

AN INVESTIGATION OF MOUND-410 AT BAKING POT, BELIZE

by

Leann du Menil, B.A.

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Committee Members:

James Garber, Chair

Christina Conlee

Frank K. Reilly

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## **DEDICATION**

In memory of

Molly Hude, Angela Bugeja, and Ioanna Thomopoulou

Though I knew you a short time, I will remember you forever.

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## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
BVAR-	Belize Valley Archaeological Reconnaissance project
SF-	Special Find
CBAS-	Central Belize Archaeological Survey program
CE-	Ceramic
CH-	Chert
QZ-	Quartz
GR-	Granite
OB-	Obsidian
MS-	Marine Shell
FS-	Freshwater Shell
FA-	Faunal
SH-	Shell
ST-	Slate
JD-	Jade
LS-	Limestone
PY-	Pyrite
WD-	Wood
CB-	Cobble

HR- Human Remains

CA- Carbon

UK- Unknown

## **CHAPTER I**

### **INTRODUCTION**

Maya archaeology began as a quest for fine artifacts and curiosities for museums but it has since grown into an academic pursuit for knowledge and understanding of past peoples. In recent decades the main focus in archaeology has shifted from elite tombs and temples toward the houses and public spaces of those who lived outside the palaces. What we have and continue to learn from the elite along with the information being gathered about the non-elite will shape future understanding of the Maya people as a whole.

This thesis focuses on the investigations of Lubul Huh, a large housemound within the site periphery of Baking Pot in Belize, Central America. The site of Baking Pot was a medium sized kingdom in the Belize River Valley. During the Late Classic period Baking Pot expanded and reached its peak wealth and population before its abandonment in the Late to Terminal Classic period (AD 700-900) (Table 1). During the survey of Baking Pot, it was noticed that Maya were still occupying the periphery into the Post Classic period. One hypothesis and upheld by Hoggarth (2012) suggests that the housemounds to the east of the temple groups in Settlement Cluster C were occupied in the Post Classic period. Lubul Huh lies west of the temple groups and supports the hypothesis that this area was abandoned at the same time as the elite of Baking Pot abandoned the temple groups.

Table 1. Classic and Postclassic Period Chronology

<b>PERIOD</b>			<b>BARTON RAMIE (Gifford et al. 1976)</b>
<b>POSTCLASSIC</b>	Late	1500	New Town (Late Facet)
		1400	
		1300	
		1200	
	Early	1100	New Town (Early Facet)
		1000	
900			
<b>CLASSIC</b>	Terminal	800	
	Late	700	Spanish Lookout

The collapse of the Maya has been a heated debate for several decades. It is generally agreed that the Maya ‘collapsed’ in many different ways and at different times across the Mesoamerican landscape (Hammond 2013). Such reasons include soil infertility (Pohl 1990), climate change (Yaeger and Hoddell 2002), deforestation (Schreiner 2002), class conflict (Chase and Chase 2004, 2005), and many other environmental and sociopolitical reasons that continue to be debated at a regional and site by site basis. The Belize river valley shows signs at several sites that the classic collapse was not as severe as thought and that people occupied the area into the Postclassic period including Baking Pot (Aimers 2003; Audet and Awe 2005; Hoggarth 2014) and at Barton Ramie (Chase and Garber 2004).

### *Baking Pot Site Description*

Baking Pot is an archaeological site located in the Cayo district of Belize, Central America (Figure 1). The site was first discovered by locals, the name referring to an empty cauldron left at the site from a nearby chiclero camp (Awe 1996). The chicleiros would use the large cauldrons to boil chicle which was obtained from native trees called sapodilla belonging to the *Manikara* genus. Although the chiclero camp was abandoned, the name stuck and was first publicized in 1929 from excavations that began in 1924 by Oliver Ricketson (Ricketson 1929).

Baking Pot was occupied from the Late Preclassic into the Middle Postclassic periods, reaching its peak as a medium-sized kingdom at the end of the Late Classic period (Helmke and Awe 2008; Hoggarth 2012). Continued research at Baking Pot reveals that the site core was abandoned before the periphery with the latest occupations in Settlement Cluster C, east of the center of Baking Pot (Hoggarth 2012). Baking Pot is located downstream from the neighboring political capitals of Xunantunich and Cahal Pech and west of Blackman Eddy (Figure 2). The site is situated along the southern bank of the Belize River in the Cayo District of Belize, approximately 10 kilometers east of the modern town of San Ignacio. The Belize River begins at the confluence of the Mopan and Macal rivers and runs east-west across central Belize and into the Caribbean Sea near present day Belize City. The Mopan, Macal, and Belize rivers, located along the eastern central Maya lowlands create the geographic region known as the Belize River Valley. The environment around the valley offers a variety of natural resources valuable to the ancient Maya. Some of the resources include marine ecosystems from the coastal region to the east, granite and slate formations in the pine forests of the Maya Mountains to the

south and chert and limestone outcroppings in the karstic foothills, as well as the broad leaf and pine forests.

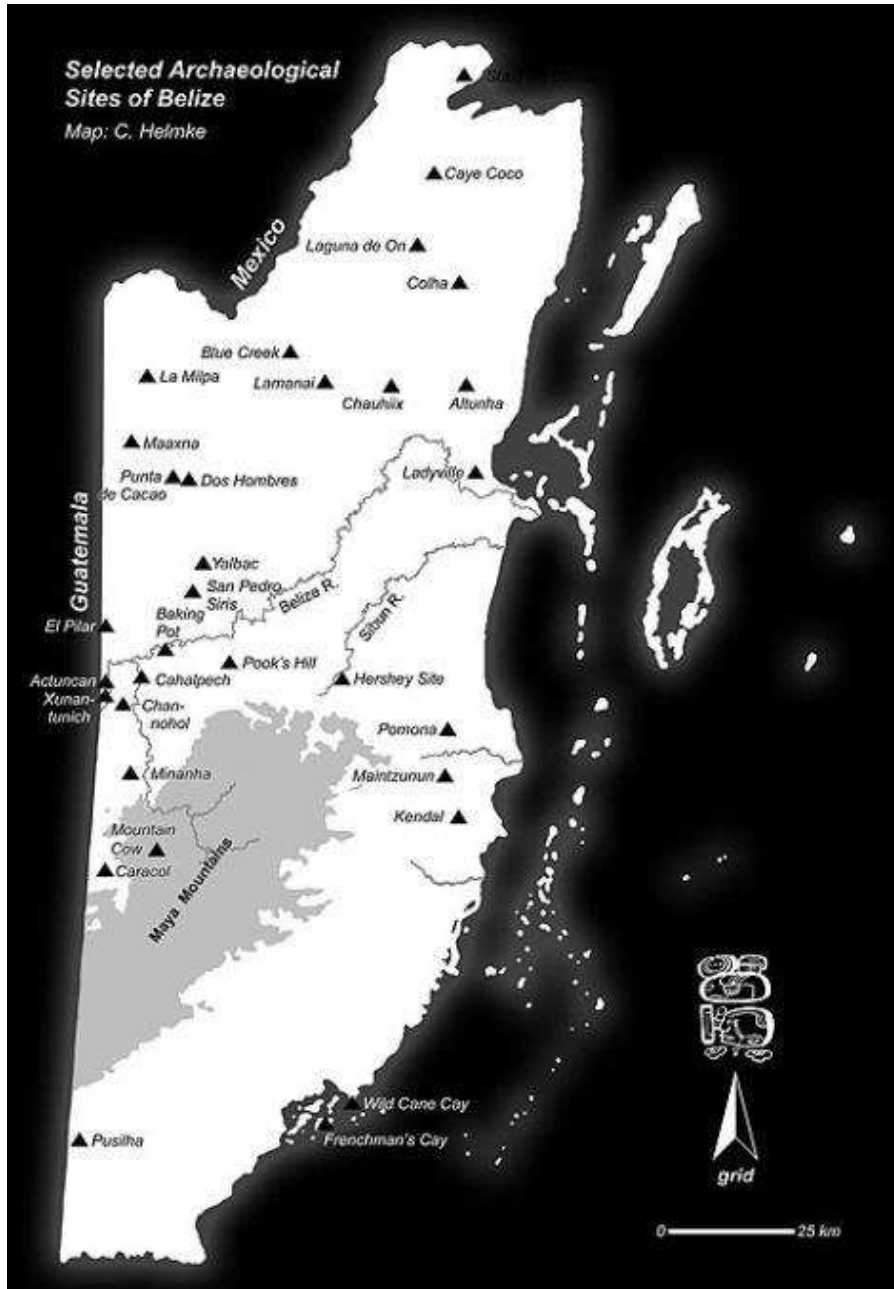


Figure 1. Archaeological Sites of Belize (Helmke 2007)

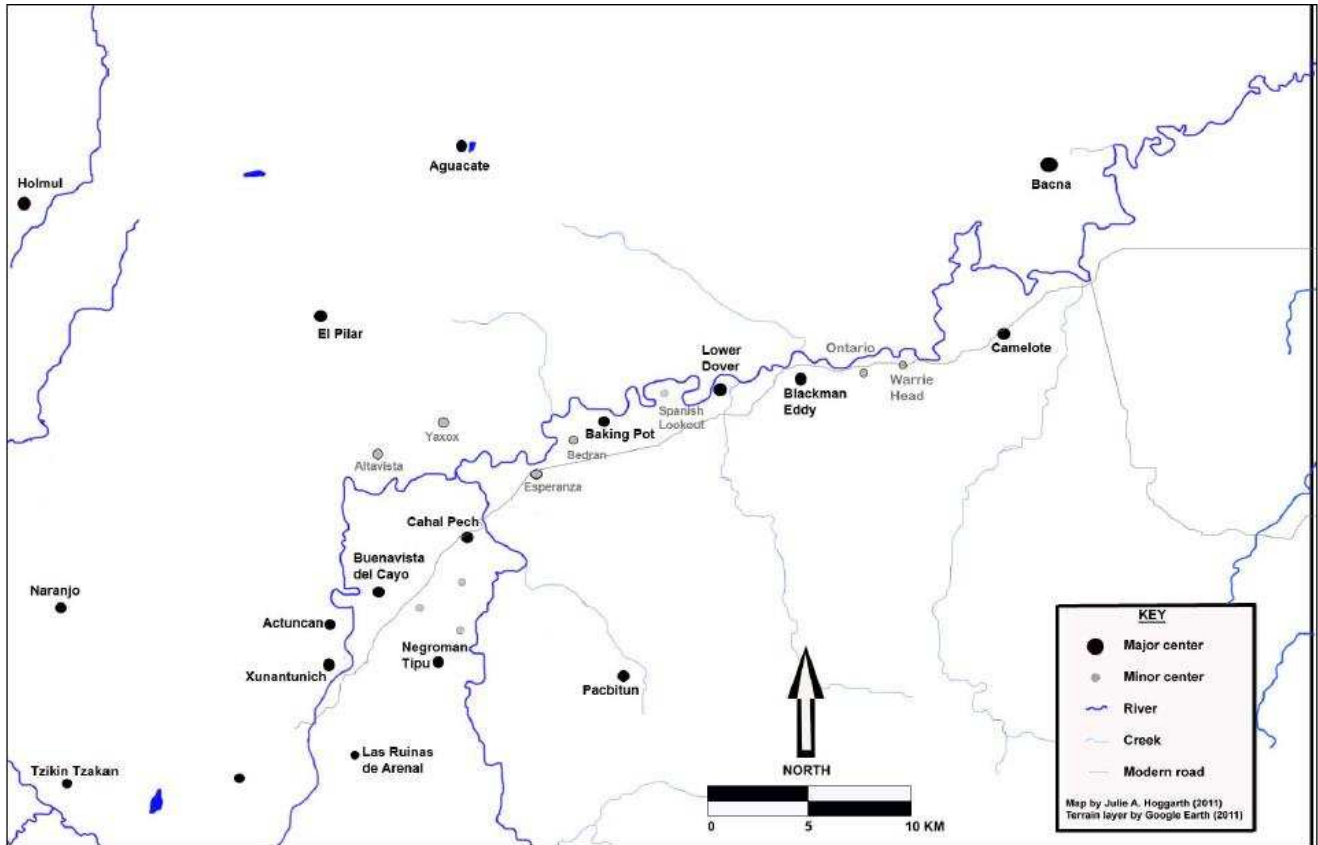


Figure 2. Archaeological Sites of the Belize River Valley (Yaeger 2005).

The Baking Pot monumental center (Figure 3) consists of two architectural groups, Group A and Group B, which are connected by a causeway approximately 306 meters in length (Helmke and Awe 2008). Group A contains two temples and three plazas, two ball courts, and long range palace structures. Group B has one temple, and one ball court as well as long range structures and was likely elite residences to the public ritual spaces of Group A (Audet 2006). The Baking Pot periphery includes 554 mounds in the 9km<sup>2</sup> surveyed area with peak populations occurring in the Late Classic period (Hoggarth et al. 2010).



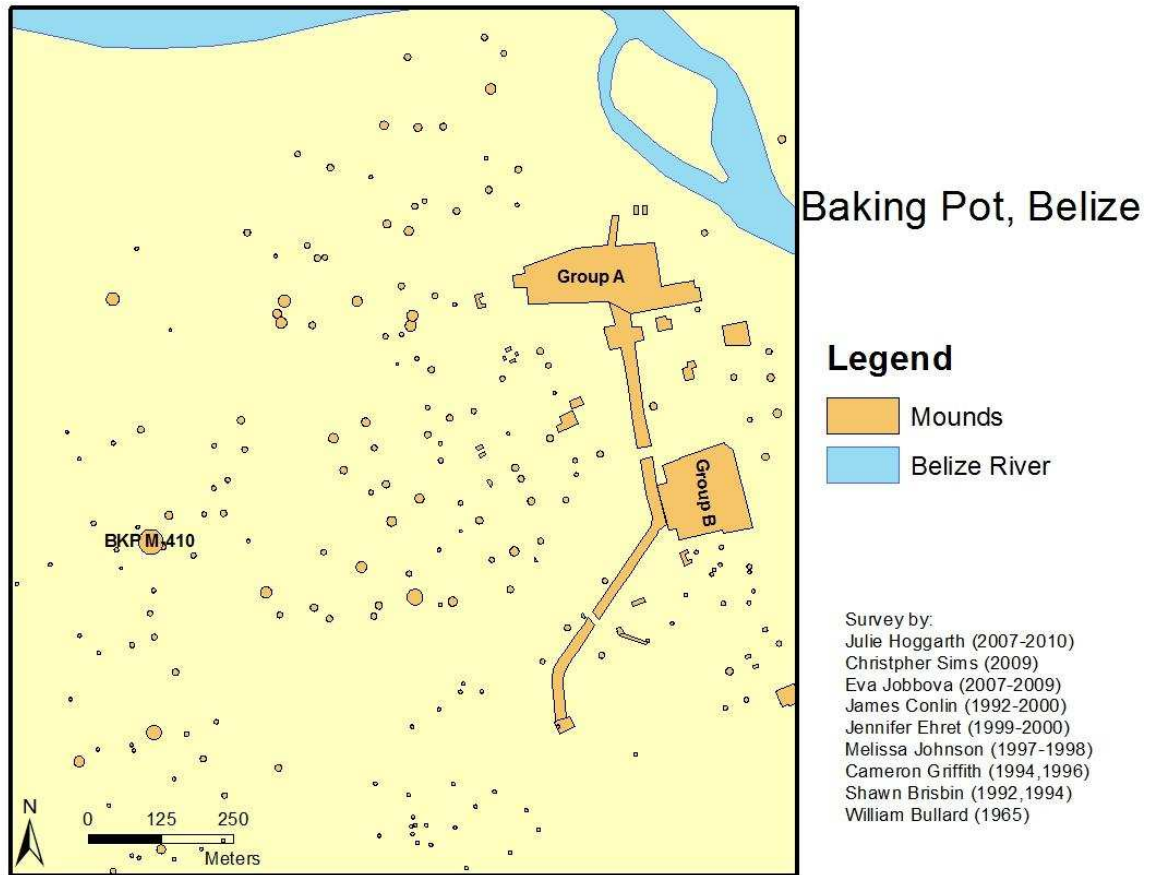


Figure 3. Baking Pot and Lubul Huh as M-410.

### *History of Baking Pot*

The first archaeological investigations were conducted from 1924-1929 by Oliver G. Ricketson Jr. from the Carnegie Institution of Washington with the intention of establishing a chronology for the site and procuring artifacts from burial goods for museum collections (Ricketson 1929). No further work occurred until 1949 when construction workers began quarrying limestone from Group B for construction of the Western Highway. A. Hamilton Anderson, the commissioner of archaeology in Belize at the time, stopped the quarrying and began formal excavations on Group B as well as one

of the ballcourts. The first systematic excavations and an initial settlement survey of Baking Pot were directed by Gordon Willey in 1956 (Willey 1956). Excavations and survey by Bullard were conducted from 1961 to 1965 that included the temple complex and ballcourt (Bullard 1963; Bullard and Bullard 1965). Bullard's work in Group B of Baking Pot recorded nothing in or past the late facet of the Spanish Lookout phase, although there was evidence in Group A Postclassic ceramics.

Since 1992, the Belize Valley Archaeological Reconnaissance (BVAR) project has conducted archaeological excavations and surveys of the Baking Pot site core and periphery. Excavations in the ceremonial center included work in Group A, Group B, the central sacbe, and Mound-190 the causeway termini group (Aimers 1996; Audet 2003, 2004, 2005, 2006; Audet and Awe 2003; Cheetham 1995; Conlon 1996; Ferguson 1999; Hoggarth 2005, 2012; Helmke 2008; Swain 2005). Archaeological investigations in the site periphery included settlement survey (Conlon 1992, 1993, 1994; Conlon and Ehret 1999, 2000; Hoggarth et al. 2008; Jobbova 2009) and plazuela excavations at the Bedran Group (Conlon 1993; Conlon and Powis 2004), the Atalaya Group (Moore 1997, 1998, 1999), and the Yaxtun Group (Audet 2000, 2001, 2002).

## CHAPTER II

### LUBUL HUH

A large housemound was located in 2007 as part of the BVAR settlement survey (Hoggarth et al 2008). Lubul Huh is located 870m to the west of Group B, 830m south of the Belize River, and only 130 west of a naturally occurring aguada. Several housemounds dotted the landscape around Lubul Huh but have since been erased from the landscape by modern agricultural methods leaving only artifact clusters in plow rows.

Lubul Huh was originally mistakenly referred to as M-254 (Hoggarth et al 2008), the mound designation is actually M-410 (Zweig 2012) but was named Lubul Huh (Zweig 2013) when excavations commenced in 2011. The name Lubul Huh is Mayan for ‘falling iguana.’ It refers to the iguanas that would sunbathe in the trees above the excavations and, falling asleep, would occasionally fall onto excavation tarps. The mound of Lubul Huh was overgrown with dense vegetation including several large trees. Vegetation was cleared at the commencement of excavations, but several of the trees had intertwined the roots into the architectural structure and remained to uphold the preservation of the structure. The modern landscape surrounding Lubul Huh was cleared and turned into agricultural pastureland, primarily for maize crops. A natural aguada occurs 130 meters east of the mound with a natural ground slope being directed west-east, towards the aguada (Zweig 2012). The surrounding archaeology has largely been plowed; only what was impractical to plow over remains. Lubul Huh was described as a large mound, non-residential in function, which would have been the public focal point for surrounding households (Hoggarth et al 2008:167). This description of the mound is

similar to what Willey (1956) described about larger structures outside of the elite palace centers having a public function. Excavations on this mound hoped to discover the function of Lubul Huh but unfortunately further investigations will be required to answer this question. Hoggarth (2012) referred to Lubul Huh as a ‘non-royal, noble housemound’ based on the terminus structure’s architectural density. A housemound does not refer specifically to a residence and is a general term to refer to a raised earthen platform in which a structure, sometimes perishable, once stood.

### *Archaeology of Lubul Huh*

Investigations of Lubul Huh were conducted by BVAR to consider the function and chronology of the housemound. Lubul Huh was designated as a non-royal housemound according to the size of the terminus architecture as identified by Hoggarth’s (2012) typology for socioeconomic status. BVAR excavations were conducted in the 2011 and 2012 field seasons with the goal of conducting preliminary investigations on the occupational sequence as well as the socioeconomic status of the mound (Zweig 2012, 2013). The 2011 field season focused primarily on the function and chronology of the mound by means of three vertical test pits (410A-1, 410B-1, and 410P-1). None of the three test pits reached cultural sterile in 2011 and so were resumed in the 2012 field season. Both 410A-1 and 410B-1 were presumed to be at cultural sterile; the few artifacts that were found in the deepest levels were likely the result of falling from the baulk into the level or possible bioturbation of burrowing animals or root systems as all other indications suggest cultural sterile. Due to heavy rainfall 410P-1 was abandoned when the unit was flooded and collapsed. At the time the unit closed, it was believed that cultural sterile had been reached and would have been continued only to verify. In

addition to continuing the three vertical units, the 2012 field season was dedicated to uncovering the terminus construction of the primary structure, 410A. Due to time constraints, the structure was not fully exposed. The exposed portion of Structure A was 18.5 meters in length and included the central staircase and the juncture with Structure B (Figure 4). The corners of the structure were not found and are presumed to be the width of the mound, following the line of the terminal architectural walls. Additional study is needed to determine if this is the case or if modern plowing has infringed upon the furthest corners of the structure.

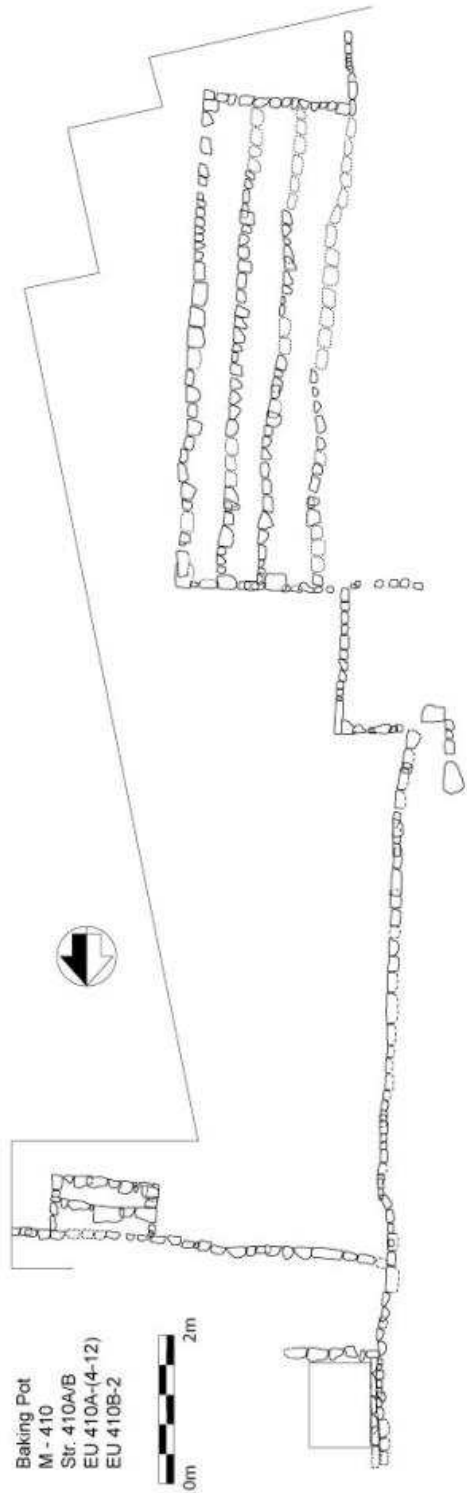


Figure 4. Exposed Architecture of Structure A and Structure B, Lubul Huh (Zweig 2013).

## *Architecture*

The earthen mound on which Lubul Huh is situated is approximately 45 meters north-south, 62 meters east-west, and 1-1.5 meters to 2-2.5 meters in height following the natural slope. Investigations of the mound were orchestrated by dividing it into three areas: Structure A, Structure B, and the Patio. The terminus architecture appears to be well preserved and intact across most of Structure A and the eastern portion of Structure B. The perceived center of Structure B is to the west of the intersection with Structure A and within the vicinity of the vertical unit, 410B-1. A very large tree with a large and extensive root system has made interpretations of the western portion of Structure B problematic; hence further research is needed before conclusions can be made.

Structure A is the dominating architecture of Lubul Huh. The terminus structure was only partially exposed due to time pressures. The range-style structure is located on the west side of the mound in a north-south orientation. The terminus architecture consisted of blocked limestone of various sizes with the outward facing side cut and smoothed. The structure varied from 10 to 15 courses high, depending on the size on the limestone blocks. The staircase projected out from the structure 2.1 meters and consists of four steps, facing east, with a run of approximately 6.7 meters. Preservation and bioturbation including two large trees protruding from the staircase inhibited more detailed measurements of the staircase. Structure B also had stairs; 2 steps with a 145 cm run, were located from the patio floor onto Structure B. The stairs were made of the same construction as Structure A, cut and smoothed limestone blocks. The total length of the terminus architecture on the front (eastern facing) wall of Structure A is unknown as it was not fully excavated. Buttress walls flanked the central staircase on each side,

protruding approximately 2 meters from the structure and sitting approximately a meter wide at a  $63^\circ$  angle from bottom to top.



## CHAPTER III

### METHODS

Excavations began in 2011 with the goal of expanding the ongoing settlement research of Baking Pot. Initially three test pits were placed on what appeared to be aligned with the architecture at 20° west of magnetic north. It was later discovered that the architecture followed a truer north-south orientation and the excavations were realigned accordingly. The three test pits—M-410A, M-410B, and M-410P—were designed to collect data on the chronology of Lubul Huh. The test pits continued into the 2012 field season along with the horizontal investigations of M-410A and M-410B to investigate the terminus structure. Excavations were conducted by the BVAR field school with the help of locals who provided much appreciated work and knowledge to the research. The archaeological units varied in size depending on the goal of the unit and the flora which influenced the excavation efforts and preservation of the architecture.

Excavation units were subdivided into a lot and level system used by the BVAR field school. Cultural, natural, and arbitrary levels were used and measured with a line level and tape measure from a datum point to record elevations. Lots could be changed within a level in order to temporarily sub-divide a level if a natural or cultural change had taken place within a level i.e. an architectural divide. Both levels and lots were recorded including elevations, artifacts found, soil changes, reasons for opening and closing the lot/level, and any other pertinent information. All excavated matrices were screened through ¼ inch mesh and separated on site by artifact type, lot, and level.

Artifacts were transported to the Baking Pot lab located in front of the AIC building at Central Farms. In the lab, artifacts underwent an initial analysis by field school students under the guidance of a lab director(s). Artifacts were cataloged by date, type, unit, lot, level, and count. Artifacts, excluding organic materials and obsidian, were washed using toothbrushes and sponges and then laid to dry on mesh screens in the open air and sun. All artifacts were then counted, bagged, and stored in the storage unit for Baking Pot located at Central Farms. Ceramics were sorted into diagnostic and non-diagnostic and recounted. Formal tools were removed from lithic sorts and placed as 'special finds.'

Further analysis was conducted after excavations had ceased. Due to the large quantities of artifacts and limited time frame, a random selection of ceramic and lithics were chosen for analysis. Sampling was completely random with the exception of the M410-P ceramics; all lots and levels were sampled in order to establish a chronology for the mound. Artifacts were divided by class: ceramics, chert, quartz and quartzite, granite, obsidian, daub, faunal remains, human remains, fresh water shell, marine shell, slate, pyrite, wood, basalt, jade, limestone, carbon, and unknown. Artifacts were weighed using a standard electronic scale (.01g). Any unique artifacts were labeled as 'special finds,' photographed, described, and measured and will be discussed in further detail below. Ceramics were separated into diagnostic and non-diagnostics. Diagnostic ceramics chosen for further analysis were categorized according to the Gifford ceramic type-variety system (Gifford 1976). This system has been used for previous excavations at Baking Pot as well as other sites in the Belize Valley.

## CHAPTER IV

### ARTIFACTS

The artifacts of Lubul Huh were collected for two purposes. Those artifacts within the vertical excavation units were primarily collected to gather a sense of chronology and change within the occupation span of the mound. The horizontal excavation units were primarily collected to expose the terminus architecture as well as a large extent of the termination deposit, a ritual deposit in which ceramics and sometimes architecture is smashed or destroyed. This process is part of the Maya life cycle ideology in which all things must be terminated before the next life can begin (Garber 2003). The artifacts were sorted on-site by a lot-and-level system as well as by artifact type. Any unique or unusual artifacts that required further examination were labeled as 'special finds' in order to distinguish them from the thousands of other artifacts collected. Over 75% of the artifacts collected were from the termination deposit that was within close proximity to the structures. The close proximity to the structure is both a common practice for termination deposits and it also helps with the preservation as the termination deposit would have been exposed to the elements for as long as it took for a sediment to form over it.

#### *Ceramics*

Ceramics are an important part of the Maya artifact assemblage. Ceramics include the pottery that served both the commoner and the elite as well as figurines, ocarinas, masks, and spindle whorls, among many other things. Ritual deposits encompass an array of activities. The Maya believed that objects contained a spirit or soul, and, once an object or structure was ensouled, it took some means of destruction, such as breaking or a

‘kill hole’ to release the spirit of the object (Stross 1998). Objects could also symbolize parts of the Maya mythical realm and act as portals between the upper world, earth, and the underworld also known as Xibalba. Ceramic vessels were filled with foods, fluids (such as blood), or other materials and ideologically charged to convey messages to the gods (Brown 2007).

A regional typology of ceramics was completed by Gifford et al. (1976), allowing for similarities between ceramic types to be addressed. Gifford established a type-variety collection for the area based off of the ceramic collection from Barton Ramie (Figure 5). Gifford’s work allowed for the foundation with which ceramic chronologies have been possible when alternative methods of dating are not used. It is common practice to use ceramic chronology systems, but it is neither perfect nor precise. Carbon dating during the time that Gifford built the ceramic chronology used in the Belize Valley was less precise than current abilities. Ongoing research of radio-carbon testing of burials at Baking Pot is adjusting the dates for presumed dates from ceramics to actual dates using C-14 dating methods (Hoggarth 2014). The C-14 data shows that although Spanish Lookout phase ceramics are prevalent at Baking Pot and that the Spanish Lookout phase extends into the early Terminal Classic period, there is a hiatus in dates from the end of the Late Classic to the Postclassic periods. Although the sample is still small, the timing of the Baking Pot collapse may not extend past AD 800 (Hoggarth et al. 2014). No burials were recovered from Lubul Huh and there has been no C-14 dating of Lubul Huh.

PERIOD			BARTON RAMIE (Gifford et al. 1976)
POSTCLASSIC	Late	1500	New Town
		1400	
		1300	
		1200	
	Early	1100	
		1000	
		900	
CLASSIC	Terminal	800	Spanish Lookout Tiger Run Hermitage
	Late	700	
		600	
	Early	500	
		400	
		300	
	PRECLASSIC	Proto- classic	
100			
-----		AD/BC	Mount Hope
Late		100	
		200	
		300	
Middle		400	Jenney Creek
		500	
		600	
		700	
		800	
		900	
		1000	
	1100		
1200			

Figure 5. Ceramic Phases of Baking Pot Adapted from Barton Ramie (Gifford 1976).

Ceramics make up the majority of all artifacts collected at Lubul Huh. While time restraints prevented a full ceramic analysis, a type-variety identification was performed

on the 410P-1 unit. This unit was chosen for multiple reasons. The 410P-1 unit excavation was the earliest stratigraphically, it contained a dedicatory cache, and the unit was consistently producing diagnostic ceramics likely from the two ceramic features found within the units. Level 9 of 410P-1 was the lowest level in which a diagnostic ceramic was recovered but only one sherd, of the Hermitage phase, could be identified (Figure 6). Although Jenny Creek, Barton Creek, and Floral Park (Table 1) types were found in the unit the low percentages and mixing of the ceramic types makes it likely that these were part of fill. Several ceramic sherds, from different vessels, were refits between the levels, further confirming that these were from a midden used as a fill deposit. The presence of Spanish Lookout period ceramics throughout and increasing in the deposit indicate that the mound was occupied in the earliest of the Spanish Lookout (Late Classic) but ended before the New Town phase began (Figure 7).

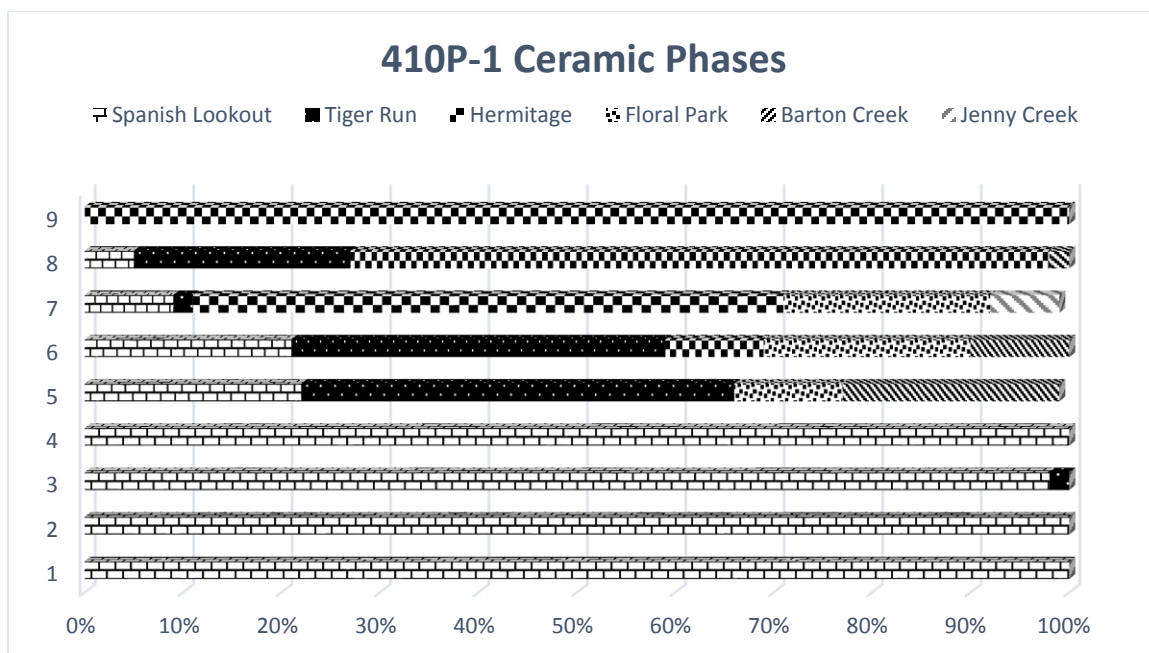


Figure 6. Ceramic Phases of 410P-1, Lubul Huh, Baking Pot.

Table 2. Type-Variety Percentages of Ceramics of 410P-1 at Lubul Huh, Baking Pot

Struc	Le	Spanish	Tiger	Herm	Floral	Barton	Jenny	Diag	Ce
ture	vel	Lookout	Run	itage	Park	Creek	Creek	Total	Total
410P	1	100%	-	-	-	-	-	3	33
410P	2	100%	-	-	-	-	-	31	306
410P	3	98%	2%	-	-	-	-	84	800
410P	4	100%	-	-	-	-	-	41	819
410P	5	22%	44%	-	11%	22%	-	9	302
410P	6	21%	38%	10%	21%	10%	-	42	1130
410P	7	9%	2%	60%	21%	-	7%	43	795
410P	8	5%	22%	71%	-	2%	-	41	500
410P	9	-	-	100%	-	-	-	1	24



Figure 7. Spanish Lookout Phase Ceramics from Lubul Huh, Baking Pot

Three bowls were recovered from Cache 1 of 410P-1. This cache was identified to be a dedicatory lip-to-lip cache. Lip-to-lip vessel caches are common in Western Belize from the Preclassic into the Late Classic periods (Awe et al 2014). Lip-to-lip vessels symbolize the three levels of the cosmos, the inverted bowl represents the heavens, the bottom bowl represents the underworld and the space between represents the earth (Lucero 2010). In the Lubul Huh dedicatory cache two bowls were lip-to-lip with a third bowl to the east. A dense ceramic deposit was located directly above the cache. The vessels were very similar to other lip to lip caching vessels (Figure 7). These caching vessels do not belong to a type-variety within Gifford's ceramic typology. Instead these



vessels are generic caching vessels that are found from the Preclassic through the Terminal Classic periods in the Belize Valley (Awe 2014).



Figure 8. Vessel 1 and 2 of Cache 1, 410P-1, Lubul Huh, Baking Pot

The termination deposit located across the front, eastern facing wall and staircase of structure 410A and at the intersection of structures 410A and 410B contained the majority of the ceramics recovered from Lubul Huh. The termination deposit contained 59,015 ceramics or 78% of the total termination deposit consisted of ceramics. A formal analysis was not performed due to time constraints, but a visual assessment of the ceramic artifacts during excavation and lab lead to the realization that most, or all, of the terminal deposit ceramics are squarely within the Spanish Lookout phase, with most belonging to the Cayo ceramic group (Hoggarth 2012).

There were many notable special find ceramics included in the terminal deposit including figurine, ocarina, and incensario fragments as well as molded or carved ceramic sherds, reworked sherds, and a ceramic rim thought to have additional ritual meaning. Most of the figurine fragments are of the head/face (Figure 9). Many partial figurines found are of the head/face, but some are of the body and/or appendages. The figurines found in the termination deposit of Lubul Huh are all of the head or headdress. The only figurine appendage at Lubul Huh was a jade figurine arm found in level 7 of 410A-1. Several molded and carved ceramics were also found within the termination deposit. Most of the sherds were too fragmentary to identify, but Figure 9 is a molded figure with a simple body and a dislocated floating head. Similar figures, identified as maker's marks, have been found at a handful of sites throughout the Belize Valley. Similar figures were found in Baateelek (CBAS), Chechem Ha Cave, and Actun Tunichil Muknal (ATM) cave (Figure 10). The figures show a varying level of artistic detail and the figure

from ATM cave looks more similar to a monkey than the rest, but they all have a similar body type with a dislocated head, and all are from large jar necks.



Figure 9. Figurine Head and Face Fragments from Lubul Huh, Baking Pot



Figure 10. Ceramic Sherd of Floating Head and Body





Figure 11. Ceramic Vessels with Monkey/Man Figure

Two ceramic sherds found within the termination deposit have figures on them that likely illustrate hieroglyphics, but are too fragmentary to read. A ceramic jar neck and rim did not appear to have any uncommon markings, but is likely ritualistic due to the context in which it was found. This jar, measuring 43cm inside rim diameter, was cracked in three places but was sitting on limestone boulders that appeared to have been specifically placed in the corner, and the jar neck was on top of it. Inside the jar rim was an unbroken granite mano, another mano was directly north, and a third mano was

recovered in the same context but was not immediately associated with the jar rim so the exact location is unknown (Figure 12). The three manos and the large jar rim can be interpreted as a ritual symbol for the three-stone place.



Figure 12. Large Jar Rim and Mano in Termination Deposit, Lubul Huh, Baking Pot

### *Chert and Quartzite*

There were several types of stone artifacts recovered throughout the investigations at Lubul Huh including chert, quartzite, granite, obsidian, pyrite, basalt, and jade. The mound is located in an alluvial floodplain and it is assumed that stone artifacts would have been brought in from various sources, which will be discussed in correspondence with the artifact type.

Chert was the second most common artifact type collected, making up 20% or 20,093 of the total artifacts. The chert recorded was not divided into local or non-local chert although there were examples of each. Local chert can be easily obtained from the

local landscape and river beds. Most of the chert collected can be classified as debitage, unifacially worked, or possible expedient tools. Chert was also a ritual tool; the Maya believe it had been created by lightning and was used to start fires for the gods (Miller and Taube 1993). Several debitage pieces and a pyramidal chert core (Figure 13) are of a finer quality chert than what would be available locally, likely from north of Baking Pot in the Belize chert-bearing zone (Hester and Shafer 1991). This finer-quality chert was among the total chert in the terminal deposit. Chert made up less than 16% (n. 12,061) of the terminal deposit. Several bifaces and microblades were among the chert deposit (Figure 14 and 15). Two chert eccentrics (Figure 16) were located below floor 5 of 410A-1. The two are eccentrics are similar in design and size. SF 410A-1 is slightly larger at 7.3 cm long and 0.7 cm thick while SF 410A-2 is 6.5 cm long and 0.6 cm thickness at the midsection. Quartzite is used here to refer to lithic material that is quartz-like in appearance but does not have the purity of quartz. Aside from a single piece of quartz, all of the quartzite at Lubul Huh was flawed lithic material that was classified as likely debitage or shatter from either natural or cultural breakage, three quartz cobbles were also present in the 410A-1 lithic material that could be unwanted core.



Figure 13. Non-Local Chert Core, Lubul Huh, Baking Pot





Figure 14. Chert Tools, Lubul Huh, Baking Pot



Figure 15. Chert Biface Tool, Lubul Huh, Baking Pot, Belize





Figure 16. Chert Eccentrics, Lubul Huh, Baking Pot

### *Granite and Other Stone*

Goundstone at Lubul Huh consists primarily of fragmented pieces of manos, matates, and small chunks of granite with no definitive shape. Three full manos and several grooved stones (Figure 17) were among the termination deposit. No granite was found in the lower levels of the vertical excavation units, but it was found associated with 410A-4<sup>th</sup>, 410B-3<sup>rd</sup>, and 410P-1<sup>st</sup>. In units 410A-1 and 410P-1 the levels with granite correlate with the levels in which chert is the most abundant artifact. Granite in the termination deposit numbers 214, or .28% of the total deposit and less than 2% of the total lithics. The only complete manos were associated with the large ceramic jar rim at

the intersection of structures 410A and 410B. They measured 16cm, 18cm, and 19cm in length and were all rectangular in cross section. In addition to the three complete manos, there were 48 mano fragments, 79 metate fragments, and 3 grooved spheres used as weights or sinkers. Other stone artifacts include limestone and basalt weights or anchors similar to those made of granite and also found in the termination deposit.

Grooved stones have appeared at Baking Pot as well as many other sites in the Belize Valley. A study of grooved stones at Baking Pot tested the stones for utilitarian use as weights, anchors, mace heads, and pounders. The grooved stones were also thought to be associated with the water as most of the grooved stones were found at mounds nearest the river. Ritual purposes for the stone were assessed after finding grooved stones at Grooved Stone Cave, but no function could be derived (Aimers et al 2011). Three complete stones found at Lubul Huh are further from the river than the northern mounds where other grooved stones were found, but Lubul Huh is near an aguada and could be considered in association with water. The grooved stones were found in the termination deposit of Lubul Huh, where the stones could have a similar ritual component as in Grooved Stone Cave. No other indications for the function of these grooved stones were indicated from Lubul Huh. The grooved stones do not appear in the Belize Valley until the Late to Terminal Classic periods, which agrees with the ceramic chronology of Lubul Huh. A slate mace, sometimes referred to as a mace was recovered in two pieces from the termination deposit (Figure 18).



Figure 17. Grooved Stones, Lubul Huh, Belize





Figure 18. Slate Mace, Lubul Huh, Baking Pot

Spindle whorls, used in the production of yarn, made of ceramics and stone were also in the termination deposit (Figure 19). The cloth or cotton material used in textile production can be represented by the spindle whorl. The ceramic spindle whorls are easily made by modifying ceramic sherds with a hole in the center. The carved limestone spindle whorls are more elaborate, one has an eight petal flower like design. In Settlement Cluster C of Baking Pot spindle whorls were evidenced in both commoner

and noble housemounds but increased from the commoner households in the Late Classic period to the noble housemounds during the Terminal Classic period (Hoggarth 2012).

All seven spindle whorls collected from Lubul Huh were from the termination deposit.



Figure 19. Ceramic and Stone Spindle Whorls, Lubul Huh, Baking Pot

### *Obsidian*

Obsidian was used in a number of functions including tools for utilitarian use and bloodletting in ritual use. The three major sources of obsidian in the highlands of southern Guatemala are San Marín Jilotepeque, El Chayal, and Ixtepeque. Obsidian blades are made by knapping the obsidian nodule. Cores are often found in caches or religious contexts, sometimes in the form of eccentrics (Heath 2011). Obsidian from



Lubul Huh was sent to Pennsylvania State University laboratory for x-ray fluorescence analysis. The results indicate the obsidian from Lubul Huh originated from the Guatamalan highlands (George and Hoggarth 2014). The results indicate that El Chayal is the most common obsidian source, but in no particular pattern obsidian from Ixtepeque and San Marín Jílostepeque are also present; the obsidian from Ixtepeque and San Marín Jílostepeque appear random through the Lubul Huh excavations. An obsidian core and obsidian core eccentric were located at in the corner of structures 410A and 410B (Figure 20) both of these cores originate from El Chayal (George and Hoggarth 2014). An additional 146 obsidian blade and blade fragments were found throughout the terminal deposit. Obsidian blades and fragments were also in the vertical excavation units, but not to the extent as in the termination deposit.



Figure 20. Obsidian Cores, Lubul Huh, Baking Pot

### *Jade and Pyrite*

Jade and pyrite are exotic luxury items that were highly valued and less often found at Baking Pot (Hoggarth 2012). Jade and greenstone are ideologically charged due to the blue-green color representing water, maize, life, and concepts of rulership (Taube 2005). Three jade/greenstone objects were recovered from Lubul Huh. A rectangular pendant was found above the ceramic features of level 4 in 410P-1, and a triangular bead with a hole through the center and a figurine arm appendage were located in 410A-2<sup>nd</sup> (Figure 21). Pyrite was also a highly valued exotic item for ritual use. Pyrite is a sedimentary stone that breaks with smooth surfaces that can be polished to resemble mirrors. The nearest sources for jade, greenstone, and pyrite come from the volcanic highlands of southern Guatemala. Pyrite is used in rituals in association with divination and is associated with caves and portals (Brady and Ashmore 1999). No pyrite was found in Settlement Cluster C during the Late or Terminal Classic periods. The pyrite at Lubul Huh was among the termination deposit (Figure 22).



Figure 21. Jade and Greenstone from Lubul Huh, Baking Pot





Figure 22. Pyrite, Lubul Huh, Baking Pot

### *Faunal and Shell*

Faunal and shell analysis is ongoing and will be reported in a later publication by Norbert Stanchly. Faunal remains make up less than 1% of the total artifact assemblage of Lubul Huh. In vertical excavation unit 410A-1, 87% of the faunal remains are associated with 410A-1<sup>st</sup>. In vertical excavation unit 410P-1 68% of faunal remains are associated with the top of the ceramic deposit. Less than 1% of the termination deposit is faunal material, but almost 30% (208) is from a concentration at the north inset between the buttress wall and structure wall.

Several modified shell and faunal specimens were present at Lubul Huh (Figure 23 and 24). Located within the ceramic deposit of vertical excavation were two bone needles with perforations, marine shell inlays, and engraved faunal bone. One marine shell bead and one engraved bone were found in the vertical excavation unit associated with 410B-1<sup>st</sup>. The burned bone, perforated and smoothed bone, and engraved bone are all from the termination deposit. An in-depth analysis from Norbert Stanchly will be published at a later date.



Figure 23. Modified Faunal Remains, Lubul Huh, Baking Pot





Figure 24. Modified Shell from Lubul Huh, Baking Pot

## CHAPTER V

### SPECIAL DEPOSITS

Termination deposits are clusters of broken or smashed artifacts, primarily ceramics, and associated with the end of something, such as a construction phase, household, or site. These rituals signified the beginning and the end of the location in which they were performed. The Maya culture is interconnected to religious ideology; many of their rituals revolve around their creation story, the *Popul Vuh*, in which the world is divided into layers and directions. Each direction has an associated color, bird, tree, and deity (Matthews and Garber 2004). In the center is the axis mundi, commonly a ceiba tree, which separate the sky, earth, and underworld. The underworld, or Xibalba, then has nine layers and the upper world 13. According to the *Popul Vuh* the world has been created and destroyed three times and the present day is the fourth creation. In the current creation story the hero twins beat the lords of the underworld and take their father's severed head to the three stone place where he is resurrected as the maize god.

The Primordial Sea, the watery underworld, caves, maize, the Milky Way, and many other themes are important within the creation story (Christenson 2003). When archaeologists discover dedication caches, they are often found to symbolize the creation story. At the site of K'axob, Belize McAnany (1995) describes an ancestral shrine cache consisting of four vessels in the quadripartite pattern and the ceramic vessels were decorated with the quadripartite motif. The quadripartite can be symbolized in many ways, including the kan cross which depicts a cross-shaped emblem with a dot in the middle. Bloodletting was also an important part of ritual for the Maya. Often a stingray

spine is found with a bowl in which the blood would accumulate and the ceiba, or great world tree, would rise (Matthews and Garber 2004). Stingray spines and/or obsidian blades are often found together as part of this bloodletting ritual. By accumulating blood into the ceramic dish and setting it afire, people would use the rising smoke to send messages to the gods. As dedicatory caches were used to invoke the spirit of an object or structure, termination deposits accomplished the reverse. Termination deposits occur where artifacts are intentionally destroyed to 'release' the spirits upon discontinued use of a dwelling or site. People lived and died and the Maya believed that so did temples, palaces, or houses (Friedel et al. 1993). Termination deposits have been postulated to represent different types of abandonment, either by choice or force, but each subtype of termination includes that the location is abandoned. The dedication caches serve as an 'ensoulment' of a building as termination deposits serve to release the soul; therefore, whole ceramics commonly constitute dedicatory caches and smashed or broken ceramics are indicative of termination caches (Garber 1983).

### *Cache*

The intentional placement of items in a specific location can become very complicated when analyzed 1,000 years later by archaeologists. Sometimes during an archaeological investigation, a cache, deposit, or fill are very noticeable and easily identified, but sometimes they are not. A cache, in Mesoamerican archaeology, is commonly used to refer to a single or a group of artifacts intended as an offering. This can be problematic because an offering is a ritual act that may or may not be apparent with the passage of time. Often caches are identified because they contain different attributes that archaeologists have identified from patterns in the archaeological record.

Caches have been inventoried, analyzed, and discussed from the temples and palaces of the elite for decades, but only in the most recent decades have non-elite structures been investigated for caches. A cache at a temple would be more likely to contain elaborate goods that might be unavailable for a lower status individual. The type and purpose of the cache may also be different. A cache found in Platform B at Cahal Pech contained three slate bars, a headless ceramic figurine, and 13 polished greenstones. The cache was originally interpreted as a cosmogram (Garber and Awe 2008), but, with more excavation and an additional cache located in the same platform but west of the aforementioned cache, it was later interpreted that the two caches were related and intended to symbolically resurrect a deceased individual (Awe 2014). The cache was located in a prominent structure in the Cahal Pech site core and related to the death of a noble individual. This is markedly different than a cache found in what would have been the periphery of Cahal Pech. In what is modern day Burns Avenue several caches were discovered where the modern town of San Ignacio overtook the ancient site periphery of Cahal Pech. Of several caches reported most consisted of a number of ceramic vessels of bowls in a lip-to-lip configuration of what Awe (2014) described as pertaining to myths and ideology of the underworld. The bowls used in the configuration are generic caching bowls that are located throughout the Belize Valley made for the purpose of caching. At Blackman Eddy a ritual cache was placed at the eastern mound in dedication of the mound's construction (Garber et al. 1998; Matthews and Garber 2004). Two lip-to-lip Early Classic bowls were found on the east-west axis and contained "a layer of white marl, nine large crude brown chert flakes, carbonized twigs, and a rodent skeleton" (Matthews and Garber 2004:53). These objects laid out in a ritualistic way represent the

world creation. This ritual recreation of the cosmology allows the Maya to connect with and ‘activate’ the spiritual and mythological world of the ancestors.

Maya caches come in a variety of forms, and the above are just two examples of the difference found when the socio-economic statuses of the individuals as well as the purpose of the cache are very different. Through the various types of caches seen in Maya archaeology, the aspects of a cache that help define it as one include the type(s) of artifact(s); the location of the artifacts in relation to each other as well as the location of the entire group of artifacts in relation to the building, burial, or other feature; and the purpose of the deposit. Some difficulties that arise from defining a cache are include the defining difference in a cache found in relation to a building versus a burial, whether the cache is a ritual in itself or must it be inferred, and whether it would be helpful to call caches of various complexity/purpose/etc. by different names.

### *Termination Deposit*

A termination deposit is similar to a cache in that it is a ritual deposit of artifacts, but its intent and how it was done are very different. At Cahal Pech, Plaza A contained a termination deposit. It was littered with hundreds of artifacts between 10 to 24 cm thick, particularly surrounding the central staircases and in the corners of Structures A-2 and A-3. The assemblage contained broken ceramic vessels, ceramic spindle whorls, complete chert points, a complete ocarina as well as partially complete figurines and ocarinas, obsidian blades, faunal bones, and two carved jade fragments. No complete ceramic vessels were recovered and most of the figurines and ocarinas were broken at the head. The ceramics dated to the early Spanish Lookout and were primarily Belize Red bowls and Zacatal Cream Polychrome, Benque Viejo Polychrome, and Xunantunich Black on



Orange polychrome vases (Audet 2006). The ceramic types identified within this deposit are very similar to those found at Baking Pot (Audet 2006; Audet and Awe 2004).

A ritual deposit is a very general term used to describe sometimes very specific things. Typically a deposit must be explained by context, adding a descriptor in front of it, or both. An example would be dedicatory deposits and termination deposits. By adding the type of ritual the deposit was intended for, the deposit is even more specific. A deposit has a very similar general definition as a cache—an artifact or group of artifacts intentionally placed or buried in a ritual act. What is the difference between a deposit and a cache? A termination deposit and a dedicatory cache can also be found buried in close proximity. A dedication cache in structure B1 at Blackman Eddy is directly above, but between the same construction phases, as a termination cache (Brown 2001). Between the 4<sup>th</sup> and 5<sup>th</sup> construction phases of Str. B1 lies evidence of a termination feasting event of smashed ceramic vessels, faunal remains, shell, lithic debitage, and carbon. Directly east of the termination deposit is the dedication cache for the next construction phase. Four vessels were reconstructed: a Joventud Red deep thick-walled bowl with an outflaring rim and an incised line on the top of the inner lip, a deep thick-walled bowl with an outflaring rim with Cunil-like characteristics but resembling both Joventud Red and Savana Rejolla, a thin-walled bowl with an outflaring rim and strap handles, and a miniature Jocote Orange-brown vessel, among others. There was also a Savana Orange: Rejolla Variety stirrup spouted vessel and chocolate vessel with a zoomorphic or anthropomorphic effigy (Brown 2001).

Another common type of deposit is the “problematic deposit” in which the ancient intention of the deposit is unknown and cannot be described as a termination/dedication deposit or cache. Termination deposits are often characterized by the intentional deposition of ceramics, limestone, and ceremonial artifacts that have been broken or shattered. Termination deposits can be further categorized into reverential or desacratory (Garber 1986). Problematic deposits are a name that many archaeologists use when a deposit is found but the intent of the deposit is unknown. By naming a group of artifacts a deposit or cache, the ritual aspect must be clear. Without the intent, a deposit could be a trash midden that archaeologists give meaning to where no ancient meaning is present. Clayton et al. (2005) discusses problematic deposits at Blue Creek, Belize and the difficulties in determining a deposit from a midden.

Previous works on caches and termination deposits grapple with tough questions that may never be answered that include the specific purpose and intent of caches, deposits, and funerary activities (Coe 1959; Becker 1992, 1993; Chase 1982; Pendergast 1979). A cache and a burial are sometimes difficult to distinguish from one another. Coe (1959:77) defined caches as “one or more objects found together, but apart from burials, whose grouping and situation point to intentional interment as an offering.” Using Tikal as an example, Becker (1993) argued that some mortuary practices can either contain caches or be itself a cache. In an effort to create a typology, she offers an appendix (Becker 1993:68) in which to describe burials and caches. Chase and Chase (1998) help define the difference between ritual activities, such as caches and burials, and architecture with data collected from Caracol, Belize. It is usually easy to identify a deposit between a burial and cache by the existence of human remains, but sometimes fragmentary remains

present with artifacts can make the identification of the deposit unclear. In the case of fragmentary human remains, such as finger bones or a skull with no evidence of the rest of the body, these are typically classified as caches (Chase and Chase 1998). Caches and burials can become problematic when the context is unclear and the intent of the action unknown. As most work has focused on caches, burials, and deposits from the temples and palace complexes of a site center, it is likely that, as settlement archaeology progresses, ritual deposits in domestic and non-elite household structures will be better understood in terms of the similarities and differences of elite deposits.

Caches differ from terminal deposits in that they intrude into existing buildings or are buried within the fill of a new construction. Terminal deposits may also exist between construction events if there was new construction built on top of it (Chase and Chase 1998:300). Caches are often found in monumental architecture and within smaller monumental architecture away from the site center.

Caches may be as similar as they are different. Regional and chronological examinations of caches reflect these similarities as archaeological investigations continue throughout the Maya homeland. In the Belize river valley a commonly seen cache are lip-to-lip vessels, typically bowls that may be found alone or in conjuncture with additional artifacts. Altun Ha (Pendergast 1979) Caracol (Chase and Chase 1998) Cahal Pech (Awe 2013) and Baking Pot (Zweig 2013) are among the sites where these lip-to-lip caches have been identified. At Baking Pot, the causeway extending from Group B ends at a Structure 190, also named the ticket booth. This structure contains many ritualistic items including an altar and at least two stela (Audet 2004; Awe and Helmke 2005). Below the altar were more than a hundred lip-to-lip vessels. The vessels were of the Early Classic

Hewlett Bank Unslipped type, and most contained human finger bones. This cache of human phalanges is the earliest such cache known in the Belize Valley (Audet 2006). Around the outset of the staircase, a termination deposit consisting of thousands of partially reconstructable vessels was found. Most the vessels were of the Spanish Lookout phase which corresponds with the Late Classic and when the site core was abandoned. The vessels were varied in type and included bowls, dishes, cases, and censers, and a dozen complete or partially complete obsidian blades were in the termination deposit. Audet (2006) believe that it is a termination deposit due to the large quantity of broken ceramics and as it was in front of the staircase it would have prevented access onto the structure. Structure 209 is another ticket booth structure. Two caches accompanied several burials that indicated that this was a unique and ritual structure reserved for the burials of elites. One cache was located inside the structure platform and consisted of the lip-to-lip arrangement that has been seen at many dedicatory caches. This cache consisted of a plain monochrome ware opposite a large orange slipped bowl and a smaller orange slipped bowl upside down above it and a brown bowl set inside the lower orange slipped vessel. The brown bowl was filled with dirt and contained a single chert arrow point. This termination deposit is unlike any other found at Baking Pot, Cahal Pech, or Blackman Eddy; Audet (2006) suggests that this is due to the ritual and nondomestic use of this structure.

## CHAPTER VI

### RESULTS

The primary purpose of the investigations of Lubul Huh is to verify the hypothesized occupation date and to determine the function of the structures. Baking Pot was occupied from the Late Preclassic period into the Middle Postclassic period (Hoggarth 2012). Baking Pot is located in the Belize River Valley along the southern banks of the Belize River, an area with highly productive soils and ethnohistorical accounts of cacao cultivation (Jones 1989). Baking Pot reached its peak population in the Classic period and the ceremonial center was abandoned by the Terminal Classic period. The settlement surrounding Baking Pot was occupied for varying lengths of time after the collapse of the ceremonial center. Settlement to the north and east (Conlon and Ehret 1999, 2000) have the longest occupations with data from Settlement Cluster C (Hoggarth 2012) and the Yaxtun Group (Audet 1999) into the Postclassic period. Data from surface artifacts indicate that, at the height of Baking Pot, the population was 3,047 which was reduced to 2,986 in the Terminal Classic period and 2,072 by the Postclassic period (Hoggarth 2012). The data further indicate that Lubul Huh was occupied and abandoned during the height of Baking Pot in the Late Classic period (AD 600-800).

#### *Chronology*

Lubul Huh is a very large mound with a large and elaborate substructure. Although built in several construction phases during a relatively short period of time the architecture of Lubul Huh is fairly well preserved in most places. The chronology of Lubul Huh was established by using ceramic chronology (Gifford 1976). The excavations

produced both a dedicatory cache and a termination cache and the chronology was based off of these two ritual deposits. The cache found in the vertical excavation unit of the patio contained a lip-to-lip bowl configuration that is well known in cache deposits of the Belize Valley from the Preclassic into the Terminal Classic periods. The cache had a dense quantity of ceramics covering the vessels with little to no ceramics outside of the densely packed ceramic features. The result of the cache and ceramic features was a seriation that resembles a midden with an assortment of ceramics dating from the Preclassic into the Late Classic period. Ceramics from the Spanish Lookout phase were present throughout the levels. To further confirm the Late Classic date a random ceramics bag from below 410A-1<sup>st</sup> was examined. Out of 55 diagnostic ceramics examined, 25 were identifiable and were all of the Spanish Lookout phase.

The termination deposit ceramics were almost exclusively of the Spanish Lookout phase. The grooved stones located in the termination deposit do not appear until the Spanish Lookout phase at Baking Pot. Thus, since the Baking Pot ceremonial center was abandoned at the end of the Late Classic period, the abandonment of Lubul Huh occurred at the end of the Classic period. The abandonment of Baking Pot has been assigned to the Terminal Classic period (AD 800-900), but new carbon-14 analysis indicate that the abandonment was actually earlier (Hoggarth et al 2014). As ceramic chronology is a relative dating method, the analysis of burials at Baking Pot provide an exact dating method with which to support ceramic chronology. The Baking Pot dating research is still small, but show a cutoff of AD 800 for burials at Baking Pot followed by a hiatus that is restarted in the Postclassic period (Hoggarth et al 2014). There have been no burials

discovered at Lubul Huh but the strong Spanish Lookout phase data likely places the abandonment at the end of the Late Classic period, not the Terminal Classic period.

The terminus structure was built of cut limestone blocks with architectural features of a large center staircase and flanking buttress walls. The architectural sequence of structure A and structure B confirm that the dedicatory cache in the patio unit correlates with the initial construction (M410-1<sup>st</sup>) of structure 410A. The construction of 410B and the subsequent construction of 410A are firmly within the Spanish Lookout ceramic phase. The apex of Lubul Huh then included a series of five floors of structure 410A and 4 floors of 410B, all constructed during the Late Classic period.

The Lubul Huh terminal deposit consisted of a large quantity of smashed ceramics, artifacts consistent with bloodletting rituals, and an array of exotic and worked artifacts (Figure 25). The ceramics date the terminal deposit to the Spanish Lookout phase, consisting primarily of Belize Red and Cayo Group ceramics. Belize Red is believed to have been manufactured at or within close proximity to Baking Pot (Chase and Chase 2012). An abandonment dating to the Late Classic period would correspond with the abandonment of the palace complex of Baking Pot. The abandonment of Baking Pot was at least partial gradual as evidenced by the ceremonial center. Several structures, including the ballcourts and range Structures B and C from Group 1, were covered with an alluvial fill followed by a plaster surface in the Terminal Classic period that helped preserve the terminal phases of the buildings (Aimers 2003).

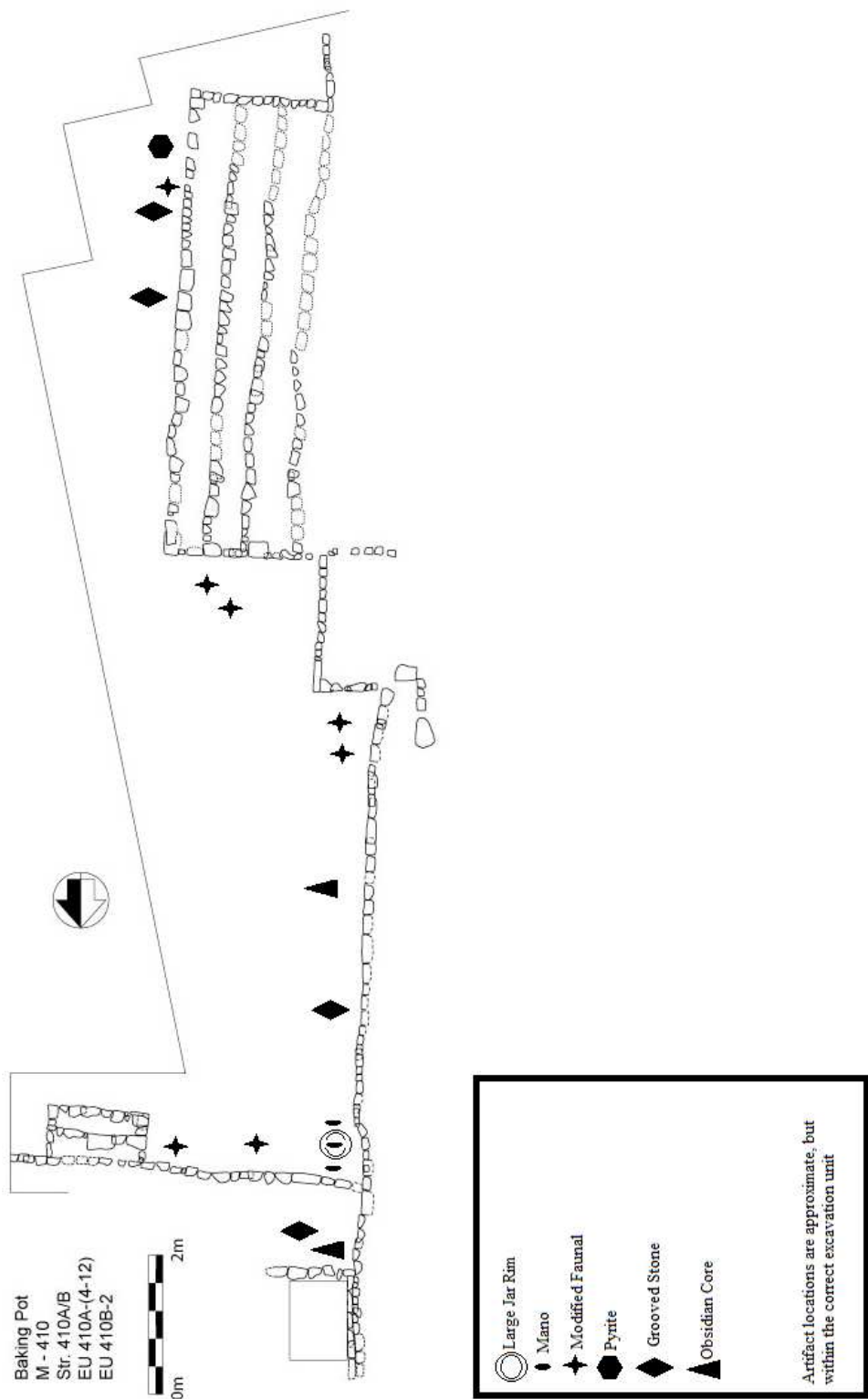


Figure 25. Select Artifacts in Termination Deposit, Lubul Huh, Baking Pot (Modified from Zweig 2013)



### *Function*

The common dichotomy used in Mesoamerican archaeology of —elite commoner—does not fit Lubul Huh. Lubul Huh was described by Hoggarth (2012) as a non-elite noble or someone of high rank who did not reside in the ceremonial center. This term likely fits Lubul Huh more precisely. Elite is a high status person who lives in a large complex urban center, has access to exotic goods, elaborate burials, and power whereas a commoner is the opposite: little to no access to exotic goods, living outside of urban centers in small simple structures (Lohse and Gonlin 2007). While an effort has been made to define the commoner and elite dichotomy, variances exist between regions and time periods.

The function, or purpose, of Lubul Huh is strongly ritual. It is likely that there was both a public and domestic use of the mound, though the conclusions for domestic use are unclear. Lubul Huh was first interpreted as a public structure (Conlin 2007), but it is likely that there was a dual purpose of both domestic and public. Structure A was a wattle-and-daub perishable superstructure atop a large cut limestone structure with a large staircase flanked by buttress walls. Structure A almost parallels the description of a domestic temple or shrine: “—identified architecturally as having had a small, sometimes perishable, superstructure perched atop a high square stone substructure.” (Gonlin 2007:90). Although the structure 410A is not the eastern mound, it does face east, towards the aguada. A better understanding of Structure A may come with discovering a burial. No burial was found during excavations of Lubul Huh and a lone adult molar was the only human remains found associated with Lubul Huh. However, this does not mean that a burial does not exist. Structure B is a problematic structure. The terminal

architecture of Structure B intersects with Structure A and has a two small steps from the patio onto Structure B (Figure 25). The structure's layout remains a mystery as no corners to the structure were located and investigations of the terminal architecture (410B-1A-E) were highly disturbed from trees roots. Further excavation of 410B is absolutely necessary to determine function.

The ritual components within the termination cache and deposit agree with ethnohistoric records that Lubul Huh was in an agricultural area. The large jar rim and manos located at the intersection of structures A and B reference rain and agriculture. Large wide-mouthed jars are functional for storing water, maize seed, and also have a cosmological connotation associated with rain deities (Moyes et al. 2014). The three manos in association with one another signify the three stone place and the resurrection of the maize god as told by the *Popul Vuh*. The ceramic sherd with the body and floating head is similar to others found in caves (Actun Tunichil Muknal and Actun Chechem Ha) as well as sites near caves and caves also have a connection to water/fertility. The location of Lubul Huh near the Belize River and near an aguada as well as ethnohistoric accounts of cacao cultivation make it likely that it was in or near agricultural fields.

The large quantity of smashed ceramics coupled with elite artifacts that make up the termination deposit coupled with the mano and large jar rim cache symbolizing the three-stone place signify a destruction following immediately by rebirth. The three stone place in the *Popul Vuh* refers to the three thrones placed by the gods at the beginning of the current creation (Looper 1995). The three stones are where the world tree, the ceiba tree, divide the world into the three levels of the heavens, earth, and underworld and also into north, south, east, west, and center. The three stone place represented by the cache at

Lubul Huh represents a center for creation. A similar cache was found at Blackman Eddy in which a New Year celebration a termination and subsequent rebirth (Matthews and Garber 2004).

The chronological and ritual evidence found at Lubul Huh show a strong connection to the apex and abandonment of the ceremonial center of Baking Pot. Some areas of the settlement of Baking Pot continued into the Postclassic period but Lubul Huh showed no signs of reoccupation or scavenging of the terminus structure. The abandonment of Lubul Huh follows the pattern noticed by Conlin (1999,2000) and Hoggarth et al. (2007) in that the northern and eastern portions had continued occupation but Lubul Huh in the western side of the settlement did not continue into the Postclassic period.

## **CHAPTER VII**

### **CONCLUSIONS**

The Maya were once a great many people on the Belize landscape. Remnants of their temples, homes, and lives are found everywhere throughout the landscape. Historically, there was a focus in archaeology on the large temples and palaces. More recently, a shift began to encompass the housemounds of those who lived beyond the great temples and outside of the sites' ceremonial center. Lubul Huh is one such housemound that can help define the abandonment of Baking Pot as a kingdom in the Belize River landscape. Lubul Huh was a large structure of cut limestone with a large staircase and flanking buttress walls with two super structures made of perishable materials. It was occupied as Baking Pot reached its apex and was abandoned as the temples and palaces of Baking Pot were also abandoned.

The main purpose of the archaeological investigations of Lubul Huh was twofold: to identify the chronological sequence of M-410 and to investigate the function of the mound. The research at Lubul Huh supports an abandonment of Baking Pot to the west of the ceremonial center. Ritual deposits are found throughout Baking Pot as well as the Belize River valley, but Lubul Huh provides more insight to find patterns and unique items that will further interpretations of the occupation and abandonment of Baking Pot.

Baking Pot is a medium—sized kingdom in the upper Belize River Valley which was occupied from the Middle Preclassic until the Early Postclassic periods

but reached the peak population at the beginning of the Late Classic period. Many sites in the Belize Valley began declining during the Classic to Late Classic periods and the Baking Pot palace complex was abandoned in the Late Classic period (Hoggarth 2012). While occupation continued in the eastern and northern portions of the settlement, Lubul Huh to the west of the site core was abandoned about the same time as the ceremonial center. The ritual deposits and architecture uncovered at Lubul Huh have already added to the knowledge of Baking Pot. Further research of Lubul Huh could help further shape the understanding. Possible future research should focus on further excavation of the terminus structure as the size and shape of the architecture and the extent of the termination deposit can be further analyzed and compared to other termination deposits for a better understanding of such deposits' ritual aspects. Discovering a burial- or determining a or lack thereof for Lubul Huh- would allow for further carbon-14 testing of burials at Baking Pot to establish more exact dating of Baking Pot chronologies as well as provide any clues to the occupants of the mound. Furthermore research of the aguada near Lubul Huh may be able to provide clues as to the connection between the two as well as the environmental landscape, climate, and rainfall during the Late to Terminal Classic period that might explain abandonment reasons.

## APPENDIX SECTION

### Artifact totals by type of termination deposit

Totals		59015	12061	949	214	2695	148	4	53	704	2	3	1	3	1	1	4	9	75867
410B-1A-	-	1595	277	41	10	245	6	-	19	6	-	-	-	-	-	1	-	1	2,201
410B-2	5	2,696	587	42	12	280	12	-	-	39	-	-	-	-	-	-	-	-	3,668
410A-12	3	1,860	612	55	13	251	7	1	6	16	-	-	-	-	-	-	-	2	2,823
410A-11	2	5,061	1553	218	17	163	7	-	1	31	-	-	-	-	1	-	-	-	7,052
410A-10	2	1,835	798	55	15	40	13	-	-	48	-	-	-	-	-	-	-	-	2,804
410A-9	2	3,219	558	37	14	59	7	1	1	15	-	-	-	-	-	-	1	-	3,912
410A-8	5	5,951	1078	102	50	800	12	-	6	90	-	1	-	1	-	-	-	3	8,094
410A-7	4	11,171	2265	115	22	288	18	-	2	70	-	-	-	-	-	-	1	-	13,952
410A-6	5	9,307	2056	186	36	223	15	-	4	81	-	1	-	2	-	-	-	-	11,911
410A-5	3	5,360	716	33	5	95	21	1	3	98	1	-	1	-	-	-	-	2	6,336
410A-4	8	10,249	1380	55	15	248	28	1	11	208	1	-	-	-	-	-	2	1	12,199
410A-3	-	362	78	-	1	-	1	-	-	2	-	-	-	-	-	-	-	-	444
410A-2	-	349	103	10	4	3	1	-	-	-	-	1	-	-	-	-	-	-	471
Terminal		Ce	Ch	Qz	Gr	Db	Ob	Ms	Fs	Fa	Sh	St	Py	Wd	Cb	Hr	Ls	Ca	Total

### Artifact totals by type of 410P-1

Totals		6057	4011	657	16	1315	52	3	7	139	295	8	1	12	1	11	12585
L17	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4
L16	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	5
L15	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
L14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
L13	-	1	8	1	-	-	-	-	-	-	-	-	-	-	-	1	11
L12	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
L11	-	18	47	3	-	7	-	-	-	-	-	-	-	-	-	1	76
L10	-	99	101	13	-	3	1	-	-	3	-	-	-	1	-	3	224
L9	-	309	76	27	-	413	-	-	-	2	2	-	-	-	-	1	830
L8	-	502	114	21	-	478	7	-	-	-	-	1	-	-	-	-	1123
L7	-	1152	430	113	1	142	8	-	3	17	1	4	-	2	1	4	1878
L6	1	1339	407	141	-	11	9	-	2	95	292	-	-	1	-	-	2297
L5	-	967	609	91	-	17	2	-	-	21	-	-	-	-	-	-	1707
L4	1	485	665	110	3	97	15	1	-	-	-	-	1	-	-	-	1377
L3	-	800	1013	100	8	126	4	1	1	1	-	3	-	6	-	-	2063
L2	-	306	395	24	3	20	5	-	-	-	-	-	-	-	-	-	753
L1	-	71	142	13	1	1	1	1	1	-	-	-	-	2	-	1	234
410P-1	SF	Ce	Ch	Qz	Gr	Db	Ob	Ms	Fs	Fa	Sh	St	Jd	Uk	Hr	Ca	Total

Artifact totals by type of 410B-1

Totals		1894	1379	355	1	1048	20	7	12	5	2	2	0	6	6	4737
L14	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	3
L13	-	5	2	1	-	30	-	-	1	-	-	-	-	-	1	40
L12	-	-	13	1	-	-	-	-	-	-	-	-	-	-	-	14
L11	-	2	43	4	-	-	-	-	-	-	-	-	-	4	-	53
L10	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	2
L9	-	62	392	138	-	151	-	4	-	-	-	-	-	1	1	749
L8	-	165	77	44	-	173	2	-	3	1	-	-	-	-	1	466
L7	-	281	161	18	-	249	11	3	2	1	2	-	-	-	1	729
L6	-	96	207	58	-	190	2	-	-	2	-	-	-	1	1	557
L5	-	223	98	25	-	107	3	-	2	-	-	-	-	-	1	459
L4	-	257	63	15	-	17	-	-	-	1	-	2	-	-	-	355
L3	-	439	31	3	-	13	-	-	3	-	-	-	-	-	-	489
L2	1	190	174	33	1	68	2	-	1	-	-	-	-	-	-	469
L1	-	173	117	15	-	47	-	-	-	-	-	-	-	-	-	352
410B-1	SF	Ce	Ch	Qz	Gr	Db	Ob	Ms	Fs	Fa	Sh	Ls	Jd	Uk	Ca	Total

Artifact totals by type 410A-1

Totals		3119	2554	599	6	1550	40	9	19	83	2	2	2	6	15	8006
L12	-	5	107	55	-	1	-	-	-	-	-	-	-	-	1	169
L11	-	776	267	88	-	571	9	1	2	72	-	-	-	-	3	1789
L10	-	325	99	9	-	23	2	-	4	1	-	-	-	-	1	464
L9	-	492	186	45	-	71	5	3	5	1	-	1	-	2	2	813
L8	2	807	492	98	2	495	9	1	7	7	-	-	1	-	4	1923
L7	5	411	460	65	-	288	2	3	-	-	-	1	1	2	2	1235
L6	-	94	85	14	-	-	7	-	-	-	-	-	-	-	1	201
L5	-	110	370	124	-	51	4	-	-	-	2	-	-	2	-	663
L4	-	17	54	38	-	5	-	-	-	-	-	-	-	-	-	114
L3	-	26	164	40	3	7	-	-	-	1	-	-	-	-	-	241
L2	-	35	235	22	1	36	2	-	-	-	-	-	-	-	1	332
L1	-	21	35	1	-	2	-	1	1	1	-	-	-	-	-	62
410A-1	SF	Ce	Ch	Qz	Gr	Db	Ob	Ms	Fs	Fa	Bs	St	Jd	Uk	Ca	Total

## LITERATURE CITED

- Aimers, James J., W. James Stemp, and Jaime J. Awe  
2011 Possible functions of grooved ground stones from Baking Pot, Belize. In *Lithic Technology* Vol. 36, No. 1 pp. 5-26.
- Aimers, J. J.  
1996 Does Size Matter? Scale in Maya Architecture. Paper presented at the 61st Annual Meeting of the Society for American Archaeology. New Orleans.  
  
2003 Abandonment and Nonabandonment at Baking Pot, Belize. In *The Archaeology of Settlement Abandonment in Middle America*. Edited by T. Inomata, and R.W. Webb, pp. 149–162.
- Audet, Carolyn M.  
2002 Excavations of Structure 198, Baking Pot, Belize. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2001 Field Season* Volume 1, edited by Jaime J. Awe, pp. 91-109.  
  
2003 Baking Pot Codex Restoration Project, Belize. Manuscript on file, Foundation for the Advancement of Mesoamerican Studies, Inc., (FAMSI), Crystal River, FL.  
  
2004 Excavations of Structure 190, Baking Pot, Belize. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2003 Field Season*, edited by Carolyn M. Audet & Jaime J. Awe, pp. 35-55.  
  
2005 Excavations of Structures B and G, Plaza 2, Group 2, Baking Pot. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2004 Field Season*, edited by Christophe G.B. Helmke & Jaime J. Awe, pp. 1-12.  
  
2006 Political Organization in the Belize Valley: Excavations at Baking Pot, Cahal Pech and Xunantunich. Ph.D dissertation, Department of Anthropology, Vanderbilt University: Nashville.
- Audet, Carolyn M. and Jaime J. Awe  
2000 Preliminary Investigations at the Yaxtun Group, Baking Pot. *The Western Belize Regional Cave Project: A Report of the 1999 Field Season*, edited by C.S. Griffith, R. Ishihara, and J. J. Awe, pp. 1-14.  
  
2003 Excavations of Structure 209, Baking Pot, Belize. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2002 Field Season*, edited by Jaime J. Awe and Carolyn Audet pp. 1-24.  
  
2004 What's Cooking at Baking Pot: A Report of the 2001 to 2003 Seasons. *Research Reports in Belizean Archaeology*, Vol. 1, pp. 49-59.



2005 The political organization of the Belize valley: Evidence from Baking Pot, Belize. *Research Reports in Belizean Archaeology* Vol. 2, pp. 357-64.

Awe, Jaime

2013 Journey on the Cahal Pech Time Machine: An Archaeological Reconstruction of the Dynastic Sequence at a Belize Valley Polity. *Research Reports in Belizean Archaeology*, Vol. 10, pp. 33-50.

2014 Cahal Pech Maya of Burns Avenue: A Report of Salvage Excavations in San Ignacio Town, *Belize Research Reports in Belizean Archaeology*, Vol. 11, pp. 193-204.

Awe, Jaime and Christophe Helmke

2005 Alive and Kicking in the 3<sup>rd</sup> to 6<sup>th</sup> Centuries AD: Defining the Early Classic in the Belize River Valley. *Research Reports in Belizean Archaeology*, Vol. 2, pp. 39-52.

Becker, Marshall J.

1992 Burials as Caches, Caches as Burials: A New Interpretation of the Meaning of Burial Deposits among the Classic Period Lowland Maya. In *New Theories on the Ancient Maya*, edited by Elin C. Danien and Robert J. Sharer, pp.185-196.

1993 Earth Offerings among the Classic period Lowland Maya: Burial and Caches as Ritual Deposits. In *Perspectivas Antropologicas en el mundo Maya*. Sociedad Espanola de Estudios Mayas, pp.45-74.

Brady and Ashmore

1999 Mountains, Caves, Water: Ideational Landscapes of the Ancient Maya. In *Archaeologies of Landscapes: Contemporary Perspectives*, edited by James E. Brady, pp.61-68.

Brown, M. Kathryn

2001 Investigations of Middle Preclassic Public Architecture at the site of Blackman Eddy, Belize. Manuscript on file, Foundation for the Advancement of Mesoamerican Studies, Inc., (FAMSI), Crystal River, FL.

2007 Establishing Communities and Hierarchies in the Middle Preclassic Belize River Valley. Paper presented at the 5th Annual Belize Archaeology Symposium, Belize City, Belize.

Bullard, William R., Jr.

1963 The British Honduras Expedition, 1961: A Progress Report. Royal Ontario Museum, Art & Archaeology Division Annual, pp.10-16.

- Bullard, William R., Jr. & Mary Ricketson-Bullard  
 1965 Late Classic Finds at Baking Pot, British Honduras. *Art and Archaeology Occasional Paper*, No. 8. Royal Ontario Museum, Toronto.
- Chase, Diane Z.  
 1982 Spatial and Temporal Variability in Postclassic Northern Belize.  
 Unpublished PhD dissertation, Department of Anthropology, University of Pennsylvania, Philadelphia.
- Chase, A. F., and Chase, D. Z.  
 1998 The Architectural Context of Caches, Burials, and Other Ritual Activities for the Classic Period Maya (as Reflected at Caracol, Belize) In *Function and Meaning in Classic Maya Architecture*, edited by Stephen D. Houston, 299-332. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- 2004 Terminal Classic status-linked ceramics and the Maya “collapse”: De facto refuse at Caracol, Belize. In *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, edited by A. Demarest, P.M. Rice, and D.S. Rice. University Press of Colorado, Boulder, pp. 342–366.
- 2005 Contextualizing the collapse: Hegemony and Terminal Classic ceramics from Caracol Belize. In *Geographies of Power: Understanding the Nature of Terminal Classic Pottery in the Maya Lowlands*, BAR International Series 1447, edited by López Varela, S. L., and Foias, A. E British Archaeological Reports, Oxford, pp. 73–92.
- 2014 Ancient Maya Houses, Households, and Residential Groups at Caracol, Belize. *Research Reports in Belizean Archaeology* Vol. 11, pp.3-17.
- Chase, A. F., and Garber, J. F.  
 2004 The archaeology of the Belize Valley in historical perspective. *The Archaeology of the Belize Valley: Half a Century of Archaeological Research*, edited by J. Garber, University Press of Florida, Gainesville, pp. 1–4.
- Cheatham  
 1995 Excavations of Structure B-4, Cahal Pech, Belize: 1994 Operations *In Belize Valley Preclassic Maya Project: Report on the 1994 Field Season*, edited by P.F. Healy and J.J. Awe, 18-44.
- Christenson, Allen J., translator  
 2003 *Popul Vuh: The Sacred Book of the Maya*. O Books, New York.
- Clayton, Sarah W., David Driver, and Laura Kowakowsky  
 2005 Rubbish or Ritual? Contextualizing a Terminal Classic Problematic Deposit at Blue Creek Belize. *Ancient Mesoamerica* Vol 16, pp. 119-130.

- Coe, W.R.  
1959 Piedras Negras Archaeology: Artifacts, Caches, and Burials. Museum Monograph 18. University of Pennsylvania, Philadelphia.
- Conlon, James M.  
1993. The 1992 Season of Investigations at Baking Pot: On the Outside Looking In. In *Belize Valley Archaeological Reconnaissance Project: Progress Report of the 1992 Field Season*, edited by J.J. Awe, pp. 173-177.
- 1994 The final frontier: Settlement survey at the Maya site of Baking Pot. In *The Belize valley archaeological reconnaissance project: A report of the 1993 field season*. Edited by J. Conlon and J. Awe, pp 81-102.
- 1996 "Investigations at the Lost Ballcourt of Group I, Baking Pot, Belize." In *Belize Valley Archaeological Reconnaissance Project: Progress Report of the 1995 Field Season*, edited by J.M. Conlon, pp. 39-53.
- Conlon, James M. and Jennifer Ehret  
1999 Survey at the Major Center of Cahal Uitz Na, Cayo District, Belize. In *The Western Belize Regional Cave Project: A Report of the 1998 Field Season*, edited by Jaime J. Awe, pp. 45-52.
- 2000 Ancient Maya settlement at Baking Pot, Belize: Result of the continually expanding survey program in the search for the end of the final frontier. In *The Belize valley archaeological reconnaissance project: A report of the 1999 field season*, edited by Griffith CS, Ishihara R, Awe J, pp 43-55.
- Conlin, James M. and Terry G. Powis  
2004 Major Center Identifiers at a Plazuella Group Near the ancient Maya site of Baking Pot. In *The Archaeology of the Belize Valley: Half a Century Later* pp. 70-85.
- Ferguson, Josalyn  
1999 Report on the 1998 Excavations at Actun Uayazba Kab Rockshelter, Roaring Creek Valley, Belize. In *Western Belize Regional Cave Project: Report on the 1998 Field Season* pp. 112-145.
- Garber, Jim  
1983 Patterns of Jade Consumption and Disposal at Cerros, Belize. *American Antiquity* 48 (4): 800-807.
- 1986 The Artifacts. In *Archaeology at Cerros, Belize, Central America, Volume I. An Interim Report*, edited by D.A. Freidel and R.A. Robertson, pp. 117-126.

- Garber J. and Awe, J.  
2008 Ritual and Symbolism of the Early Maya of the Belize Valley. Paper presented at the 73<sup>rd</sup> Annual Meeting of the Society of American Archaeology. Vancouver, Canada.
- Garber, J., W.D. Driver, L.A. Sullivan, and D.M. Glassman  
1998 Bloody Bowls and Broken Pots: The Life, Death, and Rebirth of a Maya House In *Sowing and the Dawning: Termination, Dedication, and Transformation in the Archaeological Record of Mesoamerica*, edited by S. Mock, 125-133.
- George, Richard and Julie A. Hoggarth  
2014 Results of the pXRF Analysis of Obsidian Artifacts from Baking Pot. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2013 Field Season*, edited by J.A. Hoggarth and J.J. Awe.
- Gifford, James C., Carol A. Gifford, Muriel Kirkpatrick, Michael Nicholazzo, Robert J. Sharer.  
1976 Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley. *Memoirs of the Peabody Museum of Archaeology and Ethnology*, Volume 18. Harvard University, Cambridge, MA.
- Gonlin, Nancy  
2007 Ritual and Ideology among Classic Maya Rural Commoners at Copan, Honduras In *Commoner Ritual and Ideology in Ancient Mesoamerica* edited by Nancy Gonlin and Jon C. Lohse.
- Hammond, Norman  
2013 Why Did the Maya Collapse Come in the Midst of Prosperity? In *Millenary Maya Societies: Past Crises and Resilience*, edited by M.-Charlotte Arnauld and Alain Breton, pp. 323-325.
- Heath, Laura  
2011 *Toward a "Full Biography of Obsidian": Studies of Obsidian Use and Exchange in the Maya Area*. Honors Thesis, Department of Anthropology, Wesleyan University.
- Helmke, Christophe  
2008 Excavations of Structures B1 and B7 at Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season*, edited by Christophe Helmke and Jaime J. Awe, pp. 109-143.
- Helmke, Christophe and Jaime Awe  
2008 New Site Description and Structure Designations of Baking Pot, Belize. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season*, edited by Christophe Helmke and Jaime J. Awe, pp. 81-102.

- Hester, Thomas and Shafer, Harry J.  
1991 Lithic craft specialization and product distribution at the Maya site of Colha, Belize. In *World Archaeology* 23.1 pp.79-97.
- Hoggarth, Julie A.  
2005 Test Excavations of Patio H, Group 1, Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2004 Field Season*, edited by Christophe Helmke and Jaime J. Awe, pp.21-22.
- 2008 Settlement Excavations at Baking Pot, Belize: Results of the 2007 Season. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season*, edited by Christophe G.B. Helmke & Jaime J. Awe, pp. 157-187.
- 2012 Household adaptation and social reorganization in the aftermath of collapse at Baking Pot, Belize. Unpublished Ph.D. Dissertation, University of Pittsburgh.
- Hoggarth, Julie, Jamie J. Awe, Eva Jobbova, and Christopher Sims  
2010 Beyond the Baking Pot Polity: Continuing Settlement Research in the Upper Belize River Valley. In *Research Reports in Belizean Archaeology Volume 7*.
- Hoggarth, Julie A., Brendan J. Culleton, Jaime J. Awe and Douglas J. Kennett.  
2014 Questioning Postclassic Continuity at Baking Pot, Belize Using Direct Ams Dating Of Human Burials. *Radiocarbon* 56.4.
- Hoggarth, Julie, Eva Jobbova, Christophe Helmke, and Andrew Bevan  
2008 Settlement Survey at Baking Pot, Belize: Results of the 2007 Season. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season*, edited by Christophe Helmke and Jaime J. Awe, pp. 157-187.
- Jobbová, Eva  
2009 Comparative Settlement in the Central Belize Valley: GIS Analysis of Baking Pot, Spanish Lookout and Barton Ramie. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2007 Field Season*, edited by Julie A. Hoggarth and Jaime J. Awe.
- Jones, G.D.  
1989 *Maya Resistance to Spanish Rule: Time and History on a Spanish Colonial Frontier*. University of New Mexico Press. Albuquerque.
- Lohse and Gonlin  
2007 *Commoner Ritual and Ideology in Ancient* University Press of Colorado.

- Looper, M.G.  
1995 The three stones of Maya creation mythology at Quiriguá. *Mexicon*, 17(2), 24-30.
- Matthews, Jennifer and James Garber  
2004 Models of cosmic order: Physical expression of sacred space among the ancient Maya. *Ancient Mesoamerica* pp.49-59.
- McAnany, Patricia A.  
1995 *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society*. University of Texas Press: Austin.
- Miller, Mary Ellen and Karl Taube  
1993 *The Gods and Symbols of Ancient Mexico and the Maya: an illustrated dictionary of Mesoamerica Religion*. London: Thames and Hudson.
- Moore, A.F.  
1997 Intergroup Comparative Study of the Ancient Maya in the Periphery of Baking Pot: Report on the First Season of Investigations at the Atalaya Group. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1996 Field Season*, edited by James M. Conlon and Jaime J. Awe, pp.47-58.  
  
1998 The Atalaya Group at Baking Pot: The Second Season of Investigations. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 1997 Field Season*, edited by James M. Conlon and Jaime J. Awe, pp.61-79.  
  
1999 *Micro Settlement Analysis in the Belize River Valley: Archaeological Investigations at Atalaya, a Formed Patio Group at Baking Pot*, Ph D. Dissertation, University College of London.
- Holley Moyes, Jaime J. Awe, George A. Brook and James W. Webster  
2014 The Ancient Maya Drought Cult: Late Classic Cave Use in Belize. *Latin American Antiquity*, Vol. 20, No. 1, pp. 175-206.
- Pendergast, David  
1979 *Excavations at Altun Ha, Belize 1964-1970, Volume 1*. Royal Ontario Museum, Toronto.
- Pohl, M. D.  
1990 *Ancient Maya Wetland Agriculture: Excavations on Albion Island, Northern Belize*, Westview Press, San Francisco.

- Ricketson, Oliver G.  
1931 Excavations at Baking Pot, British Honduras. Contributions to American Anthropology and History, No. 1. Publication 403. Carnegie Institution of Washington, Washington DC.
- Schreiner, T. P.  
2002 Traditional Maya Lime Production: Environmental and Cultural Implications of a Native American Technology, Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- Stross, Brian  
1998 Birth and Death Revisited: Dedication and Termination Ritual. In *The Sowing and the Dawning: Termination, Dedication, and Transformation in the Archaeological Record of Mesoamerica*. University of New Mexico Press pp. 31-40.
- Swain L.  
2005 Test excavations of Plaza 2, Group 1, Baking Pot. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2004 Field Season*, edited by C. Audet and J.J. Awe pp 13–20.
- Taube, Karl A.  
2005 The Symbolism of Jade in Classic Maya Religion. *Ancient Mesoamerica* 16(1): 23-50.
- Willey, Gordon R., William R. Bullard Jr., John B. Glass & James C. Gifford  
1965 Prehistoric Maya Settlements in the Belize Valley. Papers of the Peabody Museum of Archaeology and Ethnology, No. 54. Harvard University, Cambridge.
- Yaeger J.  
2005 Revisiting the Xunantunich Palace. The 2003 excavations. Manuscript on file, Foundation for the Advancement of Mesoamerican Studies, Inc., (FAMSI), Crystal River, FL.
- Yaeger, J., and Hoddell, D.  
2002 Climate-culture-environment interactions and the collapse of Classic Maya civilization. Paper presented at the Dumbarton Oaks Symposium: El Nino, Catastrophism, and Culture Change in Ancient America, Washington, DC.
- Zweig, Christina  
2012 Preliminary Investigations of M-419 Baking Pot, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2012 Field Season*, edited by Julie Hoggarth, R.A. Guerra, and Jaime Awe pp. 1-19.

2013 Lubul Huh, M-410, Baking Pot Belize: 2012 Investigations. *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2012 Field Season*, edited by Julie Hoggarth, Reiko Ishihara-Brito, and Jaime Awe pp. 223-263.