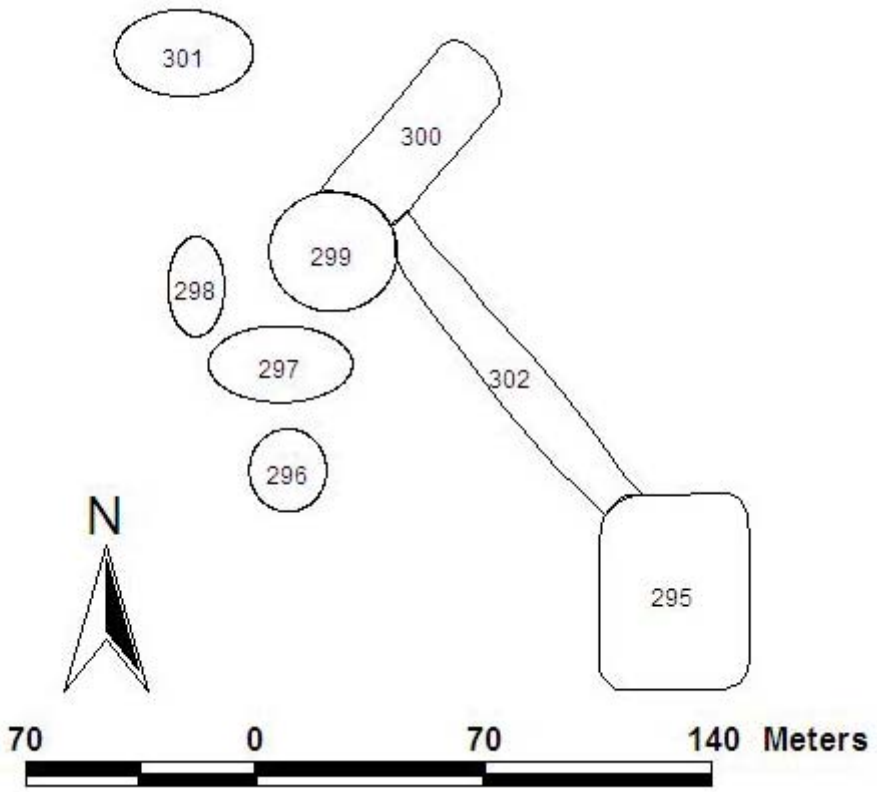

Figure 8.6. Layout of Tulapilla.

Table 8.8. Architectural Features in Tulapilla Complex.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
295	32	64	45	3.9
296	11	27	23	0.7
297	21	23	42	0.8
298	21	32	19	1
299	14	42	38	1.6
300	33	35	54	1.3
301	21	30	42	0.8
302	42	12	26	0.5
Total Area = 4 ha				

Table 8.9. Temporally Sensitive Sherds from Tulapilla.

Feature	Tres Zapotes	Hueyapan	Nextepetl	Ranchito	Quemado	Total
295			37	27		**64**
296			4	1	1	**6**
297		1	8	4		**13**
298			5	3	1	**9**
299			19	17	3	**39**
300			26	37	1	**64**
301		1	33	33		**67**
302		1	22	11	3	**37**
Total	**0**	**3**	**154**	**133**	**9**	**299**
% Total	**0.0**	**1.0**	**51.5**	**44.5**	**3.0**	**100.0**
New Features Occupied	0	3	5	0	0	
Features Abandoned	0	0	0	0	3	
Net Change	**0**	**3**	**5**	**0**	**-3**	
Features Occupied	**0**	**3**	**8**	**8**	**5**	

Data regarding the occupation of specific features supports the ceramic data. After light occupation in the Hueyapan phase, all of the features in the complex were occupied during the Nextepetl phase. Occupation remained at a similar intensity during the Ranchito phase, then declined during the Quemado phase.

La Mulata

The most elaborate of the architectural complexes identified during the RAM survey is La Mulata, which is located on the east side of the survey area just west of the small village for which it is named (see Figure 8.1). This complex features a 1.5 m tall platform measuring 168 m north-south by 85 m east-west (Feature 165) (Figure 8.7, Table 8.10). Three ramps were identified for the platform, one on the east side (Feature

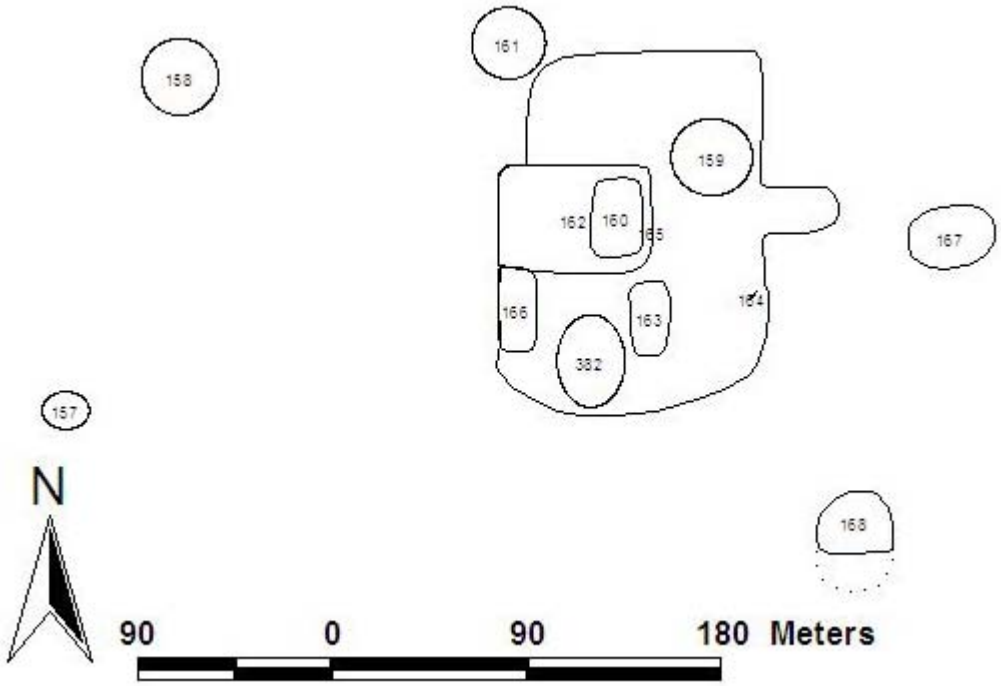

Figure 8.7. Layout of La Mulata.

Table 8.10. Architectural Features in the La Mulata Complex.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
157	Low Conical/Pyramidal	19	22	0.06
158	Low Conical/Pyramidal	34	35	0.55
159	Tall Conical/Pyramidal	37	39	6.46
160	Tall Long	38	25	7.8
161	Low Long	36	38	1.3
162	Ramp	38	59	1.5
163	Low Platform	35	20	1.1
164	Ramp	36	27	1.5
165	Low Platform	168	85	1.5
166	Low Long	37	21	1.1
167	Low Long	29	40	1.2
168	Low Conical/Pyramidal	27	35	1.3
382	Artifact Concentration	43	31	
Total Area = 11.6 ha				

164) and two on the south side (Features 163 and 166). An artifact concentration (Feature 382) was identified between the southern ramps. On top of the east side of the platform is a 6.4 m tall conical mound (Feature 159). On the west side of the platform is a 1.5 m tall platform measuring 32 m north-south by 28 m east-west (Feature 162). This platform is topped by a 7.8 m tall long mound (Feature 160).

A 1.3 m tall conical mound is located immediately adjacent the platform complex (Feature 161). Two other conical mounds (Features 167 and 168) are on the east side of the platform complex. Both mounds have heights of at least 1.2 m. Two low conical mounds are located to the west of the mound complex. In total La Mulata covers an area of approximately 11.6 ha.

Four hundred fifteen temporally sensitive ceramic sherds were recovered from La Mulata (Table 8.11). Like most of the other complexes the majority of these sherds date to the Protoclassic period. Almost half of the temporally sensitive sherds recovered were associated with the Nextepetl phase. This complex was mostly likely constructed at this time. Intensive use of this complex continued through the Early Classic period. Temporally sensitive sherds associated with the Ranchito phase accounted for more than 35 percent of the diagnostics recovered. Like the other complexes in the RAM area, the Quemado phase was a period of decline, although the percentage of Late Classic ceramics recovered from La Mulata is higher than most of the other civic/ceremonial complexes in the RAM area.

Table 8.11. Temporally Sensitive Ceramics from La Mulata.

Feature	**Tres Zapotes**	**Hueyapan**	**Nextepetl**	**Ranchito**	**Quemado**	**Total**
157				1		**1**
158						**0**
159	2	1	18	6	2	**29**
160		1	13	9	2	**25**
161						**0**
162						**0**
163	2		6	11	6	**25**
164						**0**
165	5	1	59	43	15	**123**
166			25	12	6	**43**
167		1	47	21	7	**76**
168			20	33	6	**59**
382			15	12	7	**34**
Total	**9**	**4**	**203**	**148**	**51**	**415**
% Total	**2.2**	**1.0**	**48.9**	**35.7**	**12.3**	**79.5**
New Features Occupied	3	2	4	1	0	
Features Abandoned	0	1	0	0	1	
Net Change	**3**	**1**	**4**	**1**	**-1**	
Features Occupied	**3**	**4**	**8**	**9**	**8**	

Data on the numbers of features occupied at La Mulata indicates that the complex experienced its greatest growth during the Nextepetl phase (Table 8.11). The complex continues to expand, adding one occupied feature during the Early Classic period. Like the other complex in the area the Quemado phase is characterized by a reduction in occupational intensity

Norte Group

The Norte Group is located approximately 1.1 km to the north of El Mesón in the central portion of the RAM survey area (see Figure 8.1). This complex consists of 17 structures (Figure 8.8, Table 8.12). The largest structure in area is a 0.8 m tall quadrilateral platform (Feature 110) located in the center of the mound group. A low conical mound (Feature 111) is located on the top of this platform. On the south side of the platform is a conical mound with a height of 1.5 m (Feature 112). A "keyhole" structure is located to the north. This structure comprises a 0.5 m tall conical mound and a 0.3 m tall fronting platform. A plaza measuring 108 m north-south by 79 m east-west is located to the west of Feature 110. The west side of this area is closed by a 0.6 m tall, north-south oriented long mound (feature 116). To the north of Feature 116 was a line of three conical mounds that extend from the conical mound toward the keyhole structure (Features 113, 114, and 115). Two of these mounds, Features 113 and 115, measured 0.5 m in height. Feature 114 was the tallest structure in the group with a height of almost 4 m. A series of eight low conical mounds and long mounds extends out on the east side of Structures 108, 109, and 110. The tallest of these structures are Features 125 and 127,

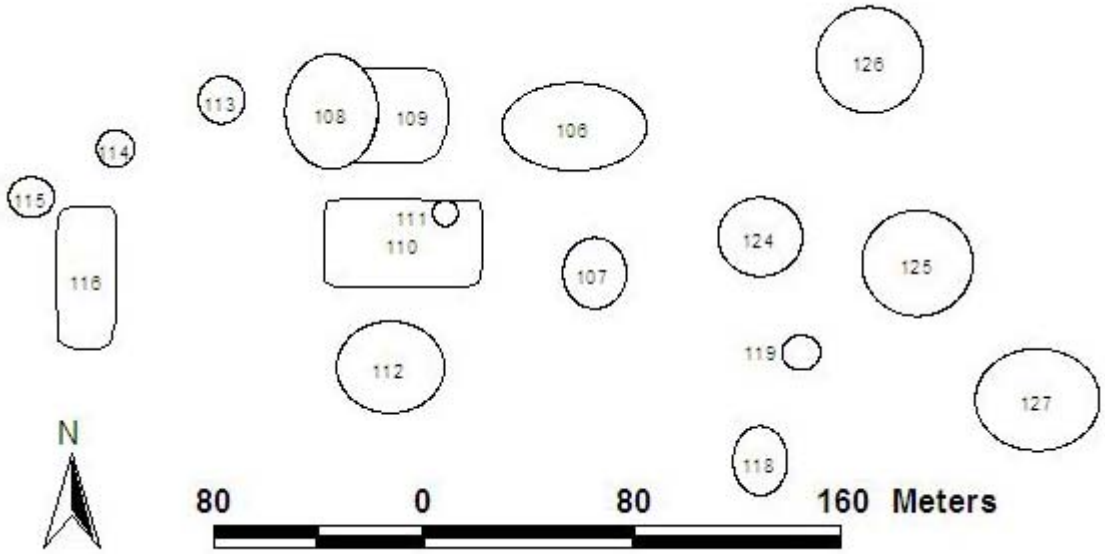

Figure 8.8. Layout of Norte Group.

Table 8.12. Architectural Features in the Norte Group Complex.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
106	Low Long	35	56	0.5
107	Low Conical/Pyramidal	27	25	0.3
108	Conical/Pyramidal with Fronting Platform	42	35	0.5
109	Fronting Platform	34	27	0.3
110	Low Platform	35	62	0.8
111	Low Conical/Pyramidal on Platform	10	9	0.5
112	Low Conical/Pyramidal	37	41	1.5
113	Low Conical/Pyramidal	18	22	0.5
114	Medium Conical/Pyramidal	15	19	3.9
115	Low Conical/Pyramidal	17	21	0.5
116	Low Long	55	23	0.6
118	Low Conical/Pyramidal	27	22	0.4
119	Low Conical/Pyramidal	17	14	0.5
124	Low Conical/Pyramidal	32	38	0.8
125	Low Conical/Pyramidal	40	43	1.6
126	Low Conical/Pyramidal	40	43	0.9
127	Low Long	39	48	1.1
Total Area = 8.7 ha				

which have heights of 1.6 m and 1.1 m respectively. The Norte Group covers an area of approximately 8.7 ha.

Four hundred forty-seven temporally sensitive ceramic sherds were recovered from the Norte Group (Table 8.13). Like El Mesón the frequencies of these artifacts suggest that the initial construction of the complex occurred during the Late Formative Hueyapan phase. Hueyapan phase ceramics accounted for approximately 11.4% of the temporally sensitive sherds recovered from the mound group. The ceramic data indicate that the area continued to grow during the Protoclassic period. Just over 43% of the diagnostic ceramics from the complex date to the Nextepetl phase. The expansion of the

Table 8.13. Temporally Sensitive sherds Recovered from the Norte Group.

Feature	**Tres Zapotes**	**Huey-apan**	**Nexte-petl**	**Ranchito**	**Quemado**	**Total**
106		4	34	10	3	**51**
107	1	6	19	24		**50**
108	2		17	25	2	**46**
109		1	10	14	1	**26**
110	1	4	22	11	1	**39**
111		3	11	5	1	**20**
112	8	15	5	11	1	**40**
113	1	1	2	10		**14**
114						**0**
115			11	14	1	**26**
116		2	6	4		**12**
118			15	13	1	**29**
119	4	13	24	17		**58**
124		2	18	15	1	**36**
125						**0**
126						**0**
127						**0**
Total	**17**	**51**	**194**	**173**	**12**	**447**
% Total	**3.8**	**11.4**	**43.4**	**38.7**	**2.7**	**100.0**
New Features Occupied	6	5	3	0	0	
Features Abandoned	0	1	0	0	4	
Net Change	**6**	**4**	**3**	**0**	**-4**	
Features Occupied	**6**	**10**	**13**	**13**	**9**	

Norte Group at this time may reflect its growing political and/or ceremonial significance. Intensive occupation continued into the Early Classic period. Taken together, ceramics dating from the Nextepetl and Ranchito phase account for roughly 82% of all of the diagnostic ceramic recovered from the complex. While this percentage is high, it does not approach the percentages from La Paila, Chico Loco, Tulapilla, or La Mulata. Only if the materials from the Hueyapan phase are also considered does the percentage of diagnostics rise to over 90%. I argue this difference indicates that the Norte Group predates the other complexes mentioned above. These ceramic data suggest that the complex was well established by the Late Formative Period, making the complex roughly coeval with El Mesón.

An examination of the numbers of features occupied supports this interpretation. Unlike most of the other complexes, the greatest addition of occupied features in the Norte Group was during the Hueyapan phase. The area continues its expansion during the Nextepetl and Ranchito phases, and ultimately declines during the Quemado phase. This sequence more closely matches El Mesón's occupational sequence than any of the other formal complexes.

El Mesón South

The final architectural complex in the RAM survey area is El Mesón South, a complex consisting of 42 architectural features located on the south side of the Arroyo Tecolapan approximately 530 m from the main plaza at El Mesón (see Figure 8.1). Unlike the other complexes in the area there is no clear formal arrangement of

architectural features in this mound group. Rather, the complex is composed of numerous tightly-packed low mounds interspersed with artifact concentrations and bajos (Figure 8.9, Table 8.14). No clear plaza was identified in this group. Upon initial inspection, this group appeared to represent a tight cluster of domestic structures rather than civic/ceremonial architecture. However, two large conical mounds (Features 343 and 345) in excess of 7.5 m tall were also identified within the group (Figure 8.10). Based on their form and height, these structures are similar to temple mounds from the other complexes. The pairing of these structures and their location, in a densely-packed nonelite domestic context, certainly recalls similar paired temples structures in Aztec *calpulli* (Umberger 1996). Perhaps these structures represent a similar phenomenon. Rather than a discrete civic/ceremonial complex, El Mesón South may represent a barrio. These temples may be related to specific religious and ritual practices of those living there.

El Mesón South extends along the south bank of the Arroyo Tecolapan covering an area of approximately 41 ha. The complex comprises two relatively discrete clusters of architectural features. The largest cluster is located on the west side of the complex. This complex consists of 32 structures, artifact concentrations and bajos see Figure 8.8 and Table 8.14). Of the individual structures, 14 are less than 1 m in height, and most likely represent domestic platforms. The largest structures in the group are two large conical mounds located on the east side of this cluster (Features 343 and 345) (Figure 8.10). The larger of the two is Feature 343 which has a height of approximately 8.5 m. The other was slightly larger at its base and had a height of just over 7.5 m.

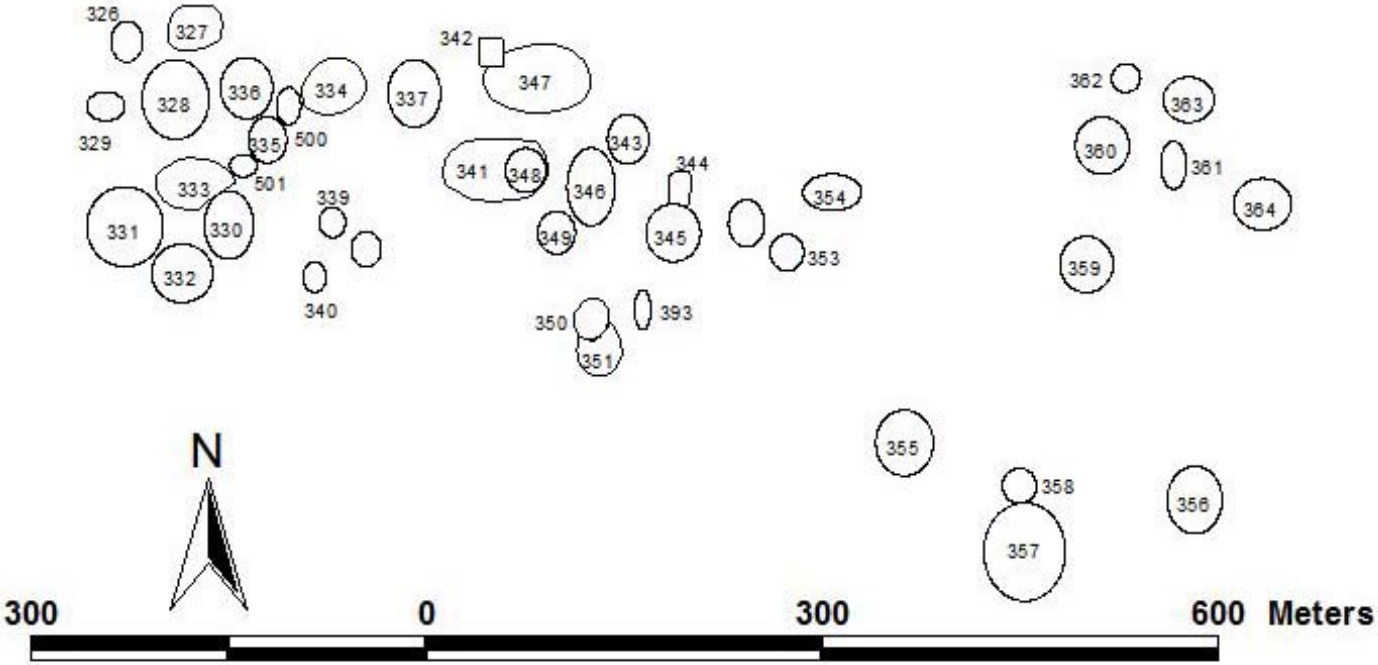

Figure 8.9 Layout of El Mesón South.

Table 8.14. Architectural Features at El Mesón South.

Feature	Feature Type	N-S Dimension (m)	E-W Dimension (m)	Height (m)
326	Low Long	32	27	0.8
327	Low Conical/Pyramidal	36	42	1.1
328	Medium Conical/Pyramidal	53	51	2.99
329	Low Long	23	32	0.7
330	Low Long	53	38	0.6
331	Artifact Concentration	60	60	
332	Artifact Concentration	42	52	0.5
333	Bajo	40	60	
334	Low Long	42	51	0.8
335	Low Conical/Pyramidal	36	30	0.9
336	Low Conical/Pyramidal	49	53	1.3
337	Low Long	49	45	1.1
338	Low Conical/Pyramidal	27	25	0.6
339	Low Conical/Pyramidal	23	21	0.5
340	Low Conical/Pyramidal	21	19	0.5
341	Low Long	73	53	2.1
342	Low Platform	22	22	0.7
343	Tall Conical/Pyramidal	35	42	8.57
344	Fronting Platform	23	16	2.2
345	Conical/Pyramidal with Fronting Platform	43	39	7.66
346	Low Long	60	41	0.9
347	Low Platform	52	81	1.8
348	Low Conical/Pyramidal on Platform	38	35	1.2
349	Low Conical/Pyramidal	36	34	0.9
350	Low Long	35	27	1.1
351	Low Long	35	42	0.4
352	Low Conical/Pyramidal	36	29	0.9
353	Low Conical/Pyramidal	29	25	0.5
354	Low Long		44	0.7
355	Low Conical/Pyramidal	48	43	0.5
356	Medium Conical/Pyramidal	49	40	3.29
357	Low Long	75	62	0.7
358	Low Conical/Pyramidal	27	29	0.6
359	Low Conical/Pyramidal	40	40	1.2
360	Low Conical/Pyramidal	42	41	1.5
361	Low Long	37	22	0.7
362	Low Conical/Pyramidal	20	25	0.3
363	Low Conical/Pyramidal	37	40	0.8
364	Low Conical/Pyramidal	38	45	0.6
393	Artifact Concentration	28	13	
Total Area = 41 ha				

Figure 8.10. Feature 343.

This structure also had a small 2.2 m tall platform extending to the north. As mentioned above, based on their form and height these structures likely represent temples. Other structures in this cluster include two long mounds located near the center of the cluster (Features 341 and 347). Feature 347, the northern long mound, has a height of 1.8 m. A low ramp projects off of the northwest corner of the long mound (Feature 342). Feature

341 has a height of 2.1 m. A 1.2 m conical mound is located on the west side of the top of the long mound.

The smaller of the clusters consists of 10 structures located on the east side of the complex. Like the western cluster, the majority of structures here were low conical mounds. The largest structure in this cluster (Feature 356) had a height of approximately 3.3 m.

The separation between the eastern and western clusters is unique in the RAM area. A review of diagnostic ceramics from the two clusters suggests that both are coeval, so the separation does not appear to be the result of new structures added at a later time. I suggest that this separation may highlight some degree of social differentiation between the people who lived in the east cluster and those who live in the west cluster. Structure 356 a medium conical/pyramidal mound measuring 49 m × 40 m is the third tallest structure at El Mesón South, and could represent an elite residence. If so then the separation of the eastern cluster of structures could represent a segregated elite domestic area. Alternatively, evidence for obsidian production suggests that the western cluster at El Mesón South was a production locus for obsidian blades and drills (see next chapter). Production indicators for these activities are largely restricted to the western cluster. The separation of the eastern cluster may represent a segregation of space between the craft barrio and others living in the area.

At total of 1884 temporally sensitive ceramic sherds were recovered from El Mesón South (Table 8.15). While some occupation of the area is indicated by the ceramic frequencies for the Tres Zapotes phase, Middle Formative ceramics account for less than one percent of the diagnostic sherds recovered from the complex.

Table 8.15. Temporally Sensitive Sherds from El Mesón South.

Feature	Tres Zapotes	Hueyapan	Nextepetl	Ranchito	Quemado	Total
326		3	53	36	10	**102**
327				2		**2**
328		4	80	58	7	**149**
329		1	27	30	9	**67**
330		1	74	53	11	**139**
331		3	108	74	16	**201**
332		1	86	60	17	**164**
333	1	3	45	41	6	**96**
334	1	3	39	25	9	**77**
335	1	2	30	13	3	**49**
336		1	45	32	2	**80**
337						**0**
338		2	10	7	4	**23**
339			7	13	4	**24**
340		1	7	6	4	**18**
341			5	2		**7**
342						**0**
343		2	30	9	4	**45**
344		1	4	3	1	**9**
345		2	32	21	5	**60**
346			1		1	**2**
347			23	17	10	**50**
348						**0**
349	1					**1**
350			16	6		**22**
351		3	17	35	6	**61**
352						**0**
353						**0**
354	1	2	10	1	2	**16**
355			14	9		**23**
356						**0**
357						**0**
358						**0**
359						**0**
360		10	52	22	1	**85**
361		2	159	42	7	**210**
362			1	2		**3**
363	1		4	2		**7**
364	1		3	4		**8**
393		3	45	32	4	**84**
Total	**7**	**50**	**1027**	**657**	**143**	**1884**
% Total	**0.4**	**2.7**	**54.5**	**34.9**	**7.6**	**100.0**
New Features Occupied	7	16	9	1	1	
Features Abandoned	0	2	0	1	7	
Net Change	**7**	**14**	**9**	**0**	**-6**	
Features Occupied	**7**	**21**	**30**	**30**	**24**	

The data for the Hueyapan phase settlement in the area are somewhat ambiguous regarding the intensity of occupation. Diagnostic ceramics for this time account for less than three percent of the total diagnostic sherds recovered from the complex. However, the number of features occupied expands from seven to 21 between the Middle and Late Formative periods, suggesting greater occupational intensity during the Hueyapan phase. Some of this ambiguity may be related to El Mesón South's location. The proximity of El Mesón South to the south bank of the Arroyo Tecolapan (less than 120 m for the western cluster) would have made the area particularly prone to flooding and alluvial deposition. These low frequencies of Middle and Late Formative materials may be the result of being buried under alluvium. Alternatively, the lack of temporally sensitive sherds may reflect the domestic character of the group, as utilitarian ceramic styles often persist across phase boundaries in the region.

The ceramic data indicate that the Nextepetl and Ranchito phases were the time of most intense occupation of the site. Just under 90% of the diagnostic sherds date from the Protoclassic (54.5%) to the Early Classic (34.9%) periods. The number of features occupied increased from 21 during the Hueyapan phase to 30 during the Nextepetl phase. No features were abandoned at this time. Thirty features were also occupied during the Ranchito phase.

The Quemado phase is characterized by a reduction in the frequency of diagnostic ceramics and the number of features occupied (Table 8.15). Quemado phase ceramics account for 7.6% of the diagnostic sherds from the complex. One feature was newly occupied, but seven features were abandoned at this time, bringing the number of features occupied to 24.

The sequence for El Mesón South is largely consistent with the chronologies for most of the other formal complexes in the RAM area; low intensity occupation during the Middle and Late Formative periods, a peak in occupational intensity from the Protoclassic period through the Early Classic period, and decline during the Late Classic period. However, the occupational data for the features suggests the possibility of more substantial Late Formative Occupation. If these deposits were indeed buried under alluvium, then El Mesón South's trajectory may be more similar to El Mesón and the Norte Group.

Discussion

The preceding descriptions provide the basic data on the size, location, composition, organization, and temporal placement of the formal architectural complexes in the RAM area. In the remainder of this chapter, I use the data from these descriptions to evaluate the complexes along the lines of variation outlined above. Finally, I discuss theses complexes in terms of the overall political organization of the RAM survey area.

Temporal Placement of Complexes

The data from the temporally sensitive ceramics and number of mounds occupied indicate that not all of the formal complexes in the RAM area shared the same occupational trajectory. Rather, these data reflect two distinct periods of mound construction and use. The first dates from the Late Formative period through the

Protoclassic period, and is associated with two complexes, El Mesón and the Norte Group, and possibly El Mesón South. Based on the sizes of the overall complexes, as well as the constituent structures, El Mesón was the ranking center in the area at this time. Scott (1977) suggests that at least one stela (El Mesón Monument 1) was placed at the center during this time.

The data regarding the numbers of features occupied in the TZPG complex at El Mesón show that the greatest addition of occupied architectural features occurred from the Tres Zapotes phase to the Hueyapan phase (Table 8.16). The sequence for the Norte Group is similar. The largest increase in occupied features occurred during the Late Formative period (Table 8.16). One difference between these two complexes is that additional features were occupied during the Protoclassic period in the Norte Group. The data from El Mesón South are more ambiguous. The number of features occupied increases dramatically from seven during the Tres Zapotes phase to 21 during the Hueyapan phase (Table 8.16). However, Tres Zapotes phase sherds are relatively rare at El Mesón South, accounting for less than three percent of the diagnostic ceramics recovered from the complex. This unexpectedly low frequency may be the result of alluvial deposition burying the Late Formative materials, or possibly reflective of the domestic character of the complex

Table 8.16. Summary of Net Change Totals for RAM Complexes.

		Phase				
Complex		**Tres Zapotes**	**Hueyapan**	**Nextepetl**	**Ranchito**	**Quemado**
El Mesón TZPG	**Net Change**	**5**	**0**	**0**	**0**	**-4**
	Features Occupied	5	5	5	5	1
Norte Group	**Net Change**	**6**	**4**	**3**	**0**	**-4**
	Features Occupied	6	10	13	13	9
El Mesón South	**Net Change**	**7**	**14**	**9**	**0**	**-6**
	Features Occupied	7	21	30	30	24
La Paila	**Net Change**	**3**	**0**	**7**	**1**	**-4**
	Features Occupied	3	3	10	11	7
Tulapilla	**Net Change**	**0**	**3**	**5**	**0**	**-3**
	Features Occupied	0	3	8	8	5
Chico Loco	**Net Change**	**2**	**3**	**4**	**1**	**-3**
	Features Occupied	2	5	9	10	7
La Mulata	**Net Change**	**3**	**1**	**4**	**1**	**-1**
	Features Occupied	3	4	8	9	8

During the Protoclassic period, both the Norte Group and El Mesón South experience an additional increase in the numbers of features occupied (Table 8.16). Ceramic frequencies suggest that the occupational intensity in both groups was greatest at this time. The Subsequent Ranchito phase is characterized by stability, as no new occupied features were added. Ceramic frequencies decline somewhat in both complexes. During the Late Classic period, both the Norte Group and El Mesón South exhibit indicators of decline. There is a net loss in the number of features occupied, and ceramic frequencies drop precipitously (Table 8.16).

El Mesón's trajectory from the Protoclassic period through the Late Classic period is slightly different. There is no change in the number of features occupied in the TZPG complex at El Mesón until the Late Classic period when the complex is virtually abandoned (Table 8.16). Ceramic frequencies peak in this complex during the Hueyapan phase before decreasing slightly through the Early Classic period. I argue that this decline in occupational intensity is related to The RAM area breaking free from Tres

Zapotes over the course of the Nextepetl phase. By the Ranchito phase, the civic/ceremonial complex at this center was replaced by new political centers in the area. Interestingly, the data from the Norte Group and El Mesón South suggest that these complexes weathered the break with Tres Zapotes better than El Mesón. The reason for the persistence of these complexes is likely related to both being loci of craft production (see next chapter).

The second occupational trajectory is associated with the remaining architectural complexes; La Paila, Chico Loco, Tulapilla, and La Mulata. The data from these complexes suggest more modest occupation during the Late Formative period, followed by substantial expansion during the Protoclassic period (Table 8.16). The subsequent Early Classic period was marked by stability in these complexes. With the exception of Tulapilla, the remaining complexes all had a net increase in occupied features of one. Tulapilla showed no change. However, like El Mesón, El Mesón South and the Norte Group, the Quemado phase was marked by a decrease in the number of features occupied and lower frequencies of diagnostic ceramics.

This later trajectory is also related to the political upheaval of the Protoclassic period. I argue that the rise of these complexes coincides with the political break from Tres Zapotes, and the rejection of the symbol of Tres Zapotes's authority in the form of the TZPG. These new complexes represent the emergence of new political leaders in the area.

Internal Organization

That layout of the civic/ceremonial complex at El Mesón is consistent with the TZPG layout documented at Tres Zapotes (Pool 2003:92, 2008:128). This architectural plan comprises an east-west oriented plaza bounded on the north by a long, loaf-shaped mound, and on the west by a tall conical mound. A low conical mound is located on the centerline of the plaza, and the east side of the plaza may be closed by another low conical mound.

Based on the lack of associated artifacts, and the restricted summit area, Pool (2008:128) interprets the tall conical mound as the base of a temple. The long mound is interpreted as having elite domestic and administrative functions, based on comparisons of these structures with similar structures in the Maya lowlands (Pool 2008:128). This interpretation is supported by the identification of domestic refuse dumps in excavations near the base of the long mounds in Groups 2 and 3 at Tres Zapotes (Pool 2008:128). The small mound in the plaza is interpreted as an adoratorio or shrine, based on comparisons with similar excavated structures in Mesoamerica (Pool 2008:128).

At Tres Zapotes, this architectural arrangement was reproduced in the four major mound groups at the site. Pool (2003, 2008) argues that these complexes represent political seats for faction leaders that shared governance of the site. The TZPG layout then can be viewed as a symbol of political authority.

Outside of Tres Zapotes, the TZPG layout has a limited distribution, and is largely confined to the eastern lower Papaloapan basin (Pool 2008:147-150). In addition to the TZPG at El Mesón, Pool (2008:147) notes that several possible TZPG groups were identified during the Jimba 3D survey which spanned the area between Tres Zapotes and

Lerdo de Tejada, just west of the RAM survey area (León Pérez 2003). These complexes were all composed of low mounds, under 3 m in height (Pool 2008:147). A few complexes in the western lower Papaloapan basin (WLPB) and Cotaxtla basin also show similarities to the TZPG layout. However Pool (2008:149) states, "…strict adherence to the TZPG layout seems rare and often equivocal in areas beyond the eastern Papaloapan basin…." Stark (2008:99) argues that that these complexes in South-central Veracruz represent variations of the Standard Plan configuration common in that area. She notes that in the WLPB such Standard Plan variants are most common during the Late Classic period.

Considering the limited distribution of these complexes, the proximity of El Mesón to Tres Zapotes, the similarity in artifact assemblages, and contemporaneity of the complexes in each area, I interpret the TZPG at El Mesón as indicating that El Mesón was incorporated into a regional polity headed by Tres Zapotes. Specifically I suggest that El Mesón served as a secondary center to Tres Zapotes. The reduction of the size of the complex relative to Groups 2 and 3 at Tres Zapotes is indicative of El Mesón's subordinate status.

None of the other complexes within the RAM survey area have layouts consistent with each other. Rather, each is composed of varying combinations of constituent features. While the same types of features may appear in multiple formal complexes, they are combined in different ways.

It is also worth noting that none of the complexes dating from the Protoclassic to Early Classic periods feature the Standard Plan arrangement. The Standard Plan was defined by Daneels (2002), who used the term to refer to architectural complexes

bounded by a large conical mound, one or two long mounds, and a ballcourt. Often these complexes also have an associated large quadrilateral platform. In the Cotaxtla Basin this arrangement is found in political centers (Daneels 2002). Stark (2003, 2008) has noted the presence of similar complexes in the Mixtequilla region. In the case of the Mixtequilla, Stark extends her use of the "standard-plan concept" to include abbreviated or truncated versions of the arrangement which most likely served as local centers (Stark 2008). In both the Cotaxtla basins and the Mixtequilla, Standard Plan complexes date as early as the Protoclassic period, and continued to be used throughout the Classic period.

A similar arrangement has also been identified in the southern Tuxtlas region as well as the San Juan Drainage. Variously referred to as Long-Plaza complexes (Killian and Urcid (2001) or Villa Alta quadripartite arrangements (VAQA) (Borstein 2005), these complexes all have layouts similar to the Standard Plan. However, in the Tuxtlas region these complexes are associated with the Middle and Late Classic periods (Borstein 2005; Killion and Urcid 2001). Like the Standard Plan complexes, these complexes also are interpreted as political seats.

Just as the use of the TZPG is indicative of El Mesón's relationship with Tres Zapotes, I also argue that the lack of Standard Plan complexes in the RAM area suggests that during the Classic period the RAM area was independent of the large polities that dominated South-central Veracruz. The distributions of Mixtequilla style ceramics recovered during the RAM survey support this interpretation. Although these ceramics were recovered throughout the RAM area, they were in minor percentages. The predominant ceramic types are more consistent with the Tuxtlas region. This distribution

clearly suggests that the RAM area and the Mixtequilla were in contact, but there is no indication of domination.

Monumentality

In most of the architectural complexes in the RAM area, a sense monumentality is created by the sizes of the structures. In the La Paila and Chico Loco mound groups, the large platforms have heights greater than nine meters, clearly dominating all other structures in their immediate vicinity. No single structure in the La Mulata group has such a height; however, the total height of this large compound architectural feature is in excess of 10 m. While not as tall some of the structure in the other mound groups, although they were likely 1-2 m taller prior t their beases being covered by alluvium, the two large conical mounds at El Mesón South are much larger than any of the other structures in the vicinity.

At El Mesón, monumentality was created through the height of the main conical mound (more than nine meters), as well as the use of the long east-west running plaza. In the Tulapilla group, the height of the mounds is lower relative to the other complexes, but the use of the plaza and the long causeway between Features 295 and 299 give the complex a monumental appearance (See Figure 8.5).

The only complex in the area where the monumentality of the architecture is equivocal is the Norte Group. Compared to all of the other complexes in the area, this is the smallest in terms of the height of the architecture. The tallest structure in this group rises to a height of only about four meters. Of all of the architectural complexes in the

area, only Tulapilla covers a smaller area. However, The Norte group is the largest and most complex grouping of architecture in its immediate area.

Monumental architecture is designed to invoke a sense of spectacle or awe in observers. I argue that the monumental quality of the RAM complexes was designed to operate at multiple scales. The inclusion of elite residences in the form of broad long mounds and flat-topped platforms is understood as a visible manifestation of the power and authority of local leaders, especially when considered against the much smaller domestic mounds located outside of the complexes. At the local scale, then, these structures are symbolic of the social differentiation between political leaders and their faction of supporters. Moreover, the pairing of these elite domestic structures with temple mounds symbolically links these leaders with powerful spiritual forces, with the ultimate goal of reinforcing and legitimizing the right of leadership for the elites. This linkage is best illustrated in the Tulapilla group where a flat-topped platform is physically linked to a probable temple mound by a raised ramp or causeway.

At the regional level, the Monumental quality of civic/ceremonial architecture can be viewed as indicating the status of local leaders relative to each other. For leaders, the monumentality of a rival's political seat is a display of that leader's strength or weakness. Such symbolism would be expected under conditions of heightened factional competition where local leaders were in competition with each other for supporters and greater political power.

In the RAM Area the Protoclassic and Early Classic period were marked by the rise of a number of independent political leaders, each of whom were able to marshal labor to construct their own civic/ceremonial complex. Of the four complexes dating to

the Protoclassic period, there is no clear sense that La Paila, Chico Loco, or La Mulata were dominant over any other complex. Although the height of the architecture at Tulapilla does not match the other complexes, the use of causeways conveys a similar sense of monumentality. The reduced size of the Norte Group suggests that this complex may not have been on an equal footing politically with its neighbors; however, there is little evidence suggesting that the complex was controlled any of the other complexes. This pattern contrasts the Late Formative Hueyapan phase where the overall size of the TZPG complex at El Mesón, as well as the size of its constituent structures, clearly marks this complex as being dominant over the Norte Group.

Architectural Redundancy and Diversification

Despite the variation in the size, complexity and spatial extent of these complexes, there are some similarities in the types of structures incorporated into each mound group. The clearest pattern is the use of large quadrilateral platforms. Such platforms dominate La Paila and Chico Loco. Although the platform in the Tulapilla group is smaller relative to La Paila and Chico Loco, it is still the largest and tallest architectural feature in the complex. Although much lower that the other platforms, the base of the La Mulata complex is also a broad quadrilateral platform. A low platform is also part of the Norte Group.

Large quadrilateral platforms are not common architectural features in the ELPB. At Tres Zapotes, the modified southern portion of Cerro Rabón, a large natural hill, may represent such a structure (Pool personal communication). León Pérez (2003) reports large platforms at several sites within the Jimba 3D survey area; however; none are the

size of the platforms at La Paila or Chico Loco. Such platforms have been reported in the southern Tuxtlas (Borstein 2005; Killion and Urcid 2001); however; in this area these structures postdate those in the RAM area.

These features are more common in South-central Veracruz. Both Stark (2003, 2008) and Daneels (2002, 2008a) report the use of similar platforms in both the Mixtequilla and Cotaxtla Basin in architectural groups daring from the Protoclassic period to the Early Classic period. In the Mixtequilla, Stark (2008:101) notes that often these structures have low mounds on their summits. Based on comparisons with similar structures from the Maya lowlands, she argues that these are palaces (Stark 1999, 2008:101). Daneels (2008a, 2008b) suggests, based on excavations at La Joya, that these platforms may have had ceremonial as well as elite residential and administrative functions.

Based on their similarities, I suggest that the large platforms at La Paila, Chico Loco, and Tulapilla served the same function as their counterparts in Central Veracruz. Although smaller, the platforms in the La Mulata and Norte mound groups probably served similar functions.

The only complexes that did not feature large platforms were El Mesón and El Mesón South. In the case of El Mesón, the civic/ceremonial architecture largely predates the other complexes in the area. I argue that after TZPG arrangement declined it was replaced as a symbol of power and authority by these large platforms. Thus, a large platform would not be expected at El Mesón.

The lack of a large platform in the El Mesón South complex is curious. While much of this complex consists of tightly spaced nonelite domestic platforms, there is no

clear elite architecture. Moreover, the presence of two large conical mounds, each in excess of 7.5 m in height suggests that the complex also had other functions. Specifically, given the conical shape these structures and the lack of artifacts recovered from their surfaces, I interpret these as temple bases. Paired temples or shrines are known at Aztec sites in similar barrio contexts. These mounds at El Mesón South may represent a similar phenomenon. If so, then the rituals conducted here may have served an integrative function for the residents of El Mesón South, and reinforced group solidarity in this barrio.

Political Organization and Political Strategies

I shift focus now from the individual architectural complexes to consider the larger question of the political organization of the RAM area as a whole. As part of this discussion, I rely on the attributes of the complexes discussed above to assess several models of political organization. I also use these architectural data to make inferences about the political strategies employed in the El Mesón area.

During the Late Formative period El Mesón emerged as a political center. At this time, El Mesón was the only complex in the area with civic/ceremonial architecture. The use of the TZPG layout suggests that El Mesón was incorporated into a regional polity headed by Tres Zapotes. Just as the TZPGs at Tres Zapotes symbolized the political authority and/or power of the site's rulers, At El Mesón this arrangement also symbolized political authority. Moreover, the replication of the TZPG layout also indicated a clear link between El Mesón and the larger center. Given this architectural similarity, as well

as the proximity of El Mesón to Tres Zapotes, and the similarity in ceramic assemblages between the two areas, I argue that El Mesón most likely served as a secondary center to Tres Zapotes at this time. The use of the TZPG at El Mesón symbolically tied the center to Tres Zapotes. What remains unclear is the nature of El Mesón's incorporation. Does the TZPG complex represent people from Tres Zapotes who moved into the area and established the center? Alternatively, the TZPG could also represent an appropriation of Tres Zapotes' symbol or power and authority by local elites affiliating with the larger center. A third possibility is that local elites in conjunction with some Tres Zapotecos created and occupied the TZPG at El Mesón. Finally Tres Zapotes may imposed this architectural form on El Mesón, but did not send people to the smaller center, or participate in its construcvtion

The best evidence of exclusionary strategies operating at El Mesón is the bas relief carving s on the stelae from the site. Both monuments contain depictions of individuals, and are interpreted as being portraits of rulers (Scott 1977). The Late Formtive monument Stela 1 likely represents a portrait of a leader. Stela 2, which likely dates to the Protoclassic period, depicts the ruler standing on a raised platform with a seated figure to his left. The impression of this depiction is the domination of the seated individual by the ruler. The focus of both stelae on individual rulers is a clear indication of exclusionary political strategies.

With regard to the TZPG architecture, the presence of large elite residences within the civic/ceremonial core of the site also indicates exclusionary strategies. Pool (2008:145) notes that these structures are usually not the tallest structures in the TZPG complexes at Tres Zapotes, but they are the largest structures by volume and would have

required the greatest labor input to construct. Moreover, Pool (2008:145-146) also cites the use of patrimonial rhetoric in two of the Tres Zapotes TZPG complexes in the form of the incorporation of Middle Formative Olmec monuments, specifically Olmec colossal heads. These monuments were set into the TZPG complexes facing the leader's residence, and symbolically tying the leader to his Olmec predecessors.

Pool (2008:145) cites the replication of the TZPG complexes at Tres Zapotes as indicating shared political power between the various factions at the site. The replication of this architectural layout is important as it suggests a shared vision of cosmology and political power among ruling elites. Such shared ideas are more consistent with corporate political strategies.

In the RAM area, however, El Mesón was the dominant center. The only other formal complex in the RAM area at this time was the Norte Group. Based on the area covered by this complex, the small size of its constituent features, and the lack of monumental art, it is doubtful that the Norte Group would have been a political rival of El Mesón. Rather, the data suggest that the Norte Group was most likely controlled by El Mesón.

The dominance of exclusionary strategies at El Mesón does not mean that corporate strategies were not also pursued. One of the measures of success for a political leader is the ability to mobilize supporters. This will be most efficiently accomplished if those supporters are unified. To that end, at the scale of the faction, it is expected that corporate strategies would be pursued in order to promote group solidarity. Activities such as rituals may have served to reinforce a cognitive code among faction members that focused on the cohesiveness of the group. The architectural layout of the TZPG complex

suggests that these strategies were indeed pursued. Specifically, the large plaza in the center of the complex would have been an ideal location for gathering supporters together to engage in such activities. The location of the adoratorio within the plaza, as well as its smaller size relative to the larger temple mounds may also have served as a locale for public ritual. Although this activity may be part of a corporate strategy the social and political inequality would still be reinforced, as this public space is located literally in the shadow of the leader's residence.

Interpreting the Protoclassic and Early Classic period organization is more complicated. Beginning in the Nextepetl phase, the RAM area experienced a significant political disruption. Artifact distributions and the numbers of occupied features indicate that at this time El Mesón declined and was replaced by a series of new centers distributed throughout the RAM area. None of these new centers featured the TZPG arrangement, and there is little replication of architectural features between complexes. Rather, other than the use of large quadrilateral platforms, these Protoclassic and Early Classic centers display no apparent patterns in their internal organization.

In an attempt to interpret the Early Classic period organization in the Mixtequilla region, Stark (1999a) developed two competing models of political organization. Given the architectural similarities between the Mixtequilla and the RAM survey area, these models also provide useful frameworks for examining political organization in the area around El Mesón. In the disconnected model, architectural complexes are considered to represent independent or possibly sequential centers (Stark 1999a:202). It is also expected that there should be variation in the size and configuration of complexes. Stark (1999a:202) notes that size specifically reflects the social and/or economic position of

leaders or elite lineages. Thus, larger centers indicate greater social or economic assets, while smaller centers reflect a lower social or economic status. Moreover, a high level of variability in the layouts of architectural complexes is considered indicative of weak centralization, a characteristic also indicated by a weakly developed settlement hierarchy (Stark 1999a:203).

In contrast, the connected model posits a more strongly developed settlement hierarchy where a primary center services a hinterland that includes secondary and tertiary centers (Stark 1999a:202). Implicit in this model is that political and economic power are considerably more centralized than in the disconnected model. A variant of the connected model is the "capital zone" (Stark 1999a). In this version of the connected model, a core zone is at the apex of the settlement hierarchy rather than a single center. According to Stark (1999a:203-204), a series of architectural complexes are constructed within the core area, forming a superordinate capital. The addition of new complexes to the capital zone may reflect the succession of new leaders to power, or the establishment of elite cadet lines. While older complexes may wane in political importance they are not abandoned (Stark 1999a:204).

Evaluating these two models using the architectural data from the complexes within the RAM area is difficult due to several obstacles. The first is the size of the survey itself. While the RAM survey covers an area of some 27 sq. km, the area surveyed did not include potential secondary or tertiary Late Formative centers. Thus, evaluating the presence of a settlement hierarchy is difficult, not to mention evaluating how strongly developed it may have been.

A second potential obstacle concerns the evaluation of potential sequential centers. Because the ceramic chronology for the region can only distinguish the period in which a particular complex was constructed, its grain is too coarse to evaluate if several centers were constructed within a short time frame during the same period. The result is that all of the complexes initially constructed during the Protoclassic period appear to be roughly coeval. Compounding this issue is the potential for earlier ceramics to be incorporated into the fill of later constructions. The implication here is that when these materials are recovered in surface collections, the structure may be interpreted as being older than it is.

Despite these potential problems, however, there is sufficient data from the RAM area to evaluate both models. Although there are no data regarding potential secondary or tertiary centers, the organization of architectural complexes suggests that the RAM area does not conform to the basic version of the connected model. Under this model the political system should be dominated by a large center. However, there is no indication that any one architectural complex was dominant over any of the others.

This non-dominance of any particular center does fit with the Capital Zone model. Under such a system the entire RAM area could be viewed as forming a superordinate capital of a larger regional polity. The recovered ceramics suggest that all of the complexes, except El Mesón, were in use from the Protoclassic period through the Early Classic period. While there is uncertainty about the potential of secondary or tertiary centers, the possibility of the RAM area forming a capital zone is plausible.

Some data from these complexes, however, cast some doubt onto this interpretation. Specifically, the lack of architectural redundancy in both individual

features as well as layouts, may be an indication of greater independence for each architectural complex and a weak degree of integration. As stated above, the replication of architectural features reflects the "…functions and services they provide," (Pool 2008:125). Additionally architectural replication also is indicative of shared ideas about the proper arrangement of architectural complexes (Pool 2008:125). While the capital zone is formed by multiple complexes constructed at different times, the addition of new complexes does not reflect broad-scale changes in the functions of complexes or a shift in political structure or strategy. Stark (1999a:204) suggests that the addition of new complexes may represent succession in rulership or the establishment of cadet lines. In either case the addition of new complexes is better seen as a continuation of established ideas about political structure or rulership. It should be expected then that there would at least a minimal level of architectural redundancy between newer and older complexes. In other words complexes should conform to a basic pattern with regard to layout and types of constituent features.

Considering the RAM area, the variation observed in the architectural layouts of the Protoclassic/Early Classic complexes, does not exhibit much in the way of replication. The layouts of all complexes are different, and in terms of individual structures, the use of large platforms is the only replication of specific types of structures. Rather than reflecting a unified vision of the proper constitution and organization of architectural complexes, the variation in the RAM complexes suggests unique visions of the elites that constructed them.

Comparing the RAM architectural data to the disconnected model indicates a better fit. Perhaps the strongest data supporting this interpretation is the use of large

quadrilateral platforms in the majority of formal complexes. In the Mixtequilla region, Stark (2008:101) has noted that these structures, which likely served as elite palaces, often occur in areas away from large centers. She interprets these structures as possibly representing seats of power for independent landed elites. Based on the distribution of such structures across the RAM area, and the lack of a dominant center in the region, I suggest that these structures are indicative of a similar phenomenon in the RAM area.

The variation in the size of individual structures within complexes, as well as the variation in the sizes of the complexes themselves is also supportive of a disconnected interpretation. Under this model the sizes of structures and complexes can be used as an index to evaluate the relative political or economic power of particular elites. Larger platforms and complexes should reflect greater political or economic influence. Based on the sizes of the structures I would expect the elites at La Paila, Chico Loco, and La Mulata to have had the most influence in the RAM area. That these complexes are all coeval suggests that they may have been in competition with each other for political control of the RAM area.

Finally, the variation in the constituent features of the individual complexes also supports the disconnected model. If the elites that constructed each complex were autonomous, it would be expected that each architectural complex would reflect unique visions of the elites who resided there.

The only line of architectural data that does not support this interpretation is the proximity of the complexes to each other. With a mean distance of 1.4 km between complexes, the RAM mound groups are more closely spaced than would be expected under the disconnected model. If these complexes do represent autonomous landed elite,

then why would they position themselves so close to potential rivals? I suggest that the Protoclassic/Early Classic complexes could represent a group of factions that were intensely competing with one another for control of the area and the trade route that passes through it. The persistence of these complexes into the Classic period suggests that none of the leaders was able to assert dominance over his rivals. Alternatively it is possible that these complexes had some form of alliance that guaranteed that trade through the area would not be disrupted. If any alliances were formed, they likely had little effect on the day to day governance within the individual factions.

Another possibility is that these complexes represent small centers located in the hinterland of an as yet unknown center. Given the lack of survey coverage for this region of southern Veracruz, this is a real possibility. If this scenario were true then the interpretation of a disconnected system would have to be reevaluated. However, given the current status of our knowledge of the broader region, the disconnected model offers the strongest explanation of the regional political organization.

In terms of political strategy, the Protoclassic and Early Classic periods saw intensification of exclusionary strategies in the area. The best indicator of this strategy is the use of large quadrilateral platforms in the formal complexes. The use of these structures as palaces suggests a political environment that focused on the personal prestige of the individual leader. The proliferation of complexes during Protoclassic period, also suggests that at this time there was relatively intense competition between leaders for factions of supporters. Like the Late Formative period organization, the use of public architecture in the form of plazas suggests that within factions, political leaders promoted some corporate strategies to reinforce the cohesion of their faction. These

strategies would have worked in concert with the benefits leaders provided to their supporters (e.g., high value goods) to suppress the defection of supporters to rival leaders.

The clearest expression of corporate strategies during the Nextepetl and Ranchito phases is the paired conical mounds in the El Mesón South complex. I argue that these structures may represent a local ritual locale used by the residents of El Mesón South. Rituals conducted at this location would have promoted a sense of group solidarity at El Mesón South. This solidarity may have allowed the complex to remain independent from the faction leaders located to the north.

During the Late Classic period, the settlement data indicate that all of the formal complexes in the RAM area were in decline. Populations dropped throughout the area, and there is evidence of less intense occupation in the formal complexes.

Conclusion

The data from the formal architectural complexes indicate that the RAM area served as a locus of political power from the Late Formative period through the Early Classic period. The layouts and constituent structures of each architectural complex suggest that political leaders in the area pursued both exclusionary and corporate strategies to build and maintain factions of supporters.

The area first rose to regional prominence during the Late Formative period. El Mesón was established at this time as a secondary center to the larger center Tres Zapotes. The incorporation of the area into the Tres Zapotes polity was symbolized by the use of the TZPG layout in the main civic-ceremonial complex at El Mesón. During

the Late Formative period this architectural formation symbolized the RAM area,s affiliation with Tres Zapotes. El Mesón's subordinate position to Tres Zapotes was represented physically by the reduction in the size of the structures in the El Mesón TZPG in comparison to the largest complexes at Tres Zapotes.

Why was El Mesón incorporated into this larger polity? I suspect that the RAM area's location along a natural communication corridor into the Tuxtlas would have made it attractive to elites from Tres Zapotes. I address this possibility in detail in the subsequent chapter.

Over the course of the Protoclassic and Earl Classic periods, important political changes affected the ELPB. Specifically the alliances between the factions that shared power at Tres Zapotes began to fray. The result was an intensification of exclusionary strategies and an increase in factional competition. This shift was manifested at Tres Zapotes by the modification to the TZPG complexes (Pool 2008:146). These modifications indicate a rejection of older symbols of authority and power and a renewed interest by faction leaders to distinguish themselves from their rival through their building programs.

The political changes at Tres Zapotes had important consequences for the political organization of the RAM area. El Mesón and its TZPG complex fell from favor and local elites seized the opportunity to establish themselves as independent political leaders. Between the Protoclassic and Early Classic period, new civic-ceremonial complexes proliferated in the area, and the political environment was marked by heightened factional competition. None of these new complexes conform to the TZPG layout, nor do they replicate the Standard Plan, a common civic-ceremonial layout associated with the

Mixtequilla and Cotaxtla Basin in south-central Veracruz. Rather, all of these complexes feature unique arrangements, reflecting the unique visions of the elites that constructed each complex. The only architectural form that is consistent between the various complexes is the use of large quadrilateral platforms that served as bases for palatial complexes. The use of this architectura; form may indicate that local elits had shifted their south-central Veracruz; as such platforms are more common there. Some interaction with groups in the Western Lower Papaloapan Basin is indicated by pattern burnished Mixtequilla style ceramics in the RAM complexes, however there is no indication of political ties to Cerro de Las Mesas.

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CHAPTER 9
ECONOMIC ORGANIZATION

Archaeologists have long been interested in linkages between economic systems and political systems (e.g., Hirth 1996:203; D'Altroy and Earle 1987; Santley 1989; Steward 1949). By analyzing patterns of exchange, production, and consumption, researchers have sought inferences about specific political formations, as well as the evolution of political systems in general. Since the 1980s, studies of political economy have played an important role refining our understanding of the societies that lived in the southern and south-central gulf lowlands prior to Spanish contact. In particular, Pool (2006a:203) notes that studies of craft production and exchange have been, and continue to be, important foci of research in the area. Generally speaking, the majority of these studies have emphasized the Early and Middle Formative Olmecs or Classic period centers such as Matacapan and Cerro de las Mesas (e.g., Cyphers 1996; Gillespie 1994; 1996; Hall 1997; Santley 1983, 1989; Stark et al. 1998). Usually omitted in such discussions is the Formative/Classic period transition. Only within the last 10 to 15 years has Epi-Olmec political and economic organization become an important focus of research (e.g. Knight 1999, 2003; Knight and Glascock 2009; Kruszcynski 2001; Pool (ed.) 2003; Pool and Britt 2000).

In addition to settlement data, the RAM survey also provided important data regarding the economic organization of the area. In this chapter I address the economic organization of the RAM area. Specifically I focus on the orientation of long distance exchange networks; the local organization of craft producers; and the implications of the area's economic organization for its political organization.

Long Distance Exchange

Because of its ubiquity in the archaeological record in the RAM area, and the lack of local sources, obsidian provides the best indicator of long distance exchange in the RAM area. A total of 4,244 obsidian artifacts were recovered during the RAM survey. This assemblage is dominated by blades and modified blade tools which account for approximately 88 percent of the entire assemblage (n=3746).

The primary analytical criterion for characterizing obsidian in this study is color. With the exception of one blade fragment, all of the obsidian recovered during the RAM survey could be placed within one of three basic color categories; dark gray to black, light gray to clear, and green. More than 99 percent (n=4216) of the recovered obsidian artifacts were classified as dark gray to black or light gray to clear. Dark gray to black obsidian was the most prevalent representing approximately 70 percent of the obsidian assemblage (n=2965) (Table 9.1) . Approximately 16 percent (n=674) of the assemblage consisted of light gray to clear obsidian. Obsidian that was clear to gray with dark bands accounted for 13.6 percent of the assemblage (note this category represents an unidentifiable category where a determination between the dark gray to black and light gray to clear could not be made). Artifacts made from green obsidian (n=23) account for only .05 percent of the total assemblage. Three pieces of obsidian were categorized as representing other colors.

Table 9.1. Obsidian by Color.

Color	Probable Source	n	Percent Total
Dark Gray to Black	Zaragoza/Oyameles	2965	69.9%
Light Gray to Clear	Guadalupe Victoria/Pico de Orizaba	674	15.9%
Gray to Clear with Dark Bands	Pico de Orizaba/Zaragoza/Oyameles	579	13.6%
Green	Pachuca	23	0.5%
Other	Other	3	0.1%
Total		**4244**	**100.0%**

INAA conducted on obsidian samples from the region indicates a close correspondence between source and color category (Cobean et al 1992; Knight 1999, 2003; Knight and Glascock 2009; Santley et al. 2001; Stark et al 1991). These studies suggest that the principal sources for clear-to-light gray obsidian is Guadalupe Victoria and/or the Pico de Orizaba sources, which were located in close proximity to one another near the border between the states of Puebla and Veracruz; the principal source for dark gray to black obsidian was from Zaragoza-Oyameles, Puebla; and green obsidian came from Pachuca, Hidalgo. The clear to gray with dark banded obsidian could be from either the Guadalupe Victoria/Pico de Orizaba sources or from the Zaragoza-Oyameles sources. All of these sources are located in the highland areas of Central Mexico. None of the obsidian identified during the RAM survey could be confidently associated with any of the Guatemalan obsidian sources.

Breaking the RAM assemblage down by these sources shows that the overwhelming majority of obsidian in the RAM area is most likely from the Zaragoza/Oyameles sources (Table 9.1). The only other sources represented in large quantities are the Pico de Orizaba and Guadalupe Victoria sources, which together account for approximately 16 percent of the assemblage. An additional 13.6 percent

could be from either the Pico de Orizaba or Zaragoza/Oyameles sources, and only 23 pieces of obsidian were associated with the Pachuca source (.5%) (Table 9.1)

Because the RAM data are based on surface collections, and almost all collections contained artifacts from different time periods, assessing temporal shifts in the use of obsidians from the various sources is difficult. However, comparisons from other areas provide some basis for inferring what sources were in use at what time.

At Tres Zapotes, the Early and Middle Formative periods are characterized by a flake industry that primarily utilized clear obsidian from the Guadalupe Victoria and Pico de Orizaba sources (Knight 2003:80). Knight (2003:80) notes that this pattern has also been observed in the Mixtequilla and Tuxtlas regions (Heller and Stark 1998; Pool 1997; Santley et al. 2001; Stark et al. 1992). Following the emergence of blade technology during the Late Formative period, there is a shift to black obsidian from the Zaragoza-Oyameles source (Knight 2003:81). Zaragoza-Oyameles remains the preferred raw material through the Early Classic period.

The RAM data suggest a similar preference for obsidians from the Pico de Orizaba and Gualalupe Victoria sources during the Early and Middle Formative periods. Of the 674 light gray to clear obsidian artifacts, 162 (24 percent) were classified as flakes or flake fragments. While these artifacts are broadly distributed across the RAM survey area, clusters of these artifacts were identified in areas with evidence for Early and/or Middle Formative settlement (Figure 9.1). Approximately 24 percent of the light gray to clear obsidian flakes (n=39) were recovered from El Mesón. Twenty flakes (12.3 percent) were recovered from El Mesón south. It should be noted that these two areas were the two largest loci of Early and Middle Formative period settlement in the survey

area. Additionally, 16 light gray to clear flakes or flake fragments were recovered from the Norte Group, the third largest locus of Early and Middle Formative period settlement. Taken together, the flakes and flake fragments from these three architectural complexes account for approximately 46 percent of all of the light gray to clear flakes and flake fragments (n=75) recovered during the RAM survey. A chi square test indicates that this association of light gray to clear obsidian with Early and Middle Formative Olmec settlement is statistically significant at the 95% confidence interval (χ^2= 2.00, degree of freedom =1).

The distribution of gray to black obsidian in the RAM area also suggests that the Late Formative to Early Classic period is also similar to Tres Zapotes. In terms of its distribution, gray to black obsidian was recovered in the majority of collections containing artifacts dating from the Late Formative period through the Early Classic period (Figure 9.2). This obsidian was present in approximately 81% (n=207) of the collections dating from the Late Formative through the Early Classic period (n=255). Moreover, only eight features in the RAM area that had dark gray to black obsidian did not have other evidence of Late Formative to Early Classic period occupation. Only 11 dark gray to black obsidian artifacts were recovered from these features. Interestingly, almost no gray to black obsidian was recovered from the TZPG complex at El Mesón. In fact very little obsidian of any color was recovered from this area. This absence may reflect the primarily civic/ceremonial use of the complex.

Although far from definitive, the RAM survey data indicates that flakes of clear obsidian tend to cluster in areas with evidence of Early and Middle Formative

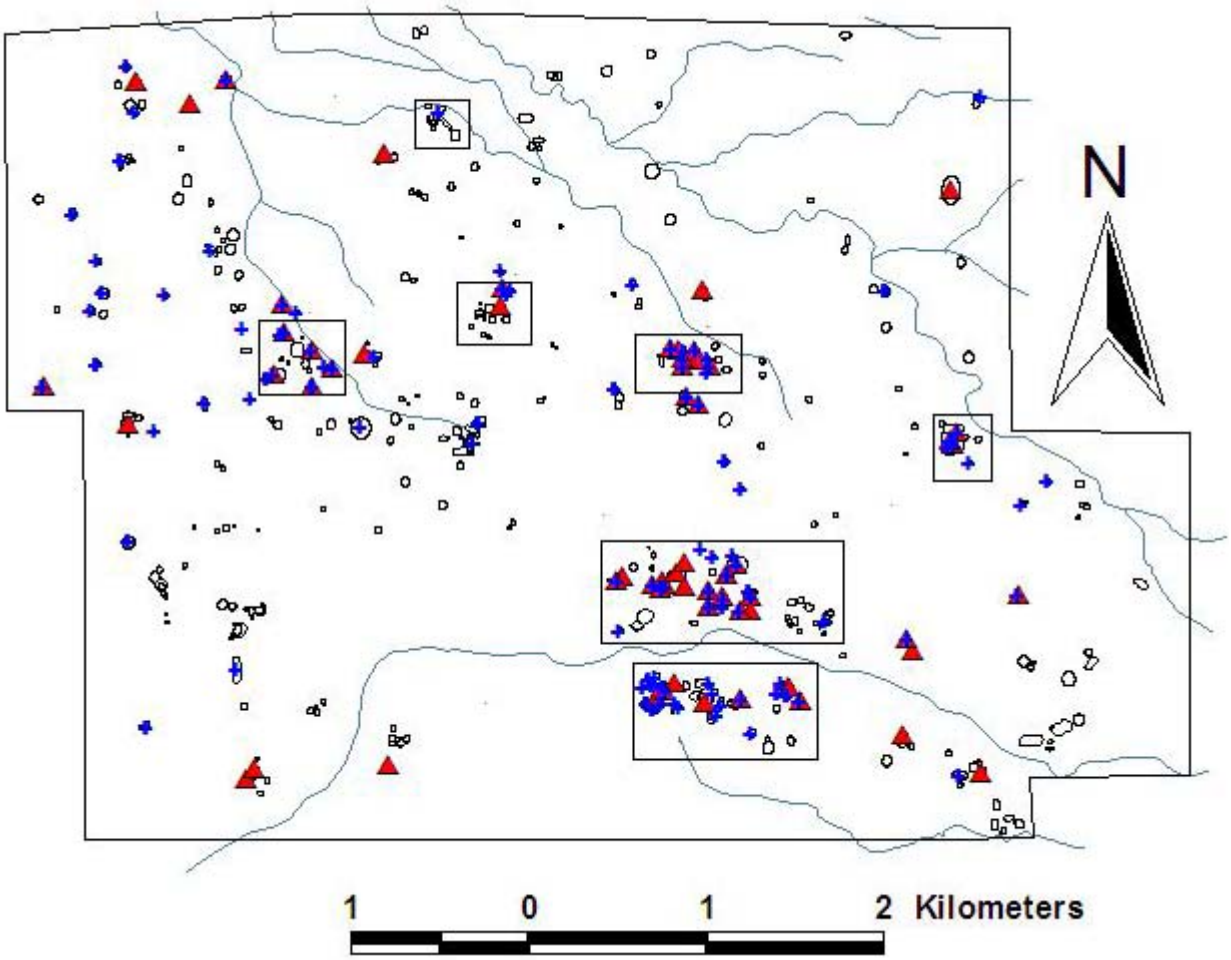

Figure 9.1. Light Gray to Clear Flakes (triangles-Early and Middle Formative Period Settlement).

occupation, including El Mesón. Similarly, artifacts made from black obsidian tend to be more common in areas with occupations dating from the Late Formative to Early Classic periods. These data on interregional exchange are consistent with patterns observed in the Mixtequilla, the Central Tuxtlas, and at Tres Zapotes (Heller and Stark 1998; Knight 2003, Santley et al. 1997; Stark et al. 1992). In all cases obsidian preference changes from the light gray to clear obsidians from the Guadalupe Victoria and Pico de Orizaba sources during the Early and Middle Formatives periods, to the darker obsidians from the Zaragoza and Oyameles sources during the Late Formative period.

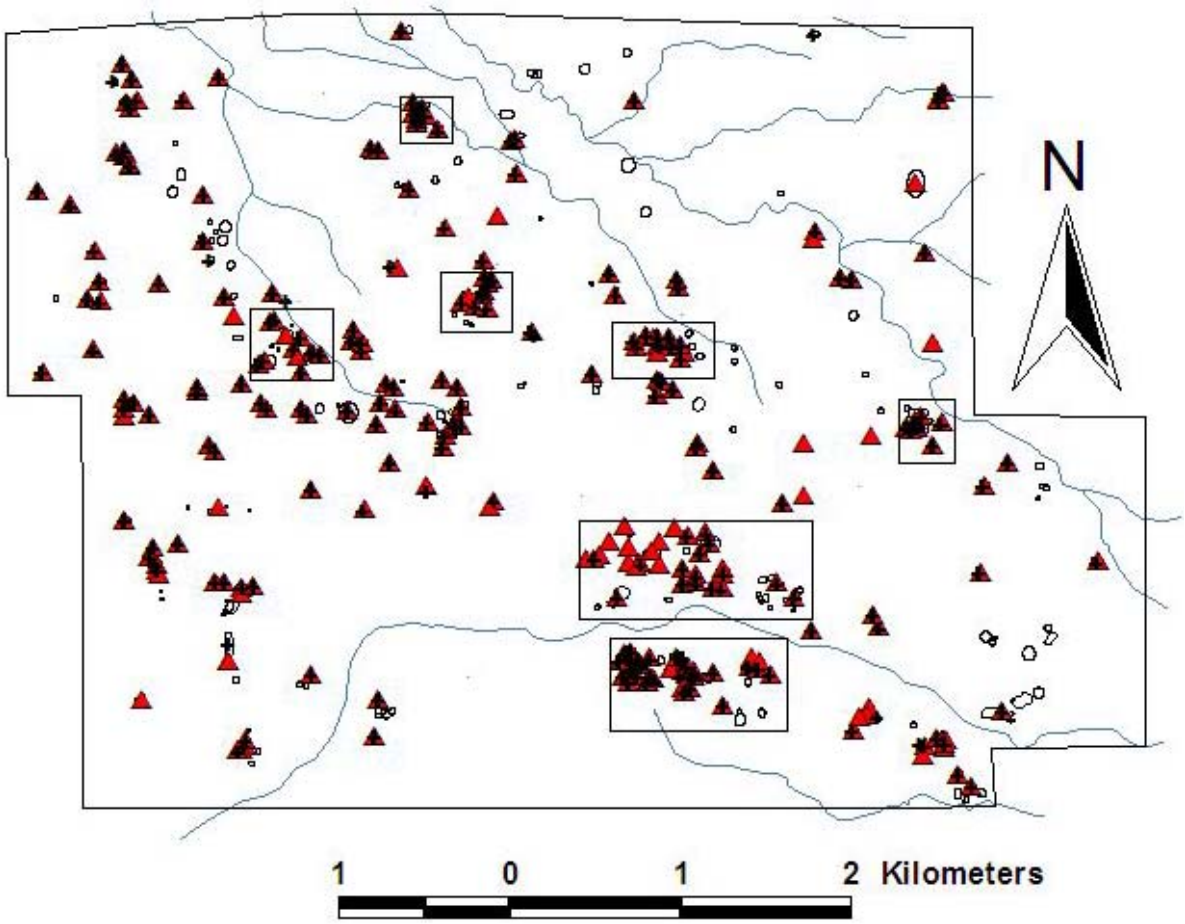

Figure 9.2. Dark Gray to Black Obsidian Distribution (red triangles-Late Formative to Early Classic Period Settlement).

This shift appears in part to be related to the widespread change in technology from a flake-core to a core-blade technology.

Craft Production

In addition to data concerning the orientation of long distance exchange networks, production indicators for a number of different crafts were also identified during the RAM survey. The following section presents descriptions for these economic activities.

Obsidian

Obsidian also provides the richest data source for craft production activities in the RAM area. Artifacts associated with obsidian production consist primarily of the debitage produced through the reduction process. Other production indicators include exhausted cores and core fragments (Hirth et al. 3003; Knight 1999). Tools, such as hammer stones, that could have been used in obsidian production were identified; none, however, could be confidently associated with obsidian tool production. Thus, these artifacts are not considered in the current discussion. Of the 4,244 obsidian artifacts recovered, approximately 19 percent (n=805) were identified as production indicators (Table 9.2).

Mapping the distribution of production indicators shows that these artifacts are distributed in low frequencies throughout the survey area. Obsidian production indicators were identified in 167 collections with in the RAM area (Figure 9.3). An average of 3.6 production indicators was identified per collection. The majority of these indicators are related to prismatic blade production, although some indicators associated with flake and bifacial industries.

Based on the low frequency of debitage and the association of these artifacts with domestic artifacts, such as utilitarian ceramics and manos and metates, obsidian production was probably organized at the household level, with production intensity geared for household use. This interpretation is supported by examining the types of features where obsidian production indicators were recovered. Of the 167 features with evidence of obsidian production, the two most common feature types were low

Table 9.2. Obsidian Production Indicators.

Artifact	n
Bidirectional Core Maintenance flake	6
Bidirectional Core Rejuvenation blade	3
Bidirectional Core Rejuvenation flake	3
Bidirectional percussioon flake	1
Bifacially worked flake	2
Chunk	160
Core	1
Core Face Removal Flake	3
Core Frag	3
Core Maintenance Flake	2
Core Platform Rejuvenation Flake	1
Core Rejuvenation Flake	4
Core Segment	1
Crested Blade	2
Distal Rejuvenation Blade	1
Exhausted Core	10
Flake	24
Flake Frags	543
Flake with core platform	1
Macro Blade	1
Macro Blade Seg	1
Platform Rejuvenation Flake	1
Platform Removal Flake	1
Plunging Blade	21
Shatter	7
Utilized Core Chunk	1
Utilized Core Correction Flake	1
Grand Total	**805**

conical/pyramidal mounds (n=66), and low long mounds (n=41) Table 9.3). These two features types account for approximately 64% of all of the obsidian production indicators. These data suggest that much of the obsidian production was carried out in nonelite domestic contexts.

Some evidence for specialization in obsidian production was identified at El Mesón South. Here, a total of 182 obsidian production indicators were recovered from

12 collections, an average of 15.2 indicators per collection (Table 9.4). These artifacts account for approximately 23 percent of all obsidian production indicators recovered in the RAM survey area. In comparison, 75 production indicators were identified at El Mesón, 42 in the Norte Group, 34 at La Mulata, and only two at Chico Loco.

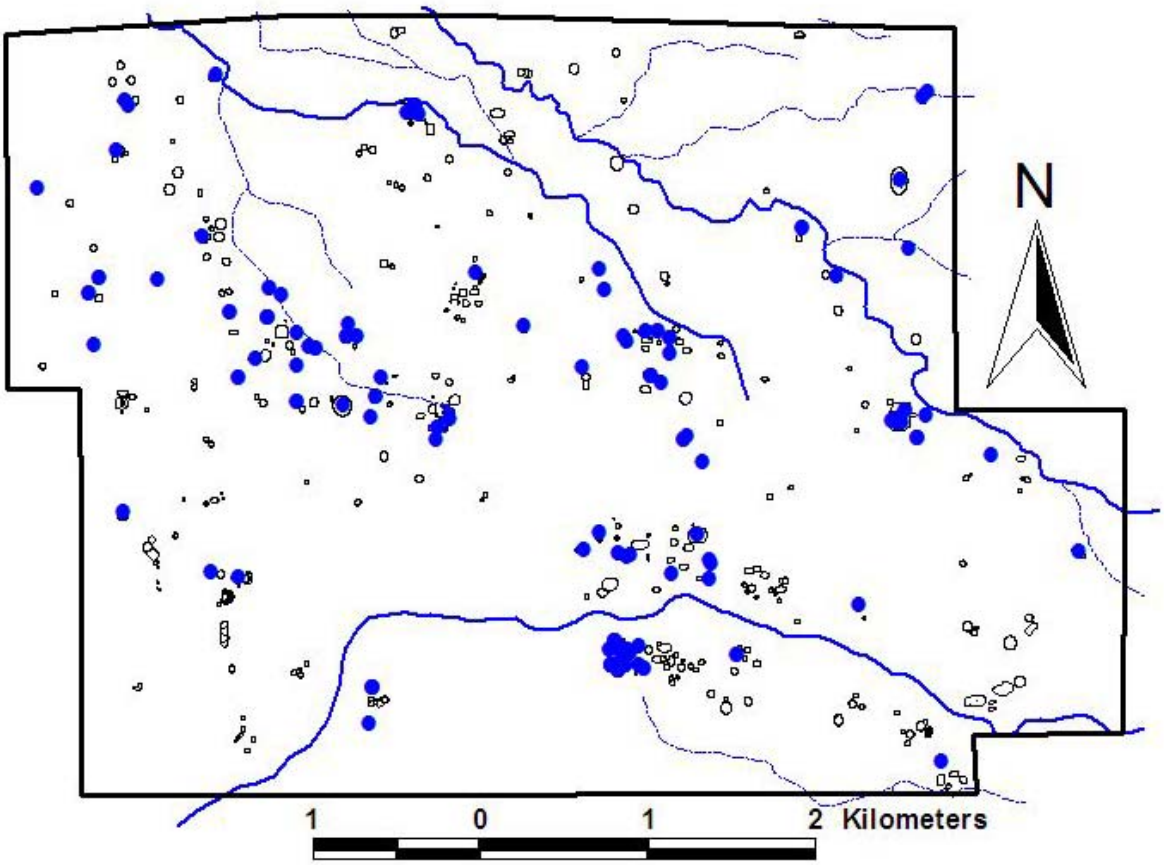

Figure 9.3. Obsidian production indicators.

Table 9.3. Obsidian Production Indicators by Feature Type.

Feature Type	**n**
Conical/Pyramidal	6
Low Conical/Pyramidal	66
Medium Conical/ Pyramidal	6
Tall Conical/Pyramidal	2
Conical/ Pyramidal with Fronting Platform	5
Low Conical/ Pyramidal on Platform	3
Low Conical in Formal Complex	1
Low Long	41
Tall Long	1
Low Platform	7
Medium Platform	1
Fronting Platform	4
Circular Flat-Topped Platform	1
Other40	1
Plaza	2
Ramp	1
Bajo	1
Artifact Concentration	11
Natural Elevation	5
Unidentified	2
Grand Total	**167**

Table 9.4 Obsidian Production Indicators from El Mesón South.

Architectural Feature	Artifact	n
326	Bidirectional Core Maintenance flake	2
	Chunk	5
	Exhausted Core	1
	Flake	2
	Flake Frags	4
328	Chunk	10
	Core Frag	2
	Flake Frags	9
	Plunging Blade	1
329	Chunk	1
	Core Rejuvenation Flake	1
	Flake Frags	10
330	Chunk	5
	Flake Frags	25
	Platform Rejuvenation Flake	1
	Plunging Blade	1
331	Bidirectional Core Rejuvenation flake	1
	Chunk	10
	Distal Rejuvenation Blade	1
	Exhausted Core	2
	Flake Frags	18
332	Chunk	6
	Core Frag	1
	Flake	1
	Flake Frags	14
	Plunging Blade	1
	Shatter	1
333	Chunk	7
	Flake Frags	6
	Plunging Blade	1
334	Chunk	1
	Flake Frags	12
335	Flake Frags	1
	Plunging Blade	1
336	Chunk	2
	Core Rejuvenation Flake (core face flake)	1
	Flake Frags	9
	Possible Core Face removal Flake	1
338	Core	1
	Exhausted Core	1
	Flake Frags	1
339	Plunging Blade	1
Grand Total		**182**

This pattern is supported by the distribution of prismatic blade cores and core fragments. A total of 15 core or core fragments were recovered during the RAM survey; one core, four core fragments, and 10 exhausted cores (see Table 9.2). Almost half of these artifacts (n=7) were recovered from El Mesón South Figure 9.4). The remaining cores and core fragments were distributed across the central and northern portions of the survey area (Figure 9.4). The majority of these artifacts (n=13) were made from Zaragoza/Oyameles obsidian. One core was made from Guadalupe Victoria/Pico de Orizaba obsidian, the source material for one core was ambiguous and could have been from either the Zaragoza/Oyameles or Guadalupe Victoria/Pico de Orizaba sources.

Given these data from El Mesón South, I argue that this area probably represents a craft barrio where obsidian production was carried out on a part-time basis. Production appears to have been organized at the household level and the scale of production was likely for local use. Based on the preponderance of the cores from El Mesón South being made from obsidian from the Zaragoza/Oyameles source, the production in this area most likely dates from the Late Formative through the Classic period. The presence of one core of Guadalupe Victoria/Pico de Orizaba obsidian; however, suggests that some obsidian production could date earlier in the Formative period.

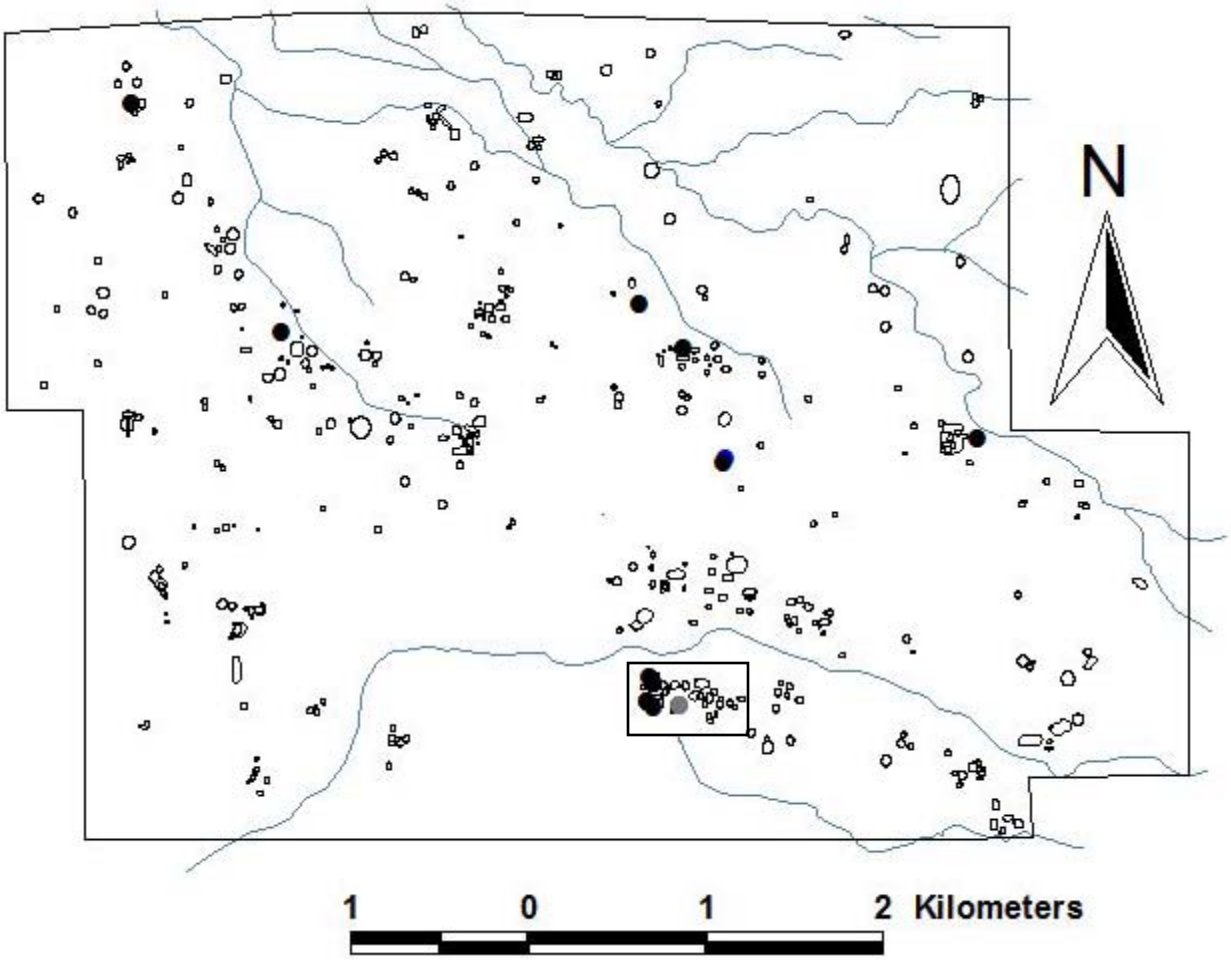

Figure 9.4. Cores and Core Fragments recovered during RAM survey (Zaragoza Oyameles=black, Guadalupe Victoria/Pico de Orizaba=gray, Unidentifed=blue)(note El Mesón South in box).

Ground Stone

A total of 411 groundstone artifacts were recovered during the RAM survey, making groundstone the third largest class of artifacts recovered (Table 9.5). More than 97 percent (n=400) of the groundstone artifacts were made from basalt which was undoubtedly acquired in the nearby Tuxtlas mountains. Three artifacts made from nonlocal were also. Approximately 47 percent of all of the groundstone artifacts

Table 9.5. Groundstone Artifacts.

Object	Basalt	Granitic Porphery	Green-stone	Serpen-tine	Laja	Sand-stone	Scoria	Meta-gabro	Uniden-tified	n
Anvil	2									2
Architectural Feature	1									1
Bark Beater	1									1
Bead	1									1
Celt Small	1			1				1		3
Square Celt									1	1
Square Pole Celt	1									1
Round Pole Celt	2									2
Celt Fragment	22	1	2							25
Dona	54									54
Hammerstone	7									7
Laja, Red					1					1
Flake	29									29
Mano	84									84
Metate	108						1			109
Nutting Stone	1									1
Pestle	8									8
Possible sculpture	2									2
Polishing Stone	12									12
Stone Bowl	2									2
Unid	57					1	1		1	60
Volcanic Bomb	2									2
Worked Ovate Stone	1									1
Worked Pebble	1									1
Worked Stone	1									1
Grand Total	**400**	**1**	**2**	**1**	**1**	**1**	**2**	**1**	**2**	**411**

recovered were either manos (n=84) or metates (n=109) (see Table 9.5). Other artifacts include celts (n=28), “doughnuts” (circular basalt artifacts with a central perforation) (n=54), and pestles (n=8).

Of the recovered artifacts, 50 (12.2 percent) were identified as possible production indicators. These artifacts include hammerstones, polishing stones, anvils, and flakes (Table 9.6). The clearest groundstone production indicators are the flakes. The use of the other artifacts in groundstone production is more equivocal as any of these could have served other functions. Polishing stones, for example, could also be used for other craft activities, such as ceramic production. These artifacts had a number of forms including ovoid, cuboid and triangular, but all featured at least one well polished surface. The strongest indicator of their association with groundstone production is the presence of these tools in the same collections as basalt flakes, and no indicators of other craft activities. These production indicators are distributed across the southern and central portion of the survey area in low frequencies, with some clustering of flakes in the vicinities of the Norte Group, El Mesón, and El Mesón South (Figure 9.5).

Some evidence for specialization is indicated in the Norte Group. Here 18 artifacts associated with groundstone production were identified; an anvil, three polishing stones, five hammer stones, and 10 flakes. This was largest scatter of groundstone production indicators accounting for 36 percent of all of the production indicators for the industry. Moreover, this was the only location where polishing stones (n=3), hammerstones (n=5), an anvil (n=1), and basalt flakes (n=10) were all recovered. The overall distribution of groundstone artifacts in this area also suggests that it was a locus for groundstone production. Roughly a quarter (n=101) of all groundstone artifacts recovered during the RAM survey were from the Norte group. In contrast, only 35 groundstone artifacts were recovered from El Mesón South. Although the Norte Group

Table 9.6. Groundstone Production Indicators and Possible Production Indicators.

Object	n
Anvil	2
Hammerstone	7
Flake	29
Polishing stone	12
Grand Total	**50**

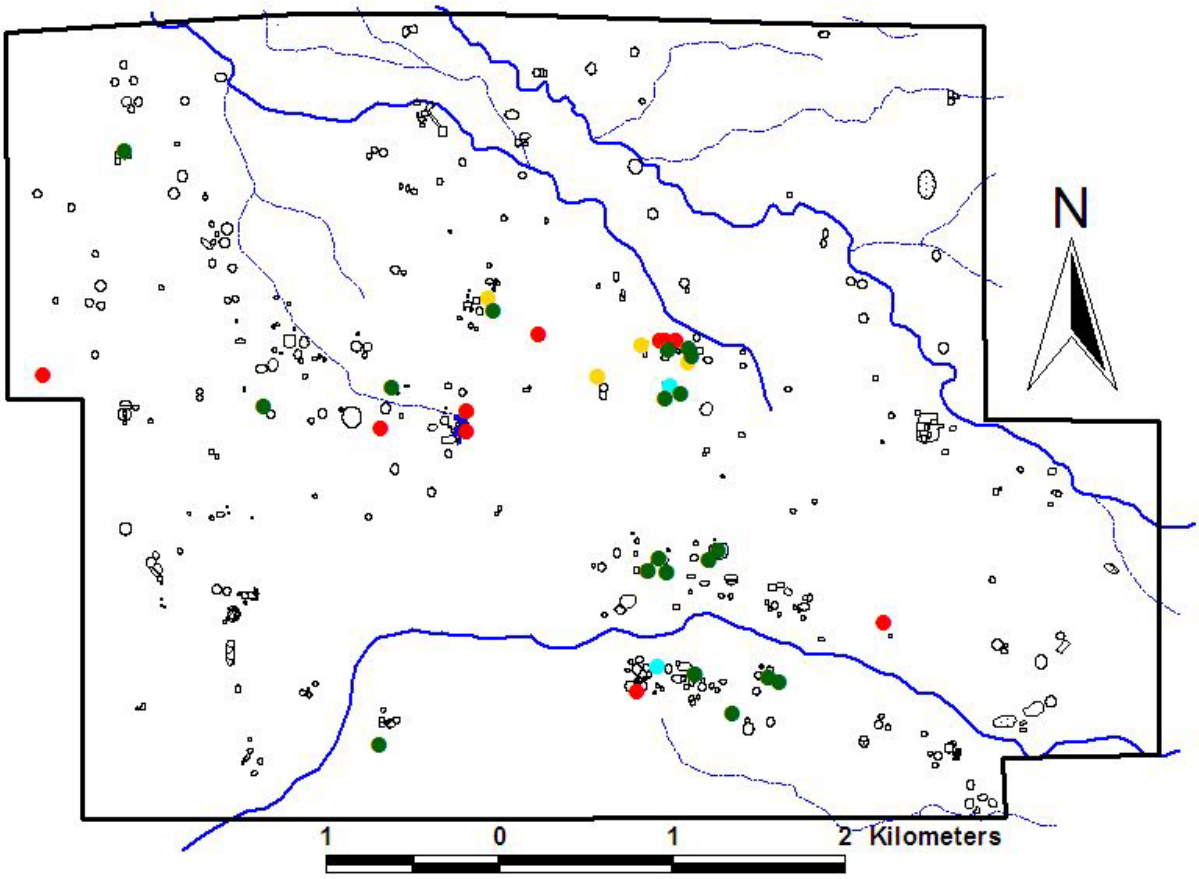

Figure 9.5. Distribution of Groundstone Production Indicators (Green = basalt flakes, Blue = anvil, Yellow = hammerstone, Red = polishing stone).

may have been home for groundstone craftsmen, the low numbers of production indicators suggests that groundstone production was carried out on a part time basis.

Because occupation in the Norte group extends from the Early Formative period through the Late Classic period, assigning a date to these production indicators is difficult. However, the date may be estimated based on the diagnostic ceramics from the collections in which the groundstone production indicators were recovered (Table 9.7). These data show that just over 47% of all of the diagnostic ceramics recovered in collections with groundstone production indicators date to the Protoclassic period (Nextepetl Phase). Approximately 40% of these sherds date to the Early Classic (Ranchito Phase). Given these data I suggest that the groundstone production in the Norte Group likely dates from the Protoclassic and Early Classic periods.

Table 9.7. Diagnostic Ceramics Frequencies from Collections with Groundstone Production Indicators in the Norte Group.

	Phase					
Feature	**Tres Zapotes**	**Hueyapan**	**Nextepetl**	**Ranchito**	**Quemado**	**Total**
106	0	4	34	10	3	51
108	2	0	17	24	2	45
109	0	1	10	10	1	22
110	1	4	22	11	1	39
115	0	0	11	13	1	25
117	0	1	23	30	3	57
118	0	3	15	12	1	31
119	4	13	24	17	0	58
121	2	6	30	28	0	66
124	0	2	18	15	1	36
Total	**9**	**34**	**204**	**170**	**13**	**430**
%	**2.1**	**7.9**	**47.4**	**39.5**	**3.0**	**100.0**

Note-one Early Formative Figurine also recovered from Feature 106 not included here

Cotton

Because cotton cloth, as well as the looms used to produce it, is made from perishable materials, cotton production can be hard to identify in the archaeological record in the subtropical lowlands. However, cotton was an important tribute and trade item for groups living the south Gulf Lowlands. During the Postclassic period, ethnohistoric and colonial sources record that cotton from the South Gulf Lowlands, as well as Puebla and Morelos, was traded and taken as tribute by the Aztec Triple Alliance (Anawalt 1981; Barlow 1949; Berdan and Anawalt 1992; Hall 1997:115). Moreover, Hall (1997) and Stark et al. (1998) suggest that cotton production for export was an important feature of the Classic period economies of the Central Tuxtlas and Mixtequilla regions. The best indicators of cotton production are the spindle whorls and spinning bowls, because these artifacts are typically made from more durable materials including bone, stone, and ceramic.

Although spindle whorls were used for cotton spinning, not all spindle whorls were used for cotton. Other fibers, including maguey, were also spun into thread for textiles. In her analysis of spindle whorls from the Teotihuacán Valley, Parsons (1972) was able to distinguish spindle whorls used for cotton spinning from whorls used for coarser fibers based on measurements of the whorl's diameter, weight, and the diameter of the center hole. Cotton whorls tended to have a constantly small central hole diameter (generally under 10 mm), but the diameter and weight of the whorls varied. Coarse fiber whorls in contrast had larger central holes and weighed more.

Eight ceramic spindle whorls were recovered during the RAM survey (Table 9.8). These artifacts represent all of the production indicators for textiles in the area. Central

Table 9.8 Ceramic Spindle Whorls from the RAM Survey.

Architectural Feature	Type	Matacapan Type*	Paste	Diameter (mm)	Center Hole Diameter (mm)	weight (g)
40	Subdomed	1	2614	31	7	NA
171	Domed	4	2614	28	7.5	NA
202	Domed	4	2904	25	8.9	7
328	Composite Sillhouette	3	2123	Incomplete	6.7	NA
383	Domed	4	2123	30	6.5	NA
300	Subdomed	1	1266	21	5.5	NA
274**	Flat	2	2622	28	8.25	4
110**	Flat	2	2701	33	7.5	7
Mean				**28.0**	**7.2**	**6.0**

* see Hall 1997:122, Figure 5.1
** sherd disks-possible spindle whorls

hole diameters for these whorls ranged between 6.5 mm and 8.9 mm with a mean diameter of 7.2 mm. The whorl diameters ranged from 25 mm to 33 mm with a mean diameter of 28 mm. Unfortunately because several of the RAM whorls were fragmentary, accurate weights could not measured for the majority of these artifacts. Of the complete examples, two weighed seven grams and the other weighed four grams.

Morphologically, the RAM spindle whorl assemblage includes four types. Two whorls were subdomed (Matacapan Type 1), three were domed (Matacapan Type 4), two were flat (Matacapan Type 2), and one had a composite silhouette form (Matacapan Type 3) (Hall 1997:122, Figure 5.1). Additionally, it is possible that the two flat , perforated sherd disks may also be spindle whorls. Stark (1996) has suggested that such disks may have served other purposes. However, given the consistency of the central hole diameters, artifact diameter, and weight of these artifacts as compared to the other manufactured whorls, the most likely function of these two disks was as cotton spindle whorls.

The RAM spindle whorls were made from a variety of ceramic pastes. The majority were coarse pastes. The pastes of two whorls were classified as Medium Polished Black (Code 2123). The other coarse pastes were all coarse brown or orange wares. Two whorls had pastes consistent with Brown-slipped Coarse Brown with white inclusions (Code 2614); one whorl had a Polished Orange (Code 2904) paste, and one whorl had a coarse brown paste (Code 2701). One whorl had a paste consistent with Red Painted Sandy Fine Orange (Code 1266). .

Of the eight whorls recovered, only two had decoration. One subdomed whorl had eight incised lines executed on the inferior surface in two groups of four lines on either side of the central hole. Remnants of two panels of red paint were identified on the inferior surface of the composite silhouette whorl (Figure 9.6). Three whorls (1 composite silhouette and 2 subdomed) had a lip just below the flat superior surface.

These artifacts were distributed widely across the RAM survey area (Figure 9.7). With the exception of one whorl recovered from the Norte Group, the majority of whorls were located on the peripheries of the survey area. Half of the recovered whorls were identified near the eastern survey boundary. There is no apparent spatial clustering of these artifacts.

Figure 9.6. Selected Spindle Whorls from the RAM Survey.

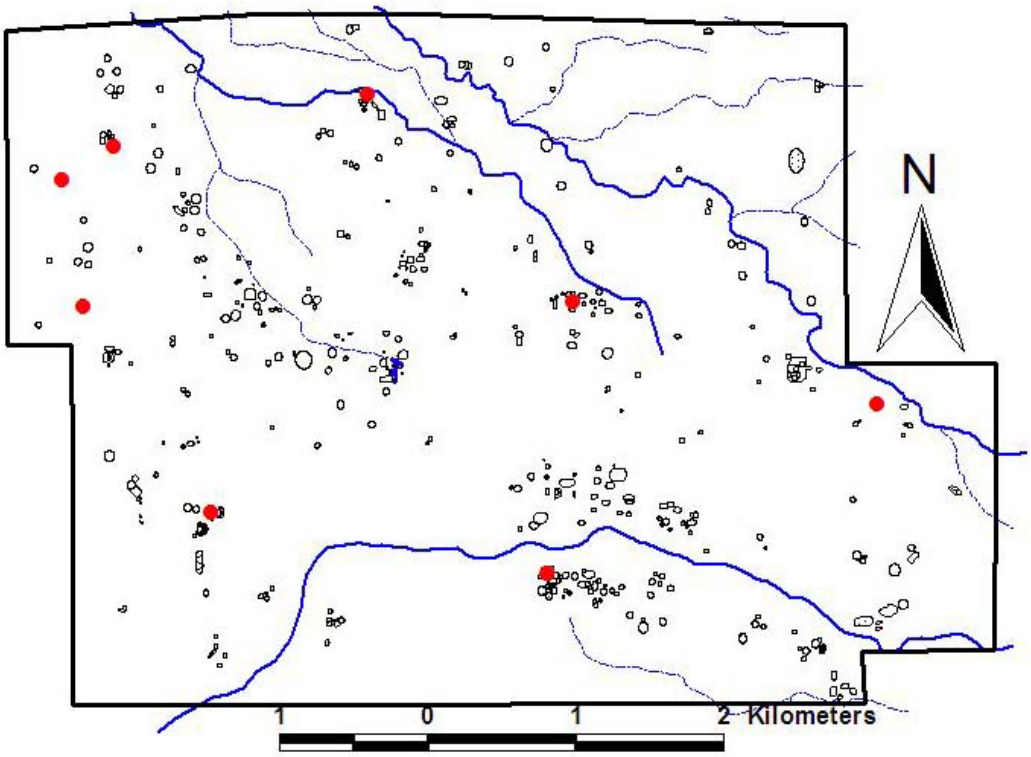

Figure 9.7. Distribution of RAM Spindle Whorls.

Given the low numbers of recovered whorls as well as their wide distribution, estimating the scale of production and how it was organized cannot be accomplished with confidence. Based on the low number of whorls present it would be easy to say that cotton spinning was most likely a part-time activity that made a low contribution to the economies of the households where it was undertaken. However, the low number of whorls may not accurately reflect the true scale of textile production. Hall (1997:121) notes that at Matacapan only four spindle whorls were recovered from surface survey, during the 1982-1984 field seasons. An additional 71 whorls were recovered from excavation in those same years. It is possible then that the low numbers of whorls recovered from the surface in the RAM may underrepresent the scale of textile production. Thus, in the absence of excavation all that can be said is that cotton spinning was done in the RAM area.

Evidence for spinning and weaving of cotton in the Gulf lowlands, suggests that this craft activity is primarily associated with the Classic and Postclassic periods (Hall 1997; Stark 2006; Stark et al. 1998). Stark (2006:224); however, reports that spindle whorls have been recovered from Terminal Formative deposits in the Mixtequilla. Spindle whorls from these deposits had a dome-subdomed form and were often white slipped and covered with chapopote. She also notes that chapopote was also common on mold-impressed whorls dating to the Postclassic period.

The pastes of the RAM whorls are interesting because many were made from pastes more associated with the Middle and Late Formative periods (Codes 2123 and 2904). Most troubling of these artifacts are the two made from Medium Polished Black (Code 2123). I would suggest that that the paste has been mischaracterized on these two

artifacts and they may be Fine Paste Polished Black (Code 2122), a type associated with the Protoclassic Nextepetl phase or Coarse Polished Black (Code 2512) a type prevalent the Late Formative Hueyapan phase, but that extends through the Protoclassic period. The use of Polished Orange (Code 2904) on one whorl may represent an extension of this Type into the Protoclassic. It should be noted that no slips or chapopote were identified on any of the RAM whorls; however, this would be expected in surface collections. Based on these pastes, and in light of data on spindle whorls from elsewhere in the Gulf lowlands (Hall 1997; Stark 2006; Stark et al. 1998), I suggest that cotton spinning in the RAM area dates from the Protoclassic period through the Postclassic period.

Ceramics

Although slight, there is also some evidence for ceramic production in the RAM area. Typical production indicators for ceramics include waster sherds from vessels that did not survive the firing process, tools used in forming and finishing ceramic vessels, such as polishing stones, and tools used for executing decoration. After the adoption of updraft kilns during the Protoclassic period, kiln debris can be used to identify ceramic production loci (Pool 2000).

Identifying kiln debris in the Gulf Lowlands in the archaeological record can be difficult, because the kilns have walls made from fiber tempered clay. In a fragmentary state, kiln debris can easily be mistaken for daub. In distinguishing kiln debris from daub, Hoag (2003:49) notes that kiln debris typically has vitrified inner surfaces with color zonation through the wall resulting from the differential heating and oxidation of

the interior and exterior wall surfaces (see also Hoag 1997:15-19; Pool 2000; Santley et al. 1989).

The ceramic production indicators from the RAM survey include five waster sherds and 17 fragments of kiln debris. The waster sherds include both coarse paste and fine paste examples. Two of the sherds were of Coarse Brown with Volcanic Ash Temper (Codes 2700 and 2701). The other coarse sherd was Brown-Slipped Coarse Brown with a Dark Core (Code 2621). The fine paste wasters include one sherd of Plain Fine Gray (Code 1111) and one sherd of Plain Fine Orange (Code 1211). In most cases these sherds appeared deformed from the heat of the firing process and the fine paste examples had a distinctive greenish hue associated with vitrification (Pool 1990).

These wasters are distributed across the RAM survey area (Figure 9.8). Two wasters recovered from El Mesón South, and one was recovered near the Norte Group. The remaining wasters were recovered away from any of the architectural complexes, one on the east side of the survey area and one on the west side of the survey area.

The kiln debris consists mostly of small fragments of burned clay that have been vitrified to the point that the clay body has a texture similar to pumice. In fact, many of these fragments were initially classified as stone. Additionally, one relatively large fragment of kiln wall was recovered (Figure 9.9), and one fragment of an arco (an adobe arch that separates the fuel from the ceramics in a kiln) was also recovered (Figure 9.10).

The kiln debris was distributed across the central and southern portions of the survey area (see Figure 9.9). Three fragments were recovered from the Norte Group, two were recovered from El Mesón South, two were recovered near El Mesón, and one was

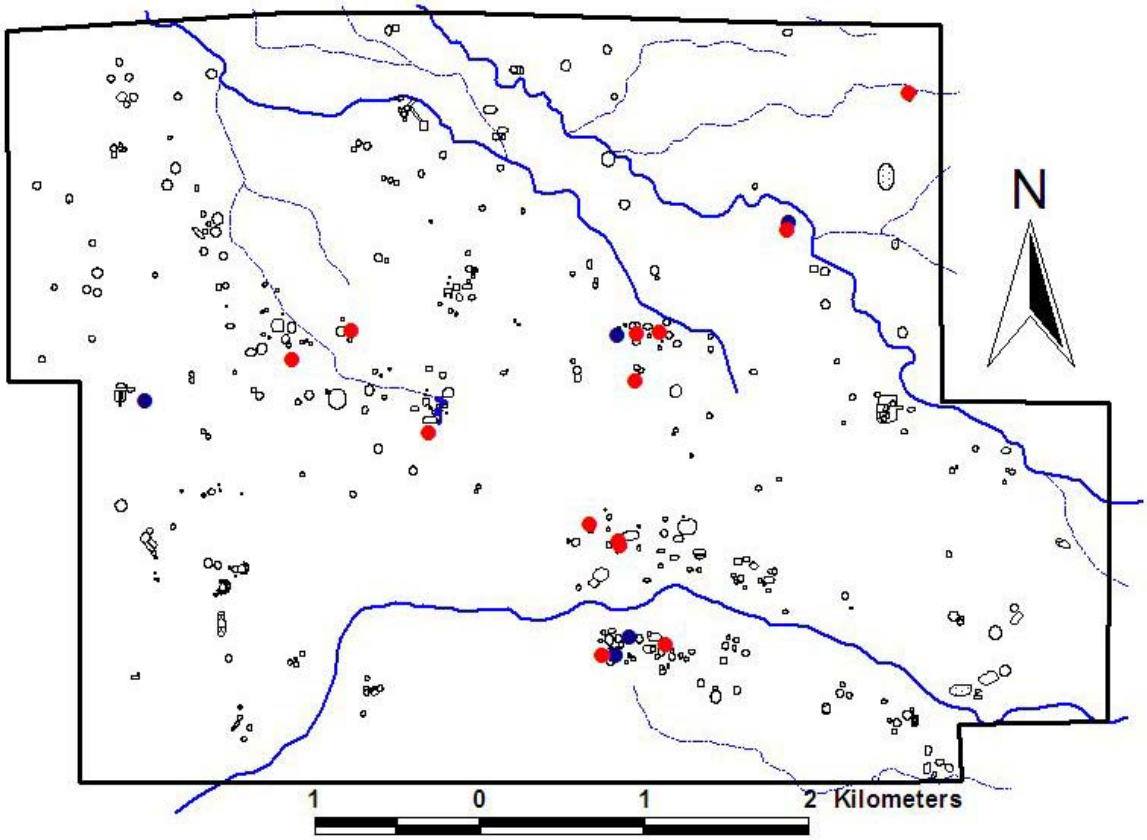

Figure 9.8 Wasters and Kiln Debris from the RAM Survey (Note waster sherds –blue, kiln debris-red).

Figure 9.9. Kiln Wall Fragment.

Figure 9.10. Arco Fragment.

recovered near La Paila. The remaining fragments were recovered outside of the formal complexes.

Like the production indicators for cotton, the low numbers of indicators for ceramic production preclude confident assessments of the organization and scale of production. What can be said is that ceramics were produced locally during the Formative and Classic periods, and like Tres Zapotes and Matacapan, production was carried out in both elite and nonelite contexts (Pool 2003b; Santley et al. 1989). There is some indication that production was carried out at El Mesón South, the Norte Group, El Mesón, and La Paila. Given the low numbers of indicators, estimating the scale of production is difficult; however, given the evidence for multiple crafts being produced at El Mesón South and the Norte Group, I would expect ceramic production to also be a part time activity that was geared toward low production intensity.

The pattern of small-scale, low-intensity production is consistent with data for ceramic production elsewhere in the Southern Gulf lowlands. Even at Matacapan, where Comoapan, an intensive production locus that had been interpreted as representing a nucleated industry or a non-residential manufactory was identified, an additional 40 ceramic production areas also were identified (Arnold et al. 1993; Pool 1990:247, 2009:120; Santley et al. 1989:119). Excavations in a sample of these other areas, at Matacapan and Bezuapan, indicated that they were located in domestic contexts and production was characterized as being low-intensity and carried out on a part-time, possibly seasonal basis (Pool 1990, 1997a, 1997b, 2009). In the Case of Bezuapan, Pool (2009:122-123) argues that ceramic production was only one of a number of part-time craft activities carried out at the household level.

At Tres Zapotes, surface survey identified 41 ceramics production areas that range in size and production intensity (Pool 2003b). Recent excavations in a nonelite residential area of the site revealed two firing pits (Pool 2009). Artifacts recovered from these features suggest that ceramic production was one of a number of craft activities carried out by households in that part of the site. Lithic debitage from these pits indicates that obsidian and groundstone production were also carried out here, all probably on a part-time basis (Pool 2009:123).

Ceramics production loci have also been documented in domestic contexts in at Patarata 52 and in the area around Cerro de Las Mesas(Stark 1985, 2007). Stark (2009:164) notes that during the PALM (Proyecto Arqueológico la Mixtequilla) survey, rarely did production indicators co-occur with elevated percentages of specific ceramic types, nor were high sherd densities associated with kiln debris, wasters, or other

production indicators. Based on these surface finds, she characterizes ceramic production as mostly being of low intensity, and organized at the household level (Stark 2009:164).

Obsidian Drills

The final craft activity identified in the RAM area is an unknown industry that used obsidian drills as part of its production. These tools were all made from prismatic blades where one end of the blade had been worked, forming the bit of the drill (Figure 9.11). These bits tend to have diagonal to parallel margins with worked edges. A total of 32 drills or possible drills were identified during the survey (Table 9.9). Of these artifacts more than 90% were made from dark gray to black obsidian (Table 9.10). The prevalence of this obsidian suggests that these drills date from the Late Formative period through the Classic period.

The drills are distributed across the RAM area in low densities (Figure 9.12). The only location that shows substantial clustering of these tools is El Mesón South where a quarter of all of the drills or possible drills were recovered (n=8). Three were recovered in the vicinities of La Mulata and the Norte Group, with only a single drill from Tulapilla, Chico Loco, and La Paila. All of the remaining drills were recovered outside of the formal complexes.

Unfortunately, no evidence for the industry in which these drills would have been used was recovered. Given the brittleness of the raw material, these drills surely could not have been used for stone working. Other possibilities include softer materials such as wood, shell, or possibly leather. Given the environmental conditions, these perishable

media usually do not survive in the archaeological record. Thus, this industry remains unclear.

Figure 9.11. Selected Obsidian Drills from the RAM Area.

Table 9.9. Obsidian Drills from RAM Survey.

Feature	Object	Color	Width (cm)	Thickness (cm)	Length (cm)	n
66	Drill	Dark Gray to Black	1.65	0.59	NA	1
82	Drill	Dark Gray to Black	1.31	0.3	NA	1
388	Drill	Dark Gray to Black	1.68	0.39	3.25	1
120	Drill	Dark Gray to Black	1.63	0.52	NA	1
122	Drill	Dark Gray to Black	1.8	0.55	NA	1
124	Drill	Dark Gray to Black	1.27	0.4	NA	1
382	Drill	Dark Gray to Black	1.55	0.67	NA	1
382	Drill	Dark Gray to Black	1.3	0.3	NA	1
165	Drill	Dark Gray to Black	2.63	0.55	3.45	1
168	Possible Drill	Dark Gray to Black	1.09	0.31	NA	1

Table 9.9. Continued

Feature	Object	Color	Width (cm)	Thickness (cm)	Length (cm)	n
208	Drill	Dark Gray to Black	1.85	0.39	NA	1
222	Possible Drill	Dark Gray to Black	1.6	0.4	NA	1
231	Possible Drill	Dark Gray to Black	0.77	0.2	NA	1
237	Drill	Dark Gray to Black	1.75	1.1	NA	1
237	Drill	Dark Gray to Black	1.77	0.42	NA	1
267	Drill	Dark Gray to Black	1	0.35	3.15	1
274	Drill	Dark Gray to Black	1.3	0.42	NA	1
300	Possible Drill	Dark Gray to Black	1.12	0.3	NA	1
306	Drill	Dark Gray to Black	1.35	0.42	NA	1
326	Drill	Light Gray to Clear	1.1	0.4	NA	1
328	Drill	Dark Gray to Black	1.38	0.35	NA	1
329	Drill	Dark Gray to Black	0.99	0.27	NA	1
330	Drill	Dark Gray to Black	1.5	0.4	NA	1
330	Drill	Dark Gray to Black	1.67	0.37	NA	1
330	Drill	Dark Gray to Black	1.31	0.3	NA	1
330	Drill	Dark Gray to Black	0.96	0.3	NA	1
331	Drill	Dark Gray to Black	1.2	0.4	NA	1
332	Drill	Dark Gray to Black	1.3	0.33	NA	1
338	Drill	Dark Gray to Black	1.3	0.37	NA	1
339	Drill	Gray to Clear with Dark Bands	1.47	0.37	NA	1
339	Drill	Light Gray to Clear	1.2	0.5	NA	1
368	Possible Drill	Dark Gray to Black	1.89	0.83	NA	1
Mean			**1.43**	**0.43**	**NA**	
Standard Deviation			**0.36**	**0.18**	**NA**	
Total						**32**

Table 9.10. Raw Material for Obsidian Drills.

Color	n
Dark Gray to Black	29
Gray to Clear with Dark Bands	1
Light Gray to Clear	2
Grand Total	**32**

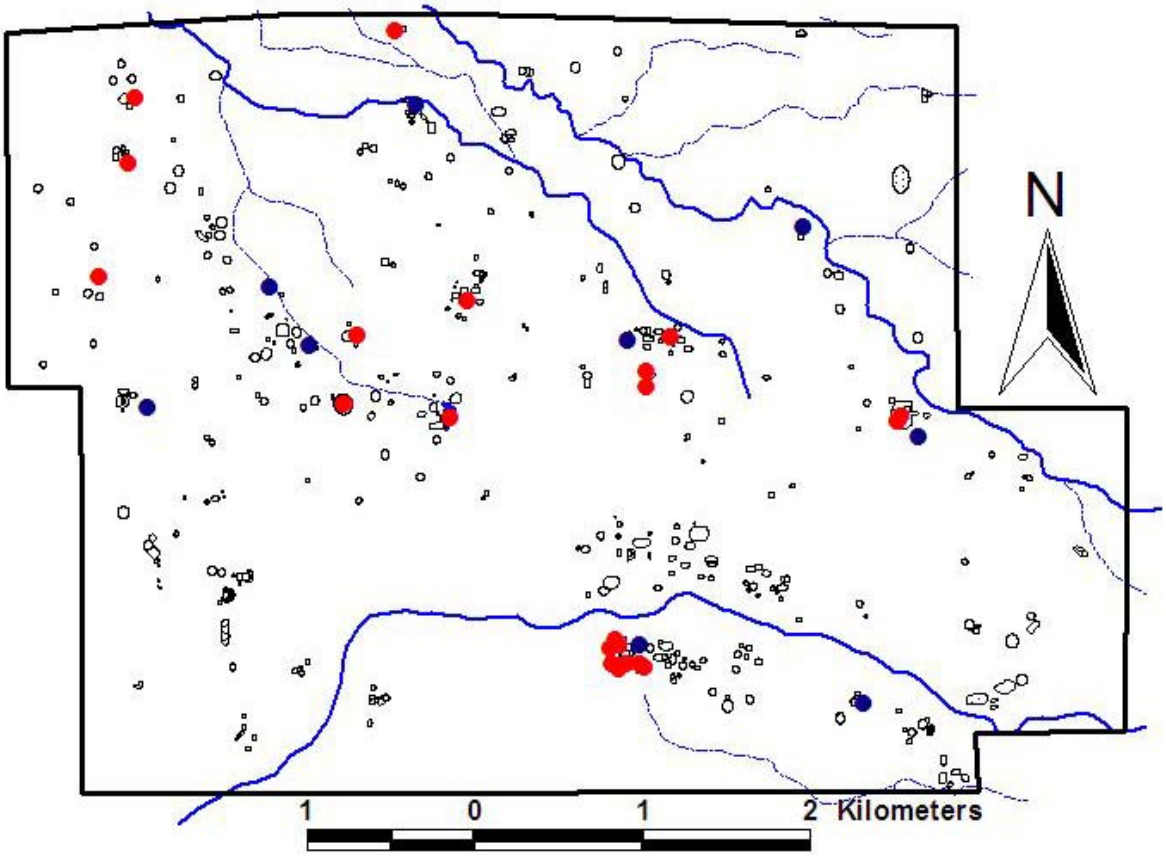

Figure 9.12. Distribution of Obsidian Drills and Possible Drills (Drills-Red, Possible Drills-Blue).

Discussion

Long Distance Exchange

The data concerning the participation of the residents of the RAM area in long distance exchange indicate an orientation toward the Central Mexican Highlands. Obsidian types utilized in the RAM area were exclusively from sources in this region. No obsidian from Guatemalan sources was identified. These are consistent with patterns observed in the Tuxtlas Mountains and at Tres Zapotes (Arnold 2000; Pool 2006; Knight 2003; Santley et al. 2001). This orientation contrasts data from Formative period sites in eastern Olman where Guatemalan obsidian is present (Cobean et al. 1971, 1991; Coe and Diehl 1980; Doering 2002; Hester et al. 1971; Pool 2006).

Moreover, the RAM data also indicate that these interregional connections were long-lasting and stable, as shifting local political relationships appear to have had little to no effect on the availability of obsidian. An important shift from light gray to clear obsidian to dark gray to black obsidian occurred at roughly the same time that El Mesón was incorporated into the Tres Zapotes polity. However, this change appears to be more related to the growth of core-blade technology rather than regional politics. The political break with Tres Zapotes during the Protoclassic period, and the rise of new political leaders likewise, does not appear to have affected the availability of dark gray to black obsidian in the area.

Based on these data, it appears that the obsidian economy of the RAM area was largely exempt from the political machinations of leaders. In terms of political strategies, Blanton et al. (1996:4) suggest the one way political actors pursuing network strategies

can increase their personal prestige and political influence is through manipulating long-distance exchange networks to provide access to important resources to their supporters. Because there are no local obsidian sources in the South Gulf Lowlands, controlling exchange for nonlocal obsidian would be an ideal mechanism for increasing political power. Under conditions of heightened factional competition, the expectation is that aspiring leaders would try to establish exclusive trade contacts for nonlocal goods. Thus, obsidians from different sources (if they area available) would be expected in the area, and the distributions of the different obsidian types should reflect the various allegiances of the populace. Alternatively, the predominance of one type of obsidian could reflect the monopolization of the import of this resource by a single leader. In contrast, under conditions where corporate strategies predominate, the expectation is that there will be greater uniformity in the distribution of resources, and less variability in those resources. However, given the nature of the civic-ceremonial architecture in the RAM area from the Late Formative period through the Classic period, it is hard to square the apparent network strategies in the area with corporate strategies for this resource.

The shift from light clear to light gray obsidian to dark gray to black obsidian was not a localized phenomenon to the RAM area. Rather, data from other parts of the southern Gulf Lowlands suggest that Zaragoza/Oyameles became the most prevalent obsidian in the region as a whole beginning in the Late Formative period. The presence of this resource may have little to do with the local politico-economic organization, and instead be a consequence of broader processes including the availability of obsidian from other sources, the trade "price" for this obsidian versus obsidian from other sources, the preference for Zaragoza/Oyameles obsidian because of its performance characteristics for

core-blade reduction, the efficiency and reliability of trade routes, etc. In short, this resource may have been the only resource reliably available, affordable, and workable for core-blade reduction.

The presence of a barrio specializing in obsidian working at El Mesón South does provide some indication for local elite control over obsidian production, especially considering the predominance of dark gray to black obsidian in the area. A local leader in the RAM area may have been able to monopolize the importation of the raw material and provide the raw material to El Mesón South, perhaps through a patron-client relationship, for prismatic blade and other tool production. The finished goods, then, would be distributed throughout the RAM area. Identifying the patron of such a relationship, however, is more difficult. The lack of clear elite domestic architecture at El Mesón South suggests that this is not a situation of attached specialization. Rather, if such an arrangement did exist, then the patron most likely resided away from El Mesón South; however, there is no evidence suggesting which of the faction leader's in the area would have exercised this control. This type of economic monopolization would be more characteristic of exclusionary political strategies. The widespread distribution of prismatic blades and other tools, however, suggests that there were few restrictions to the local consumption of obsidian.

Craft Production

Production indicators recovered during the RAM survey indicate that multiple craft activities were carried out in the RAM area, including the production of obsidian tools, groundstone implements, cotton spinning, ceramic vessels, and an as-yet-

unidentified activity associated with obsidian drills. Based on the recovered ceramics, and the prevalence of dark gray to black obsidian, these activities all appear to date from the Late Formative period through the Classic period. Given the low density of production indicators, and their association with other domestic artifacts, I interpret these craft activities as being done on a part-time basis and at low intensity.

The best data from the RAM area for craft production is from obsidian and groundstone. In each case there is some evidence for specialized production loci. Groundstone production was carried out at an elevated level in the Norte Group and obsidian blade production was carried out at El Mesón South. In each area the density of production indicators for these industries was far greater than any other locations within the survey area. These areas may represent barrios of part-time specialists. However, there is no indication that access to the products of these activities was restricted, as both groundstone artifacts and obsidian blades were ubiquitous within the survey area. Given the low frequencies of production indicators, even in these areas, it remains unclear if these two locations provided all or most of the groundstone or obsidian implements for the RAM area as a whole.

Further complicating the picture is the high frequency of obsidian drills at El Mesón South. The presence of these artifacts suggests that an as-yet-unidentified craft activity involving drills was carried out here. These artifacts also raise important questions regarding the nature of obsidian production. Specifically, are the obsidian production residues exclusively associated with the production of drills, or were the drills one of a number of tools that were produced here?

The evidence for cotton production and ceramics is minimal. The low frequencies of spindle whorls, waster sherds, and kiln debris are sufficient to say that these craft activities were carried out in the RAM area; however, there is insufficient data to estimate the scale or intensity of production for either industry.

Although there is evidence for spatially discrete production loci, there is no clear indication that production was being organized or controlled by local leaders. Where network strategies are prevalent, the expectation is that craft activities may be controlled by elites through the establishment of attached or tethered specialists who produce high-value goods exclusively for elite use. Such production should be reflected archaeologically by the presence of production indicators in association with elite architecture. There is no indication of this type of production in the RAM area. Even though production indicators were recovered from two of the formal complexes, the Norte Group and El Mesón South, the context of the production residues was in areas of these complexes lacking elite residential architecture. El Mesón South and the Norte Group are the only architectural complexes that do not feature large flat-topped platforms as part of their architecture. A low platform is present in the Norte Group; however, this structure is much smaller in terms of its overall area and height than the platforms in the other complexes (Table 9.11). Perhaps, rather than political seats, these two complexes represent economic centers where goods were produced and exchanged. Such organization would be consistent with the widespread distribution of both obsidian and groundstone throughout the area.

Table 9.11. Comparison of Quadrilateral Flat-Topped Platforms in Architectural Complexes.

Feature	Architectural Complex	Dimension N/S (m)	Dimension E/W (m)	Height (m)
57	La Paila	76	71	13
94	Chico Loco	42.8	40	9
110	Norte Group	35	62	0.8
165	La Mulata	183	85	1.5
295	Tulapilla	64	45	3.9

It should be noted that attached specialization is generally associated with the production of high value, nonutilitarian goods (Brumfiel an Earle 1987:4-5; Costin 1991:7, 11; Pool 2003b:58-59). Overall evidence for such goods is rare in the RAM area. A few pieces of exotic greenstone were identified, but these are exceedingly rare. The best evidence for craft activities in the RAM area appears to be geared toward utilitarian items such as grinding stones, stone celts, and prismatic blades. However, Pool (2003b:59, 2009) has suggested that at Tres Zapotes attached specialists may have been engaged in the production of utilitarian goods for use within the elite household, a type of production he calls "elite household production." Given the lack of spatial association however between production loci and elite architecture, it is unclear if such production was a feature of the economy of the RAM area. I suggest that elites may have been able to monopolize the importation of obsidian, and control production through patronage of craft producers at El Mesón South; however, more research is necessary to test this proposition.

Because basalt for groundstone production was locally available, it would have been much more difficult for elites to monopolize its acquisition. However, given the high frequency of groundstone production indicators in the Norte Group, the proposition that a faction leader in the RAM area did exert some control over groundstone production

via a patron-client relationship cannot be discounted. Alternatively, craft production in the Norte Group may carried out by independent specialists (Brumfiel and Earle 1987:5) producing for general consumption by those living in the RAM area. More research is necessary to address these propositions.

Considering the role of craft specialization on household economies, Hirth (2009) argues that household craft specialization is a feature of household economic diversification. He notes that craft specialization in Mesoamerica was part of a strategy to complement the primary subsistence economy (e.g., agriculture), as well as to provide some insurance against subsistence stresses. Even though these activities are carried out on a part-time or intermittent basis, their contributions to the overall household economy are substantial. Hirth (2009:2009) outlines two basic crafting strategies pursued by households: intermittent crafting and multicrafting. Intermittent crafting is defined as "…discontinuous or periodic craft production that takes place within domestic contexts alongside other subsistence pursuits" (Hirth 2009:21). He argues that this terminology is better than simply labeling an activity as part-time because it changes the focus from the time input for crafting to the importance of the activity for the overall household economy. An example of such crafting is low-intensity ceramic production. Pool (2009:122) suggests that at Matacapan, low intensity household ceramic production was carried out on a seasonal basis, during the dry season when agricultural labor inputs would have been reduced, and the climatic constraints of rain would have a minimal impact on ceramic production. Arnold (1991:70-71) documents a dry season preference for modern potters in the Tuxtlas region. Such crafting would have kept the household

productive during periods of agricultural inactivity, and provided insurance against agricultural shortfalls.

Multicrafting refers to multiple craft activities being undertaken within the household (Costin 2001:312, Feinman 1999; Hirth 2006, 2009:21; Shimada 2007). Each craft activity may require different labor inputs, and the contribution of each activity to the overall household economy may be variable (Hirth 2009:22). Hirth (2009:22) argues that "Multicrafting enables artisans to reduce risk by producing a repertoire of products of different value, demand, and consumer consumption cycles."

In the RAM area, El Mesón South provides a good example of multicrafting. Here, two interrelated craft activities were the focus of specialized craft activities: obsidian prismatic blade production and the unidentified craft activity associated with the obsidian drills. Residues of both activities were identified in domestic, nonelite contexts, and the low frequency of production residues suggests low-intensity production. Unlike the Tuxtlas and Tres Zapotes where Pool (2009) suggests the threat of volcanic activity may have given rise to multicrafting at Bezuapan and Tres Zapotes, volcanic activity may not the most immediate threat to agriculture. Rather, given the proximity of El Mesón South to the south bank of the Arroyo Tecolapan, flooding may have been a greater concern.

To the North, the Norte Group may represent intermittent single craft production. A few indicators of obsidian and cotton production were recovered from this mound group; however, these items may represent autoconsumption by individual households. The scale of production for groundstone implements, on the other hand, suggests production beyond household need. Moreover, given the long uselife of grinding stones

and celts, the products of this craft activity would likely not have had a high yearly demand, making groundstone production particularly amenable for intermittent crafting.

Location of the RAM Area

A final aspect of the economic organization of the RAM area that should be addressed is its location. As has been mentioned previously, the RAM area is situated along a natural communication corridor to the Tuxtlas Mountains. Economically, this location would have been ideal for controlling the flow of goods through the region. It is this location that may help to explain why El Mesón was incorporated into the Tres Zapotes polity during the Late Formative period. Like El Mesón, Tres Zapotes is situated near a natural communication corridor into the southern Tuxtlas. By extending its political control over El Mesón, Tres Zapotes would have been in a good position to influence the regional economy by controlling exchange through the Tuxtlas region.

This location may also explain why the El Mesón area continued to grow despite the decline of Tres Zapotes as a regional center and El Mesón as a local center. The political turmoil that began during the Protoclassic period may have presented aspiring leaders in the El Mesón area an opportunity to break with Tres Zapotes and establish themselves as independent leaders. By assuming local control of longstanding exchange networks for obsidian and presumably other goods, and by virtue of an advantageous location along a trade route into the Tuxtlas, elites in the El Mesón area were able to cast off the symbols of Tres Zapotes dominance and establish themselves as independent.

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CHAPTER 10
SETTLEMENT PATTERNS, POLITICAL ORGANIZATION, AND ECONOMIC ORGANIZATION OF THE RAM AREA

The primary goal of this research was to investigate Epi-Olmec occupation in the area around the archeological site of El Mesón. While significant Late Formative and Protoclassic occupation was identified, the survey resulted in documenting continuous occupation spanning the Early Formative period through the Postclassic period. Moreover, these data indicate that while the area flourished during the Late Formative Period, population reached its height between the Protoclassic and Early Classic periods. In this chapter I draw all of the evidentiary threads presented in this dissertation together to reconstruct the settlement and political history of the El Mesón area. I begin by summarizing the settlement history of the area, then addressing how exclusionary and cooperative political strategies were employed by elites in the area. Next, I place the El Mesón area into the broader trends of the Eastern Lower Papaloapan Basin, and the Southern Gulf Lowlands as a whole. Finally, I discuss the implications of this research for generating new research in the area.

Settlement History

Olmec Settlement

The earliest evidence for occupation in the El Mesón area dates to the Early Formative period and is equivalent to the recently defined Arroyo phase at Tres Zapotes (Pool et al 2010), which is coeval with the San Lorenzo B phase at San Lorenzo (Coe and Diehl 1981). At this time the occupation of the El Mesón area consisted of a series of isolated settlements, probably farmsteads distributed throughout the RAM survey area (see Figure 7.5). There is some evidence suggesting that access to water, at least in part, served to structure the locations of these settlements, as most are situated along the Tecolapan River and the smaller arroyos that break the central and eastern portions of the alluvial plain. The only clustering of Early Formative artifacts occurs at El Mesón. These artifacts, however, were incorporated into the fill of later constructions. Based on the current data, at best, El Mesón may represent a medium-sized village at this time.

During the Middle Formative period, settlement in the El Mesón area expands from 29 locations during the Early Formative period to 53 locations (see Figure 7.6). Like the Early Formative period, the Middle Formative occupation largely consists of widely dispersed domestic habitations located along the area's watercourses. In addition to El Mesón, there is also some clustering on the south side of the Arroyo Tecolapan at El Mesón South, and to the north of El Mesón in the Norte Group. However, at this time, El Mesón remains the largest settlement in the RAM area.

While these data clearly indicate an Olmec presence in the RAM area during the Early and Middle Formative periods, it is not entirely clear that this assessment of the scale of this presence is accurate. Given the alluvial setting of the RAM area, it is probable that the Early and Middle Formative occupations of the area have been deeply buried. Such was the case at Tres Zapotes where Early Formative deposits were identified at depths of more than five meters below the present ground surface (Pool et al 2010). This potential particularly applies to El Mesón South, which is located less than 125 m from the south bank of the Tecolapan River. If there are such deposits in the RAM area, then the Olmec occupations may be much larger and more numerous than the recovered ceramics would suggest.

One line of evidence supporting a more substantial Olmec presence is the identification of the Middle Formative Olmec sculptures in the areas around the RAM survey area (Pool et al.2010). Because such monuments tend to be found in political centers in eastern Olman, the presence of the monuments in western Olman at least suggests the possibility of greater Olmec settlement in the vicinity of the El Mesón area. The potential political implications of these monuments are addressed below.

Epi-Olmec Settlement

From the relatively sparse settlement during the Middle Formative period, populations in the El Mesón area appear to explode during the Late Formative period and continued expanding into the Protoclassic period. Presently, it is unclear if this

population growth is due to local demographic processes, or if it is related to an influx of peoples from eastern Olman following the decline of La Venta.

Evidence for Hueyapan phase settlement was recovered from 131 locations within the survey area (see Figure 7.9), an increase of 168% from the Tres Zapotes phase. In contrast with the relatively dispersed Early and Middle Formative settlement patterns, the Late Formative pattern is more clustered, especially around the formal architectural complexes. Moreover settlement is denser across the RAM area with approximately five collections per square kilometer. Rather than being located along watercourse, at this time settlement spread throughout the entire RAM survey area. In particular, there is a significant expansion of settlement in the western portion of the area.

The most important difference between the Middle Formative pattern and the Late Formative settlement pattern is the appearance of civic/ceremonial architecture. It is possible that the area may have had civic-ceremonial structures in the Middle Formative period; however, given the alluvial setting of the Ram area, these structures may have been covered by alluvium. There is also the possibility that earlier structures may have been incorporated into later constructions. During the Late Formative period, the civic-ceremonial complex at El Mesón was constructed, and served as the political seat of power for rulers at El Mesón. This complex was constructed based on the TZPG layout, an indication that the RAM area had been incorporated into the Tres Zapotes polity. Stela 1 may have been set in this complex at this time (Scott 1977). A second formal architectural complex was established in the Norte Group. This mound group does not feature the TZPG organization and appears to have been under the control of El Mesón during the Hueyapan phase. The presence of basalt, flakes, hammerstones, and polishing

stones suggest that this complex was a locus of groundstone production beginning in the Hueyapan phase. Some data suggest settlement agglomeration on the south side of the Arroyo Tecolapan at El Mesón South. However, the structures in this area are primarily densely packed nonelite housemounds. Production indicators for obsidian suggest that El Mesón South may represent a barrio where obsidian tools where produced. Finally, while they probably did not have civic-ceremonial architecture at this time, there was an intensification of settlement at La Mulata, Tulapilla, Chico Loco, and La Paila (see Figure 7.9).

This growth trend continues into the Protoclassic period. Nextepetl phase artifacts were recovered from 247 locations within the survey area (see Figure 7.10). Much of this growth comes from the filling of interstitial areas between the formal complexes, especially in the central and western portions of the survey area (see Figure 7.10). Stela 2, the "El Mesón Stela," was most likely set at this time.

The major distinction between the Protoclassic period and Late Formative period settlement patterns is the appearance of new civic-ceremonial complexes. The data indicate that the civic-ceremonial architecture in all of the identified complexes was present by the end of the Nextepetl phase. These new complexes all have distinct plans, and none conforms to the Late Formative TZPG layout. All of the new complexes feature flat-topped, quadrilateral platforms, the largest of which had a height of approximately 13 m.

The emergence of these new complexes signals an important political reorganization of the RAM area, coinciding with the decline of El Mesón as a political center. I argue that the lower frequency of Sandy Fine Orange ceramics at El Mesón,

relative to the other complexes (see Table 7.7), is indicative of the beginnings of the decline of the Late Formative center and the rise of new political seats. I return to this point below.

Classic and Postclassic Period Settlement

The Early Classic period (Ranchito phase) settlement pattern is largely a continuation of the Protoclassic pattern (see Figure 7.13). Early Classic diagnostic artifacts were recovered from 246 collections, virtually the same as the preceding Nextepetl phase. By this time, El Mesón had clearly been eclipsed by the other architectural complexes in the area. Ceramic data indicate that, while El Mesón was not entirely abandoned during the Early Classic period, its civic-ceremonial core was no longer serving as a political center.

These new centers all differ in their configurations, and none features the TZPG layout. Instead, these groups are organized around or on top of large, flat-topped, quadrilateral platforms. Based on the ceramics recovered, all of these complexes appear to be roughly coeval (although the strict contemporaneity is uncertain given the grain of the ceramic chronology), and none of these complexes is clearly dominant over the others. Stark (2008:101), based on analogy from the Maya lowlands, argues that similar rectangular platforms in the Mixtequilla represent palaces, and suggests that the occurrence of these structures outside of larger political centers may be elite "estates". Excavations at similar structures in the Cotaxtla Basin also suggest that these structures are palaces (Daneels 2007, 2008a). Based on the relative proximity of the RAM

complexes to each other, the contemporaneity of the complexes, and the lack of a dominant complex, I suggest that this "estate" model could also apply to the El Mesón area; however, under this model there should be a larger regional center in the vicinity. As yet, there is no good documentation of such a center, other than Tres Zapotes, 10 km to the south.

During the Late Classic period Quemado phase, the El Mesón area was clearly in decline. The number of collections with diagnostic materials decreases by approximately 40 percent to 154 (see Figure 7.16). While there was some loss of settlement in the areas between the formal architectural complexes, the most dramatic change in the settlement pattern is seen in the formal complexes themselves. At El Mesón 80% of the architectural features that had some evidence of Ranchito phase occupation were abandoned by the Quemado phase, and only one of the mounds from the TZPG complex shows any evidence of use. The large platforms at La Paila and Chico Loco were also abandoned at this time.

This decline continues into the Postclassic period as the number of collections with diagnostic materials decreases to 29. At this time, all of the architectural complexes appear to have been virtually abandoned. Some remnant populations may still have lived in the vicinities of El Mesón South, the Norte Group, and Tulapilla. The remaining settlement was dispersed, primarily across the western portion of the survey area.

It is possible that the Postclassic occupation of the area may be underrepresented. Venter (2008) and Arnold and Venter (2004) argue that the Postclassic period in the Tuxtlas was marked by the continued use of Fine Orange ceramics and clear obsidian blades, often with ground platforms. Postclassic ceramics are distinguished from Classic

period artifacts based on decorative treatment. Because of the eroded state of much of the RAM ceramic assemblage, decorations have not survived. The result is that Postclassic materials may not have been accurately identified. However, given the decline of the area during the Late Classic period, it is still reasonable to suggest that this trend continued into the Postclassic period. The obsidian data also suggest decline as prismatic blades made from clear to light gray obsidian represent only a small percentage of the recovered prismatic blades.

Political Organization of the RAM Area

The perspective on political organization adopted here focuses on the political strategies employed by leaders. This focus offers advantages over previous models of political organization because, instead of focusing on attributes of specific organizational types or neoevolutionary stages, it is concerned with how political authority and power are legitimized and put into operation. The result is that rather than categorizing sociopolitical types, this perspective deals with the operationalization of authority and power.

In describing the dual processual approach, Blanton et al (1996; also see Feinman 2001) identify two primary kinds of political strategies that leaders employ; network or exclusionary strategies and corporate or cooperative strategies. Exclusionary strategies focus on the personal prestige of the leader, and cooperative strategies focus on the maintenance of the group as a whole (Blanton et al 1996). While these two strategies are antagonistic they are not mutually exclusive. It should be expected that political

formations will be the result of the combination of these two classes of strategies. Pool (2003; 2008), for example, argues that at Tres Zapotes a series of factions (exclusionary) shared governance for the large center (cooperative) during the Late Formative and Protoclassic periods.

The research questions driving this research concern the political and economic organization of the El Mesón area. Specifically these questions are: 1) how were exclusionary and cooperative strategies combined in the area?; 2) how did these strategies change over time?; 3) how was the El Mesón area organized economically?; and 4) how did this organization change over time? These questions were designed to compliment the ongoing research at Tres Zapotes, by focusing on an area that would have been part of Tres Zapotes's hinterland. This perspective is important because questions of political strategy have yet to be explored in Epi-Olmec hinterland settings. Of particular interest is examining how these strategies were combined at the regional and local levels.

Olmec Political Organization

Because the data for Olmec settlement in the El Mesón area are limited, reconstructing the nature of organization in the area is also difficult. The settlement data suggest the Olmec occupation of the area was light, possibly consisting of only a few farmsteads and a medium-sizes village. there may have little centralized political organization at this time. Rather, these isolated settlements may have been relatively autonomous.

The presence of two Middle Formative monuments in the vicinity of the El Mesón area, however, suggests that the Olmec presence in the region may be more substantial than the settlement data would suggest. Thematically, these monuments have associations with leadership, and are consistent with the patrimonial rhetoric created as part of exclusionary strategies. More research in the area, including excavation, will be required to more fully assess the Olmec occupation.

Epi-Olmec Political Organization

The Epi-Olmec political organization of the RAM area is characterized by the emergence of El Mesón as a center and the incorporation of the area into a regional polity headed by Tres Zapotes. At this time, El Mesón was the largest architectural complex in the area. A second formal complex, the Norte Group, was also constructed during the Late Formative period. , This mound group served as a locus of groundstone production. I argue that the Norte Group was under the control of El Mesón during the Hueyapan phase. A large nonelite residential area was also established at El Mesón South. Like the Norte Group, El Mesón South also had an important economic role as a producer of obsidian tools.

The organization of the individual architectural features at El Mesón conforms to the TZPG arrangement found at Tres Zapotes. At this large center, these complexes served as political seats for faction leaders. Pool (2008) argues that the replication of these complexes at Tres Zapotes indicates shared political power for polity governance.

Based on excavations in midden deposits behind the long mounds in Group 2 and 3 at Tres Zapotes, Pool (2007:248, 2008:128) argues that these structures were elite residences. Given the similarity of the long mound at El Mesón to those at Tres Zapotes, I infer that the El Mesón long mound served a similar function. I argue that the location of the leader's residence in the TZPG and the placement of two carved monuments with themes of leadership and political domination are strong indicators of exclusionary strategies. I also suggest that leaders may have promoted group solidarity (a corporate strategy) through the use of the plaza and its adoratorio as a gathering place for public rituals. The open south side of the plaza suggests that this area was not restricted space, and could be accessed by the residents of the RAM area. By promoting group unity amongst their supporters, political leaders would have been able to solidify political control.

Corporate strategies are also indicated by the large, paired conical mounds at El Mesón South. These structures are located in an area that is otherwise characterized by dense nonelite housemounds. I suggest that these structures may represent local temples or shrines that were used by the residents of El Mesón South. Rituals conducted here would have promoted group cohesion amongst the local residents.

Early Classic Period Political Organization

By the end of the Protoclassic period, El Mesón's role as a political center declined. A series of new architectural complexes proliferated throughout the RAM area. None of these new complexes featured the TZPG arrangement. Rather, each complex

was unique in terms of its internal organization. The only similarity that these new complexes shared was the use of large, quadrilateral platforms as part of the civic-ceremonial architecture. Similar structures in central and south-central Veracruz have been interpreted as palaces (Daneels 2008; Stark 2008:101). I suggest that these complexes represent factions that were in competition with each other for local political control. The formal architectural complexes in the area are similar to Stark's (2008:101) descriptions of elite "estates" in south-central Veracruz. These estates usually include a large, flat-topped platform, and are located away from other civic-ceremonial complexes (standard plan complexes in the case of the Mixtequilla). Based on the architectural similarity of these structures and the spacing between the RAM complexes (approximately 1 km between each complex) I suggest that the RAM complexes may represent a similar phenomenon.

The palatial function of the large platforms in the RAM area suggests that exclusionary strategies persisted as the primary political strategies into the Early Classic period. The proliferation of complexes in the RAM area suggests an intensification of the use of these strategies and heightened factional competition. The variation in the layouts of the complexes supports this interpretation, as individual elites may have sought to assert their status and distinguish themselves from their rivals through the promotion of their own architectural programs.

Although there is significant variation in the layouts of the formal complexes, no single complex appears to be dominant. The platforms in La Paila and Chico Loco are both in excess of nine meters tall. While no single feature at La Mulata is this tall, if the heights of the mounds on the quadrilateral platform are considered, the overall height

(quadrilateral platform + mound) of architecture exceeds 10 m. The smallest of these complexes, in terms of the height of its architectural features, is Tulapilla. However, monumentality is created in this complex by the use of a causeway to connect the platform with a "keyhole" structure that may have served as a temple base. There is no evidence suggesting that Tulapilla was politically controlled by leaders from any of the other complexes.

The political organization at this time is best characterized by a high degree of factional competition. The variation in complex layouts, close spacing of complexes, and the lack of a dominant center suggest a political environment marked by intense competition between faction leaders for supporters. The persistence of these complexes from the Protoclassic period through the Early Classic period suggests that none of these leaders was able to establish control over the others.

What remains unclear about the political organization from the Protoclassic period to the Early Classic period is the nature of this competition. One potential avenue for factional competition was the monopolization of the importation of exotic raw materials and production of craft-goods.. Because all of the obsidian in the region was nonlocal, monopolizing the importation and production of obsidian could have provided a significant degree of economic control for political leaders. The ubiquity of dark gray to black obsidian, most likely from the Zaragoza/Oyameles sources, suggests that such monopolization was a real possibility. The spatial patterning of obsidian production indicators in the RAM area indicates that the most intense production activities occurred at El Mesón South, one of the complexes lacking distinct civic-ceremonial architecture. Taken together, these data suggest that a RAM area leader may have controlled the

importation of the raw material and the production of finished tools. The lack of spatial association with elite residences indicates that the El Mesón South residents were not attached specialists, but there may have been a patron-client relationship between these craftsmen and political leaders. This economic control may have been used to legitimize political authority. Identifying if such a relationship did exist and the affiliations of potential patrons (civic-ceremonial complex),will require additional research.

Late Classic and Postclassic Political Organization

By the Late Classic period, the El Mesón area was in decline. Settlement across the area had fallen to the Late Formative period levels. While significant settlement was still documented in most of the formal complexes, the large platforms at the cores of these complexes had fallen into disuse. Ceramic frequencies and the number of features occupied indicate reduced occupational intensity. Of the formal complexes, La Mulata maintained relatively intense occupation, however, the evidence shows that fewer features in the complex were occupied and the intensity of occupation was reduced. I suggest that this complex was also in decline, but the rate was slower than in the other complexes. Substantial occupation was also documented for the Norte Group and El Mesón South. The success of these groups is probably related to their importance as production loci for groundstone and obsidian. Their role as economic producers may have insulated them against the political changes from the Ranchito phase to the Quemado Phase.

Given this settlement pattern, I interpret the Quemado phase political organization as being dominated by La Mulata, but I suggest that this control was probably weak, reflecting the decline of La Mulata and the region as a whole.

By the Postclassic period, however, even La Mulata was unable to maintain its position. At this time the settlement pattern for the area consisted of only remnant populations. None of the formal complexes were operating, and the craft production loci in the Norte Group and El Mesón South saw significant declines in use. Political organization at this time was only weakly developed.

The Postclassic population decline in the RAM area is troubling, especially given that this area would have been part of the richest of the Aztec tributary provinces, Tochtepec (Berdan 1996). Recent work in the Tuxtlas, suggests that the continuity of Classic period ceramic traditions into the Postclassic period may have led to the underrepresentation of the Postclassic occupation of the region (Arnold 2005; Arnold and Venter 2004; Venter 2008; see also Pool 1995). Specifically, this work suggests that vessels with Fine Gray and Fine Orange pastes continued to be produced into the Postclassic period, and that slips, paints, and styles of plastic decoration are more diagnostic of the Postclassic period. Unfortunately, because of the eroded state of many sherds recovered during archaeological surveys in the region, decorations and surface treatments may only be remnants, and thus, Postclassic sherds may be mistakenly attributed to the Classic period, based on the paste attributes.

Other evidence suggests that the reduction in populations in the ELPB may have been the result of environmental changes. The recent analysis of a lake core from Lago Verde suggests that around 800 A.D. lake levels rose and the environment became wetter

(Lozano-García et al. 2010). Analyses of pollen from the core suggest that, at the same time, residents of the area abandoned agriculture (Lozano-García et al. 2010). The decline of populations in the ELPB during the Postclassic period may be related to this environmental change.

Economic Organization

In addition to settlement data, the RAM collections also provide information regarding the economic organization of the area. Specifically, these data indicate the participation of the RAM area in long distance exchange networks, and provide information on the organization of local craft production.

Long Distance Exchange

The best data regarding the RAM area's participation in long distance exchange networks is obsidian. Because this resource is nonlocal in origin, but ubiquitous in collections, it is particularly informative about the orientation and organization of trade networks. All of the obsidian recovered in the RAM area was from sources located in Central Mexico. The majority was dark gray to black that most likely originated at the Zaragoza/Oyameles source. The only other obsidian that was recovered in large quantities was clear to light gray in color and probably originated from the Guadalupe Victoria/Pico de Orizaba sources. The RAM data indicate a temporal trend in the use of different obsidians through time. The Early and Middle Formative periods are

characterized by preference for clear to light gray obsidian. From the Late Formative period through the Classic period, local preference changes to dark gray to black obsidian. This trend is consistent with other areas of the southern Gulf Lowlands, and has been associated with a shift in technology from a flake industry in the Early and Middle Formative periods to a core-blade industry in the Late Formative Period (Heller and Stark 1998; Knight 2003; Santley et al. 1991; Stark et al. 1992).

Craft Production

The RAM collections indicate that a number of craft activities were carried out in the RAM area. Evidence was identified for cotton spinning, the production of ceramic vessels, obsidian and basalt tools, and an unidentified craft, or crafts, that was associated with obsidian drills Generally speaking, these activities date from the Late Formative period through the Classic period, although evidence for Early and Middle Formative obsidian production was identified at El Mesón.

Some craft activities were indicated by only a few artifacts. Ceramic production, for example, was represented by five waster sherds and 17 fragments of kiln debris. These artifacts were distributed throughout the survey area, including three of the formal architectural complexes, El Mesón, El Mesón South, and the Norte Group. Given the low frequencies of these production residues, estimating the organization, scale, and intensity of production is difficult. Given the evidence for other craft activities, I suggest that ceramic production low-intensity and probably carried out on a part-time basis. It is

unclear if ceramic production was carried out for consumption at the house-hold scale, or if production was geared for distribution across the survey area.

The evidence for cotton spinning is also sparse. The only indicators of this craft activity were eight spindle whorls which were where dispersed throughout the survey area. No more than one spindle whorl was recovered in any collection, and the only complexes with evidence for cotton spinning were El Mesón South and the Norte Group (1 whorl from each mound group). The low frequency of these artifacts precludes any estimates scale or intensity of production.

The best data for craft production was identified in the Norte Group and at El Mesón South. The former is associated with groundstone production and the later with prismatic blades and obsidian drills. Production in these areas was low-intensity, geared toward local consumption, and organized at the household scale.

I interpret these craft activities as different types of housework strategies that diversify a household's economy and serve to reduce risk associated with the subsistence economy. In the case of the Norte Group, groundstone production probably represents what Hirth (2009) refers to as "intermittent single-craft production." I argue that groundstone production would have allowed for a "safety net" against the potential economic shortfalls of a bad agricultural crop due to flooding or volcanic activity. Given the durability of groundstone tools, consumer demand was most likely low, and production could be pursued in an intermittent or possibly seasonal basis.

At El Mesón South the data indicate the presence of multiple craft activities that were pursued beyond the scale of household autoconsumption. Specifically, there is evidence for the production of obsidian prismatic blades, and an unidentified craft

activity associated with obsidian drills. I interpret the organization of these activities as representing interrelated multicrafting because the drills are made from modified prismatic blades. Hirth (1009:22) argues that this type of crafting represents an intensification of production designed to further diversify a household's economy. I suggest that the proximity of El Mesón South to the south bank of the Tecolapan River made it particularly prone to flooding. Thus, diversified economic strategies may have been desired to mitigate potential crop loss from flooding episodes. Additionally, the identification of multiple craft activities in the Norte Group may be an indication that multicrafting was also carried out there. If ceramic or cotton production was carried out beyond the scale for household consumption, then multicrafting would better characterize the craft activities in that mound group..

Elite Control of Economic Production

One avenue for political leaders to legitimize their position is through control of economic systems. Leaders may seek to dominate systems of exchange, production or distribution. By controlling sectors of the economy, leaders may parlay their economic influence into political authority or power. In political systems characterized by factional competition, economic control is one means of attracting and maintaining a faction of supporters.

I argue that the ubiquity of dark gray to black obsidian in the RAM area may reflect the monopolization of the long distance exchange for this resource. Moreover, the higher density of obsidian production indicators at El Mesón South is also suggestive of

elite control of obsidian tool production. The absence of elite residential architecture in this mound group indicates that these craftsmen were not attached specialists. I suggest that a political residing on one of the other complexes in the area may have dominated obsidian production through patron-client relationships with craftsmen. The leader would have provided the raw materials for tool production, most likely also dominated the distribution of the finished tools, mostly prismatic blades, throughout the RAM survey area. Additionally, the presence of obsidian drills at El Mesón South suggests that a second production activity may have been controlled by the same leader.

In the Norte Group a similar patron-client relationship may have structured the production of groundstone implements. Because basalt, the raw material for most groundstone tools in the area, was available locally, dominating the acquisition of this resource would have been more difficult, as potential rivals would have also had access to the raw material. However, the focus of groundstone production within a single architectural complex also is also suggestive of elite control. If groundstone crafts men were independent, the expectation would be that there would be multiple production loci spread across the RAM area. The data show that while some groundstone production residues (e.g., basalt flakes, hammerstones, polishing stones, and anvils), the only area where all of these artifacts was recovered was in the Norte Group. This distribution is not attributable to differences in surface visibility, as surface visibility was generally good across the entire survey. The presence of these groundstone production indicators in other complexes, such as Chico Loco and El Mesón South, however, may be an indication that this industry was not completely monopolized.

The biggest questions regarding elite control craft production in the RAM area concern identifying which elites were able to forge these patron-client relationships. The architectural data for El Mesón South and the Norte Group suggest that elites were most likely not living in those architectural complexes, as both areas are dominated by low and medium-sized conical and long mounds, forms more associated with nonelite habitations. If the elites were not living in the production loci, in which of the other complexes were the residing? A second important question concerns the number of elites in competition. Because the loci of obsidian and groundstone production were located in separate areas does not mean that they did not share the same patron. While this is a possibility, I would expect that if a single leader was able to exert such control over local craft production that this prominence would be expressed through the spatial orders of the civic-ceremonial complexes. Specifically, I would expect there to be one clearly dominant complex, an indication of the prominence of the patron/leader. That none of the civic-ceremonial complexes appears to be dominant suggests that one leader controlled the acquisition and production of obsidian, and another groundstone. Answering these should be a focus of future research.

The El Mesón Area in Regional Context

The growth and decline of the El Mesón area did not occur in isolation. Rather, the development of the area was shaped by the broader political trends of the Southern Gulf lowlands as a whole. During the Early and Middle Formative periods, the Olmec culture dominated the region. Although the settlement data for these periods is

admittedly scant, there are some data suggesting a possible relationship between the El Mesón area and the large Olmec center of La Venta; specifically two monuments carved in Middle Formative Style. One of these monuments, a seated figure with crossed legs has costume elements that recall Monument 77 from La Venta (Loughlin and Pool 2006; Pool et al. 2010). The other is a kneeling personage similar to the San Martín Pajapan Monument from the Tuxtlas Mountains. A fragmentary head of a similar monument has also been recovered from La Venta (Monument 44) (de la Fuente 1973:96-98). Moreover, the belt on the Lerdo monument is also similar to the belt from La Venta Monument 77. These are not the first assertions of a possible linkage between the ELPB and LA Venta. In the 1960s, Williams and Heizer (1965) suggested that basalt columns from La Venta may have originated at Roca Partida, located on the coast of the Tuxtlas approximately 30 km from El Mesón.

The potential implications for these monuments are intriguing. Why would La Venta be interested in the El Mesón area? Perhaps La Venta feared the expansion of the Tres Zapotes polity would threaten an important trade route. Alternatively, the residents of the El Mesón area may have sought a relationship with La Venta to resist the expansion of Tres Zapotes. There is no evidence to indicate that La Venta controlled the El Mesón area, but the notion of some form of alliance between the two areas is not unreasonable. Future work in the El Mesón area should include consideration of this possibility

With the decline of La Venta at the close of the Middle Formative period, there was a regional shift in political strategies. The exclusionary strategies that were most prominent in the Large Olmec centers were suppressed in favor of cooperative strategies.

At the regional scale this shift was seen in a decrease in the exchange of high-value prestige items such as jade, serpentine, and greenstone. This change may have been driven by the ascendance of Tres Zapotes as the largest political center in the region. While exclusionary strategies continued to be pursued within Tres Zapotes (e.g. the patrimonial rhetoric of the use of Olmec colossal heads in some TZPG complexes and the inclusion of elite residences within the TZPG complexes), the site itself was controlled by a confederation of factions at the site that shared governing power (Pool 2007a, 2008). The combination of these strategies at Tres Zapotes is best signified by the TZPG architectural arrangement. Individually, each TZPG complex represented the political seat for a faction leader. However, the replication of this arrangement, the proximity of the mound groups to each other, the contemporaneity of the complexes, and the non-domination of any of the complexes, are all strong indicators that at the level of site governance, corporate strategies were pursued (Pool 2008).

The strongest evidence indicating El Mesón's role as a secondary center is the TZPG complex located in El Mesón's architectural core. Compared to Tres Zapotes, the El Mesón TZPG is smaller, an indication of its role as a secondary center. .The nature of El Mesón's incorporation is unclear. Some possible explanations include people from Tres Zapotes moving into the RAM area and establishing the TZPG complex at El Mesón, the emulation of this symbol of political power by local elites affiliating with Tres Zapotes, the requirement by Tres Zapotes for leaders at El Mesón to construct the TZPG complex.. Given the evidence for Early and Middle Formative occupation at El Mesón, local emulation of Tres Zapotes may be the stronger possibility.

Despite being incorporated into the Tres Zapotes polity, the corporate strategies that were pursued at the level of polity governance do not appear to have been applied in the El Mesón area. Rather, at the secondary center, the data suggest that exclusionary strategies were predominant. During the Late Formative period, El Mesón was the single dominant center in the area. Moreover, the two stelae recovered from El Mesón with their themes of portraiture and rulership are also indicative of exclusionary political strategies. At the level of the faction, however, corporate strategies may have been promoted to foster unity among faction members.

Why did Tres Zapotes incorporate El Mesón? I argue that Tres Zapotes's interest in the El Mesón area was related to El Mesón's location along an important trade route. Like El Mesón, Tres Zapotes was also located along a natural communication route into the Tuxtlas. By incorporating El Mesón as a secondary center, Tres Zapotes would have been able to control the exchange networks flowing into and out of the southern and western Tuxtlas.

Over the course of the Protoclassic period, there was a regional intensification of exclusionary strategies (Pool 2008:146). The bonds of alliance that characterized governance of Tres Zapotes began to fray. This shift was manifested materially by a reorganization of settlement at Tres Zapotes (Pool 2008:127). As part of this reorganization, elites at the site began to alter the civic-ceremonial architecture of the TZPG complexes by undertaking new construction (Pool 2008:146). The result is that the redundancy of construction in each complex fell away, an indication of increasing factional competition (Pool 2008:145-146).

For the El Mesón area, the intensified factionalization of Tres Zapotes provided an opportunity to break with the larger center. Settlement data indicate that during the Protoclassic period El Mesón declined as a political center, despite the fact that population in the area as a whole continued to expand. El Mesón's decline was accompanied by a proliferation of new formal architectural complexes. These new constructions all exhibit unique arrangements of constituent features, and none featured the TZPG formation. Instead, these complexes focused on large quadrilateral platforms that may represent palaces (Daneels 2008; Stark 2008:101). The inclusion of these structures suggests that the attention of the RAM area elites shifted away from Tres Zapotes and toward the Mixtequilla region where these platforms are more common. Ceramics in the Mixtequilla style indicate that the two areas were in contact, but there is no evidence suggesting Mixtequilla control of the RAM area, such as the use of the "standard plan" architectural layout. Other ceramics types present in the RAM area, including Coarse Orange, suggest that the RAM area was also in contact with groups in the Tuxtlas.

By the Late Classic period, many areas of the southern Gulf Lowlands were in decline. Santley (2007:66-67) notes that in the Central Tuxtlas, the regional population decreased by a third, and at Matacapan the Central Mound Group was abandoned. Stoner (2011) suggests that the late center Totocapan was also in decline at this time. In the Mixtequilla region, the large center of Cerro de las Mesas had been eclipsed and its territory divided between the centers of Azuzules, Nopiloa, and Los Ajito-Los Pitos (Stark 2008:94). Closer to The El Mesón area, the decline that began at Tres Zapotes

continued, resulting in the abandonment of the former center by the end of the Late Classic period (Pool 2008:128).

Like the centers in these other areas, the Late Classic period in the El Mesón area is characterized by declining populations and the abandonment of most of the formal architectural complexes. The only formal complex that was still functioning was La Mulata, although substantial populations were still present at El Mesón South and the Norte Group. Like Tres Zapotes, the El Mesón area was virtually abandoned by the end of the Late Classic period.

During the Postclassic period much of the Eastern Lower Papaloapan Basin had been abandoned. The data from the El Mesón area, as well as Tres Zapotes (Drucker 1943; Pool 2008:128), indicates only remnant occupations at this time. This trend contrasts with data from Central Veracruz where large Postclassic centers have been documented, including Quiahuiztlan, Isla de Scarificios, Cotaxtla, and Zempoala (see Venter 2008:58-79 for an overview). Nearer to the El Mesón area, substantial Postclassic occupations have been identified at El Sauce and Callejón del Horno (Garraty and Stark 2002). Stark (2008:95) notes that the Postclassic period in the Mixtequilla accompanied a cultural shift that saw local ceramic styles replaced by styles associated with the Central Mexican Highlands.

To the east of the El Mesón area recent work in the Tuxtlas also suggests significant Postclassic occupations. Centers have been identified at Isla Agaltepec (Arnold and Venter 2004) and Totogal (Venter 2008). Borstein's (2001, 2005) work in the San Juan drainage has also noted substantial occupations dating to the EpiClassic Villa Alta phase.

It is unclear what the lack of Postclassic settlement in the Eastern Lower Papaloapan Basin means. Perhaps this lack of settlement indicates a reorientation of exchange networks that were able to bypass both Tres Zapotes and the El Mesón area and the resulting movement of populations out of the area. Another possibility is that the scale of Postclassic occupation may be underrepresented due to the persistence of Classic period fine paste ceramic styles into the Postclassic period. Arnold and Venter (2004; Venter 2008) argue that the Postclassic was marked by a persistence of fine paste wares. Distinguishing Postclassic from Classic period ceramics was done based on slips and paints. Given the eroded states of surface materials from the Eastern Lower Papaloapan Basin, it is possible that some Postclassic artifacts were attributed to the Classic period. However, the recent excavations at Tres Zapotes failed to identify any substantial Postclassic deposits, although some Postclassic occupation of the site is indicated by the Soncautla Complex, which was identified during Stirling's excavations at Tres Zapotes (Drucker 1943). I would suggest that while the scale of Postclassic occupation in the ELPB may be somewhat underrepresented, it was not as great as in the surrounding regions. Recent evidence from a soil core from Lago Verde suggests that around 800 A.D. there was an environmental shift that resulted in wetter environmental conditions in the region (Lozano-García et al. 2010). Pollen analyses from this core suggest that the wetter conditions may have adversely affected local agricultural systems resulting in their abandonment. The Postclassic population decline in the area may reflect this environmental change.

Concluding Thoughts

As many answers as this research provides concerning the development and decline of the El Mesón area, it also leaves many questions that need to be addressed through future research. I close by offering some thoughts on what questions should be addressed to provide a more complete understanding of the El Mesón area. The first concerns the early occupation of the area. The possibility for a more substantial Olmec occupation of the area is strongly suggested by the presence of two Olmec style monuments in the areas immediately adjacent to the RAM survey area. Because such monuments tend to occur in centers or shrines, reassessing the possibility of a Middle Formative Olmec center in the area that was potentially in competition with Tres Zapotes will be crucial for understanding Olmec occupation in this region of Olman. An associated question to this is assessing whether or not these monuments are indicative of a relationship with La Venta. If this large center did have a presence in the ELPB, it will be crucial to understand the nature of it and the implications it may have had concerning the development not only of the El Mesón area, but also Tres Zapotes.

The decline and apparent depopulation of the area during the Late Classic and Postclassic periods should also be investigated. Specific lines of inquiry should include the role that environmental factors played in the depopulation of the area during the Late Classic and Post Classic periods, and the possibility for underrepresentation of Postclassic occupation of the region.

The interpretive models used in this dissertation focus on the political strategies of elites. Not considered in great detail is the role of the nonelite residents. Specific lines of

investigation include the benefits that faction members gained due to their affiliation, the degree to which factional affiliations could be changed, and the ability of nonelites to resist affiliating with any faction. Addressing the roles of nonelites as well as leaders will deepen our understanding of the RAM area political organization

Other potential lines of inquiry are related to the RAM area's economic organization. One issue that should be addressed is the identification of the craft activity associated with the obsidian drills. I suggest that these tools may have been used to work perishable materials such as wood, shell, or leather. Excavations in production areas and use-wear studies could confirm this supposition or present other possibilities.

Moreover, production indicators of other crafts activities including cotton spinning and the production of ceramic vessels were indentified in small numbers. Understanding the scale and organization of these craft activities are important for a fuller understanding of local economic organization.

Questions concerning elite control of craft production also persist. I argue that political leaders may have controlled the local production of obsidian and groundstone through patron client relationships with craftsmen in El Mesón South and the Norte Group. Future work should test this proposition. Additionally, the number of patrons and their affiliations (civic-ceremonial complexes) should also be investigated.

Another economic issue concerns the trade route that runs through the RAM area. Research should focus on elucidating what goods were moved through the area; the points of origin and destination for these goods; and the role that the inhabitants of the RAM area had in facilitating the movement of goods through the region.

In sum, the RAM survey has provided an important baseline for understanding the political and economic development of the Eastern Lower Papaloapan Basin. As with any research, as more questions are answered, new questions present themselves. The list of potential research questions listed above highlights the potential for the El Mesón area to continue to contribute to our understanding of Formative and Classic period societies in the Eastern Lower Papaloapan Basin.

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APPENDIX A

RAM Survey Feature Data.

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
1	242995	2057994	28	26	0.4	11
2	242888	2058020	48	40	3.58	12
3	242997	2057901	43	32	8.5	13
4	242834	2057945	252	153	NA	41
5	242751	2057927	24	21	0.4	11
6	242797	2057922	56	52	1.5	16
7	243041	2058070	63	56	1.1	21
8	243131	2057963	58	104	2.2	21
9	243066	2057895	38	24	0.9	15
10	243049	2057875	74	45	0.5	31
11	243180	2057885	42	12	1.3	21
12	242977	2058116	12	15	0.8	11
13	242210	2058258	31	26	1.1	11
14	242193	2058229	20	23	0.8	11
15	241914	2058572	45	38	1	11
16	241603	2058485	59	51	0.6	11
17	241816	2058351	51	46	0.5	11
18	241451	2058210	39	35	0.3	11
19	241145	2058329	24	28	0.8	11
20	240777	2058209	10	8	0.6	11
21	240823	2058187	22	14	0.4	21
22	240595	2058223	37	42	0.3	21
23	240644	2058235	12	10	0.3	11
24	240637	2058277	14	11	0.2	11
25	240547	2058204	24	22	0.3	11
26	240048	2058144	68	72	0.9	11
27	240196	2057938	63	59	0.7	14
28	240235	2057893	41	35	0.6	15
29	240273	2057693	10	12	NA	11
30	240256	2057734	18	12	NA	11
31	240285	2057689	11	8	NA	11
32	240221	2057988	42	38	0.6	11
33	240244	2057857	28	26	0.5	11
34	240256	2057828	18	15	0.4	11
35	240362	2058013	38	25	0.3	21
36	240575	2057791	54	54	0.7	11
37	240631	2057783	47	44	0.5	11
38	240622	2057601	22	21	0.6	11
39	240662	2057648	55	48	0.6	60
40	240738	2057758	42	40	1.3	14
41	240704	2057767	14	15	1.9	10
42	240740	2057715	12	14	1.1	11
43	240801	2057766	44	36	0.8	33

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
44	240411	2058230	18	15	0.6	11
45	240546	2058585	32	35	0.4	11
46	240575	2058556	34	27	NA	10
47	240194	2058763	25	23	0.4	11
48	240044	2058751	25	17	0.7	21
49	240045	2058806	73	69	0.6	11
50	240105	2058840	27	45	0.5	21
51	240050	2058863	28	63	0.4	21
52	240735	2058946	24	15	0.4	50
53	240848	2058838	32	36	0.6	11
54	240885	2058804	46	48	0.7	11
55	240833	2059062	42	63	0.6	21
56	240865	2059086	64	61	0.9	11
57	240996	2059224	76	71	13	35
58	240920	2059177	25	27	0.6	11
59	240949	2059154	17	15	0.8	11
60	241023	2059291	12	9	0.5	11
61	241045	2059148	52	43	1.2	11
62	241063	2059108	34	26	0.8	11
63	241121	2058765	37	32	NA	10
64	241088	2058805	55	48	NA	10
65	241294	2058828	23	21	NA	10
66	241356	2058786	120	110	4.2	12
67	241524	2058714	43	37	1	11
68	241584	2058949	24	30	0.6	11
69	241622	2058924	17	21	0.4	11
70	241671	2058966	17	22	NA	10
71	241640	2058796	29	25	0.6	11
72	241823	2058726	32	48	0.8	21
73	241893	2058767	45	45	NA	13
74	241889	2058811	9	8	0.7	11
75	241897	2058835	6	7	0.9	11
76	241920	2058730	16	15	1.9	11
77	241969	2058746	22	19	0.9	11
78	241937	2058704	27	15	0.8	70
79	241924	2058645	45	82	1.5	21
80	241974	2058652	19	17	1.3	11
81	241984	2058700	19	5	0.6	70
82	241993	2058696	12	12	0.6	11
83	242019	2058699	12	12	0.6	11
84	242009	2058740	25	28	1.2	11
85	242144	2059463	35	57	0.9	21
86	242150	2059488	19	27	0.4	21
87	242153	2059568	37	46	0.5	11
88	242177	2059532	23	18	0.3	11
89	242200	2059558	23	17	0.4	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
90	242149	2059665	30	25	0.4	11
91	242036	2059511	10	13	0.6	11
92	242026	2059481	12	11	0.5	11
93	242026	2059434	35	48	7.5	13
94	242059	2059454	42.8	40	9	35
95	242453	2059233	14	12	0.5	11
96	242432	2059256	25	16	0.9	21
97	242364	5028940	40	25	NA	20
98	242382	2058958	15	14	NA	10
99	242076	2059295	21	18	0.6	11
100	242048	2059403	27	10	NA	20
101	242004	2059413	17	10	NA	20
102	241980	2059353	20	24	NA	60
103	242043	2059311	30	25	NA	10
104	242810	2058957	44	42	2.4	14
105	242806	2058923	42	36	1.2	33
106	243234	2059218	35	56	0.5	21
107	243244	2059162	27	25	0.3	11
108	243142	2059221	42	35	0.5	14
109	243168	2059223	34	27	0.3	33
110	243170	2059174	35	62	0.8	31
111	243184	2059165	10	9	0.5	15
112	243166	2059127	37	41	1.5	11
113	243101	2059229	18	22	0.5	11
114	243061	2059210	15	19	3.9	12
115	243029	2059192	17	21	0.5	11
116	243050	2059162	55	23	0.6	21
117	242782	2059009	23	28	4.28	12
118	243306	2059090	27	22	0.4	11
119	243321	2059133	17	14	0.5	11
120	243166	2058971	36	39	1.55	11
121	243190	2058959	26	37	1.4	21
122	243164	2058883	42	69	1.6	21
123	243260	2058912	60	60	NA	41
124	243307	2059177	32	38	0.8	11
125	243365	2059167	40	43	1.6	11
126	243375	2059260	40	43	0.9	11
127	243412	2059113	39	48	1.1	21
128	243616	2059081	32	38	1.3	11
129	243611	2059159	27	35	1.4	11
130	243876	2058946	29	43	1.5	21
131	243608	2058683	34	36	1.4	11
132	243406	2058830	76	73	0.7	11
133	243408	2058594	27	31	0.9	11
134	243391	2058575	18	22	0.4	11
135	243497	2058443	20	19	1	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
136	243474	2058014	85	105	0.7	21
137	243449	2058075	15	14	0.6	11
138	243418	2057954	44	52	2.9	21
139	243547	2057863	31	78	1.2	21
140	243315	2057869	25	45	1.1	21
141	243332	2057973	42	44	0.7	11
142	243343	2058058	27	30	0.2	11
143	243273	2058103	2	2	-2.5	40
144	243312	2057777	25	29	0.8	11
145	243231	2057692	25	55	0.5	21
146	243398	2057827	29	59	0.8	21
147	243551	2057836	60	21	1.4	21
148	243546	2057749	35	32	1.7	11
149	243534	2057703	2	2	-0.5	40
150	243490	2057758	25	37	1.5	21
151	243335	2057768			NA	41
398	243392	2057782	55	93	NA	41
152	242815	2057647	32	28	1.4	11
153	242908	2057673	60	80	4.15	32
154	242931	2057694	80	108	7.48	36
155	244381	2059006	27	32	0.5	11
156	243906	2058245	32	35	0.4	11
157	244420	2058639	19	22	0.6	11
158	244473	2058792	34	35	0.55	11
159	244709	2058755	37	39	6.46	13
160	244675	2058728	38	25	7.81	23
161	244624	2058807	36	38	1.3	21
162	244649	2058735	38	59	1.5	42
163	244690	2058684	35	20	1.1	31
164	244728	2058704	36	27	1.5	42
165	244675	2058707	168	85	1.5	31
166	244623	2058694	37	21	1.1	21
167	244830	2058717	29	40	1.2	21
168	244784	2058585	27	35	1.3	11
169	245438	2058343	28	38	5.04	14
170	245078	2058354	35	34	2.64	11
171	245219	2058483	37	24	0.7	21
172	245411	2058353	22	24	1.1	33
173	245403	2058471	38	48	0.8	21
174	245393	2058281	24	24	1	11
175	245450	2057523	42	48	5.78	12
176	245465	2057461	75	42	1.2	21
177	245337	2057373	80	72	1.2	21
178	245297	2057102	83	112	2.2	21
179	245393	2057145	61	67	0.8	11
180	245235	2057016	34	40	1.2	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
181	245213	2056988	21	40	0.8	31
182	245085	2057473	55	60	1.2	11
183	245127	2057462	20	30	0.6	21
184	245123	2057438	30	40	0.7	31
185	245186	2057032	60	130	2.3	60
186	244468	2057523	17	19	1.1	11
187	244430	2057598	42	38	1.2	11
188	244067	2057502	22	37	0.5	21
189	243865	2057782	37	78	4.55	22
190	243799	2057700	45	38	1.2	11
191	243825	2057648	23	23	0.8	11
192	243779	2057681	26	25	1.2	11
193	243766	2057696	35	23	1.4	21
194	243783	2057803	36	43	1.2	42
195	243828	2057811	49	36	1.3	31
196	244000	2057744	40	35	1.6	15
197	243982	2057752	25	25	1.1	31
198	243970	2057693	41	66	2.95	21
199	243942	2057669	22	15	1.1	70
200	243965	2057629	21	27	1.1	11
201	243914	2057689	31	20	1.2	21
202	239872	2059145	42	37	1.1	11
203	239570	2059020	39	43	1.3	11
204	239839	2059444	45	47	1.1	11
205	239908	2059427	43	46	0.6	11
206	239643	2059454	34	31	1.2	11
207	239540	2060071	44	49	1.4	11
208	239904	2059541	61	62	1.1	11
209	239875	2059725	36	38	1.2	11
210	240515	2059785	92	33	0.7	21
211	240557	2059794	32	34	0.9	11
212	240549	2059673	43	41	0.7	11
213	240638	2059459	40	37	0.5	11
214	240681	2059466	38	34	0.5	11
215	240710	2059221	24	55	0.6	21
216	240688	2059339	10	10	NA	50
217	240991	2059437	18	22	0.5	11
218	240254	2059530	32	28	0.8	11
219	240480	2058897	37	32	1.2	11
220	240476	2058927	28	32	1.3	11
221	241080	2059215	63	51	1.15	21
222	240919	2059474	25	27	0.7	11
223	240926	2059319	18	25	0.5	11
224	240905	2059308	20	20	NA	50
225	240666	2059644	45	45	0.5	11
226	240546	2059898	32	29	0.7	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
227	240579	2059840	32	24	0.7	21
228	240609	2059869	60	68	0.5	11
229	240600	2059790	59	61	0.9	11
230	241142	2059124	23	32	1.1	21
231	241157	2059132	22	18	0.8	11
232	241195	2059119	24	19	0.9	21
233	241085	2059019	30	30	NA	50
234	241550	2058837	57	60	0.7	11
235	241381	2059193	56	62	1.4	11
236	241431	2059140	31	28	0.4	11
237	241440	2059187	48	47	1.7	11
238	241390	2059262	18	24	0.4	11
239	241605	2059636	45	49	1.2	11
240	241651	2059618	27	22	1.1	11
241	241640	2060113	30	24	0.3	11
242	241678	2060101	35	25	1	21
243	241714	2060085	33	36	1.5	11
244	242478	2059916	30	20	NA	50
245	241924	2059856	18	20	0.3	11
246	242233	2059931	35	37	0.7	11
247	242780	2059537	27	22	0.5	11
248	242919	2059467	34	32	0.9	14
249	242930	2059491	32	24	0.6	33
250	242884	2059594	52	27	0.8	31
251	243278	2059559	52	48	1	11
252	243294	2059514	24	22	0.7	11
253	244303	2059552	52	56	4.48	12
254	244239	2059569	42	52	0.7	21
255	244309	2059352	57	52	0.5	11
256	244091	2059841	54	32	0.5	21
257	244081	2059798	43	31	0.5	21
258	244774	2059181	62	57	0.8	11
259	244732	2059711	60	40	NA	60
260	244675	2060121	160	100	NA	50
261	244816	2060619	35	27	1.2	33
262	244816	2060604	42	39	1.7	14
263	243884	2060065	29	32	1.5	11
264	240040	2060816	47	52	0.7	11
265	239988	2060716	44	4	1.5	11
266	240097	2060724	45	43	1.2	11
267	240122	2060602	51	43	0.3	11
268	240083	2060560	42	38	0.6	11
269	240062	2060591	60	59	0.6	11
270	240005	2060294	40	41	1.6	15
271	240044	2060278	12	7	0.3	11
272	240054	2060283	27	25	0.6	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
273	240048	2060310	28	25	1.3	11
274	240080	2060220	42	37	0.6	31
275	240509	2060052	40	20	0.4	21
276	240426	2060133	64	60	0.7	11
277	240369	2060174	65	78	1.2	21
278	240346	2060358	20	24	0.7	11
279	240599	2060744	50	63	0.6	21
280	240393	2060605	46	42	NA	10
281	244082	2060990	40	60	NA	60
282	243031	2060604	35	29	0.5	11
283	242989	2060889	54	44	0.4	21
284	242281	2060528	52	82	1.8	14
285	242358	2060404	35	62	1.4	21
286	242738	2060790	65	60	0.4	11
287	242423	2060769	45	80	2	14
288	242994	2060227	85	81	2.1	11
289	243095	2059958	56	61	0.7	11
290	242315	2060364	45	38	0.9	11
291	242332	2060383	31	28	1	11
292	242341	2060176	36	42	1	11
293	241864	2060140	44	37	0.7	11
294	241998	2060253	44	41	1.2	11
295	241881	2060429	64	45	3.9	32
296	241765	2060467	27	23	0.7	11
297	241761	2060488	23	42	0.8	21
298	241737	2060522	32	19	1	21
299	241773	2060536	42	38	1.6	14
300	241793	2060560	35	54	1.3	33
301	241736	2060597	30	42	0.8	21
302	241812	2060515	12	26	0.5	42
303	241456	2060289	35	32	0.6	11
304	241487	2060322	38	36	1.1	11
305	241538	2060307	42	43	1	11
306	241667	2061005	60	40	1.5	11
307	241709	2061018	45	42	1.2	31
308	240153	2057105	38	43	1	40
309	240753	2056827	38	21	1.2	21
310	240734	2056805	12	19	0.8	42
310a	240713	2056802	22	15	1.1	42
311	240791	2056733	20	37	0.5	21
312	240825	2056801	39	25	1.1	21
313	240759	2056867	31	32	8.3	13
314	240768	2056927	22	21	0.3	11
315	240698	2057219	42	37	0.6	11
316	240655	2057425	150	45	NA	60
317	241072	2057196	29	37	NA	10

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
318	241105	2057210	13	15	NA	40
319	241145	2057247	35	29	0.9	11
320	241537	2057097	31	28	3.5	12
321	241532	2057012	33	38	NA	14
322	241530	2057046	25	33	NA	33
323	241588	2057013	44	31	NA	33
324	241614	2057038	40	43	NA	14
325	241516	2056887	38	31	0.5	11
326	242975	2057375	32	27	0.8	21
327	243016	2057384	36	42	1.1	11
328	243000	2057343	53	51	2.99	12
329	242950	2057328	23	32	0.7	21
330	243043	2057237	53	38	0.6	21
331	242963	2057233	60	60	NA	50
332	243004	2057200	42	52	0.5	50
333	243018	2057267	40	60	NA	43
334	243121	2057343	42	51	0.8	21
335	243071	2057302	36	30	0.9	11
336	243054	2057324	49	53	1.3	11
337	243171	2057336	49	45	1.1	21
338	243148	2057219	27	25	0.6	11
339	243121	2057239	23	21	0.5	11
340	243108	2057197	21	19	0.5	11
341	243245	2057279	73	53	2.1	21
342	243241	2057367	22	22	0.7	31
343	243343	2057297	35	42	8.57	13
344	243385	2057264	23	16	2.2	33
345	243380	2057238	43	39	7.66	14
346	243318	2057279	60	41	0.9	21
347	243278	2057349	52	81	1.8	31
348	243269	2057260	38	35	1.2	15
349	243296	2057233	36	34	0.9	11
350	243319	2057165	35	27	1.1	21
351	243329	2057142	35	42	0.4	21
352	243435	2057237	36	29	0.9	11
353	243463	2057216	29	25	0.5	11
354	243499	2057260		44	0.7	21
355	243556	2057070	48	43	0.5	11
356	243775	2057029	49	40	3.29	12
357	243644	2056987	75	62	0.7	21
358	243639	2057002	27	29	0.6	11
359	243693	2057208	40	40	1.2	11
360	243705	2057295	42	41	1.5	11
361	243759	2057282	37	22	0.7	21
362	243723	2057349	20	25	0.3	11
363	243770	2057331	37	40	0.8	11

Feature #	UTM Easting	UTM Northing	Dimension N/S (m)	Dimension E/W (m)	Elevation (m)	Feature Type
364	243828	2057250	38	45	0.6	11
365	244313	2056916	65	51	0.9	50
366	244411	2057060	32	31	0.3	11
367	244401	2057014	48	45	0.4	11
368	244454	2056997	35	37	0.9	11
369	244664	2056960	25	39	0.6	21
370	244697	2056846	22	28	0.7	11
371	244729	2056830	46	48	1.2	11
372	244726	2056778	32	37	0.9	11
373	244804	2056878	55	52	1.5	14
374	244965	2056522	37	39	4.6	12
375	245001	2056591	33	51	8.95	23
376	245052	2056564	42	51	6.95	23
377	244925	2056556	60	40	5.1	22
378	244930	2056665	60	50	0.8	21
379	244856	2056869	10	30	NA	70
380	244849	2056817	12	38	NA	70
381	244850	2056843	35	42	NA	43
382	244660	2058674			NA	50
383	239732	2059990	50	40	NA	60
384	244830	2060644	40	40	NA	50
385	244845	2060644	40	40	NA	50
386	242172	2059387	30	40	NA	21
388	242097	2059396	43.2	40	NA	12
389	242022	2058814	70	70	NA	10
390	241911	2058966	33.6	40	NA	10
391	241995	2058926	40	43.3	NA	10
392	244030	2058299			NA	50
393	243358	2057171			NA	50
394	245057	2057849	39	32	1.2	10
395	245744	2057906	40	90	2	60
396	243181	2058020			NA	50
397	242976	2058116			NA	50

APPENDIX B
Ceramics from the RAM Area

Vessel Definitions

Comal-Shallow form with extreme outslanting straight walls. Used as tortilla griddles.

Escudilla-Shallow bowl form with straight or concave walls extremely outslanting or curving wall profiles.

Cazuela-shallow bowl or dish form with unrestricted orifice. May have slightly convergent or vertical walls, and may have a composite profile-often has loop handles

Plate/Bowls-Shallow form with flat base and typically outsloping walls, that may be straight, concave, or convex, and unrestricted orifices. Rice (1987:216) notes plates have heights less than one-fifth the maximum diameter, and bowls (or dishes) have height more than one-fifth but less than one-third the maximum diameter.

Bowls-Form where the height varies from one-third to equal to the maximum vessel diameter. Bowls may have restricted or open orifices, but lack necks(Rice 1987:216). **Simple Silhouette bowls** often have a hemispheric profile. **Composite silhouette bowls** are recurved or angular in profile and lack inflection points (Shepard 1956:232; Rice 1987:474).

Cylindrical Vessels-Flat based vessels with vertical walls that may be straight, slightly concave, or slightly convex.

Necked Jar-deep often globular vessels with a restricted throat and a neck.

Tecomate-Globular jar form that lacks a neck.

Neckless Jar-Jar form where neck is vague or abbreviated. Form is a misnomer as this form had a neck, but not a pronounced as on necked jar.

Macetas-Special jar form that is not as globular in profile, with everted lip. Only found on Polished Orange.

Other Descriptions

Concave- Vessel walls are bowed in

Convex Vessel walls are bowed out

Cuerpo- Body sherd

RAM Ceramic Form Codes
(adapted from code from Recorrido Arqueológical de Tres Zapotes)

General Vessel Forms

10	Comal
20	Escudilla
30	Cazuela
40	Plate/Dish
51	Simple Silhouette Bowl
52	Complex Silhouette Bowl
60	Cylindrical Vessel
70	Necked Jar
71	Necked Jar-miniature
81	Tecomate
82	Neckless or "Vague" Necked Jar
83	Maceta
91	Censer
92	Ladle Censer
93	Censer Lid
94	Lid for Dish
98	Other
99	Unidentified

Vessel Wall Forms

11	Insloping-Straight
12	Insloping-Convex
13	Insloping-Concave
14	Insloping-Carinated
21	Vertical-Straight
22	Vertical-Convex
23	Vertical-Concave
31	Outsloping-Straight
32	Outsloping-Convex
33	Outflaring
34	Extreme Outflaring to Flat
41	Necked Jar-Insloping
42	Necked Jar-Vertical
43	Necked Jar-Outsloping
44	Necked Jar-Outflaring
45	Necked Jar-Outflaring, No Break at Neck
46	Necked Jar-Outsloping, Convex Neck
47	Necked Jar-Outsloping, Channeled Neck
48	Necked Jar-Composite Neck
91	Orientation Indeterminate-Straight
92	Orientation Indeterminate-Convex
93	Orientation Indeterminate-Concave
99	Lip Only

Lip Forms

10	Direct, Rounded
21	Direct, Tapered, Interior
22	Direct, Tapered, Symmetrical
23	Direct, Tapered, Exterior
24	Direct, Tapered, Interior Concavity
31	Direct, Beveled, Interior
32	Direct, Beveled, Flat
33	Direct, Beveled, Exterior
34	Direct, Tapered, Exterior Concavity
41	Everted, Curved
42	Everted, Flat
43	Everted, Bolstered
44	Inverted, Curved
45	Inverted, Flat
46	Inverted, Bolstered
61	Thickened, Interior, Rounded
62	Thickened, Interior, Tapered
63	Thickened, Interior, Beveled
64	Thickened, Symmetrical, Rounded
65	Thickened, Symmetrical, Tapered
66	Thickened, Symmetrical, Beveled
67	Thickened, Exterior, Rounded
68	Thickened, Exterior, Tapered
69	Thickened, Exterior, Beveled
70	Everted, Thickened, Symmetrical, Tapered
71	Recurved

Other Attributes

.11	Labial Ridge or Flange
.12	Sidewall Ridge or Flange
.13	Basal Ridge or Flange
.21	Loop or Strap Handle
.22	Stirrup Handle
.23	Stirrup Handle and Spout
.24	Lug Handle
.25	Mango
.31	Nubbin Support
.32	Conical Support
.34	Slab Support
.35	Hollow Rectangular Support
.36	Loop Support
.38	Zoomorphic Support
.39	Annular Base
.40-.49	Other Supports
.51	Spike
.52	Appendage
.61	Spout
.81	Lip Channel
.82	Rim Channel

RAM Ceramic Wares
(Modified from P.A.T.Z. CERAMIC WARES 2004)

GRUPOS GENERALES

1100 CERAMICA GRIS FINA (FINE GRAY WARE)
Pasta fina, color gris.

1200 CERAMICA NARANJA FINA (FINE ORANGE WARE)
Pasta fina, color naranjo.

2100 CERAMICA GRIS A NEGRO (GRAY TO BLACK WARE)
Pasta con desgrasante, color gris a negro.

2200 CERAMICA DE COCCION DIFEERENCIAL (DIFFERENTIALLY FIRED WARE)
Coccion diferencial de color gris a negro y blanco a bayo.

2300 CERAMICA BLANCA (WHITE WARE)
Color blanco a crema de pasta fina y desgrasante ausente o muy fina.

2400 CERAMICA BLANCO ENGOBADO CAFE BURDO (WHITE-SLIPPED COARSE BROWN WARE)
Color cafe a cafe rojizo de pasta burdo con engobe blanco.

2500 CERAMICA CAFE BURDO BRUNIDO (BURNISHED COARSE BROWN WARE)
Color cafe a cafe rojizo frecuentamente con manchas oscuros y superficie bruñido.

2600 CERAMICA CAFE BURDO CON DESGRASANTE FINA DE CUARZO Y FELDESPATO (COARSE BROWN WARE WITH MAINLY FINE QUARTZ AND FELDSPAR TEMPER)
Color cafe a cafe rojizo hasta naranjo o griseso con desgrasante muy fina de cuarzo y/o feldespato.

2650 CERAMICA BURDA CON DESGRASANTE BLANCO BURDO (COARSE WARE WITH COARSE WHITE TEMPER)
Color rojo o cafe con desgrasante blanco burdo.

2700 CERAMICA CAFE BURDO CON DESGRASANTE DE CENIZA VOLCANICA (COARSE BROWN WARE WITH VOLCANIC ASH TEMPER)
Color café a cafe rojizo o anaranjado y manchas o interiores negras, con desgrasante mediano a burdo principalmente de ceniza volcanica.

2800 CERAMIC NARANJA BURDO CON DESGRASANTE DE CENIZA VOLCANICA (COARSE ORANGE WARE WITH VOLCANIC ASH TEMPER)
Color naranja a blanca con tonalidades verdes y desgrasante mediana de ceniza volcánica.

2900 OTROS TIPOS BURDOS (OTHER COARSE WARE TYPES)

2901. 65. Café Engobado Burdo Inciso (Brown-slipped Incised Coarse)

2902. 92. Fondo Sellado (Fondo Sellado)

2903. 26. Engobado Blanco Burdo (White-slipped Coarse)

2904 Naranjo Pulido
2905 Rojo Especular
2906 Rojo Pulido

3000 OTRAS CERAMICAS (OTHER WARES)

3001. 70. Tres Picos Esgrafiado (Tres Picos Esgrafiado)
3002. 79. Naranja Delgado (Thin Orange)
3003. 56. Plomiso (Plumbate)
3004. 82. Plomiso Original ("Original Plumbate")
3005. 62. Plomiso Falso (False Plumbate)

6000 Ceramicas de RAM (RAM Ceramics not in Tres Zapotes Typology)

7000 CERAMICAS HISTORICAS (HISTORIC WARES)

100. Historic

8000. CERAMICAS NO IDENTIFICADAS (UNIDENTIFIED WARES)

200. Unidentified

9xxxx TIESTOS SOBRECOCIDOS (WASTERS)

RAM/
RATZ# MAT#
1000 **CERAMICAS SIN DESGRASANTE (UNTEMPERED WARES)**

1100 CERAMICA GRIS FINA (FINE GRAY WARE)

Monocromo de Gris Fino Sencillo (Fine Gray Plain Monochrome)

1111. 1. Gris Fino Sencillo (Fine Gray Plain)
1112. 19. Engobado Negro Naranja Fino (Black-Slipped Fine Orange)
1113. 81. Gris Brunido (Burnished Gray)
1114. 85. Cafe Claro Brunido Lechoso (Burnished Milky Light Brown)
1115. 89. Cafe Claro Manchado Mate (Mottled Light Brown with Matte Finish)

Monocromo de Gris Fino Inciso (Fine Gray Incised Monochrome)

1121. 2. Gris Fino con Incision Simple (Fine Gray with Simple Incision)
1122. 3. Gris Fino con Incision Compleja (Fine Gray with Complex Incision)
1123. 81.1 Gris Brunido Inciso (Burnished Gray Incised)

1124. 91. Gris Fino Inciso con hematita especular (Fine Gray with specular hematite in incisions)

Monocromo de Gris Fino con Engobe (Slipped Fine Gray Monochrome)

1131. 58. Blanco Engobado Gris Fino (White-slipped Fine Gray)
1132. 57. Cafe Engobado Gris Fino (Brown-slipped Fine Gray)
1133. 5. Bano Negro Sobre Gris Fino (Black Wash on Fine Gray)
1134. 59. Negro Engobado Gris Fino (Black-slipped Fine Gray)
1135. 61. Negro Engobado Gris Fino con Incision Compleja (Black-slipped Fine Gray with Complex Incision)

Bicromo de Gris Fino Pintado (Painted Bichrome)

1141. 4. Negro sobre Gris Fino (Black on Fine Gray)
1142. 27. Blanco sobre Gris Fino (White on Fine Gray)
1143. 52. Rojo sobre Gris Fino (Red on Fine Gray)

1200 CERAMICA NARANJA FINA (FINE ORANGE WARE)

Monocromo de Naranjo Fino Sencillo (Plain Monochrome)

1211. 6. Naranja Fino Sencillo (Fine Orange Plain)
1212. 6.1 Naranja Fino Arenoso (Sandy Fine Orange)
1213. 30. Bayo Fino (Fine Buff)
1214 xx. Naranjo Fino con Sonido Metálico (Fine Orange with Metallic Sound)

Monocromo de Naranja Fino Inciso sin Engobe (Incised Unslipped Fine Orange Monochrome)

1221. 7. Naranja Fino con Incision Simple (Fine Orange with Simple Incision)
1222. 8. Naranja Fino con Incision Compleja (Fine Orange with Complex Incision)
1223. 30. Bayo Fino Inciso (Incised Fine Buff)
1224. 87. Cafe Brunido Inciso Esculpido (Burnished Brown with Sculptured Incision)

Monocromo de Naranja Fino Engobado (Slipped Fine Orange Monochrome)

1231. 53. Bano Rojo sobre Naranja Fino (Red Wash on Fine Orange)
1232. 18. Cafe Engobado Naranja Fino (Brown-slipped Fine Orange)

1233. 54. Cafe Pulido Engobado Naranja Fino (Polished Brown-slipped Fine Orange)
1234. 16. Naranja Engobado Naranja Fino (Orange-Slipped Fine Orange)
1235. 76. Naranja Brunido (Burnished Orange [Protoclassic]) (=Naranjo Pulido Nebuloso [2904.1x o 2904.2x] [POC 2003])
1236. 77. Blanco Engobado Naranja Fina (White-slipped Fine Orange)
1237. 75. Blanco Pulido (Polished White)
1238. 78. Amarillo sobre Bayo Amarillo (Yellow on Yellowish Buff)
1239. 72. Plata Metalico (Metallic Silver)

"Monocromo" de Naranja Fino Engobado y Inciso (Slipped and Incised "Monochrome")
1251. 86. Engobe Rojo sobre Naranja Fino con Incision Compleja (Red-Slipped with Complex Incision)
1252. 63. Negro Engobado Naranja Fino con Incision (Black-slipped Incised Fine Orange)
1253. 33. Engobado Blanco Esculpido [Tajin Blanco] (Carved White Slip ["Tajin White"])

Bicromo Pintado sin Engobe (Painted Unslipped Bichromes)
1261. 9. Rojo Sobre Naranja Fino (Red on Fine Orange)
1262. 9.1 Rojo Sobre Naranja Fino Inciso (Incised Red on Fine Orange)
1263. 10. Negro Sobre Naranja Fino (Black on Fine Orange)
1264. 14. Blanco Sobre Naranja Fino (White on Fine Orange)
1265. 30.1 Rojo Sobre Bayo Fino (Red on Fine Buff)
1266. 205. Naranja Fino Arenoso con restos de pintura roja (Sandy Fine Orange with remnant red paint)

Bicromo Pintado sobre Engobe (Painted Slipped Bichromes)
1271. 9.2 Rojo Sobre Engobado Blanco Naranja Fino (Red on White-slipped Fine Orange)
1272. 13. Naranjo sobre Engobado Blanco Naranja Fino (Orange on White-slipped Fine Orange)
1273. 13.1 Naranjo Sobre Engobado Blanco Naranja Fino Inciso (Incised Orange on White-slipped Fine Orange)
1274. 17. Blanco Sobre Engobado Cafe Naranja Fino (White on Brown-Slipped Fine Orange)
1275 xx. Negro Sobre Blanco Engobado Narano Fino (Black on white-slipped Fine Orange).

Policromos sin Engobe (Unslipped Polychromes)

1281. 11. Policromo sobre Naranja Fino sin Engobe (Polychrome on Unslipped Fine Orange)

Policromos sobre Engobe (Slipped Polychromes)

1291. 12. Policromo sobre Naranja Fino con Engobe Blanco (Polychrome on White-slipped Fine Orange ["Tuxtlas Polychrome"])

1292. 12.1 Policromo sobre Naranja Fino con Engobe Blanco con pintura negativa. (Polychrome on White-slipped Fine Orange with Negative Resist)

2000. CERAMICAS CON DESGRASANTE (TEMPERED WARES)

2100 CERAMICA GRIS A NEGRO (GRAY TO BLACK WARE)

2111. 31. Gris Burdo con desgrasante blanco (Coarse Gray)

2111.1 xx. Gris Burdo Inciso con desgrasante blanco

2112. 55. Blanco Engobado Gris (White-slipped Gray)

2113. 46. Gris Burdo con desgrasante de ceniza volcánica (Coarse Gray)

2114 xx. Gris Arenoso con Engobe Blanco (White-slipped Sandy Gray) fue 2520 [XEBG]

2114.1 xx. Gris Arenoso con Engobe Blanco Inciso (Incised White-slipped Sandy Gray) fue 2520.1 [XEBG]

2115 Gris Pasta media pulido (Polished Gray with medium paste)

2115.1 Gris Pasta media pulido inciso (Incised Polished Gray with medium paste)

2120. Tipos Negros Formativos (Formative Black Types)-- If heavily eroded the following may be coded as 2120.

2121. 34. Engobado Negro Inciso (Black-slipped Incised)

2122. 41. Negro Pulido (de pasta fina) (Polished Black [fine paste])

2122.1 41.2 Negro Pulido Inciso (de pasta fina) (Polished Black Incised [fine paste])

2122.11 <u>Inciso</u>

2122.12 <u>Esgrafiado</u>

2122.2 41.3 Negro Pulido (de pasta fina) con hematita especular (Polished Black [fine paste] with specular hematite)

2122.3 41.4 Negro Pulido (de pasta fina) Inciso con hematita especular (Polished Black [fine paste] Incised with specular hematite)

2122.31 <u>Inciso</u> con hematita especular

2122.32 <u>Esgrafiado</u> con hematite especular

2122.4 41.1 Negro Pulido (de pasta fina) Delgado con pasta naranja a gris (Thin walled polished black [fine paste] with orange to gray paste)

2123. 28. Negro Pulido Mediano (desgrasante de cuarzo) (Polished Medium Black [quartz temper])

2123.1 xx. Negro Pulido Mediano Inciso (desgrasante de cuarzo) (Incised Polished Médium Black [quartz temper]).

2123.11 <u>Inciso</u>

2123.12 <u>Esgrafiado</u>

2200 CERAMICA DE COCCION DIFERENCIAL (DIFFERENTIALLY FIRED WARE)

(Nueva Sistema de Clasificar la Cerámica de Cocción Diferencial) 21/VII/95 y 8/VII/04

2212 xx. Blanco y Negro de pasta fina (Fine Paste Black and White)

2212.1 xx. Blanco y Negro de pasta fina Sencillo (Plain Fine Paste Black and White)

2212.2 xx. Blanco y Negro de pasta fina Inciso (Incised Fine Paste Black and White)

2212.21 <u>Inciso</u>

2212.22 <u>Esgrafiado</u>

2212.3 xx. Blanco y Negro de pasta fina Engobado Blanco (White Slipped Fine Paste Black and White)

2212.4 xx. Blanco y Negro de pasta fina Engobado e Inciso (Incised White Slipped Fine Paste Black and White).

2212.41 Engobado e <u>Inciso</u>

2212.42 Engobado e <u>Esgrafiado</u>

2213 xx. Blanco y Negro de pasta burda (Coarse Black and White)

2213.1 xx. Blanco y Negro de pasta burda Sencillo (Plain Coarse Black and White)

2213.2 xx. Blanco y Negro de pasta burda Inciso (Incised Coarse Black and White)

2213.21 <u>Inciso</u>

2213.22 <u>Esgrafiado</u>

2213.3 xx. Blanco y Negro de pasta burda Engobado (White Slipped Coarse Paste Black and White)

2213.4 xx. Blanco y Negro de pasta burda Engobado e Inciso (Incised White Slipped Coarse Black and White)

2213.41 Engobado e <u>Inciso</u>

2213.42 Engobado e <u>Esgrafiado</u>

2214 xx. Blanco y Negro de pasta mediana (Medium Black and White)

2214.1 xx. Blanco y Negro de pasta mediana Sencillo (Plain Medium Black and White)
2214.2 xx. Blanco y Negro de pasta mediana Inciso (Incised Medium Black and White
2214.21 <u>Inciso</u>
2214.22 <u>Esgrafiado</u>
2214.3 xx. Blanco y Negro de pasta mediana Engobado (White Slipped Medium Black and White)
2214.4 xx. Blanco y Negro de pasta mediana Engobado e Inciso (White Slipped and Incised Medium Black and White).
2214.41 Engobado e <u>Inciso</u>
2214.42 Engobado e <u>Esgrafiado</u>

2223 38.3 Blanco y Negro con pasta gris fina (White-rimmed black with Fine Gray Paste).

2224 xx. Negro y Bayo de pasta fina (Fine Paste Black and Tan)
2224.1 xx. Negro y Bayo de pasta fina Sencillo (Plain Fine Paste Black and Tan)
2224.2 xx. Negro y Bayo de pasta fina Inciso (Incised Fine Paste Black and Tan)
2224.21 <u>Inciso</u>
2224.22 <u>Esgrafiado</u>
2224.3 xx. Negro y Bayo de pasta fina Engobado Blanco (White Slipped Fine Paste Black and Tan)
2224.4 xx. Negro y Bayo de pasta fina Engobado e Inciso (Incised White Slipped Fine Paste Black and Tan).
2224.41 Engobado e <u>Inciso</u>
2224.42 Engobado e <u>Esgrafiado</u>
2225 xx. Negro y Bayo de pasta burda (Coarse Black and Tan).
2225.1 xx. Negro y Bayo de pasta burda Sencillo (Plain Coarse Black and Tan).
2225.2 xx. Negro y Bayo de pasta burda Inciso (Incised Coarse Black and Tan).
2225.21 <u>Inciso</u>
2225.22 <u>Esgrafiado</u>
2225.3 xx. Negro y Bayo de pasta burda Engobado (White Slipped Coarse Paste Black and Tan).
2225.4 xx. Negro y Bayo de pasta burda Engobado e Inciso (Incised White Slipped Coarse Black and Tan).
2225.41 Engobado e <u>Inciso</u>
2225.42 Engobado e <u>Esgrafiado</u>

2226 xx. Negro y Bayo de pasta mediana (Medium Black and Tan)
2226.1 xx. Negro y Bayo de pasta mediana Sencillo (Plain Medium Black and Tan)
2226.2 xx. Negro y Bayo de pasta mediana Inciso (Incised Medium Black and Tan)
2225.21 <u>Inciso</u>
2225.22 <u>Esgrafiado</u>
2226.3 xx. Negro y Bayo de pasta mediana Engobado (White Slipped Medium Black and Tan)
2226.4 xx. Negro y Bayo de pasta mediana Engobado e Inciso (White Slipped and Incised Medium Black and Tan).
2225.41 Engobado e <u>Inciso</u>
2225.42 Engobado e <u>Esgrafiado</u>

2300 CERAMICA BLANCA (WHITE WARE)
2301 35. Blanco Kaolin (Kaolin White)
2301.1 xx. Blanco Kaoin con engobe naranja (Orange-slipped Kaolin White)
2302 43. Blanco Cremoso con Desgrasante Burdo (Cream-slipped with Coarse Paste)
2303 xx. Blanco Medio (White with Medium Paste?).

2400 CERAMICA BLANCO ENGOBADO CAFE BURDO (WHITE-SLIPPED COARSE BROWN WARE)
2401. 83. Cafe Burdo con Engobe Blanco Fino (Fine White-slipped Coarse Brown)
2402. 45. Crema Engobado Burdo Inciso (Cream-slipped Coarse Incised)
2403. 37. Blanco Engobado Inciso (White-slipped Incised)
2403.1 xx. Blanco y Rojo Inciso (Red on White-slipped Incised)
2405. 36. Engobado Blanco con Acabado Mate (White-slipped with Matte Finish)

2500 CERAMICA CAFE BURDO BRUNIDO (BURNISHED COARSE BROWN WARE)
2512. 40. Negro Pulido Burdo (Coarse Polished Black (antes Negro de Pasta Burda (Black-slipped with Coarse Paste))
2512.1 xx. Negro Pulido Burdo Inciso (Incised Coarse Polished Black).
2512.11 <u>Inciso</u>
2512.12 <u>Esgrafiado</u>

2515. 48. Rojo Burdo (Red on Coarse Brown)
2516. 49. Rojo Engobado con Superficie Texturada (Red-Slipped with Textured Surface)
2517. 203. Cafe Burdo Brunido (Burnished Coarse Brown)
2517.1 xx. Café Burdo Brunido Inciso (Burnished and Incised Coarse Brown)
2518 xx. Calzadas Excavado (Calzadas Carved)
2519 xx. Café Mediano Pulido (Polished Brown with medium paste)
2519.1 xx. Café Mediano Pulido con decoración plástica en general (Polished Brown with plastic decoration)
2519.11 xx. Café Mediano Pulido Inciso (Incised Polished Brown with medium paste)
2519.12 xx. Café Mediano Pulido Esgrafiado
2519.13 xx. Café Mediano Pulido Acanalado
2519.2 xx. Café Mediano Pulido con hematita en incisión (Incised Polished Brown with hematite in incisions).
2519.21 Inciso
2519.22 Esgrafiado

Coarse Brown to Black, half-smoothed, half-striated ware.
2521 xx. Café Delgado Bruñido Granular (Burnished Thin Coarse Brown)
2521.1 201. Negro Delgado Burdo Bruñido (Burnished Thin Coarse Black)
2521.2 202. Negro Delgado Burdo Rastreado (Brushed Thin Coarse Black)

2522. 93. Ollas Mitad Lisa, Mitad Rastreada (Half-smoothed, Half-striated Coarse Brown Ollas)
2522.1 93.1 Tipo 93, parte lisa (Type 93 smooth portion)
2522.2 93.2 Tipo 93 con pintura Roja (Red Paint on type 93)

2600 CAFE BURDO CON DESGRASANTE FINA DE CUARZO Y FELDESPATO (COARSE BROWN WITH MAINLY FINE QUARTZ AND FELDSPAR TEMPER)

2611. 22. Engobado Café Café Burdo (Brown-slipped Coarse Brown)
2612. 88. Tipo 22 con Enobe Blanco (White-slipped Type 22)

2613. 21. Engobado Rojo Café Burdo (Red-slipped Coarse Brown)

2614. 66. Café Engobado Burdo con pasta con inclusiones blancas (Brown-slipped Coarse with a Paste with White Inclusions)

2614.1 xx. Café Engobado Burdo Inciso con pasta con inclusiones blancas (Incised Brown Slipped coarse with a Paste with White Inclusions)

2615. 71. Rosa Burdo (Pink Coarse)

2616. 68. Café Burdo con Rastrillado Suave (Coarse Brown with Soft Rastreado)

2617. 80. Café Bruñido (Burnished Brown)

2620 *Nucleos Oscuros (Dark Cores)*

2621. 64. Café Engobado Burdo (Brown-Slipped Coarse)

2624. 204. Engobado rojo de Pasta Burda (Red-slipped Coarse Orange [original Ware 15])

2650. TIPOS BURDOS CON DESGRASANTE BLANCO BURDO.

2651 xx. Rojo Burdo con Desgrasante Blanco Burdo (Coarse Red with Coarse White Temper)

2651.1 xx. Rojo Burdo con Desgrasante Blanco Burdo Bruñido (Burnished Coarse Red with Coarse White Temper).

2652 xx. Rojo Burdo Inciso con Desgrasante Blanco Burdo (Incised Coarse Red with Coarse White Temper)

2652.1 xx. Rojo burdo Inciso con Desgrasante Blanco Burdo Bruñido (Incised Burnished Coarse Red with Coarse White Temper).

2653 xx. Naranjo Burdo con Desgrasante Blanco [Nucleo Oscuro] (Coarse Orange with white temper [Dark Core]).

2654 xx. Café Burdo con Desgrasante Blanco Burdo (Coarse Brown with Coarse White Temper).

2655 xx. Naranja Burdo con Desgrasante Blanco Fino (Coarse Orange with Fine White Temper)

2656 xx. Rojo Burdo con Desgrasante Blanco Burdo y Engobe Blanco (White Slipped Coarse Red with Coarse White Temper).

2657 xx. Rojo Burdo Inciso con Desgrasante Blanco Burdo Inciso y Engobe Blanco (Incised White Slipped Coarse Red with Coarse White Temper).

2700 CERAMICA CAFE BURDO CON DESGRASANTE DE CENIZA VOLCANICA (CAFÉ BURDO CON COARSE BROWN WITH VOLCANIC ASH TEMPER)

2701. 20. Café Burdo (Coarse Brown) &
2701.1 20.2 Café Burdo Inciso (Coarse Brown Incised)
2701.2 20.3 Café Burdo Punteado (Coarse Brown Punctated)
2701.3 20.1 Café Burdo Inciso y Punteado (Coarse Brown Incised and punctated)
2701.4 93.2 Rojo sobre Café Burdo tipo 2701 (Red Paint on Coarse Brown type 2701)
2701.5 20 Café Burdo Rastreado (Brushed Coarse Brown).
2701.6 xx Café Burdo Alisado
2702 20.4 Café Muy Burdo (Very Coarse Brown)
2703 xx Café Burdo Rallado (fue 2618)
2704 xx Ollas Lisas (fue 2618.1)

2800 CERAMICA NARANJA BURDO CON DESGRASANTE DE CENIZA VOLCANICA (COARSE ORANGE WARE WITH VOLCANIC ASH TEMPER)

2811. 23. Naranja Burdo de Matacapan (Matacapan Coarse Orange)
2812 xx. Naranjo Burdo Inciso (Coarse Orange Incised)
2812.1 xx. Naranjo Burdo Inciso-Tecomates (Coarse Orange Incised: Tecomates).
2821 xx. Engobado Rojo Burdo Borde Acanalado Erosionado (antes Engobado Rojo Burdo con Coccion Irregular Sin Engobe (Red-slipped Coarse Brown [irregularly fired] without slip)
2821.11 25. Engobado Rojo con Cocción Irregular Bordes Acanalados Rojos (antes 2821.1 Engobado Rojo Burdo con Coccion Irregular (Red-slipped Coarse Brown [irregularly fired])
2821.12 xx. Engobado Rojo con Cocción Irregular no Acanalado (Red-Slipped Coarse Brown without channeling)
2821.2 xx. Engobado Rojo Burdo cuerpo rastrillado pasta gris (Red-Slipped Brushed Coarse Brown with Gray Paste).
2822. 60. Naranja Burdo con Engobe Fino (Coarse Orange with Fine Slip)
2823. 69. Rojo sobre Café Burdo: Platos Profundos (Red on Coarse Brown: Deep Basins)
2824. 73. Bayo Pulido Burdo (Polished Coarse Buff)
2825. 84. Café Claro con Pasta Burda (Light Brown Coarse)

2826. 67. Crema Burdo Suave con Testura Yesosa (Soft Coarse Cream with Chalky Texture)

2900 OTROS TIPOS BURDOS (OTHER COARSE WARE TYPES)
2901. 65. Café Engobado Burdo Inciso (Brown-slipped Incised Coarse)
2902. 92. Fondo Sellado (Fondo Sellado)
2903. 26. Engobado Blanco Burdo (White-slipped Coarse)

2904.0 xx. Naranja Pulido Sencillo (Plain Polished Orange)
2904.01 xx. Naranja Pulido Inciso (Incised Polished Orange)
2904.1 76? Naranja Pulido Nebuloso (Cloudy Polished Orange)
2904.11 xx. Naranja Pulido Nebuloso Inciso (Incised Cloudy Polished Orange)
2904.12 xx. ?
2904.2 xx. Naranja Pulido Nebuloso con nucleo obscuro (Cloudy Polished Orange with dark core
2904.21 xx. Naranja Pulido Nebuloso con núcleo obscuro inciso (Incised Cloudy Polished Orange with dark core
2904.3 xx. Naranja Pulido Zonal (Pintado por zonas, POC '75) (Zoned Polished Orange)
2904.31 xx. Naranja Pulido Zonal Inciso (Pintado por zonas, POC '75) (Incised Zoned Polished Orange
2904.4 xx. Naranja Pulido Pasta Fina (Fine Paste Polished Orange) 2904.41 xx. Naranja Pulido Pasta Fina Inciso (Incised Fine Paste Polished Orange)
2904.5 xx. Naranja Pulido Macetas (Polished Orange Macetas)
2904.51 xx. Naranja Pulido Macetas inciso (Incised Polished Orange Macetas)
2904.6 xx. Naranja Pulido Café Interior/Exterior (Polished Orange with brown interior or exterior surface)
2904.61 xx. Naranja Pulido Café Interior/Exterior inciso (Incised Polished Orange with brown interior or exterior surface)
2904.7 xx. Naranja Pulido exterior alisado interior (Polished Orange with smoothed interior)
2904.8 xx. Naranja Pulido macetas no estriado y encalado (Lime-coated Polished Orange Macetas, without scraping).
2904.9 xx. Naranja Alisado (Smoothed Orange)

2905 xx. Rojo Especular (Specular Red)
2905.1 xx. ?

2906 xx. Tecomate Rojo Sencillo Pulido (Plain Polished Red Tecomates)
2906.1 xx. Tecomate Rojo Pulido Inciso (Incised Polished Red Tecomates)
2906.2 xx. Rojo Pulido (Polished Red)
2906.3 xx. Rojo Pulido paredes gruesas (Thick Polished Red)
2906.4 xx. Rojo Alisado (Smoothed Red)
2906.5 xx. Rojo Tatagapa (Tatagapa Red)

2907.1 xx. Rayado de Pasta Roja Burda con desgrasante ceniza volcánica (Scored Coarse Red with volcanic ash temper)

3000 OTRAS CERAMICAS (OTHER WARES)

3001. 70. Tres Picos Esgrafiado (Tres Picos Esgrafiado)
3002. 79. Naranja Delgado (Thin Orange)
3003. 56. Plomiso (Plumbate)
3004. 82. Plomiso Original ("Original Plumbate")
3005. 62. Plomiso Falso (False Plumbate)

6000 Ceramica del Estilo la la Mixtequilla

6006. Patarata Coarse Red-Orange
6007. Patarata Coarse Plain
6008. Acula Red-Orange
6010 Acula Red-Orange Engraved
6011 Red and White Bislip

7000 CERAMICAS HISTORICAS (HISTORIC WARES)

100. Historic

8000. CERAMICAS NO IDENTIFICADAS (UNIDENTIFIED WARES)

200. Unidentified

9xxxx TIESTOS SOBRECOCIDOS (WASTERS)

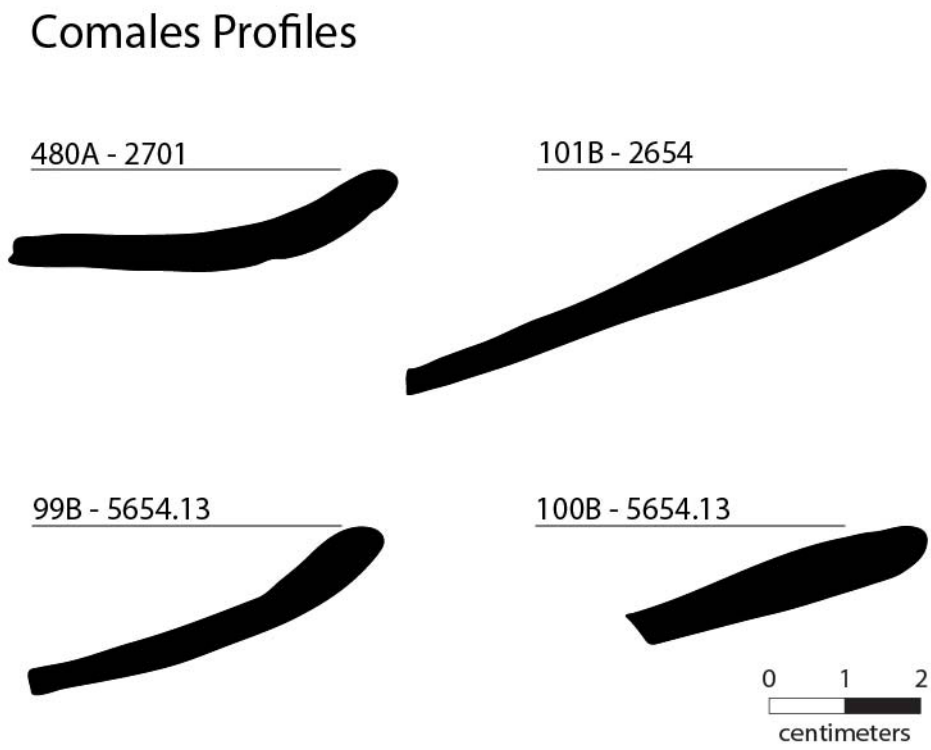
NUMEROS YA NO USADOS (No longer used)

x 39. Coarse Brown: Tecomates

2211. 38. Blanco y Negro (White-rimmed Black)

2221. 38.1 Negro y Bayo (Black and Tan [=74. Classic White-Rimmed Black?])
2221.1 38.11 Negro y Bayo con pasta fina (Black and Tan, fine paste)
2221.2 38.12 Negro y Bayo con pasta burda (Black and Tan, coarse paste)
2222. 38.2 Negro y Bayo Inciso (Black and Tan Incised)
2222.1 38.21 Negro y Bayo Inciso con pasta fina (Black and Tan Incised, fine paste)
2222.2 38.22 Negro y Bayo Inciso con pasta burda (Black and Tan Incised, coarse paste)

Representative Vessel Profiles

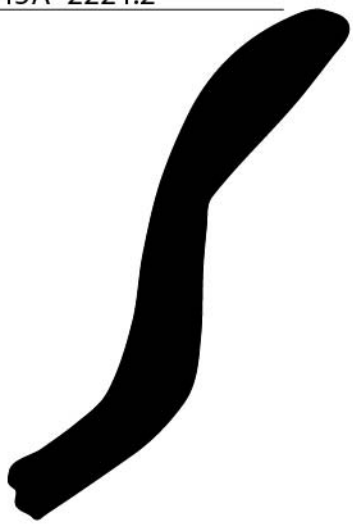


Cazuela Profiles

194A - 2701

460A - 5614.27

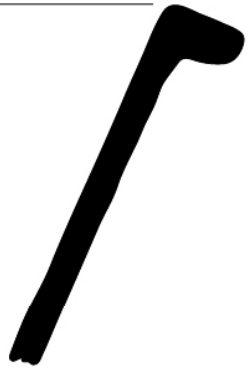
545A- 2224.2



580A - 1212

Plate Dish Profiles

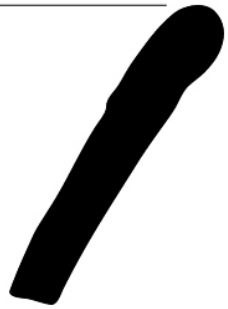
754A - 1291



400A - 1291

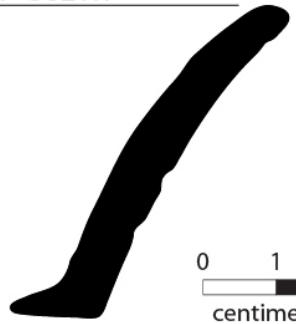
166A - 2701.1

60B - 2701



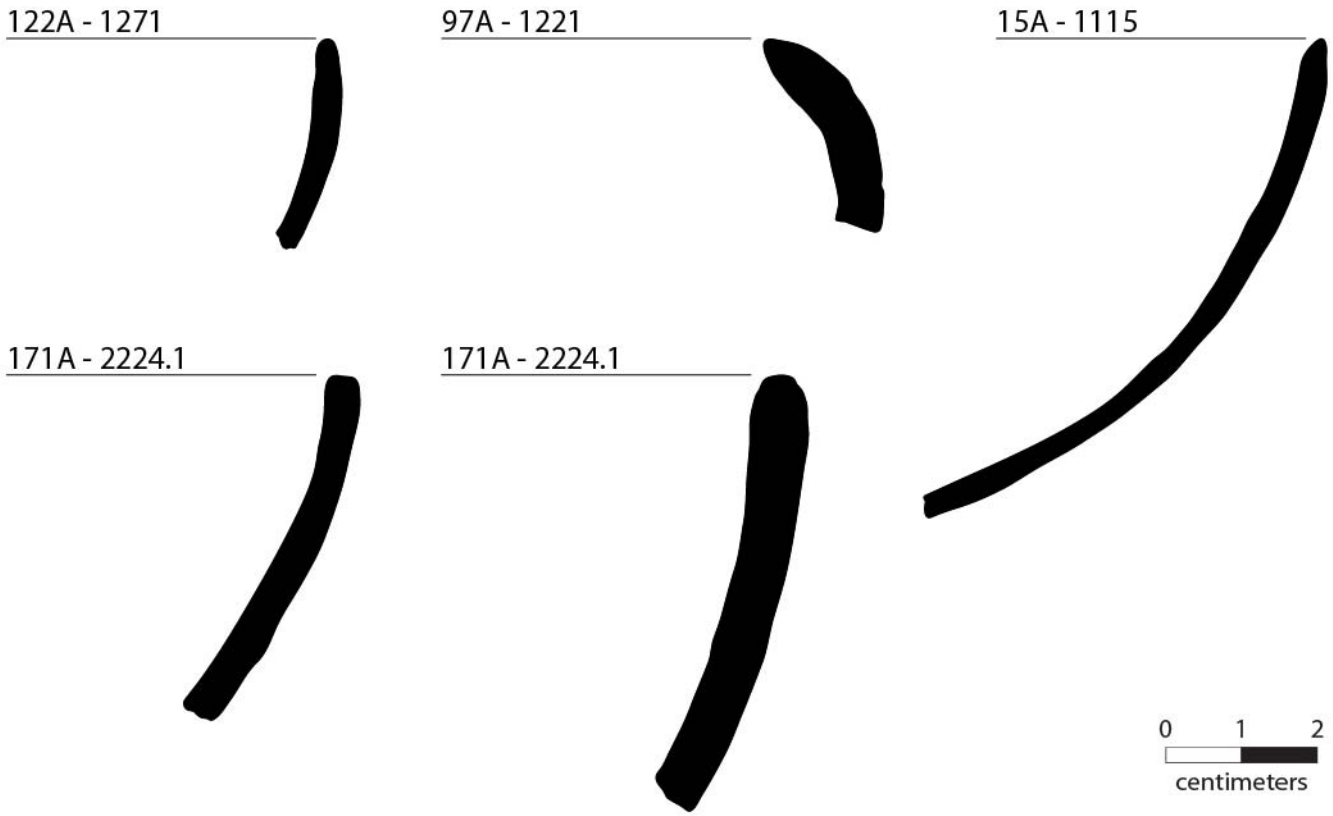
521A - 2224.2

163A - 5621.1



0 1 2
centimeters

Simple Sil Bowls Profiles



Composite Silhouette Bowl

110A - 1211

95B - 2212

621A - 2224.2

Cylindrical Jars

763 - 1281

666A - 5624.1

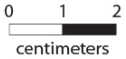
75B - 1211

608A - 1212

Macetas

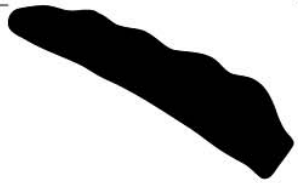
550A - 2904.5

336A - 2904.5



Tecomates Profiles

297A - 2701.1



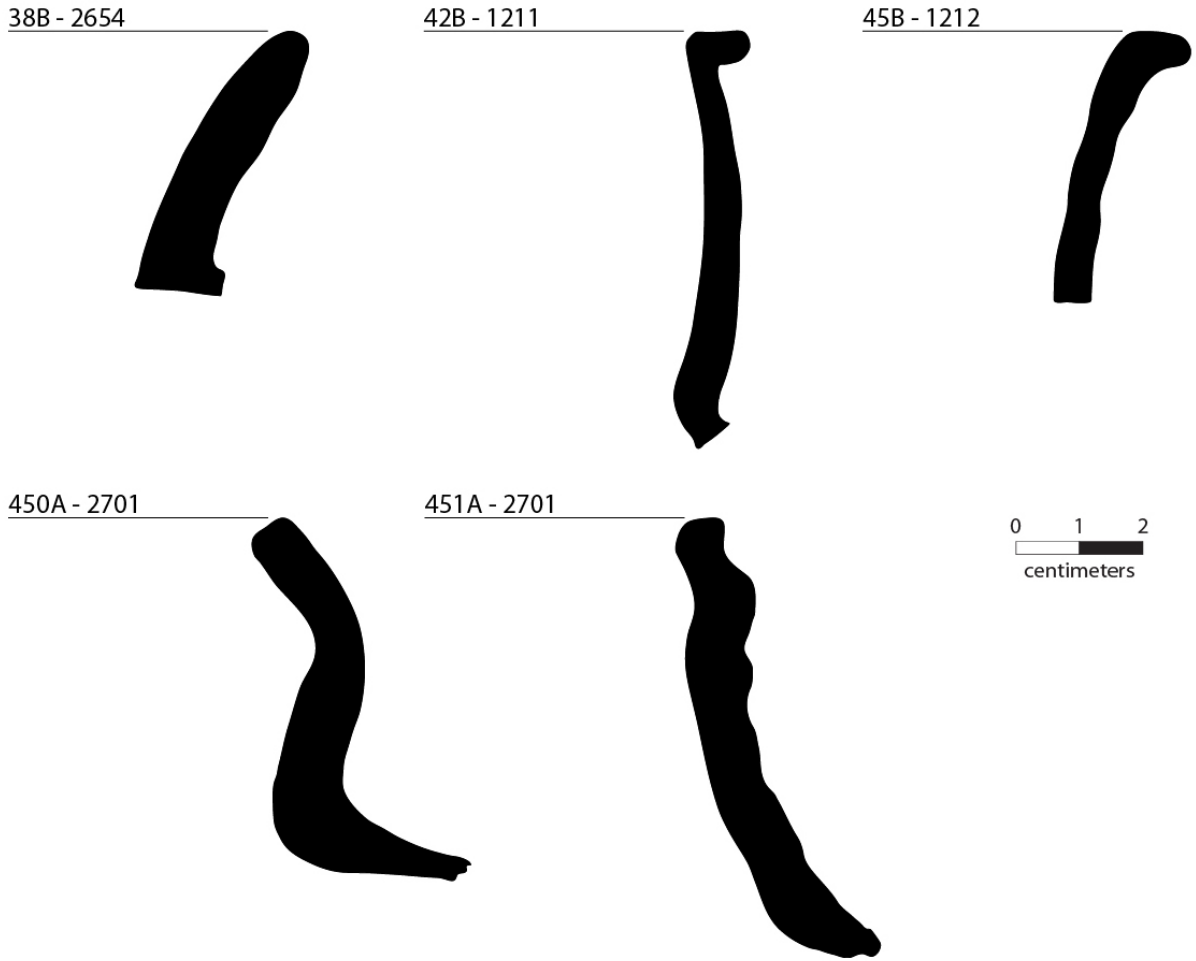
208A - 5405.1

258A - 2122.1

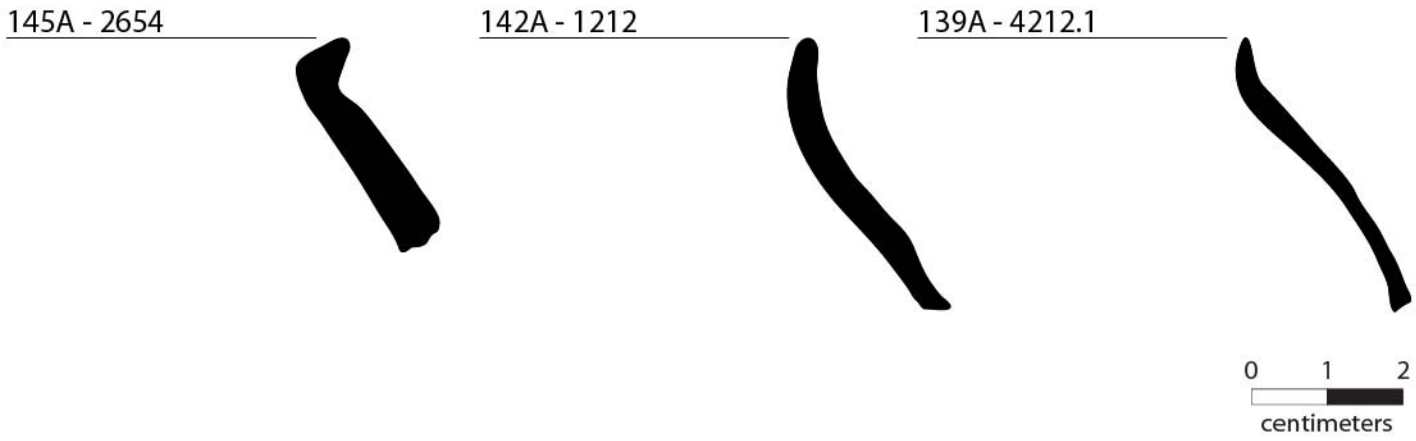
201A - 2705.1

199A - 5405.1

Necked Jars Profiles



Vague Neck Jar Profiles



Database of RAM ceramic data is appended in the file: AppendixB.xls

APPENDIX C
RAM Obsidian Data

This appendix contains the raw data for obsidian artifacts recovered during the RAM survey. This database is appended in the file: AppendixC.xls

APPENDIX D

This appendix contains the raw data for groundstone artifacts recovered during the RAM survey. This appendix is appended in the file: AppendixD.xls

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2010-2011	Part Time Instructor- Department of Sociology, Anthropology, and Criminology, Missouri State University,
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2007	Part Time Instructor-Division of Social Sciences, Transylvania University
2005-2010	Staff Archaeologist-University of Kentucky, Program for Archaeological Research and Kentucky Archaeological Survey
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PUBLICATIONS

Pool, Christopher A., Ponciano Ortíz Ceballos, María del Carmen Rodríguez Martínez, and Michael L. Loughlin

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