

A CONTEXTUAL ANALYSIS OF A PRECLASSIC  
PROBLEMATIC DEPOSIT AT  
BLACKMAN EDDY,  
BELIZE

by

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ABSTRACT

A CONTEXTUAL ANALYSIS OF A PRECLASSIC  
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The University of Texas at Arlington, 2008

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This thesis examines Problematic Deposit #3 from two operations in Plaza B at Blackman Eddy, Belize through a detailed contextual analysis. Due to the ambiguous nature of problematic deposits, several methods of analysis were utilized to determine the event or events associated with the cultural material and the architectural remains uncovered in the two operations. For the analysis of the ceramic assemblage, the type-variety method was first utilized to determine the relative date of PD#3. Second, a functional analysis of the partial vessels within the problematic deposit was performed and a radiometric AMS date was collected from PD#3 of 380 – 170 B.C. As part of the contextual analysis, all cultural

material in PD#3 was compared to archaeological signatures of feasting. The radiocarbon dates demonstrated that the deposit was placed between the Middle and Late Preclassic periods, and the results of the type-variety method demonstrated the deposit overlapped the Jenney Creek and Barton Creek complexes. These results emphasize the need for radiocarbon dating in conjunction with the type-variety method when possible. In addition, this thesis presents a detailed methodology that can be used to examine other problematic deposits in the archaeological record and compare them to feasting deposits in the Belize River Valley.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 A Problematic Deposit at Blackman Eddy, Belize

This thesis presents the results of a detailed contextual analysis used to determine the nature of a late Middle Preclassic/Late Preclassic (300 – 250 B.C.) problematic deposit located at the site of Blackman Eddy, Belize. The contextual analysis was two-fold; first a methodological approach was developed for the analysis of the ceramic assemblage in the two test units, Operations 22a and 22b, which included a problematic deposit designated PD#3. The test units were excavated during the 2003 field season to examine the stratigraphy of Plaza B at Blackman Eddy (Cochran and Brown 2004:15). Second, a functional analysis of the ceramic vessels was performed as well as an examination of the cultural material in PD#3. After this was conducted, the deposit was evaluated for documented archaeological signatures of feasting deposits. This contextual analysis was performed in order to identify the event or events that led to the deposition of PD#3.

The concept of “Problematical Deposit,” or “Special Deposit,” was first introduced during the Tikal Project in northern Guatemala in an attempt to distinguish these deposits from other deposits such as middens or burials (Coe 1982:49). Subsequently referred to as problematic deposits, these deposits can be well dated and contain a wide range of cultural material; yet their function is uncertain, and they appear to represent a wide range of ritual or social behaviors (Iglesias 2003:171). Types of problematic deposits identified in the

archaeological record include dedication or termination deposits, caches or other deposits that have been interpreted as the remains of feasting. Occasionally problematic deposits have been referred to as “ritual deposits,” yet this term should be used cautiously as it sometimes assigns cultural meaning without the application of a detailed contextual analysis.

Problematic deposits contain a wide range of cultural material and appear in different contexts from middens or burials (Coe 1982:49). Problematic deposits are often located at the centerline of monumental ceremonial architecture (Clayton, Driver, and Kosakowsky 2005:120) and appear to have occurred during a single event or series of events. In contrast, middens, or “refuse” deposits, are typically located outside of structures or at the outer edge of a community (Pagliaro, Garber, and Stanton 2000:78). Domestic middens can include ceramic sherds, chipped stone tools, (Clayton et al. 2005:128), and large amounts of faunal remains (Houk 2000:144). Also, ceramic sherds in middens are typically heavily eroded, vary in time period, and rarely have any refits (Pagliaro et al. 2000:79).

Other types of problematic deposits that contain ceramics and “ritually” related cultural material are consecration or termination deposits. These types of deposits often share spatial distribution in that they are “often found at interstices on structures, such as stairways, axial centers, boundaries ... or inside and outside corners” of architecture (Mock 1998:6). Consecration deposits, also known as dedicatory deposits, are not typically associated with destructive behavior. Dedicatory deposits may have been placed to ensoul a location or a structure with supernatural power by the placement of specialized cultural material such as whole pots filled with food, flint eccentrics or sacrificial victims within the deposit (Mock 1998:5). Caches, or “earth offerings,” are a subset of dedication deposits;

they can have similar archaeological signatures to burials, as they may contain human remains or whole vessels (Becker 1992:186). Caches are recognized in the archaeological record as a group of ritual objects or cultural artifacts placed within an existing structure, sometimes cut into the floor or stairwell, and the material is subsequently filled or covered (Coe 1959:77). Termination deposits are evidenced in the archaeological record by acts of destruction and may include the defacement of structures by burning, the preparation of ceremonial beverages, and the destruction of cultural material such as smashed vessels and other artifacts (Garber 1989:9; Mock 1998:5).

Additional types of problematic deposits recognized in the archaeological record are those that have been interpreted as the remains of feasting. Archaeological signatures of feasts are numerous and varied; these signatures are used to distinguish feasting deposits from middens or other problematic deposits and vary due to the size and type of feasts (Hayden 2001:40). Signatures of feasts include, but are not limited to, whole or partial vessels, faunal remains, abundant charcoal, prestige or ritual items, pictorial or written records of feasts, and their placement in a significant spatial location (Hayden 2001:40-41). Feasts are defined by Michael Dietler and Brian Hayden as an event, or events, “constituted by the communal consumption of food and/or drink ... and are distinguished from daily meals because they are part of a ritual activity” (2001:3).

The overlap between cultural material in midden assemblages and those of problematic deposits makes it difficult to infer the function of PD#3 from the artifacts alone. Context and artifact condition does vary within different types of problematic deposits (Pagliaro et al. 2000:77) and the cultural material variability within these deposits can be

complex and ambiguous (Stanton, Brown and Pagliaro in press). Therefore a detailed contextual analysis of the deposit and associated cultural material is necessary to determine the nature of any problematic deposit. The contextual analysis presented in this thesis will help define the type of event or events that may have occurred in Plaza B during the late Middle Preclassic at Blackman Eddy.

### 1.2 Research Objectives

Three research objectives were designed to examine the deposition, chronology and meaning of the cultural material in PD#3. The first objective was to reconstruct the depositional history of Plaza B as revealed in Op. 22a and 22b. This included an analysis of the stratigraphy, the matrix, and an assessment of the ceramics. The second objective was to determine if PD#3 was a primary deposit and if so, how many depositional events were represented. This objective was accomplished through an evaluation of the field notes, an examination of the stratigraphy, and a detailed contextual analysis of the ceramic assemblage which included an examination of the size of sherds, vessel refits, and condition of the ceramic material. Finally, to infer the type of activities that created the assemblage found in PD#3, the functional analysis entailed the evaluation of the ceramics and other artifacts in light of archaeological signatures of feasting.

### 1.3. Organization of the Thesis

This thesis contains seven chapters. The present chapter, Chapter 1, is a general introduction to the concept of problematic deposits and presents the research objectives for this thesis as well as an overview each chapter.

Chapter 2 presents the natural environment and culture history of the Maya lowlands with a focus on the Belize River Valley and northern Petén region in Guatemala. Ceramics in the Maya lowlands exhibit shared stylistic traits, and it is from this region that comparative ceramic research is drawn. The culture history data is presented in a chronological fashion, from the Early Preclassic (ca. 1200-900 B.C.) to the Postclassic (A.D. 1000-1541), and provides an overview to establish a cultural framework for the site of Blackman Eddy and the surrounding Belize River Valley. In addition, the culture history section focuses on architectural styles, ceramic trends and significant social developments in the Maya lowlands.

Chapter 3 provides a brief overview of the history of excavations and field methods employed at Blackman Eddy, which have been reported in numerous publications. This overview is followed by a detailed description of the excavations in Plaza B, with a focus on the excavations and stratigraphy of the two test units, Ops. 22a and 22b, which contained PD#3. The condition of the ceramics and cultural material associated with each lot are briefly discussed.

Chapter 4 is divided into three sections and begins with an introduction of the type-variety and functional analysis methods utilized within the Maya lowlands. The second section provides selected examples of how these methods are integrated with other methods of ceramic analysis. These integrative methods include the type-variety: mode method, residue analysis, iconographic and epigraphic analysis, ethnographic analogies and inference through ethnohistoric documents. In addition, concerns with the primary methods of analysis,



type-variety and functional analysis are discussed. The third section describes in detail the methods of ceramic analysis selected for this thesis.

Chapter 5 discusses the behavior of feasting and how it is identified archaeologically. This chapter includes a discussion of ethnographic and ethnohistoric examples of feasting in Mesoamerica and presents how these studies combined with other types of analysis can provide more contextual meaning to feasting deposits. Finally, archaeological signatures (Hayden 2001:40-41) of feasting are introduced and archaeological signatures that appear to be present in PD#3 are discussed briefly.

Chapter 6 presents the results of the contextual analysis of the ceramic assemblage in Operations 22a - 22b. The results of the type-variety analysis along with the description of cultural material identified are presented for each lot excavated. This is followed by a functional analysis of the ceramic sub-assemblage of PD#3. The partial vessels in PD#3 are presented in detail, followed by a discussion of the associated cultural material located in PD#3. The problematic deposit is then compared to the archaeological signatures of feasts described by Hayden.

Chapter 7 reiterates how a detailed contextual analysis is necessary to determine the nature of problematic deposits and reviews the two methods of analysis applied to the ceramic assemblage in Ops. 22a-22b. The methods of analysis incorporated into the contextual analysis of the ceramic assemblage and PD#3 are reviewed and suggestions for modifications to the methods of analysis are presented. Finally, approaches for future research are discussed as to how this method of contextual analysis can contribute to the development of a detailed framework for problematic deposits in the Belize River Valley.

## CHAPTER 2

### NATURAL ENVIRONMENT AND CULTURE HISTORY

#### 2.1 Introduction

The site of Blackman Eddy overlooks the Belize River in the Western Cayo district of Belize. Situated on an alluvial terrace, this small ceremonial center rests within the broader region known as the Maya lowlands (Brown and Garber 2005:53). This chapter presents a general overview of the natural environment and the culture history of the Belize River Valley and the northern Petén of Guatemala (Figure 2.1). Within the culture history each time period is presented with a focus on: 1) social developments; 2) ceramic chronology; and 3) architectural construction sequences from Blackman Eddy, selected sites in the Belize River Valley, and northern Petén. In this overview, the evolution of ceramic styles and architectural construction sequences serve as a framework to describe social and political interaction within the lowlands and the broader Maya region.

#### 2.2 Natural Environment

The Maya lowlands encompass a region diverse in its environment and the natural terrain, and the overall Maya region includes areas in the modern countries of Mexico, Belize, Guatemala, Honduras and El Salvador (Hammond 1982:69). The diversity of the vegetation and wildlife within this region is driven by factors such as geology, topography, soils, elevation and climate (Coe 1999:15).

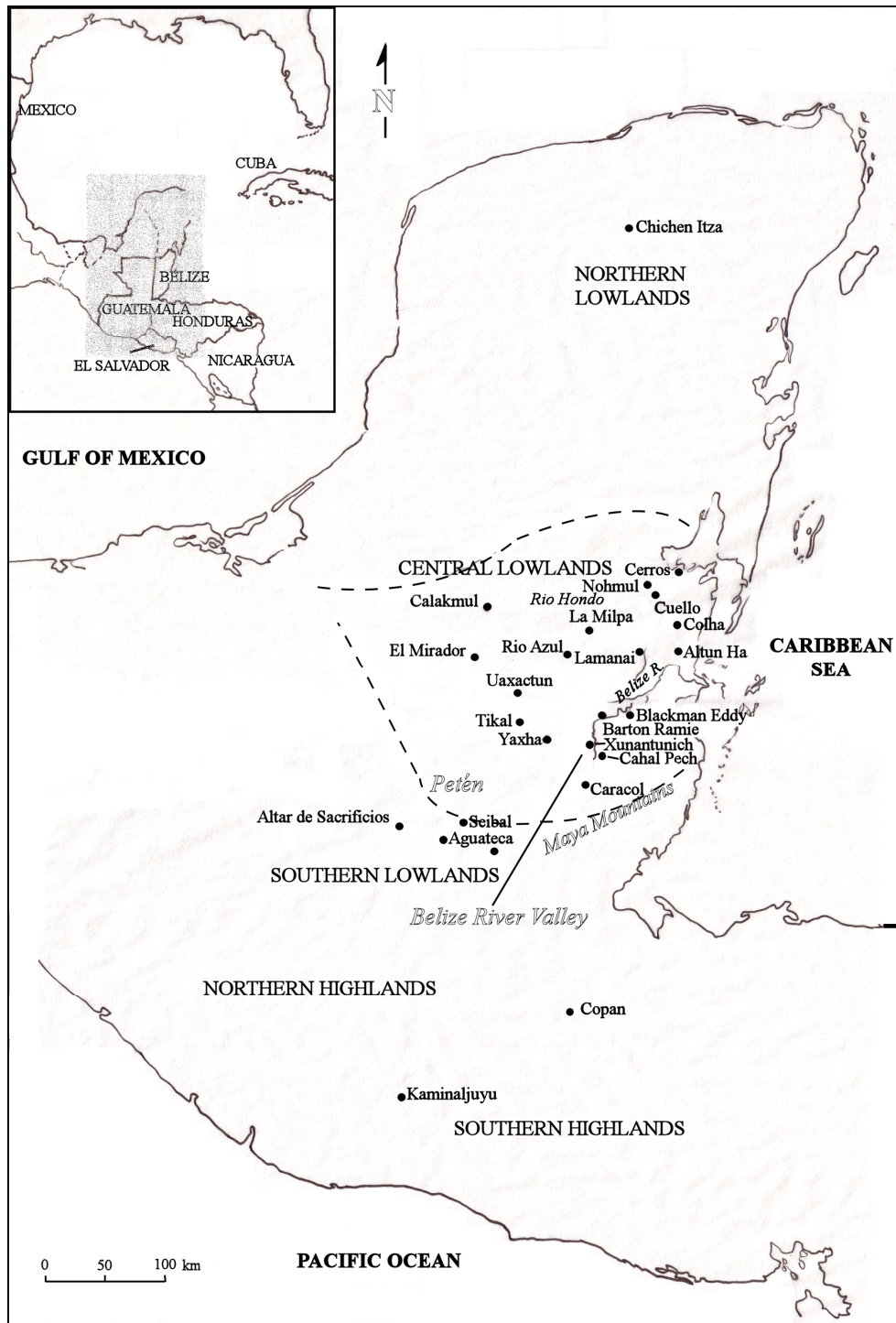


Figure 2.1 The site of Blackman Eddy in western Belize, Central America (After Sharer and Traxler 2006:24).

The southern areas of Chiapas, Mexico, the Petén region of Guatemala and the country of Belize are underlain with older Mesozoic limestone that has better drainage and greater elevations than the tertiary limestone of the Yucatan Peninsula to the north (Hammond 1982:71). The limestone in the Petén and the Belize lowlands is more porous with rugged karst hills (Coe 1999:15). These lowlands rise toward the west into the Maya Mountains in southern Belize (Nations 2006:47). The soils overlaying the limestone in the Petén and Belize regions consist of reddish-brown or yellowish-brown lateritic soils in the uplands, and black, calcium rich soils in the alluvial deposits (Hammond 1982:72). These reddish-brown and yellowish-brown sediments are distinctive and are seen in the clay sources used to produce ceramics in the Belize River Valley.

There are three major drainages in the Central Maya lowlands, the Belize, the Hondo, and the San Pedro Matir rivers. The Belize River is formed to the west by the Mopan and Macal rivers and meanders northeast into the Caribbean. To the north is the Hondo River, which forms the boundary between modern day Mexico and Belize (Tamayo and West 1964:95). The San Pedro Matir is located in the Petén near El Peru and drains to the west. These rivers were major sources of subsistence, lines of travel and fostered communication and trade for the ancient Maya (Chase and Garber 2004:4; Hammond 1982:77).

The Maya lowlands fall mainly within the climatic subdivision *tierra caliente* from sea level to 800 m (Escoto 1964:188). The climate for the Maya lowlands is broadly divided into two major seasons, the wet season and the dry season with the precipitation fluctuating from year to year (Gunn, Matheny and Folan 2002:80). Historically, the wet season is from May to October, and the dry season is from December to April, with seasonal hurricanes

between August and October (Escoto 1964:197-198). The dry season is characterized as having less than 50 mm of rainfall a month. During the wet season, rainfall can average up to 200 mm a month with the highest average precipitation occurring in September (Escoto 1964, Figure 11-12). The average yearly temperatures within the coastal plains, foothills and low interior depressions of the *tierra caliente* range between 25 and 30 degrees C, and in the *tierra templada* from 15 to 20 degrees C (Escoto 1964:198-9).

Vegetation is diverse within the Maya lowlands with mahogany, ramon, sapodilla, wild fig, palm trees and the ceiba tree that form the upper part of the forest canopy (Coe 1999:16). The undergrowth includes palms, tree ferns, orchids and a variety of herbs and vines (Wagner 1964:229). The broad range of vegetation supports an equally diverse animal population. Large mammals include multiple species of rodents, as well as tapirs, deer, primates, and carnivores (Nations 2006:48). The howler monkey and the jaguar are two distinct mammals to this region; the former being well known to modern day tourists for its loud call (Nations 2006:56) with the latter, a significant symbol of kingship to the Classic period Maya (Freidel and Schele 1988a:69). Small mammals are prevalent, and include opossums, bats, anteaters, armadillos and sloths as well as squirrels and a variety of small rodents (Hammond 1982:83). The diversity of the ecosystem is apparent in the large variety of bird species, reptiles and invertebrates that thrive in this tropical environment (Stuart 1964).

### 2.3 Culture History

The division of time periods for cultural development in Mesoamerica is traditionally broken up into five major periods: the Paleoindian (20000 – 8000 B.C.); the Archaic (8000 –

1600 B.C.); the Preclassic (1600 B.C. – A.D. 200); the Classic (A.D. 200 – 1000); and the Postclassic (A.D. 1000 – 1521) (Smith and Masson 2000:7; Hendon and Joyce 2004:15; Sharer and Traxler 2006:98). These periods are further subdivided by “Early,” “Middle,” “Late,” or “Proto,” according to cultural development and social change. This chapter examines the Preclassic through Postclassic time periods with a focus on the Belize River Valley and northern Petén regions (Figure 2.2). This discussion focuses on the cultural and social events that led to changes in cultural material such as ceramics and architecture.

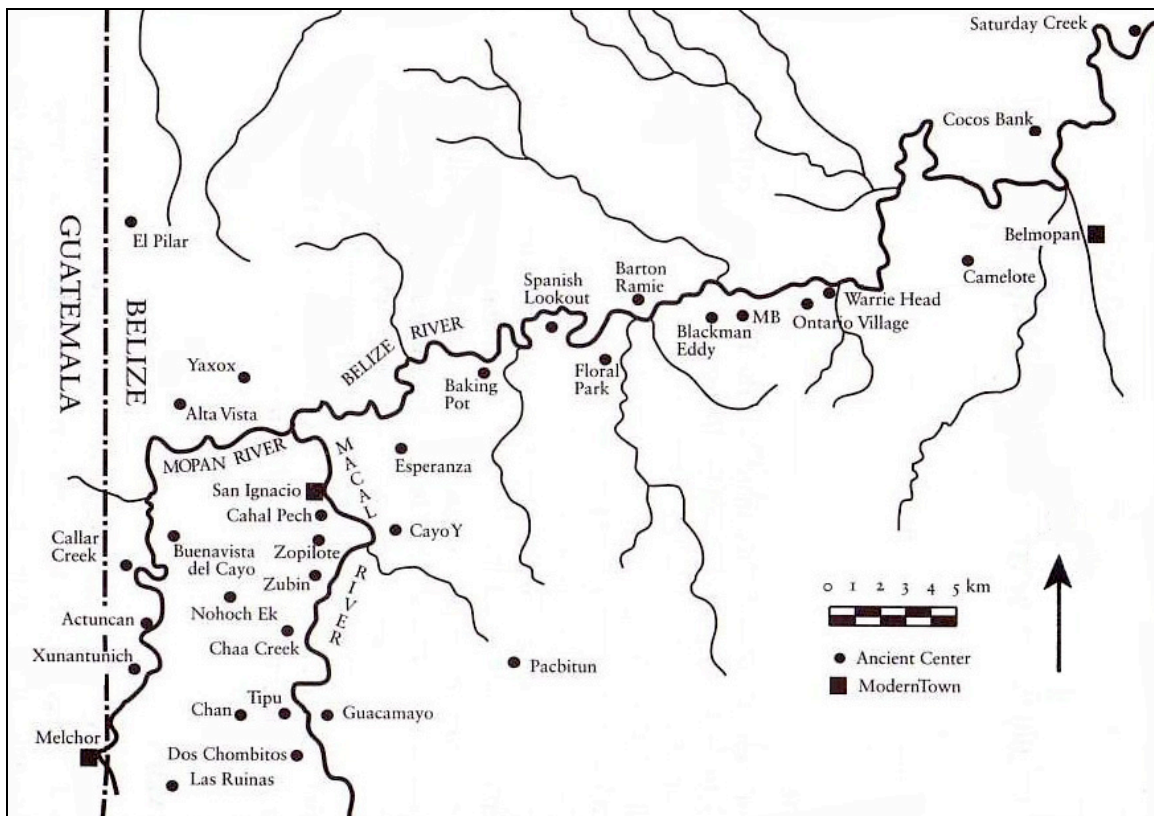


Figure 2.2 Map of the Belize River Valley after James F. Garber (Chase and Garber 2004:2).

Throughout the Maya region, names selected for the ceramic complexes are varied, and often are site-specific to where the analysis was performed such as at Tikal (Harrison

1999:20) and Uaxactun (Smith 1955:3). Figure 2.3 illustrates the Barton Ramie sequence as it compares to other sites in the Maya lowlands (Gifford 1976:46).

MAJOR PERIODS	11.16.0.0.0 correlation	TIME	BARTON RAMIE	UAXACTUN	TIKAL	ALTAR DE SACRIFICIOS	SEIBAL
P O L S S I C	<i>from Quirigua after Morley</i> 	1400					
		1300	late facet				
		1200	New Town --?--				
		1100	early facet				
C L A S S I C	<i>10.5.0.0.0</i> <i>10.3.0.0.0</i> <i>10.0.0.0.0</i> <i>9.17.0.0.0</i> <i>9.13.0.0.0</i> <i>9.8.0.0.0</i> <i>9.3.0.0.0</i> <i>8.18.0.0.0</i> <i>8.12.0.0.0</i>	900			Caban	Jimba	
		800	Spanish Lookout	3	Eznab	Boca	Bayal
		700		Tepeu 2	Imix	late facet	transition
		600	Tiger Run	1	Ik	early facet	Tepejilote
		500			late facet	Ayn	late
		400	Hermitage	2	Manik	early facet	
		300		1			
		200	Floral Park				
		100	Mount Hope	Chicanel			
		P R E C L A S S I C	<i>from Copan after Catherwood</i> 	A.D.			
100	Barton Creek				Chuen	early facet	early facet
200							
300							
400	late facet			Mamom	Tzec	late facet	Escoba
500	Jenney Creek					San Felix	early facet
600							
700	early facet				Eb		
800	?		?	Xe	Real		
900							
1000							

Figure 2.3 The Barton Ramie Phase Sequence after Gifford 1976:46.

To maintain clarity for inter-site references, the ceramics discussed throughout this thesis used complex names from the site of Barton Ramie to describe ceramics at Blackman

Eddy and the sites in the Belize River Valley. For all other ceramic references, complex names from the site of Uaxactun in the Petén region of Guatemala were used as these names are generally referenced throughout the Maya lowlands.

### *2.3.1 Terminal Early Preclassic – ca. 1200-900 B.C.*

The appearance of ceramics in the archaeological record occurred in the Maya lowlands during the terminal Early Preclassic (Awe 1992:226; Brown 2003:110; Garber et al. 2004a:28). Domestication of plants such as maize and beans coupled with climatic changes contributed to an environment suitable for the development of settled villages (Lohse et al. 2006:223). The origin of these early agricultural communities continues to be under debate. Some researchers have suggested multiple ethnic influences for the early population of the Maya lowlands (Ball and Taschek 2003:182; Garber et al. 2004a:28).

The Terminal Early Preclassic community of Blackman Eddy was located on a hilltop near the Belize River Valley (Brown 2003:7), and this strategic placement was repeated for other early communities within the river valley such as Cahal Pech and Xunantunich (Garber et al. 2004b:48). These early agricultural communities were placed on the alluvial terraces of the Macal, Mopan and Belize rivers in the central Belize Valley, which afforded a close proximity to natural resources above the floodplain (Chase and Garber 2004:3). Early architecture appears to have been pole and thatch domestic structures as seen in archaeological evidence from Cahal Pech and Blackman Eddy (Awe 1992:208; Garber et al. 2004a:33).

The Kanocha and Cunil complexes (1100 – 900 B.C.) are the earliest recorded ceramics in the Belize River Valley (Garber et al. 2004a:28; Brown 2007:4). These early



ceramics have been identified at Cahal Pech, Blackman Eddy, Xunantunich and Pacbitun (Garber et al. 2004a:28). There are two wares identified to the Kanocha phase at Blackman Eddy; the first one is utilitarian with calcite and quartzite temper and the second one is a slipped ash tempered ware (Garber et al. 2004a:27). These early ceramics exhibit stylistic attributes that are precursors to the later Jenney Creek complex in form (Garber et al. 2004a:27).

### *2.3.2 Middle Preclassic – ca. 900-300 B.C.*

The emergence of ranked society was evidenced with the construction of larger more elaborate platform structures in the Belize Valley, which demonstrates an increase in labor investment (Garber et al. 2004b:68). Also during this period, specifically between 700-600 B.C., this rapid population growth was accompanied by increasingly uniform ceramics; which further indicated increased trade and political interaction throughout the region (Andrews 1990:16). The Middle Preclassic ceramics at Barton Ramie and Blackman Eddy are designated the Jenney Creek complex, which is subdivided into the early facet (900 – 600 B.C.) and the late facet (600 – 300 B.C.). There are three wares recognized in the Jenney Creek complex. The first is the Uaxactun unslipped ware with characteristics such as smoothed exteriors and filet appliqué as a décor on the exterior body or neck of the vessels. The second is Flores Waxy ware, which is slipped in red or cream. The third and most distinctive ware is Mars Orange ware. This ware has a fine orange paste, thin-orange red slips and is unique to the Belize River Valley and the surrounding lowlands (Willey et al. 1967:294). Mars Orange ware has been identified at sites such as Barton Ramie, Blackman Eddy, Cahal Pech, Xunantunich, Pacbitun, and Yaxha (Ball and Taschek 2003:200).

Ceramic figurines associated with household ritual are prevalent during the Middle Preclassic, and appear at sites such as Blackman Eddy, Cahal Pech, Cuello and Uaxactun (Brown 2003:105).

During this period, occupation in northern Petén at Altar de Sacrificios (Adams 1971) and Seibal (Willey, Smith, and Graham 1975) was evidenced by the Mamom ceramic complex, which has similar stylistic attributes to the late facet Jenney Creek complex in the Belize River Valley. These shared attributes included vessels that were primarily utilitarian in nature with smooth, unslipped surfaces and non-elaborate decorations such as striations or incised lines (Willey et al. 1975:40).

Excavations at Blackman Eddy and Cahal Pech indicate an increase of non-domestic architecture during the Middle Preclassic (Garber et al. 2004a:37; Healy et al. 2004:123). Large plaster platforms appear as well as formal plaza spaces. Structure B1-4<sup>th</sup> at Blackman Eddy exhibited an architectural stucco mask and is the earliest example of this type of architectural decoration in the Belize River Valley (Brown and Garber 2000:6).

Also at this time, ceramics and other exotic cultural material appear to have been intentionally deposited in the substructures of the architecture during ritual activities (Brown 2003:116). Evidence for warfare in the central lowlands appeared at Blackman Eddy during the Middle Preclassic (Brown and Garber 2000:6). During this time, structure B1-4<sup>th</sup> was desecrated and burned (Brown 2003:168).

### *2.3.3 Late Preclassic – ca. 300 B.C. – A.D. 300*

The Late Preclassic was a dynamic period of growth and increased interaction between occupation centers; this was seen in the widespread use of shared styles among

ceramic complexes, a dramatic increase in population, and the emergence of an elite social class (Garber 1989:1). During the Late Preclassic, trade industries such as obsidian and shell become more prevalent in the Maya region (Garber 1989:1). Hieroglyphic writing on stela also appeared during this period, with the stela art form created as dedications to royal actions (Freidel and Schele 1988a:49).

Population increased throughout the lowlands during the Late Preclassic. This increase was demonstrated with the appearance of large-scale public architecture and well-defined major ceremonial centers at sites in the northern Petén such as Tikal (Harrison 1999:64), Uaxactún (Smith 1955:1), and El Mirador (Coe 1999:81). Large-scale public architecture occurred at this time in the Belize River Valley at sites such as Cahal Pech, Xunantunich, Baking Pot and Blackman Eddy (Driver and Garber 2004:289). Along with an increase in scale, decorative elements such as stucco masks appeared on the architecture at Maya lowland sites such as Cerros, Tikal, Lamanai and El Mirador (Freidel and Schele 1988a:44-45). The elaboration of public architecture and the addition of ruler portraits on stelae were directly tied to the appearance of the role of the *ahau* for divine rulership (Freidel and Schele 1988b:549). Recognition of the rulers' claim to their divine right to rule occurred about the same time along with an increase of public ritual and more elaborate royal burials at Tikal (Harrison 1999:64).

Strategically placed lip-to-lip red slipped bowls from graves and caches at Cuello (Hammond 1999:60), and jade, seashells and stingray spines from a variety of contexts at Cerros (Garber 1989:1) are examples of an increase in class distinction during the Late Preclassic period (Garber 1989:1). These specialized goods and the presence of stone tool

production at Colha (Valdez 1987:6) were all indicators of an increase in craft production and trade throughout the Maya region during the Late Preclassic.

Although population continued to increase dramatically throughout the lowlands at the end of the Late Preclassic, some centers such as Seibal experienced population declines (Willey et al. 1975:41), while others like Cerros appear to have been abandoned (Robertson 1986:95). Fortifications were constructed around the monumental site of El Mirador in northeastern Petén, which was eventually abandoned around A.D. 150 – 200 (Webster 2002:189).

In the central and southern lowlands, a uniformity of ceramic style appeared in the Barton Creek complex (300 – 100 B.C.) (Gifford 1976:85) and in the Chicanel complex (Willey et al. 1967:295). The introduction of dichrome pottery, negative painting techniques and medial flanges in the Chicanel complex and the Barton Ramie and Mount Hope complexes (Willey et al. 1967:295-6) all appeared around the same time as the architectural stucco masks at Uaxactún, Lamanai and Tikal (Coe 1999:30). Uniformity of style is most noticeable in the Sierra Red vessels recorded at sites such as Seibal (Sabloff 1975), Blackman Eddy (Brown 2003), Cahal Pech (Awe 1992) and Xunantunich (LeCount 1996). Sierra Red is a Paso Caballo Waxy ware within the Barton Ramie complex which was produced throughout the Maya lowlands and appeared in a larger geographic range than any other pottery type (Gifford 1976:84).

#### *2.3.4 Early Classic –ca. A.D. 300-600*

The Early Classic period was marked by a state-level political organization throughout the Maya lowlands (Braswell 2003:5). El Mirador in northern Guatemala

collapsed, the cities of Cerros and Colha in northern Belize were abandoned, and Tikal and Lamanai experienced a hiatus in construction toward the end of the Early Classic (Freidel and Schele 1988b:549). Yet hieroglyphic writing, the bar and dot counting system, and calendar systems used to track both ritual and solar events were at their height during this period (Webster 2002:46).

The complexity of style and wares and the addition of polychrome surface decorations on ceramics increased in the Tzokol complex (Willey et al. 1967:310). Simple, geometric polychromes that had sparsely appeared in the Late Preclassic Floral Park complex (100 B.C. – A.D. 250) became more detailed in design during the Hermitage complex (A.D. 250 - 550) at Barton Ramie (Gifford 1976:154). Attributes characteristic of the ceramics from Barton Ramie during the Early Classic included the basal flange, ring bases and mamiform feet. Humans and animals also begin to appear in the once strictly geometric polychrome designs (Willey et al. 1967:298). Teotihuacan style slab-footed cylinder jars appear during this time period in the Maya lowlands (Harrison 1999:68). Teotihuacan was a large city in central Mexico, and evidence for the social interaction between the lowland Maya and Teotihuacan appears in the archaeological record during the Early Classic (Braswell 2003:34).

In the Early Classic, new architectural stylistic devices were introduced from this interaction with central Mexico, while existing styles such as painted stucco relief were elaborated (Coe 1999:112). Architectural influences from Teotihuacan are seen in the tops of platform structures and were a stylistic device used repeatedly at Tikal (Laporte 2003:200).

These interactions may have represented political alliances within the elite (Sharer and Traxler 2006:293).

During the transition from Early Classic to the Late Classic period, there was a hiatus of construction at some sites such as Tikal (Webster 2002:263), and a shift in ceramic style from the Tzakol to the Tepeu complex overall (A.D. 600 – 900) (Willey et al. 1967:300). This transition coincided with decreased interaction between Teotihuacan and the Maya lowlands, specifically at Tikal (Harrison 1999:120). Stylistic traits included incurved rim bowls, flat-based cylinder vases and tripod plates; polychromes were decorated with figures and bands of glyphs (Willey et al. 1967:300). At Blackman Eddy, construction was undertaken at Str. A1 during the Early Classic, and culminated in the Late Classic (Brown 2003:11).

#### *2.3.5 Late Classic – ca. A.D. 600-900*

The Late Classic has been considered by many scholars to be the height of expression in Maya art and iconography (Coe 1999:143; Hammond 1982:137). Elaborate, monumental construction and the development of various types of settlement fortifications occurred during this period (Webster 2002:224). Monumental architecture reached its peak in construction during the Late Classic period (Webster 2002:128).

In the Belize River Valley, large urban centers such as Xunantunich experienced a population surge and increased construction (Yaeger and Robin 2004:149). Concurrently, Blackman Eddy expanded the construction of the pyramidal Structure B1, which may have been an effort to compete with other sites in the valley for a position of authority (Brown 2003:151). Other sites in the valley such as Cahal Pech and Buena Vista del Cayo had

renovations and architectural additions during this period as well (Taschek and Ball 2004:191). Blackman Eddy was eventually abandoned at the end of the Late Classic (Brown 2003:154).

Evidence suggests an increase in warfare activities during the Late Classic (Harrison 1999:120; Webster 2002:193). Fortifications of stone defensive walls at Aguateca in the northern Petén were most likely constructed because of increased warfare within the Maya lowlands (Inomata 2004:184). Occupation was brief at this southern lowland site and dates from the eighth to the middle of the ninth century. Warfare had become a vital part of Maya kingship, and the iconography from the Late Classic period depicted kings in military dress (Webster 2002:224). An increase in ritualized warfare, played out through the ball games, was evidenced through iconography and the construction of more elaborate ball courts (Rice and Rice 2004:129-130).

Despite the social turmoil during the Late Classic, ceramic production was at its height, and the ceramics from the Tepeu 1 and 2 complexes (A.D. 600 – 800) were decorated with intricate iconography that detailed scenes from the codexes with hieroglyphics that attributed ownership of the vessel itself (Houston, Stuart and Taube 1989:720). Ceramics became highly varied both in style and technology at the local and regional levels (Rice 2000:166). Within the Tiger Run complex (A.D. 600-700) at Barton Ramie, volcanic ash-tempered and calcite-tempered vessels become prevalent (Willey et al. 1967:301). New stylistic vessel traits appear with the incurved-rim bowl, flat based cylinder jars and tripod plates (Willey et al. 1967:300).

### *2.3.6 Terminal Classic – ca. A.D. 900-1000*

The Terminal Classic represented a time of economic struggle, increased warfare and the eventual “collapse” of the Maya civilization. Much like the subject of the ethnic origins for the Maya, the causes of the collapse are hotly debated. This time period is sometimes described as a decentralization of the social and political networks within the Maya region (Martin and Grube 2000:226; Rice 2000:158). Others suggest that the collapse was more of a transformation of the political structure from the Late Classic (Rice and Rice 2004:136). Yet researchers agree that the Terminal Classic marked the end of the long “tradition of dynastic rulership” (Webster 2002:215).

Factors of change that are agreed upon for this period include climatic changes (Brenner et al. 2002:152) and population stresses, which led to a cease of construction and a depopulation of the rural and civic centers of the central and southern Maya lowlands (LeCount et al. 2002:59; Webster 2002:215-7). The southern lowlands were affected first by the climatic changes, which in turn may have caused political and cultural stresses within the region (Shaw 2003:157).

Ceramics attributed to the Spanish Lookout complex (A.D. 700 – 900) and the Tepeu 3 complex (A.D. 800-900) shared diagnostic traits such as elaborate polychrome vessels, modeled-carved surfaces and blackware (Willey et al. 1967:302). During this time period several diagnostic trade wares such as Fine Orange and Fine Gray wares appeared at a limited number of occupation centers in the region (Willey et al. 1967:302). Ceramic styles introduced in this period included incurved rim tripod dishes, jars with tapered necks, and a heavy inverted rim with folded lip on unslipped jars (Willey et al. 1967:302). At



Xunantunich in the Belize River Valley, the ceramics during the later Spanish Lookout complex (A.D. 700-900) may have represented “political currency” along with other prestige goods during the transition between the Late and Terminal Classic period (LeCount 1999:239). At Barton Ramie, polychrome vessels declined in number, and several red ware vessels appeared (Willey et al. 1967:302). Along with the decline of polychromes in the lowlands, there was a decrease in serving vessels and an absence of luxury pottery in the ceramic assemblages (LeCount 1996:123). Conversely, the use and production of *incensories* (ceramic censers or incense burners) increased significantly throughout the Maya lowlands during the Terminal Classic (Rice 1999:25).

Population fluctuations continued to occur as unstable communities were abandoned and the residents relocated to other locations (Demarest et al. 2004:557). Major centers like Xunantunich experienced a partial abandonment of the peripheral areas during the Terminal Classic, yet eventually succumbed to the effects of the collapse by the late ninth or early tenth century (LeCount et al. 2002:41).

### *2.3.7 Postclassic – ca. A.D. 1000-1521*

The Postclassic represents a time of ideological and socioeconomic change (Sharer and Traxler 2006:591). The central lowlands had been partially abandoned (Andrews et al. 2003:151), and the population had become more concentrated in the northern lowlands and southern highlands. Overall, the social changes which began during the Terminal Classic included decentralization of the population, the disappearance of divine kingship and an increased influence from Central Mexico (Sharer and Traxler 2006:591).

Increased interregional interaction and the introduction of new ceramic styles and forms suggested a break from the past from regionally cohesive social networks and political structure to more independent communities (Aimers 2004:316-317). New ceramic forms included grater bowls at Barton Ramie (Gifford 1976:282) in the New Town complex (A.D. 900 – 1200) and griddles for the preparation of tortillas (Aimers 2004:309). Eventually, there was a decrease of stylistic complexity for the ceramics such as a decline in the quality of polychromes (Willey et al. 1967:301).

By the late Postclassic, the population of the Belize River Valley had been reduced significantly and portions of the valley were being reclaimed by the forest (Aimers 2004:319). When the Spanish arrived in Central America in the 1500s, the Maya were still suffering the effects of war, overpopulation and environmental degradation that had occurred during the Late Classic and Postclassic (Webster 2002:84).

## CHAPTER 3

### EXCAVATIONS AT BLACKMAN EDDY

Investigations at the site of Blackman Eddy were initiated in 1990 to better understand how Blackman Eddy related to other sites in the Belize River Valley (Brown 2003:5). The first section of this chapter presents a brief overview of the investigations at the site of Blackman Eddy as background information. The second section of this chapter examines the excavations of the two test units placed in Plaza B during the 2003 field season. The overview of excavations at Blackman Eddy is briefly synthesized within this thesis because numerous reports and publications have discussed this subject in more detail (Garber and Brown 2000; Brown 2003; Cochran and Brown 2004; Garber et al. 2004; Brown and Garber 2005). Conversely, excavations of the test units Operation 22a and 22b are discussed in detail to provide contextual information for the ceramics examined; specifically for the ceramic concentrations which formed PD#3.

#### 3.1 History of Excavations

As discussed in the culture history section of Chapter 2, Blackman Eddy was constructed on a hilltop near the Belize River and the initial occupation dated to the end of the Early Preclassic (Garber et al. 2004a:26-7). Although considered relatively small for a ceremonial center, Blackman Eddy contained large monumental architecture which surrounded Plaza A to the south and Plaza B to the north (Figure 3.1).

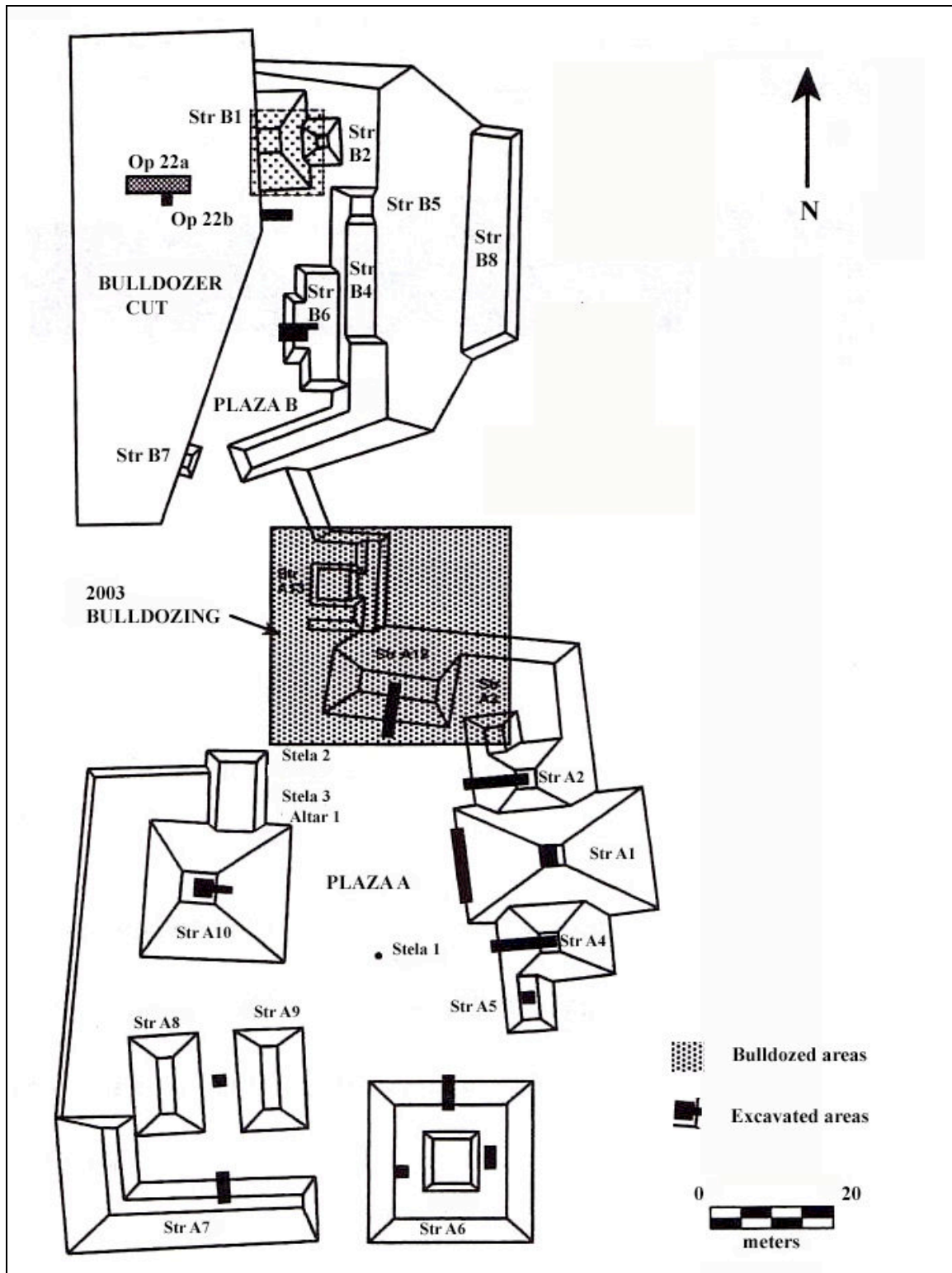


Figure 3.1 Blackman Eddy site core (Source Cochran and Brown 2004:7).

The site also contained a ball court (Brown 2003:7) and three stelae that were located in Plaza A (Brown 2003:12).

Fourteen field seasons of excavations were conducted at the site. These excavations uncovered a pattern of continuous occupation, which began during the Early Preclassic (ca. 1100 BC) and ended in the Late Classic (ca. A.D. 900) (Garber et al. 2004a:25).

In 1990, the Texas State Belize Valley Archaeology Project began excavations at Blackman Eddy to examine the role of this small ceremonial center in relation to larger sites in the region (Garber et al. 2004a:26). Early excavations within Plaza A suggested that the majority of the architecture and the associated ceramics date to the Late Classic period (Brown and Garber 2000:3). In 1995, the excavations within Plaza B were expanded to include a comprehensive investigation of Str. B1 (Brown and Garber 2000:3).

The western part of the Str. B1 and of Plaza B had been razed during unauthorized bulldozer activity in the early 1980s (Brown and Garber 2000:3). Due to the unauthorized bulldozing activity, excavations of Str. B1 were designed as a mitigation effort to remove the structurally unstable remains of this pyramidal structure located in the northern section of the plaza (Brown and Garber 2005:54). The chronology for the site was established through excavations at Str. B1, which detailed examination of architectural sequences, burials, ceramic analysis, and the collection of numerous radiometric dates (Brown 2003).

### *3.1.1 Structure B1: 1990 - 2003*

The construction method used in the Maya region of “superimposition” or to build on top of previous structures in a “layer cake” fashion can lead to a research bias when only the upper layers, or construction sequences, are excavated in single phase stripping. The

excavation of the upper layers is conservative in that it is less invasive or damaging to the structures (Brown 2003:31). Yet the excavation of only the upper construction layers limits the information collected for all construction phases underneath. This paucity of data from lower construction phases contributes to complications in understanding the development of architectural phases in the Maya region. Yet occasionally the opportunity has presented itself for the construction sequence to be examined in a diachronic fashion. Due to the structural instability of Str. B1 from the unauthorized bulldozer damage, full-scale horizontal excavation was undertaken and data from the architectural sequences was compared with burials, caches, and problematic deposits to examine the rise of complexity in society; specifically the transition from communal to more restricted forms of architecture and of caching behaviors (Brown 2003:37-38; Brown and Garber 2005:53).

The initial investigations at Str. B1 were conservative in nature, and were used to establish basic chronology of the structure. These initial excavations used summit test pitting methods during the 1991 and 1992 field seasons (Brown 2003:40). In this method of excavation a test pit was placed on the summit of the structure and worked down through the cultural layers to determine what architectural phases were present. However, summit test pit excavations can damage the structure and can result in the collection of limited information that is inconclusive or misleading (Brown 2003:29). Extensive horizontal excavations methods were eventually used to remove the remaining portions of Str. B1 to bedrock; these excavations began in 1995 (Brown and Garber 2000:3). The utilization of the horizontal excavation method for this structure allowed for a detailed understanding of the

complex architectural sequence and provided the opportunity to uncover ritual deposits and other features (Brown and Garber 2000:11).

At Str. B1, each construction phase was labeled consecutively. The last construction phase was labeled Str. B1-1st and the first labeled Str. B1-13<sup>th</sup>. These construction phases transitioned through time in form and complexity. Structures were initially of wattle and daub construction during Early Preclassic (Brown and Garber 2005:55), followed by low platforms (Garber et al. 2004a:33) and culminated in the pyramidal form (Brown 2003:83). The thirteen distinct construction phases spanned approximately 2000 years (Brown and Garber 2005:54).

### *3.1.2 Plaza B: Operations 22a and 22b*

Excavations during the 2003 field season were primarily focused on Str. B1, with a secondary focus on the western portion of Plaza B. Ground survey determined that the northern portion of Plaza B, west of the remaining section of Str. B1, had been artificially elevated with fist sized dry-laid rubble fill possibly to increase the construction area (Cochran and Brown 2004:15). Symmetrical arrangements of two platform structures that flank a central pyramidal structure are common in the Maya construction sequence (Brown 2003:49) and it is most likely that a third platform flanked the western side of Str. B1 (Brown and Garber 2000:5). Anticipation of this symmetrical construction pattern led to the cleaning and examination of an east-west bulldozer cut profile and the placement of two test units, Op. 22a and 22b, in Plaza B (Figure 3.2) to determine the remains of the substructure left within the plaza (Cochran and Brown 2004:16).

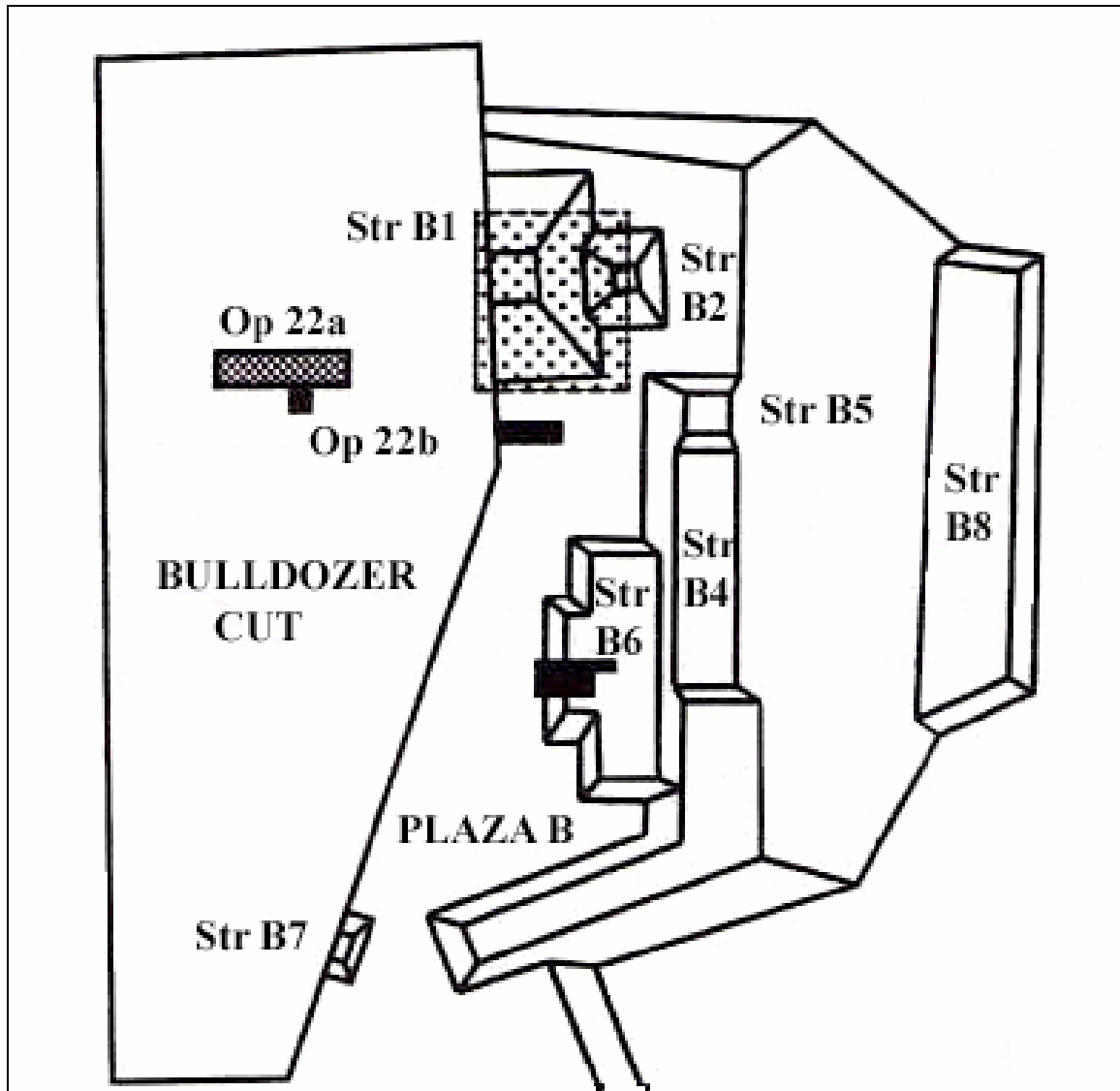


Figure 3.2 Close-up of Plaza B showing test units Op. 22a and 22b (Source Cochran and Brown 2004:7).

Operation 22a was initiated to clear the profile of Plaza B to understand the substructure in the remains of the plaza (Cochran and Brown 2004:15). Approximately 1 m of the south wall of the bulldozer cut in Plaza B was cleared until an undisturbed section of the plaza was located (Cochran and Brown 2004:16). Op. 22a was 7 m in length and was



placed approximately 15 m west of Bedrock Feature 5a/5b (which was located under structure B1). A second Operation, 22b, was a 2x2 m test unit that was excavated south of the cleared trench to further investigate structural and ceramic features found in Op. 22a (Cochran and Brown 2004:16). During the clearing, large angular sherds associated with charcoal and additional cultural artifacts were uncovered in three concentrations on bedrock at the base of the test units. These concentrations were labeled ceramic concentrations A, B and C and were initially designated as PD#3. This dense deposit of cultural material was originally interpreted as a ritual feasting deposit (Cochran and Brown 2004:18).

The excavation, artifact collection and laboratory methods used during the 2003 field season in Plaza B followed the methods used previously for the site of Blackman Eddy, which were discussed in detail in Brown, Chapter 2 (2003). Operations were assigned numbers in a sequential order for each individual unit of excavation. These operations were then divided into suboperations, which are designated with a lower case letter, such as Operation 22a. These suboperations were further subdivided into lots to reflect natural or cultural layers, cultural deposits and cultural features (Brown 2003:22). Lots are unique levels within the excavation unit and are used to differentiate the natural or cultural layers excavated. Separation of excavation units into lots allows for better contextual analysis of the cultural material. Lots were assigned sequential numbers as they were excavated. The first cultural level in Op. 22a was lot 22a-1 and the final lot in this operation was lot 22a-4. Problematic deposits were given a separate designation and a sequential number, specifically PD#3, was assigned to the ceramics and cultural material associated with concentrations A, B

and C in Plaza B. All observations of matrix, soil changes and cultural material collected were recorded on lot forms.

Small finds such as obsidian blades, whole vessels or other unusual artifacts were collected separately and logged on a master list (Brown 2003:23). Preliminary analysis of the cultural material began when the artifact bags were brought to the lab and the cultural material was cleaned, sorted and counted. The laboratory director and assistant were responsible for the preliminary analysis and recording of the artifacts, while the initial ceramic analysis was performed by the assistant project director (Brown 2003:25).

### 3.2 Stratigraphy of Op. 22a and 22b

Excavation of both test units was conducted in cultural levels, and each lot reflected the distinct changes in the natural soil or construction material (Cochran and Brown 2004:17). The soil and construction material changes that occurred in Op. 22a are illustrated in Figure 3.3. Descriptions of the matrix and artifacts from each lot are provided below. During the 2006 field season, lots 22a-2, 22a-4, 22b-3, 22b-6 and 22b-8 appeared to be primary deposits associated with PD#3, while lots, 22a-1, 22b-2, 22b-5 and 22b-7 appeared to be secondary deposits associated with construction material or architectural fill. Determining the nature of the deposit, primary versus secondary, is useful in defining the nature of the deposit. Primary deposits are created by “cultural deposition” of material within the place the items were used, while secondary deposits consists of material that has been redeposited by cultural or environmental processes (Schiffer 1996:199).

Excavations began in Op. 22a to clear the bulldozer cut and to map the profile (Cochran and Brown 2004:16). The contents of lot 22a-1 included the matrix associated with

the cleaning of the profile and the upper humus and backfill layer. This first lot was chronologically mixed and the ceramics were heavily eroded. Below the uppermost layer was a horizontal hard-packed grayish white matrix intermixed with small stones to the west, and a hard-packed grayish-white matrix intermixed with yellow marl to the east of the unit. Additional cultural materials in this lot included small finds and various lithics. No faunal remains were recovered.

The soil and matrix associated with lot 22a-2 was predominantly limestone rubble and peach marl. At the base of this lot a dense concentration of ceramic material was encountered which appeared to have been in situ. This concentration was designated PD#3. Further excavations revealed three distinct concentrations of sherd material. The excavators labeled these concentrations A, B and C (Figure 3.4). Similar ceramic types found clustered together within the concentrations were assumed to be broken whole or partial vessels and were collected separately (Brown, personal correspondence 2007). These were labeled as clusters within the concentrations. The nature of the deposit suggests that the sherds were in primary context.

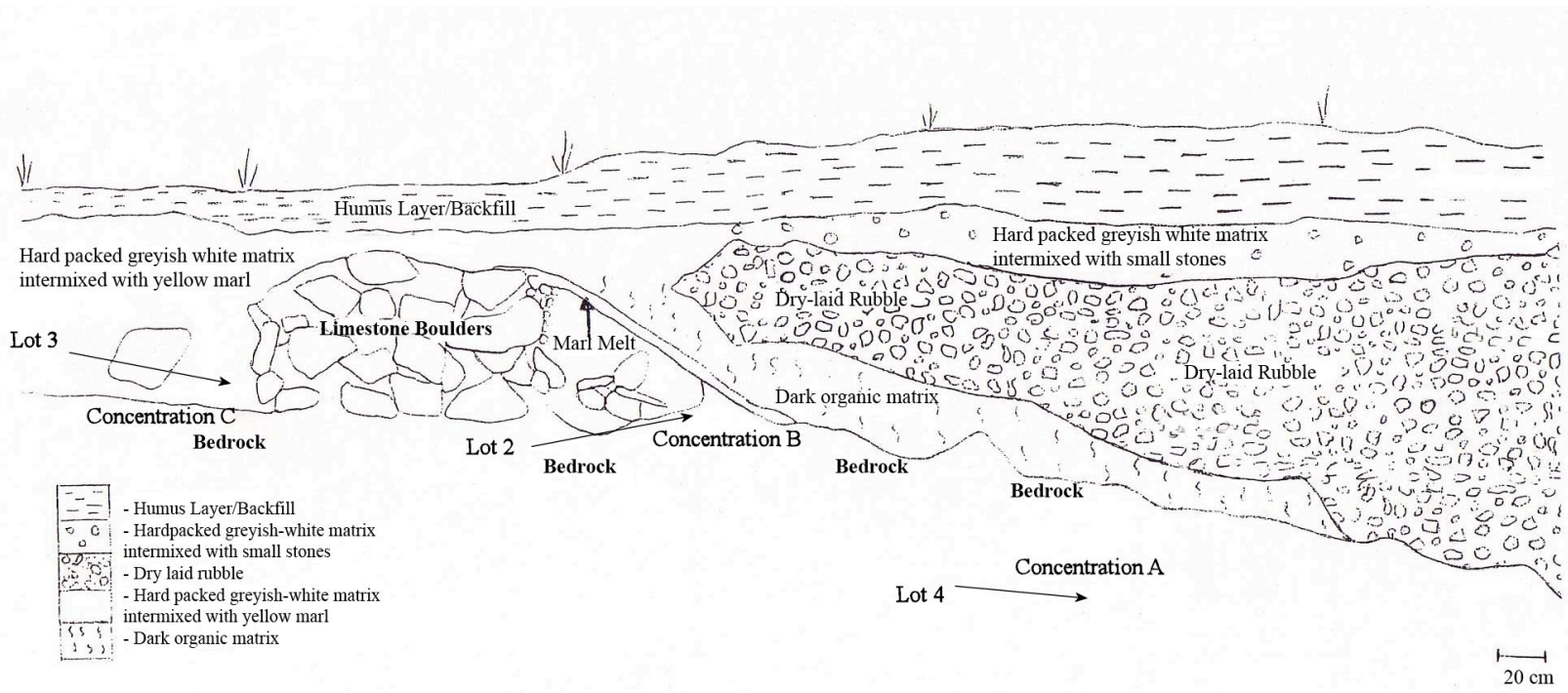


Figure 3.3 Profile of Op. 22a, view facing south (Cochran and Brown 2004:17).

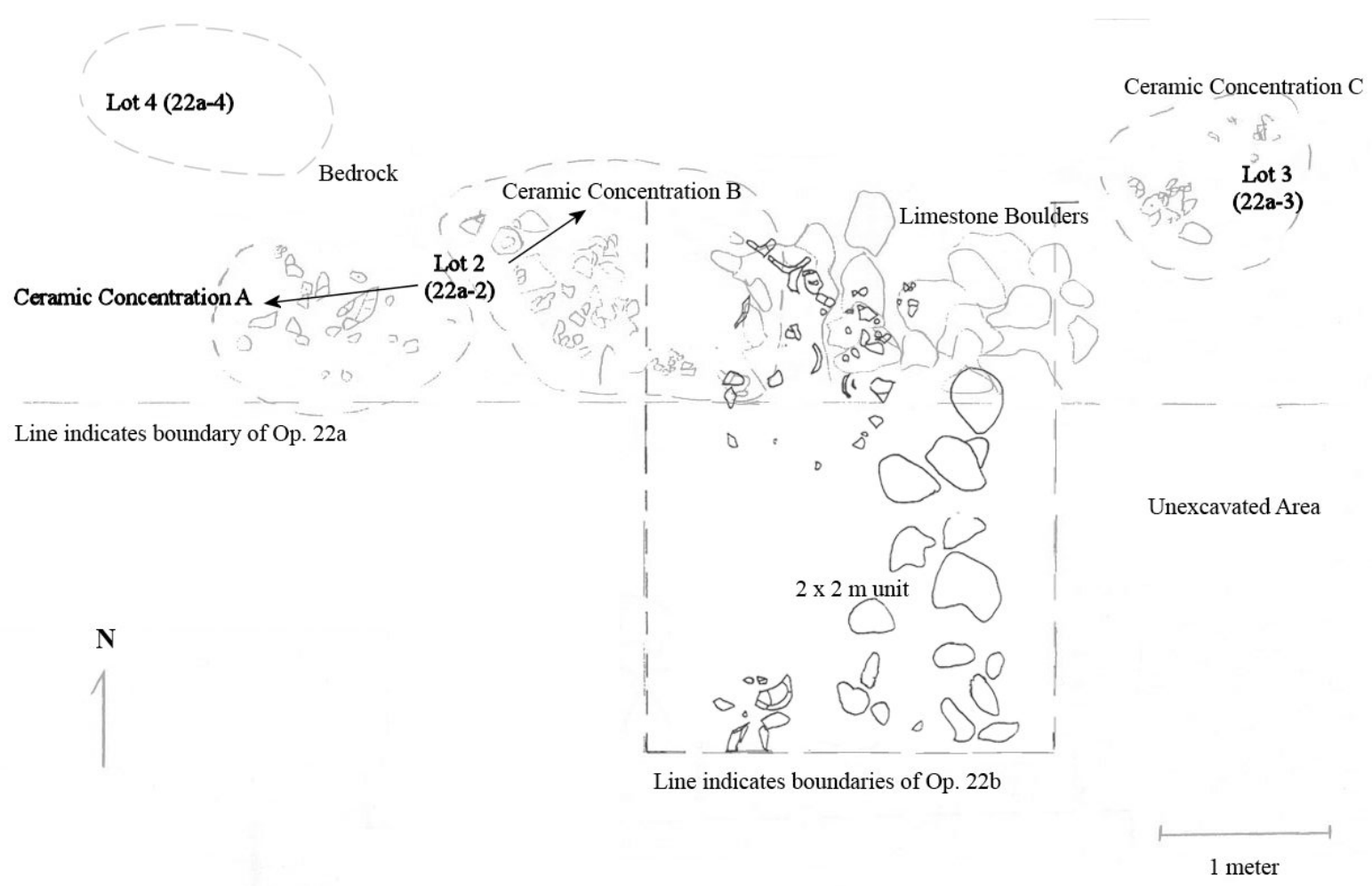


Figure 3.4 Plan view to lower lots of Ops. 22a and 22b; Source: Cochran and Brown 2004.

This lot contrasts greatly with other lots from Op. 22a and 22b that were determined to be construction fill. The ceramics from this lot consisted of six partial vessels and a high frequency of large angular sherds which further supports the assessment that this was an in situ deposit. These vessels included four jars, one dish, and one plate. The associated cultural material includes lithics, a ceramic spout, fragments to a Joventud type ash-tempered bowl, faunal remains and charcoal.

Lot 22a-3 is located east of lot 22a-2, and contained a feature of large limestone boulders (see above profile of Op. 22a). The slanted dry-laid rubble fill was only present west of the limestone boulders, and encountered bedrock at the extreme west end of Op. 22a. The limestone boulders were a vertical interface within the operations stratigraphy, and are isolated in the eastern half of the operation (Chapman 2006b). These boulders were approximately 15 to 25 cm in diameter (Cochran and Brown 2004:16). Ceramic concentration C was located in this lot and one partial vessel is associated with this lot - a neck and rim to a Sapote Striated: Sapote Variety jar. Additional artifacts in this lot included lithics, a marine shell fragment, a partial ceramic stirrup spout, freshwater shells and faunal remains. The matrix surrounding the ceramic concentration was lighter in color, different in texture and located higher in elevation (although it was on bedrock) than other lots in Op. 22a. No refits to ceramics in other lots were identified. This may reflect a separate depositional event, and without further excavation it is difficult to tell if this lot is part of the PD#3.

During excavation, another intact concentration of ceramic material was located to the north of 22a-2. This was designated lot 4 (22a-4) and was considered part of PD#3 as

well. In the dark organic matrix of this lot, large sherds and other cultural material were encountered directly above bedrock (Cochran and Brown 2004:18).

A second operation, Op. 22b was initiated in order to investigate the large boulder feature, collect an intact sample of ceramic material for chronological purposes, and to further expose PD#3 which appeared to continue into the bulldozer cut profile. This operation was a 2x2 m test unit placed next to the southern edge of Op. 22a directly above the boulder feature. Excavations began with lot 1 (22b-1) which cleared the disturbed surface down to the first intact cultural level. Lot 1 was a mixed lot containing backfill and humus. This lot terminated at the top of the boulder feature. There were five incomplete lithics within this lot that included two biface fragments.

The boulder feature was concentrated in the eastern portion of the excavation unit. Excavations were continued next to the boulder feature in the western section of the unit. This was designated lot 2 (22b-2). The matrix in this lot was fill-like and terminated at a marl layer which sloped to the west of the boulder feature. The ceramics from this lot were heavily eroded and chronologically mixed, which supports the assumption that this was construction fill.

An intact ceramic vessel was encountered beneath the marl layer and was designated lot 3 (22b-3). This single vessel was given its own lot number. The vessel was a Reforma Incised: Mucnal Variety dish, which is a Jenney Creek type. The vessel was found within the matrix of lot 4.

Lot 4 (22b-4) was located beneath the marl layer west of the boulder feature and was fill-like in nature. This lot terminated at a matrix change. There was one chert uniface tool

within this lot. Ceramic sherds from this lot were heavily eroded. One sherd, however, did refit with the vessel discussed above.

Excavations continued on top of the boulder feature in the eastern section of the unit. Lot 5 (22b-5) consisted of the matrix above the boulder feature and terminated at the top of the boulders. There was one obsidian blade fragment associated with this lot. Due to the condition of the sherds and the presence of construction material, this lot is considered to be of secondary context.

Lot 6 (22b-6) is located beneath lot 5 and starts at the top of the boulders and consists of the boulder feature and associated matrix. This lot terminates at the base of the boulders at a marl layer. Additional cultural material associated with this lot included 15 percent of a miniature bowl and a chert biface fragment. Limited faunal remains and carbon were present. The contents of this lot are associated with PD#3.

Lot 7 (22b-7) was an extension east of the original 2x2 m unit, yet was not continued due to time constraints at the end of the field season (Brown, personal correspondence 2006). The matrix consisted of the surface layer of backfill and humus. There was one unusual ceramic sherd within the lot. It was tubular in form and it may have been an arm to a figurine or a spout support for a vessel.

Lot 8 (22b-8) was located directly under lot 4 on the western side of the boulder feature and was considered part of PD#3. The matrix consisted of a dark organic material and was clay based. This lot was associated with PD#3. Several sherds from this lot refit with partial vessels found within ceramic concentrations associated with PD#3 in Op. 22a.



### 3.2.1 Excavations in Plaza B Summarized

Once the bulldozer cut was cleaned, it was apparent that the dry-laid rubble fill layer had a distinct diagonal slope from east to west (Figure 3.5). It appears the fill was laid northwest of the limestone boulders (Cochran and Brown 2004:16).



Figure 3.5 Photo of Op. 22a cleared profile, view facing south (Source: Cochran 2003).

The limestone boulders and rubble fill most likely represent the remains of a platform structure that was partially destroyed by the bulldozer. The marl associated with this construction is similar to that seen within the B1 sequence, specifically Str. B1-5<sup>th</sup>. Following the placement of the boulders on bedrock, the contents of PD#3 were deposited on bedrock to the northwest of the limestone boulders. Following the event associated with the deposition of PD#3, dry-laid rubble fill was placed over the problematic deposit to the west

and the north of the boulders. This suggests that PD#3 was deposited prior to the completion of the platform. The hard-packed matrix intermixed with the marl located to the east of the boulders was clearly a separate deposition event that occurred later, possibly to fill in the area to the height of the platform. This may represent the leveling of the area for the use of a plaza. This evidence suggests that the cultural material found in concentration C may actually be associated with this later construction event and not related to PD#3. The fact that there were no refits between concentrations C to A or B and the matrix surrounding the sherd material were different supports this assumption. It is important to note that Op. 22a and 22b were quite small and that PD#3 most likely extended into unexcavated areas. Further investigation is necessary to uncover more of this interesting deposit.

## CHAPTER 4

### METHODOLOGY: PREVIOUS RESEARCH AND CURRENT METHODS APPLIED

Methods for ceramic analysis have evolved significantly within the Maya lowlands over the last 80 years. This chapter begins with a discussion of the development of the type-variety and functional analysis methods in the Maya lowlands and provides definitions for the terminology used (Table 4.1). The second section provides relevant examples of how the type-variety method and functional analysis have been combined with other methods of analysis in the Maya region. The final section describes which methods of ceramic analysis were selected and how they were applied to the analysis of the ceramic assemblage from Plaza B at Blackman Eddy.

#### 4.1 Methods of Ceramic Analysis

The two primary methods of ceramic analysis introduced within this chapter and utilized for the analysis of the ceramics in the two test units are the type-variety method and functional analysis. The type-variety method was developed in the 1960s to create a systematic approach to ceramic analysis with taxonomic binomial designations such as Savana Orange: Rejolla Variety to assign cultural phases to the vessels (Smith et al. 1960:334). The first name in the binomial designations represents a geographic location and the second name is typically descriptive of attributes present (Smith et al. 1960:334).

Table 4.1 Ceramic Terminology

Term	Definition	Reference
Attribute	Discrete quality of observable criteria such as paste, rim shape, surface color or surface decoration, yet by itself is not more than one distinguishable feature.	(Smith et al. 1960:332; Gifford 1976:9)
Mode	An attribute (or collectively a small group of inseparable attributes) that has been observed to have singular import and meaning beyond that of any purely descriptive aspect because it appears in several or a number of different varieties (of different types).	(Smith et al. 1960:331)
Type	Unit reflecting cultural phenomenon when attributes are viewed together and represent a real element in the material inventory of a culture ... a combination of attributes that fulfilled the ceramic desires and necessities of a society in a certain region at a certain time in prehistory.	(Smith et al. 1960:332)
Variety	Smallest meaningful unit of classification in the type-variety method and is typically named by using a place or geographic location (a). Differences among variety are: 1] technological or stylistic 2] areal; and 3] temporal and are typically assigned at the end of the analysis (b).	(a) Smith et al. 1960:334 (b) (Gifford 1976:10)
Group	Set of closely related pottery types that demonstrate a distinctive homogeneity in range of variation concerning form, base color, technological and other allied attributes.	(Smith and Gifford 1965:fig 3)
Ware	Ceramic types that share a cluster of technical attributes and also share consistency in technological characteristics.	(Willey et al. 1967:304; Gifford 1976:14)
Complex	Large and inclusive analytical units used to encompass all the material of a certain kind from a given phase which serve as a point of comparison between sites.	(Willey et al. 1967:331)
Facet	A subunit to a ceramic complex or a minor temporal subdivision of a ceramic complex; it is useful in cases where changes occur within a ceramic complex that are not “easily distinguished” to warrant separation into two independent complexes. Terms such as “Early” “Middle” and “Late” are used for facets.	(Willey et al. 1967:304)
Sphere	Exists when two or more complexes share a majority of their most common types. This implies high content similarity at the typological level.	(Willey et al. 1967:307)
Phase	Provides cultural and temporal dimensions to artifactual material and has traits that distinguish it from other units.	(Gifford 1976:5)
Slip	A fluid suspension of fine clay and water used to coat a vessel body before casting or firing.	(Rice 1987:149)
Temper	Organic or mineral material added to clay to improve working or firing properties.	(Rice 1987:406-7)

The type-variety method established a working model that allows for data collected within the laboratory to be integrated into larger units of analysis, which is then followed by

a regional synthesis and the development of a theory in order to interpret the data collected (Gifford 1976:8). This method was initially created for the analysis of American Southwest pottery and developed by J.B. Wheat, J.C. Gifford and W.W. Wasley in 1958.

The laboratory methodology suggested by Gifford (1976) for sorting and data collection within the type-variety method is synthesized below. Before sorting and data collection begin, a research design should be developed to determine what attribute and other comparative data should be collected. The initial sorting stage in ceramic analysis is to divide the sherds and/or vessels into groups or wares based on shared physical attributes such as slip, paste, form or decoration (Gifford 1976:8). Second, the ceramics are further divided into types based on an “aggregate of visually distinct ceramic attributes” to place the pottery type into a specific time or place (Smith et al. 1960:333). The third step is to assign the variety designation, which is the most detailed division of attributes, both temporally and geographically (Smith et al. 1960:334). At Blackman Eddy, the pottery contained previous recognized types and varieties similar to those identified at the site of Barton Ramie, therefore a terminology did not need to be developed. Barton Ramie is less than 3 km to the northwest of Blackman Eddy and James F. Garber and M. Kathryn Brown have argued that Blackman Eddy is the ceremonial center for Barton Ramie (Garber et al. 2004b:50).

Once the type-variety in an assemblage is determined, it is grouped by complex and/or ware in the final stage of analysis to allow for regional comparison and to establish the relative chronology of the assemblage. Tables 4.2 and 4.3 present the wares, groups, and type-varieties associated with the Jenney Creek and Barton Creek complexes at Barton Ramie and Blackman Eddy.

Table 4.2 Jenney Creek Complex (after Gifford 1976:50).

<b>Jenney Creek Complex</b>		
<b>Ware</b>	<b>Group</b>	<b>Type and Variety</b>
Flores Waxy	- Joventud	- Sampopperro Red: Sampopperro Variety - Joventud Red: Variety Unspecified - Black Rock Red: Variety Unspecified - Pinola Creek Incised: Pinola Creek Variety - Pinola Creek Incised: Varieties Unspecified
Mars Orange	- Savana	- Savana Orange: Savana Variety - Savana Orange: Rejolla Variety - Savana Orange: Varieties Unspecified - Reforma Incised: Reforma Variety - Reforma Incised: Mucnal Variety - Reforma Incised: Varieties Unspecified
Uaxactun Unslipped	- Jocote	- Jocote Orange-brown: Jocote Variety - Jocote Orange-brown: Varieties Unspecified - Palma Daub: Palma Variety - Palma Daub: Variety Unspecified
Flores Waxy	- Pital Cream - Chunhinta	- Pital Cream: Varieties Unspecified - Paso Danto Incised: Variety Unspecified - Chunhinta Black: Variety Unspecified - Deprecio Incised: Deprecio Variety
Uaxactun Unslipped	- Sayab	- Sayab Daub-striated: Sayab Variety - Sayab Daub-striated: Hulse Variety - Cooma Striated: Cooma Variety

Table 4.3 Barton Ramie Complex (after Gifford 1976:50).

<b>Barton Creek Complex</b>		
<b>Ware</b>	<b>Group</b>	<b>Type and Variety</b>
Paso Caballo Waxy	- Sierra	- Sierra Red: Varieties Unspecified - Sierra Red: Society Hall Variety - Alta Mira Fluted: Variety Unspecified - Laguna Verde Incised: Variety Unspecified - Corrello Incised-diachrome: Variety Unspecified - Repasto Black-on-red: Variety Unspecified
Gale Creek Red	- Hillbank	- Hillbank Red: Hillbank Variety - Hillbank Red: Rockdondo Variety - Hillbank Red: Varieties Unspecified - Starkey Incised: Starkey Variety
Paso Caballo Waxy	- Flor Cream - Polvero	- Flor Cream: Varieties Unspecified - Accordion Incised: Variety Unspecified - Mateo red-on-cream: Variety unspecified - Iguana Creek-white: Iguana Creek Variety - Polvero Black: Varieties Unspecified - Lechugal Incised: Macaw Bank Variety - Never Delay Impressed-black: Never Delay Variety
Uaxactun Unslipped	- Sapote - Paila	- Sapote Striated: Sapote Variety - Sapote Striated: Varieties Unspecified - Paila Unslipped: Varieties Unspecified - Red Bank Appliqué: Red Bank Variety

The second method of analysis discussed and utilized for the ceramic analysis described in this thesis is functional analysis. Functional analysis is an attempt to understand the ancient classifications or use for the vessels (Rice 1987:277). The method is one of the most long-standing approaches to examine the relationship between “the form of the vessel and its function” (Rice 1987:211). Four strategies to functional analysis are examined here. The first focuses on the context of the discovery of the vessel or partial vessels; the second on written records; the third ethnographic analogy; and the final is residue analysis (Rice 1987:210-211). Written or visual records such as ethnohistoric documents, paintings and sculpture have been used to identify vessels function (Rice 1987:210). Contextual analysis includes a detailed examination of the cultural material and surrounding matrix of the archaeological context to determine the vessel use (Robertson 1983:111). Ethnographic analogies rely on the basis of form, technological characteristics and the presence or absence of decoration (Rice 1987:211). Within the Maya lowlands, some examples of vessels that are consistent in form and function are small jars used to serve beverages (Robertson 1983:136) and dishes to serve tamales (LeCount 2001:945). Finally, residue analysis includes the study of the preserved contents in the vessel walls through phytolith analysis of plant remains or chemical analysis of residues (Heron and Evershed 1993:247).

#### 4.2 Approaches to Ceramic Analysis

Four examples of ceramic analysis, which incorporate the type-variety method or strategies of functional analysis, are presented in the following section to demonstrate the variability of methods available. These examples are by no means comprehensive of the methods of ceramic analysis available, but are representative of the continued development

of ceramic analysis in the broad Maya area, from Petén region in Guatemala and northwards into Belize and Mexico.

#### *4.2.1 Type-variety: mode*

Originally, the type-variety method was created for use in the U.S. Southwest and later modified for Mesoamerican ceramic analysis (Smith et al. 1960:330). The type-variety method is rarely used independently within contemporary analysis. It is often used in conjunction with modal analysis to better understand the cultural significance of individual types (Sabloff 1975:21) or as part of a regional comparative analysis to observe shared stylistic devices or social interactions such as migration and trade (Ball and Taschek 2003:179). The classification system in modal analysis emphasizes the presence or absence of slip and vessel form or shape (Smith 1955:4; Sabloff 1975:4). Ceramic analysis at the site of Altar de Sacrificios in the Maya southern lowlands was one of the first to utilize the type-variety: mode method (Adams 1971) and included a functional analysis of handles and medial flanges (Robertson 1983:109). Research at Barton Ramie integrated the two methods to maintain flexibility in the classification of the ceramics (Gifford 1976:20). Two later studies which utilized the type-variety: mode method in the central lowlands of Belize are discussed in detail below.

Fred Valdez Jr. combined the type-variety method with modal analysis to examine the ceramic assemblage at Colha (1987:29). Within his dissertation, Valdez succinctly presents the historical progression of the type-variety: mode system of ceramic analysis from the 1960s until the mid 1980s and summarizes the use of the system in the Maya lowlands (1987).



To maintain regional continuity, Valdez placed ceramics from Colha into existing types and varieties when enough similar attributes were present to warrant this designation. Valdez changed his sorting method from Willey and Gifford's by keeping the sherds together and analyzed the ceramics within the excavation context, or as selected "column of lots" (Valdez 1987:37). This analysis of excavation context is similar to one of the methods of analysis applied at Altar de Sacrificios. Ceramics from two or more stratigraphic columns, which were typically excavated in plazas or ceremonial structures, provided a broad typological range of a given complex and aided in defining the temporal relationship between the complexes (Adams 1971:8). More recently, the sorting method by excavation context has been applied at sites such as Cahal Pech and Blackman Eddy for efficient intra-site analysis (Sullivan et al. 2008). This type of analysis provides temporal and typological data without the need for extensive excavation.

In addition, two scalable field analyses with the full analysis of all sherds from any context were added to the field methods (Valdez 1987:37). The first was a summary analysis of the lots "described by estimating approximate proportions of the different complexes represented" (Valdez 1987:37); and the second was a scan analysis, which was used to estimate the chronological placement of a lot or lots for "immediate approximate historical information for the excavator" (Valdez 1987:38). In areas where a full analysis had already been performed, a summary analysis or scan analysis expedited the results from the ceramic analysis as excavations were expanded (Valdez 1987:37).

Lisa J. LeCount utilized the type-variety: mode method to separate and define the Terminal Classic from Late Classic ceramic complexes at Xunantunich (1996:168). In order

to separate and define the two complexes, LeCount expanded on previous research at Xunantunich then incorporated the Barton Ramie chronology (Gifford 2976) along with results from select ceramic analyses conducted by Thompson (1940) in the Belize River Valley (LeCount 1996:124). For the analysis, LeCount developed a ceramic catalog to distinguish “small scale diachronic and synchronic trends” from households at Xunantunich and the neighboring site of San Lorenzo (LeCount 1996:131). The analysis allowed LeCount to explore the strategies of feasting, gift exchange and status displays at Xunantunich (1996:xviii).

The ceramic catalog included measurements of distinctive formal and stylistic attributes. The catalog detailed subdivisions for features such as rim, lip, base, flange, appendage and lid form (LeCount 1996:335-6). Vessel forms were identified using Sabloff’s formula for conventional vessel types (1975:22-27). Lid types, miniatures, worked sherds and specialty forms were based on previous forms recognized by Thompson, Smith, and Sabloff (LeCount 1996:336), while definitions used for decorative techniques were drawn from R. E. Smith’s work at Uaxactun (1955). Type-varieties, primary vessel forms, and secondary forms were assigned numerical codes (1996:337-43). Two immediate benefits to this form of data collection included an expanded flexibility in interpreting the data through multivariate statistical methods and an increase in the amount of information collected during a limited field season.

LeCount’s catalog relied on the data collected on vessel forms and attributes from other sites in the Belize River Valley (1996:335-36), which future researchers can use for regional comparison of recognized types. For the catalog, 18 variables within five categories

were selected. These categories were paste/temper composition, surface treatment, formal aspects, decorative technique and decorative motif. Frequency and weight of sherds that shared the same attributes were also measured and the ceramic group, type and variety were recorded. The data was recorded on forms, which were later transferred into statistical analysis software (1996:132-133). The attributes were collected in a specific sequence and began with variables for the temper or paste, followed by surface treatment. Next, details on all recognized formal attributes (rim shape, handle form, vessel form, etc.) were recorded and finally the complex and type-variety represented were identified (LeCount 1996:335-36). When the attributes are collected in the order designated, the results of the analysis are clear, systematic and can be reproduced.

From conception, the type-variety: modal method allowed for a regional approach to define horizon markers and allowed for comparison of ceramic spheres composed of complexes within the Maya lowlands. Horizon markers are chronologically specific traits shared by two or more complexes that have distinct geographic and temporal association and indicate cultural contact due to stylistic and production similarities (Willey et al. 1967:289). These complexes can then be subdivided into facets to distinguish a minor temporal subdivision or subcomplexes which allowed for cultural function to be assigned or distinctions to be made such as “trade or local; ceremonial, cache or domestic; upper class or lower class” (Willey et al. 1967:304). Valdez and LeCount have demonstrated that ceramic analysis which focuses on shared regional characteristics provides better data for intra-site comparison.

#### 4.2.2 Residue Analysis

Functional analysis has multiple approaches or strategies to determine the past use of vessels. One approach is to examine residue on ceramic vessels with chemical or phytolith analysis (Rice 1987:233). Rarely used independently, residue analysis has been used to identify specialty foods such as cacao or maize to spot feasting activities. Specialty foods and vessels also have been suggested as markers to identify feasting in the archaeological record (LeCount 2001:935). Chemical analysis involves the collection and testing of residues that were absorbed in the vessel walls. These residues include phosphates, pollen, salts or organic substances such as resins, gums, carbohydrates, animal fats and vegetable oils (Rice 1987:233). Phytolith analysis is the process of isolating phytoliths, which are “microscopic silica bodies formed by the partial or complete silification of plant cells, cell walls, and intercellular space” (Bozarth and Guderjan 2003:207).

##### 4.2.2.1 Chemical Analysis

Dry residue collected from four Early Classic tomb vessels from the site of Rio Azul in Guatemala were tested for the presence of cacao (Hall et al. 1990:139). Traces of *theobromine* and caffeine, two components of cacao, were identified by the use of ultraviolet detection and liquid-chromatography/mass-spectrometry studies (Hall et al. 1990:141-142). One of the vessels was decorated with hieroglyphs, two of which have been identified as the glyphs for “cacao” (Hall et al. 1990:138, 140). The combination of chemical analysis with hieroglyphic decipherment has been used to support the association of certain vessel types with feasting activities in the archaeological record.

Vessel forms for the storage and service of cacao have varied through time. Recently, Terry G. Powis, Fred Valdez, Jr. and Thomas R. Hester of the University of Texas at Austin collaborated with food technicians at Hershey Foods to perform chemical analysis of residue collected from fourteen spouted vessels from the site of Colha, Belize (Powis et al. 2002:85, 97). These tests produced definitive results. Three of the vessels tested positive for the substance *theobromine* (Powis et al. 2002:97) and confirmed the cultural associations made to these vessels as “chocolate pots” throughout the Maya region (Powis et al. 2002:85). The collection and testing of residue is rarely undertaken yet demonstrates the importance of functional analysis and the depth of data that still can be collected after chronology has been established from the ceramics.

#### 4.2.2.2 *Phytolith Analysis*

Another functional analysis strategy is to examine the remains of plants, such as phytoliths, which remain in the walls or pores of a vessel (Rice 1987:211). Phytoliths are more resilient from decomposition processes that affect organic plant remains such as wood and seeds, but can be affected or broken down in highly alkaline sediments (Hester et al. 1997:289).

Phytolith analysis was performed on nine dedicatory cache vessels from Blue Creek, Belize. These lip-to-lip bowls date from the Late Preclassic to the early Late Classic, and the purpose of the study was to identify ancient Maya plant residue and to interpret caching and ritual behavior (Bozarth and Guderjan 2003:205). Results from these tests included the identification of phytoliths from corn, squash, palm fruit, dicot seeds and agave

as well as the presence of marine sponges and red ochre (Bozarth and Guderjan 2003:212-213).

As part of a detailed contextual analysis of a problematic deposit to examine evidence for feasting in the archaeological record, residue analysis was performed on two Middle Preclassic vessels from Blackman Eddy (Brown 2008:7). One of the samples collected from the vessels was identified as maize phytoliths in a stirrup spouted vessel and were probably the remains of a corn-based beverage (Brown 2008:7).

#### *4.2.3 Iconography and Epigraphy*

Traditionally, art historians and archaeologists in the Maya lowlands have utilized iconographic evidence as part of functional analysis (Smith 1955:24; Reents-Budet 1994:72-74). The use of epigraphic decipherment is closely tied to iconographic evidence, and has been used to identify the contents or the purpose of specific vessels (LeCount 2001:945; Houston et al. 1989:724).

In the article *Folk Classification of Maya Pottery*, Stephen D. Houston, David Stuart, and Karl A. Taube suggest that the glyphic Standard Primary Sequence on Maya vessels can describe the method of decoration, the name of the class of vessel, the contents of the vessel and, in some cases, the owner of the vessel (Houston et al. 1989:720). Several hieroglyphs have been identified which describe vessel shape and content. These glyphs are the *ul* sign on rounded vessels and the *kakaw* sign on tall-sided vessels, which incidentally contained traces of cacao (Houston et al. 1989:722).

#### 4.2.4 Analogies and Cultural Inference

Ethnographic analogies (Rice 1987:211) and the use of cultural inference from ethnohistoric documents are occasionally combined during a functional analysis of ceramics to investigate the relationship between form and function (Robertson 1983:118). Raymond H. Thompson examines the relationship between form and function through inference in his ethnographic study *Modern Yucatecan Maya Pottery Making* (1958:9). Through modal analysis, Thompson identifies production methods and vessel functions to make cultural inferences about prehistoric pottery in the Yucatecan area (1958:147).

Bishop Diego de Landa compiled one of the earliest documents on cultural and social behavior for the Maya region in the 16<sup>th</sup> century (Tozzer 1966 [1941]). Translations of Landa's *Relación de las Cosas de Yucatan* are referenced often in studies of early New World cuisine (Coe 1994:132), functional analysis and ritual behavior (LeCount 1996:237) as well as in other investigations which seek to describe the ancient Yucatec Maya life ways at and before the time of the Spanish conquest (Tozzer 1966:vii).

In *Functional Analysis and Social Process in Ceramics: The Pottery from Cerros, Belize*, Robin Robertson approached the analysis of the assemblages at Cerros by combining the type-variety method and several strategies of the functional analysis method. Robertson first examined the type-variety classifications to determine if the types had any functional significance followed by categorizing the archaeological context of the vessels (1983:111). Once the contextual categories were established, she used "common-sense" universal comparison, ethnographic information and use wear patterns to determine the primary use of the vessels (Robertson 1983:119). Robertson identified nine functional classes: 1) stationary

cooking vessels; 2) soaking vessels; 3) mixing bowls; 4) water vessels; 5) dry storage vessels; 6) serving dishes for hot and cold foods; 7) buckets; 8) eating and ritual offering bowls and dishes; and 9) ritual vessels (1983:119).

#### 4.3 Concerns with Type-Variety and Functional Analysis

Concerns with aspects of the type-variety and functional analysis have been voiced almost as long as the methods have been in use. Researchers have encountered problems when the type-variety method is used in regional studies. These problems arise when variability in clay sources or firing techniques cause color variation to the paste (Shepard 1980:312-3) which confounds inter-site comparison. Inter-site comparison can be difficult when the time periods for ceramic type occurrence do not coincide and complex names change from site to site (Sabloff 1975:3). Assigning new complex names each time another site was analyzed has been a problem since the inception of the type-variety system (Willey et al. 1967:291). Another concern is that the type-variety method uses taxonomic designations to assign artificial cultural interpretations to the sherds without further research into the human behavior that created the vessel (Shepard 1980:312). Rice has stated that assignment of folk classification based on the type-variety system extended the typology beyond its “original chronological-comparative goals” (1987:284). Finally, the use of descriptive terms for identification of slip or paste as part of the classification terminology such as “waxy” or “clinky” (Gifford 1976:85, 193) are subjective to the observer and can lead to different conclusions during the research process (Chapman 2006a).

Additionally, concerns within the functional analysis method are unique to the approach selected, whether it is residue analysis or the comparison of vessel form. Several



problems are associated with residue analysis. The first is the possible contamination of the vessel from the matrix in the surrounding soils. Second, it sometimes can be difficult to distinguish residue from organic temper. Finally, the act of washing the vessels after excavation could remove or contaminate organic material present (Rice 1987:233). Although residue analysis has been available for some time, it is rarely employed; consequently the sample sizes of vessels tested are small and have limited comparative value (Heron and Evershed 1993:271). An additional concern with functional analysis was where Sabloff suggested that the use of formal analysis for temporal purposes can be problematic because individual modes (forms or styles) can have long time spans and make inter- and intra-site refined chronologies difficult (1975:4).

These concerns over methodological approaches serve to constantly challenge ceramicists to revise and improve their methodologies. The type-variety method, despite the above concerns, has allowed for flexibility, and since the inception of this ceramic classification method, it has been adapted and modified to meet the research design of ceramicists and archaeologists around site-specific needs (Valdez 1987:33). The integration of the type-variety or functional analysis with other methods has allowed for more informed cultural associations about vessel function and meaning to be made (Powis 2004:68).

#### 4.4 Methods of Ceramic Analysis for Ops. 22a-22b

As demonstrated above, the methods for ceramic analysis are widely varied. Two methods of analysis were selected for the analysis of the ceramic assemblage in Plaza B. The first method of analysis was the type-variety method because it provided a format to analyze both chronological and cultural aspects of each lot (Chapman 2006). The second method

was a functional analysis of the partial vessels. This method included a comparison of diagnostic sherds and partial vessels to vessel forms typically used in feasting events. The functional analysis also included a comparison of vessel forms present in PD#3 to vessels identified in ethnohistoric documents and ethnographic studies as well as a contextual analysis of all cultural materials in PD#3. The analysis of the ceramic assemblage was performed in five stages and focused on identifying the types present in the ceramic assemblage.

#### *4.4.1 Define Ceramic Assemblage – Stage I*

Analysis of the ceramic assemblage from the two test units began in detail during June of 2005. The first stage of analysis was used to familiarize the author with the ceramic assemblage as well as the ceramic types found at Blackman Eddy. The analysis began with a comparison of the Blackman Eddy type collection to the monographs written by Sabloff for the *Excavations at Seibal* (1975) and Gifford's *Ceramics of Barton Ramie* (1976). In 2003, M. Kathryn Brown and Terry Powis collected a sample of ceramic sherds, with a focus on Preclassic types, from the Blackman Eddy assemblage to assist in the ceramic analysis for the site (Brown, personal correspondence 2007). This review allowed for a better understanding of site-specific chronology and stylistic attributes associated with the ceramics. The analysis in 2005 included a daily journal, the assignment of temporary catalog numbers to each diagnostic sherd or related groups of body sherds, a documentation of attributes, photographs and a review of the 2003 field notes. Partial vessels identified during this initial stage of analysis were initially numbered in order of analysis. Several partial vessels were refit in 2005 such as a Reforma Incised: Mucnal variety jar located in Op.22a-2.

The 2003 field notes were reviewed to better understand the stratigraphy of the test units and the matrix associated with each lot and the ceramic concentrations.

At the end of the 2005 field season, the initial field assumptions about the primary nature of PD#3 were confirmed. Several factors led to this conclusion; several partial vessels were refit between sherds in lots 22a-2 and 22b-8. These refits confirmed the field notes which stated that the problematic deposit was in an undisturbed matrix below the dry-laid fill. Finally the presence of faunal remains, charcoal and other cultural artifacts associated with the ceramics indicated that the deposit was unique and required further investigation (Chapman 2006a).

#### *4.4.2 The Ceramic Catalog – Stage II*

The second stage of analysis was performed in 2006 and included the development of a numerical coding system, which was adapted from LeCount's (1996) work at Xunantunich and San Lorenzo for her dissertation. For the analysis of the ceramic assemblage in the two test units at Blackman Eddy, LeCount's methodology was modified to include additional attribute codes for temper/paste, vessel lip and rim detail and rim diameter (Table 4.4). A detailed list of numerical codes assigned to each VARIABLE for the analysis at Blackman Eddy is shown in Appendix A.

The first modification to LeCount's catalog was an expansion of the identification of temper and paste. Specifically, unique mineral designations were made to enable a more detailed description for certain wares, such as ash, non-ash, with sand and quartz, etc.

Table 4.4 Ceramic Catalog Attributes for Analysis of Ops. 22a, 22b and PD#3

<b>Description</b>	<b>VARIABLE</b>	<b>Notes</b>
Catalog Number (CASE)	1/A	Assigned to individual diagnostics or groups of sherds that shared attributes or ware
Operation	2/B	
Suboperation	3/C	
Lot	4/D	
Special Feature	5/E	Cluster designation
Temper/Paste	6/F	LeCount codes as "Composition"
Surface Treatment	7/G	
First Slip Color	8/H	Designated by Munsell color chart
Second Slip Color	9/I	Designated by Munsell color chart
First Paint Color	10/J	Designated by Munsell color chart
Second Paint Color	11/K	Designated by Munsell color chart
Third Paint Color	12/L	Designated by Munsell color chart
Primary Form, I and II	13-14/M-N	
Neck Curvature	15/O	
Lip/Rim Detail	16-17/P-Q	
Rim Diameter (cm)	18/R	
Flange, Ridge & Angle	19/S	
Spouts	20/T	
Handles	21/U	
Foot Form	22-23/V-W	
Base	24/X	
Primary Decoration	25/Y	
Secondary Decoration	26/Z	
Stylistic Element	27/AA	
Ceramic Type-Variety		
Complex	28/AB	
Ware	29/AC	
Group	30/AD	
Type-variety	31/AE	
Frequency	32/AF	Amount of sherds for each catalog number
Comment	33/AG	

Second, instead of using LeCount's designations for vessel lip and rim detail, the catalog used the terms and descriptions specified by Sabloff (1975:24-25). Third, a variable for rim diameter was included because this was a significant factor in Gifford's (1976) determination of vessel forms at Barton Ramie. For example, the estimated diameter of an incomplete rim sherd can lead to the differentiation of the sherd belonging to a vase or a jar. Fourth, complex and ware VARIABLES were added. This was necessary because some sherds could

not be assigned a type-variety designation due to the small size or poor condition. The final modification to LeCount's system was the exclusion of sherd weights, which were not necessary to address the research questions of this thesis.

#### *4.4.3 Data Collection – Stage III*

Once the catalog was developed, the final data for the type-variety and functional analysis was collected. Data collected included a daily log, the assignment of final catalog numbers, the measurement and documentation of attributes, photographs of diagnostic sherds and partial vessels, illustrations of rim profiles, faunal analysis, a review and documentation of special finds, and the refitting of partial vessels.

Each lot was systematically re-sorted by assigning applicable attributes from the ceramic catalog. Diagnostic sherds were evaluated individually, while groups of body sherds that shared ware attributes were evaluated together. Catalog numbers were assigned sequentially according to the order of the analysis, and these catalog numbers, along with the codes for the attributes, were entered into a database. Partial vessels were assigned individual catalog numbers as the last stage of the analysis since many of the refitted sherds crossed lots. The sherds were placed in clear plastic bags with bag tags that included the site designation, operation number, lot number and cluster association when applicable. Information on the bag tags included dates of excavation, date cataloged, sherd count, and when applicable, the complex, group or type-variety designation assigned to the sherds. Detailed vessel descriptions included the number of sherds present, the provenience information, attributes recorded, patterns of fire-clouding, observations of residue, and the condition of the vessel.

The ceramic analysis closely followed LeCount's methods for the order of collection of data as shown in the preceding Table 4.3. For the purpose of statistical analysis, the catalog numbers are designated the CASES and the attributes, the VARIABLES. As shown in the above Table 4.3, sherds were first identified by provenience (2B-5E) then sorted by temper, paste and surface treatment (6F-12L).

The next step was to measure all formal attributes - Primary Form (13M/14N) to Stylistic Elements (27AA) to the sherds. A code was selected for each variable and was entered into a Microsoft Word Excel spreadsheet. All identifiable attributes were recorded for diagnostic sherds (for example rim, base or partial vessels) in order to assign type-variety to the sherds. Body sherds were grouped together (slipped versus unslipped) and attributes recorded were limited to paste, slip and surface decoration. All measurements were taken with metric calipers, and Munsell designations were assigned to slip and paste of diagnostic sherds and partial vessels. Temper analysis was done with a hand lens to identify the matrix.

The final step was to assign complex, ware, group and type-variety where enough information was available (28AB-31AE). This VARIABLE was only assigned at the type-variety level when enough attributes and traits were present. Rim sherds less than 4 cm in length that were heavily eroded were not assigned type-variety. A single catalog number was assigned to the reconstructed partial vessels. Sherds from the eight clusters, such as rims and handles that shared multiple attributes such as paste, ware and decoration were grouped as one catalog number. Finally, the overall condition of each lot was noted during the cataloging process. Condition assessment considered the degree of erosion, if the sherds had worn or angular edges, and the extent of heat exposure the sherds had undergone was noted.

Generally, sherds were categorized as having good or poor condition. Sherds in good condition had sharp angular edges and the slip was intact, while sherds in poor condition were heavily eroded and had smooth edges and worn or missing slip.

Rim sherds, diagnostic body sherds, and partial vessels from all of the lots were photographed with a Canon Power Shot SD400 Digital Elph camera. Primarily, rim sherds recorded from PD#3 were illustrated, as well as the rims of partial vessels. Select rim sherds from lots 22a-1 were illustrated for chronological reference. All rim sherd illustrations are presented in Appendix B. As part of the contextual analysis, a preliminary faunal analysis was conducted by Iasa Duffy in 2006. Small finds were also analyzed for this study, and the results are presented in Chapter 6.

#### *4.4.4 Vessel Reconstruction – Stage IV*

The reconstruction of the partial vessels was conducted in several steps. First, large angular rim and body sherds within the eight clusters were refit. Second, during the sorting of each lot, sherds were grouped by ware; those that shared similar attributes to the large angular rim or body sherds were set aside. During the lot pre-sorts for the 2006 field season, it became readily apparent that the majority of sherds that refit were in lot 22a-2 and lot 22b-8. The third step was the reconstruction of sherds with the use of polyvinyl-acetate (PVA). There were several vessels, specifically the Sierra Red: Variety Unspecified (Orange-paste) plate, which had accretions on the joins from long exposure to the soil. These accretions were carefully removed with dental picks to allow for clean joins to improve the reconstruction of the sherds. The fourth step was to label the groups of refit sherds. A barrier layer, approximately 0.5 cm in dimension, was placed on the sherd and then the

provenience was written with waterproof acid-free markers (ie. BE PB 22a-2: CL7). The final step was to attempt to refit groups or individual sherds together from different lots where possible. All lots and their associated rim sherds were laid out simultaneously to confirm that all partial vessels had been grouped, and that there were no additional joins or potential refits among the rim sherds. This final review allowed for an assessment of the collection as a whole and the recognition of shared stylistic attributes such as body decoration or lip form that may not have been obvious during the previous sorting. When refits were located, these sherds were labeled with their provenience before they were refit to the partial vessel.

#### *4.4.5 Identification of Partial Vessels – Stage V*

The final stage of analysis was to identify the number of partial vessels present in PD#3 for a detailed functional analysis. The details of the functional analysis are presented in Chapter 6. The purpose of identification of the quantity of partial or whole ceramic vessels is to determine the “number of vessels represented” within a selected sample area (Rice 1987:290). The sample area for this thesis was the two test units in Plaza B. Historically, the approaches for identifying the number of vessels represented in a deposit are varied. Three approaches were incorporated into the identification of partial vessels in the two test units at Blackman Eddy. These approaches of vessel identification include the number of vessels represented by the number of sherds or rim sherds present in an assemblage (Millett 1979:77); the percentage of a vessel present (Orton, Tyers and Vince 1993:21); and the presence of partial or entire rims in relation to body sherds (Egloff 1973:352; Clayton et al. 2005:123).



The first approach examined two separate data sets: the number of rim sherds present or by accounting for all sherds available. For example, one can calculate the average diameter for rim or base sherds by obtaining the rim length of the rim sherds of a particular type and dividing it by the mean rim diameter of that type (Millett 1979:77). The other procedure is to group sherds and rims by traits such as shared paste or other attributes that might be from the same vessel (Millett 1979:77). Rice suggests the grouping of body sherds to rim sherds is subjective and could over or underestimate the number of vessels present (Rice 1987:292). What is subjective about this method is that different researchers may arrive at different figures, but it has an advantage in that rim sherds are not required (Millett 1979:77).

The second approach assigns complete vessel designation based on the percentage of vessel present and refers to the number of vessels represented or the estimated vessel-equivalent (*eve*) (Orton et al. 1993:21). This method measures the *completeness* of a pot in an assemblage, and takes into account the level of *brokenness*; when completeness is low, pots with a higher level of brokenness are most likely to be represented (Orton et al. 1993:169). This method of measuring the number of vessels represented does address the fact that remains of cultural artifacts in an assemblage are rarely complete in the archaeological record (Orten et al. 1993:166). Refitting sherds can be time consuming, but this method can be recreated in the lab and is not as subjective as other methods that assume body sherds are to the same vessel based on shared attributes alone. Applied, this method measures the available partial vessel and determines what fraction of the whole vessel is present by the use of measuring devices such as rim charts (Orten et al. 1993:172).

The third approach was developed by Egloff uses rims or partial rims to define the individual “vessel represented” (1973:352). This approach is commonly used, yet this method does not always consider the body sherds from the deposit in the assessment (Rice 1987:292). Egloff’s method does include the percentage of the rims represented and the weight to determine if the collected sherds represent a partial vessel (1973:353). Limiting vessel designation to one set of diagnostic traits can minimize the number of vessels represented, such as in the case of a problematic deposit at Blue Creek, Belize (Clayton et al. 2005). Out of 21,271 sherds, there was only one “whole vessel” designation based on their criteria that representation of partial vessel was determined on the presence of enough sherds to completely reconstruct a vessel rim (Clayton et al. 2005:123).

Partial vessel designation was assigned to vessels in the two test units that met criteria from all three of the aforementioned approaches. Criteria used to define number of partial vessels represented within the test units included: the percentage of rim or body sherds represented; the number of sherds that refit, shared type, or had the same diagnostic attributes to the whole or partial rims; and the inclusion of body sherds that were in the same ceramic cluster were grouped with rims that shared diagnostic attributes. From these criteria, each group of sherds designated as a partial vessel included a minimum of 20% of the vessel represented with a rim or partial rim present. Two sampling bias should be noted; the test units were adjacent to a bulldozer cut which probably removed part of the problematic deposit; and more of this deposit is suspected to be located in unexcavated areas within the general vicinity of Op. 22a and 22b (Cochran and Brown 2004:21).

## CHAPTER 5

### FEASTING IN THE ARCHAEOLOGICAL RECORD

#### 5.1 Feasting Defined

Feasts defined by Michael Dietler and Brian Hayden are an event or events that are “constituted by the communal consumption of food and/or drink ... and are distinguished from daily meals because they are part of a ritual activity” (2001:3). Feasts have also been described as “a complex dialect that defines and reifies an individual’s position within the social, political and economic order” (LeCount 2001:935).

The functions of feasts have been interpreted a number of ways. These interpretations include feasting as a leveling mechanism in society (Dietler 2001:69); to develop and solidify social bonds (Hayden 2001:39); to create obligations to the hosts from the guests (Hendon 2003:206; Blitz 1993:84); or to bestow prestige on the host as a form of wealth (LeCount 1996:232). The role of feasting in the “emergence of social hierarchies” (Bray 2003:1) also has been examined by numerous researchers (Dietler and Hayden 2001:17; Clark and Blake 1994:271; Brown 2007:3).

#### 5.2 Anthropological Studies of Feasting

John Blitz examined feasting behavior at the prehistoric Lubbub Creek site in Alabama to study the rise of complexity in his groundbreaking article *Big Pots for Big Shots: Feasting and Storage in a Mississippian Community* (1993). Blitz examined vessel shape

and size as well as the cultural deposits associated with platform construction and determined that platform mounds were the focus of specialized feasting activities (1993:90).

Ethnographic and ethnohistoric data are often used to help understand feasting behavior (Bray 2003:9). This data is often used to identify what type of archaeological signatures would be the result of feasting events (Brown 2001:369). These data are also used to examine different types of feasts associated with all levels of society (LeCount 1996:72). Ethnohistoric data such as Bishop Diego de Landa's *Relación de las Cosas de Yucatan* (Tozzer 1966 [1941]) has been important in our understanding of Precolumbian feasting behavior. These documents were a compilation of Landa's observations of social and ritual behavior by the ancient Maya, as well as their interaction with the Spanish (Tozzer 1966:vii [1941]).

Landa observed that feasting activities accompanied many rituals and festivals; feasts accompanied the celebration of the New Year (Tozzer 1966:151[1941]) or were held in conjunction with festivals held for the Chacs, who are the gods of rain and the cornfield (Tozzer 1966:161[1941]). Specialty foods such as deer, iguana or dog were sacrificed as offerings and then served along with alcoholic beverages to accompany the feasts (Tozzer 1966:165[1941]). Landa refers to the alcoholic beverage as wine throughout his text, but it is most likely *balche*, a fermented liquor made from the bark of a *balche* tree and honey (Tozzer 1966:92[1941]). Vessels used for the service of the food offerings were bowls, dishes or plates, while beverages were served in jars which were sometimes broken at the end of festivals (Tozzer 1966:165[1941]). Along with sacrificial foods of meat, fish, bread and drink, the burning of the incense copal accompanied many feasts (Tozzer 1966:142[1941]).

Festivals were often held in public spaces, such as the court of a temple (Tozzer 1966:163[1941]) or at the house of a lord (Tozzer 1966:153[1941]).

Landa's narratives are utilized by LeCount in her analysis of the role of feasting activities to maintain and expand social power during the Late and Terminal Classic at Xunantunich (1996:76). LeCount identifies specialized public festivals observed by Landa which included "pottery related activities" associated with feasting behavior (1996:73). These pottery related activities included, but were not limited to, the offerings of food and drinks, the making and drinking of *balche*, the renovation of temples, gift giving, and the submission offerings and sacrifice to idols (LeCount 1996:73 Table 3.3).

Ethnographic evidence has also been useful in identifying patterns related to feasting in the archaeological record (Adams 1971:138-139; Blitz 1993:84). Archaeologists in Mesoamerica have utilized ethnographic studies to help understand the function of vessels. An important source within the feasting literature is R.E. Thompson's observations of modern Yucatecan Maya pottery production and function (1958:147). The use of Thompson's ethnographic evidence as part of a functional analysis has been applied at the Maya sites of Cerros (Robertson 1983) and Copan (Hendon 2003).

Robertson's research on the ceramic material at the site of Cerros, Belize, focused on refining the ceramic chronology for the Late Preclassic period in northern Belize and identifying how Late Preclassic residents utilized the various forms of pottery (1983:105). Robertson combined type-variety analysis with a detailed contextual analysis in order to identify nine functional classes within the Cerros assemblage (1983:111).

Hendon has utilized Thompson's ethnographic evidence to identify the remains of feasts held on platform structures in the Copan valley during the Classic period. Hendon suggested these feasts were used to reinforce social status (Hendon 2003:203). Hendon also used of the type-variety method and the strategy of functional analysis using ethnographic analogies to gain a clear understanding of the ceramic assemblage and social activities represented in the archaeological record at Copan (2003:205). In these assemblages, Hendon identified variations in vessel forms, which correspond to functional differences such as food preparation, cooking, storage and ritual activities (2003:218-9).

Other researchers have focused on archaeological signatures of feasting behavior and have attempted to assign cultural behavior to ambiguous deposits found in the archaeological record, such as those initially labeled ritual or problematic deposits. Some of these deposits may represent the remains of feasting activities. The conclusions from a detailed contextual analysis of the ceramics and the stratigraphy of a Terminal Classic problematic deposit at Blue Creek, Belize, likely suggests that the ceramic material were transported remains of feasting events (Clayton et al. 2005:119). The problematic deposit was determined to be of secondary context for several reasons: no whole vessels were present, in fact there was only one complete rim sherd; yet there was an absence of chipped- or ground-stone tools and faunal remains which are typically found in primary feasting or midden deposits (Clayton et al. 2005:128). These factors suggest that the problematic deposit was the transported remains of a feasting midden (Clayton et al. 2005:128).

A late Middle Preclassic problematic deposit associated with Str. B1-5<sup>th</sup> at Blackman Eddy contained several partial vessels in the Jenney Creek complex (Brown 2007:3). The

primary deposit contained archaeological signatures of feasts such as serving vessels, faunal remains, carbon, and exotic material such as marine shell and obsidian (Brown 2007:12). Brown identified ten partial vessels, all which were forms typically used as serving vessels such as bowls, a chocolate pot, and a jar (2007:12). The vessels served a dual purpose in the deposit, as serving vessels, but also as sacred objects as they apparently were halved or quartered and left as an offering to the gods for the consecration of the building (Brown 2007:17).

### 5.3 Archaeological Signatures of Feasting Deposits

Feasting events are distinctive in the archaeological record because they leave behind “copious amounts of distinctive refuse” and are commonly associated with ritual structures (Dietler and Hayden 2001:8). Cultural material identified with feasting events has been referred to as “archaeological signatures” (Hayden 2001:40) and these are used to identify the refuse or the remains to cultural evidence for feasts. Archaeological signatures of feasting are numerous and varied as shown in Table 5.1, and the archaeological signatures identified in PD#3 are boldfaced in the table.

Archaeological signatures such as ceramic vessels, which are used for food preparation and consumption, have been traditionally used in anthropological studies to determine the meaning of human action and in the interpretation of the cultural material (Bray 2003:1).

Table 5.1 Archaeological Signatures of Feasts.

<b>Food</b>	-- Rare or labor intensive plant or animal species (especially condiments, spices, and <b>domestic animals</b> ) -- Special “recreational” foods (e.g., tobacco, opium, cannabis and alcohol) -- Quantity of food items -- <b>Evidence of waste of food items (e.g., deposition of articulated joints, unprocessed bone)</b>
<b>Preparation vessels</b>	-- Unusual types (e.g., for beer making, chili-grinding, perhaps initial appearance of cooking pots) -- <b>Unusual large size</b> -- Unusual numbers
<b>Serving vessels</b>	-- <b>Unusual quality of materials (e.g., first occurrence of pottery or highly decorated or specially finished pottery, large gourds, stone bowls)</b> -- <b>Unusual size of serving vessels</b> -- <b>Unusual number of serving vessels</b>
Food-preparation facilities	-- Unusual size of facilities (e.g., large roasting pits or hearths) -- Unusual number of facilities (e.g., several hearths in a row) -- Unusual location or construction of facilities
<b>Special food-disposal features</b>	-- Bone dumps -- <b>Special refuse fires containing feasting items</b> -- <b>Feasting middens</b>
Feasting facilities	-- Special structures (temporary vs. permanent) for highest-ranking guests and hosts, or for large numbers of people -- Special display facilities, scaffolds, poles, or other features
<b>Special locations</b>	-- Mortuary or remote locations that are clearly not habitation sites (e.g., in front of Megalithic tombs, at henge monuments, inside caves) -- <b>Loci associated with nuclear households, residential corporate households, large feasting middens or central community spaces</b>
<b>Associated prestige items</b>	-- Presence or absence, and relative abundance of prestige items typically used in different types of feasts (e.g., ritual display items, feathers, shell jewelry) -- The destruction of wealth or prestige items (via intentional breakage or burial)
<b>Ritualized items or etiquette</b>	--Smoking or other narcotic paraphernalia -- <b>Ritualized vessels for consumption of alcohol, chocolate, kava, or other prestige drinks</b>
Paraphernalia for public rituals	--Dance masks or costume elements
Existence of aggrandizers	--Wealthy burials; social or site hierarchies; large residences with high storage per capita
Recordkeeping devices	--The presence or absence and frequency of tally sticks, counting tokens, or symbolic pictographs
Pictorial and written records of feasts	-
Food-storage facilities	--Stables, storage pits, granaries
Resource characteristics	--Abundance, intensified exploitation, invulnerability to overexploitation

Source: (Hayden 2001:40-41).



Consequently, the types of vessels present are usually indicative of the food or beverages served and, in some instances represent the purpose of the feasts (Bray 2003:4). Yet specialized vessels and ritual goods alone do not necessarily indicate a differentiation in the social status of the organizer (Powis 2004:67), therefore the entire contents and context of the deposit must be considered to understand the event.

Identifying the archaeological signatures of feasting is critical to determine if the deposit in question is a result of a feasting event. Multiple archaeological signatures of feasting defined by Hayden were identified in the analysis of PD#3. It is significant to note that Hayden suggests that “various values and combinations of these factors” can be useful, but not to limit the identification of feasts in the archaeological record to these signatures alone (2001:40-41).

These signatures in PD#3 included serving and food preparation vessels, the presence of prestige items, the presence of faunal remains, and the evidence of food preparation due to the abundance of charcoal in the deposit. This cultural material in PD#3 was possibly associated with the construction of a platform or the substructure of a building.

## CHAPTER 6

### RESULTS OF ANALYSIS: 22a AND 22b

#### 6.1 Introduction

The analysis of the ceramics assemblage in the two operations began by using the type-variety method to establish a relative chronology for each cultural lot and followed the methods of analysis described in Chapter 4. All lots were initially dated using seriation during the ceramic analysis, with the most recent sherds determining the relative date for each lot. The ceramics in PD#3 were separated for further analysis into a sub-assemblage. A radiometric AMS date of organic sediment collected from lot 22a-2 in PD#3 resulted in a date of 2200 +/- 40 BP; and the 2 Sigma calibrated results were 380 – 170 B.C.

Table 6.1 Radiocarbon dates from PD#3

<b>Provenience</b>	<b>Phase</b>	<b>Beta #</b>	<b>Conventional Radiocarbon age</b>	<b>Calibrated 1 sigma B.C.</b>	<b>Calibrated 2 sigma B.C.</b>
Blackman Eddy, Plaza B, Op. 22a-2	Jenney Creek, Barton Ramie	227638	2200 +/- 40 BP	360-200	380-170

The sub-assemblage of PD#3 was compared to the remaining ceramic assemblage for characteristics such as sherd condition, size, and the presence or absence of partial vessels was noted for each lot. For condition assessment of the sherds, two categories, good and poor, were used to describe their physical condition. Ceramic sherds in good condition had the slip present, sharp edges and typically were large and angular. Sherds in poor condition

were eroded, had little or no slip remaining, had smooth or worn edges and were usually quite small.

A functional analysis of the partial vessels in the sub-assembly was performed and ethnographic analogies were utilized in order to identify the possible function of the vessels. Following the functional analysis, a contextual analysis of the cultural material was conducted. The results were then compared to archaeological signatures of feasting. Information pertaining to small finds, faunal remains, and carbon is presented in Appendixes D, E, and F. Analysis of the faunal remains was preliminary, and many specimens were unidentified.

#### 6.2 Operation 22a

The ceramics in Op. 22a contained 56 percent of the ceramic assemblage. Sherd count, complex, types represented, partial vessels identified, overall condition, and archaeological context are presented for each lot in Table 6.2. Statistical analysis included cross-tabulations of the vessel forms identified to ceramic complexes in each lot and is presented in table form for lots 22a-1 and 22a-2. Additional frequencies were run to determine the number of striated sherds in Lot 22a-2 and a summary of the results are included in the functional analysis at the end of Chapter 6.

Table 6.2 Ceramic Data: Operation 22a (N for 22a = 1,772)

Lot	Sherd Count	Complex and Types Identified	Partial Vessels	Condition	Context
1	563	<u>Jenney Creek</u> Jocote Orange-brown: Varieties Unspecified; Jocote Orange-brown: Jocote Variety; Chacchinic Red-on-brown: Variety Unspecified; Cooma Striated: Cooma Variety; Savana Orange: Variety Unspecified; Savana Orange: Rejolla Variety; Savana Orange: Savana Variety; Reforma Incised: Mucnal Variety <u>Barton Creek</u> Sierra Red: Buff Paste Variety <u>Floral Park</u> Ixcanrio Orange-polychrome: Ixcanrio Variety <u>Spanish Lookout</u> Belize Red: Belize Variety	-	Sherds between 3 and 10 cm. Good, many identifiable diagnostic sherds.	Secondary, mixed.
2	566	<u>Jenney Creek</u> Jocote Orange-brown: Jocote Variety; Chacchinic Red-on-brown: Chacchinic Variety <u>Barton Creek</u> Sierra Red: Varieties Unspecified; Sapote Striated: Variety Black-rimmed <u>Spanish Lookout</u> Gallinero Fluted: Gallinero Variety	<u>Jenney Creek</u> <b>Cat. 305</b> Reforma Incised: Mucnal Variety <b>Cat. 308</b> Jocote Orange-brown: Jocote Variety <u>Barton Creek</u> <b>Cat. 306</b> Sapote Striated: Varieties Unspecified <b>Cat. 301</b> Sierra Red: Variety Unspecified (Orange-paste)	Sherds between 2 and 20.5 cm. Large angular sherds associated with the partial vessels, and eroded body sherds.	Primary, problematic deposit.
3	419	<u>Barton Creek</u> Sapote Striated: Variety Black-rimmed; Sapote Striated: Sapote Variety	<u>Barton Creek</u> <b>Cat. 302</b> Sapote Striated: Sapote Variety	Sherds between 4 and 16 cm. Most sherds were large and angular.	Primary deposit.
4	224	<u>Jenney Creek</u> <u>Barton Creek</u>	-	Sherds between 4 and 7 cm. Predominantly eroded and burned sherds	Primary deposit.

Lot 22a-1 included the cultural material from the cleared profile of the trench, and may have contained material from multiple contexts such as construction fill from several cultural layers. Of the 62 diagnostic rim sherds, 30 were from the Jenney Creek complex, three in Barton Creek, two in Floral Park, and five in the Spanish Lookout complex. Vessel forms identified are shown in Table 6.3. Diagnostic sherds were identifiable to the group or type-variety level and include base or rim sherds.

Table 6.3 Vessel Forms Identified to Complex: Op. 22a-1.

	Jenney Creek	Barton Creek	Mount Hope	Floral Park	Spanish Lookout
Bowl	- Jocote Orange-brown: Ambergris Variety - Savana Orange: Unknown - Savana Orange: Savana Variety - Miniature Savana Orange: Variety Unspecified	-	-	-	- Belize Red: Belize Variety
Jar	- Sayab Daub-striated: Cooma Variety - Chacchinic Red-on-orange brown: Variety Unspecified	-	-	-	-
Vase	-	-	-	-	-
Dish	-	-Sierra Red: Varieties Unspecified (3)	-	-	-

In the small finds from 22a-1, there was a bone implement that measured 2.4 cm long. Several lithics were associated with this lot and included one hammerstone fragment, two biface fragments, a scraper, one utilized flake, and an unusual piece of worked limestone (Figure 6.1).

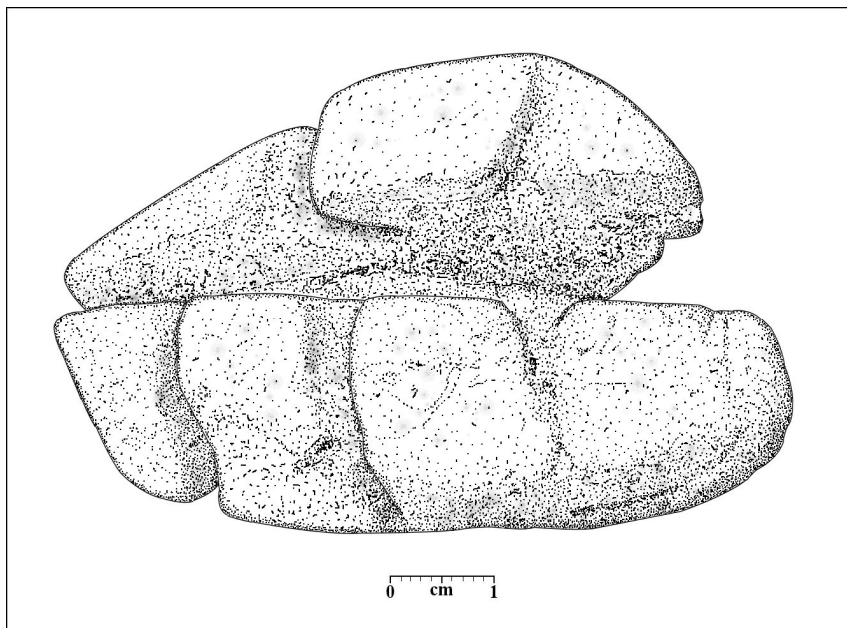


Figure 6.1 Worked limestone recovered in 22a-1. Drawn by Lance K. Trask.

Lot 2 (22a-2) was encountered on bedrock. Within this lot, there were five ceramic clusters that were originally designated PD#3. Ceramic clusters 4, 5, 6, and 7 are in concentration B toward the center of the operation and cluster 8 was further to the east in concentration A. These five clusters have refits to four of the partial vessels. The first partial vessel encountered in this lot was a Sierra Red: Variety Unspecified (Orange paste) plate. Over 25 percent of the plate was located, and two sherds to this vessel were in lot 22b-8. A second partial vessel was found, a Reforma Incised: Mucnal Variety jar. The third partial vessel in this lot was refit from clusters 5, 7 and 8 of this lot and was identified as a Sapote Striated: Varieties Unspecified Impressed Appliqué jar. Additional sherds from this vessel were located in lot 22b-8. A fourth partial vessel was a Jocote Orange-brown: Jocote Variety jar, which had refits from clusters 4 and 5 and sherds which refit from lot 22b-8. In addition, there were sherds collected in this lot that were not in the clusters that refit to several of the partial vessels.

The overall condition of lot 22a-2 was good although there were friable, heavily burned body sherds present along with the sherds in good condition. Of the diagnostic rim sherds identified to complex, there were 22 Jenney Creek, six Barton Creek, and three from Spanish Lookout. Vessel forms identified included bowls, jars and a vase (Table 6.4). The Spanish Lookout complex is typically attributed to the Late Classic period, but material from later periods can enter into the lower lots during root growth, bioturbation or during excavation, and it is not uncommon to find isolated sherds from different time periods in lower lots (Adams 1971:8; LeCount 1996:155). The presence of later material could also be the result of the bulldozer disturbance in Plaza B.

The associated cultural material includes lithics, a Savana Orange: Savana Variety ceramic spout, faunal remains and charcoal. The walls to the ceramic spout were uneven, and there were traces of red slip over most of the spout. Spouted vessels of this type have been identified as chocolate beverage serving vessels (Powis et al. 2002:85). The lithics included seven partial obsidian blade fragments, (Figure 6.2) a *mano* fragment, a quartz flake and two fragmented hammerstones. In cluster 8, there were three lithic tools and one Jute shell.

Table 6.4 Vessel Forms Identified to Complex: Lot 22a-2.

	Jenney Creek	Barton Creek	Mount Hope	Floral Park	Spanish Lookout
Bowl	1 - Jocote Orange-brown 1 - Savana Orange: Rejolla Variety 1 - Savana Orange miniature bowl	-	-	-	1 - Gallinero Fluted: Gallinero Variety
Jar	1 - Chacchinic Red on Orange-brown: Chacchinic Variety 1 - Jocote Orange-brown 1 - Jocote Orange-brown: Jocote Variety	-	-	-	-
Vase	1 - Pital Cream	-	-	-	-

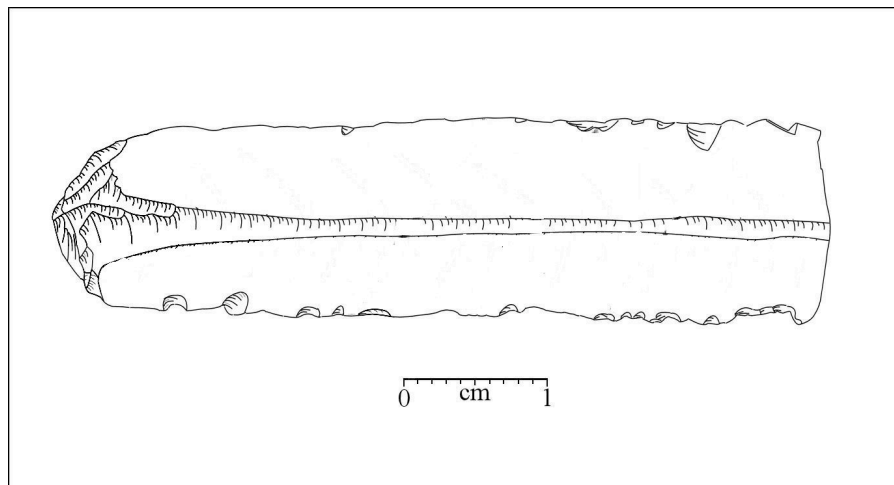


Figure 6.2 An obsidian blade from lot 22a-2. Drawn by Lance K. Trask.

Within this lot there was a portion (1/6) of an ash tempered Joventud dish (See Appendix B, Cat. 121 illustration of the rim sherd). This Jenney Creek type was recently identified in another problematic deposit from Blackman Eddy (Brown 2007).

There were thirteen fragments of faunal remains found within this lot, including one bird rib bone, one armadillo carapace, several unidentified mammal bones, a vertebrae and an ulna. A fair amount of carbon was found in this lot and was collected for sampling.

Lot 22a-3 was east of lot 22a-2. One partial vessel was associated with this lot, a Sapote Striated: Sapote Variety jar. The cultural material included lithics, small finds, and faunal remains. Rim sherds identified in this lot were from the Jenney Creek and Barton Creek complexes. Vessel forms identified in this lot were primarily jars.

Small finds associated with this lot included a Marine shell *Strombus sp.* and a partial Savana Orange: Variety Unspecified ceramic spout. The spout was broken vertically through the midline. Lithics fragments included a *mano* in cluster 3, two hammerstones, and an obsidian blade. The fauna present included freshwater shells; 32 Jute shells and four *Nefrinaius sp.*

Lot 22a-4 was located west of the limestone boulder concentration on bedrock and was north of 22a-2. Eight Jenney Creek rim sherds were identified, and one Barton Creek rim sherd was in the lot. An unusual vessel form was identified in this lot, a fragment to a miniature Jocote Orange Brown bowl in the Jenney Creek complex. The cultural material in this lot included one piece of modified quartz and 22 fragmented faunal remains. Carbon was also found within this lot.



### 6.3 Operation 22b

The ceramics in Op. 22b contained 44 percent of the total assemblage. Sherd count, complex, types represented, partial vessels identified, overall condition and archaeological context are presented for each lot in Table 6.5.

Table 6.5 Ceramic Data: Operation 22b (N for 22b = 1,414)

Lot	Sherd Count	Complex and Types Identified	Partial Vessels	Condition	Context
1	434	<u>Jenney Creek</u> <u>Barton Creek</u> Sierra Red: Society Hall Variety; Alta Mira Fluted: Variety Unspecified <u>Mount Hope</u> Vaquero Creek Red: Vaquero Creek Variety <u>Spanish Lookout</u> Garbutt Creek Red: Paslow Variety	-	Heavily eroded, sherd size range from 3 to 5 cm.	Secondary, construction fill.
2	244	<u>Jenney Creek</u> <u>Spanish Lookout</u>	-	Heavily eroded, sherds less than 5 cm.	Secondary, construction fill
3	27	<u>Jenney Creek</u>	<u>Jenney Creek</u> Cat. 307 Reforma Incised: Mucnal Variety	Large angular sherds to dish, between 5 and 23 cm.	Primary, problematic deposit.
4	141	<u>Jenney Creek</u>	<u>Jenney Creek</u> Cat. 307 Reforma Incised: Mucnal Variety	Heavily eroded sherds between 3 and 6 cm.	Primary, problematic deposit.
5	246	<u>Jenney Creek</u> <u>Spanish Lookout</u>	-	Heavily eroded, sherds less than 5 cm	Secondary, construction fill
6	160	<u>Jenney Creek</u> Reforma Incised: Mucnal Variety <u>Barton Creek</u> Sierra Red: Varieties Unspecified Sierra Red: Orange Paste Variety <u>Spanish Lookout</u>	-	Heavily eroded, sherd size ranges from 3 to 5 cm	Primary, problematic deposit.
7	23	<u>Jenney Creek</u> <u>Spanish Lookout</u>		Heavily eroded, sherds less than 5 cm	Secondary, construction fill
8	139	<u>Jenney Creek</u> Jocote Orange-brown: Jocote Variety; Savana Orange: Savana Variety; Reforma Incised: Reforma Variety	<u>Jenney Creek</u> Cat. 308 Jocote Orange-brown: Jocote Variety Cat. 303 Reforma Incised: Mucnal Variety <u>Barton Creek</u> Cat. 301 Sierra Red: Variety Unspecified (Orange-paste) Cat. 306 Sapote Striated: Varieties Unspecified	Large angular sherds to partial vessels between 4 and 22 cm.	Primary, problematic deposit.

The statistical analysis for this operation includes frequency distributions run for the quantity of rim sherds for each lot, and cross-tabulations run for vessel forms identified within ceramic complexes for each lot. Additional frequencies were run to determine the number of striated sherds in lot 22b-8.

In lot 22b-1, the ceramics were heavily eroded and were associated with secondary context construction fill. The majority of the 32 diagnostic rim sherds were in the Spanish Lookout complex, which included eleven rim sherds of British Honduras Volcanic Ash ware and two rims of Alexander Unslipped ware. One rim appeared to be a jar. Three rim sherds were in the Jenney Creek complex, four in the Barton Creek complex, and one was identified for the Mount Hope complex. Two vessel forms were identified from the diagnostic sherds present, a Barton Creek Sapote Striated jar and an Alexander Unslipped vase. The majority of the sherds appeared to be in the Spanish Lookout complex, and there were no other cultural material or carbon collected within this lot.

Lot 22b-2 was directly below 22b-1. The ceramics were heavily eroded and in poor condition. There were two Spanish Lookout rims identified, British Honduras Ash ware and several similar ash-tempered body sherds. Several ceramics were identified to the Jenney Creek complex: four rim sherds, a Jocote Orange-brown bowl sherd, and a Chacchinic Red-on-brown: Chacchinic Variety ceramic spout. There were five lithic tools associated with this lot; three were described as hammerstones. A small amount of carbon was also identified and collected from this lot.

Lot 22b-3 was considered to be of primary context and was directly below 22b-2. This lot primarily consisted of a Reforma Incised: Mucnal Variety dish. Other diagnostics in

the Jenney Creek complex included two rim sherds and two Jocote Orange-brown body sherds with file appliqué. The remainder of the lot contained mixed sherds of red slipped Savana Orange group, which were also in the Jenney Creek complex. Four quartzite interior flakes were collected with the ceramics.

Lot 22b-4 was located directly below lot 3. Sherds from this lot were heavily eroded. There were several diagnostic rim sherds; four in the Jenney Creek complex, one of which was a Jocote Orange-brown rim sherd. A second was identified as belonging to a Savana Orange dish. One sherd located in this lot refit to the Reforma Incised: Mucnal Variety dish in lot 22b-3. Additional material associated with this lot included one chert tool and carbon samples were collected from this lot. The matrix associated with this lot and the overall conditions of the sherds are similar to those of lots assigned as secondary context. The presence of the carbon and a sherd that refit to one of the partial vessels suggest that the contents of this lot were adjacent to or a part of PD#3, and it is possible that the contents associated with PD#3 had fallen into lot 22b-4 during excavation. Due to the presence of the carbon and the sherd which refit to the partial vessel, this lot was considered part of the problematic deposit.

Lot 22b-5 is located directly below 22b-1 and was considered to be of secondary context construction fill. It was chronologically mixed, with few diagnostic sherds mainly from the Late Jenney Creek and Spanish Lookout complexes. In this lot, there was one obsidian blade fragment and one charcoal sample collected.

The sherds from lot 22b-6 are heavily eroded and burned. Lot 6 is located beneath lot 5. There were five diagnostic rim sherds in this lot. Three sherds identified were in the

Jocote Orange-brown group Jenney Creek complex; one was to a Barton Creek Sierra Red: Varieties Unspecified dish or a plate. In addition, one rim sherd appeared to be of the British Honduras ware in the Spanish Lookout complex. Approximately 15 percent of a Jenney Creek complex Reforma Incised: Mucnal Variety miniature bowl was present. Other cultural material associated with this lot includes a chert biface fragment, one crab claw, and carbon samples which were collected.

Excavations of lot 22b-7 were initiated at the end of the 2003 field season, yet were not completed due to time constraints (Cochran and Brown 2004:21). The sherds associated with this lot were heavily eroded and chronologically mixed. This lot appeared to be construction fill. Diagnostics included rim sherds from the Jenney Creek and Spanish Lookout complexes.

In contrast to 22b-7, lot 22b-8 was in very good condition, and had many diagnostic sherds from the Jenney Creek complex. Lot 22b-8 was directly under lot 4. The lot contained nine rims, one Reforma Incised: Reforma variety miniature bowl sherd and one sherd to a Savana Orange: Savana Variety jar. Within this lot, there were sherds that refit to four of the partial vessels. Two sherds refit to the large Sierra Red: Variety Unspecified (Orange paste) plate that was located primarily in lot 22a-2. The second partial vessel associated with this lot was a Savana Orange: C-1 Variety jar. A third partial vessel had refits to a Sapote Striated: Varieties Unspecified Impressed Appliqué jar located within lot 22a-2. The fourth partial vessel was a Jocote Orange-brown: Jocote Variety jar, which had refits in lot 22a-2.

In addition to the partial vessels, there were other large, angular rim sherds from the Jenney Creek complex in this lot. These rims had portions of the body or sections to the

neck and were most likely to jars. Three of the rims were Jocote Orange-brown: Jocote Variety and one was a Reforma Incised: Reforma Variety. These rims were not designated as partial vessels as they did not meet the criteria established in Chapter 4.

Additional cultural materials associated with this lot included lithics, a ceramic figurine, two faunal remains, and carbon. The lithics included one primary and one secondary chert flake. The ceramic figurine appears to be an anthropomorphic head in the Jenney Creek complex Jocote group which could be an appliqué for a vessel. The head measured 3.2 cm tall, 2.6 cm wide and 2 cm deep (Figure 6.3). The faunal remains included one possible *canid* vertebrae and one burned mammal phalanx.

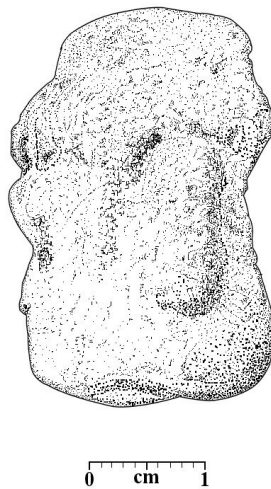


Figure 6.3 Jocote ceramic figurine. Drawn by Lance K. Trask.

#### 6.4 Comparison of Primary versus Secondary Deposits

By evaluating the lots by condition and cultural content, there was a clear distinction between the primary and secondary deposits. Lots, 22a-1, 22b-1, 22b-2, 22b-5 and 22b 7

contained sherds that were chronologically mixed from Jenney Creek, Barton Creek, and Spanish Lookout complexes. The sherds were small, eroded, and in poor condition. Furthermore, there were no partial vessels present. Other cultural material found within these lots included lithics, a piece of carved limestone and one obsidian blade fragment. In addition, there were no faunal remains found within these lots.

In contrast, the lots from the primary deposit, 22a-2, 22a-4, 22b-3, 22b-4, 22b-6 and 22b-8, contained significantly more cultural material. Overall, the condition of the ceramics in these lots was good, and there were many large angular sherds. Six partial vessels were found within these lots. The sherds that comprised these vessels were distributed within lots 22a-2, 22a-4, 22b-3, 22b-4 and 22b-8. The cultural material was much denser in these lots and included artifacts such as obsidian blades, a ceramic head, abundant carbon, and diverse faunal remains.

The ceramics types identified in PD#3 are in the Jenney Creek and Barton Creek complexes. The calibrated carbon date collected from 22a-2 dates the deposit to the late Middle Preclassic/Late Preclassic (300 – 250 B.C.). Several observations in regards to the date of PD#3 make the deposit very interesting. First, the placement of this deposit on bedrock at the base of what appears to be a possible platform structure is very similar to earlier ritual feasting deposits found at Blackman Eddy (Brown 2003:122). Second, the ceramic types found within PD#3 are primarily from the Jenney Creek complex; however several Barton Creek types have been identified, including one partial vessel of the Sierra Red type. This suggests that either Jenney Creek types extended later in time, or conversely, some Barton Creek types were manufactured earlier in time. The radio carbon date from this

deposit suggests that the deposit dates to the transition from the late Middle Preclassic to the Late Preclassic, which corresponds well to the ceramic data. The analysis of ceramic material from PD#3 demonstrates that ceramic material previously suggested to be from two time periods are within one deposit that appears to be the remains of a feast. The disparity between the traditional dates attributed to the ceramics versus the radio carbon date collected is not surprising, as the ceramic complexes were created by archaeologists and the types were not constructed to overlap complexes. Yet ceramic types do overlap complexes at Blackman Eddy. The investigation of PD#3 clearly shows this disparity, and reinforces the need to use absolute dating methods, such as radiocarbon, in conjunction with ceramic data to confirm the chronology.

#### 6.5 Functional Analysis of Vessels in PD#3

The functional analysis of the partial vessels in the problematic deposit utilized several strategies presented in Chapter 4. These strategies were used to examine the context of discovery and to compare the partial vessels in PD#3 to forms identified for feasting activity. The strategies of functional analysis utilized included ethnographic analogy and a comparison of vessel forms in PD#3 to the forms discussed in ethnohistoric records.

Six partial vessels found in PD#3 represent several distinct functions including food storage, preparation, and service. These vessels included four jars, one dish, and one plate and detailed descriptions of these vessels are presented in Appendix G. In addition, fragments of three small bowls were in PD#3 as well as many rim and body sherds to jars. Vessels typically used in feasting events by the Classic period Maya included dishes to serve specialty foods such as tamales, vases to serve a cacao beverage, and small bowls for

beverages or gruel (LeCount 1996:75; Houston et al. 1989:724). Jars have multiple functions which include storage, transportation, cooking and serving. Robertson suggests that jars in a feasting assemblage are primarily used to serve beverages (1983:120-134).

The largest jar found in PD#3 was an undecorated Jocote Orange-brown: Jocote variety. This jar had a rim diameter of 27 cm, heavy fire clouds to the exterior of the rim, and fire clouds located on the neck to body transition (Figure 6.4). Heavily burned unslipped body sherds indicate the jar was placed directly on a fire, possibly during food or beverage preparation. Robertson has documented similar fire clouds on Late Preclassic stationary cooking jars at the site of Cerros (1983:120).

The second jar in PD#3 was a Sapote Striated jar with a rim diameter of 24 cm. It is likely that striations were included on the surface of unslipped vessels such as Sapote Striated jars to improve handling of the vessel during the transportation of water (Robertson 1983:123). This striated jar has strap handles and was striated on the interior and exterior of the vessel (Figure 6.5). The jar had an outcurved neck, a rounded lip and an interior thickened rim.



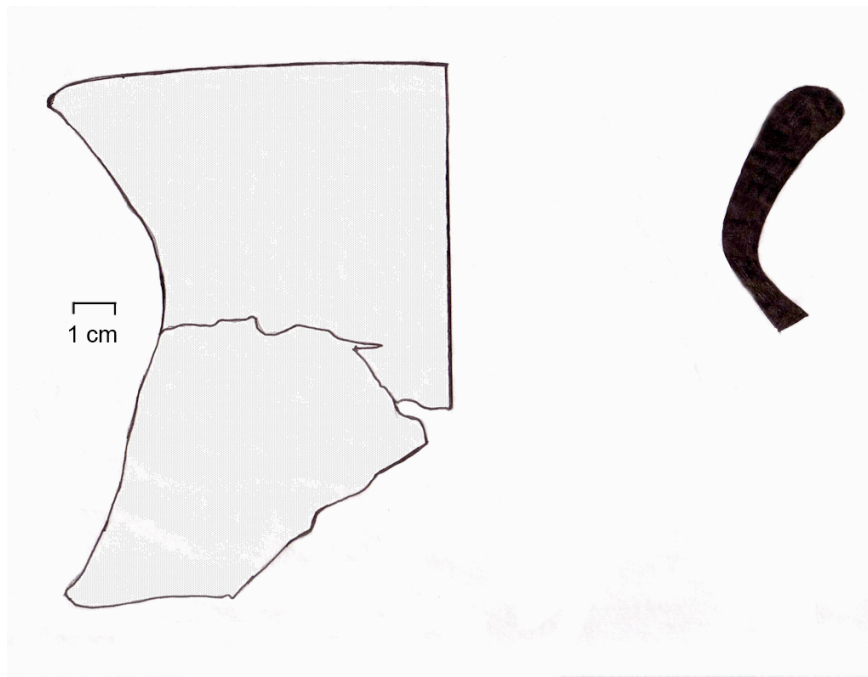


Figure 6.4 Jar neck to a Jocote Orange-brown: Jocote variety.

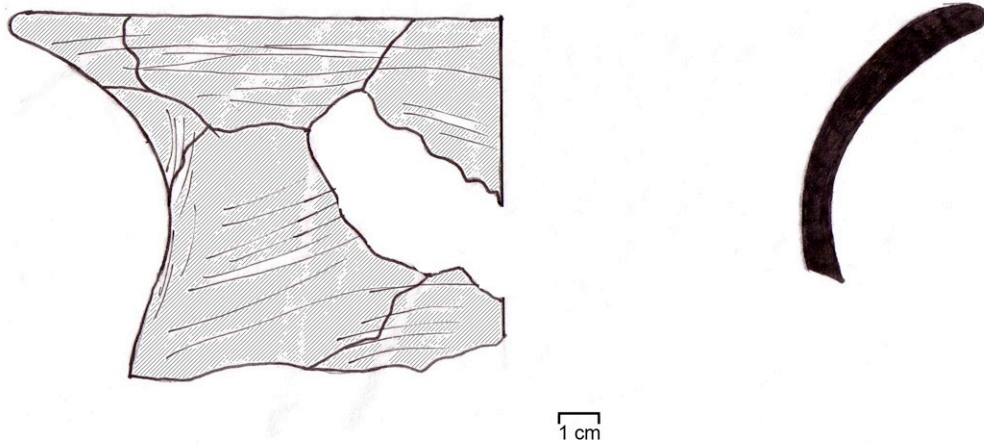


Figure 6.5 Sapote Striated: Sapote Variety jar neck.

Another jar identified in the problematic deposit was a Savana Orange: C-1 Variety. It was most likely used to serve beverages as there were no fire clouds on the surface which are typically seen as evidence for cooking. Robertson has suggested that these small jars were most likely used for the service of beverages (Robertson 1983:136). This small jar with a rim diameter of 13.5 cm and was the most decorative of the vessels in the problematic deposit. The Savana Orange jar was much smaller than food storage or preparation jars which typically have rim diameters of 20-30 cm. The decorations included a curvilinear band of an applied, notched ridge (Figure 6.6).

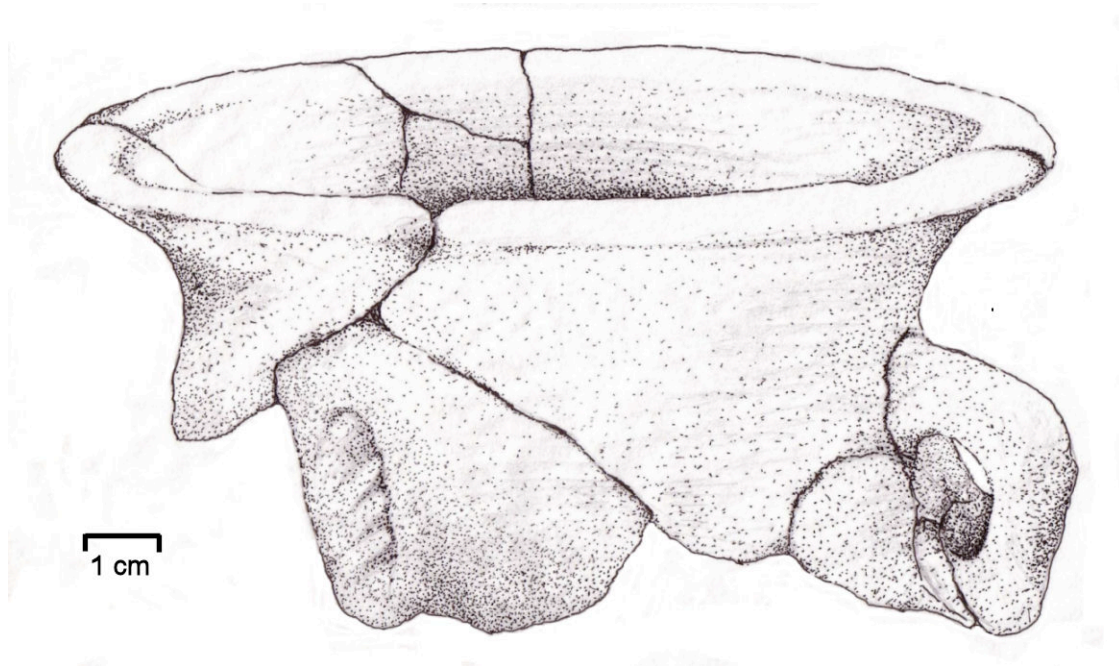


Figure 6.6 Savana Orange: C-1 Variety decorated jar.

Hayden has also suggested that the more decorative vessels were typically used for food or beverage service (2001:40). A recurring function attributed to small jars in feasting

assemblages is the service of *balche*, a ritual alcoholic drink mixed with honey that was fermented and served at ritual feasts (Tozzer 1961:92; Hendon and Joyce 2004:5).

A fourth partial vessel in the problematic deposit was a complete rim to a Reforma Incised: Mucnal variety jar (Figure 6.7). The rim diameter was 12.5 cm and the slip was heavily eroded. Decorations on the vessel were faint, yet two incised parallel lines with small, impressed ovoid dots in between the bands were discernable in the paste. The neck was outcurved and the lip rounded.

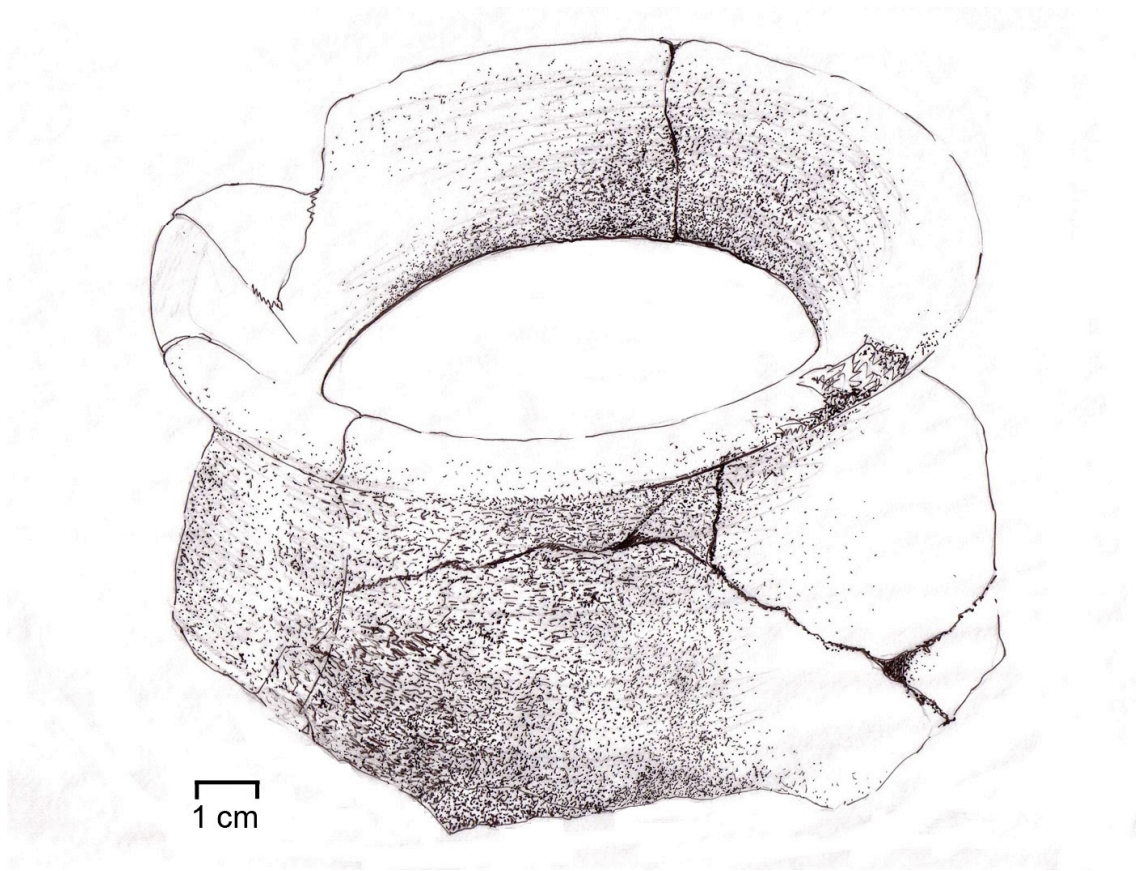


Figure 6.7 Reforma Incised: Mucnal Variety jar.

The small size of the jar indicates the vessel could be used for serving or food preparation, yet it may have been used to heat and prepare a beverage as well, as the body sherds and some of the neck sherds appeared to have been heat damaged. A third possibility is the jar was broken preceding the feasting event, and the rim was used as a pot stand to support a round bottomed jar vessel during food preparation or serving (Yaeger 2000).

Two shallow, serving vessels were identified in PD#3, a Jenney Creek Reforma Incised: Mucnal Variety dish and a Barton Creek Sierra Red: Variety Unspecified (Orange-paste) plate. The Reforma Incised: Mucnal Variety dish had over 75 percent of the vessel present (Figure 6.8). The rim is 23 cm in diameter and the dish measured 6 cm in height. The red slip was heavily eroded, showing the orange paste on portions of the surface. The dish had outflared walls and an exterior folded rim. The lip was beveled out and had a shallow, pre-fired incised line to the exterior.

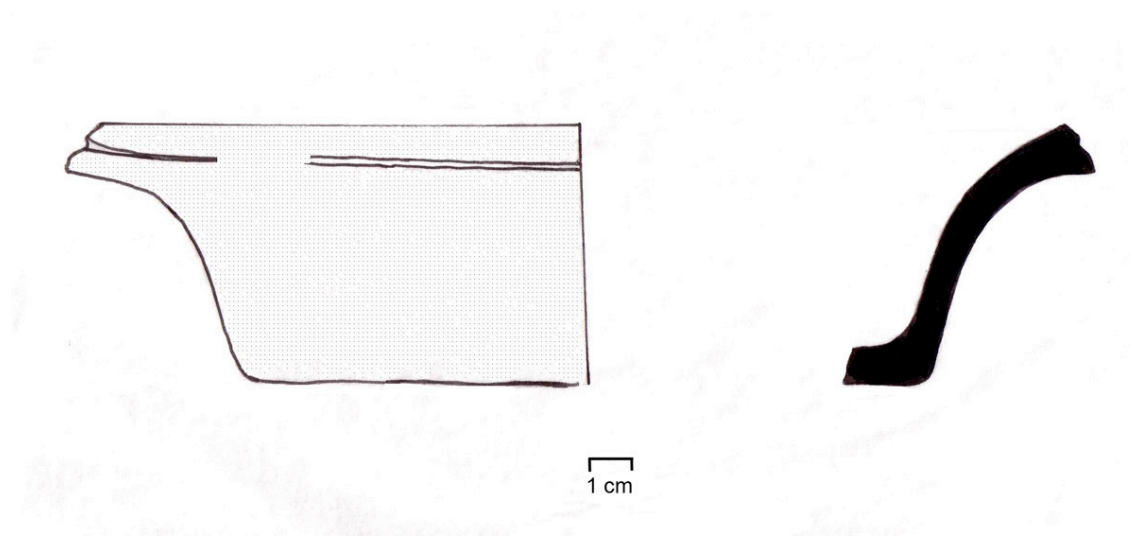


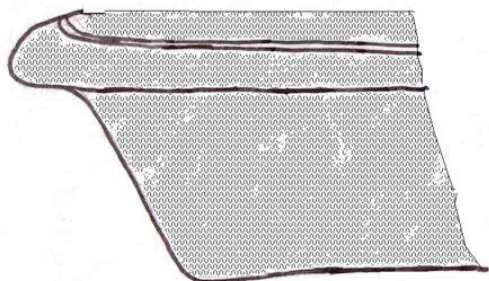
Figure 6.8 Reforma Incised: Mucnal Variety dish.

The second serving vessel was approximately 1/4 of a large, Sierra Red: Variety Unspecified (Orange-paste) plate. This plate measured 49 cm in diameter and was 8.4 cm high (Figure 6.9). The red slip was eroded in places yet nearly complete on the interior and exterior of the vessel. The Sierra Red vessel is significantly larger than the Reforma Incised dish. Blitz has suggested that large serving vessels were used during feasting events (1993:85). In contrast to the Reforma Incised dish which is almost complete, the Sierra Red dish may have been intentionally broken or “quartered” after the feast. This type of behavior has been documented within two earlier feasting deposits at Blackman Eddy (Brown 2007:17).

Brown (2007:17) suggests that the deliberate splitting of vessels into halves or quarters may be related to the idea of “partitioning the universe” an event associated with the setting of the four corner posts in a new building; the construction was accompanied with a feasting event, and the split vessels were left as an offering to the gods to consecrate the building (Brown 2007:17).

Fire-clouds were present on both the dish and plate in PD#3, however these appear to be the product of the original production process. Modern day potters have experimented with recreating ancient pottery techniques in the Maya region, and have discovered that fire clouds are deliberately used to discolor the slip during the manufacturing process (Swink, Dangerfield, and Valdez 2007).

06



2 cm



Figure 6.9 Sierra Red: Variety Unspecified (Orange-paste) plate.

Sierra Red vessels excavated from the site of Colha in northern Belize have similar fire-cloud patterns as the Sierra Red plate in PD#3, and these fire-clouds were attributed to the original production process at Colha (Valdez, personal correspondence 2006). At Cerros, Late Preclassic Sierra Red dishes with low sides, flared walls, and everted or flanged rims were most likely used to serve foods with low liquid content, such as meats, fish, and vegetables (Robertson 1983:127-8). LeCount suggests that dishes were used to serve tamales during feasting events (LeCount 1996:250). Ethnohistoric documents such as Landa's *Relacion* suggest that sacrificed or specialty foods, which included breads or meats, were served in dishes during ritual feasting events (Tozzer 1961:165). A functional advantage of the everted or flanged rim on dishes is that it adds to the ease of transport of hot food by allowing the vessel to be lifted by the rim or flange only (Robertson 1983:128).

Numerous body sherds were found in PD#3, specifically in lots 22a-2 and 22b-8, and many of these body sherds were striated. Striated jars are common in the Jenney Creek and Barton Creek complexes (Gifford 1976:50); therefore the prevalence of striated body sherds is not surprising since jars are the primary vessel form represented in PD#3.

Other vessel forms associated with feasting were in PD#3 which included fragments to three miniature bowls. The miniature bowls represented included a Savana Orange type in lot 22a-2, a Jocote Orange-brown type in 22a-4, and a portion to a Savana Orange: Mucnal variety in 22b-6. LeCount suggests that small bowls may have been used for individual servings during feasting events (LeCount 1996:254).

A section to a larger bowl was recorded in lot 22a-2. Approximately 1/6 of an ash tempered bowl was refit from several sherds, and a similar ash tempered vessel was found in

an earlier deposit at Blackman Eddy. The ash tempered bowl has been identified as a new type within the Joventud group (Brown 2007:12). This partial bowl type is unique to PD#3.

### 6.6 Archaeological Signatures of Feasting in PD#3

In addition to the vessels used for food service and preparation, there were other archaeological signatures of feasting in PD#3 as presented in Chapter 5. These signatures included prestige items, food and faunal remains, and evidence of food preparation or disposal. In addition, the problematic deposit appears to have been associated with the construction of a platform or the substructure of a building.

Faunal remains were located in lots 22a-2, 22a-4, 22b-6 and 22b-8 of the problematic deposit. The remains included one bird rib bone, an armadillo carapace, a reptile vertebra, a fish vertebra, one crab claw, one canid vertebrae, and various unidentified mammal bones. The number of identified specimens present (NISP) in PD#3 is thirty-seven. The preliminary faunal analysis identified seven species within the assemblage. Many of the bone fragments were unidentified mammal species; therefore the number of species present in the deposit is probably higher. The diversity of species present is not surprising as ritual feasting events often utilize a variety of animals (Brown 2008:7). Many of these species identified in PD#3 are seen in other examples of ritual feasting. These remains represent different aspects of the natural world such “sun, earth, water or rain, and agricultural fertility” (Pohl 1983:98).

One of the identified species in PD#3 is *canid*, or dog. Landa noted that dogs were sacrificed and served in shallow bowls or dishes for feasting ceremonies (Tozzer 1966:165). Similar problematic deposits from Blackman Eddy contain dog remains (Brown 2003:126). This suggests continuity in types of foods used during Preclassic feasting events. Other



species identified in PD#3 were fish, crab, armadillo, and bird. Pohl suggests that fish and crab have been associated with renewal rituals (1983:75) and armadillo symbolizes fertility in several areas of Mesoamerica (Pohl 1983:79). An articulated joint of a small mammal was encountered in the deposit. It is interesting to note that Hayden suggests that articulated bones often reflect food wastage and are commonly found in feasting deposits (2001:40). Several of the bone fragments were heavily burned.

Varied cultural material including long distance trade and prestige items were found in PD#3. Hayden suggests that prestige objects are often found associated with feasting activities and these objects may demonstrate the wealth and importance of the host (Hayden 2001:30). Within PD#3, prestige and long distance trade items included fragments of obsidian blades, an anthropomorphic ceramic head, and small worked pieces of quartz. The quartz stones may have been divining stones and were also located in earlier problematic deposits at Blackman Eddy (Brown 2003:105-7).

In the matrix surrounding PD#3, there were copious amounts of charcoal (Brown, personal correspondence 2005). Charcoal and ground stone tools such as *manos* and metate fragments present in PD#3 can be attributed to food preparation activities. The copious amounts of charcoal associated with PD#3 may be evidence for a feasting midden or food production activities. According to Hayden, feasting middens are related to “food-disposal features” and are considered to be an archaeological signature of feast (2001:40).

In addition to the cultural material identified in PD#3 the placement of the problematic deposit in a “special location” is a signature of feasting activity as well. Hayden suggests that feasting activities were conducted in “special locations” such as “central

community spaces” or locations associated with nuclear households (2001:41). The location of PD#3 is interesting, and appears to be associated with some form of building, possibly with the construction of a structure or the substructure of a platform in a public space. During the Preclassic Plaza B may have been a public or communal space, but unfortunately the bulldozing activity removed the majority of the architecture above PD#3.

The results of the contextual analysis of PD#3 suggest a feasting event occurred beneath Plaza B, which was subsequently buried by a construction event. The archaeological signatures included cultural material associated with fertility and rebirth, which may have been part of a ritual to the consecration or the “birth” of a public building. Shirley Mock has identified several ceremonies associated with the consecration of monuments, places or buildings (1998:11). In addition to themes of rebirth, the diversity and types of animals present within the deposit suggests themes of fertility. Pohl associates animals such as dog, jaguar, opossum, armadillo, crocodile turtle and fish with renewal rites (1983:62-85). The placement of PD#3 at the base of what appears to be a platform or base of a structure suggests that the deposit was associated with the construction or consecration of the building. Landa identified an annual festival that occurred in the months of Chen and Yax, where the priests celebrated as part of the renovation or rebuilding of the Chacs “house” which was their temple (Tozzer 1961:161).

In addition to PD#3, there was a possible second primary deposit in test unit Op. 22a which may have been related to a separate feasting event. Lot 22a-3 contained the third ceramic concentration C on the west side of the boulders which was at a higher elevation

than concentrations A and B in PD#3. Ceramic concentration C contained one partial vessel and other cultural material.

The partial vessel was a Sapote Striated: Unspecified Impressed Appliqué jar. This jar had very similar attributes and paste to the Sapote Striated jar identified within PD#3. In addition, the cultural material in this primary deposit included one obsidian blade, a *mano*, and two hammerstones. Faunal material included one marine shell fragment, 32 Jute shells, and four *Nefrinaius sp* fragments; Jute and *Nefrinaius* are both freshwater species. Marine shell has been located in several problematic deposits at Blackman Eddy and represents water symbolism (Brown 2003:110). Cochran has demonstrated that both worked and unworked marine shells were important to the Preclassic Maya and that both were distributed in special deposits (2008). Jute shells were part of the ancient Maya diet (Halperin et al. 2003:207).

Unfortunately, no sherds refit between 22a-3 and the lots associated with PD#3. The matrix was slightly different suggesting that this lot may not be part of PD#3. Further excavation of this area is necessary in order to determine the nature of 22a-3 and if it is related to PD#3 since it is not clear if this small concentration was placed at the same time as PD#3, or if it was deposited during a separate event.

### 6.7 Conclusions of the Contextual Analysis

Before the contextual analysis of PD#3, three research objectives were designed. The first objective was to reconstruct the depositional history of Plaza B as revealed in Op. 22a and 22b, the second was to determine if PD#3 was a primary deposit, and the final objective was to perform a functional analysis of the ceramics and other artifacts to identify

archaeological signatures of feasting in PD#3. When the ceramics associated with PD#3 were separated into a sub-assemblage and compared to the overall ceramic assemblage, it was clear that the lots associated with the problematic deposit were in primary context due to their good condition, large sherd size, and the presence of partial vessels. Conversely, the lots associated with the secondary construction fill contained sherds that were in poor condition, small in size, and contained no partial vessels. Due to the ability to refit vessels within concentrations A and B, it was determined that PD#3 represented a single event, while the ceramics and cultural material in concentration C may represent a second, yet similar event. Finally, due to the presence of six partial vessels – most of which are jars and other serving vessels such as a plate and a dish, faunal remains, and other specialty cultural material - it was determined that PD#3 did contain archaeological signatures of feasting.

The results of the analysis of the ceramic assemblage from Plaza B has broadened our understanding of the possible function or nature of some problematic deposits in the Maya lowlands. Specifically, the analysis has identified vessels associated with feasting events during the late Middle Preclassic/Late Preclassic at Blackman Eddy. Another important finding from the analysis of PD#3 is that it shows an overlap in ceramic types between the Jenney Creek and Barton Creek complexes at Blackman Eddy. These data show that researchers should not depend solely on ceramic analysis for chronological assessment and that multiple dating methods should be employed when possible.

## CHAPTER 7

### CONCLUSIONS AND FUTURE RESEARCH

Problematic deposits in the archaeological record are aptly named, as they can represent a myriad of activities or events that occurred in the past but are not well understood (Coe 1982:49; Iglesias 2003:171). The initial assessment of the nature of PD#3 from Blackman Eddy was that the ceramics may have been associated with a feasting event, yet the chronology of events and the primary nature of the deposit were unknown because a detailed contextual analysis had not been performed. Contextual analysis of cultural material and the surrounding matrix has been successful in determining the nature of problematic deposits in the Maya region (Clayton et al. 2005:128, Brown 2007:19); therefore a similar approach was developed for the analysis of PD#3 at Blackman Eddy. The research design for this thesis was two-fold; to develop a method of analysis for the ceramic assemblage in Op. 22a and 22b, and to perform a detailed contextual analysis of all the cultural material in PD#3. This combined approach provided data to support the initial assessment by Brown (Cochran and Brown 2004) that PD#3 was a feasting deposit.

#### 7.1 The Analysis Applied

The two-fold method of contextual analysis designed to analyze the cultural material from PD#3 was modeled after previous research methods which have recorded evidence for feasting in the archaeological record. The methods utilized for the analysis of PD#3 were modeled after LeCount's ceramic analysis at Xunantunich (1996).

The analysis then utilized Hayden's approach (2001) for identifying feasting in the archaeological record and provided a framework for interpretation of the problematic deposit. By applying the combined approach of the type-variety method, a functional analysis, and a detailed contextual analysis, it is reasonable to suggest that PD#3 at Blackman Eddy was the remains of a feasting event because the deposit shared archaeological signatures with feasting examples (Hayden 2001:40-41), as well as some structural elements of a dedication event. Dedication events typically contain specialized cultural material to imbue or ensoul places with supernatural power, then were deliberately sealed (Mock 1998:5).

The problematic deposit was most likely placed at the base of a structure or of a platform. Robertson had similar primary deposits from the Preclassic at Cerros that she attributed to "ritual internment of architectural structures" (1983:112). The structures in Plaza B were most likely public architecture, which surrounded the plaza. The plaza could have been used as a special location for communal rituals or events. As the results of this thesis have shown, detailed contextual analysis does provide "contextual patterning" (Pagliaro et al. 2000:85) for Late Middle Preclassic/Late Preclassic feasting deposits in the Belize River Valley. Several similar Late Preclassic problematic deposits were encountered during excavation of Str. B1. Yet these deposits appear to be different in nature and function than PD#3. In the future, additional comparative studies will assist in further interpretations to the meanings of these problematic feasting deposits.

The end of the late Middle Preclassic period was a dynamic period throughout the Maya region, and construction activities at Str. B1-3rd and within Plaza B indicate that Blackman Eddy was experiencing dramatic growth. The structures surrounding Plaza B

were most likely public architecture constructed by the emerging ruling class or elites who had the power to mobilize large labor forces (Brown 2003:114). Public spaces were used for communal rituals or feasting events (Blitz 1993:90; Hayden 2001:40), and it was within this type of public space PD#3 was placed.

## 7.2 Future Research

The contextual analysis of PD#3 has contributed to identifying feasting deposits in the archaeological record, yet additional excavations to locate and record similar deposits is necessary to provide comparative data for contextual patterning of feasting deposits in the Belize River Valley. The methodology developed for this thesis can be applied to problematic deposits throughout the Belize River Valley to better understand their function or the events associated with their deposition.

This methodology developed for the analysis of the two operations in Plaza B can be refined in several ways. Several steps should be included in the ceramic analysis. Special attention should be given to sherds in the lab; some sherds from the problematic deposit should be dry cleaned only in order to prevent the removal of fire-clouds, soot deposits, or any organic material that may be on the surface of the vessels. Large sherds and partial vessels should be dry brushed only, to allow for collection of surface or subsurface samples of organic material. Ultimately, samples were not collected from the partial vessels in PD#3 for residue analysis, as the vessels had been thoroughly cleaned during the 2003 field season. During the preliminary analysis, the partial vessels should not be immediately reconstructed; this should be performed during the final stage of the analysis. Once the ceramic assemblages

have been cataloged for information such as the number of sherds per lot and number of diagnostic sherds per lot, the analysis should proceed.

Groups of body sherds that are similar within individual lots should be separated, as these may refit to partial vessels, and this was successful in the analysis of PD#3. Finally, during the analysis, refitting of partial vessels should be approached using the most conservatorial adhesives available. Polyvinyl-acetate (PVA) was originally selected for the reconstruction of the partial vessels for several reasons. PVA is more conservatorial than most other adhesives (Hester et al. 1997:146), it was the original adhesive used to reconstruct several of the vessels during the 2003 field season, and was locally available. PVA is commonly used on high porosity ceramics; it is reversible (removable) and breaks down in careful application of acetone without harming the clay body during application of the solvent (Larney 1971:72). Yet there is too much variability in PVA, and Acryloid B-72 is the preferred adhesive for friable ceramic material (Hester et al. 1997:155). This material is readily available in the United States, and should be brought to the field for reconstruction of partial vessels.

The results of this thesis demonstrate that when data collection methods are standardized as LeCount's methods were; better inter and intra-site comparison can be performed. Once the analysis was performed, the contents of PD#3 were readily compared to other problematic deposits as well as the cultural material identified as signatures of a feasting event. With additional excavation and analysis of problematic deposits utilizing the methods developed within this thesis, a broader contextual analysis could eventually be performed on feasting or other unique deposits in the Belize River Valley.



APPENDIX A

CODES TO CERAMIC CATALOG

**Special Feature**

- 0. Not present
- 1. Small Finds: Lithic
- 2. Small Finds: Shell
- 3. Small finds: Ceramic
- 4. Cluster 1
- 5. Cluster 2
- 6. Cluster 3
- 7. Cluster 4
- 8. Cluster 5
- 9. Cluster 6
- 10. Cluster 7
- 11. Cluster 8
- 20. PD#3:2003

**Temper/Paste**

- 0. Unknown
- 1. Ash
- 2. Non-ash (calcite tempers some mixed with sand)
- 3. Sand temper or crushed quartzite without mica
- 4. Micaceous material with sand
- 5. White opaque calcite, homogenous
- 6. Vitric tuff
- 7. Pumice inclusions
- 8. Hematite nodules with quartz

**Surface Treatment**

- 0. Eroded
- 1. Matte
- 2. Polished with low luster
- 3. Polish with high luster
- 4. Polished waxy
- 5. Petén gloss

**First slip color**

- 0. Eroded
- 1. No slip (paste color) rough texture
- 2. No slip (paste color) buffed
- 3. Black
- 4. Orange to red
- 5. Light orange

- 6. Brown
- 7. White/Cream
- 8. Smudged (black/gray)
- 9. Sierra Red (brown to red with black mottling)
- 10. Gray
- 11. Maroon

**Second slip color**

- 0. Not present
- 1. Black
- 2. Red
- 3. Light orange
- 4. Brown
- 5. White/Cream
- 6. Smudged (black/gray)
- 7. Orange

**First paint color**

- 0. Not present
- 1. Red
- 2. Black
- 3. White/Cream
- 4. Orange
- 5. Light orange

**Second paint color**

- 0. Not present
- 1. Red
- 2. Black
- 3. White/Cream
- 4. Orange
- 5. Light orange

**Third paint color**

- 0. Not present
- 1. Red
- 2. Black
- 3. White/Cream
- 4. Orange
- 5. Light orange

**Primary form**

- 00. Unknown
- 01. Body only
- 02. Neck only
- 03. Unknown rim
- 04. Base only
- 10. Plate**
- 11. No side

- 12. Flared sides
- 13. Outcurved sides
- 14. Round sides
- 20. Dish**
- 21. Vertical sides
- 22. Flared sides
- 23. Outcurved sides
- 24. Round sides
- 25. Incurved sides
- 30. Bowl**
- 31. Vertical sides
- 32. Flared sides
- 33. Outcurved sides
- 34. Slightly incurved sides,  
restricted orifice
- 35. Round sides
- 36. Markedly incurved sides,  
restricted orifice
- 37. Incurved sides with  
vertical neck
- 38. Incurved sides with  
outflared neck
- 39. Incurved sides with  
outcurved neck and  
recurved sides
- 40. Vase**
- 41. Vertical sides, cylinder
- 42. Flared sides
- 43. Outcurved sides
- 44. Incurved sides
- 45. Insloped sides
- 50. Jar**
- 51. Vertical neck
- 52. Outflared neck
- 53. Outcurved neck
- 54. Incurved neck
- 130. Specialty forms**
- 131. Comals
- 132. Incensarios
- 133. Drum
- 134. Incensario grate
- 135. Chocolate pot
- 136. Ear spool
- 137. Grater bowl/dish
- 138. Whistle
- 139. Mold
- 140. Lids**
- 141. Flat
- 142. Truncated-conical
- 143. Scutate
- 144. Conical
- 145. Basin
- 146. Round
- 147. Incensario lid with handle
- 148. Possible incensario lid
- 150. Miniature**
- 151. Plate
- 152. Dish
- 153. Bowl
- 154. Vase
- 155. Jar
- 156. Effigy
- 157. Incensario
- 160. Figurines**
- 161. Anthromorph
- 162. Unknown modeled body  
part
- 171. Worked sherds**
- 172. Pendant (w/hole)
- 173. Sherd with pre-fired hole
- 174. Modified round disc
- 175. Spindle whorl (w/hole)
- 176. Bead
- 177. Worked edge (tool)
- 178. Ornament
- 179. Sherd with post-fired hole
- 180. Baked clay mass**
- 181. Raw clay chunchs
- 190. Thompsons' "Masher";  
Leventhals' incensario complex
- 191. Small round ball
- 192. Long cone, slightly  
outcurved
- 193. Short conical, straight  
column
- 194. Large cylindrical tube
- 199. Conical section

**Neck Curvature**

0. Unknown or not measured
1. Flared
2. Outcurved
3. Hemispherical/silhouette
4. Vertical
5. Rounded/slightly incurved
6. Inflared
7. Closed
8. Barrel shaped/tecomate

Lip and rim detail (Sabloff 1975)

**Lip (edge or tip or rim)**

0. Not measured
1. Rounded
2. Pointed
3. Squared
4. Beveled-out
5. Beveled-in
6. Grooved
7. Tick-notched
8. Scalloped-notched
9. Crenallated-notched

**Rim** (area between the change of

direction of side or neck and lip, or the margin of vessel orifice)

0. Not measured
1. Direct
2. Exterior thickened
3. Interior thickened
4. Exterior folded
5. Interior folded
6. Horizontal everted
7. Outflared everted

**Flanges, ridges and angles**

0. Absent
1. Flange
2. Medial flange
3. Basal flange
4. Z-angle
5. Basal angle
6. Basal ridge (Lateral ridge)
7. Lip flange
8. Interior offset

9. Combination of 6 and 8

10. Basal angle and interior offset

**Spouts**

0. Absent
1. Unknown
2. Supported
3. Unsupported
4. Open
5. Tubular support unknown
6. Nubbin
7. Effigy
8. Possible

**Handles**

0. Absent
1. Unknown
2. Strap (vert. or horiz.)
3. Rounded
4. Conical nubbin w/hole (not perforated)
5. Nubbin with perforation
6. Incensario ladle handle
7. Modeled
8. Nubbin w/out perforation
9. Basket

**Foot form**

00. Absent
01. Join (may be either foot, handle or other attachment)
- 10. Foot Solid**
11. Nubbin feet
12. Conical feet
13. Slab feet
14. Tau-shaped feet
15. Pedestal
16. Ring
17. Columnar
18. Truncated-cone (tall)
19. Truncated-cone (short)
- 20. Foot Hollow**
21. Mammiform
22. Hemispherical
23. Bell-shaped
24. Oven-shaped
25. Conical
26. Bulbous

- |                       |                                    |   |   |
|-----------------------|------------------------------------|---|---|
| 27.                   | Nubbin                             | 52.                                       | Thin raised line                          |
| 28.                   | Columnar (Cylinder)                | 53.                                       | Winged face hand modeled                  |
| 29.                   | Effigy                             | 54.                                       | Ridge w/notching                          |
| 30.                   | Other                              | 55.                                       | Ridge with incising                       |
| 31.                   | Hollow slab                        | 56.                                       | Ridge with incising and notching          |
| 32.                   | Tall, solid slab                   | 57.                                       | Fillet                                    |
| <b>Base</b>           |                                    | 58.                                       | Impressed fillet                          |
| 0.                    | None present                       | 59.                                       | Impressed fillet with secondary technique |
| 1.                    | Present unknown                    | <b>60. Tooled</b>                         |   |
| 2.                    | Flat                               | 61.                                       | Chamfering                                |
| 3.                    | Round                              | 62.                                       | Fluting                                   |
| 4.                    | Incurved                           | 63.                                       | Gadrooning                                |
| 5.                    | Truncated-conical                  | <b>70. Modeling</b>                       |   |
| 6.                    | Flat with thickened base angle     | 71.                                       | Hand made                                 |
| 7.                    | Vase base only                     | 72.                                       | Mold made                                 |
| 8.                    | Countersunk circle (Thompson, fl5) | <b>80. Texturing</b>                      |   |
| <b>First Décor</b>    |                                    | 81.                                       | Striating                                 |
| 00.                   | Absent                             | 82.                                       | Irregular to regular drag marks           |
| 10.                   | Carving (see Smith 1955:42, 43)    | 83.                                       | Stucco                                    |
| 11.                   | Plano-relief (Low relief)          | <b>Second Décor (same codes as above)</b> |   |
| 12.                   | Molded-carving                     | <b>Stylistic element</b>                  |   |
| 13.                   | Gouge-incising                     | 0.  | Absent                                    |
| <b>20. Incising</b>   |                                    | 1.  | Single element                            |
| 21.                   | Shallow, sharp, pre-fired          | 2.  | Simple repetitive                         |
| 22.                   | Groove, pre-fired                  | 3.  | Abstract/geometric                        |
| 23.                   | Scratching, post-fired             | 4.  | Representative                            |
| 24.                   | Deep, sharp, pre-fired             | 5.  | Pseudo-glyph                              |
| 25.                   | Post fire incising/ impressing     | 6.  | Composite glyph and geometric             |
| 26.                   | Internal groove                    | 7.  | Scenes, "Codex style"                     |
| <b>30. Impressing</b> |                                    | 8.  | Complex representative                    |
| 31.                   | Punctating                         | 9.  | Bands and representative                  |
| 32.                   | Notching                           | <b>Complex/Ware</b>                       |   |
| 33.                   | Stamping                           | 0.  | Complex not determined                    |
| 34.                   | Perforating                        | 01.                                       | Ware not determined                       |
| 35.                   | Patterned impressing               | 10.                                       | <b>Kanocha</b>                            |
| 36.                   | Cane stamping                      | 11.                                       | Sikiyah Unslipped                         |
| <b>40. Painting</b>   |                                    | 12.                                       | Uk Red                                    |
| 41.                   | Positive                           | <b>20. Jenney Creek</b>                   |   |
| 42.                   | Negative                           | 21.                                       | Ware Unsp.                                |
| 43.                   | Post fire                          |   |   |
| <b>50. Appliqué</b>   |                                    |   |   |
| 51.                   | Spiked                             |   |   |

- 22. Flores Waxy Ware
- 23. Mars Orange Ware
- 24. Uaxactun Unslipped
- 30. Barton Creek**
- 31. Ware Unsp.
- 32. Paso Caballo Waxy
- 33. Gale Creek Red
- 34. Uaxactun Unslipped
- 40. Mount Hope**
- 41. Gale Creek Red
- 42. Paso Caballo Waxy
- 43. Uaxactun Unslipped
- 50. Floral Park**
- 51. Homul Orange
- 52. Uaxactun Unslipped
- 53. Tumbac Unslipped
- 60. Hermitage**
- 61. Petén Gloss
- 62. Ware Unsp.
- 63. Uaxactun
- 70. Tiger Run**
- 71. Pine Ridge Carbonate
- 72. Petén Gloss
- 73. Ware Unsp.
- 74. Uaxactun unslipped
- 80. Spanish Lookout**
- 82. British Honduras  
Volcanic Ash
- 83. Petén Gloss
- 84. Ware Unsp.
- 85. Vinaceous Tawny
- 90. New Town**
- 91. Ware Unsp.
- 92. Tulum Red Ware  
(similar relationship)
- 93. Chaple Unslipped
- 94. Uaxactun unslipped
- 95. Calabash Unslipped

**Jenney Creek Complex**

Uaxactun Unslipped Ware

- 8900 Jocote Ceramic Group**
- 8910 Jocote Orange-brown: Varieties Unsp.
- 8920 Jocote Orange-brown: Jocote Variety

- 8930 Jocote Orange-brown: Ambergris Variety
- 8940 Chacchinic Red-on-brown: Variety Unsp.
- 8950 Chacchinic Red-on-orange-brown: Chacchinic Variety
- 8960 Palma Daub: Variety Unsp.
- 8970 Palma Daub: Palma Variety
- 9000 Sayab Ceramic Group**
- 9010 Sayab Daub-striated: Sayab Variety
- 9020 Sayab Daub-striated: Hulse Variety
- 9030 Cooma Striated: Cooma Variety

Mars Orange Ware

- 9100 Savana Ceramic Group**
- 9110 Savana Orange: Variety Unsp.
- 9120 Savana Orange: Rejolla Variety
- 9130 Savana Orange: Savana Variety
- 9140 Reforma Incised: Variety Unsp.
- 9150 Reforma Incised: Mucnal Variety
- 9160 Reforma Incised: Reforma Variety

Flores Waxy Ware

- 9200 Joventud Ceramic Group**
- 9210 Sampoperro Red: Variety Unsp.
- 9220 Sampoperro Red: Sampoperro Variety
- 9230 Joventud Red: Variety Unsp.
- 9240 Black Rock Red: Black Rock Variety
- 9250 Pinola Creek Incised: Variety Unsp.
- 9260 Pinola Creek Incised: Pinola Creek Variety
- 9300 Pital Ceramic Group**
- 9310 Pital Cream: Variety Unsp.
- 9320 Paso Danto Incised: Varieties Unsp.
- 9400 Chunhinta Ceramic Group**
- 9410 Chunhinta Black: Variety Unsp.
- 9420 Depracio Incised: Depracio Variety

## **Barton Creek Ceramic Complex**

### Paso Caballo Waxy Ware

#### **7900 Sierra Ceramic Group**

- 7910 Sierra Red: Varieties Unsp.
- 7920 Sierra Red: Orange-paste variety
- 7930 Sierra Red: Buff-paste variety
- 7940 Sierra Red: Maroon variety
- 7950 Sierra Red: Orange-double slip Variety
- 7960 Sierra Red: Society Hall variety

#### **8000 Sierra Ceramic Group**

- 8010 Alta Mira fluted: Variety Unspec.
- 8020 Laguna Verde Incised: Variety Unsp.
- 8030 Carrelo Incised-dichrome: Variety Unsp.
- 8040 Repasto Black-on-red: Variety Unsp.
- 8100 Happy Home Orange Ceramic Group
- 8110 Happy Home Orange: Happy Home Variety

#### **8200 Flor Ceramic Group**

- 8210 Flor Cream: Varieties Unsp.
- 8220 Flor Cream: Variety H-3
- 8230 Flor Cream: Variety H-4 Black-paste
- 8240 Flor Cream: Variety H-4
- 8250 Accordion Incised: Variety Unsp.
- 8260 Mateo Red-on-Cream: Variety Unsp.
- 8270 Iguana Creek White: Iguana Creek Variety

#### **8300 Polvero Ceramic Group**

- 8310 Polvero Black: Varieties Unsp.
- 8320 Polvero Black: Variety G-2
- 8330 Polvero Black: Variety G-3
- 8340 Polvero Black: Variety G-4
- 8350 Polvero Black: Variety G-7
- 8360 Lechugal Incised: Macaw Bank Variety
- 8370 Never Delay Impressed-Black: Never Delay Variety

## Gale Creek Red Ware

### **8400 Hillbank Ceramic Group**

- 8410 Hillbank Red: Variety Unspec.
- 8420 Hillbank Red: Hillbank Variety
- 8430 Hillbank Red: Variety Brown
- 8440 Hillbank Red: Variety Smudge-orange
- 8450 Hillbank Red: Variety White-stripe
- 8460 Hillbank Red: Rockdondo Var.
- 8470 Starkey Incised: Starkey Variety

### Uaxactun Unslipped Ware

#### **8500 Sapote Ceramic Group**

- 8510 Sapote Striated: Variety Unsp.
- 8520 Sapote Striated: Sapote Variety
- 8530 Sapote Striated: Variety Black-rimmed
- 8540 Sapote Striated: Variety Red-rimmed
- 8550 Sapote Striated: Variety Impressed
- 8560 Sapote Striated: Variety Impressed-appliqué
- 8570 Sapote Striated: Variety Deep Striated

#### **8600 Paila Ceramic Group**

- 8610 Paila Unslipped: Varieties Unspec.
- 8620 Red Bank Appliqué; Red Bank Variety
- 8630 Caves Branch Unslipped: Caves Branch Variety

## **Mount Hope Ceramic Complex**

### Paso Caballo Waxy Ware

#### **6900 Quacco Creek Ceramic Group**

- 6910 Quacco Creek Red: Quacco Creek Variety

#### **7000 San Felipe Ceramic Group**

- 7010 San Felipe Brown: San Felipe Variety
- 7020 San Antonio Golden Brown: San Antonio Variety
- 7030 San Antonio Golden-brown: Variety Orange Interior

**7100 Sarteneja Ceramic Group**

- 7110 Savannah Bank Usulután: Savannah Bank Variety
- 7120 Sarteneja Usulután: Variety Unsp.

**7200 Escobal Ceramic Group**

- 7210 Escobal Red-on-buff: Variety Unsp.

Gale Creek Red Ware

**7300 Vaquero Creek Ceramic Group**

- 7310 Vaquero Creek Red: Vaquero Creek Variety
- 7320 Vaquero Creek Red: Variety Thin-walled
- 7330 Bullet Tree Red-brown: Bullet Tree Variety

Uaxactun Unslipped Ware

**7400 Stumped Creek Ceramic Variety**

- 7410 Stumped Creek Striated: Varieties Unsp.
- 7420 Stumped Creek Striated: Stumped Creek Variety

**7500 Old River Ceramic Group**

- 7510 Old River Unslipped: Variety Unsp.
- 7520 Old River Unslipped: Old River Variety

**Floral Park Ceramic Complex**

Holmul Orange Ware

**6200 Aguacate Ceramic Group**

- 6210 Aguacate Orange: Variety Unsp.
- 6220 Aguacate Orange: Aguacate Variety
- 6230 Aguacate Orange: Variety Thick-walled
- 6240 Aguacate Orange: Variety Matte Finish
- 6250 Aguacate Orange: Ramonal Variety
- 6260 Aguacate Orange: Holja Variety

- 6270 Aguacate Orange: Privaccion Variety

**6300 Aguacate Ceramic Group**

- 6310 Guacamallo Red-on-orange: Guacamallo Variety
- 6320 Guacamallo Red-on-orange: Camalote Variety
- 6330 Gavilan Black-on-orange: Gavilan Variety
- 6340 Gavilan Black-on-orange: Sakan Variety
- 6350 Ixcanrio Orange-polychrome: Ixcanrio Variety
- 6360 Ixcanrio Orange-polychrome: Tikan Variety
- 6370 Coquericot Buff-polychrome: Coquericot Variety

Uaxactun Unslipped Ware

**6400 Monkey Falls Ceramic Group**

- 6410 Monkey Falls Striated: Variety Unsp.
- 6420 Monkey Falls Striated: Monkey Falls Variety
- 6430 Monkey Falls Striated: Variety Brown
- 6440 Monkey Falls Striated: Variety Red
- 6450 Monkey Falls Striated: Variety Orange

Tumbac Unslipped Ware

**6500 Chan Pond Ceramic Group**

- 6510 Chan Pond Unslipped: Variety Unsp.
- 6520 Chan Pond Unslipped: Chan Pond Variety
- 6530 Negroman Punctated-incised: Negroman Variety

**Hermitage Ceramic Complex**

Ware Unsp.

**4500 Fowler Ceramic Group**

- 4510 Fowler Orange-red: Fowler Variety



- 4520 Fowler Orange-red: Spring Camp Variety  
 4530 San Ignacio Red-on-brown: San Ignacio Variety

Petén Gloss Ware

**4600 Minanha Ceramic Group**

- 4610 Minanha Red: Minanha Variety  
 4620 Minanha Red: Rio Frio Variety  
 4630 St. Herman Impressed: St. Herman Variety

**4700 Dos Hermanos Ceramic Group**

- 4710 Dos Hermanos Red: Variety Unsp.  
 4720 Mahogany Creek Incised: Mahogany Creek Variety

**5000 Balanza Ceramic Group**

- 5010 Balanza Black: Variety Unsp.  
 5020 Balanza Black: Cadena Creek Variety  
 5030 Lucha Incised: Variety Unsp.  
 5040 Lucha Incised: Gallo-blanco Variety  
 5050 Paradero Fluted: Oak-burn Variety  
 5060 Eastern Branch Plain: Eastern Branch Variety

**5100 Pucte Ceramic Group**

- 5110 Pucte Brown: Variety Unsp.  
 5120 Santa Teresa Incised: Santa Teresa Variety  
 5130 Chorro Fluted: Chorro Variety

**5200 Actuncan Ceramic Group**

- 5210 Actuncan Orange-polychrome: Actuncan Variety  
 5220 Actuncan Orange-polychrome: Blancaneau Variety  
 5230 Batellos Black-on-red: Variety Unsp.  
 5240 Boleta Black-on-orange: Variety Unsp.

**5300 Dos Arroyos Ceramic Group**

- 5310 Dos Arroyos Orange-polychrome: Dos Arroyos Var.  
 5320 Dos Arroyos Orange-polychrome: Variety A and H

- 5330 Dos Arroyos Orange-polychrome: Variety B  
 5340 Dos Arroyos Orange-polychrome: Variety E and E2  
 5350 Dos Arroyos Orange-polychrome: Variety K  
 5360 Dos Arroyos Orange-polychrome: Variety L  
 5370 Daldero Buff-polychrome: Variety Unsp.  
 5380 Yaloache Cream-polychrome: Variety Unsp.  
**5400 Aguila Ceramic Group**  
 5410 Aguila Orange: Variety Unspec.  
 5420 Pita Incised: Variety Unspec.

Uaxactun Unslipped Ware

**5500 Mopan Ceramic Group**

- 5510 Mopan Striated: Mopan Variety  
 5520 Mopan Striated: Variety White  
 5530 Mopan Striated: Variety Black, reed-impresed

**5600 Socotz Ceramic Group**

- 5610 Socotz Striated: Varieties Unsp.  
 5620 Socotz Striated: Socotz Variety  
 5630 Socotz Striated: Variety Dark Brown  
 5640 Socotz Striated: Variety Buff  
 5650 Socotz Striated: Variety Grey  
 5660 Socotz Striated: Variety White  
 5670 Socotz Striated: Variety White appliquéd

**5700 White Cliff Group**

- 5710 White Cliff Striated: White Cliff Variety  
 5720 White Cliff Striated: Variety White

Ware Unsp.

**5800 Hewlett Bank Ceramic Group**

- 5810 Hewlett Bank Unslipped: Hewlett Bank Variety

**Tiger Run Ceramic Complex**Pine Ridge Carbonate Ware**3000 Mountain Pine Red: Mountain Pine Variety**

- 3010 Mountain Pine Red: Mountain Pine Variety
- 3020 Guana Creek Impressed: Guana Creek Variety
- 3030 Mountain Pine Red: Old Jim Variety
- 3040 San Pedro Impressed: San Pedro Variety
- 3050 Rosario Incised: Rosario Variety
- 3060 Mount Pleasant Red: Mount Pleasant Variety
- 3070 Pascua Impressed: Pascua Variety

**3100 Saturday Creek Ceramic Group**

- 3110 Saturday Creek Polychrome: Saturday Creek Var.
- 3120 Saturday Creek Polychrome: Variety D
- 3130 Saturday Creek Polychrome: Variety F

Petén Gloss Ware**3200 Tasital Ceramic Group**

- 3210 Gloria Impressed: Variety Unsp.

**3300 Molino Ceramic Group**

- 3310 Molino Black: Variety Unsp.

**3400 Teakettle Bank Ceramic Group**

- 3410 Teakettle Bank Black: Variety Unsp.
- 3420 Teakettle Bank Black: Teakettle Bank Variety
- 3430 Mangrove Brown-black: Mangrove Variety
- 3440 Limon Black-cream: Limon Variety

**3500 Saxche Ceramic Group**

- 3510 Saxche Orange-polychrome: Variety Unsp.
- 3520 Uacho Black-on-orange: Variety Unsp.

- 3530 Seibal Buff-polychrome: Variety Unsp.

- 3540 Julek Cream-polychrome: Variety Unsp.

Ware Unsp.**3600 Sotero Ceramic Group**

- 3610 Sotero Red-brown: Sotero Variety
- 3620 Silkgrass Fluted: Silkgrass Variety
- 3630 Orange-walk Incised: Orange-walk Variety
- 3640 Orange-walk Incised: Banana Bank Variety

**3700 Macal Ceramic Group**

- 3710 Macal Orange-red: Macal Variety
- 3720 Chambers Incised: Chambers Variety

Uaxactun Unslipped Ware**3800 Jones Camp Ceramic Group**

- 3810 Jones Camp striated: Jones Camp Variety

**3900 White Cliff Ceramic Group**

- 3910 White Cliff Striated: Variety Unspec. Brown
- 3920 White Cliff Striated: Variety Unspec. Dark Brown
- 3930 White Cliff Striated: Variety Unspec. Red

**4000 Zibal Ceramic Group**

- 4010 Zibal Unslipped: Zibal Variety
- 4020 Zibal Unslipped: Variety Unspec. Brown
- 4030 Zibal Unslipped: Variety Unspec. Buff

**Spanish Lookout Ceramic Complex**Pine Ridge Carbonate**1000 Dolphin Head Ceramic Group**

- 1010 Dolphin Head Red: Dolphin Head Variety
- 1020 Silver Creek Impressed

**1100 Garbutt Creek Ceramic Group**

- 1110 Garbutt Creek Red: Garbutt  
Creek Variety
- 1120 Garbutt Creek Red: Variety  
Unspec. (Brown-interior)
- 1130 Garbutt Creek Red: Paslow  
Variety
- 1140 Rubber Camp Brown: Rubber  
Camp Variety
- 1200 Vaca Falls Ceramic Group**
- 1210 Vaca Falls Red: Vaca Falls  
Variety
- 1220 Kaway Impressed: Kaway  
Variety
- 1230 Kaway Impressed: Caller Creek  
Variety
- 1240 Duck Run Incised: Duck Run  
Variety
- 1250 Roaring Creek Red: Roaring  
Creek Variety
- 1300 Mount Maloney Ceramic  
Group**
- 1310 Mount Maloney Black: Mount  
Maloney Variety
- 1400 Yalbac Ceramic Group**
- 1410 Yalbac Smudged-brown: Yalbac  
Variety

British Honduras Volcanic Ash Ware

- 1500 Belize Ceramic Group**
- 1510 Belize Red: Belize Variety
- 1520 Belize Red: Incised Variety
- 1530 Platon Punctated-incised: Platon  
Variety
- 1540 McRae Impressed: McRae  
Variety
- 1550 Gallinero Fluted: Gallinero  
Variety
- 1560 Martins Incised: Martin Variety
- 1570 Puhui-zibal Composite:  
Puhui-zibal Variety
- 1580 Montego Polychrome: Montego  
Variety

Vinaceous Tawny Ware

- 1600 Chunhuitz Ceramic Group**
- 1610 Chunhuitz Orange: Variety Unsp.

- 1620 Xunantunich Black-on-orange:  
Variety Unsp.
- 1630 Benque Viejo Polychrome:  
Variety Unsp.

Uaxactun Unslipped Ware

**1700 Tu-tu Camp Group**

- 1710 Tu-tu Camp Striated: TuTu  
Camp Variety
- 1720 Tu-tu Camp Striated: Tzimin  
Variety
- 1730 Tu-tu Camp Striated: Variety  
Unsp.-Appliqué
- 1740 Tu-tu Camp Striated: Variety  
Unsp. Beaverdam

**1800 Cayo Ceramic Group**

- 1810 Cayo Unslipped: Cayo Variety
- 1820 Cayo Unslipped: Variety Unspec.  
(Buff-Appliqué)
- 1830 Cayo Unslipped: Variety Unsp.  
(Red-Appliqué)
- 1840 Cayo Unslipped: Variety Unsp.  
(Red slipped)
- 1850 Alexanders Unslipped:  
Alexanders Variety
- 1860 Alexanders Unslipped: Croja  
Variety
- 1870 Alexanders Unslipped:  
Beaverdam Variety

Petén Gloss Ware

**2000 Meditation Ceramic Group**

- 2010 Meditation Black: Meditation  
Variety

**2100 Achote Ceramic Group**

- 2110 Achote Black: Variety Unsp.
- 2120 Cubeta Incised: Variety Unsp.

**2200 Palmar Ceramic Group**

- 2210 Palmar Orange-polychrome:  
Variety Unsp.
- 2220 Zacatel Cream-polychrome:  
Variety Unsp.
- 2230 Paixban Buff-polychrome:  
Variety Unsp.

2240 Yuhactal Black-on-red: Variety Unspecified

2250 Tunich Red-on-orange: Tunich Variety

**2300 Danta Ceramic Group**

2310 Joyac Cream-polychrome: Variety Unsp.

**2400 Asote Ceramic Group**

2410 Torres Incised: Variety Unsp.

**2500 Tialipa Ceramic Group**

2510 Tialipa Brown: Variety Unsp.

2520 Canoa Incised: Varieties Unsp.

2530 Calabaso gouged-Incised: varieties Unsp.

**2600 Nanzal Ceramic Group**

2610 Corozal Incised: Varieties Unsp.

**Seibal Type Varieties**

Uaxactun Ware

**9500 Cambio Ceramic Group**

9510 Pedregal Modeled: Appliqué Head Variety

9520 Miseria Appliqué: Variety Unsp.

9530 Miseria Appliqué: Hollow Handle Variety

Petén Gloss Ware

**9700 Tinaja Red Ceramic Complex**

9710 Tinaja Red: Variety Unsp.

9720 Subin Red: Variety Unsp.

9730 Pantano Impressed: Pantano Variety

9740 Pantano Impressed: Stamped Variety

9750 Chaquiste Impressed: Variety Unsp.

Fine Orange Ware

**9900 Altar Ceramic Group**

9910 Pabellon Modeled-carved: Pabellon Variety

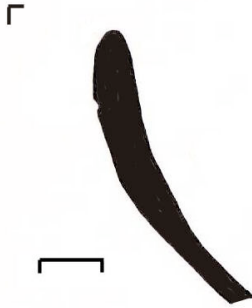
9920 Islas gouged-incised: Islas Variety

9930 Cedro Gadrooned: Cedro Variety

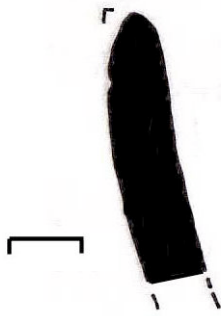
APPENDIX B

RIM SHERD ILLUSTRATIONS

**Jenney Creek Complex**



Catalog 7 – 22a-1  
Savana Orange: Savana  
Variety



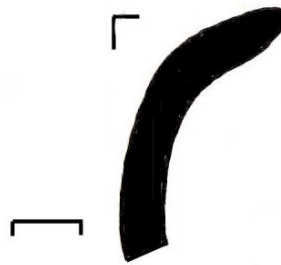
Catalog 12 – 22a-1  
Savana Orange: Variety  
Unspecified



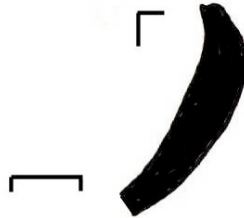
Catalog 8 – 22a-1  
Reforma Incised: Mucnal  
Variety



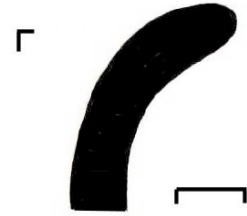
Catalog 92 – 22a-2  
Savana Ceramic Group



Catalog 131 – 22a-2  
Savana Ceramic Group



Catalog 132 – 22a-2  
Savana Ceramic Group



Catalog 164 – 22a-4  
Savana Ceramic Group

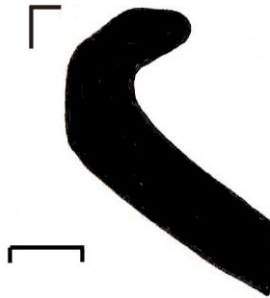


Catalog 167 – 22a-4  
Savana Ceramic Group

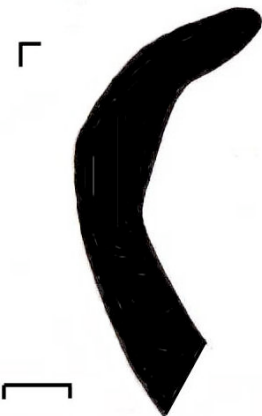
1 cm



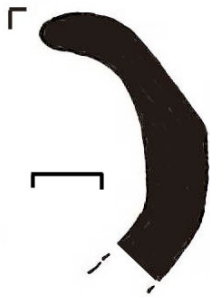
Catalog 5 – 22a-1  
Cooma Striated: Cooma  
Variety



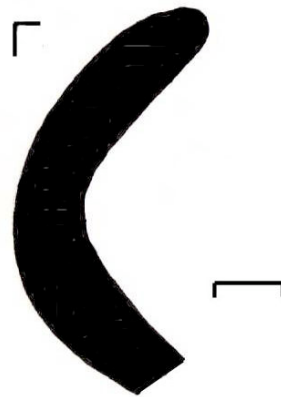
Catalog 99 - 22a-2  
Jocote ceramic group



Catalog 294 – 22b-8  
Jocote Orange-brown: Jocote  
Variety



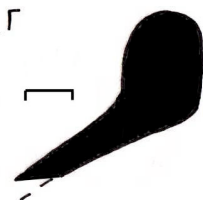
Catalog 6 – 22a-1  
Chacchinic Red-on-brown:  
Variety Unspec.



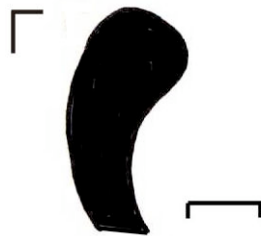
Catalog 129 – 22a-2  
Jocote ceramic group



Catalog 292 - 22b-8  
Jocote Orange-brown: Jocote  
Variety



Catalog 14 – 22a-1  
Jocote Orange-brown:  
Varieties Unspec.



Catalog 100 – 22a-2  
Jocote ceramic group

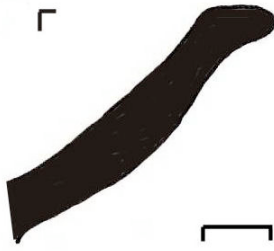


Catalog 293 – 22b-8  
Jocote Orange-brown: Jocote  
Variety Jenney Creek  
complex

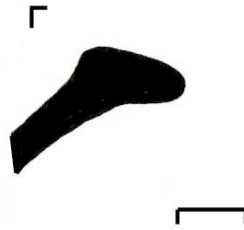


Catalog 16 – 22a-1  
Jocote Orange-brown: Jocote  
Variety

1 cm



Catalog 125 – 22a-2  
Jocote ceramic group



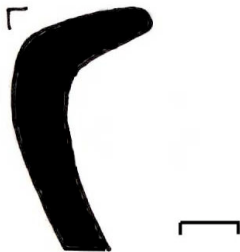
Catalog 165- 22a-4  
Jocote ceramic group



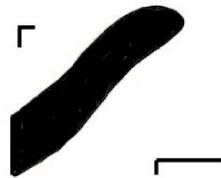
Catalog 128 – 22a-2  
Jocote ceramic group



Catalog 121 – 22a-2  
Joventud ceramic group



Catalog 115 – 22a-2  
Jocote Orange-brown: Jocote  
Variety



Catalog 162 – 22a-4  
Joventud ceramic group

1 cm



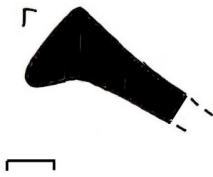
**Barton Creek complex**



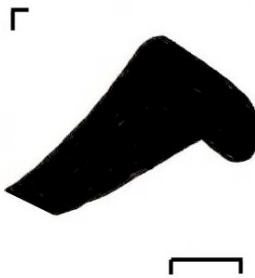
Catalog 9 – 22a-1  
Sierra Red: Buff-paste  
variety



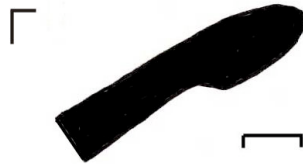
Catalog 196 – Sierra ceramic  
group



Catalog 13 – 22a-1  
Sierra ceramic group



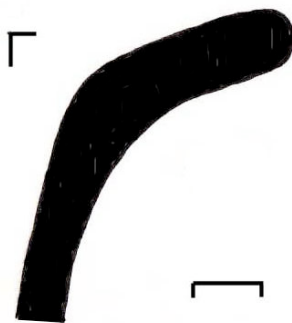
Catalog 189 - Sierra ceramic  
group



Catalog 107 – 22a-2  
Sierra ceramic group



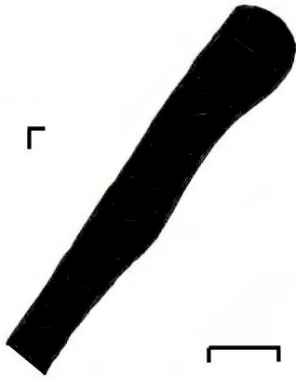
Catalog 127 – 22a-2  
Sapote Striated: Variety  
Black-rimmed



Catalog 146 – 22a-2  
Sapote Striated

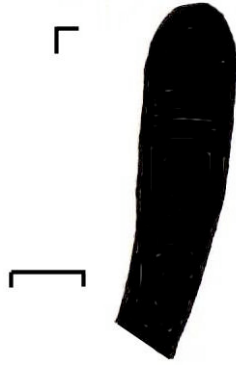
1 cm

**Mount Hope Ceramic complex**



Catalog 190 – 22b-1  
Vaquero Creek Red: Variety  
Thin walled

**Belize ceramic group, British Honduras Volcanic ash ware**

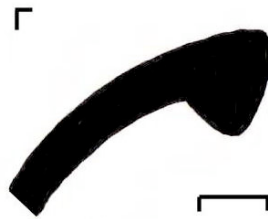


Catalog 193—22b-1  
Belize ceramic group, British Honduras Volcanic ash ware

**Spanish Lookout complex**



Catalog 20 – 22a-1  
Belize ceramic group, British Honduras Volcanic ash ware



Catalog 188 – 22b-1  
Cayo Ceramic group  
Alexanders Unslipped



Catalog 192 – 22b-1



Catalog 191 – 22b-1  
Garbutt Creek ceramic group

1 cm

APPENDIX C

SMALL FIND

Lithics associated with Operation 22a.

Artifact #	Lot	Field Description	Material	Length	Width	Depth
BE:1845	1	Bashed core/hammerstone	-	8	6.5	4.5
BE:1774	1	Utilized tool	-	7	7	4.5
BE:1775	1	Biface fragment	-	3.6	4.5	1.2
BE:1765	1	Varnishing Stone	-	5.5	5.3	4
BE:1776	1	"Carved" limestone	Limestone	3.4	6.5	4.2
BE:1770	1	Biface fragment	-	3	4.4	2.4
BE:1773	1	Utilized unifacial tool	-	6.7	5.2	1.8
BE:1774	1	Scraper	-	4.6	3.4	1.8
BE:1817	1	Hammerstone fragment	Meta quartzite	7.4	5.8	4
BE:1824	2	Core	Chert	4.5	4.5	4
BE:1842	2	Hammerstone	Meta quartzite	5.5	5.5	5.5
BE:1807	2	Mano fragment	Igneous rock	9	10.5	4
BE:1825	2	Uniface	-	6.6	3.5	1.3
BE:1798	2	Quartz	Quartz	1.7	1.3	-
BE:1767	2	Blade	Obsidian	5.8	1.8	0.2
BE:1778	2	Obsidian blade	Obsidian	5.5	1.4	0.3
BE:1779	2	Obsidian blade	Obsidian	4.5	1.3	0.2
BE:1768	2	Blade fragment	Obsidian	2.4	1.1	0.2
BE:1782	2	Obsidian blade fragment	Obsidian	1.8	1.3	0.3
BE:1839	2	Blade fragment	Obsidian	1.4	0.6	0.2
BE:1781	2	Obsidian blade fragment	Obsidian	2.1	0.9	0.2
BE:1834	3	Mano groundstone	-	16	9.6	5.3
BE:1801	3	Hammerstone	Meta quartzite	8.4	9.4	4.2
BE:1864	3	Obsidian blade fragment	Obsidian	3.4	1.2	0.2
BE:1790	4	Modified quartz	Quartz	2.6	1.4	1.6

(All measurements in cm).

Lithics Associated with Operation 22b.

Artifact #	Lot	Field Description	Material	Length (cm)	Width (cm)	Depth (cm)
BE:1850	1	Utilized biface	Chert	7	5.4	3
BE:1848	1	Utilized unifacial tool		5.5	4.2	1.7
BE:1847	1	Biface fragment		6.9	4.6	3
BE:1849	1	Utilized tool	Limestone	6.1	4	1.2
BE:1837	1	Burnishing stone		5.4	2.1	1.2
BE:1861	2	Utilized tool	Limestone	5.5	5.5	4
BE:1859	2	Utilized tool	Chert	4.5	4.2	1.5
BE:1860	2	Hammerstone fragment	Chert	6.2	3.5	2.8
BE:1862	2	Bashed core/hammerstone		5.4	4.2	3.8
BE:1900	2	Hammerstone		9.5	7.5	5.4
BE:1890	4	Utilized tool	Chert	6.8	4.4	1.6
BE:1864	5	Blade fragment	Obsidian	1.2	1.2	0.3
BE:1918	6	Biface fragment	Chert	6.3	4.4	1.9

Ceramic, Shell, and Bone Small Finds

Artifact #	Op/Lot	Description	Type-Variety	Comments
Ceramics				
BE:1780	22a-2	Spout		Uneven walls with red wash
BE:1899	22b-2	Spout		Uneven firing, grey core, red wash
BE:1922	22b-8	Head	Jocote variety	Anthropomorphic with large ears
BE:1763	22i-1	Drilled sherd		Split along midline, post fire burnishing
BE:1843	22a-3	Spout		Broken down midline
Shell				
BE:1783	22a-3	Marine shell	NA	Strombus sp.
Bone				
BE:1819	22a-1	Bone burin	NA	-

APPENDIX D

FAUNAL REMAINS

Faunal Remains in Operations 22a and 22b.

Op/lot	Log #	Description	Notes
22b-6	BE:40	1 crab claw - distal end < 3cm	
22b-8	BE:46	1 caudal vertebra – canid, possible dog	burned at a high temperature
		1 unidentified mammal phalanx	burned at a high temperature
22a-2	BE:10	1 rib - bird	
	BE:7	1 unidentified	
	BE:23	1 unidentified	
	BE:19	1 armadillo carapace	
		1 unidentified mammal	
	BE:9	1 unidentified	
		1 unidentified bone	with pot polish
	BE:5	1 unidentified mammal caudal vertebra	
	BE:6	1 unidentified	
	BE:4	2 unidentified non mammal	
22a-2	BE:21	2 mammal, one is a left ulna fragments	Cluster 8, possible articulated joint
22a-3	BE:17	1 unidentified bird	
	BE:8	1 unidentified	
22a-3	BE:24	1 unidentified	Cluster 1
		32 Jute shells	Freshwater shell
		4 <i>Nefrinaius sp.</i>	Freshwater shell
		1 <i>Strombus sp.</i>	Marine shell
22a-4	BE:13	2 unidentified mammal – long bone fragments	
	BE:12	1 unidentified caudal vertebra - possibly reptile	
		1 unidentified	
	BE:20	1 unidentified mammal – glenoid fossa fragment	
	BE:11	1 vertebra – osteo (fish)	
	BE:16	15 unidentified mammal fragments	
		1 unidentified mammal – glenoid fossa fragment	

\* Faunal remains associated with PD#3 are bold faced

APPENDIX E

CHARCOAL SAMPLES



Note, the charcoal samples collected were mixed with limestone matrix or organic soils. Items in bold were collected from PD#3.

Catalog #	Op/Lot	Date Excavated	Notes
BE:1	22a-1	14 July 2003	
BE:2	22a-1	14 July	
BE:3	22a-1	14 July 2003	
BE:5	22a-1	16 July	
BE:6	22a-2	16 July 2003	Exported
<b>BE:7</b>	<b>22a-2</b>	<b>16 July 2003</b>	<b>Exported*</b>
<b>BE:9</b>	<b>22a-2</b>	<b>16 July 2003</b>	<b>Exported</b>
<b>BE:10</b>	<b>22a-2</b>	<b>16 July 2003</b>	
<b>BE:11</b>	<b>22a-2</b>	<b>16 July</b>	
<b>BE:12</b>	<b>22a-2</b>	NA	
<b>BE:13</b>	<b>22a-2</b>	<b>16 July 2003</b>	
<b>BE:14</b>	<b>22a-2</b>	NA	<b>Exported</b>
<b>BE:15</b>	<b>22a-2</b>	NA	<b>Exported</b>
BE:16	22a-3	16 July	
<b>BE:17</b>	<b>22a-4</b>	<b>16 July 2003</b>	
BE:20	22a-1	15 July 2003	
<b>BE:21</b>	<b>22a-2</b>	<b>17 July 2003</b>	
<b>BE:22</b>	<b>22a-2</b>	<b>17 July 2003</b>	<b>Exported*</b>
<b>BE:23</b>	<b>22a-2</b>	<b>17 July 2003</b>	<b>Exported</b>
BE:24	22a-3	17 July 2003	Exported
<b>BE:25</b>	<b>22a-4</b>	<b>17 July 2003</b>	<b>Exported</b>
<b>BE:27</b>	<b>22a-2</b>	<b>18 July 2003</b>	
<b>BE:30</b>	<b>22a-2</b>	<b>19 July 2003</b>	
<b>BE:31</b>	<b>22a-2</b>	<b>19 July 2003</b>	<b>Exported</b>
<b>BE:37</b>	<b>22a-2</b>	<b>21 July 2003</b>	
<b>BE:38</b>	<b>22a-2</b>	<b>21 July 2003</b>	<b>Exported</b>
BE:39	22a-3:Cluster1	21 July 2003	Exported
<b>BE:40</b>	<b>22a-4</b>	<b>21 July 2003</b>	
<b>BE:46</b>	<b>22a-4</b>	<b>22 July 2003</b>	
<b>BE:47</b>	<b>22a-2</b>	<b>22 July 2003</b>	
BE:48	22b-2	28 July 2003	
BE:49	22b-3	28 July 2003	Exported
BE:51	22b-2	28 July 2003	
BE:52	22b-2	28 July 2003	
BE:53	22b-2	28 July 2003	
BE:54	22b-2	28 July 2003	
BE:55	22b-2	28 July 2003	
BE:56	22b-2	28 July 2003	
BE:57	22b-2	28 July 2003	
BE:58	22b-2	28 July 2003	
<b>BE:59</b>	<b>22b-4</b>	<b>29 July 2003</b>	
<b>BE:63</b>	<b>22b-4</b>	<b>29 July 2003</b>	
<b>BE:64</b>	<b>22b-4</b>	<b>29 July</b>	
<b>BE:65</b>	<b>22b-6</b>	<b>29 July</b>	
BE:66	22b-5	29 July	
<b>BE:67</b>	<b>22b-4</b>	<b>29 July</b>	

<b>Catalog #</b>	<b>Op/Lot</b>	<b>Date Excavated</b>	<b>Notes</b>
<b>BE:68</b>	<b>22b-6</b>	<b>30 July</b>	
<b>BE:69</b>	<b>22b-6</b>	<b>31 July</b>	
<b>BE:70</b>	<b>22b-6</b>	<b>30 July 2003</b>	
<b>BE:71</b>	<b>22b-6</b>	<b>30 July 2003</b>	
<b>BE:74</b>	<b>22b-8</b>	<b>31 July 2003</b>	
<b>BE:77</b>	<b>22b-6</b>	<b>31 July</b>	
<b>BE:83</b>	<b>22b-6</b>	<b>1 Aug</b>	
<b>BE:86</b>	<b>22b-6</b>	<b>1 Aug</b>	
<b>BE:87</b>	<b>22b-6</b>	<b>4 Aug 2003</b>	
<b>BE:90</b>	<b>22b-8</b>	<b>4 Aug 2003</b>	<b>Exported</b>

\* Carbon sample sent for AMS dating

APPENDIX F  
PARTIAL VESSEL DESCRIPTIONS

**Catalog #301** – Sierra Red: Variety Unspecified (Orange-paste) plate

This large, shallow plate was primarily located in Op. 22a-2. The majority of the sherds were in 22a-2, cluster 8, and two body to base transitional sherds were in lot 22b-8. The paste may contain organic temper. There was approximately 25% of the vessel with very little of the base present.

**Total Sherd Count:** 22 (including one exported for thin section analysis)

Description	Details
Provenience	<b>Op./Lots:</b> 22a-2, 22a-2:CL8, 22b-8
Rim	1.2 cm
Lip	2.1 cm
Wall Thickness	1.0 cm up to 1.4 cm (at the base to wall transition)
Rim Diameter	49 cm
Vessel Height	8.4 cm
Base Diameter	40 cm
Munsell	Paste 7.5YR 6/6, Slip 2.5YR 4/6

**Attributes:** This partial vessel has a flared, squared lip with exterior folded rim. There is a single incised line on the top interior of the lip. The slip has horizontal streaking with the most distinct areas on the exterior of the rim. There are eroded spots to the inside of the vessel where the slip is missing.

**Fire clouding:** The fire clouding is most prevalent to the exterior of the plate, and is visible in large pale red discolorations (10R 7/3) along the rim and the base. Most of the base is missing, with only 3 cm present from the side to base transition; yet there are charcoal stains along with the fire clouds on the base. Discolorations to the interior slip are on the upper edge of the lip-rim transition.

**Residue:** None apparent.

**Condition:** The slip is eroded, but still present over most of the partial vessel. The joins are eroded, and would not refit easily, therefore only a few of the sherds were glued together during the 2003 field season.

**Catalog #302** – Sapote Striated: Sapote Variety jar

Consists of a large rim, neck and sections of shoulder transition to body. This lot is near clusters 1, 2 and 3 in concentration C.

**Total Sherd Count:** Of the twenty-seven small body sherds, two have scars for handles. The rim and neck section were refit from nine large angular sherds that range in size from 4 cm x 3 cm up to 6 cm x 16 cm.

<b>Description</b>	<b>Details</b>
Provenience	22a-3
Rim	0.9 cm
Neck	0.6 cm
Lip	0.5 cm
Wall Thickness	0.7 to 0.35 cm for body sherds
Rim Diameter	24 cm
<b>Circumference of neck</b>	15-16 cm
Munsell	Paste - 2.5 YR 5/6

**Attributes:** The jar has an outcurved neck, rounded lip, and an interior thickened rim. The jar is striated on the interior and exterior of the rim and neck. The body sherds have striations to the exterior and faint wipe marks or striations to the interior. The paste includes calcite, quartz, sand and dark, possibly magnetic, nodules that are fine grained (1-2 mm) in diameter, some which are rectangular in structure. There is almost half of the rim and 25 percent of the vessel is present. The form is not a perfect circle, the neck appears almost ovoid in shape, and there are variations in the shape of the edge of the lip.

**Fire-clouding:** There are minimal fire-clouds to the interior of the rim and neck of the jar; none are larger than 2 cm. These burn marks only affect the surface of the paste of the vessel, and there are several small charcoal clouds directly on the surface.

**Residue:** The interior of the vessel is more buff in color, and there is some white residue to both the interior and exterior. This could be from exposure to minerals in the soil, as some of the white residue appears to be calcium accretions.

**Condition:** The sherds are friable, and have some micro-fractures to them. The edges are sharp and angular and are not eroded like one seen in the upper layers of Op. 22a. Some of the refits were initially inhibited due to joins that had accretions and residue build up due to under ground exposure. Once these were removed the edges still were sharp and refit easily.

### **Catalog #303 – Savana Orange: C-1 Variety jar**

This jar with filet appliqué has two strap handles and multiple body sherds for approximately 60 percent of the vessel present. Of the partial vessels, this is one of the three most complete, the other two being Catalog 301 and Catalog 307.

**Total Sherd Count:** 62 (not sure if all of the smaller ones are to this vessel, yet they are very similar in paste and in slip, surface treatment).

<b>Description</b>	<b>Details</b>
Provenience	22b-8
Rim	0.8 cm
Neck	0.6 cm
Lip	0.5 cm
Wall Thickness	0.4 cm up to 0.7 cm
Rim Diameter	13.5 cm
<b>Circumference of neck</b>	10 cm
Munsell	Slip– 10R 4/8, Paste - 2.5YR 5/8, 2.5YR 6/8

**Attributes:** This jar has an outcurved neck, a slightly pointed rounded lip, and an interior thickened rim. There is a weak red slip to the exterior and interior of the neck of the vessel. The slip is heavily eroded. There is a curvilinear band of an applied notched ridge on multiple body sherds, and up the neck of the vessel. Gifford refers to a similar type of decoration on the Reforma Incised: Fluted Variety that has “fluted shoulders and grooved-incised horizontal should bands.” (1976:77). There are two strap handles, and the juncture where the handle joins the vessel has part of the applied notched ridge. The paste is similar to the Savana Orange: C-1 Variety, “that has a light orange surface color and a fine-textured paste” (Gifford 1976:75).

**Fire-clouding:** The only discoloration to the surface is on the upper edge along 6 cm of the lip and rim. There does not appear to be exposure to heat beyond the initial firing process for this vessel.

**Residue:** There are heavy calcite like accretions to both the interior and exterior of the vessel. These do not appear to be use related, but to the long soil exposure of the vessel.

**Condition:** The paste is extremely friable, and refits were difficult due to the eroded nature of the joins. Although there were clean breaks for the neck and rim refits, most of the edges to the body sherds were worn. The rim has four large sherds, and three smaller ones. The walls of the body were much thinner; which would have contributed to the body to be broken into much smaller friable pieces.

**Catalog #305** – Reforma Incised: Mucnal Variety jar

This vessel consists of a jar neck from 22a-2:CL8. This neck was refit primarily in 2005 and completed in 2006, and represents approximately 40 percent of a vessel. The maximum width of the jar neck is 14.8 cm at the shoulder.

**Total Sherd Count:** 13

Description	Details
Provenience	22a-2:CL8
Rim	0.7 cm
Neck	0.6 – 0.7 cm
Lip	0.55 cm
Wall Thickness	0.7 cm to 0.4 cm
Rim Diameter	12.5 cm
<b>Circumference of neck</b>	9.5 cm
Munsell	Paste 5 YR 5/4, 5/6; Slip 2.5 YR 4/6, 4/8

**Attributes:** The slip is heavily eroded, almost non-existent, but there are traces of red slip on the neck to shoulder transition. In the eroded slip there are two incised parallel lines that have small impressed, ovoid dots in between the bands. The form of the lip is roughly modeled, and has a lot of variation to the edge thickness. The neck is outcurved, the lip is rounded and slightly flat on top, and the rim is interior thickened. The paste is similar to the Jocote Orange Brown, and has quartz, sand, and possibly

calcite temper with very fine micaceous flecks. It is also coarser than the paste in catalog 303, with larger grains and more inclusions.

**Fire-clouding:** The fire clouds first appear below the incised lines on the shoulder of the jar. The heat has affected the paste and both the eroded slip and paste begin to change color and to darken. Since the fire clouds occur on both the interior and exterior of the vessel, the jar may have been exposed to a high heat, which made the body of the vessel friable. The body sherds that could be associated with this vessel from the 22a-2 overall assemblage were heavily burned and were not clearly associated with the neck.

**Residue:** There is very little residue on this partial jar neck and it consists mostly of off-white calcite inclusions to the exterior of the vessel and on the interior of the rim.

**Condition:** Friable, heavily eroded sherds. This neck may have been in fewer pieces when found in situ based on field notes and photographs, yet due to the friable nature of the paste, the partial vessel broke apart during storage.

**Catalog #306** – Sapote Striated: Varieties Unspecified Impressed Appliquéd jar

This partial vessel consists of half of a jar rim; two strap handles and multiple body sherds, the individual sherd measurements are listed below. The strap handles have the beginning of the filet appliqué, and there is one large body sherd that has a horizontal band across the shoulder to neck transition. This decoration is similar to Sapote Striated vessels at Barton Ramie; see Gifford 1976:107 Fig. 46 g, h. These sherds were grouped as one vessel (approximately 30 percent of a vessel represented) because of their close proximity in deposition, the similarity of the paste color, and the large angular sherds. Within 22a-2 and 22b-8 there are many more striated body sherds that could be associated with this vessel, but they were too small or friable to be refit to the more diagnostic sherds that have been attributed to catalog 306.

**Total Sherd Count:** 63

Description	Details
Provenience	22a-2 CL:5, CL:7, CL:8, 22b-8
Rim	From 0.9 to 1.1 cm
Neck	0.4 cm
Lip	0.7 cm
Wall Thickness	
Rim Diameter	20.5 cm
Circumference of neck	15 cm
Munsell	Paste [core] 2.5 YR 5/6 [exterior] 2.5 YR 5/6 [interior] 7.5 YR 6/4 [burned exterior body-with pink 2.5 YR 5/6 interior] 5YR 5/3, 7.5 YR 4/1

**Attributes:** The body sherds share similar striations to the neck sherds. There are two smooth strap handles with filet appliqué, and one body sherd with striations and a filet appliqué curvilinear band.

**Fire-clouding:** The fire-clouding is minimal on this vessel, with small charcoal smudges that are less than 3 cm to the interior of the large rim sherd. These smudges do not affect the color of the paste, only the surface. There are areas where the paste is more tan than a distinctive red-orange “salmon” color noticed for the striated sherds

throughout the deposit. These color variations may be areas where the heat was not as intense but still affected the paste. These color variations are 7.5 YR 6/4, and occur on the exterior of the vessel body sherds. Based on the body sherds, it appears the heat was more intensely applied to the exterior of the vessel than to the interior and more to the lower body portion where refits were not possible.

**Residue:** There are white calcite accretions on the surface of the sherds more to the exterior than to the interior. The interior has these accretions to the upper edge of the rim.

**Condition:** Friable, but not as fragile as vessel catalog 303. The joins refit easily despite the calcite accumulation that was built up on the joins.

**Catalog #307 – Reforma Incised: Mucnal Variety**

This dish represents over 75 percent of a vessel. One rim sherd refit from lot 4, which is directly below lot 3. The contents of lot 3 were listed as the vessel itself therefore it should be assumed that lot 3 and 4 share the same stratigraphy.

**Total Sherd Count: 4**

Description	Details
Provenience	22b-3, 22b-4
Rim	0.75 cm
Neck	0.55 cm
Lip	1.2 cm
Wall Thickness	0.4 cm to 1.2 cm
Rim Diameter	23 cm
Base Diameter	16 cm
Munsell	Paste [core] 7.5 YR 5/6 [surface] 2.5YR 5/8; Slip 2.5 YR 3/6

**Attributes:** The dish has outflared walls, a beveled out lip with an exterior folded rim. There is one fine, shallow pre-fired, incised line on the exterior side of the lip. The base of the vessel is incurved (slightly convex), and did not lay flush with a table surface.

**Fire-clouding:** The fire-clouding to this vessel is isolated to the bottom of the dish. There are dark areas of smudged charcoal, and discoloration to the paste is a light brown. There are traces of slip to the bottom of the dish, and it is darkened to a maroon-red.

**Residue:** There are small patches of calcite accretion to the vessel to approximately 10% of the surface.

**Condition:** The slip is heavily eroded, with small patches still on the surface. The vessel has several stress cracks, but is not as friable as some of the other Reforma Incised sherds from this deposit, specifically those on bedrock. The interior of the vessel has scratch marks that could be trowel marks, as they are post-fire sharp and fresh in appearance.

**Catalog #308 –Jocote Orange-brown: Jocote Variety.**

There is almost one-third of a rim and neck to a large unslipped jar present with body to shoulder transitional pieces and some body pieces that do not refit but appear to be from



the same vessel. This vessel is extremely dense, and is probably heavier than any of the other paste. There is approximately 20 percent of the vessel present.

**Total Sherd Count: 7**

<b>Description</b>	<b>Details</b>
Provenience	22b-8, 22a-2:CL5, CL4
Rim	1.3 cm
Neck	1.1 cm
Lip	0.8 cm
Wall Thickness	0.6 cm to 1.3 cm
Rim Diameter	27 cm
Circumference of neck	22 cm
Munsell	Paste [core] 5 YR 4/4, 2.5 YR 5/6 [surface] 7.5 YR 6/4 [fire-clouds] 10YR 3/1 and 10YR 7/3

**Sherd Measurements:** Rim Sherd 22cm long x 8.5 cm high x 8.4 cm wide [a-22a-2: CL5] 15.6 cm x 13.4 cm [b-22a-2: CL4] 9.8 cm long x 7.2 high

**Attributes:** This large jar has an outcurved neck, rounded lip and an interior thickened rim. The paste is coarse, and consists of anhedral quartz, sand, possibly calcite and some ferric nodules. The exterior surface is smoothed. The temper ranges from very fine to fine, with the occasional medium (2-3 mm) inclusion of a darker mineral.

**Fire-clouding:** These are heavy on the exterior of the sherds and there are large dark patches that are documented in the Munsell designations. The paste seems to be darkened slightly by the heat exposure, and the interior lip of the rim has darkened patches as well.

**Residue:** There is not any visible residue except for the calcite accretions that are quite heavy on the exterior of the vessel and sherds.

**Condition:** The joins are friable due to the large coarse temper and the sherds exposure to heat. The areas that are fire clouded seem to be more friable than the unburned pastes.

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## BIOGRAPHICAL INFORMATION

Rebecca L. Shelton earned a B.A. from East Texas State University in Fine Art and Art History in 1994. In 2001, she began volunteering with the Texas Archeology Society (TAS) and participated in several field schools as well as at other ongoing excavations in Central Texas. After working as a manager in the field of art conservation for 7 years, she began working in 2006 at AR Consultants, Inc. a CRM firm in Texas where she has participated in multiple surveys and excavations. Her work in Belize includes volunteer work at Caves Branch Rockshelter in 2007 for the Belize Valley Archaeological Reconnaissance Project. Future projects include conducting additional ceramic analysis for projects in Belize as well as presenting her research in the Southern Plains region of Texas at the TAS annual meeting in 2008.