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REGIONAL AFFILIATION IN THE LOWER RIO VERDE: AN EXAMINATION OF RÍO
VIEJO MIDDENS AS EVIDENCE FOR SCALED-UP PRACTICE AT SURROUNDING
SITES.

by:

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B.A. University of Central Florida, 2009

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Department of Anthropology
in the College of Sciences
at the University of Central Florida
Orlando, Florida

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ABSTRACT

This research project analyzes 5 middens from the Lower Río Verde valley sites of Río Viejo and Yugüe, Oaxaca, Mexico, during the Terminal Formative period (150 BC to AD 250). The middens are analyzed to further our understanding of socio-political events in public spaces at both sites during this time. The study suggests a greater distinction in use of public spaces between the two sites than within Río Viejo. Frameworks established by Dietler and Hayden for the analysis of feasts do not seem to apply well to the middens analyzed here. Although I argue that evidence from Río Viejo's middens does not dispute the viability of previous arguments regarding Terminal Formative Río Viejo 'ritual authorities', potentially elites, efforts to create regional-scale political affiliations, the level to which middens at Río Viejo are evidence of "scaled-up" versions of local practices at outlying sites is inconclusive. Though there is potential for larger feasts at Río Viejo, taken alone the Yugüe midden appears larger. The Río Viejo middens demonstrate greater likelihood for the diminished conspicuousness of status differentiation during the associated events.

Dedicated to

A circle with a dot at the center of it

ACKNOWLEDGMENTS

This thesis would not have been possible without the opportunities presented to me by my mentors, Drs. Sarah B. Barber and Arthur A. Joyce, who also provided many years of academic guidance, in-field training, and interesting moments. I would like to thank my family, who has always, and in many ways, supported my decisions. Most of all I would like to thank my friends and peers, without you I would have lost my mind at the worst of times rather than the best. Special note goes to Amelio, Jamal, Marc M., Trailer, Bigson Cash, ROJO, Assh, Richard B., The Wolf Spider, The Artist, Va Ne Ne, Nate L., Guy H., James F., and my dearest friends at the Berlin-Hall. Oh, and Victor I guess.

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CHAPTER 1: INTRODUCTION

An enduring topic of interest in the archaeological study of ancient complex societies is how and, by whom, early centers were used. While most researchers agree that monumental public spaces in ancient Mesoamerica were built with either voluntary or *corvée* labor, provided by large numbers of non-elites, the degree to which those populations were involved in the subsequent use of these spaces has been debated (Joyce et al. 2013; Inomata 2006).

Furthermore, the activities that took place in public spaces have also remained a topic of extensive discussion ranging from public spectacle, of which commoners were mere witnesses, to more intimate ceremonies, exclusive to elites, and to many other forms and functions (Hirth 2009; Inomata 2006; LeCount 2001). One potential use of public space may have been for the hosting of large commensal events, or feasts (LeCount 2001).

Recent excavations at the site of Río Viejo, on the Pacific coast of Oaxaca, Mexico, have revealed a series of middens (refuse pits and areas) that may indicate that large-scale food consumption was taking place in the site's monumental Terminal Formative period (150 BC to AD 250) public space. Simply, these middens may represent feasts. Feasts have been studied in ethnography, ethnohistory, and archaeology. They have been argued to have varying political and economic functions (Rosenswig 2007; Smith 1977; Terraciano 2001; Wells 2007). Feasts constitute a mutable outlet for the negotiation of socio-political ideologies.

Since feasts were an important venue for creating and maintaining social relationships, similarities or differences in these events over time and across space may reflect larger social processes. In this thesis, contemporaneous middens will be examined to determine feasting

practices within the Río Viejo acropolis and between that site and the smaller site of Yugüe.

Feasting practices are approached by drawing on past anthropological research on the topic.

A Persistent Issue in Archaeology

One serious and current issue with debates put forward by relevant researchers, such as Hayden and Dietler (Dietler 2001; Hayden 2001), is the limitation their classifications of feasts often create. This limitation stems from the development of the classification, which is bound by *actual* ethnographic examples. This developmental process has created definitions of feasts that require feast attributes not necessarily relevant to the overall concept the definitions are trying to demonstrate. Plainly, some of the current definitions for feasts may rely too heavily on actual feasts held by societies living today, the determining factors are too specific to one cultural practice or another. For example, a feast may be defined by its function: hypothetical Feast A and Feast B may have both had that function and, because of that fact, should be defined the similarly. However, because the definition was based on Feast A, which was physically witnessed to have characteristics x, y, z while for Feast B (which cannot be witnessed) there is only evidence for characteristics x and y, Feast B may be categorized differently. Further, characteristic z may have very little to contribute to the defining function of the feast, or may not be necessary.

In archaeology, where we cannot see the event take place, presuming too much based on ethnographic example has serious implications. Archaeological and ethnographic feasts need to be treated differently, the reasons follow. The description through definitions and not attributes makes the recognition of outlying feast forms difficult, if not ignored entirely. This is not equally relevant to ethnography because outlying forms are more likely to be noticed through methods

such as participant observation. In archaeology if you are looking for something to fit in a definition scheme then it may be forced to fit, accidentally or without reflection, but if you are looking instead at just the context and content then there is no need to force a fit (Lyman and O'Brien 2001).

The Purpose of this Work

Drawing on previous work in the region (Barber and Joyce 2007), this thesis aims to examine the notion that early political centralization in the region was in part derived from events enacting scaled-up versions of local community ceremonies. To buttress the main argument, this thesis has two secondary goals:

1. Demonstrate that the contexts in question are middens, which are refuse piles or pits.
2. Demonstrate that these deposits are the remnants of feasting events.

In hoping to contribute to both the academic discourse on the uses of public areas in ancient Oaxaca and debates on feasts as a viable line of evidence for understanding broader political processes in archaeology, this thesis has two hypotheses:

1. Feasting on different parts of the Río Viejo acropolis was undertaken for different reasons, which resulted in different kinds of midden assemblages.
2. Feasting activities at Río Viejo were simply a scaling-up of activities that were taking place in public spaces at outlying sites.

The middens in this study are all dated to the Chacahua phase, dating from 100A.D. -250 A.D. (Figure 1), and are analyzed primarily with proportional data. Other material evidence with longer history, such as public structures, is also included when relevant. Also, ethnohistory is referred to for some theoretical points. A current issue in the Lower Rio Verde valley is the relative lack of comparative analysis of late Terminal Formative middens, despite the growing rate of their acquisition by archaeologists; this thesis is an attempt to begin rectifying this issue.

Broader Relevance

The data set analyzed in this thesis fits into a larger literature on ceramic forms and food consumption in the lower Río Verde valley during the later Formative period (400 B.C – A.D. 250, alternatively 2350-1620 cal yr. B.P.). Chatinos are the earliest known inhabitants of the Lower Rio Verde valley; they occupied the area during the Late to Terminal Formative Periods (Joyce 1993; Joyce 2010). There have been many researchers in this area examining the archaeological past of the Chatino indigenous group. Particularly relevant to this discussion is the work of Joyce (1993), Levine (2002), Barber (2005), and Brzezinski (2011), all of whom drew on ceramic analysis to understand aspects of Formative period social organization. Joyce also developed the ceramic chronology using midden deposits from throughout the region.

Levine (2002) has contributed a temporal study of Late (400 – 150 B.C.E.) and Early Terminal (150 B.C.E. – C.E. 100) Formative period ceramics in the Lower Rio Verde valley, demonstrating changes that occurred in standardization, labor investment, and skill from the Minizundo phase to the Miniyua phase (Figure 1). Barber (2005:222-224) contributed to the overall amount of caches, middens, and other ceramic assemblages found in the valley. Most importantly for this thesis, she has given a succinct account of how a Late Terminal Formative

period (C.E. 100 – 250) sheet midden found at Yugüe, F42 (also analyzed here), informs our understanding of the larger socio-political dynamic at Yugüe during the Chacahua phase. Brzezinski (2011) has analyzed 457 vessels, also from the late Terminal Formative, to investigate icons on grayware from the lower Rio Verde valley, thereby contributing to our understanding of Chatino ideology and worldview. All of these researchers have been using, and building on, the same vessel attribute list that is used here. As the ceramic databases and organization of information within them improve and grow, then the work of Barber, Brzezinski, Levine, and, hopefully, this thesis can provide the ground work for an improved standardization of midden interpretation.

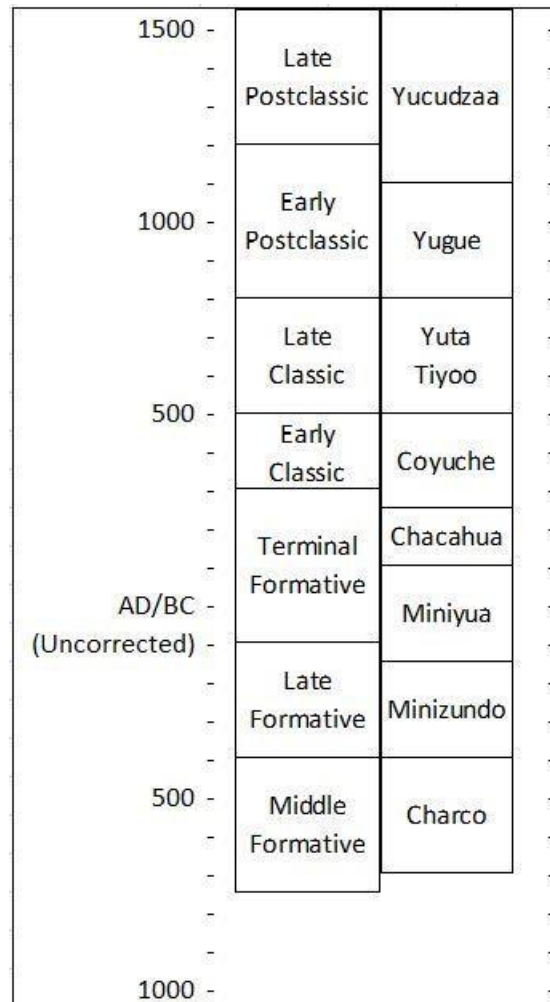


Figure 1: Oaxaca Time Periods (Left) and Lower Rio Verde Ceramic Chronologies (Right) Juxtaposed (after Joyce et al. 2013 Figure 1.5)

Organization of the Thesis

Over the following pages, I will consider the question of how public spaces were used in the lower Río Verde Valley in the Terminal Formative period and the implications of my results for understanding the organization of an early centralized polity. In Chapter 2, I introduce the region and the research problem more thoroughly. Chapter 3 discusses the

methodology used to analyze the middens both in the field, where an effort was made to account for attributes, and in the lab, where an effort was made to analyze those attributes. Chapter 4 displays the results of the analysis and discusses their theoretical significance. Chapter 5 summarizes the findings and implications of this thesis.

CHAPTER 2: THE LOWER RÍO VERDE VALLEY IN THE LATE AND TERMINAL FORMATIVE PERIODS

As previously stated, the lower Río Verde valley is currently seen as having been inhabited mainly by Chatinos during the Late to Terminal Formative periods (Joyce 2010; Goman et al. 2005; Joyce and Mueller 1997: 77). Nearby areas, such as the Nochixtlan Valley and the Valley of Oaxaca, during this time show evidence for state polities while the Late Formative Lower Río Verde valley shows an increase in both population and sociopolitical complexity (Joyce and Mueller 1997: 77 and 80). Monte Alban was first built around 400 BC, suggesting its level of political organization had advanced through its incipient forms already (Marcus 1983). The Mixteca Alta also had significant political and demographic development, particularly with its urban centers, during the Late Cruz phase (700-300 B.C.) (Balkansky et al. 2000). Some scholars suggest that the development of the Mixteca Alta followed and may have been greatly influenced by the prior development of Monte Alban (Balkansky et al. 2000). Given the contexts of the Valley of Oaxaca and the Mixteca Alta at this time, the lower Río Verde valley appears to have been developing at a slightly slower rate.

Key to understanding the middens of the Río Verde valley during the Late/Terminal Formative period is familiarity with the environment, the site of Río Viejo, and current perspectives on its political and social history. With relevant context, questions can be asked about time period and events at specific sites.

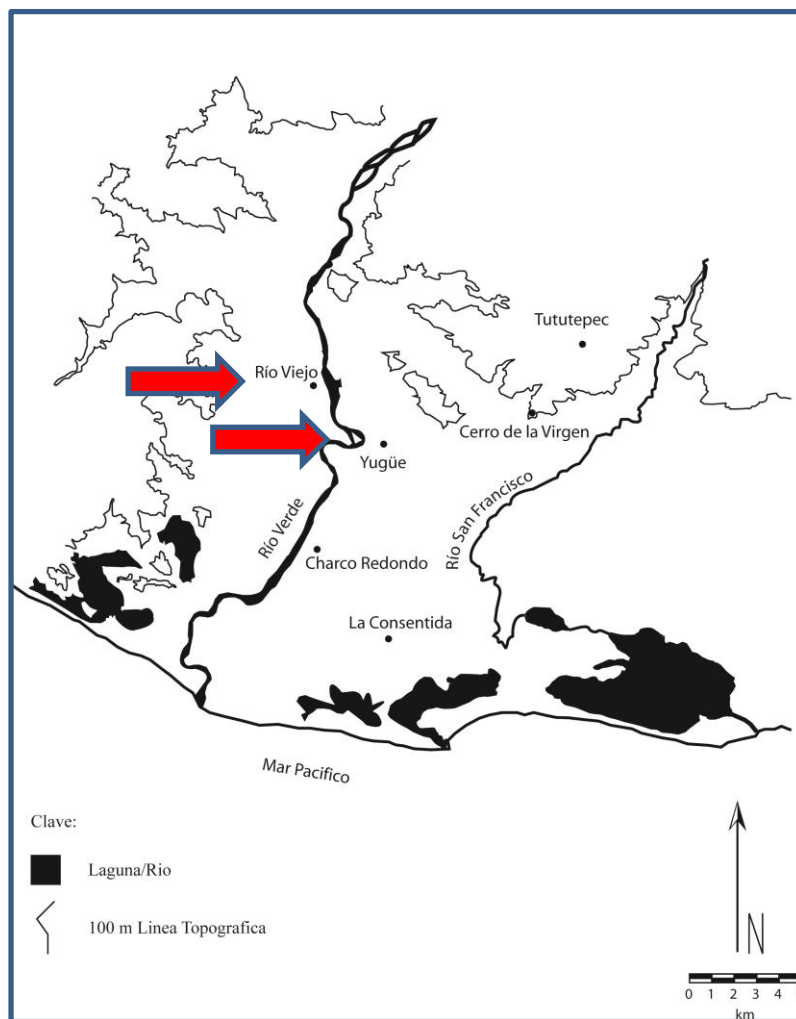


Figure 2: Map of the Lower Rio Verde Valley (highlighting sites analyzed here)

Environment

By the Late Formative (400-100 BC) several food resources were already used by the Zapotec people and, most likely, the Chatino people including: corn, deer, dogs, rabbits, turtles, fish, agave, beans, avocados, and a variety of other fruits, vegetables, and small game (Marcus and Flannery 1996:71-83; Joyce 2010; Morell-Hart, personal communication 2014). Currently, the temperature of the area ranges from 25C to 28C, with rainfall of 1000mm to 2000m annually (Joyce and Mueller 1997: 77). In Oaxaca, a general trend of erosion due to agriculture and technology countering that erosion, like agricultural terracing, had been occurring in the highland valleys, specifically in the Valley of Oaxaca. This valley contains the Río Atoyac, which is part of the Río Verde's drainage basin (Joyce 2010: 38-42; Joyce and Mueller 1997: 84). Due to their riverine connection, environmental events occurring in the Valley of Oaxaca inextricably affect the

lower Río Verde valley. The deposition of minerals from upland erosion, particularly from the Valley of Oaxaca, contributed to the fertility of the lower Río Verde valley and also the floodplain's growth, thereby providing a boon towards the agricultural productivity of the area (Joyce 2010: 42; Goman et al. 2005: 251). Archaeological evidence demonstrates that marine and estuarine resources, such as fish and shellfish, were not largely found, and therefore unlikely an important part of the diet, during the Early Formative Period (1600-800 B.C.), but increased in use from the Middle Formative Period (800-400 BC) to the Early Classic Period (A.D. 250-500), likely because the beach barriers that created the region's rich lagoon systems had not yet developed until the Middle Formative Period (Goman et al. 2005: 256). The path of the Río Verde to its outlet at the Pacific Ocean, combined with a forming coastal barrier, gave the people of the area access to coastal, brackish, and fresh water resources as well as refreshing surface sediments through seasonal flooding. This combination of flooding, a coastal barrier, and upland erosion also provided fine clays used in ceramic manufacture (Goman et al. 2005:252 and 256; Joyce 2010: 38-42).

Settlement

By the Late Formative Period (400-100 B.C.) humans had been living in settled communities in the lower Río Verde valley for over 1000 years, specifically since about 1600 B.C. (Hepp 2007; Joyce 2010: 72). Significant changes in available resources, particularly growing agricultural fertility due to expansion of the floodplain, may have been one of the driving factors for population growth, which is evidenced by a radical increase in occupied area (of the entire region) from about 64 hectares to 299 hectares from the Middle Formative Period to the Late Formative Period (Goman et al. 2005: 257; Joyce 2013:15; Joyce and Mueller 1997). Joyce and Mueller (1997) determined the changes in occupied areas through phase 1 ground survey, looking for the changing boundaries of utilized space, particularly residential. By the

Terminal Formative period (100 B.C.- A.D. 250), the Río Verde had become a braided river, as opposed to a meandering river, which made the previously fluctuating changes to the environment permanent, allowing for more durable and successful cultural adaptations. This change is significant because it creates a more stable floodplain with larger tracts of arable land. The duration of the Late Formative would likely have been sufficient for the inhabitants to acclimate and beneficially adapt to these changes, which then aided population growth and social development further (Joyce and Mueller 1997:84-89). It was during the Terminal Formative period that Río Viejo developed as a political center (Joyce and Mueller 1997:89).

Current Perspectives on Formative Period Political Organization

From 400 B.C. – A.D. 250, early centers in the lower Río Verde valley became increasingly complex politically in conjunction with increased population size and a beneficial subsistence situation (agricultural and marine resources described above) (Joyce 1991). By the Late/Terminal Formative period, the area appears to have been divided into a two-tiered settlement hierarchy “with Charco Redondo and Río Viejo possibly functioning as the local centers of their respective sides of the river” (Joyce 1991: 132). At Río Viejo, the largest monumental space in the lower Río Verde valley was constructed, the Acropolis, with several mounds at about 16 meters above the floodplain surrounding the largest plaza space in the area (Barber and Joyce 2007; Barber and Joyce 2012). By the Terminal Formative period, large-scale mound building began at several sites including: “Loma Reyes, Barra Quebrada, and Charco Redondo” and Yugüe, demonstrating the increased ability of polities to produce labor and their increased need for monumental space (Barber 2005; Joyce 1991: 133). The sheer growth of Río Viejo’s surface area, its monumental architecture, and its population size, in comparison to the other sites during this time, however, point to increasing centralization with Río Viejo serving as a political center by the Chacahua Phase (the Late Terminal Formative Period). It would have

been at the top of a now five-tiered settlement hierarchy (Barber and Joyce 2007). By the end of the Late Terminal Formative Period, transitioning to the Early Classic period, Río Viejo seems to have begun to decline in population. In addition, monumental construction ceased at the site's ceremonial center and this area of the site displays evidence of mining (Barber and Joyce 2012). The evidence suggests that the Early Classic Period demonstrates political decentralization until the Late Classic Period began around A.D. 500 (Barber and Joyce 2007).

Many scholars argue that the agency of all people can and do affect sociopolitical formation and change (Blomster 2010; Joyce 2002). In the case of the lower Rio Verde valley specifically, Barber and Joyce (2007; Barber 2013) argue that, during the Terminal Formative period, regional political organization was made possible partly by the creation of a regional political identity. Such an identity would have drawn together people from disparate communities across the valley through actions, materials, and spaces that enabled regional-scale collective interaction and engagement in practices. The Río Viejo Acropolis, and the events that took place there, would have been at the core of such regional collective action. Barber and Joyce (2007; Joyce and Barber 2013) have also asserted that the construction and use of the acropolis were, to some extent, scaled-up versions of actions that had deep historical roots in the region.

Burial practices, small site ritual, and caching could vary in form depending on the site (Barber and Joyce 2007). Mixed elite and commoner burials, fully public ritual with participants from the entire population, and caching indicative of donations from the commoners and elite, or on a shared ceremonial space, can all suggest a society more aligned with minimizing how conspicuous the political hierarchy appears. Differentiated commoner versus elite burial areas or practices (such as interred offerings distinguished and specified by the hierarchy), private ritual either completely elite or common, public ritual with roles defined by a hierarchy (segregated

levels of participation), and caching practices that are limited to the household level and have distinct elite and commoner patterns may all point to a highly stratified society (Barber and Joyce 2007, Barber and Joyce 2013). With notions of ceremonial space, and public and private ritual, the specific nuances associated with the middens analyzed here are touched upon below and in Chapter 4. To clarify, I do not intend to suggest that these factors will appear in the first combination or the second combination stated above; all of those factors can be mixed in a multitude of ways.

Going back to at least the Late Formative, there is evidence for collective actions that linked people to the places where they lived. Such action includes communal caching, community burials, and use of public plazas and mounds for ceremony (Barber and Joyce 2007). Communal caching is the deposition of complete vessels or other artifacts as offerings in a public space in large enough amounts that would necessitate the participation of a group, relevant examples can be found describes in caching evidence from Cerro de la Cruz and Cerro de la Virgen (Barber et al. 2013). Barber and Joyce (2007) suggest that during the Terminal Formative, Río Viejo became a regional-scale analogy for those local places using similar practices. Such practices could have included the commissioning of communal labor and communal offerings through collective ritual or action, such as feasting (Joyce et al. 2013). If they are correct, events like feasting, construction, and collective burial should be taking place on the Acropolis. Also, presumably, feasting at the Acropolis should include people from across the valley, should include lots of people, and should include people of all status levels.

The size of the Acropolis during the late Terminal Formative compared to the settled area of Río Viejo indicates an amount of labor hours for construction that could only be provided with outside laborers. Joyce and colleagues (2013) suggest a minimum of five distinct work groups. This number of work groups is based on estimates of population size among the surrounding

sites, though this is implied and not explicitly demonstrated, as well as evidence of multiple architectural techniques utilized in its construction, that is various types of puddled adobe and constructive fill. This implies a method of organization for laborers familiar with different kinds of construction techniques.

The method of organization considered involves a collective identity, maintained in order to continue political cohesion and legitimate elite power. Identity here refers to an affiliation of a population with the particular idiosyncrasies of a social group, be it economic status, site, or region. They can be expressed through material culture, location, ritual action, and language among other things. Here we are concerned with political affiliations. Generally commoners could limit elite authority (Barber and Joyce: 2007). Both elite and commoner identities were acting in a mutually reliant social structure that forced constant interaction, and so both were constantly negotiating and influencing the power of the other. Current evidence does not adequately support the idea that there was a hierarchy that was consistently and publicly re-emphasized: mortuary practices do not reflect impassible status thresholds (distinctions so vast that there would have been little hope of passing from one status to another), middens do not display segregation of events or event types based on status, and ascribed status does not seem entirely set in stone until monuments naming rulers appear at Río Viejo in the Classic period (Barber and Joyce 2007; Urcid and Joyce 2001). However, there is one indication of inequality and exclusion on the Acropolis; there is an elaborate structure, Structure 2, which is currently considered exclusive ritual space; it should be noted that this area is distant from the middens addressed here (Joyce and Barber 2013).

The issue with the scaling-up idea is the small amount of hard evidence we have of the actual practices at Río Viejo. Though interaction between Río Viejo and outlying sites seems clearly present, more evidence is needed to support or disprove the notion of a communal

regional identity. Feasting practices are one way we may be able to address this but it is prudent to look at the specific sites to which this discussion pertains. Of those sites, an understanding of Río Viejo is key.

Río Viejo

The site of Río Viejo constitutes a vital part of our understanding about sociopolitical development in the lower Río Verde valley in the later Formative period, the Terminal and Late Terminal (400 B.C. -250 A.D.) when Río Viejo may have been a state center, because it is the largest center in the area, comprised of both public areas, including the monumental Acropolis (or Mound 1), and residential areas (Joyce 2010: 186-194). The site reached 297 hectares in size during the Terminal Formative, making it nearly 200% of the size of the next largest sites in the valley (Goman et al. 2005: 257; Joyce and Mueller 1997; Joyce 2003: 59). During the Terminal Formative, and even today, Río Viejo was close to the Rio Verde (Joyce and Mueller 1997: 88). All materials presented in this thesis date to no later than the Chacahua ceramic phase, potentially the pinnacle and waning of Río Viejo's influence prior to the Late Classic period.

The site is home to a number of mounds, of which most informative for communal political discourse is the Acropolis (Joyce et al. 2001). The Río Viejo Acropolis is a large earthen mound, 350m by 200m in area and 5 meters high. On it are two constructions, Structures 1 and 2, which were at least 16m above the floodplain by the Terminal Formative period (Barber and Joyce 2012; Joyce and Barber 2011; Barber and Joyce 2007:231). As stated above, Structure 2 is associated with at least one elaborate building. The central area of the Acropolis is primarily comprised of a large sunken patio, however, this patio did not exist until the Late Classic period. The space that is currently a sunken patio was likely one large open plaza in the Terminal Formative period (Barber 2012). During the Terminal Formative this central area may have been

considered a different kind of plaza than its sunken plaza form. Notably, none of the middens are located on this plaza but instead are located on the mound(s) that would have surrounded it (PRV2012). It is currently unknown whether these mounds were connected or not, however the area estimates of the platforms found in 2012's Operations D and E suggest that, if there were gaps, they would have been small (Egan and Barber 2012; Rivas 2012). At this time two Terminal Formative superstructures are known other than the one on Structure 2. One is a small public, adobe-block building, found in Operation D of the Proyecto Río Verde 2012 that may be directly associated with midden E39 and another small building on the northern side of the Acropolis near Structure 2, found during the Proyecto Río Verde 2013 (Sarah B. Barber, personal communication 2014). The latter building is distant from all of the middens in this analysis. Just after the late Terminal Formative period, the Acropolis fell into disuse likely associated with a massive decrease in Río Viejo's population (Goman et al. 2005; Barber and Joyce 2007, 2012). During the Early Classic Period, and potentially part of the Late Classic, the Acropolis was mined for dirt and used as a location for human burial and for the placement of offerings (Joyce and Barber 2012).

To reiterate, the construction of the Acropolis alone seems to suggest communal effort, and potentially a stage upon which to affirm collective identity through public ceremony (Barber and Joyce 2007: 232). Alternatively the construction of the Acropolis could have been "forced" but there is less evidence of coercion. Because of the highly interactive relationship commoners and elites had (mentioned above), even if the construction was communally driven to ultimately affirm communal identity it does not exclude the potential for rulers to have sponsored such construction or to have gained from it, as it would have been a powerful symbol seen from afar (Joyce 2010: 191).

Midden deposits were recovered from three operations in the 2012 excavations at the site:

Operations C, D, and E (Figure 3) (Egan and Barber 2012; Rivas 2012; González et al. 2012). For this thesis, the middens provide relevant data that pertains to the exploration of a regional identity led by Río Viejo (PRV 2012). These data potentially describe nuanced differences between events and their locations, and these events may point to the larger socio-political and ideological agendas of other sites in the lower Río Verde valley.

Yugüe

To facilitate the examination of site differences, Río Viejo can be compared to the much smaller site of Yugüe on the east side of the river. At 9.75 hectares, Yugüe was a third-order site in the regional settlement hierarchy and 23 times smaller than Río Viejo (Joyce 2003: 64-65). Yugüe consisted of a central 10m high mound and modified hill on which both residential and public architecture was present in the precolumbian era (Barber 2013: 168). Two substructures emplaced on the mound are considered ceremonial architecture that, with a platform, make up part of a larger public space (Barber 2013: 168). It was first occupied no later than the Late Formative period Minizundo Phase (400 B.C. -150 B.C.) (Barber 2013: 168; Joyce 2010: 180, 187). Like Río Viejo, this site has public space and evidence, within that public space, showing the importance of communal identity. Such evidence of communal identity comes from all time periods within the Terminal Formative period, which demonstrates these substructures' continual use (Barber 2013:170).

Barber and Joyce (2007: 229) cite an example of a burial containing valuable items that distinguished status, but whose burial location was not distinguished from the rest of the community. The burial location was a cemetery placed on a public platform; burial 14, individual 16 (B14-I16) specifically was buried among 48 individuals, not all of whom shared the same status (Joyce 2008: 225; Barber and Joyce 2007: 227-229; Mayes and Barber 2008: 576; Barber 2013: 170). What demonstrates communal values' greater weight than individual value is how these individuals were treated. When new interments emplaced previous interments were

frequently disturbed (Joyce 2008: 225).

Evidence for feasting has also been found at this site, in the form of a Terminal Formative cooking feature outside of Structure 1 (a large substructure on top of the site platform) and three middens in public settings (Barber 2013:170; Joyce 2010: 187; Joyce 2008: 224). Two large complex caches, including 175 partial or whole vessels, further attest to communal use of this area because there are many more interred offerings than would be expected from a single domestic unit (Barber 2013: 170). The midden analyzed from this site comes from the western portion of the site platform, an area that was built prior to the Chacahua phase but was used throughout the late Terminal Formative (Barber 2013: 170). These kinds of evidence, shared burial space or communal caching, are what we expect to find on a larger scale at Río Viejo, either as massive communal events or more frequent communal events. If Río Viejo was promoting a regional affiliation while people at other sites were still promoting site-bound affiliations, I expect at Río Viejo minimally that the distinction between Río Viejo elites and the elites of other sites would have been downplayed in all of Río Viejo's communal events or practices (burials, caching, feasts, etc.). For this thesis I explore one kind of similar evidence, that the middens described later may point to communal feasts.

Identifying Feasts and Understanding their Contexts

To be identified as the product of a feast, a midden must have several characteristics. First, there must be some evidence of the food utilized (at Río Viejo) during the feast, things like animal bones, seeds of known foods, marine shell, etc. (Dietler 2001; Hayden 2001). Besides exclusionary feasts (where specific parties within a society are restricted access to the event), there must also be some evidence indicating that a group of people larger than a domestic unit was involved in food consumption (Dietler 2001; Hayden 2001). Group size can be indicated by the combination of a large amount of serving vessels and a short amount of time for the midden

to form, meaning the pit or refuse pile was not added to continually for a very long time by a small number of people (Arthur A. Joyce, personal communication 2012). A midden must contain enough vessels of a type that suggests consumption, such as serving vessels (Table 1). A large group size, high quantities of serving vessels, and evidence of food in a consolidated pit or refuse pile could also point to a communal dump for multiple families, however the location of the midden could indicate the probability of its use as simply a refuse pile or if other aspects of the society are implicated. For instance, a communal dump would not be expected at a public space that only has evidence of formal ritual offerings and burials, such as the Acropolis during the late Terminal Formative Period. The time it took to create a communal dump would be difficult to establish as it could happen all at one time, or at multiple times, and in the former case, an associated midden would be expected to be differentially eroded, with some refuse being left out for longer than others before all of it is decidedly brought to the dump site. It would be expected that a midden created in association with specific events, like feasts or ceremonies, would have a more uniform erosion pattern, where all items emplaced were of the same level of erosion or where each level of the midden (if capped various times) had uniform levels of erosion distinct from other levels.

The time it took to create a midden is often indicated by the condition of the vessels present. The highest levels of erosion would suggest continual, or constant, use, though some erosion may be present if the midden was used multiple times. The highest levels of erosion could also be a result of a midden that has fallen into disuse and was never covered. A situation where a midden fell into disuse and, because it fell into disuse, it was not covered would be an odd situation to propose if the same midden was capped during the same time period.

A similarly large midden (with only food preparation or food storage vessels) that was created in a short time could indicate the midden's connection to a feast. However, without

evidence of people being served, the same evidence could mean something else. For instance, it could indicate the intentional destruction of those kinds of vessels as a symbolic act, an act of aggression, or a practice done when people move or begin using another type of vessel for storage or production. The location of a midden may not necessarily indicate if the midden is a feast or not since feasts can be held both in domestic and public settings, although a midden in a public area is unlikely to be evidence of anything other than a feast. However, location may inform the researcher as to the nature of the feast. For instance, the location of a midden outside a public ritual area may indicate a public event while a similar midden inside a restricted area, like within a closed off temple patio, may indicate a restricted type of event. The same can be said of the presence of special foods. If one kind of food is rare and yet ubiquitous in public feasts while another is equally rare and found in only elite settings the presence of the latter at a presumably public event may indicate a changing affiliation of the food with its past concept or an unusually large group of elite participants. When an investigator can be sure a midden represents a feast, then the significance of that feast can be explored. The significance of a feast may be multifaceted.

For this thesis, the socio-political significance of a feast is most relevant because it speaks to the question of regional political organization. A list which enumerates the points above follows (Table 1).

Table 1: Evidence of Feasts

Evidence of middens as feasts:	Evidence of the nature of feasts *(these can also suggest that middens represent feasts if they are present in forms that are already proven to be associated with feasts):
<p>1. Evidence of the food utilized (not specific to feasts)</p> <ul style="list-style-type: none"> o zooarchaeological remains o botanical remains o vessels associated with preparing specific kinds of food <p>2. Evidence of a group larger than a domestic unit (not specific to feasts)</p> <ul style="list-style-type: none"> o *(this is for feast that are not exclusionary, that is diacritical and other private feasts) o Large amount of serving vessels o Large quantities of food present-large <p>3. Vessel rim diameters</p> <ul style="list-style-type: none"> o Quickly formed midden- midden structure and the vessel condition (how eroded they are) <p>4. Evidence of people being served food (specific to feasts)</p>	<p>1. Location</p> <ul style="list-style-type: none"> o Public or private, ceremonial or not, sacred or not, utilitarian for physical labor, and the extent to which it is one of these things more so than the other <p>2. Decoration</p> <ul style="list-style-type: none"> o Differences in distribution patterns, and the association of motifs to locations, kinds of people, and other ideas (like work, religion/spirituality, economic or political alignment) o Decorations may indicate a special kind of event and can potentially distinguish a feast or event along distinct attribute lines, such as public vs private practice <p>3. Vessel attributes patterns</p> <p>4. Types of food present</p> <ul style="list-style-type: none"> o Association to people, location, ideas, seasons, rarity <p>5. Other artifacts that suggest specific kinds of events</p> <ul style="list-style-type: none"> o Ceremonial costume, instruments, etc.

Conclusion

The purpose of this work is to consider the extent to which Río Viejo produced a regional identity by scaling up practices already established at outside sites, in this case Yugüe. Río Viejo is particularly relevant to understanding Terminal Formative politics because of its massive growth (during this time period), which presumably occurred through the creation of a regional political unit and community identity. To test the production and maintenance of a regional identity, several lines of evidence can be employed, including: mortuary practices, caching practices, building construction, and feasts. Of these lines of evidence, middens are explored here as potentially derived from feasts. The exact reason for a feast cannot be demonstrated archaeologically, but nuances of a feast can potentially provide some detail about the nature of that socio-political structure, and can potentially inform our understanding about power negotiation during the Terminal Formative. For instance, the specific functions, forms, and attributes of feasts can provide analogues to larger societal patterns, such as how different statuses were (at times) organized through how they were organized during public events. In the following chapter, I discuss the methods employed to test the research hypotheses.

CHAPTER 3: METHODOLOGY AND DATA ANALYSIS

To address the idea that the Río Viejo polity was organized in a way that scaled-up local community practices of affiliation, I examined ceramics from midden deposits recovered from the Río Viejo acropolis and from Yugüe. The data set consisted of 1,543 sherds, all dating to the late Terminal Formative period Chacahua ceramic phase. The majority of the sample, 1,041 sherds, derives from four different midden deposits at Río Viejo. These were recovered and analyzed during the 2012 Proyecto Rio Verde, with two midden deposits sourced to Operation C and the remaining from Operations D and E (Figure 3 and Table 3) (Barber and Joyce 2012). The other 502 sherds derive from a single sheet midden at Yugüe. This feature was areally excavated, during the Proyecto Rio Verde 2003, and later analyzed, during the summer of 2004, by Barber (Barber 2005, Appendix G: 407). The goals of these projects were to “examine the formation, organization, and fall of the first state in the lower Rio Verde valley during the Terminal Formative Period.” (Joyce and Barber 2012:1; Translation my own)

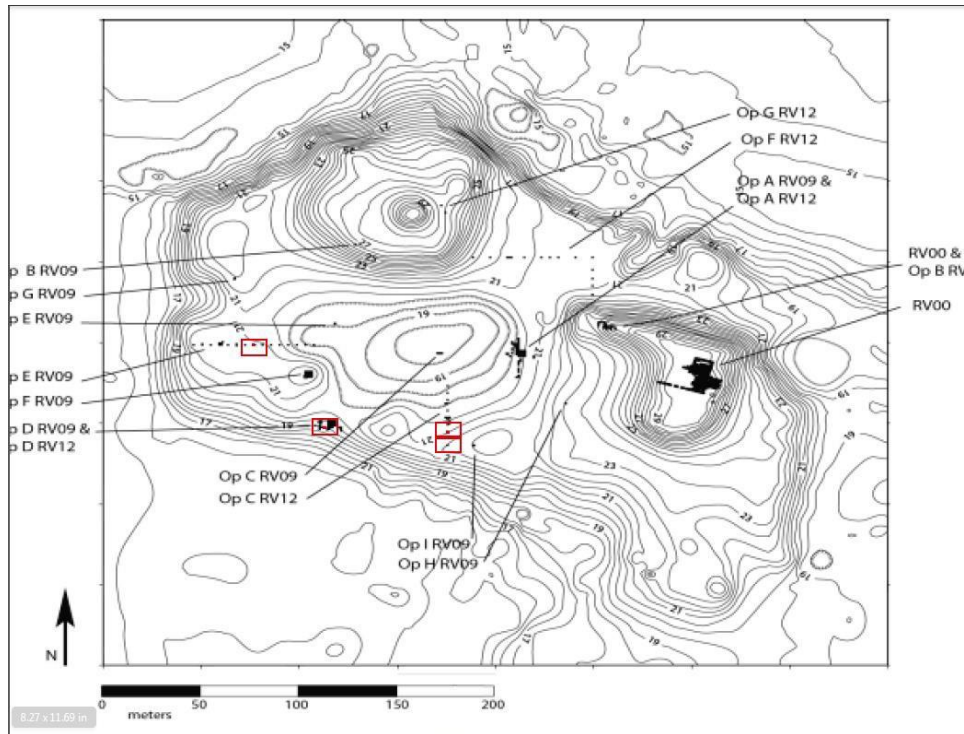


Figure 3: Map of Río Viejo's Acropolis

Table 2: Features and their associated Operations

Project	Year	Operation	Unit	Feature #
PRV	2012	C	OAA	7
PRV	2012	C	ON	18
PRV	2012	D	-2Z	39
PRV	2012	E	28A	24
PRV	2003	1	-	42

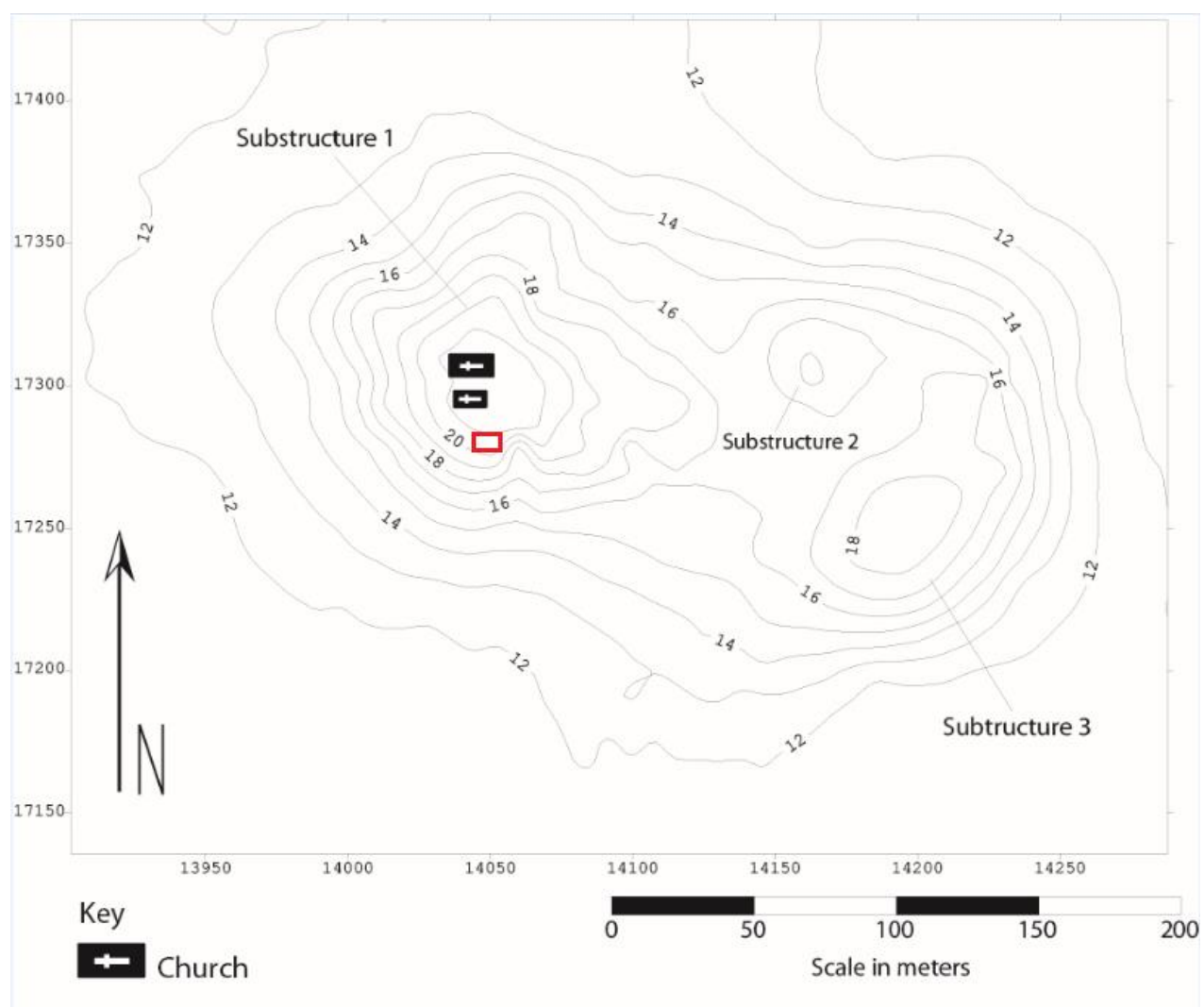


Figure 4: F42 on Yugüe highlighted in red

Midden Contexts

The four Río Viejo middens were located on the southern side of the Acropolis in areas that would have surrounded the plaza. Three were recovered from one-by-one-meter test pits and one from a two-by-one-meter area within a larger excavation block. Three of these deposits (Features 7, 18, and 24) (Figure 3 and Table 2) were set into pits intrusive to the earthen construction fill of the monumental platforms that together comprised the acropolis. Features 7 and 18 were internally stratified, with sloped deposits of refuse up to 30-centimeters thick separated by strata containing very little pottery. Although neither of these contexts could be associated with standing architecture, both were excavated into the final Formative period construction fill layers in this area of the acropolis. They both seem to date to the late Terminal Formative period, just before the abandonment of the acropolis. Feature 24 lacked the alternating strata of refuse and fill found in the other two middens, it instead consisted of a single meter-deep refuse deposit with refitting sherds separated by more than 30 centimeters in elevation. Again, no superstructures were identified nearby. The date of this midden relative to Features 7 and 18 is unclear, although Feature 24 would also have been a later (if not a terminal) deposit in this area of the acropolis.

The fourth context (Feature 39), is located near the remnants of a wattle-and-daub superstructure that had been burned and renovated at least twice, based on the presence of burned floors and a large deposit of burned, impressed daub (see Barber et al. 2013; Rivas 2012). This midden was not in a pit, but instead sloped down from the approximate western edge of the low platform supporting these superstructures. Unlike Features 7, 18, and 24, the Feature 39 midden was capped by late Terminal Formative material, indicating that it was emplaced near the end of

the Formative period occupation at the Río Viejo acropolis but probably earlier than E7 and E18. It may have been associated with the first phase of a burned building that was rebuilt and burned again later, also during the late Terminal Formative period.

Feature 42, from Yugüe, was in the “public” area of the site, located near a cemetery and a series of small ceremonial structures (see Chapter 2). Feature 42 was a sheet midden that extended over an area of 12 meters squared but was only 30-centimeters thick (Figure 5). Its contents firmly date this midden to the late Terminal Formative period, but the loss of sediment to erosion and modern construction make it impossible to determine whether it is early or late in the Chacahua Phase (Barber 2005, 2013). Feature 42 was removed in its entirety, and Barber has argued elsewhere that this context represents a single or a very small number of feasts (Barber and Joyce 2007, Barber 2013).



Figure 5: Photograph of F42 (Courtesy of Dr. Sarah B. Barber)

It should be noted that, in addition to large and well-preserved ceramic sherds, all of these contexts contained ash, estuarine and marine shell (sometimes in very dense quantities), animal bone, obsidian prismatic blades, and other organic material. This organic material likely came from food. The sherds will be shown in Chapter 4 to have been largely from serving vessels. Based on stratigraphic evidence of intentional pit deposition, the presence of organic material associated with known foods, atypical ceramic concentrations that had large quantities of serving vessels (suggestive of consumption and large amounts of people), the size of vessels (also suggestive of large amounts of people), frequency of refitting sherds, and, at times, pit layering, these assemblages were considered evidence of food preparation and consumption or middens representative of feasting. Their locations in monumental construction signify their non-domestic, and likely public characteristics.

Initial Lab Analysis

Lab analysis for the 2012 Proyecto Rio Verde took place in the field. After contexts from Río Viejo were identified as middens, they were dated by principal investigators, Joyce and Barber, and then chosen as relevant samples for this study. Four of these contexts were further weighed, counted, and numerically marked using a Field Specimen system before in-depth categorical and attribute analysis took place.

Each context was first separated individually into paste categories: grayware, grayware imports, coarse brown ware, orangeware, or unidentified. They were then emptied onto a petate or large table that only included one of the midden's paste types, after which primarily rim sherds were chosen for analysis. An effort was made to identify individual vessels through refitting and cross-checking diameters for rim sherds with similar wall widths, surface treatments or decorative attributes. Any base or wall sherds found in the sample were relevant only if it

could be demonstrated that they refit to a rim sherd. Refitted sherds were counted as one unit of analysis. Some of these refitted sherds formed complete or nearly complete vessels, indicating the probability of many more complete vessels had these contexts been excavated in full. In general, therefore, individual sherds in this sample are a loose proxy for individual vessels, loose because of the possibility that some sherds may have come from the same vessel but could not be refitted. However, rim sherds that strongly appeared to come from one vessel (shared many attributes and appearance), but could not be refit to each other, were only counted as one vessel. It is worth noting that the sample sizes across middens are quite variable, in part a function of the nature of the contexts and in part a function of the field sampling techniques employed.

Motifs were identified using images and attribute lists found in the work of Barber (2005), Brzezinski (2011), and Levine (2002). Motifs were also coded and entered into the attributes present for each sherd or vessel. Brzezinski's work was particularly useful. For standardization, however, all work (including this one) could use more imagery of those motifs defined in the growing attribute list.

Following the above process, sherds were categorized by vessel form. Further categorical attributes and attribute states were recorded using a numerical code system, adapted from previous studies in the region (Barber 2005; Brzezinski 2011; Levine 2002), while continuous attributes were recorded using metric measurements (see Appendix A). Vessel form included bowls, jars, comales, and unidentified. I follow Levine's (2002:52) definitions for attribute and attribute states:

“An *attribute* is defined as a single material aspect or characteristic of a vessel that can be evaluated using quantitative or qualitative measures. Examples of vessel attributes are rim form and rim diameter. An *attribute state* is one of a variety of forms in which a given attribute is expressed.”

Selected sherds were drawn to exemplify attributes, attribute states, and decorations. Analysis of the Yugüe midden followed the same format except that Barber also counted and weighed the midden an additional time by paste type (Barber Appendix G: 407). All paste types applied to this analysis were first defined by Joyce (1991; Joyce et al., 1998).

It is important to note that the attributes, vessel types, and paste types used to describe the material analyzed here may not have been meaningful categories to the people who produced them (Levine 2002: 52-53). However, the frequency of one material aspect in relation to another may simplify the process of demonstrating relevant patterns. Patterns, while perhaps not obvious to original human actors, were nonetheless the result of choices made by ancient people. Applied generally, it becomes easier to show that characteristics presumably indicative of ideological, technological, or sociopolitical structures are tied to specific contexts, which are themselves indicative of practices or beliefs.

Further Analysis

All data on midden type and attribute characteristics for this sample were recorded in a Microsoft Excel spreadsheet. Most characteristics were analyzed through the interpretation of simple proportions, potentially indicative of various patterns. Charts and tables were made to visually display how the proportions of each midden differ. The attributes chosen for these charts and tables include paste type, vessel form, decoration, and rim diameter. Both paste type and vessel form are suggestive of the amount of food utilized and produced. They also can tentatively indicate whether food was being produced and served simultaneously or apart. The more food that was being produced during the event may indicate emphasis on food quantity. Decorations are analyzed through both their quantitative presence and their form. Location and

other lines of evidence potentially indicative of diacritical or patron-role feasts were considered or sought after. Chapter 4 contains the results of this analysis and a theoretical discussion that pulls from those results.



Figure 6: Simplifying the process

CHAPTER 4: DISCUSSION

The goals of the study were to identify variability within public spaces on Mound 1 and to compare the non-domestic midden assemblages from the urban center with that of another site in the region. Together, these data provide insights into the organization of commensal activities both within the early urban core and at a regional scale. I argue that, in terms of middens, the material evidence found within middens at Río Viejo does not represent a scaling up of activities that served to create communal identities found at earlier outlying political centers, and that evidence supports the notion that feasting at Río Viejo was fundamentally different from what was analyzed from Yugüe (Barber and Joyce 2007; Joyce 2008; Joyce et al. 2013)

In this chapter, I present an analysis of the five late Terminal Formative midden contexts in order to facilitate comparisons between these contexts and to understand their possible functions. Function is approached following the primary points of analysis Dietler (2001) suggests as key to understanding political aspects of archaeological feasts. He draws these from contemporary ethnographic material as well as ethnohistoric material. Ultimately, I find Dietler's framework unviable for the middens analyzed here suggesting, minimally, the events that formed the middens at Río Viejo were not unequivocally political in respect to their other potential facets (such as ideological aspects- I do not mean to suggest that these things were separate rather that events could focus on different aspects to varying degrees). Although there may be some evidence in agreement with some attribute, the ethnographic basis and socio-political emphasis of his framework is too limiting. This may be because the societies he applies are fundamentally different and are rarely state level.

Of each midden, I intend to describe the relative estimated amount of people fed, the kind of food present, the amount of food present, whether cooking was present, and whether there are any midden-specific stylistic qualities. Each of these factors can help us determine which characteristics each event associated with the middens likely emphasized. The amount of people fed can point to whom within a site or within a region is present, and therefore potentially the reason they are present.

If there exists an elite and commoner division in this society, it allows for the possibility of a donor/receiver relation. Evidence that suggests either emphasis on style or quantity of the food would have different implications. Time allocation between cooking and consumption, the spatial organization of the event, and what kind of stylistic elements were present would further support the likelihood of one or another characteristic.

The description of the middens is followed by an analytical comparison of the middens that should allow an exploration of the middens as evidence for or against the promotion of a regional identity by Río Viejo. If an effort truly did exist to create a regional identity based on scaled-up communal practices found at other sites, then feasts at Río Viejo should have been much more frequent or larger than at Yugüe. That the sites are of different sizes would potentially affect the midden size alone, based on population and not a practice of scaling-up events. To this end the middens at Río Viejo should have been used more often, have had more serving vessels, and/or many more middens should be present around the same time.

To demonstrate that a feast was communal and also minimizing of status differentiation an associated midden could not be located in restricted space, all participants would have had access to the same kinds of elaboration (decorated vessels and types of food), evidence of large amounts of people should be present, and there should be little to no differentiation of labor during the feast. The last point would require evidence that cooking was happening elsewhere or

at some other time; food storage vessels might hinder our ability to see if cooking was happening elsewhere because they are often the same kinds of vessels (coarse brown ware jars). Evidence of cooking at an event does not alone suggest a division of labor among guests, but it does open up the possibility of it. Evidence of cooking elsewhere and not at the event could also suggest the division of labor but suggests that the division does not apply to the event participants (guests-those being served).

To demonstrate regionalism, feasts at Río Viejo should have at least some similar traits at multiple surrounding sites, this would be seen in the stylistic qualities of the feasts-most likely either through the decorations on vessels or food stuffs. Unfortunately, only one other site is included in this analysis to get at this question of regionalism. This was due to time, the amount of Terminal Formative middens found so far, and the ease with which I could attain datasets. The amount of people present at Río Viejo feasts can only circumstantially indicate regionalism because, unlike the construction of the Acropolis, the amount of calories or labor involved during a singular Río Viejo event would most likely always be smaller than what Río Viejo could itself provide (unless the attendance of the entire Río Viejo population at every midden forming event is assumed). Given the evidence of the size of F42 relative to the Río Viejo middens discussed below that would be a dangerous assumption.

The following results require the reader to understand that jars, comales, and coarse brownware vessels are generally considered evidence of food preparatory or storage activity, with the exception of grayware jars that may have served to hold or transport liquids, the number of these found in this analysis are minute (19 from Río Viejo and 13 from Yuguë). Coarse brownware jars are the largest of any vessels found in this analysis, and generally a coarse brownware version of a vessel form is usually much larger than its equivalent grayware version (i.e. coarse brownware bowls are larger than grayware bowls). Also, that bowls, vases, and

grayware vessels are generally considered evidence of food serving. Fine brownwares either indicate heirlooms or an earlier date for a Terminal Formative context and orangewares indicate the Classic period, meaning that their appearance in late Terminal Formative contexts probably stems from accidental deposition during excavation, natural disturbance (such as tree roots or animal and insect burrowing), or a very late date for a midden (ca. A.D. 250). Only 10 fine brownware sherds were found, all from F42, and only 2 orangeware sherds were found, 1 from E24 and the other from F42. It is unlikely that dates for fine brownwares are faulty considering the amount of work that has continually tested and reaffirmed them by Joyce since the 1980s. A sufficiently large amount of orangeware vessels in any of these contexts would potentially signify improper dating.

Results

As Table 3 shows, Río Viejo provides 67.7% of the entire sample discussed, while the majority of that sample, 77%, consists of grayware sherds and almost 23% of the rest of it is accounted for by coarse brown ware sherds. An even greater amount of this sample was bowls, 79.5%, which were generally used as serving vessels rather than for food preparation. The sample from Yugüe displays a similar pattern having 60.6% grayware vessels and 65.7% bowls. Taken together, decorated sherds make up 37.4% of the entire Río Viejo sample with relatively small variation in proportions for all of the Río Viejo middens except for Feature E7, where decorated sherds make up over half of the sample. Jars make up 13.1% of the Yugüe midden, and comales account for 10.4%. Potentially significant is the presence of fine brown wares and a vase in Yugüe's F42, as neither were found in the Río Viejo middens. The fine brown wares can signify many things, they can be: heirlooms, redeposited, evidence that this is an Early Chacahua context, evidence that F42 is a mixed context, or that fine brownwares continued at Yugüe and not Río Viejo (this last possibility would mean their date range needs to be

adjusted). The latter is unlikely since strata beneath the midden contained primary Chacahua phase contexts. Decorated sherds make up 31.7% of the Yugüe midden, which is comparable to the 31.4-39.5% range the remaining Río Viejo middens fall into. All of the middens here displayed unusual serving vessels, large cylindrical grayware jars, but only Yugüe also demonstrated miniature jars, which are found in various kinds of offering contexts (Barber 2005).¹ Not much is known about miniature jars though they may provide an avenue to explore serving specific kinds of drinks, like alcohol.

¹ The proportions reported here for Yugüe differ slightly from those that were first reported in Barber (2005).

Table 3: Sample breakdown for each feature

	Río Viejo					Yugüe	Total
	Op C, E7	Op C (ON) E18	Op D, E39	Op E, E24	Total (RV)	Op 1, F42	
Paste							
Graywares	123	182	127	373	805	302	1107
Coarse brown wares	38	68	55	77	238	181	419
Gray imports	0	0	0	1	1	2	3
Orange wares	0	1	0	0	1	0	1
Fine Brown	0	0	0	0	0	10	10
Unidentified	0	0	0	0	0	3	3
Form							
Bowls	137	190	106	398	831	327	1158
Jars	9	39	19	26	93	65	158
Cornales	10	4	8	5	27	52	79
Unidentified	5	18	49	22	94	53	147
Vase						1	1
Deposition Layered	yes	yes	yes				
Decoration							
Present on:	85	79	72	155	391	157	548
Motifs Present	67,1,28,71, 9,30,68	1,68,2,35,24, 67,56,14	17,31,68, 41,28,49,56,16	1,35,71,68,6 7,49,29,2, 72,14,56,3,61		1,2,3,4,6,9, 10,14,15,16,17, 18,23,24,26, 32	
Total Rim Sherds Analyzed	161	251	182	451	1045	498	1543
Count							
Weight							

Operation C, unit 0AA, E7

Feature E7 includes two ceramic-laden layers, E7-s1 and E7-s3, and two fill caps between them, E7-s2 and E7-s4 (Figure 7) (González et al. 2012: 254). The ceramic layers are about 20 cm thick at their largest sections. The fill layers consist of a sand cap and a shell cap, respectively (González et al. 2012). These could have been used to reduce the smell of organic matter in the pit and to reduce the disturbance of the deposits by animals (González et al. 2012: 235).

E7-s1 is capped by E3, a Late Classic fill layer, suggesting that the midden itself dates to just before the abandonment of the Acropolis at the end of the late Terminal Formative period (González et al. 2012: 236 and 254). This feature is not associated with a superstructure. However, E7-s3 appears to be delineated by rocks (Figure 7). Also, pieces of adobe from a burned superstructure were found in E7-s1, though these were likely thrown in as refuse from elsewhere making them potentially part of a separate event (González et al. 2012: 235-236). The inclusion of refuse from a potentially later event could signify that this midden was left open for a bit longer.

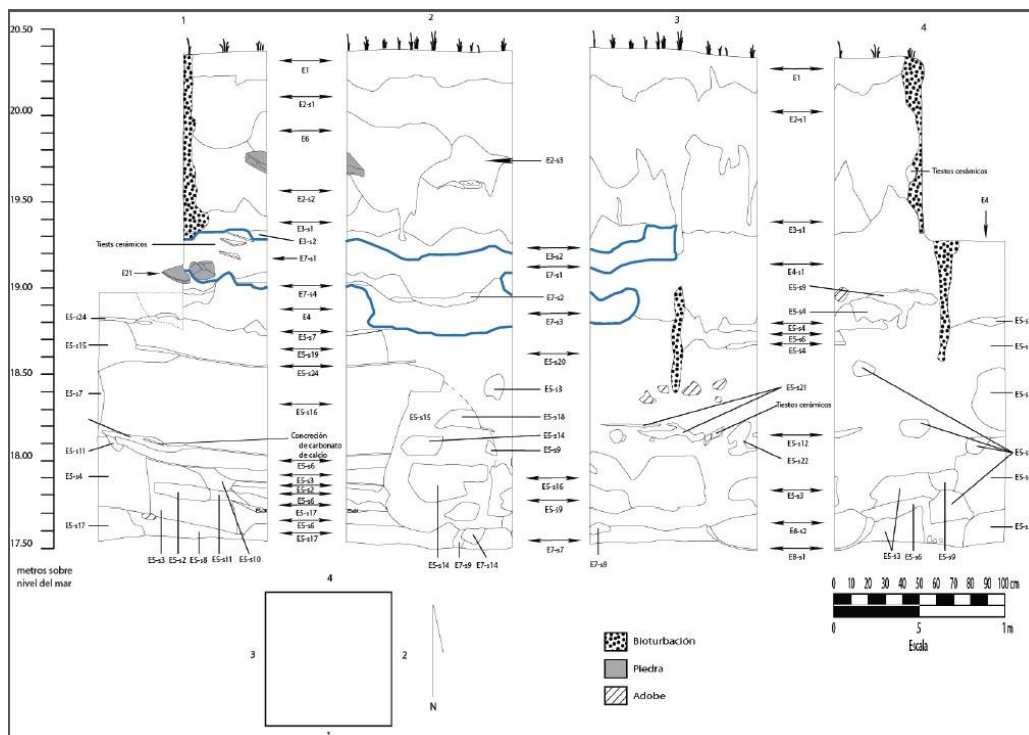


Figure 7: E7 outlined in blue

This feature provides 15.4% of the entire sample from Río Viejo. Like the overall pattern, the primary paste type of this feature is grayware, at 76%, and the deposit includes bowls over all other forms, at 85%. Jars and comales each account for about 6% of the midden while 52.7% of sherds in the sample had decorations. Seven decorative motifs were encountered (see Table 3).

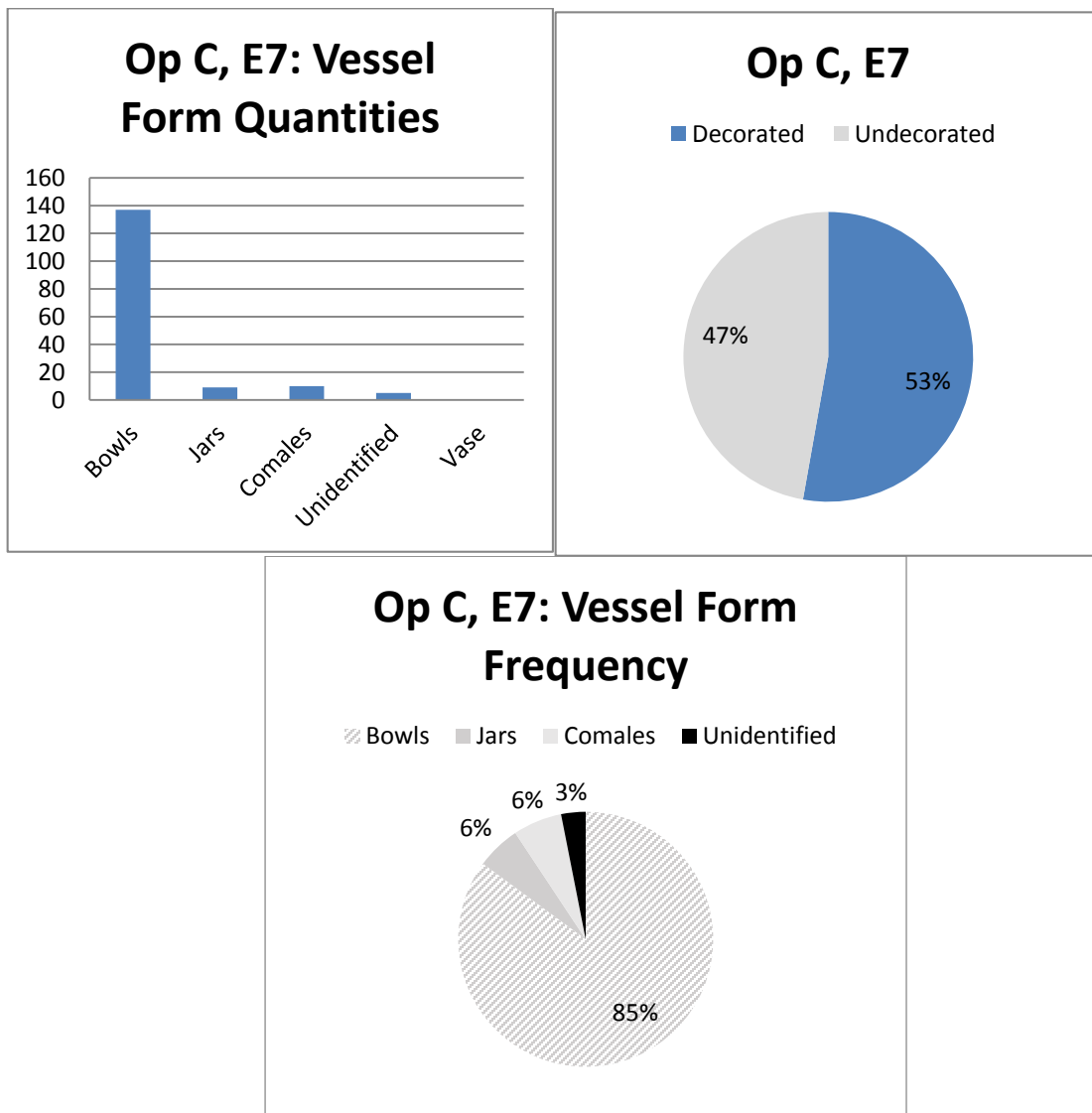


Figure 8: E7 Proportions of Vessel Form and Decorated Sherds

Operation C, unit 0N, E18

The second Terminal Formative midden found in Operation C consisted of two layers of refuse, features E18-s8 and E18-s13, separated by several fill layers (Figure 9). E18-s8, the later refuse layer, was capped by additional fill. They were deposited on top of the southern, high edge of the Acropolis, around 18.3 and 19.2 m asl, minimally 6 m higher than the

plaza, we currently do not know the depth of the plaza (Barber and Joyce 2011). The amount of fill atop the rubbish suggests that this midden was intended to be left open for a longer time period than feature E7 of unit 0AA. A Late Classic offering, E16-s1 (not apparent in the stratigraphy) included several bowls and cups on a plate. It sat stratigraphically just above E18-s8, suggesting that this midden was also open until just before the first abandonment period in the Late Terminal Formative. Not much architecture has been associated with this deposit, only a small adobe alignment, though the immediate area surrounding this unit has not yet been excavated (González et al. 2012). Compared to E7, E18-s13 has sediment that is less organic than would be expected, but animal bone, including reptile and bird bone, pieces of a white tailed deer skull and antler, and complete shell were found (González et al. 2012: 232). Although the skull and antler may not represent food the various parts of birds and reptiles present and the types of shell present, such as tichinda (*Mytilidae* spp.), likely represent food. Nearly complete vessels and large sherds were found, as well as figurine fragments (González et al. 2012: 232). Fill layers on top of thick ceramic deposits could have been to keep these areas sanitary, in a pattern similar to that of E7 (González et al. 2012: 232).

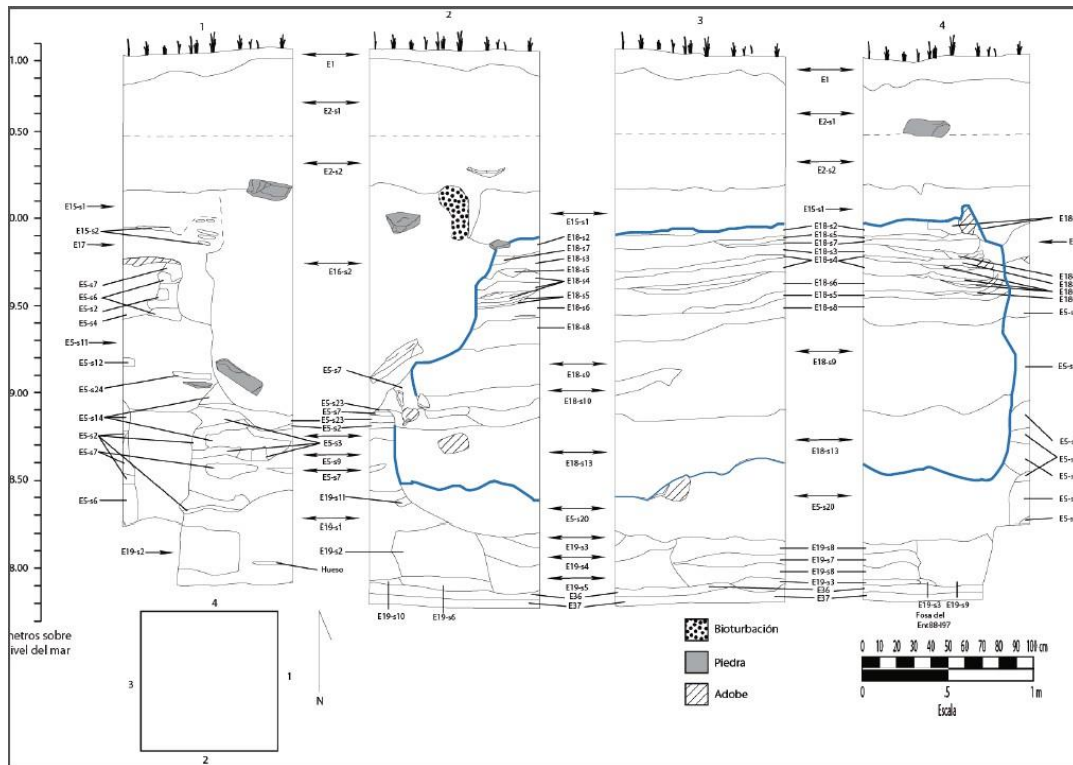


Figure 9: E18 outlined in blue

E18 provided 24% of the Río Viejo sample. The primary paste type of this feature is grayware, at 72.5%, and the deposit includes bowls over all other forms, at 75.6%. Jars account for 15.5% of the assemblage, although this could be higher given the number of unidentified vessel forms. In general, for all Río Viejo middens, the likelihood of an unidentified coarse brownware vessel form was much higher than the likelihood of a grayware vessel form due to the greater propensity for coarse brownware to fracture and erode. Comales accounted for 1.6% of the midden and 31.4% of sherds in the sample had decorations. Comales made of grayware are currently extremely rare or absent from this area's archaeological record; I have found no examples. Comales are generally made from coarse brownware paste. Eight decorative motifs were encountered (see Table 3).

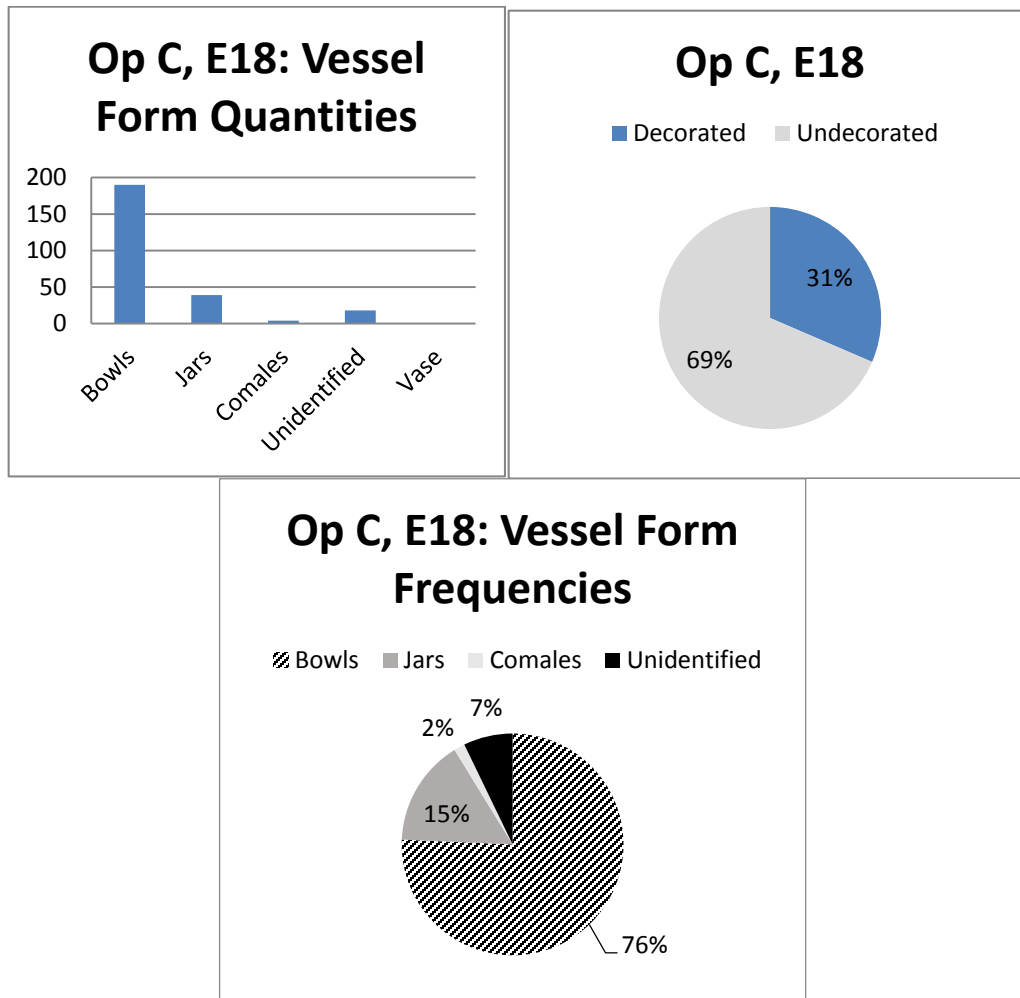


Figure 10: E18 Proportions of Vessel Form and Decorated Sherds

Operation D, unit -2Z, E39

Unit -2Z, of Operation D, is located on the downward slope of the Acropolis heading south, towards the floodplain. Midden feature E39 (Figure 11) abuts the remnants of two superimposed burned floors that would have been the interior surfaces of thatch-roofed wattle-and-daub superstructures. These floors are positioned stratigraphically between several Chacahua Phase fill episodes, suggesting that the associated buildings were built some time after the first construction

of the acropolis but before the area's Terminal Formative abandonment. E39 was likely associated with E8-s1, the later of the two floors (Rivas 2012:304). The building measured at least 7 m by 2m and was burned before the first abandonment of the Río Viejo acropolis (Rivas 2012:305). It is not a pit like the other middens but rather may have sloped down along the outer wall of the basal platform. The earliest fill layer that covers this midden is E56, a thin layer that dates to the Terminal Formative, it may have been directly tied to the event that created the midden but its formation process is unclear (Rivas 2012: 306 and 324). This entire area was subsequently covered by a final layer of Terminal Formative period earthen fill prior to the abandonment of the acropolis (Rivas 2012:306). There is no evidence for later buildings although several pits containing Chacahua Phase offerings, rubbish, and possibly burials were later excavated into this terminal fill deposit, indicating that use of the area continued for some time prior to the abandonment of the acropolis (Rivas 2012:307). Those later pits are not considered middens because they lack the amount of serving vessels, food preparatory vessels, organic material, or unusually high amount of any one artifact type to be considered a refuse area as opposed to small offerings or fill. Fill in this area always has higher proportions of sediment over artifacts consistently throughout the layer, unlike middens. The stratigraphic position of E9 indicates that it was likely earlier than the Operation C middens although internal chronology of the Chacahua Phase is insufficient to determine exactly how much earlier. The layers with the highest ceramic density are about 25 cm and 5 cm at their thickest (Rivas 2012: 324). They are surrounded by several midden fill substrata that are generally thinner than the ceramic-laden layers mentioned.

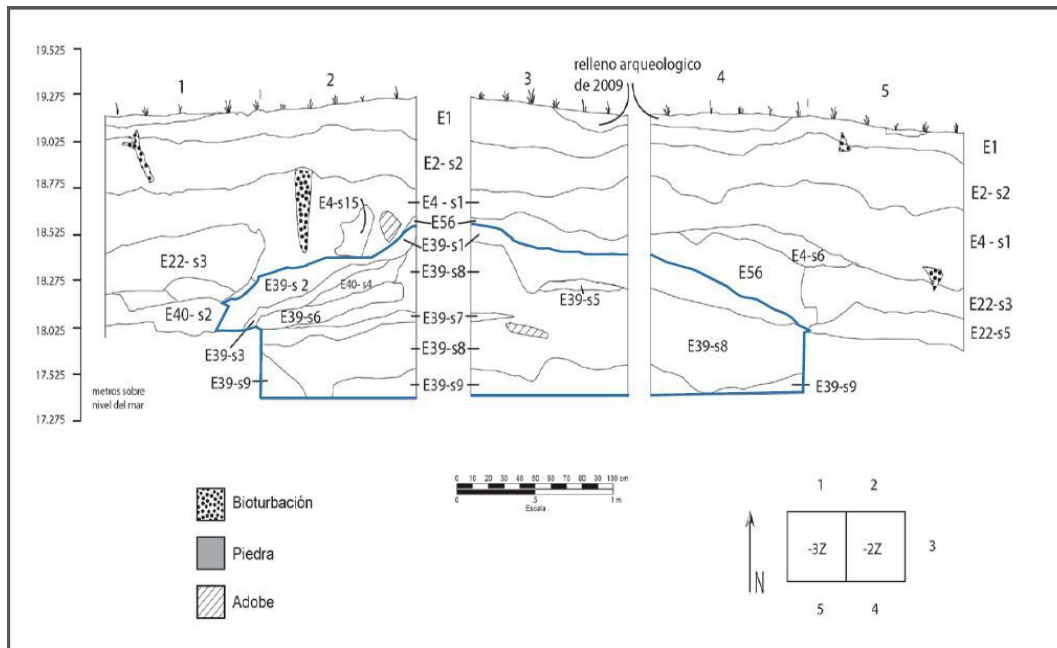


Figure 11: E39 outlined in blue

E39 provides 17.4% of the Río Viejo sample. The primary paste type of this feature is grayware, at 69.7%, and the deposit includes bowls over all other forms, at 58.2% while 39.5% of the sample demonstrated decorations. Jars account for 10.4% of the midden and comales account for 4.5%. This midden has the highest percentage of unidentified vessel forms however, which may indicate longer amounts of time the midden was open, or vulnerable, to the elements and human activity. Eight decorative motifs were encountered (see Table 3).

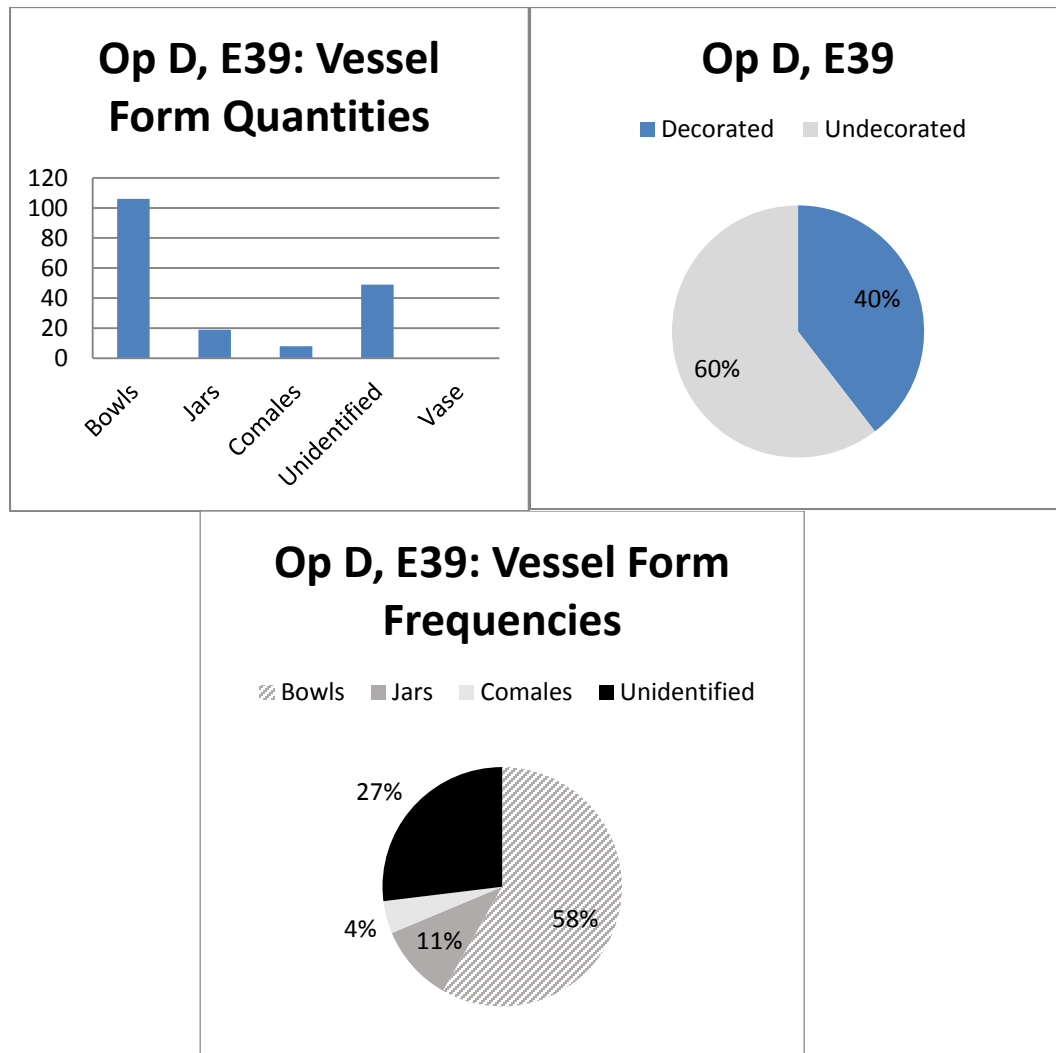


Figure 12: E39 Proportions of Vessel Form and Decorated Sherds

Operation E, unit 28A, E24

Midden pit E24 (Figure 13), about 1 meter in depth and more than 1 meter in width, is located on the southwestern corner of the Acropolis and also dates to the late Terminal Formative (Egan and Barber 2012:394). It cuts into two earlier Chacahua phase strata (Egan and Barber 2012). The presence of one Coyuche phase (Early Classic) grayware sherd, less than one percent of the sample, suggests that this midden also dates to the very end of the late Terminal Formative, and probably just prior to the first abandonment period at Río Viejo (Egan and Barber 2012). The

Coyuche phase fill that overlies this midden supports this position (Egan and Barber 2012). A pattern of finding contexts containing grayware pottery with Early Classic stylistic markers but lacking orange ware pottery (a Classic period innovation) has been noted for other late Chacahua phase deposits throughout the region (Egan and Barber 2012: 371-372). Significantly, E24 is the only midden from Río Viejo that does not exhibit layering, despite providing the majority of the sample. The lack of layering suggests that E24 was formed in a single event, was subject to greater mixing, was redeposited from elsewhere, or was open to the elements for a longer amount of time (Egan and Barber 2012: 394).

Characteristics of the context and its contents indicate that the midden may have been the result of one or a small number of deposition events. The excellent preservation of the sherds' surfaces argues against this context having been redeposited from elsewhere or that the midden was open for a prolonged time. In both cases, weathering would be expected to have damaged the burnished and slipped surfaces of the sherds, which was not the case.

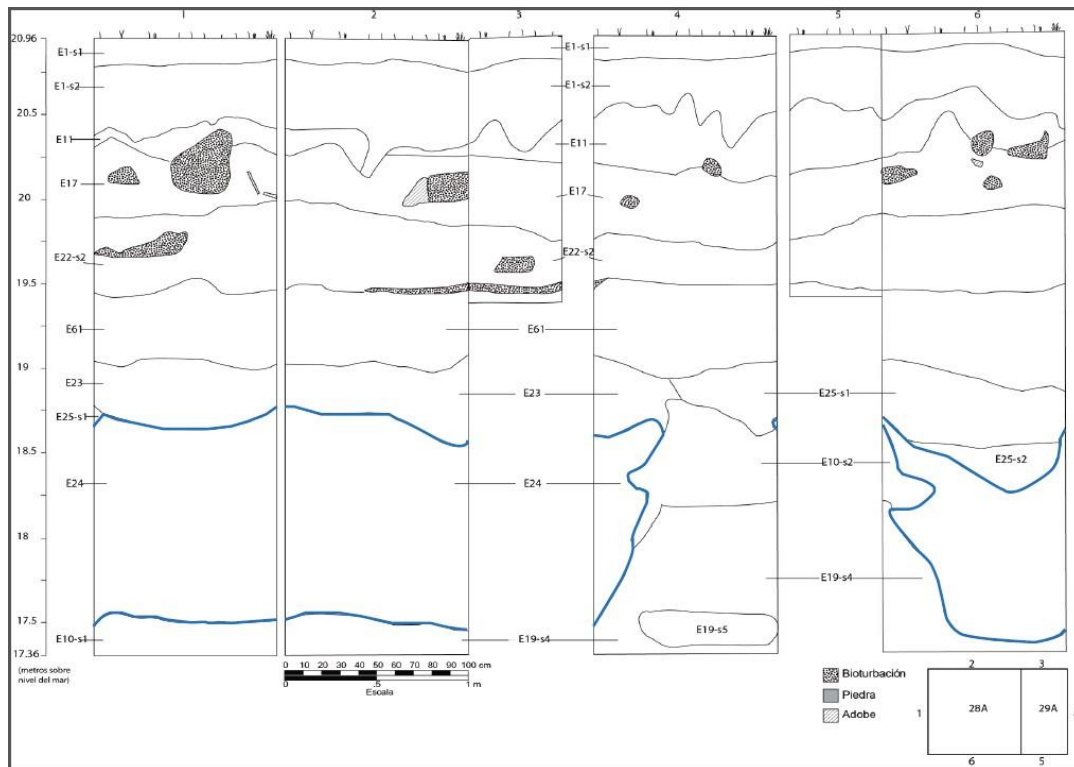


Figure 13: E24 outlined in blue

E24 provides 43.2% of the Río Viejo sample. The primary paste type of this feature is grayware, at 82.7%, and the deposit includes bowls over all other forms, at 88.2%. Jars account for 5.8% of this midden, while comales account for 1.1%. Thirty-four point three percent (34.3%) of the sample demonstrated decorations. The sherds in this midden had a much wider range of decorative motifs (13 motifs) than was found in other Río Viejo middens (see Table 3).

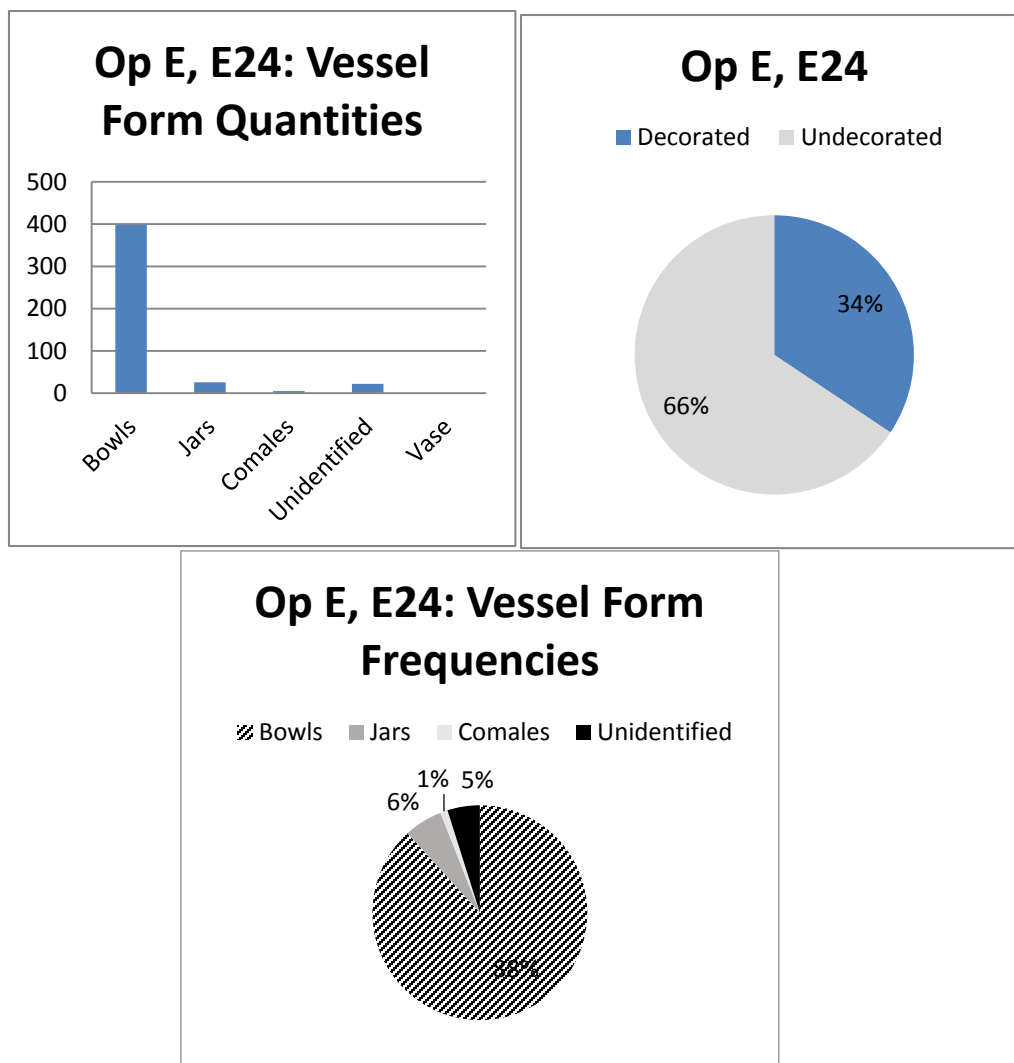


Figure 14: E24 Proportions of Vessel Form and Decorated Sherds

Yugüe, Operation 1, F42

This feature was a sheet midden (Figure 15) spanning about 12 meters squared, it neared 30 cm at its thickest, and was “the largest single Chacahua Phase ceramic context from the region” (Barber 2005: 178) prior to the partial excavation of E24 at Río Viejo. Depending on how much was unexcavated of E24, which is likely very little (Sarah B. Barber, personal

communication 2014), E24 may have been larger. Along with sharing all of the non-ceramic characteristics found in the other middens, this midden also contained earspools, greenstone, a groundstone axe, *floreros*, long-necked miniature jars, and fragments of mica (Barber 2005: 178-181). Feature F42 was located near the edge of Substructure 1 at the highest point of the site (Figure 4), and Barber (2005: 178) has argued that this “means [the materials found in the midden] must have been used on the substructure.” The materials could rather be in association with the destruction of structure or the termination of Substructure 1’s use, however there is currently no evidence that Substructure 1 was in some way destroyed or abandoned during the development of F42. There is ample burial and artifactual evidence to demonstrate the ritual, and/or ceremonial, significance of Substructure 1, and thereby the likelihood of ritual importance for F42 (Barber 2005:182-206). The lack of erosion, presence of intact and nearly intact upright vessels, the shallowness of the midden (in respect to other middens found at Yugüe), and the lack of differentiation, or layering, of the midden’s stratigraphy have all been used as evidence of its relatively quick development and termination of its use. That is, this midden would have been created and covered in a short time, and therefore related to a singular event or a small number of events (Barber 2003: 179). Dating this midden within the Chacahua phase is not possible due to modern disturbance. The midden sits atop a fill layer and the remnants of the burned floor of at least one Chacahua phase superstructure (Barber 2008:13). Despite this, it may date to the initial Chacahua phase, albeit after the use of that earlier superstructure.

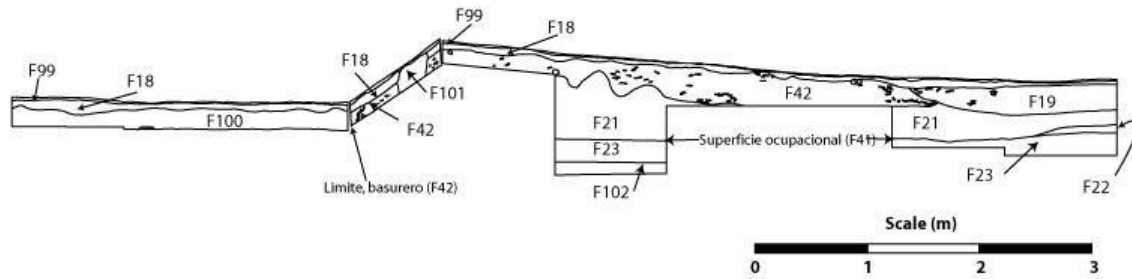


Figure 15: Location of F42

In respect to the total sample, the amount of sherds present in F42 is most comparable to E24; F42 accounts for 32.3% of the total sample while E24 accounts for 29.2%. The other middens E39, E18, and E7 account for 11.8%, 16.3%, and 10.4% respectively. This midden contains 60.6% grayware vessels and 65.7% bowls. Jars make up 13.1% of F42, and comales account for 10.4%. Besides E24, the sherds in this midden had a much wider range of decorative motifs (16 motifs) than was found in other Río Viejo middens (see Table 1). The bar graph that should show the vase does not because of scale. Since there was only one vase that made up less than 1% of the F42 sample, for clarity I included it with bowls in the pie chart below.

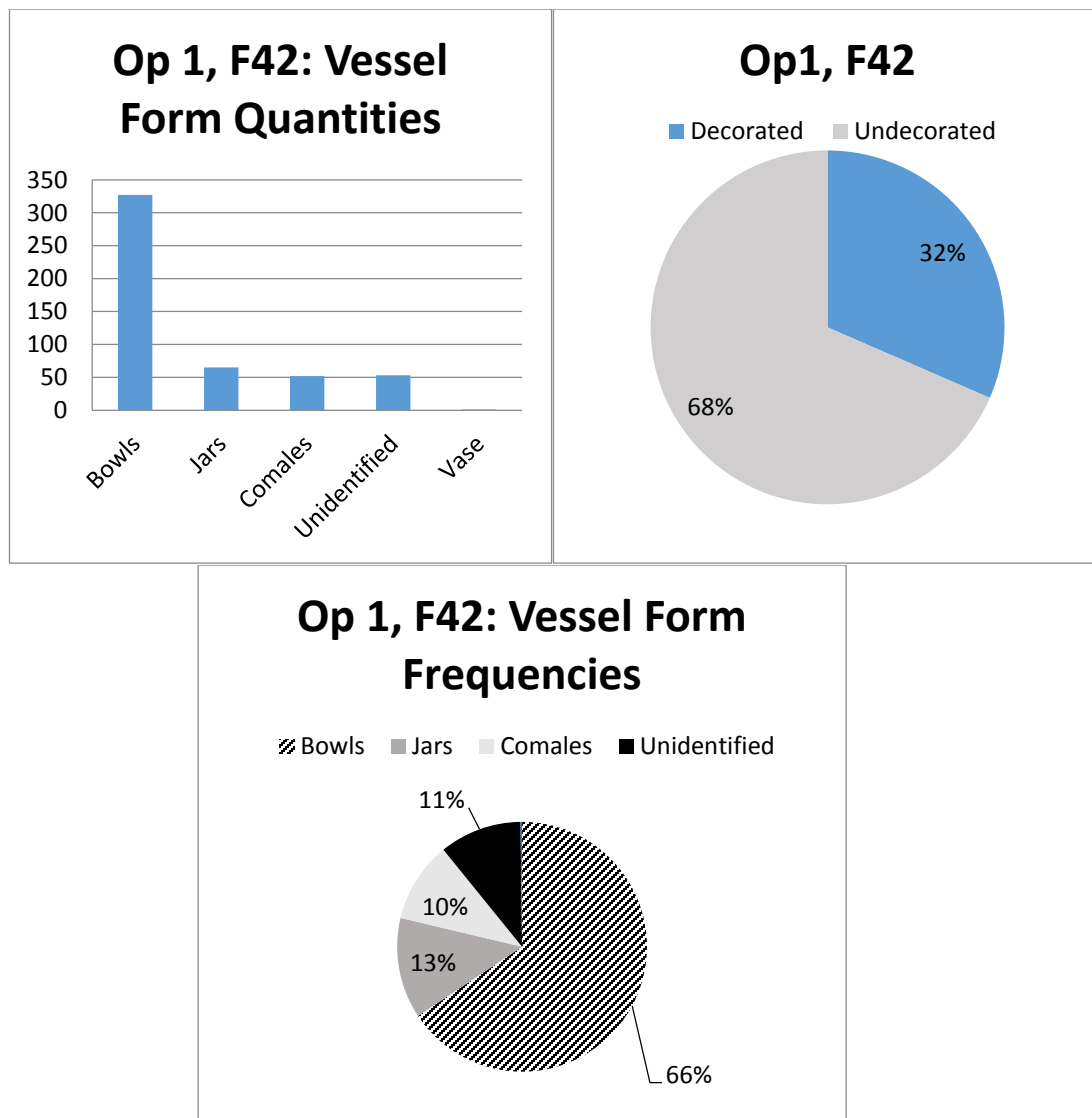


Figure 16: F42 Proportions of Vessel Form and Decorated Sherds

Comparing the Middens

The following section compares the middens for the data above and the motif data below. It would be expected that if any of the middens on the Acropolis were associated with the same event (one event) then they would share all of the same motifs, this is not the case with any midden here. Although chronological similarity, structure similarities, and assemblages may suggest that we cannot rule out this possibility for E7 and E18, even with these middens less than 30% of their motifs match. However, within a 150 year period different motif patterns may

suggest chronological differences within the Chacahua Phase rather than event type differences. Due to its uniquely low proportion of bowls compared to any other midden in this study, and E39's non-pit structure, E39 is different from the E7 and E18. Beyond this, E24 appears to be completely different from the other Río Viejo middens in terms of size, structure, and number of motifs present. Considering that E24 was not fully excavated, it is possible that some of the motifs noted for other Río Viejo middens were also present at the event associated with this midden. Currently the motifs of E24 only match E18, almost in its entirety. The structure of each midden seems to point to at least three potentially different areal uses on the acropolis with respect to commensal activities, or three different phases within the Chacahua phase marked by different formation processes for middens (different kinds of events). Current evidence suggests there were other areas where no middens are found, though we cannot rule out the presence of feasts in these areas, this is another line of evidence that the acropolis was separated into different functional spaces. Operation C, Operation D, and Operation E all demonstrate different patterns. A future question might be to see if these patterns have spatial boundaries and, then, if they are, how far they extend. The midden at Yugüe seems almost entirely different from anything at Río Viejo in structure (as a sheet midden), content (with a vase and the most comales by far), and because it contains the majority of unique motifs. The only similar characteristics of F42 to the other middens are the time period and a few stylistically basic motifs, all of which are common shapes, dots or lines.

Design Motifs

Motifs were identified using past designations and descriptions by Barber (2009) and Brzezinski (2010) to categorize already known images. These categories were built upon previously un-encountered designs. Types were also added to if considered necessary. A

significant comparison between these designs and those found amongst other groups beside the Chatino has not yet been attempted. However, Brzezinski provides a discussion about the ideological significance of these motifs within the lower Rio Verde region (2011).

Figure 17 shows the presence of motifs found at each midden and where their presence overlaps at various middens. There seems to be notable overlap between E7 and E39, and, separately, E18 and E24. For the latter relationship, E24 has all of the decorative motifs of E18 except for one: diagonal lines. However, E24 also has at least three motifs not found in any other midden analyzed here. At this time it is difficult to say whether any of the diagonal lines noted for E18 and F42 were on sherds that did not show the full motifs; these lines may have formed triangles in some cases. Only E39, E7, and F42 similarly have unique motifs: there is one present in E39, one in E7, and eight present in F42. It may be notable that half of the motifs present in F42 are also present at Río Viejo, although at various middens. The amount of overlapping motifs may be a result of two different researchers constructing datasets; designs may have been overlooked or misidentified by either Dr. Barber or I.

Based on chronology and location although it is possible that all of the middens at Río Viejo were part of the same event, it is more likely that they were separate events. Judging by the distinct patterns found in E24 it is more likely that if any Río Viejo middens were tied together then E7, E18, and E39 were one event, separate from E24. It is also more likely that E7 and E18 were part of an event separate from E39, judging by date, midden structure, vessel form proportion, and similar location. See Future Research in Chapter 5 for possible solutions to this problem. Based on motifs present at E7 and E18, it is unlikely that these two middens were associated with one event, despite the majority of factors in which they are similar. Also, even though they are similarly structured (as layered pits) relative to the other middens in this study, their layering is a bit different and E18 has many more jars than E7, suggesting a different kind

of organization. As one event, E7-E18 would have 6 unique motifs not found in E24, E7, or F42. E24 has 4 motifs not found in any other midden, and F42 has 8 motifs not found in any other midden (that is only if we suggest diagonal triangle lines as unique to E24). If diagonal triangular lines are not unique to E24, an E7-E18 event would have 4 unique motifs from what was present at E24 or F42. That is to say, E7-E18 would be the only event besides E39 with the trefoil type 1 motifs and arch motifs, and (potentially significant) two different kinds of arch motifs. Then, E24 would have five motifs not found in an E7-E18 event, and eight not found in F42. Lastly, F42 would have ten motifs not found in an E7-E18 event, and twelve not found in E24.

The unique motif patterns for each midden suggest their separation and distinction, either temporally or in form and function, meaning the similarities between the middens in terms of motifs suggest that they may be either closer in function or in time. That is, based on motifs, E7 and E39 are more similar than either are with any other midden, and, since their structure is completely different, this suggests that they are, likely, closer in time than function. Although E24 shares some motifs with all of the other middens, it is the most similar in motif types with E18, followed by F42. F42 is equally similar to E24 and E18, and E18 is the most similar to E24 (see Table 4). Although it is unlikely all differences regarding motifs stem from chronological differences, given our current stratigraphic evidence and other lines of evidence that suggest their differences in function, had they then our seriation would follow as either [E18>E24 & F42>E39 & E7] or [E39 & E7>E24 & F42>E18] (Table 5).

Table 4: Quantity of Shared Motifs

E7 and E39 share 6 motifs
E18 and E24 share 6 motifs
E18 and F42 share 4 motifs
E24 and F42 share 4 motifs
E7 and E24 share 3 motifs
E7 and F42 share 3 motifs
E39 and E24 share 3 motifs
E39 and F42 share 3 motifs
E7 and E18 share 2 motifs
E18 and E39 share 2 motifs

Table 5: Hypothetical Seriation (based on motif similarity)

Early Terminal Formative	E18	E39/E7
Middle Terminal Formative	E24/F42	E24/F42
Late Terminal Formative	E39/E7	E18

E7	E18	E39	E24	F42
rectilinear	rectilinear	rectilinear	rectilinear	rectilinear
horizontal double line break				horizontal double line break
volute		volute		
arch				
trefoil type 1		trefoil type 1		
vertical line		vertical line	vertical line	
notches under rim	notches under rim	notches under rim	notches under rim	
single horizontal framing line		single horizontal framing line		single horizontal framing line
	curvilinear		curvilinear	curvilinear
	"crab claw"		"crab claw"	
	diagonal line			diagonal lines
	lazy "S"		lazy "S"	lazy "S"
	appliques		appliques	
		vertical double line break		vertical double line break
		arch type 2		
			horizontal grooves	
			trefoil type 2	
			arrow type 2	
			punctuation	punctuation
			diagonal triangle lines	
				lazy "z"
				cross-hatch
				spiral
				zoomorphic
				forked tongue/double spiral
				step fret (simple)
				single line at rim (on edge)
				feathers

Figure 17: Motif Tree: Motifs present at each midden.

Evidence of Food Production

The most significant differences of potential evidence for food production seem to be between F42 and E24. As previously stated, F42 had many more jars than E24 (Figure 18); this division in form priority may indicate a difference in the kinds of events that created the two middens. Food preparation at F42 may have served a necessary ceremonial function or may have

been simple to accomplish with all parties involved, since the event took place at a small site. If people from many communities converged on Río Viejo for these events, perhaps the logistics of multiple groups cooking at a far distance from their respective sites was too cumbersome. In other words, food production faculties could have been located elsewhere rather than near the location of refuse deposition, which would make sense for very long feasts that spanned most of the day or night. Food production areas could have been in the residential parts of Río Viejo or on other parts of the Acropolis, for instance in areas where features such as E23 were present. This feature is currently considered an earth oven by Barber and Joyce (2012). It is still unclear what role (if any) E23 might have played in Acropolis feasts. This feature is a large layer of ash and burned sherds that is about a meter thick vertically (Brzezinski and Joyce 2012). A feature like that could be evidence of massive food preparation. Although this feature might date a century or earlier than some of the middens discussed here, it would have still dated to the Chacahua phase (Brzezinski and Joyce 2012). Other features like it that actually might be closer in time to the middens analyzed here may be present elsewhere on the Acropolis.

The other Río Viejo middens seem to follow the pattern set forth by E24 in that they contain bowls as over 50% of their assemblages. E7 and E18 both contain over 70% bowls. E39 only contains 58% bowls and may have had a greater emphasis on food production near the event, however this midden also has the largest amount of unidentified sherds in terms of vessel form, making estimates of its near-event food production more tentative. If the unidentified sherds from E39 are jars or comales, this midden may display a similar pattern to F42 in food production, however it would still be much smaller than F42.

There are several options to explain a lack of food production vessels at Río Viejo in comparison to Yugué. One option assumes a lack of logistical practicality: that bringing food from distant sites, bringing sufficient cooking vessels to feast locations, or changing food

preparatory location from other areas to ceremonial space would have been difficult logistically or too labor intensive. If food was brought from different sites then it would make more sense, in terms of labor and organization, that the outside parties would have brought it directly to the site where the event was held in food storage vessels. Bringing sufficient cooking vessels to feast locations can be problematic if there are massive amounts of food being produced) and not enough labor to prepare the area for an event. By prepare I mean provide all of the cooking, bring all of the equipment, set up the cooking area, and distribute the food to the serving vessels before and during a feast. This could become especially problematic if most of the people taking part in the labor were also guests of the event. Moving food preparatory areas could have been unreasonable depending on how complex they were.

The second option is that the organizers of Río Viejo feasts were intentionally trying to minimize labor distinction because such conspicuous displays of status may have undermined a communal ideology. That is, the organizers wanted all of the participants in the event to be, or seem to be, solely consuming guests and not laborers- meaning no food preparation would have happened during the event or near it. A third option is that food preparation was present on the Acropolis and can be found in another area of it, signifying a structural partition to the public space that is currently unknown, this would suggest a sampling issue. This may be what we have with E23. It is also possible that lack of cooking vessels in Río Viejo middens could be a result of several of these options combined. This issue will not be resolved without identifying the location of the food producing areas for feasts.

Figure 18 shows that E18 had almost double the amount of jars present at any other RV midden. They also show that the Yugüe midden has almost double the amount of jars as E18. This may mean that E18 is atypical in the need for storage or food preparatory vessels in comparison to other Río Viejo middens, and that the same necessity was an even greater factor

for the Yugüe event. The latter point is especially relevant when comparing the Yugüe midden to the Río Viejo midden most similar to it, E24. In terms of size, E24 is about 90% of F42 and is the only other midden in this analysis that might have been a singular event. It should be noted that these percentages do not suggest that food storage or preparation were the primary focus of any of the events; as we can see in Table 1 and the vessel form quantity graphs, all of the middens have more than double the amount of bowls than jars. It should also be noted that this evidence may indicate E18 as a distinct event from E39 or E7. We would expect similar patterns if the different middens were produced as part of the same event.

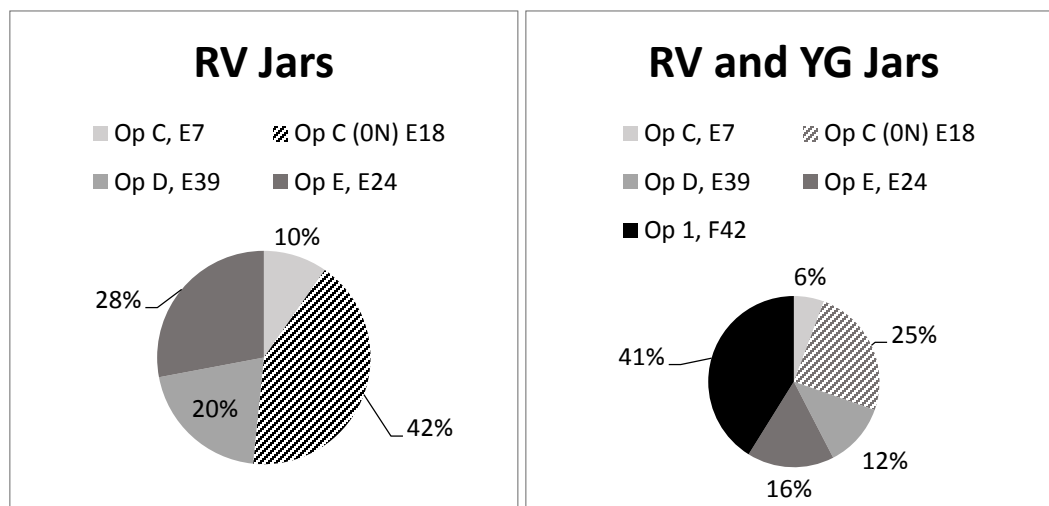


Figure 18: Proportions of Jars Each Midden Provided to the Sample

Grayware Pottery

If serving vessels are indicative of the number of people fed then E24 would show the largest aggregation of guests at one event with F42 close behind (Figure 19). E24 contributes a bit more grayware vessels (373 grayware vessels- primarily bowls) (Figure 19 and Table 3) than F42 (302 grayware vessels), which is 10% larger. As separate events, E7, E18, and E39 do not compare to the amount of serving vessels found in F42 or E24; they would have been much smaller events than either F42 or E24. The large number of identified Chacahua phase middens may show a greater number of middens at Río Viejo when compared to Yugué. Currently, no more Chacahua phase middens were found on the Acropolis in 2013. The evidence we have of grayware frequencies alone could show a very minimal scaling-up of event size at Río Viejo between E24 and F42. However, in conjunction with the coarse brownware evidence and the depositional structure of the middens, the fact that E24 had more serving vessels than F42 suggests that it may have been a different kind of event than F42. Nonetheless, the E24 event may have been of similar size or smaller in terms of the amount of people present. Average rim diameter informs this last statement, E24 may be smaller despite a higher amount of serving vessels because the average rim diameter of its bowls, jars, and comales are all less than half that of F42 (see Table 6 below).

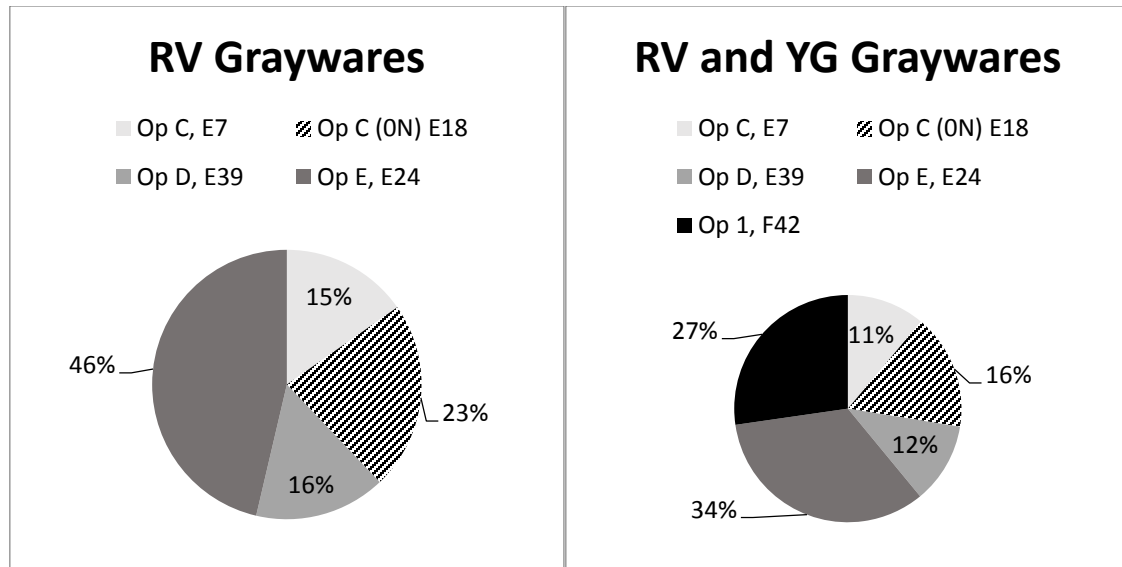


Figure 19: Proportion of Graywares Each Midden Provided to the sample

Dividing the Acropolis

In terms of spatial divisions on the acropolis, no one midden is sufficiently like another to demonstrate specific uses for different areas of the space. E7 and E18 are most similar in many ways besides motif patterns (and they may be similar in other vessel elaborations, though that hasn't been addressed here). They seem to share the same kind of depositional pattern as layered pits, have similar proportions of serving to food preparatory vessels, are similarly sized overall, and, most importantly, they are found in very close proximity to each other. E39 and E24 were deposited differently than these two middens and from each other, E39 has different serving-to-food preparatory vessels, and E24 is much larger than E7 and E18 as well. E39 and E24 are also distant from E7 and E18. It is possible that Operations C, D, and E provide a loose proxy for midden pattern boundaries but this requires more work with the dataset I utilized here and additional excavation extending out from these operations.

Discussion Applying Feast Attributes

As stated, this thesis explores the use of public space as a venue for communal activities that affirm a collective regional-scale political affiliation. Barber and Joyce (2007; Barber 2013) have proposed that Río Viejo's rulers attempted to create a regional identity by scaling up actions that had previously been employed to generate local communal identities. Specifically, evidence of middens can point to one such communal activity: feasts.

In the archaeological record feasts can be represented by specific indicators of their function, and, at times, can be indicated by middens (Hayden 2001: 40-42; Barber and Joyce 2007). When attempting to determine if a midden represents a feast and what kind of feast it may represent, the researcher must consider the presence of special foods, types of facilities, vessels employed, and the location where the feast took place (Hayden 2001: 40-42). A special type of facility could be an area divided from the commensal area, such as a segregated/access-restricted kitchen, a store house distinctly used for event foods or items, or even a segregated building for commensal activities. A communal kitchen or store house does not necessitate the presence of feasts, those kinds of facilities are more informative of a feast's nature only after a feast has been determined to be present.

These attributes (facilities, vessels, location, foods) are of differing durability and, therefore, can represent differing amounts of time (and how ideas change during those periods) (Dietler 2001: 74; Hayden 2011: 53). For instance, a location is likely connected with more points in time than a vessel and therefore may speak more about the changes associated with that time range than a vessel can for the same length of time. Basically, those things which are more durable *may* affiliate with more durable ideas than those that can (or do) rapidly change (Dietler 2001).

Types of Feasts

Recent scholars have defined several types of feasts based primarily on function. Based on ethnographic and ethnohistoric examples, it has been postulated that specific functions correlate directly to the presence of certain attributes and therefore specific attributes can indicate function. Below are descriptions of some of the main functions one might encounter in the literature (Dietler 2001; Hayden 201). They are the empowering feast, the work feast (a specific type of empowering feast), the patron-role feast, and the diacritical feast.

Empowering feasts are any commensal practice that is involved in the discourse of power negotiation, or social positioning, and does this through the “manipulation of commensal hospitality” to acquire and maintain symbolic, and potentially economic, capital (Dietler 2001: 77). He exemplifies this kind of feast with the “work feast” where a host can acquire symbolic capital, in the form of prestige, and gain economic capital, in the form of labor, through a donor/receiver event that emphasizes quantity (Dietler 2001: 75-80). The quantity here is some form of pay—generally food. Patron-role feasts entail unequal redistribution unlike empowering feasts. Unequal redistribution is necessary to maintain asymmetrical social power, thereby making institutionalized authority legitimate. The host, or patron, receives symbolic capital from these feasts but, at the same time, the continued maintenance of the asymmetrical relationship becomes ideologically naturalized; the patron’s position is usually titular, meaning they have an official title that they are working to protect. Like patron-role feasts, diacritical feasts also *naturalize* (but do not create) status differences through the maintenance of asymmetrical relationships; however they maintain further distinction within a society by completely segregating how and what elites and commoners eat. Diacritical feasts are exclusive feasts where only higher social classes or ranks take part. They maintain distinction with a focus on stylistic qualities. Such stylistic qualities can apply to food (type), location (restricted), or presentation (if the food is not distinct for instance) (Dietler 2001; Hayden 2001).

Attributes for feasts, set out by Dietler (2001), are based on ethnographic observations and proved difficult to assess archaeologically except in terms of food quantity, feast style (food, decoration, etc.), and level of diacritical exclusion. The level of inequality, acquisition of power, and the level of donor/receiver relations were not sufficiently informed by the physical evidence provided by these middens. Additionally, the dataset here may also help to indicate possible levels of labor division, areas of food preparation, feast frequency, and differential use of areas on the acropolis.

Findings

There is nothing that displays the level of inequality for Río Viejo, unless we take E18 and E39 as singular events and suggest that their higher jar count indicates a greater division between labor and those being served (and even this would be circumstantial). There is also no evidence that connects one vessel and paste type to water storage or serving; thin-walled grayware jars do not occur in a high enough amount in the whole Chacahua Phase assemblage for this area to be expected as the most likely candidate for water transport. Currently the issue with using jars as evidence of labor division is that although jars can be associated with food storage and, in the case of coarse brownware jars there is no current evidence in the lower Río Verde valley that aligns one kind of jar with food preparation, preparatory facilities, or storage facilities. That is not to say that inequality wasn't expressed at Río Viejo feasts, just that the evidence for this is low. Yugüe displays a slightly different situation than Río Viejo.

However, all evidence of inequality in feasts is circumstantial; specifically dependent on whether divisions between bowls and other types of vessels actually indicate labor and participant status divisions. In F42 we have jar percentages comparable to E18 and E39, and a substantially larger amount of comales in comparison to all Río Viejo middens (see comal and jar pie graphs).

This suggests that food production was taking place at the site of the event, and may point to conspicuous inequality of the event (through the division of labor). This would be unlike the similarly sized Río Viejo feast, E24, where food production seems to have happened at an either spatial or temporal distance from the event-this could also be evidence of inequality but of a different form. Alternatively the large amounts of jars and comales at F42 could actually indicate a pattern that would reduce the conspicuousness of inequality; the pattern could indicate that the participants were also the cooks.

A lack of cookware at either sites' middens is more likely indicative of servants or participants/guests preparing the food away from the site of the event than of a division of labor within the events. One way to tell if food was prepared away from an event would be evidence of distant food preparatory areas inextricably linked to the event, either genetically by bone (matching the DNA of a bone found in one area to that of the same species bone found in another) or by refitting artifacts. Hard evidence for division of labor within an event would be more difficult to find, besides circumstantial evidence of vessel type frequencies perhaps an indication of motifs or artifacts specifically divided among labor lines (associated with different kinds of labor) and the presence of those kinds of things at an event, or within an event's midden. This suggests that there are food preparatory areas not yet found at Río Viejo and that, if both sites had a division of labor in association with the midden forming events, Río Viejo events would not conspicuously display the labor to the event guests, completely unlike Yugüe. On the other hand, if neither site had a division of labor associated with the formation of middens then the act of cooking itself had more significance to the Yugüe event than the Río Viejo events.

There are then several possibilities for the form of labor division among these sites:

1. The large amount of food preparatory vessels at Yugüe indicate that the participants were also cooks.
2. The large amount of food preparatory vessels at Yugüe indicate that those being served were being served by a group specifically present to cook. (division of labor)
3. The relative lack of food preparatory vessels in relation to serving vessels at Río Viejo indicate that there were specific food preparatory areas at a distance from the events and that a specific group (separate from those served) was cooking there during the events. (division of labor)
4. The relative lack of food preparatory vessels in relation to serving vessels at Río Viejo indicate that there were specific food preparatory areas at a distance from the events and that the participants (those being served) used this area before the events, and then brought the food from here to the events.
5. The relative lack of food preparatory vessels in relation to serving vessels at Río Viejo indicate that food preparatory areas were at a distance from the events but they were not “official”. The areas in this case could be where families normally cooked. In this case the participants would have brought food “from home” and those being served would have been the cooks.

Of these possibilities it is my opinion that situations 1 and 3 make the most sense.

Situation 1 for Yugüe because the amount of food present seems to greatly outweigh the amount of serving vessels, which are already large, suggesting that the serving vessels were being refilled and that their number do not indicate a 1:1 ratio between serving vessel and participant. This coupled with the fact that Yugüe is a smaller site suggests to me that feeding the cooks had been considered long before the event took place. Situation 3 for Río Viejo because much of the organic matter found in the middens were faunal, and because foods made from animal can spoil

very quickly it makes more sense that cooking was happening during the event. This leans toward the notion that there was greater inequality at Río Viejo in terms of division of labor for commensal events.

Some of these middens demonstrate great differences in food quantity. E24 and F42 certainly emphasize quantity as singular events. In terms of the amount of food contained in the vessels of each midden Table 6 below shows us differences of rim diameter, which may potentially indicate differing emphasis on the amounts of food present (and therefore the number of people being served) and activities performed. The Río Viejo middens have similar numbers for both their largest, smallest, and average numbers, however the Yugüe midden dwarves those other middens in terms of its largest rim diameters and average rim diameters. This offers the slim possibility that the amount of jars in F42 indicated a greater amount of food storage vessels, rather than food preparatory vessels or labor distinction. Larger vessels would be much harder to heat and heat evenly likely making them more suitable for storage rather than similarly formed but smaller sized vessels, which may be better for cooking. This is taking into account the amount of jars found as well, the size of a vessel increases the effort needed to heat it, the amount of vessels present compounds this issue. This possibility is considered slim because heating would have been facilitated by the use of pot boilers that have been found at Yugüe (S. Barber, personal communication 2014). It has not been determined to what extent pot boilers were used or how efficiently they heat large coarse brownware vessels (that are sometimes very tall) (Barber 2005). A greater amount of food storage vessels coupled with a greater amount of food served at one time may indicate that the event leading to F42 focused on its quantitative aspect much more than the events at Río Viejo.

We can more clearly indicate a greater amount of serving and simultaneous food production at Yugüe through its midden's material pattern, a pattern we would expect elsewhere

for a similar kind of event. The only midden at Río Viejo with similar proportions of serving to storage/food preparatory vessels is E39. That midden shows a nearly 50-50 split between vessels used for serving and vessels used for food preparation. However this may be skewed by the large amount of unidentified sherds in this midden (27%).

The evidence we currently have suggests, minimally, a greater frequency of feasting events at Río Viejo. The larger number of middens found at Río Viejo may be due to the acropolis having received greater archaeological attention than Yugüe. Certainly there is the potential for much larger events at Río Viejo if multiple middens can be associated with one feast. However, the largest vessels at Yugüe are much larger than any of the Río Viejo middens. Considering F42 has a similar amount of serving vessels as E24, it is probable that it was a larger event than any of the other middens analyzed here. If the Río Viejo middens analyzed here are each associated with separate events, then the event that led to F42 was unquestionably far larger than any of the potential Río Viejo events associated with middens analyzed here.

Table 6: Average Rim Diameter (in centimeters) for each Feature

		Average Rim Diameter	Smallest Rim Diameter	Largest Rim Diameter
Op C- ON				
	Bowls	13.4	4.25	26
	Jars	12.72	4.25	24
	Comales	15	11	21
Op C- OAA				
	Bowls	14.73	4	31
	Jars	9.8	3.25	15
	Comales	22.7	15	31
Op D				
	Bowls	14.5	5	30
	Jars	15.36	5.5	28
	Comales	21	17	25
Op E				
	Bowls	13.51*	3	27
	Jars	10.7	3.25	24
	Comales	18.2	16	20
F42-Yg				
	Bowls	32.07	5	75
	Jars	31.16	7	65
	Comales	39.73	21	68

*3 impressed rims were not considered for this

Different proportions of vessel types may indicate special kinds of food. The amount of comales at F42 may indicate a greater reliance on a food style that requires tortillas (Blanton et al. 1999; Levine 2002). Levine has argued that tortillas would have been beneficial, or an efficient food source, for laborers who had to work at a distance from their home site (Levine 2002; Joyce et al. 2013:23). This has significant implications when we consider the evidence regarding quantity above. It is possible that F42 displays characteristics that would be expected for a work feast given the extreme focus on food quantity, likely large group size for the event, and the relationship of comales to a labor-associated food. It is possible, then, that some of the motifs found within F42 may be associated directly with communal labor although more research is required.

The composition of groups that engaged in feasts at Río Viejo and Yugue aren't clear although some preliminary suggestions are possible by looking at motifs. The motifs found at each midden seem to indicate a greater stylistic difference between F42 and the Río Viejo middens compiled (between sites) than it does between E24 and the other Río Viejo middens compiled. There is a greater difference in motifs between the vessels at Yugue and those at Río Viejo than there is between middens within Río Viejo. If E7, E18, and E39 are taken as separate events, they would still share many of the same motifs. However, the greatest distinction, regardless of whether those middens are taken as one event or as singular events, is still between a singular E24 event and F42, which would demonstrate 19 motif differences.

Taken as singular events E7, E18, and E39 would have a comparable quantity of motif differences in respect to F42. As stated, there has not yet been a study to determine the relationship of motifs with specific sites in the Lower Río Verde valley for the Terminal Formative. Therefore, it cannot be stated whether the different motifs in F42 are unique to

Yugüe. Moreover, it cannot be stated as to whether the motifs at the Río Viejo middens were at one time unique to some other site or whether they were a product of an emerging regional identity or changing economic system. Therefore, the chronological significance of the motifs present in this thesis require as much future research and analytical exploration as their locational significance.

Finally, none of these feasts manifest evidence for diacritical exclusion. I touch on this topic despite limited evidence because lack of diacritical exclusion has strong implications for the argument of Río Viejo establishing a regional polity and/or identity. For Río Viejo to try and form a communal polity, we would not expect diacritical exclusion. It would not be prudent for feast donors at Río Viejo to distinguish themselves from guests coming from other sites. Although some motifs may have had stronger symbolic significance than others, we currently cannot determine which might have been exclusive. There is also currently no evidence pointing to which guests were using the decorated serving vessels. Was it the local Río Viejo people or people from other sites? Further, many vessels were elaborated in some other way, either in wall, rim, or base form. These differences also could have been more or less significant in comparison to decorations and to each other. We can say that a large number of participants at all of the Río Viejo feasts had access to decorated vessels: almost all at E7 and almost half at E18, E39, and E24 (Table 3).

The largest issue with any of this discussion is that we do not have strong physical evidence that suggests the presence of groups from outside of Río Viejo took part in its feasting events. Although it is presumed that outside influence would have been required to complete construction of the Acropolis in a reasonable amount of time (Joyce et al. 2013), and that, minimally, these outside groups would have had some encounter with Río Viejo ritual and ceremony.

Discussion

All of the features that provided samples for this analysis have many characteristics of middens. They all contained Chacahua phase sherds in excellent condition and a significant degree of refitting sherds and complete vessels. As shown, those vessels were usually serving bowls made with, at the time, the paste associated with “fancier” ceramics, or ceramics of “finer quality.” They all contain decorations on over 30% of their samples. All were, to some extent, organic and included lenses of ash, faunal bone, and shell. Significantly, for those middens that were layered, only the ceramic-laden layers demonstrated all of these characteristics, a pattern we would expect from intentional deposition during, or after, a feasting event. Only F42, at Yugüe, demonstrated miniature jars, though all Río Viejo middens analyzed here also displayed unusual serving vessels, including large cylindrical grayware jars, like those noted for F42 (Barber 2005). Large cylindrical grayware jars have, in the past, been associated with feasts in this area (Barber et al. 2013). That is to say, that they were not placed here solely for sanitary reasons, but were tied to ceremonial events. The large scale of the venues, and that they were public, also suggest that many people could be, and were, involved with these earlier events.

The formation events of Río Viejo middens could correlate to a series of cooking features, the largest was E23, an earth oven area found on the east side of the acropolis. Nearby were later shallow, burned features- like E16, found in Operation A of the Proyecto Río Verde 2012 and 2009 (Barber and Joyce 2011; Barber and Joyce 2012). Chronological correlation is problematic, however, because these features may date more than a century earlier than any of the middens here. The large cooking feature (E23) included burned sherds that seem to have functioned as heating elements, yet vessels used for serving or storing food are lacking. An argument can then be made that *some* of those vessels involved with the food produced from

this area would have been deposited elsewhere after a feasting event, in the middens that have been mentioned (and others like them on the Acropolis). However, the food preparatory or storage vessels found in the middens do not show the same amount of burning, or level of usage. The burn pits (E16) show evidence of ancillary activities that involved burning in trenches cut into an adobe surface and then continual maintenance, cutting, and burning of that adobe surface (Brzezinski and Joyce 2012). Similar evidence for the potential of food preparation at such a large scale has not been found at Yugüe.

Though both F42 and E24 seem to demonstrate singular events, their locational context differs; E24 is not currently associated with a substructure. This suggests differences in the singular feasting events of the sites. The three other middens were layered, suggesting sequential use and not singular events. It is possible, then, that those pits and refuse piles that were left open were used together for one event multiple times, which would suggest larger aggregations at Río Viejo feasts. The presence of continually open pits may also suggest an expectation that these events will continue in the future. If they are associated with the aforementioned cooking feature, the scale of both the amount of public space used and amount of food produced at reoccurring Río Viejo feasts would greatly outweigh that of Yugüe. The form of these middens seems redundant and may speak to the repetitive nature of these events, and that they are in a public setting may point to the lack of a unique, “elite” food culture or diacritical exclusion. This is a line of evidence that highly exclusionary authority and political relations are absent. There is currently no similar evidence for massive scale cooking, recurring feasts, or redundancy of midden form at Yugüe during the Late Terminal Formative period. There is evidence of food preparation and a layered midden during the Miniyua phase (earlier, in the Terminal Formative period), however exactly how close it dates to F42 is unknown (Barber 2005)

CHAPTER 5: CONCLUSION AND FUTURE DIRECTION

I argue that the midden evidence provided here demonstrates that space within a public ceremonial structure at Río Viejo, the Acropolis, was differentially utilized. Comparison with evidence from the outlying site of Yugüe suggests greater difference between the 2 sites than within the Acropolis. Feasting events at Río Viejo appear to have been smaller and more frequent than at Yugüe. Barring the potential for the evidence at the Acropolis to demonstrate scaling up of events found at outlying sites, the data here present a picture of events at Río Viejo that are fundamentally different from what was happening at Yugüe.

That the assemblages analyzed here are middens is confirmed by their large amount of almost complete and complete vessels made of refitting sherds, the amount of organic debris, and the large amount of debris in comparison to other kinds of deposits found in the area. I hoped to show that the middens are remnants of feasts by showing the connection of those things to characteristics that would be expected as physical evidence of a feast: that the vessels found are always primarily serving vessels; that the number of serving vessels suggest the presence of groups larger than a single domestic unit; that the organic material is (in most cases) associated with food (especially the amounts of shell and variety of small game bone); and that these large amounts of debris are found in public spaces rather than domestic spaces (where they could have more likely been regular trash areas). I have not been able to provide conclusive evidence as to whether feasting on different parts of the Río Viejo acropolis was undertaken for different reasons although some of the data do suggest this considering the differences in depositional patterns, the different overall sizes of the middens, and the differences in motifs present at each. Though this work

cannot speak for all outlying sites, none of the Río Viejo middens appear to be scaled-up versions of what is happening at Yugüe. Such a result does not contradict Barber and Joyce (2007), but it does not support their argument either.

It is unclear if the middens at Río Viejo were produced during events promoting hierarchical difference or as part of events promoting a centralizing and communal ideology. The apparent lack of simultaneous food production and consumption at Río Viejo suggests that all parties involved in the feasts there were served. At Yugüe, the potential for simultaneous food production and consumption is indicated by the large amounts of serving and food preparatory/storage vessels. Though some food production may have been present at each of the Río Viejo middens it, more likely took place elsewhere. Furthermore, the cooking done at Río Viejo would not have been near the scale of the cooking done at Yugüe's F42. Also, the emphasis of certain kinds of food was different at the Yugüe event considering the amount of comales found in F42. Further, the formation process that created F42 as a sheet midden is fundamentally different than the refuse pit, layered pits, and pile found at Río Viejo. The motifs found among these middens vary greatly, but F42 has the largest amount of unique motifs. In the case of the three smaller Río Viejo middens we have recurring use and none of the Río Viejo middens are located in a restricted setting. Though E39 and F42 may have been associated with structures, the function of those structures was likely very different, and F42 could have further been distinguished by a potential association with a communal cemetery.

Nonetheless, the location of all of the events described here suggest socio-political importance, and therefore differences between the events suggest socio-political differences. The greatest differences, in decorative style and event structure, were between the two sites rather than between the Río Viejo middens. The location of F42 is never taken to indicate a level of exclusivity and this line of evidence thereby does not indicate a level of diacritical exclusion,

however the amount of potential food preparatory vessels may indicate a division of labor between those cooking and those served, and therefore the attempt to maintain inequality (Dietler 2001). However, it is equally likely that the participants at Yugüe could have been both cooking and being served. Separately, given the highly ornate burial at Yugüe, and the current lack of similar evidence at Río Viejo, we can suggest that if any of the middens analyzed here had some form of donor, it would more likely be the one at Yugüe. Given the large number of comales in F42, it is more likely that an F42 donor was providing food more consistently associated with labor.

Future Research

Unfortunately our lack of certain kinds of evidence creates large gaps in our picture. For instance, the presence of the same kinds of foods can indicate stylistic qualities and potentially feast uniformity. These lines of evidence can now be informed by new technologies. For instance, DNA evidence could further show whether or not an animal found in one midden was the same animal found in another, making their mutual association with one event practically indisputable. To look at the stylistic qualities of the food we need a greater effort toward the analysis (in terms of researchers, projects, and funding) of the faunal remains and also the potential botanical remains found in vessels (along the sediment abutting the inner edge of the acquired vessels) (Shanti Morell-Hart personal communication 2013). To better understand who took part in these feasts we really need neutron activation analysis or thin sectioning, this, coupled with a regional survey of ceramic production areas (using XRF or NAA), which can tell us the origin of the pastes implemented for the production of the present vessels, and then potentially the origin of participants. Alternatively, or in conjunction with paste origin, we can study motifs to search for patterns of restricted use. We currently cannot distinguish whether differences in the motifs between each midden or between Río Viejo and Yugüe indicate either: (1) people from different

sites, (2) events that have different ideological significance, (3) differences in chronology, or (4) different vessel producers. To indicate (through motifs) different people taking part in events at Río Viejo we would need a study that shows certain motifs can only be found at specific outlying sites and Río Viejo (and not at other outlying sites). This could also help to actually identify *the presence* of fundamentally different ideologies at different sites. Also further exploration, excavation, and interpretation of the burned features in OP A is required to see if they were in anyway tied to the Río Viejo middens.

Conclusion

This study analyzed 1,543 sherds, all dating to the late Terminal Formative period Chacahua ceramic phase. The majority of the sample, 1,041 sherds, derives from midden deposits at Río Viejo while the remainder come from a midden deposit at Yugüe. In applying the dataset to analysis this work has suggested the potential for different kinds of the division of labor at the two sites, the existence of food preparatory areas not yet found at Río Viejo, potential for the differential use of Río Viejo's acropolis, the larger amounts of food and the different focus on food types at Yugüe, and a platform to explore the potential for an association of specific motifs with time, function, or space. There are still many ways the data can be applied to explore the elaborateness of the pottery.

APPENDIX A: ATTRIBUTE LIST

Paste

Medium brown

Coarse brown

Fine brown

Gray

Orange

Orange/gray

Gray import

White-rimmed blackware import

Other import

Vessel form

B: bowl (unrestricted)

C: comal

J: jar

O: other

Shape specific

1: conical bowl

2: semispherical bowl

3: indeterminate (conical or semispherical bowl)

4: cylindrical bowl

5: composite silhouette bowl

6: incurving bowl

7: comal

8: brazier

9: figurine

10: undetermined

11: plate

12: short-necked jar

13: collared jars

14: jars (long neck)

Wall form

1: outleaning

2: outcurving

3: incurving divergent

4: incurving convergent

5: vertical

6: composite silhouette

7: undetermined

8: inleaning

9: outleaning or outcurving

Rim form

1: direct

2: vertical

3: outleaning

4: outcurving

5: inleaning

6: incurving

7: everted

8: inverted

9: other

10: undetermined

Base form

1: round

2: flat

3: ringed

4: annular

5: undetermined

6: grooved

Rim width

1: unthickened

2: exterior thickened

3: interior thickened

4: exterior bolstered

5: tapered

6: undetermined

7: interior bolstered

8: thickened interior and exterior

9: bolstered

10: interior thinned/stepped

11: exterior thinned/stepped

Lip form

1: rounded

2: beveled exterior

3: beveled interior

4: beveled interior and exterior

5: beveled top

6: grooved

7: undetermined

8: intentionally skipped

9: bell-shaped

10: lipped

11: eccentric

Jar neck form

1: outcurving

2: outleaning

3: direct (vertical)

4: undetermined

5: inleaning

6: outcurving or outleaning

7: incurving divergent

8: incurving convergent

Decorative zones

1: rim-just below rim

2: main body of pot

3: base-just above vase

4: neck of jar

5: shoulder of jar

6: break in composite silhouette

7: base interior

8: edge of everted rim

9: all

10: rim-just below rim (exterior)

Plastic decoration

1: incised

2: excised

3: engraved

4: punctuated

5: impressed

6: combed

Surface treatment

- 1: unclear
- 2: eroded
- 3: wiped
- 4: burnished
- 5: scraped
- 6: smoothed
- 7: partially burnished
- 8: pattern burnished
- 9: well burnished
- 10: roughened
- 11: other
- 12: burned
- 13: unclear (exterior)
- 14: wiped (exterior)
- 15: burnished (exterior)
- 16: scraped (exterior)
- 17: smoothed (exterior)
- 18: partially burnished (exterior)
- 19: pattern burnished (exterior)
- 20: well burnished (exterior)
- 21: roughened (exterior)
- 22: other (exterior)

- 23: burned (exterior)
- 24: unclear (exterior and interior)
- 25: wiped (exterior and interior)
- 26: burnished (exterior and interior)
- 27: scraped (exterior and interior)
- 28: smoothed (exterior and interior)
- 29: partially burnished (exterior and interior)
- 30: pattern burnished (exterior and interior)
- 31: well burnished (exterior and interior)
- 32: roughened (exterior and interior)
- 33: other (exterior and interior)
- 34: burned (exterior and interior)

Surface decoration

- 1: slip
- 2: self-slip
- 3: wash
- 4: pain
- 5: slip (exterior)
- 6: self-slip (exterior)
- 7: wash (exterior)
- 8: pain (exterior)
- 9: slip (exterior and interior)

10: self-slip (exterior and interior)

11: wash (exterior and interior)

12: pain (exterior and interior)

13: stucco

14: paint

15: unidentified pigment

Color of decoration

1: red

2: black

3: yellow

4: white

5: orange

Decorative motifs

1: rectilinear

2: curvilinear

3: punctated

4: lazy “z”

5: zigzag

6: cross-hatch

7: diagonal (hatchure)

8: finger impression

9: spiral

- 10: zoomorphic
- 11: anthropomorphic
- 12: anthro-zoomorphic
- 13: fetamorphic (plant)
- 14: lazy “S”
- 15: forked tongue/double spiral
- 16: single horizontal framing line
- 17: double line break (vertical)
- 18: double line break (horizontal)
- 19: single line break (vertical)
- 20: waves
- 21: steps
- 22: scene
- 23: step fret (simple)
- 24: diagonal lines
- 25: vertical rim ticks
- 26: single line at rim (on edge)
- 27: diagonal rim ticks
- 28: trefoil 1
- 29: trefoil 2
- 30: trefoil 3
- 31: volute

32: feathers

33: hook curves

34: hook curves (paired)

35: “crab claw”

36: architecture

37: stamp box

38: grouped rectangles

39: complex step fret

40: Arch 1

41: Arch 2

42: Arch 3

43: Arch 4

44: alternative S-curves

45: paired lazy-S

46: fancy S-curve

47: upper framing line

48: two upper framing lines

49: vertical line

50: two vertical lines

51: three vertical lines

52: lower framing line

53: two lower framing lines

- 54: vertically-aligned horizontal ticks
- 55: coupled sets of diagonal lines
- 56: notches under rim
- 57: notches on rim
- 58: diagonal lines (Repeated in error)
- 59: heart
- 60: “fork glyph”
- 61: diagonal lines in triangle
- 62: basket (looks woven like patate)
- 63: rays
- 64: “eye”
- 65: arrow
- 66: curly Q
- 67: applique (to simplify their presence if they are not analyzed individually)
- 68: other/undetermined
- 69: middle framing line (present between upper and lower framing lines)
- 70: trefoil undetermined
- 71: horizontal grooves
- 72: arrow type 2 (tentative)
- 73: quatrefoil type 1 (like 28)
- 74: quatrefoil type 2 (like 29)
- 75: quatrefoil type 3 (like 30)

76: “target”

Rim additions

1: scalloped

2: tabbed

3: pushed in

4: flanged

5: incised

6: notched

7: eccentric

8: handle

9: eccentric (trefoil-like; angled notches and incising)

10: eccentric (trefoil-like but vertical notches/incising replacing triangular notch)

11: pie crust

Applique

1: supports (3)

2: supports (4)

3: anthropomorph

4: zoomorph

5: anthropo-zoomorph

6: fetamorph

7: handle

- 8: nubbin (handle)
- 9: nubbin (support)
- 10: nubbin (decorative) (also rim tabs)
- 11: wall flange
- 12: support (number unclear)
- 13: chain
- 14: undetermined
- 15: notched basal flange

APPENDIX B: FIGURES



Figure 20: Sherd# 402, Op E, 28A, FS# 7641



Figure 21: Sherd# 383, Op E, 28A, FS# 7779



Figure 22: Sherd# 388, Op E, 28A, FS# 7779



Figure 23: Sherd# 405, OpE, 28A, FS# 7641



Figure 24: Sherd# 762, OpC, 0AA, FS# 7926



Figure 25: Sherd# 663, OpC, 0AA, FS# 7444



Figure 26: Sherd# 757, OpC, 0AA, FS# 7940 ad 7926 (top)



Figure 27: Sherd# 757, OpC, 0AA, FS# 7940 ad 7926 (bottom)



Figure 28: Sherd# 757, OpC, 0AA, FS# 7940 ad 7926 (profile)



Figure 29: Sherd# 366, OpE, 28A, FS# 7779



Figure 30: Sherd# 534, OpE, 28A, FS# 7779



Figure 31: Sherd# 521, OpE, 28A, FS# 7626



Figure 32: Sherd# 532, OpE, 28A, FS# 7773



Figure 33: Sherd# 443, OpE, 28A, FS# 7774



Figure 34: Sherd# 518, OpE, 28A, FS# 7639

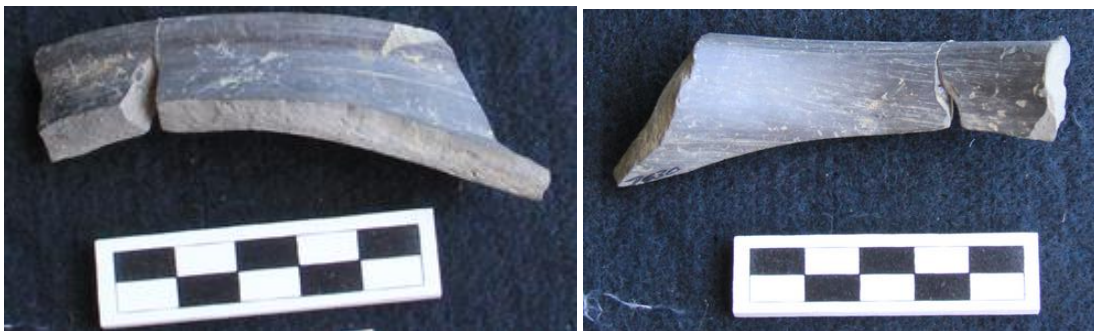


Figure 35: Sherd# 523, OpE, 28A, FS#7626 and 7630



Figure 36: Sherd# 469, OpE, 28A, FS# 7630



Figure 37: Sherd# 265, OpE, 28A, FS# 7626



Figure 38: Sherd# 266, OpE, 28A, FS# 7626



Figure 39: Sherd# 279, OpE, 28A, FS# 7626



Figure 40: Sherd# 277, OpE, 28A FS# 7638



Figure 41: Sherd# 278, OpE, 28A, FS# 7630



Figure 42: Sherd# 520, OpE, 28A, FS# 7779



Figure 43: Sherd# 303, OpE, 28A, FS# 7795



Figure 44: Sherd# 307, OpE, 28A, 7638



Figure 45: Sherd# 269, OpE, 28A, 7636



Figure 46: Sherd# 529, OpE, 28A, FS# 7779



Figure 47: Sherd# 545, OpE, 28A, FS# 7779



Figure 48: Sherd# 325, OpE, 28A, FS# 7795



Figure 49: Sherd# 285, OpE, 28A, FS# 7626



Figure 50: Sherd# 304, OpE, 28A, FS# 7638



Figure 51: Sherd# 302, OpE, 28A, FS# 7795



Figure 52: Sherd# 286, OpE, 28A, FS# 7626



Figure 53: Sherd# 340, OpE, 28A, FS# 7795



Figure 54: Sherd# 306, OpE, 28A, FS# 7638



Figure 55: Sherd# 339, OpE, 28A, FS# 7795



Figure 56: Sherd# 499, OpE, 28A, FS# 7773



Figure 57: Sherd# 500, OpE, 28A, FS# 7773



Figure 58: Sherd# 476, OpE, 28A, FS# 7630



Figure 59: Sherd# 519, OpE, 28A, FS# 7773



Figure 60: Sherd# 626, OpE, 28A, FS# 7630



Figure 61: Sherd# 436, OpE, 28A, FS# 7779



Figure 62: Sherd# 227, OpE, 28A, FS# 7639



Figure 63: Sherd# 695, OpC, 0AA, FS# 7933



Figure 64: Sherd# 752, OpC, 0AA, FS# 7940



Figure 65: Sherd# 792, OpC, 0AA, FS# 7933



Figure 66: Sherd# 705, OpC, 0AA, FS# 7981



Figure 67: Sherd# 706, OpC, 0AA, FS# 7926



Figure 68: Sherd# 690, OpC, 0AA, FS# 7981



Figure 69: Sherd# 694, OpC, 0AA, FS# 7948



Figure 70: Sherd# 703, OpC, 0AA, FS# 7981



Figure 71: Sherd# 708, OpC, 0AA, FS# 7926



Figure 72: Sherd# 785, OpC, 0AA, FS# 7979 and 7444

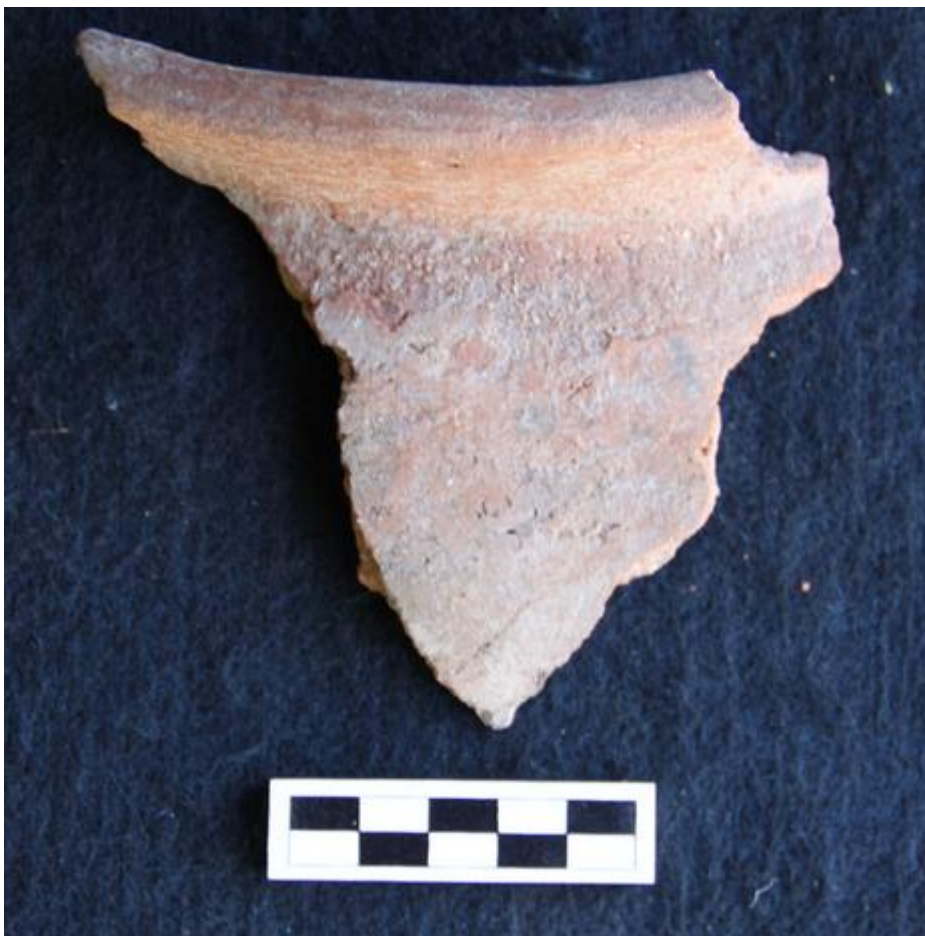


Figure 73: Sherd# 775, OpC, 0AA, FS# 7451



Figure 74: Sherd# 755, OpC, 0AA, FS# 7940



Figure 75: Sherd# 749, OpC, 0AA, FS# 7940



Figure 76: Sherd# 746, OpC, 0AA, FS# 7981 and 7992



Figure 77: Sherd# 743, OpC, 0AA, FS# 7973 and 7451



Figure 78: Sherd# 734, OpC, 0AA, FS# 7948



Figure 79: Sherd# 733, OpC, 0AA, FS# 7948



Figure 80: Sherd# 643, OpC, 0AA, FS# 7444



Figure 81: Sherd# 644, OpC, 0AA, FS# 7444



Figure 82: Sherd# 640, OpC, 0AA, FS# 7451



Figure 83: Sherd# 641, OpC, 0AA, FS# 7444



Figure 84: Sherd# 637, OpC, 0AA, FS# 7933



Figure 85: Sherd# 635, OpC, 0AA, FS# 7933



Figure 86: Sherd# 676, OpC, 0AA, FS# 7444



Figure 87: Sherd# 760, OpC, 0AA, FS# 7926



Figure 88: Sherd# 677, OpC, 0AA, FS# 7919



Figure 89: Sherd# 686, OpC, 0AA, FS# 7968



Figure 90: Sherd# 682, OpC, 0AA, FS# 7948 and 7940



Figure 91: Sherd# 684, OpC, 0AA, FS# 7926

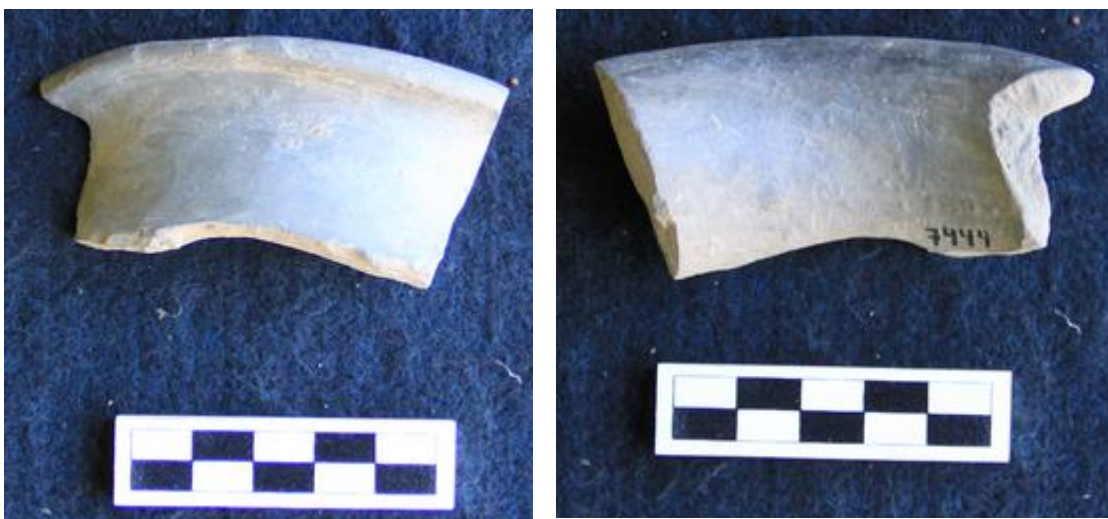


Figure 92: Sherd# 654, OpC, 0AA, FS# 7444

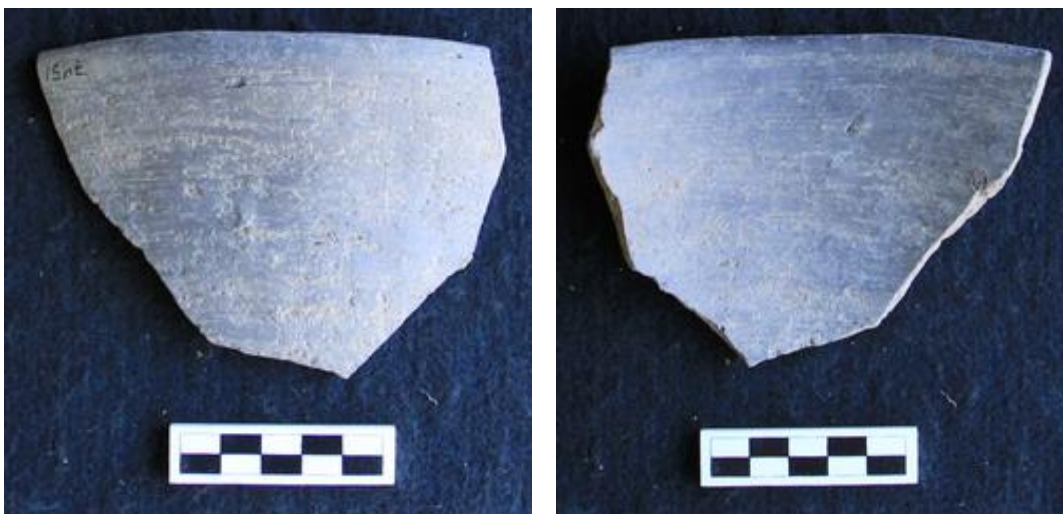


Figure 93: Sherd# 651, OpC, 0AA, FS# 7451



Figure 94: Sherd# 711, OpC, 0AA, FS# 7933



Figure 95: Sherd# 715, OpC, 0AA, FS# 7926



Figure 96: Sherd# 791, OpC, 0AA, FS# 7933 and 7444



Figure 97: Sherd# 795, OpC, 0AA, FS# 7444

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