Belize Postclassic Project 1998:
Investigations at Progresso Lagoon

Report to the Department of Archaeology,
Belmopan, Belize

Marilyn A. Masson and Robert M. Rosenswig
editors

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Chapter 1

Overview of the 1998 Investigations at Progresso: Research Objectives and Results

Marilyn A. Masson

Research Objectives of the 1998 Season and Beyond

A vast amount of data was collected from the Progresso Lagoon investigations during the 1998 season, which represented our first true season of intensive investigation. Three primary research objectives guided our decisions to open units in different areas of the islands of Caye Coco, Caye Muerto, and shore sites along the west bank of the lagoon. These objectives included the following:

1) to contribute toward understanding the scale of political hierarchy in northern Belize through the assessment of the magnitude of the political center of Caye Coco as expressed in the site's architecture, social hierarchy, and economic foundations,

2) to determine the extent of the Postclassic populations at Progresso Lagoon through survey and testing of lagoon-side sites and other settlements that represent an extension of the Caye Coco community, and

3) to locate and test Colonial Maya settlement areas at Progresso Lagoon to determine if Caye Coco is the location of the Spanish period Maya community of Chanlacan that is documented in historical sources but has yet to be located “on the ground.”

Research Objective #1

The first objective of assessing the political and economic position of Caye Coco as a Late Postclassic center will allow us to re-evaluate political organization on a regional level during this time period in northern Belize. Information on Postclassic political structure in northern Belize (known in Spanish accounts as the Chetumal Province), is primarily derived from historical sources (Roys 1957, Jones 1989). This season will gather archaeological data to independently evaluate this important aspect of Postclassic society. With the discovery of this new Postclassic center last year, our wish was to view it in its regional context. Other known centers of this date have already been researched in this area such as Santa Rita (Chase and Chase 1988, Jones 1989), and we wished to know how important Caye Coco relative to these other major sites? Was it subordinate to them, was one of several cooperating centers within this region, or was it a competitor? These questions have important implications for Postclassic society in general, which is generally characterized to be less hierarchical than Classic period society.

Assessing the political and economic role of the island monumental center of Caye Coco in the Chetumal Province has been undertaken with the goal of refining the ethnohistorically-derived “province model” of regional political structure (Roys 1965:669, 1957, Chase 1986:351, Marcus
1993) with archaeological data. For those readers of this report who are unfamiliar with the province model of Maya geographic organization, three different types of organization were observed among the contact period Maya provinces throughout the Yucatan peninsula. Each of these types was associated with a different degree of hierarchical difference among “centers” and other settlements according to Ralph Roys’ (1957) research into Spanish accounts of Maya cultural organization. Some provinces were not very hierarchical, with only a few scattered villages and farming enclaves or hamlets present and weak or absent political leadership. Others consisted of a two-tier system, where small scale local lords (batabs) served organizing roles for producer settlements in their vicinity, taking tribute (goods taxation) from them and mediating their exchange relationships with the outside world. Others were more hierarchical still, with central lords (halach uinice) receiving tribute from secondary lords (batabs) who exacted it from producing settlements at the lowest, third tier of the system. Many other types of officials were also described by Roys (1957).

Based on a survey of published archaeological reports (Masson 1999), it appears that the Chetumal Province may have contained a “nested hierarchy” of political centers which coordinated subsets of producer villages who were generating a range of valuable trade commodities. This system is not structurally dissimilar (though on a smaller scale) to the nested hierarchy of centers known to have existed in sub-regions of the Maya lowlands area of Belize, Guatemala, Mexico, and Honduras throughout the Classic period (Matthews 1991, Marcus 1993). In such systems, the distribution of power is dispersed among those powerful segments of society who have long settlement histories near important resources which are under their control for raw extraction and the manufacture of goods (Rathje et al. 1978, McAnany 1989, 1993:69). The big question that arises, too vast to be addressed in a single season at Caye Coco, is how different was Postclassic society in Belize from that which went before. Previous research at Laguna de On (Masson and Rosenswig 1997, 1998) and Santa Rita (Chase and Chase 1988) suggested that “trappings” of political power such as large architecture were largely a discarded tradition in this region, although research at Lamanai (Pendergast 1981, 1985, 1986) suggested otherwise. With the discovery of Caye Coco, we realized that it was difficult to draw these lines in time, and that processes of hierarchical development and reduction were probably ongoing and cyclic in this region.

Assessing the political significance of Caye Coco, considered in the context of other important Postclassic centers, will add archaeological data to what is known from ethnohistory regarding province political structure. Not much is written about the Chetumal province by the Spanish (Jones 1989), and there appears to be considerable variation in the degree of hierarchy (number of settlement tiers) among the 26 provinces known for Yucatan at the time of Spanish contact (Roys 1957, Marcus 1993). Many provinces, like Chetumal and those to the south and east of Chetumal, eluded Spanish domination (Jones 1989) and thus did not make their way into detailed historical accounts. Only archaeology can provide the answers in these zones just beyond history’s grasp. A single center is mentioned for the Chetumal province in the documents (also known as Chetumal). Archaeological sites in this vicinity (like Caye Coco and others) indicate that the political scene in the Late Postclassic was much more complicated and that multiple centers were in existence at the same time on the eve of Spanish arrival.

It is possible that dynamic competition among centers within the Chetumal province contributed to the renowned productivity of this region in ethnohistoric times (Pina Chan 1978). The province could have been divided into smaller, cohesive, centralized polities, who vied for the central seat of government. The fate of the province could have fluctuated over time, and dynamics of segmentary fission and fusion may be reflected by founding phenomena in settlement growth (Fox 1987, Dunham 1990). It has been proposed (Masson 1999) that linear political geographical sub-units may have existed along riverine avenues of the Chetumal and Dzulunucob provinces (as defined by Jones 1989), such as the Freshwater Creek Drainage which linked Laguna de On and...
Caye Coco. Linear riverine or coastal settlement units are common among Mississippian polities (Smith 1978), and would have functioned equally well for the Postclassic Maya with their emphasis on water-borne economic routes of interchange (Thompson 1970). Data contradicting this hypothesis have been presented by Graham and Pendergast (1989:11), in which the sites of Marco Gonzalez (Ambergris Caye on the reef) and Lamanai (on a freshwater lagoon located many riverine miles inland) which exhibit close ceramic affinities to each other have contrastive assemblages to the site of Santa Rita, which lies between them at the mouth of the New River. Clearly, much work needs to be done to clarify these issues of political and geographic organization. The 1998 season has begun this research process.

Research Objectives #2 and #3

The second and third objectives, to establish the size, location, and affluence of shore-side lagoon settlements at Progresso Lagoon during the Postclassic and Colonial periods, provides important information on the population dynamics during this 400-600 year interval. While the first objective described in the previous section is significant, the full impact of political hierarchies and their organizational foundation cannot be understood without documenting their population base. Since the function of political centers is presumably to control and organize economic activities, an understanding of the identity and production patterns of supporting populations represents a logical complement to political analysis. Very little is known of off-mound Postclassic settlement in northern Belize (for important exceptions, see Sidrys 1983, Chase and Chase 1988), but preliminary surveys by this project at Laguna de On and Progresso Lagoon suggest the topsoil conceals a thin but constant sheet of Late Postclassic occupational debris (Waid and Masson 1998, Masson 1999). In these inconspicuous deposits lie important clues about community size and the magnitude of populations that survived and prospered in the centuries following the Classic period collapse.

Off-mound testing during the 1998 season was undertaken to locate these subsurface domestic universes at Caye Coco and at sites along the lagoon’s shore. As a result, both Postclassic and Colonial components have been located. Analysis is underway to reconstruct the economic foundations of this site during both periods through the classification and comparisons through time and space of household assemblages of ceramics, stone tools and debris, ground stone, obsidian blades, animal bone, and other materials.

Results of the 1998 Season at Caye Coco

Architecture

During the 1998 season, test excavations were performed at dozens of locations across the island (Hare et al., this volume). Horizontal excavations took place on top of Structures 1 and 4, which are thought to represent a public “council house” or meeting hall and an elite residence respectively (West, Barrett, this volume). Samples of artifacts were collected from the surface deposits of each structure that will be used to evaluate the activities performed there and the function of the buildings. Six looter’s trenches were cleaned up, mapped, and taken to bedrock (Rosenswieg, this volume). This strategy allowed us to assess the chronology of the architectural construction of six structures without probing them with our own excavations. Structures 4, 5, 11, and 12 proved to be very Late Postclassic in date (probably built after A.D. 1300), as late diagnostic effigy censers and other ceramics were recovered from the lowest levels of these trenches beneath the mounds (Barrett, Rosenswieg, this volume).
Structure 13 may have been built in the Terminal Classic, or else it was built primarily of Terminal Classic deposits transported to this location for mound fill (Rosenswig, this volume). Structure 1 also contained very few diagnostic ceramics of any period, including the Postclassic, so it may also have been built during an earlier period, or of earlier period fill materials during initial Postclassic construction on this island (West, Rosenswig, this volume). No Classic period ceramics have been found in off-mound locations, indicating that fill of this date transported to the island for the construction of Structures 1 and 13 must have come from the shore of the lagoon. Notably, a Postclassic construction layer caps both Structures 1 and 13, and only their inner cores are of more questionable origin (West, Rosenswig, this volume). These investigations into the architecture of Caye Coco indicate that most of the large structures at this site were built during the latter portion Late Postclassic, within a short period of time (probably under 150 years), perhaps with the foundation of this site as a political center.

Off Mound Testing and Domestic Investigations

The majority of excavations in 1998 were in off-mound locations. Off-mound testing focused on locating domestic structures and domestic refuse deposits that could be used to evaluate social status variability across the site. These deposits also gathered data for the assessment of economic activities that supported the residents of this community. Deep deposits of household trash middens were tested that could be used to analyze changes over time in community patterns and ceramic production. As many as five domestic structures were located (Aguilera, Mullen, Barrett, Oland, this volume), and several zones of rich midden domestic refuse were found and extensively sampled (Aguilera, Mullen, Barrett, Oland, this volume). Locating these features was a primary goal of the 1998 season, which was successfully attained. The forthcoming 1999 season will continue work in these newly-located household areas, and horizontal excavations will be employed to expose extensive areas of activities and associated features located in probes during the 1998 programs. In addition to locating many Postclassic domestic deposits and features, a trace of Colonial occupation has also been identified (Aguilera, Mullen, this volume), providing evidence that Caye Coco was indeed Chanlacan.

Locating and Testing Lagoon Shore Sites

Testing and survey also began of the shores of Progresso Lagoon in 1998. Preliminary reconnaissance suggests that four or five Postclassic communities are located around the shores of the lagoon, identified from surface scatters of ceramics and other materials. Ongoing work planned for 1999 will systematically plot, map, and test these shore settlements.

One site was tested (PR4, West, this volume) on a bluff located in Progresso town, but few indicators of substantial Postclassic habitation were preserved in this area. Immediately west of Caye Coco, a small peninsular site was tested (PR5) on a tract of land which houses an overgrown, abandoned resort named Shangrila. This site was much more productive for our research goals. Midden and soil deposits in this area contain many Postclassic ceramics and also appears to be the site of a Colonial component (West, this volume). Indigenous Colonial ceramics as well as a piece of 16th century Spanish Majolica pottery was also recovered (West, this volume). Spanish olive jar fragments were also found in the water near the boat landing at Caye Coco. These Spanish artifacts suggest that the project is on the trail to identifying the Colonial component of the site, and verifying that Caye Coco is the Spanish period Maya settlement of Chanlacan. As only a few small test pits were placed in the Shangrila area, more work is needed to fully sample and document this key Colonial component. This preliminary evidence suggests that studying Colonial period adaptations at this site will require some prolonged, detailed, and careful excavations and
laboratory analysis. Colonial indicators in the form of changes in indigenous ceramic manufacture are subtle (West, this volume, Mock, this volume), and easily missed in eroded surface deposits. Ceramic classification must proceed first in this frontier, as the analysis of other artifacts that will enable the full reconstruction of cultural systems (such as animal bone and lithic materials), is heavily dependent on the chronological assignment of Colonial period lots based on ceramic identifications. Hopefully, larger units in the ShangriLa vicinity will uncover some domestic features suitable for radiocarbon dating to aid in this laborious and long term research goal of studying the Postclassic-through-Colonial period adaptations of Maya populations of Progresso Lagoon.

Final Thoughts on Research in Progress

Three seasons of investigation have been completed by this project at Laguna de On (Masson and Rosenswig 1997, 1998), which have provided the perspective of an agrarian settlement that lacks indicators of regional political significance. The Laguna data represent materials from an industrious, affluent commodity producing village located at the southern end of the Chetumal Province. One full season has now been completed at Caye Coco. Continuing this research at Caye Coco and the shores of Progresso Lagoon and Laguna Seca, we will proceed to study the relationship of Laguna de On to neighboring lagoon settlements including the nearby political center of Caye Coco. Continued research at this site in 1999 will facilitate the project’s goals of reconstructing Late Postclassic period Maya political structure, systems of economic integration, and cycles of late stage secondary state dynamics in northern Belize. The project is amassing a suitable data set for regional analysis, with Laguna de On representing a lower hierarchical “tier” and Caye Coco representing a higher one. Neither site can fully be understood without the other. Taken together, however, these two sites represent a complementary set of perspectives that can inform on Postclassic cultural adaptations from opposite ends of the political and economic spectrum.

Acknowledgments

This project owes its existence to the agencies and institutions which support it, including the Center for Field Research: Earthwatch, the National Science Foundation, the Foundation for the Advancement of Mesoamerican Studies, the Wenner Gren Foundation, and the Department of Anthropology at The University at Albany - SUNY. I am exceedingly grateful for their continued support and faith in this project as this research has developed over the past several years.

The project is also made possible by our colleagues in Belize. This research was conducted under a research permit granted by the Department of Archaeology, Belmopan, Belize, and I am grateful for the help and support of Commissioner John Morris, Brian Woode, and Carmen Blanco during 1998. The village of San Estevan has graciously hosted our field camp and laboratory for another year, and we appreciate their tolerance and good humor at having 35 gringos occupying their public buildings each summer for a purpose which does not appear, to them, readily apparent. Generous assistance was provided by Armando Castillo, Jose Castillo, Paulino Cortez, and Lorenzo Morales in many aspects of arranging life in San Estevan. These individuals also played important roles as members of the field research staff, not only as masterful excavators, but also as they are extremely energetic and interesting, and long days in the field passed quickly in their company. Victor and Sonya Espat and family (Antonio, Selma, and Luis) have made Victor’s Inn a second home for this project, and they provide us with the best of Belize in sharing with us their fine cuisine, colorful stories, sage counsel, medicinal cures, mechanical insights, logistical savvy, philosophy about the afterlife, and many other talents. I would like to
thank Fabian and Deodoro Perez for granting their permission to work on Caye Coco, and for conveying to us many of their observations of this island's intricate and complex terrain.

Finally, I would like to extend deep thanks to those who toiled in the trenches during the 1998 season, including the staff, volunteers, and students who contributed a portion of a summer of their lives to advance our research objectives. The quality of this research is a direct reflection of the quality of all of the hands and minds that help to create these records of the past, screen load by screen load, at Progresso Lagoon. Whenever my thoughts started to stray regarding why we were there, not an uncommon occurrence during the last weeks of an arduous, rainy, buggy summer in the jungle, I would overhear an enthusiastic voice encountering some aspect of the archaeological record for the first time in one of the excavation units, and it would all come back to me.
SECTION ONE - OFF-MOUND TESTING EXCAVATIONS AT CAYE COCO
Chapter 2

Off-Mound Feature Investigations at Suboperations 13 & 22, Caye Coco, Belize

Miguel A. Aguilera

Introduction

One of the considerations in selecting excavation locations on the island was the presence of off-mound household structures and burials. While such locations are difficult to determine it was deemed highly probable that such features could be found on the northeast side of Caye Coco. The reason for such expectations was information given by the inhabitants of the island, Fabian and Deodoro Perez, that they had knowledge of the presence of a skull detected during construction activities on this side of the island. Also taken into consideration was the presence of what appeared to be stone alignments on the soil surface. The skull in question and the stone alignment were within 11m on an east-west axis. Excavations in the vicinity of this skull led to the detection of a concentrated burial area (Subops 13, 13a-e) that is described in this report. The stone alignment was approximately 13m north of Structure 10 and horizontal excavations (Subops 13g, 13h, 13i, described below) around this alignment revealed that it was associated with an off-mound household structure. This structure, along with Structure 10, may be associated with the densely concentrated area of burials. Additional test units of Subop 13 located a cobble structure near the water (Subop 13b) and sampled an area that lacked features immediately in front of the Perez property (Subop 13f). A map showing the locations of these units on the island is included in Hare et al. (this volume).

Methods

Excavation of Subop 13 units were conducted according to 10cm stratigraphic levels. The topsoil consisting of the top 10-12cm surface deposition was first removed, followed by sub-topsoil root mat at approximately 12-24cm. These were followed by third, fourth, etc. arbitrary levels until the bedrock was exposed. The tools employed were picks, shovels, and hand tools. The larger tools were used in featureless soils and in the removal of rubble surfaces and the smaller tools were utilized for features. Separate Lot designations were given to features such as artifact concentrations, cobble surfaces, or burials within the stratigraphic Lots. Each of these Lots was screened using ¼" mesh screen and artifacts were bagged according to type.

Suboperation 13 Burial Area

Suboperation 13 consisted of a 2X2m unit on a north south axis. At a depth of 20cm, beneath the humic layer, six dark stains were detected, surrounded by lighter shaded soils of grey loam mixing with marl bedrock. Following the methodology of excavation from the Laguna de On site it was expected that these dark stains would reveal the presence of burial pits (Sheldon 1998). Within this unit were six burials: Burial #1, Burial #2, Burial #3, Burial #4, Burial #7, and Burial #8 (Figure 2.1). The burials were in a shallow deposit ranging from a depth of 27cm to 40cm. All burials with the exception of Burial #7 were in seated and flexed position, as noted for many burials at Laguna
de On Island (Sheldon 1998, Rosenswig 1998). Burial #7 consisted of an individual lying on its side in a flexed position. Almost all the burials had some grave goods accompanying them, this is in contrast to the contemporary and nearby site of Laguna de On where grave goods were rare (Rosenswig 1998).

Suboperation 13 and 13a - Burial #1

Burial #1 was located adjacent to the south wall of the unit at approximately 62cm from the east wall and 70cm from the west wall (Figure 2.1). The burial pit was designated Lot 516 and had a north-south dimension of 51cm by an east-west dimension of 48cm, minimum depth was 27cm by a maximum of 44cm. This was a single burial in primary context. The individual was buried in a seated and flexed position with the customary placement of the skull facing the west, the direction of the setting of the sun (Freidel, Schele, and Parker 1993) (McAnany 1995). It is assumed that the individual was wrapped in a bundle and placed within the white marl pit then covered up with dark organic fill. The bone was intact and in good preservation. It appears that the skull was deformed and was probably due to a custom of skull “sculpturing” or shaping (Landa 1941). Grave goods found within this burial consisted of ceramic sherds, obsidian (including a chip that was found above the first cervical vertebrae), and a modified conch shell (Figure 2.1). The recovery of the obsidian by the vertebrae is intriguing, but it is not known whether it represents a violent cause of death. The chip could be part of a projectile point, but as points were scarcely bifacially modified during the Postclassic it could also be part of a regular blade that was simply present in burial fill soils. The conch shell represents a “cup” or vessel of the type that may have been utilized to hold paint by scribes and as a blood receptor during bloodletting rituals (Coe 1973, Sharer 1994). In order to facilitate access to all the bones relating to this burial, another unit (Subop 13a) was opened adjacent to Lot 516. Subop 13a ran parallel to the south wall (Figure 2.1) and had the dimensions of 1mX35cm. Assorted ceramics and human bone were recovered from burial fill this unit.

Suboperation 13 and 13c - Burial #2

Burial #2 was located in the northwest corner of the unit at approximately 135cm from the east wall (Figure 2.1). The burial pit was designated Lot 519 and had a north-south dimension of 60cm by an east-west dimension of 65cm, minimum depth was 33cm by a maximum of 78cm. This also was a single burial in primary context, buried in a seated and flexed position with the skull facing the west. The bone once again (as per burial #1) was intact and in good preservation. This skull also appears to have been altered during infancy. Grave goods found within this burial consisted of unslipped ceramic sherds, incised red-slipped sherds, a bone bead, a jade bead, an obsidian blade fragment, and an obsidian blade by the pelvis region (Figure 2.1). The obsidian blade recovered from the pelvic region may have belonged to the individual and was perhaps utilized during bloodletting rituals, though this possibility is speculative. In order to facilitate access to all the bones relating to this burial, another unit (Subop 13c) was opened adjacent to Lot 519 (Figure 2.1). Subop 13c ran corner-parallel to the north wall and the west. The dimensions of this unit were 80X50cm. Assorted ceramics, lithics, unmodified conch shell, faunal, and human bone were recovered from this unit.

Suboperation 13 and 13d - Burial #3

Burial #3 was located in the northeast corner of the unit at approximately 5cm from the east wall and protruded 15cm from the north wall. The burial pit was designated Lot 522 and had a north-
south dimension of 50cm by an east-west dimension of 50cm, minimum depth was 26cm by a maximum of 62cm. This was a single burial found in primary context and was buried in a seated and flexed position with the skull facing the west. The bone was intact and in good preservation. This skull shape appears to have been altered. Grave goods found within this burial consisted of ceramic sherds, and a complete vented foot tripod sag bottom Payil Red vessel (Figure 2.1). The inclusion of an entire ceramic vessel in this burial is significant due to the scarcity of such offerings during the Postclassic era. Due to the majority of the individual being within the north wall, another unit (Subop 13d) was opened adjacent to Lot 522 (Figure 2.1). Subop 13d ran parallel to the north wall. The dimensions of this unit were 80X50cm. Assorted ceramics, lithics, obsidian, net weights, and human bone were recovered from this unit.

Suboperation 13 and 13e - Burial #4

Burial #4 was located in the southwest corner of the unit at approximately 20cm from the south wall and protruded 8cm from the west wall. The burial pit was designated Lot 523 and had a north-south dimension of 30cm by an east-west dimension of 30cm, minimum depth was 28cm by a maximum of 50cm. The smaller dimensions of this burial are due to the individual being an infant. The infant was in a single burial in primary context and was buried in a seated and flexed position with the skull facing the west. The bone was not intact, the skull was in fragments, and the state of preservation was not good due to the fragility of the small bones (Figure 2.1). There were no grave goods associated with this burial. Due to the majority of the infant being within the west wall, another unit (Subop 13e) was opened adjacent to Lot 523 (Figure 2.1). Subop 13e ran parallel to the north wall. The dimensions of this unit were 50X70cm. Assorted ceramics, lithics, unmodified shell, and human bone were recovered from this unit; however, most of these artifacts were not in association with the burial itself but in another context adjacent to it.

Suboperation 13 - Burial #7

Burial #7 was located adjacent to the eastern wall of the unit at approximately 60cm from the north wall and 70cm from the south wall. The burial pit was designated Lot 521 and had a north-south dimension of 70cm by an east-west dimension of 60cm, minimum depth was 38cm by a maximum of 74cm. This was a single burial found in primary context. This individual was in contrast to the other five burials in this unit as it was placed on its side instead of in a seated flexed position. The skeleton was articulated, however, there was no presence of a skull. There is evidence of tampering with this burial in the form of an intrusive pit and this is thought to be the skull encountered by the landowners when they were digging a coconut husk firing pit in this location. Upon encountering the skull, they ceased these activities (Deodoro Perez, personal communication), and this act probably accounts for the recovery of the remaining part of the skeleton intact. Further evidence of the modern intrusion was in the form of a Winston cigarette package wrapper and burned coconut hulls found in the intrusive pit which was in the vicinity where the skull should have been. Grave goods found within this burial consisted of large ceramic sherds (Figure 2.1). The large sherds lie between Burial #7 and Burial #8 and upon first inspection it was unknown which burial they were associated with. A thin white marl line delineated both burial pits and it appears that the sherds were interred with Burial #7. It should be noted however, that large sherds of what appears to be the same vessel were also recovered from Burial #8. Perhaps this would indicate that the interment were interred at the same time and that the vessel was meant to be symbolically shared by both individuals.
Suboperation 13 - Burial #8

Burial #8 was located towards the center of the unit at approximately 55cm from the west wall and 95cm from the east wall. The burial pit was designated Lot 520 and had a north-south dimension of 50cm and an east-west dimension of 50cm. Minimum depth was 44cm by a maximum of 66cm. This was a single burial found in primary context; however, as noted above this individual may be part of a multiple interment as evidence by sharing of sherds from the same vessel seems to be indicated. Multiple interment is further evidence by a second skull found within this burial (Figure 2.1). Also of interest within this burial is the presence of charcoal and burned rocks (Figure 2.1), and a burgundy colored lithic core of unknown origin (Figure 2.1). This individual was placed in a seated flexed position and faces the west. Grave goods found within this burial consisted of lithics, obsidian, ceramics, faunal bone, unmodified shell, and a spindle whorl.

Summary of Burial Descriptions

The burial concentration at Subop's 13, 13a, 13c, 13d, and 13e indicates the presence of a Postclassic cemetery. It is improbable that these are the only burials in the vicinity. More than likely there are many more interments within centimeters of the ones excavated. Indeed while scraping and flattening the walls of the Subops an occasional piece of human bone would appear indicating that other burials are probably present adjacent to the ones mentioned in this report. The burials described above suggest that the probability is high that grave goods were commonplace at this site. However, status differences could exist that would affect the amount of grave goods placed with burials. Based on the current sample from the site, such comparisons are not yet possible. Much more burial offerings are indicated at Caye Coco than at the contemporary site of Laguna de On, however (Rosenswig 1998). Most of the offerings at Caye Coco were of local materials, primarily including ceramics (only one whole pot was found), modified or unmodified marine shell, a spindle whorl, and lithics, with one exotic bead.

Suboperations 13g, 13h, and 13i Domestic Structure Results

Suboperations 13g, 13h, and 13i consisted of three 1X3m units parallel to each other comprising an adjacent area of 3X3m. The goal of this unit was to search for a domestic structure. It was deemed highly probable that such a structure existed at this location because of the exposed aligned rocks on the soil surface. After initial surface clearing, the unit was set up on an axis of 40 degrees west of magnetic north. This orientation cross cut the rock alignment in a perpendicular manner. The units straddled the wall in order to recover samples of material that might help to determine the inside and outside of the structure. At about 5cm below the surface, the south sections of the subops revealed a cobbled floor surface with a light thin section of white marl overlaying it. The cobbles stretched from the rock alignment in a southward direction away from the wall (Figure 2.2). Once the cobbles were removed at about 8cm the unit revealed a foundation of larger stones upon which the cobbles were placed which had been plastered over with a lime and earthen floor (Figure 2.2). An interesting side note is that the present inhabitants of the island construct their floors in the same fashion. Notice was immediately taken that such a conglomeration of stones, cobbles, and limestone layer was not found on the north side of the rock alignment. There were a few odd stones strewn about the north side; however, these are probably stones that have fallen off of the cobbled platform (Figure 2.2). Most of the artifacts recovered from these layers were close to the rock alignment this is true for both the north and the south side. This is probably due to sweeping out the structure and thus sherds and other "trash" being compacted
against the wall. Greater artifact densities were also observed to the north side of the wall, inferred to be the outside of the structure.

Under the layer of large stones was an underlying midden layer upon which the house was superimposed. Large amounts of artifacts were recovered with a large percentage consisting of ceramic sherds. Many of the sherds were large pieces and some had incising. All the sherds are broken in places that do not allow a clear iconographic analysis to be conducted. It is not clear whether the motifs are abstract or whether they are perhaps pictographic in nature. A larger sample of these sherds might lead to better analysis in the future.

Also of interest in these units was a Mayapan style “puppet” figurine with attachable appendages (Appendix E, this volume). The figurine was found in the north section of Subop 13i, approximately 20 cm from the east wall and 1 m from the north wall. The figurine was found at about 12 cm in depth. An arm belonging to a similar if not the same figurine was found in the south side of the unit at approximately 10 cm from the east wall and 144 cm from the south wall.

On the north side of 13g was discovered a the basal portion of a large ceramic olla vessel with a circumference of 30 cm (Lot 698). The vessel was approximately 28 cm from the east wall and 36 cm from the north wall (Figure 2.3). The vessel itself was perfectly placed within the soil and it may have been a storage or cooking feature, used in either whole or fragmentary form. The bowl was surrounded by a few burned rocks, a couple surrounded it and there was a few underneath it. While this would usually indicate a fire pit of some sort, it is not clear in this context, there was no charcoal nor other evidence of fire under the bowl besides the couple of burned rocks. Most of the vessel was intact within its “bedding” of soil but was extremely fragmented and fell apart during removal. The vessel was of a type identified as Santa Unslipped.

On the north side of 13i was found a dark organic fill pit. The pit was 60 X 40 cm, and was adjacent to the east wall and was approximately 70 cm from the north wall. The dark spot was designated Lot 773 and the top 14 cm was scraped off to test for the possible presence of a burial which was indeed confirmed. This discovery was made on the last day of the season so the decision was made to postpone its excavation until the future. These units were not fully excavated to bedrock, and should be completed in a subsequent season.

Summary of Subops 13g, 13h, 13i

On the whole, Subop’s 13g, 13h, and 13i, have confirmed the presence of subsurface domestic structures in this area of Caye Coco island. The cobble architecture is similar to that reported from the nearby sites of Santa Rita (Chase and Chase 1988) and Laguna de On (Aguilera 1998). This area is extremely rich in terms of artifact density and preservation of materials is excellent. There were several ceramic concentrations under the cobble floor and the presence of the burial at a depth of approximately 70 cm indicates a considerable span of domestic activity on the site.

The rock alignment suspected of being a wall has indeed turned out to a wall delineating domestic activities. These suboperations sampled a small fraction of the stone construction features visible on the surface in this area and further excavation in this area has much to contribute to the understanding of household activity at Caye Coco.

Suboperation 13b Boat Dock Vicinity Sampling Results

Suboperation 13b consisted of a 2 X 2 m unit on the northeast part of the island. The goal of this unit was to recover a large amount of ceramic sampling to better comprehend the activity on the island in terms of production, trade, era of activity, and colonial interaction. The reason for selecting this area was that the surface in this area indicated rich ceramic deposits and Spanish olive jar fragments were recovered in this vicinity during surface inspection in 1997 (Marilyn
Masson, personal communication). It was hoped that more indications of Colonial occupation might be recovered in this area.

The first few centimeters of topsoil had relatively no artifacts in the topsoil rootmat and at this point a concentration of large stones appeared (Figure 2.4). These stones appear to represent another buried cobble platform like the one described above for Subops 13g, h, and i. Upon the removal of the stones at a depth of 21 cm the artifact density began to increase rapidly. Large amounts of lithics and ceramics were recovered. Also present were obsidian, faunal bone, net weights, and small amounts of burned bone. Colonial unslipped wares resembling those recovered in 1997 at Laguna Seca were recovered in this unit, among other wares of Precolumbian origin (Shirley Mock, personal communication). Also of interest is the large amount lithic cores recovered from this unit.

At the interface with bedrock, dark circular posthole-sized features were visible intruding into the white marl (Figure 2.5). These dark organic areas have a circumference ranging from 8X8cm to 18X18cm. Artifacts recovered from these pits were small in quantity but included ceramics, lithics, obsidian, and shell. It is unclear what type of structure these small postholes might represent, but its diameter fits within the 2X2m area of this unit. It was probably some type of storage facility, or perhaps of facility of special function. Around ten limestone disks (7 cm diameter average, by 3-4cm high) were recovered in this area, by the landowners in docking their boat adjacent to this unit and within the rubble platform that was close to the surface in this unit. These disks represent some sort of special activity, such as lids for beehives, although this is difficult to confirm based on their appearance alone.

Suboperation 13f - Structure 10 Off Mound Sampling Results

Suboperation 13f consisted of a 1X2m unit approximately 6m north of Structure 10 on the northeast part of the island. The goal of this unit was to sample the deposits directly in front of the mound structure. A thread spool carved out of a large fish bone (Jack family, Masson, personal communication) was found in this location on the surface. This odd artifact could represent a Colonial Maya imitation of a European artifact, or it could represent a more modern artifact. It generated sufficient curiosity to warrant a test unit in this area.

Artifacts recovered were lithics, obsidian, ceramics, one bead, net weights, unmodified shell, faunal bone, and one biface tool at a depth of 24cm. Stratigraphy included a layer of topsoil (10-15cm thick), a layer of dark brown soil mixed with limestone bedrock (15cm-60cm), and marl bedrock beneath this depth. With the exception of the biface there was nothing unusual in terms of artifact recovery and the data coincides with other units in the area. Approximately 10cm before hitting bedrock a wooden post appeared in the northeast area of the unit (Lot 707). The post was next to the east wall and 20cm from the north wall (Figure 2.6). The wood is in relatively solid condition and is therefore considered to be modern; indeed, the inhabitants of the island, Fabian and Deodoro Perez, indicated that they had a house on this spot in the late 1950's. This information was known when the excavation was initiated, and with the exception of the deeply penetrating postholes, levels below the top 10cm appear largely intact. Upon further excavation other dark circular spots appeared toward the center and south east quadrant of the unit. It is not known whether these are modern, Precolumbian, or Colonial. In contrast to the depth of 64cm for the modern post claimed by the Perez family, these post-free holes were encountered further into the bedrock to a depth of 75 and 78cm (Figure 2.6). It should be noted that the post hole adjacent to the east wall is not completely circular and may therefore be something other than a post hole. A large piece of worked marine shell was recovered in one of them.
Suboperation 22 Results

Suboperation 22 consisted of a 1X2m unit approximately 4m east of Fabian’s and Deodoro’s house on the northeast end of the island. The purpose for excavating this unit was to investigate the stratigraphy on this part of the island. The inhabitant’s house lies on a hillock that may have been artificially created by the Postclassic Maya. Creating such an elevated area would be perfect in creating a mound upon which to build a house. Indeed, this high spot is the very reason Fabian and Deodoro chose this spot for their house as the elevation allows a cooling breeze to flow by their house and closeby palapa. Dense artifacts in the water adjacent to this topographic feature indicated the possible presence of rich midden deposits.

Within a depth of 8cm, a cobbled floor was encountered (Figure 2.7). Most of the stones and marly strata above the cobbles were in the north half of the unit. Also at this level on the south east quadrant was a circular formation of stones, some of which were burned. The absence of any stones in the middle may suggest a firing pit.

The stratigraphy of the unit seemed anomalous due to undulating dark soil within white marl (Figures 2.8, 2.9). It is suspected that the sloping white marl with penetrations of dark soil may indicate fill activity and land building and/or modification. Indeed, it is expected that since limestone bedrock was present at the south end which is at a higher elevation that bedrock should also be present at the north end slope. Instead what is present is a considerable amount of dark organic soil. This stratigraphic data combined with random artifacts in white marl suggest that land modification activities in this area may have occurred. It is difficult to assess these fully within the confines of a 1X2m unit.
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Freidel, David, Linda Schele and Joy Parker

Landa, Diego de

McAnany, Patricia A.

Rosenswig, Robert M.

Sharer, Robert J.

Sheldon, Stephanie M.
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<th>Lot</th>
<th>Description</th>
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<tbody>
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<td>503</td>
<td>topsoil w/bone fragments</td>
</tr>
<tr>
<td>13</td>
<td>510</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; level sub-topsoil</td>
</tr>
<tr>
<td>13</td>
<td>512</td>
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</tr>
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<td>516</td>
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<td>527</td>
<td>bone fragments and charcoal under ceramic vessel</td>
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<td>515</td>
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<td>735</td>
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<td>2nd level sub-topsoil (south side)</td>
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<td>771</td>
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<td>683</td>
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<td>703</td>
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<td>22</td>
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Figure 2.1. Burials #1, #2, #3, #4, #7, #8 in Subops 13, 13a, 13c, 13d, 13e.
Figure 2.2. Composite map of domestic features recovered within 10-30cm below the surface in Subops 13g, 13h, 13i.
Figure 2.3. Composite map of domestic features recovered below 30cm in Subops 13g, 13h, 13i.
Figure 2.4. Cobble surface 10-15cm below surface in Subop 13b.
Figure 2.5. Postholes intruding into bedrock identified at Subop 13b.
Figure 2.6. Postholes intruding into bedrock identified at Subop 13f.

- Modern Posthole (lot 707)
- Dark Organic Fill (lot 702)
- Lot 691
- Sub Op 13f
Figure 2.7 Rubble surface identified in Subop 22.
Figure 2.8. West wall profile of Subop 22.

Western Wall Profile

Sub Op 22

Ground Level

Lots 765, 766, and 767

White Marl

Dark Soil

White Marl

Aboula"
Figure 2.9. East wall profile of Subop 22.

Eastern Wall Profile

Sub Op 22

Ground Level

Lots 755, 766, and 767

Dark Soil with Limestone

Lighter Soil with Limestone

Bedrock

Groundwater

10cm
Chapter 3

Testing for Domestic Structures at Caye Coco:
Subops 12, 16, 20, 21

Maxine H. Oland

Introduction

Subops 16, 16a, 16b, 16c, 20, 21, and 21a were part of a testing program designed to investigate domestic areas on the southeast side of Caye Coco. This area was chosen due to the high density of utilitarian items eroding out of the surface soil, including a number of groundstone fragments. Many rubble surfaces and wall alignments were also noted on the surface. The test excavations were aimed at understanding the relationship between the monumental center and domestic settlements on the island. Subops 16a and 16b were also placed in an attempt to gain some stratigraphic information on the cultural transformation of the landscape; specifically, whether the monumental center was placed upon a natural rise, or whether the land had been built up to form the upper terrace. Subop 12 was the latrine unit (excavated for the purpose of constructing a latrine), placed on the northwest side of the island. This randomly placed test unit provided some comparison to the non-architectural units on the southeast end of the island. A map showing the location of these units is provided elsewhere in this volume (Hare et al., this volume).

Subops 16, 16a, 16b, and 16c were not associated with any surface architecture, although excavation of four postholes in the bedrock of Subop 16b revealed evidence of a previous structure. An extension of the unit, Subop 16c, confirmed that there had been a structure by illustrating a change in stratigraphy. Subop 20 was placed on the east side of a low mound thought to represent a domestic platform. Subop 21 and its extension, Subop 21a, were placed in association with a rock wall alignment. Excavation revealed a substantial house floor with a dedicatory ceramic concentration or some sort of storage/cooking vessel feature found beneath the northwest corner of the units.

Methodology

All of the excavation units were 1X2m in size, except for Subop 21a, which was an extension onto the ceramic concentration in Subop 21. Subop 12 was a 1x1m latrine unit. Excavation was completed in 10cm arbitrary levels, with each level given an independent Lot number. In Subop 20 the third through sixth levels were excavated in 30cm arbitrary levels. Features were given separate Lot numbers and excavated without arbitrary levels. All units were excavated down to the hard layer of limestone bedrock. Elevations were taken from an individual datum for each Subop.

Results

Subop 12

Placed on the north end of the island, this 1X1m unit had little to do with the rest of the testing program. The placement of excavation was intended as a latrine unit, and was selected for
no other reason than for convenience of location and depth of soil. The unit was not associated with any surface features or architecture.

There was a low density of artifacts in this unit. The most artifacts were found in the first two 10cm levels (Lots 501, 502), and consisted mostly of ceramics. A piece of basal flange from a Postclassic ceramic vessel was recovered from Lot 502. A few pieces of lithic material were also recovered in Lot 502. A total of 3 ceramic sherds were the only artifacts removed from the third and fourth levels (Lots 505, 506).

A profile map of the south wall illustrates three stratigraphic layers. The first layer, 30cm below the surface at its deepest point, was a very dark brown, rich organic topsoil. The second layer was a dark gray clay with pebble-sized marl intrusions. The final layer before bedrock was a light gray marl level with some drier clay.

Table 3.1. Lots of Subop 12.

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<td>1st 10cm arbitrary level</td>
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<tr>
<td>502</td>
<td>2nd 10cm arbitrary level</td>
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<tr>
<td>505</td>
<td>3rd 10cm arbitrary level</td>
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<tr>
<td>506</td>
<td>4th 10cm arbitrary level</td>
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Subop 16

Subop 16 was placed next to Well 4, directly to the south of the chultun. Large fragments of ceramic vessels had been previously removed from the well by the landowner (Masson, personal communication). Surface collection near the well recovered one water-stained third of a footed sag-bottom bowl, which was probably one of those removed fragments. The 1X2m test unit was placed over a shallow soil deposit, as bedrock was very close to the surface. Only two 10cm arbitrary levels were excavated (Lots 511, 513). The bedrock was undulating, with natural depressions. Lot 513 followed the natural contours of the bedrock, causing deeper elevations in some areas of the unit. Artifact density was fairly high in Lot 511, revealing many ceramic sherds of various sizes and a high concentration of unmodified shell. Some lithic flakes and fragments of obsidian blades were recovered as well. The artifact density was much lower in Lot 513. The same types of artifacts were recovered, but in smaller quantities.

The stratigraphy was fairly simple for Subop 16. The dark brown topsoil (Lot 511) was mixed with small marl pebbles. The soil color changed to a slightly more gray color in Lot 513, and there became progressively more marl as the unit approached bedrock. The barely distinguishable layers seemed not to be cultural, but the natural result of decomposing bedrock.

Table 3.2. Lots of Subop 16.

<table>
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<td>1st 10cm arbitrary level</td>
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<tr>
<td>513</td>
<td>2nd 10cm arbitrary level</td>
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</table>

Subop 16a

Subop 16a seemed to be representative of a shallow domestic midden. The 1X2m unit was placed approximately half-way between Well 4 and Structure 13. It lay in a cornfield at the bottom of a hill leading up to the monumental center. It was placed there in an attempt to gain data on domestic settlement in that area, as well as to determine if the hill was natural, or culturally constructed.
The top 10cm level (Lot 514) had the densest artifact concentration. Large ceramic sherds were removed from the lot, including some striated wares. The foot of a sag-bottom bowl was also found. Some obsidian blade fragments and unmodified shell were recovered. Lithic material was scarce, consisting mostly of fire-popped chert from the burning of the milpa (see lithic chapter, this volume). Few artifacts were removed from level 2, Lot 543. The last two levels before bedrock were nearly sterile.

The stratigraphic sequence seemed to indicate that the hill was natural. Three stratigraphic layers were identified. The top layer was a dark brown soil with large chunks of marl intruding. It is possible that this layer was cultural, as the marl intrusions were larger than those in the layers below. Perhaps it was the floor of some kind of domestic space, however further excavation would be needed to confirm this idea. The second stratigraphic layer was brown soil with a Lot of marl chunks. The third layer was decomposing limestone bedrock.

<table>
<thead>
<tr>
<th>Table 3.3. Lots of Subop 16a.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lot</strong></td>
</tr>
<tr>
<td>514</td>
</tr>
<tr>
<td>543</td>
</tr>
<tr>
<td>544</td>
</tr>
<tr>
<td>550</td>
</tr>
</tbody>
</table>

Subop 16b

Excavation of Subop 16b confirmed that the hill leading up to Structure 13 was natural. Subop 16b was located approximately 15m southeast of Structure 13, at the top of the hill. We reached bedrock in this unit at approximately 20cm below the surface in the north end of the unit. This illustrated that the inhabitants of Caye Coco utilized this natural rise in the landscape to elevate their monumental center.

Artifact density was very low throughout the three levels (Lots 554, 559, 564). In Lot 559 the bedrock was exposed in the north end of the unit. Lot 564 was a shallow level, as bedrock was soon exposed in the rest of the unit. In the bedrock were four pit features that, when excavated, were identified as postholes and given individual Lot numbers (Lots 568, 569, 570, 577). The postholes seem to be dug in a circular or semi-circular pattern, and perhaps held the supports of a pole and thatch structure.

The stratigraphy of Subop 16b did not seem particularly cultural until the extension of Subop 16c was added onto the unit. The top layer of the unit was a dark brown coarse soil with marl pebble inclusions. The second layer was brown soil with large marl chunks. This layer seemed natural, but when we later compared the profile of Subop 16b to that of Subop 16c, it was clear that the layer ceased just after the last posthole. This layer of marl chunks seems to represent the floor of the structure that would have been supported by the posts. The layer before bedrock was one of gray/brown soil with pebble-sized marl inclusions.
Table 3.4. Lots of Subop 16b.

<table>
<thead>
<tr>
<th>Lot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>554</td>
<td>1st 10cm arbitrary level</td>
</tr>
<tr>
<td>549</td>
<td>2nd 10cm arbitrary level</td>
</tr>
<tr>
<td>564</td>
<td>3rd 10cm arbitrary level</td>
</tr>
<tr>
<td>568</td>
<td>posthole in bedrock - 12cm diameter</td>
</tr>
<tr>
<td>569</td>
<td>posthole in bedrock - 14cm diameter</td>
</tr>
<tr>
<td>570</td>
<td>posthole in bedrock - 20cm diameter</td>
</tr>
<tr>
<td>577</td>
<td>posthole in bedrock - 20cm diameter</td>
</tr>
</tbody>
</table>

Subop 16c

Subop 16c was added on as an extension to Subop 16b. It was placed off of the north end of Subop 16b, with the same North-south orientation. The original intention of the unit was to locate more postholes in order to better understand the structure or wall that the posts would have supported. Although there were no more postholes in Subop 16c, the stratigraphic information gained from the profile provided the same information.

We expected that the postholes would be aligned in a straight line heading towards the north, or that they would turn towards the northwest. On the chance that they were oriented towards the north we wanted to get an inside/outside perspective. The unit was divided in half, and the east and west sides were excavated independently in 10cm levels. There is no significance in this, as no more postholes were found.

The density of artifacts was very similar to that in the comparative levels of Subop 16b. Very few artifacts were recovered overall. In the first 10cm of the entire unit (Lots 687, 688) some small ceramic sherd s, a few pieces of obsidian, and some very small lithic flakes were recovered. The artifacts in the second level (Lots 693, 694) were very similar in type and quantity, but the ceramic sherds were larger. Two net weights, one from each side, were also recovered from this level. The third 10cm level (Lots 696, 697) followed the slope of the undulating bedrock, causing the closing elevations to vary somewhat. The bedrock was much higher in the south end of Subop 16c. Two ceramic sherds, found in the west side of the unit, were the only artifacts recovered from this level.

The stratigraphy of Subop 16c was significantly different from that of Subop 16b. The first layer was the same as in Subop 16b, a coarse dark brown topsoil with marl pebble inclusions. The second layer of Subop 16b continued into Subop 16c until 33cm from the south wall. At this point the brown soil with large marl chunks ceased, marking the end of a culturally constructed floor. The third layer was the same as that in Subop 16b, with a gray/brown soil and small marl pebbles. The soil was much deeper approaching the north end of the unit. Three soil levels were apparent that were not present in Subop 16b. In the south end of the unit, close to the center, was a darker gray intrusion without any chunks of rock. This is perhaps significant of a pit, although no evidence of such was noticed during excavation. To the north of this intrusion was a deep layer of gray soil mixed with decomposing limestone bedrock. Just above bedrock in the north end was a small layer of decomposing limestone bedrock.
Table 3.5. Lots of Subop 16c.

<table>
<thead>
<tr>
<th>Lot</th>
<th>Description</th>
<th>Horizontal Lot Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>687</td>
<td>1st 10cm arbitrary level, west side</td>
<td>688</td>
</tr>
<tr>
<td>688</td>
<td>1st 10cm arbitrary level, east side</td>
<td>687</td>
</tr>
<tr>
<td>693</td>
<td>2nd 10cm arbitrary level, west side</td>
<td>694</td>
</tr>
<tr>
<td>694</td>
<td>2nd 10cm arbitrary level, east side</td>
<td>693</td>
</tr>
<tr>
<td>696</td>
<td>3rd 10cm arbitrary level, west side</td>
<td>697</td>
</tr>
<tr>
<td>697</td>
<td>3rd 10cm arbitrary level, east side</td>
<td>696</td>
</tr>
</tbody>
</table>

Subop 20

Placed towards the northeast corner of Structure 20, the goal of Subop 20 was to ascertain the function of this low mound. Although we did not gain a definitive answer, the midden fill used in construction revealed data for comparison with other structures on the island. The unit was aligned with the structure at 10 degrees west of north.

From the rubble surface we collected two pieces of white “logger” era ceramic. The first two lots of the unit (Lots 628, 643) were excavated in 10cm arbitrary levels in order to well document the construction of the floor of the structure. Very few artifacts were recovered from these rocky layers. Unmodified shell and some eroded ceramic sherds were the only materials found.

The rest of the lots (655, 669, 675, 682) were excavated in 30cm levels. Lots 655 and 669 possessed a high artifact density. Among the artifacts recovered from Lot 655 were several large chalcedony flakes, fragments of obsidian blades, a piece of polychrome ceramic diagnostic of the Postclassic, a number of rim sherds, and some striated sherds. A complete *Pomacea* shell and a piece of conch shell were also found in this Lot.

The artifact assemblage for Lot 669 included several large ceramic sherds, many slipped, as well as high quantities of lithic material and unmodified shell. A jade bead was also recovered from this level. The artifact density dropped in Lot 675, as we reached the end of the midden fill. The ceramic sherds were smaller in this level, although two large pieces were removed from the Lot, one with basal flanges. A large limestone mano was removed from this Lot. Charcoal and some burned rocks were noted in the soil.

Lot 682 was a cream-colored clay level, in which few artifacts were found. Some patinated lithics were found in the clay, first suggesting an archaic component to the unit. Then two ceramic sherds were removed from the soil, casting doubt on that original hypothesis. As this is a fill interface layer, these potentially disturbed context flakes may provide clues that an Archaic component is present somewhere in the vicinity of this mound. Only half of Lot 682 was excavated to the full 30cm. The south end of the unit was excavated only 10cm because the lower part of the Lot was sterile in the north end.

The stratigraphy of this unit illustrates the construction sequence of Structure 20. The top layer of the structure was composed of small irregular limestone rocks. Beneath that layer were large limestone boulders. Once past these surface layers the soil was much less rocky. The midden fill seemed to start at approximately 30cm from the surface, and ended around 80cm from the surface. The top of the fill lay in moderately packed brown soil, while the bottom was in a dark gray coarse soil. Beneath that layer the soil turned from a densely packed gray clay-like soil, to a white clay/decomposing bedrock. The bottom 20cm was sterile.
Table 3.6. Lots of Subop 20.

<table>
<thead>
<tr>
<th>Lot</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>628</td>
<td>1st 10cm arbitrary level, topsoil/rubble surface</td>
</tr>
<tr>
<td>643</td>
<td>2nd 10cm arbitrary level, rubble</td>
</tr>
<tr>
<td>655</td>
<td>3rd 30cm arbitrary level, construction midden fill</td>
</tr>
<tr>
<td>669</td>
<td>4th 30cm arbitrary level, construction midden fill</td>
</tr>
<tr>
<td>675</td>
<td>5th 30cm arbitrary level, midden fill interface zone with underlying cream clay layer</td>
</tr>
<tr>
<td>682</td>
<td>6th 30cm arbitrary level, cream clay overlying bedrock</td>
</tr>
</tbody>
</table>

Subop 21, 21a

Subop 21 was placed approximately 27m northeast of Well 4, directly to the east of a rubble wall alignment. The ground was not elevated into a mound, but the limestone rocks in the wall alignment were significantly large. The 1X2m unit was oriented east-west. Through excavation of this unit we exposed what seemed to be the floor of a domestic living space.

The surface of Subop 21 was composed of huge limestone rocks amidst dark brown coarse soil. The first 10cm arbitrary level (Lot 629) revealed several pottery sherds, some lithic material, and two large fragments of obsidian blades. Artifact density increased in the second level (Lot 642) in the soil within the large ballast platform. Large ceramic sherds were recovered from the soil, as well as many pieces of unmodified shell. Several fragments of obsidian blades were also found. In the northwest corner of the unit, a few centimeters into Lot 642, we found a ceramic concentration. The concentration was assigned Lot 644, and excavated as a feature without arbitrary levels.

The ceramic sherds extended into the north and west walls of Subop 21, and an extension (Subop 21a) was added onto the corner of the unit in order to fully expose the feature. Three 10cm levels (Lots 680, 681, 686) were excavated before reaching the concentration in Subop 21a. Lot 686 was very shallow, as the concentration (Lot 644) was only a few centimeters into the level. The southernmost sherd was 55cm from the south wall, and the highest sherd of the concentration was found at an elevation of 12cm from datum (NW corner, 0cm). The ceramic sherds seemed to be intentionally placed beneath the ballast floor, perhaps representative of a dedicatory ritual. Alternatively, they may represent a ceramic vessel used in this structure for storage or cooking. At the top of the concentration were many large rim sherds mixed with various body sherds, but in no particular pattern of deposition. The bottom sherds were much more regularly placed. The bottom of the olla lined the floor of the feature. There seemed to be two or three layers of pottery sherds as we approached the bottom of the feature, representing superimposed vessels. The sherds lay flat on top of one another. It first appeared that there was more than one vessel, one inside of the next, but analysis of the sherds in the lab did not support this hypothesis. It is possible that the vessel collapsed in on itself and was so deposited. If the concentration was in fact a dedicatory ritual, it seems clear that the vessel (at least the olla) was smashed after being set into the ground, rather than smashed before deposition. Some obsidian blade fragments and a shell bead were also found in the concentration (Lot 644). It is not obvious whether they were placed there intentionally.

The rest of Subop 21, in the areas outside of the ceramic concentration, was excavated to the level of Lot 644. This 10cm level, Lot 656, had a fairly low artifact density. Some small ceramic sherds, as well as some unmodified shell, were removed from the Lot. There was a significant quantity of obsidian found, and the blade fragments seemed longer and wider than what was typical of the units in this testing program. After the ceramic concentration (Lot 644) was
removed, two more 10cm levels were excavated before hitting bedrock. These Lots (715, 716) encompassed both Subop 21, and its extension Subop 21a.

Lot 715 revealed some ceramic sherds, unmodified shell, and a small amount of lithic material, as well as one fragment of obsidian blade. Artifact density was higher at the top of the 10cm level than at the bottom. It was also higher in the west end of the unit than in any other area. Lot 716 was a very shallow level before bedrock, only four centimeters at its deepest point. Only one lithic flake was removed from this Lot.

The bedrock of the unit was an undulating limestone surface. There were many natural pits in bedrock, and the surface appeared to be burned. There was a posthole (Lot 728) carved into the bedrock on the south side of the unit. It was located approximately 70cm from the east wall of Subop 21, and 15cm from the south wall. Its diameter was 18cm.

The stratigraphy of the unit seems to be all cultural. Beneath the topsoil and ballast floor was a layer of coarse gray/brown soil with marl pebble inclusions. The bottom layer before bedrock was a light gray soil with decomposing limestone bedrock. The presence of artifacts until the very last layer, as well as the posthole (Lot 728), appear to represent initial cultural deposits in this area.

<table>
<thead>
<tr>
<th>Subop</th>
<th>Lot</th>
<th>Description</th>
<th>Lot Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>629</td>
<td>1st 10cm arbitrary level, topsoil</td>
<td>680</td>
</tr>
<tr>
<td>21</td>
<td>642</td>
<td>2nd 10cm arbitrary level, cobble limestone ballast platform and soil amidst the stones, above ceramic concentration</td>
<td>644, 681, 656</td>
</tr>
<tr>
<td>21</td>
<td>656</td>
<td>3rd 10cm arbitrary level, areas of unit outside of ceramic concentration Lot 644</td>
<td>644, 642</td>
</tr>
<tr>
<td>21</td>
<td>644</td>
<td>ceramic concentration</td>
<td>642, 686</td>
</tr>
<tr>
<td>21, 21a</td>
<td>715</td>
<td>4th 10cm arbitrary level beneath Lot 644 &amp; 656</td>
<td></td>
</tr>
<tr>
<td>21, 21a</td>
<td>716</td>
<td>5th 4cm arbitrary level above bedrock</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>728</td>
<td>posthole intruding into bedrock</td>
<td></td>
</tr>
<tr>
<td>21a</td>
<td>680</td>
<td>1st 10cm arbitrary level, topsoil</td>
<td>629</td>
</tr>
<tr>
<td>21a</td>
<td>681</td>
<td>2nd 10cm arbitrary level, topsoil</td>
<td>642</td>
</tr>
<tr>
<td>21a</td>
<td>686</td>
<td>3rd 4cm arbitrary level, topsoil</td>
<td>644</td>
</tr>
</tbody>
</table>

Summary

The primary goal of these test excavations at Caye Coco 1998 was to identify and sample probable domestic areas beyond the monumental center. Subops 16b,c, Subop 20, and Subops 21,21a were all representative of possible house floors. Each of these structures represented a different type of architecture including a rubble floor and postholes in bedrock at Subops 16b,c, a low rubble mound at Subop 20, and a ballast floor and posthole at Subop 21, 21a. Few archaeological features were discovered in these units. The ceramic concentration (Lot 644) in Subops 21,21a is indicative of a possible household ritual cache. Subops 16 and 16a were not associated with any architectural features, but represent shallow midden deposits in a general domestic area.

Subops 16a, 16b, and 16c provided important stratigraphic information regarding the raised monumental center on the island. It was found through these shallow units that the center
was not culturally elevated, but was placed on a natural rise in the island. Subop 12, the latrine unit, provided a comparative stratigraphic profile of the island from the other side of Caye Coco. Its deeper soil deposits and relative paucity of artifacts were in sharp contrast with the other Subops in the testing program. Using the data from this testing program, household analysis will be expanded in the 1999 season. Broad horizontal exposure will be conducted on a number of domestic living areas to better understand the social and economic relations between Caye Coco and other Postclassic sites, as well as the relationships of social stratification within the settlement itself.
Figure 3.1. Profile map of south wall, Subop 12.

- Dark brown topsoil
- Dark gray clay with pebble-sized marl inclusions
- Light gray clay with decomposing limestone
- Bedrock

Figure 3.2. Profile map of west wall, Subop 16a.

- Coarse dark brown soil with large marl chunks
- Brown soil with marl pebble intrusions
- Decomposing limestone bedrock
- Bedrock
Table 5.3. Lot Numbers and Contexts for Subop 18a.

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>677</td>
<td>First arbitrary 10cm level.</td>
<td>0-10</td>
<td>551</td>
<td>182</td>
<td>0</td>
<td>17</td>
<td>35</td>
<td>47</td>
<td>2</td>
<td>0</td>
<td></td>
<td>1 ceramic sphere; 2 pc. pigment</td>
</tr>
<tr>
<td>689</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>518</td>
<td>523</td>
<td>2</td>
<td>0</td>
<td>33</td>
<td>43</td>
<td>0</td>
<td>2</td>
<td></td>
<td>1 incised stone</td>
</tr>
<tr>
<td>701</td>
<td>Third arbitrary 10cm level.</td>
<td>20-30</td>
<td>356</td>
<td>233</td>
<td>1</td>
<td>20</td>
<td>16</td>
<td>16</td>
<td>0</td>
<td>2</td>
<td></td>
<td>1 carved shell (skull)</td>
</tr>
<tr>
<td>706</td>
<td>Fourth arbitrary 10cm level.</td>
<td>30-40</td>
<td>230</td>
<td>140</td>
<td>0</td>
<td>20</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td></td>
<td>1 incised stone</td>
</tr>
<tr>
<td>708</td>
<td>Fifth arbitrary 10cm level.</td>
<td>40-50</td>
<td>91</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
<td>1 carved stone</td>
</tr>
<tr>
<td>713</td>
<td>Sixth arbitrary 10cm level.</td>
<td>50-60</td>
<td>261</td>
<td>17</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td></td>
<td>1 carved stone</td>
</tr>
<tr>
<td>714</td>
<td>Basal level overlying bedrock clay.</td>
<td>60-70</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>1 carved stone</td>
</tr>
</tbody>
</table>

Table 5.4. Lot Numbers and Contexts for Subop 18b.

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>717</td>
<td>First arbitrary 10cm level.</td>
<td>0-10</td>
<td>175</td>
<td>11</td>
<td>157</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1 carved bead; 1 pc. green bottle glass</td>
</tr>
<tr>
<td>718</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>698</td>
<td>42</td>
<td>595</td>
<td>0</td>
<td>18</td>
<td>41</td>
<td>66</td>
<td>0</td>
<td>1</td>
<td>1 ceramic sphere; 1 shark tooth with drilled hole; 2 pc. pigment; 1 ceramic zoomorphic effigy head</td>
</tr>
<tr>
<td>721</td>
<td>Third arbitrary 10cm level.</td>
<td>20-30</td>
<td>784</td>
<td>40</td>
<td>565</td>
<td>3</td>
<td>12</td>
<td>65</td>
<td>66</td>
<td>3</td>
<td>0</td>
<td>1 ceramic crocodile snout effigy</td>
</tr>
<tr>
<td>725</td>
<td>Fourth arbitrary 10cm level.</td>
<td>30-40</td>
<td>474</td>
<td>99</td>
<td>247</td>
<td>1</td>
<td>0</td>
<td>28</td>
<td>42</td>
<td>0</td>
<td>1</td>
<td>1 ceramic crocodile snout effigy</td>
</tr>
<tr>
<td>726</td>
<td>Fifth arbitrary 10cm level.</td>
<td>40-50</td>
<td>477</td>
<td>141</td>
<td>47</td>
<td>3</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>1 ceramic crocodile snout effigy</td>
</tr>
<tr>
<td>731</td>
<td>Sixth arbitrary 10cm level.</td>
<td>50-60</td>
<td>NA</td>
<td>109</td>
<td>36</td>
<td>1</td>
<td>13</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1 ceramic crocodile snout effigy</td>
</tr>
<tr>
<td>732</td>
<td>Basal level overlying bedrock clay.</td>
<td>60-70</td>
<td>NA</td>
<td>74</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1 ceramic crocodile snout effigy</td>
</tr>
</tbody>
</table>
Figure 3.5. Profile map of west wall, Subop 20.

Coarse brown topsoil
Moist brown soil
Coarse dark gray clay-like soil
Gray clay
White clay mixed with decomposing limestone bedrock
White decomposing limestone bedrock
Bedrock

Figure 3.6. Plan map of Subop 20. Surface of the mound.
Coarse brown topsoil with marl pebble inclusions
Brown soil with large marl chunks
Gray/brown soil with small marl pebbles
Dark gray soil

Gray soil mixed with decomposing limestone bedrock
White decomposing limestone bedrock
Bedrock

Figure 3.3. Profile map of west wall, Subop 16b,c.

Figure 3.4. Plan map of Subop 16b. View of postholes in bedrock.
Figure 3.7. Profile map of south wall, Subop 21,21a.

- Dark brown humic topsoil
- Large limestone boulders with chunks of marl and gray/brown soil
- Coarse gray/brown soil with marl pebbles
- Light gray soil with decomposing limestone bedrock
- Bedrock

Figure 3.8. Plan map of Subop 21,21a. Ballast floor and ceramic concentration (Lot 644).
Chapter 4

Domestic Feature Excavations at Subops 11, 14 and 3b, Caye Coco

Alexander M. Mullen

Introduction

Subops 14, 14a, and 3b are located on the north tip of Caye Coco close to the shore and adjacent to a low lying bajo with dense vegetation cover. It appears that a large portion of this area of the island was a courtyard bounded on the south and west by Structures 14 and 15 respectively. The goal of these investigations was twofold. First was to explore the possibility that Structure 14 was an elite residence (Subop 14) and to determine its relationship (if any) to Structure 15 (Subop 3b). Second, explorations at Structure 15 were an expansion of testing conducted in the 1997 field season (Rosenswig 1998) in which a series of test units were opened on the north end of Caye Coco.

Subop 14 is located atop Structure 14, straddling what appears to be an edge of the platform. In this unit, we hoped to uncover basal architecture of the structure and/or a difference in artifact densities that could indicate midden deposition on the outside of the structure. Subop 14a is located northeast of Subop 14 in a low lying area with no noticeable architecture. This unit was opened in order to establish if the low lying area was, in fact, a courtyard and if so, did it contain sufficient midden deposition to provide economic and subsistence information about this area of the island. Subop 3b is located atop Structure 15. As mentioned above, this unit was opened in order to establish a relationship (if any) to Structure 14 as well as in continuation of testing conducted in the 1997 field season (Rosenswig 1998). Located on the north edge of Structure 15, last season's test unit (Subop 3) uncovered a high density of ceramic debitage including a large amount of incensario fragments. To investigate this apparent ritual context, Subop 3b was placed more centrally on Structure 15 with the hope of uncovering features and architectural details that would help reveal this structure's history.

Subop 14

Structure 14 is located on the north tip of Caye Coco. Initial examination found it to be roughly 17.5m long, with a long axis on a bearing of 125 degrees. Subsequent clearing of brush revealed that the west side of the structure possesses outwardly projecting wall-like structures that, together with the platform form a U-shape (for information about three-sided structures, see Bey et al. 1997). This structure appears oddly constructed, as it slopes from east to west, and does not represent a level platform. Modern disturbances do not appear to have caused this phenomenon. Excavations described below did not reveal the purpose of this structure, or whether it was actually completed and used. A small looter's trench was found in the northeast corner of the structure. Measuring roughly 4.7X3m, this trench was oriented on a bearing of about 100 degrees west of north.

Subop 14 was a 1X4m unit placed along the long axis of the structure in order to transect what appeared to be a rear wall of the U-shaped rubble alignment atop this structure and the inner, sloping "alley" within this rubble configuration (Figure 4.1). We hoped that the placement of this unit would provide a contrast between the inside and the outside of the occupation space on this
structure and perhaps reflect its function. One theory as to the function of this structure was that based on its size and shape, it may have been an upper status residence, as it appears to be a pronounced low platform framing part of a courtyard area formed by Structures 14 and 15 on the very northwest tip of the island. Another possibility is that the smaller mound east of Structure 14 was the residence of an elite and Structure 14 was a minor or private ceremonial structure associated with that structure (Marilyn Masson, personal communication June 1998). Admittedly, however, this structure’s odd shape and slope had us confused from the beginning. To our knowledge, structures of this exact nature have not been reported from Postclassic sites. In a site visit by George Bey, he confirmed that it did not resemble “C-shaped” structures more commonly known from this period (personal communication, July 1998).

The topsoil level of this Subop (Lot 507) was a very dark brown humic O-horizon soil that was loosely packed and fine grained with a high density of root material. Included in the soil were pieces of large pebble to cobble sized limestone, ranging from 5-15cm in diameter. Almost immediately, excavation of soil revealed that larger rubble fill was concentrated near the surface in the east end of the unit and seems to mark the western extent of the platform. Traces of marl were also found on and around the tops of some of these cobbles on the east half of the unit suggesting that the top of the structure may have been covered by a marl floor which has since eroded away due to its proximity to the surface and the dissoluble characteristics of marl plaster in seasonal rains. Artifacts recovered in this level included lithic debitage, obsidian, ceramics (including sherds, a fish net weight and bead), faunal bone, and unmodified marine shell. In addition, a uniquely worked piece of chert that may be a gunflint was also recovered; this hints at a possible later Colonial period component to this structure. The gunflint was examined by Marilyn Masson, Patricia McAnany, and Daniel Finamore, all of whom agreed on its identification. It appeared to have been made locally, from chert that resembles that from the site of Colha.

The underlying construction fill below Lot 507 was uncovered at about 12 to 40cm below the surface was removed as Lot 524 throughout the entire unit. This rubble and cobble fill ranged in size from 4-25cm in diameter, with the larger pieces located in the east end in the unit. As this lot was solely construction debris, it contained no artifacts. There were large gaps between the fill in this end of the unit as well, suggesting that the fill of this structure was dry laid. A layer of fill beneath Lot 507 displayed some differences on the east and west halves of this 1X4m unit. In the east 1x2m section of this Subop, toward the rear wall of the U-shaped alignment, the fill appeared larger. This half was removed as Lot 525. In the west 1x2m section of this Subop, in the interior space of this alignment, smaller rubble with more soil and artifacts was removed as Lot 526.

Atop the alignment, Lot 525 matrix between the large cobble fill stones consisted of a dark brown sandy loam that was moderately packed and had granules of marl distributed throughout. Artifact density was very low in this lot. Only three pieces of chert, seven ceramic sherds, and one proximal end of an obsidian prismatic blade were recovered.

The layer of fill in the west, interior space of the unit (Lot 526) included cobbles with diameters of around 29 to 36cm below the surface. This second layer of fill appeared to be very "slab-like" and resembled fill layers that were visible at greater depths in the profile of a looter’s trench located in the northeast corner of the structure. Lot 526 also contained more soil than that observed in the alignment on the east half of the unit. This matrix consisted of a dark brown sandy loam and cobbles and rubble appeared smaller than that noted in the east half. Artifact density was much higher in this lot (Lot 526) and consisted of lithic debris, a chert core (of poor quality), a distal end of a chert Postclassic projectile point, ceramic material, faunal remains, a vented tripod foot, several ceramic beads and a fish net weight. The fill that was uncovered below this matrix at a depth of about 31 to 53cm was of a much smaller diameter (7-20cm) than that which was under Lot 525. As a result of its smaller size, this fill was well packed and even, in sharp contrast to the fill on the platform above. These distinctions and the differences in artifact densities led the
excavators to conclude that Lot 525 and Lot 526 represent different zones of architectural fill. While these deposits may have been laid down at two different intervals or procured from two different sources, there is no evidence of intervening occupation floors that suggest that this mound was constructed and used in two entirely different episodes. As the surface and fill zones of this mound contained few features except for a scatter of artifacts lying in and above soils between construction rubble which was close to the surface, the function of this mound is not currently indicated. Artifacts were of a domestic nature, and no censers or other ritual indicators were found. Perhaps midden debris associated with this structure was deposited off-mound, perhaps in locations such as nearby Subop 14, to the rear (south) of the structure near the water, which yielded dense concentrations of domestic debris. The east half of Subop 14 was closed (with the completion of Lot 525) and excavations were continued below beneath Lot 526.

A second layer of construction fill (roughly 10cm in depth) was removed below Lot 526 in the west half of Subop 14 (Lot 531). Like Lot 524, this layer consisted primarily of limestone cobbles and few artifacts were recovered. The matrix around these cobbles (Lot 531) continued to represent dark brown sandy loam similar to that encountered in higher lots. This matrix was more densely packed as the rubble size was notably smaller than in overlying Lot 526. While we had initially planned to clear the matrix and expose the cobbles for a third time, it soon became obvious that we were excavating through a fairly deep construction fill zone in this west 1X2m section of Structure 14. As a result, we decided to increase the depth of the arbitrary excavation level lots from about 10cm to 30-40cm, keeping in mind that if any features were uncovered, we would revert back to the arbitrary 10 cm levels. In the higher elevations of this lot, artifact density was fairly moderate considering the amount of sediment excavated (.87 cubic meters) and consisted of ceramic sherds, lithic debris, and very few shell fragments. A large fragment of metate was recovered at about the midpoint of the unit, 25cm from the north wall at a depth of about 46cm below the surface. At subsequent depths it became apparent that the density of ceramics was increasing markedly in the east end of the unit. Several large Rita Red type ceramic fragments and at least 3 fish net weights were recovered. One of these net weights appears to have been inscribed with an iconographic image, or to have been manufactured from a sherd that had this inscribed design on it. Unfortunately, the image is too eroded to identify. This level was terminated at a depth of about 77 to 86 cm below the surface as it was noted that the soil had become rather black and clayish.

The next arbitrary level lot (Lot 565) revealed matrix of a very similar color and consistency to Lot 531. The matrix was a very dark brown to black clay loam that was fairly moist and well packed. There was a lower density of rubble than observed in Lot 531 and the fill appeared smaller toward the west end of the unit. A high density of ceramics and a low density of shell and lithics were observed. More notable was an increase in the density of fish bone among the faunal remains, including fish vertebrae and dorsal spines. In addition, two prismatic obsidian blade fragments were uncovered at a depth of about 95cm below datum in the northeast corner.

Beneath this lot, another arbitrary level was designated as Lot 585. This matrix was a dark brown to black sandy clay loam with a high density of root material. There were also small granules of marl throughout the sediment. Fill density was low but the diameter of limestone rubble was larger than the previous lot, ranging from 10-30 cm. At a depth of about 125cm below datum, a ceramic concentration (Lot 596) was uncovered (Figure 4.2). This concentration measured roughly 45X42cm and continued to a depth of about 141.5cm. It included a large portion of at least two fragmentary olla vessels, one Santa Unslipped Coarse and one Santa Unslipped Flannel as well as several red and black mottled slipped sherds which resemble those in the type collection from Santa Rita housed at the Department of Archaeology in Belmopan (Shirley Mock and Marilyn Masson, personal communication). The Belmopan type collection was visited for the express purpose of identifying these unusual sherds, although the exact type was difficult to
identify because a variety of Postclassic ceramic types had been separated from their labeled boxes in the drawer of this collection according to Mock and Masson. There was also one sherd of a modeled vessel (eroded slipped) appliqué in the form of a serpent head which may have been the end of a censer ladle handle. In removing this concentration, a low density of obsidian, lithicdebitage, and shell was observed. There was also what appeared to be burnt earth inside the easternmost sherd concentration and a portion of this was removed as a sample. Once the concentration was removed, we continued excavating Lot 585. At a depth of about 155 cm below datum, we began to encounter a loosely consolidated yellow marl surface. Once into this marl horizon, the artifact density dropped off suddenly. Only a few ceramics and Pomacea shell fragments were recovered.

It was initially thought that this marl surface was bedrock. However, trowel scraping of this marl soon uncovered a semi-circular pit intruding into the south wall, and extending halfway into the western 1m of the 1X2m section of Subop 14 taken to this depth. The pit appeared as a concentration of black sediment, ridden with charcoal and burnt limestone intruding into the marl (Figure 4.3). This pit feature, given the designation of Lot 632, contained dark brown, almost black, moist, sandy loam with very little root material. The fill material was mostly burnt decomposed limestone, ranging in size from 5-15 cm. Artifact density was very low, and only ceramic fragments were found in this feature. Near the bottom of this feature, at a depth of 164.5 cm, three linear dark stains at the base of the pit were revealed to be three burnt logs. Oriented roughly north-south, these logs project out from the south wall about 50 cm and are laid across a 60 cm wide vicinity (Figure 4.4). Samples of all three logs were taken for floral analysis and carbon dating. Below these logs, at a depth of about 185 cm below datum, the pit feature ended and the decomposed marl bedrock was encountered.

Summary of Subop 14

Putting together this sequence of lots, it appears that a fire was built in this location at the base of a pit dug into bedrock (Lot 632), represented by the three incinerated logs. Soon afterward, before these logs had time to become dispersed and eroded, the pit was filled with midden fill materials. In the upper levels of this pit, at least two whole or partial large Santa Unslipped olla water/storage jars were placed (Lot 596). Before these vessels had time to become further disturbed, broken and dispersed, they were covered by construction fill zones, beginning with Lots 585 or 531. As the pit that was detected in bedrock (Lot 632) became visible in the south wall profile to originate around 40 cm above bedrock, it is now believed that Lot 585 included part of the upper levels of this pit (and surrounding fill), and that the Santa ollas were located toward the top of this pit. The color of fill in such pits, also found at Laguna de On (Aguilera 1998, Wharton 1998), can be only slightly darker than surrounding midden or topsoil zones of “dark sandy loam” soil in which they are encountered, and can sometimes only be detected at their point of origination by an increase in artifact density or the sudden appearance of large sherds. The presence of this pit suggests that the lowest zone of soil (horizontal with Lot 585) at the base of this structure above bedrock is probably not construction fill, but an original midden deposit pertaining to domestic activities in this area before the mound was built. It is difficult to determine at this time whether the log burning event and the deposition of the Santa Unslipped ollas are an accident of preservation or whether these represent part of a dedication event which occurred at the initiation of the construction of this mound.

After this mound was constructed, a U-shaped rubble alignment was placed atop this sloping platform. There is no evidence to indicate this structure was used for ritual. It may have been occupied or used for some other purpose which is unclear by the paucity of features and artifacts on its surface. As the alignment opens to the west, the presence of a north perishable wall atop the
rubble alignment on this side would have effectively cut off the powerful north-northeast breeze that rips across the island from the lagoon. As most habitation structures (both ancient and modern) on this island today appear to open to the north to capitalize on this breeze (Rosenswig, this volume), the orientation of Structure 14's U-shaped alignment may thus further suggest that this mound was not inhabited. It is clear from the recovery of Santa Unslipped wares beneath this structure that it was built during the Late Postclassic period.

Subop 14a

As mentioned above, Subop 14a was a 2X2m unit placed on a low-lying area northeast of Structure 14 to investigate if this hypothesized courtyard area. Aligned north-south, this unit was placed directly in front of Structure 14. The surface level of this unit, (Lot 532) was a dark brown humic horizon with a low density of very small fill material. Bedrock was encountered a few centimeters (5-10cm) below the surface in the northwest corner and along the west wall of the unit, but not to the east. Artifact density was very low in this lot with less than ten artifacts recovered in the entire unit. We continued to excavate soil and follow the bedrock outcrop which sloped downward from the northwest corner of the unit to the southeast corner. At the bottom of the second arbitrary 10cm level (Lot 547), it became clear that there was a soil distinction in the unit. In the northwest corner was a dark brown clay loam and in the southwest and southeast corner was a light gray clay. Most of the stone inclusions in the soil had consisted of flat small slabs of limestone (5-15cm) that appear to have eroded off of the limestone outcrop. At the base of the third arbitrary 10cm level (Lot 563), the entire west half of the unit was exposed solidified limestone shelf bedrock. In the east half of the unit, we uncovered a soil distinction between the northeast and the southeast halves. The northeast quadrant was a dark loamy clay that was heavily packed with pebble sized pieces of marl dispersed throughout. The southeast quadrant was a light gray wet clay that was speckled with granules of white clay. This horizon of gray clay did not prove to be very deep however. We quickly ran into a layer of rubble in the southeast quadrant that began at a depth of 28 to 34cm below datum. The northeast quadrant, which was still dark brown loamy clay was given the designation Lot 572 and measured roughly 1X1.1m. The southeast quadrant, which consisted of the dry laid fill, was given the designation of Lot 573 and measured roughly 1.5X1.15m. Through the excavation of two arbitrary 10 cm levels (Lots 572 and 579) we were able to expose solid bedrock in the northeast corner of the unit at an elevation of 42 to 65cm below datum. Interestingly, there were no artifacts recovered from either of these two lots. Once bedrock was established in Lot 589, we started to clear around the cut in the bedrock that forms the boundary of the fill assemblage that is Lot 573. With the sediment cleared off, gaps and cavities between the fill became evident, some of which went down as far as 1m in depth. We also uncovered a cut in the bedrock that appeared to represent a limestone shelf overhang which formed the roof of a karstic cavity. This shelf extended diagonally SW-NE across 2/3 of the unit. The cavity appears to have been filled in with large limestone ballast during the Postclassic period. (Figure 4.5).

The fill of the karstic cavity, excavated as Lot 573, ranged in size from 20-55cm in diameter. As we removed these limestone cobbles and boulders, it became apparent that this cavity extended underneath the bedrock slab to a considerable depth (2-3m) to the north and west. Artifact density was very low, as only five ceramic sherds, three lithics and one obsidian flake were recovered in two days of fill removal. It is not clear whether these artifacts may have fallen into the unit from the south wall while fill was removed, or whether they may actually derive from the fill deposit. The ceramics are highly eroded and not diagnostic. Excavation of this fill deposit was ceased between 118 to 138cm below datum and after it had been sterile for almost a day. At this point, the base of inside of the cavity was lined with large flat limestone slabs which appeared to
represent decomposed limestone, and it is thought to represent a natural talus deposit. It is most likely that these stones dropped off of the ceiling of the cave since as the limestone shelf eroded. Other than these stones, the cave contained a white limestone clay. The water table was just below the floor of the cave as there were pools of mud among the limestone slabs on the floor. A careful examination of the surface of the floor did not reveal any artifacts or evidence of cultural activity.

Summary Subop 14a

The low density of artifacts in the fill is noteworthy compared to the fill in Structures 14 and 15. This fill appears to have been quarried directly from sterile limestone bedrock, from either on the shore of the lagoon, somewhere on the island, or from the base of the lagoon. It appears that this cavity was filled in as part of an effort to level off the surface of this courtyard area north of Structure 14. This substantial effort at landscape modification provides one clue of the ways in which this island was changed by human construction. Other such cavities which have not been filled in have been observed around the island, some of which have been modified into chultuns or wells. It is likely that continued excavation will indicate other such anthropogenic changes which are not apparent from the site’s surface.

Subop 3b

As previously indicated, Subop 3b is a 2X2m unit oriented north-south and located atop Structure 15 (Figure 4.1). This structure is roughly 12.8x8.5m and its long axis is on a bearing of roughly 25 degrees. A very low Structure, 15 actually grades into the natural topography of the land on its south border. The topsoil level of Subop 3b (Lot 542, 1st arbitrary 10cm level) was a dark brown moderately packed humic horizon with a high density of root material. The fill material consisted of a low density of small (less than 10cm in diameter) cobbles of limestone. The artifact assemblage consisted of a very low density of ceramics although at least one censer fragment was present, two obsidian blade fragments, a few intact Pomacea shells, and about 20 flakes of high quality chert and chalcedony. Near the completion of the level we encountered a very high density of pebbles throughout the matrix. This may have been an early occupation horizon from which a plaster floor might have eroded away. Thinking this was the case, we expected to find fill material of a larger diameter in the next lot below. The second arbitrary 10 cm level consisted of dark brown sandy loam with a high root density and limestone cobbles of a similar size and density to those in Lot 542. However at the bottom of this lot we encountered a few large cobbles (15-25cm in diameter) which suggested that we had come down onto the surface of the construction fill underlying the structure. In this level, the density of lithic debris and the variety of ceramic types began to increase markedly suggesting the this fill had been taken from a diverse domestic deposit.

We removed a third arbitrary 10cm layer of fill material (Lot 586). Most of the rubble inclusion material was confined to the west side of the unit, running roughly from the southwest to the northeast corners and was of a similar size and shape to the fill uncovered in Subop 14 (Figure 4.6). This level (Lot 586) contained a low density of ceramics, a moderate amount of lithic debitage, a medial section of a prismatic obsidian blade, and a fish net weight that was fashioned out of a recycled ceramic sherd. At the bottom of this level, we began to notice a shift in the soil color to a more grayish brown that continued into the next level (Lot 609). In this (Lot 609) level, the density of artifacts decreased slightly in all categories although a brown chert general utility biface was recovered at a depth of about 40cm below datum. At a depth of about 54-58 cm below datum, we exposed another series of cobbles on the west side of the unit. These cobbles roughly followed the same configuration as the cobbles exposed on the surface of Lot 586. In the east side of the unit (Lot 614), by contrast, we uncovered degraded limestone
bedrock that was found to contain a post hole. The post hole (Lot 639) began with a diameter of about 17 cm and appeared to narrow to a point and disappear at an elevation 58.5 cm below datum. A soil sample was taken from this post hole for analysis. In the process of scraping down the floor to look for other post holes, we uncovered a dark stain (Lot 640) protruding into the bedrock stretching from the southwest corner to the middle of the north wall (basically following the same pattern as the stone alignments described above). The dark stain on the west side of the unit (Lot 640) was a light grayish brown sandy loam with a very low density of root material. Fill material was small, averaging 7-15 cm in diameter. The artifact density of Lot 640 was extremely low, as only 1 or 2 artifacts were recovered in the entire lot.

Summary of 3b

This 2X2 m unit revealed at least two zones of construction activity within the core of Structure 15. The alignment and rubble fill zone on the west half of the unit may represent an earlier rubble platform, which was later covered by the fill encountered in the east half of the unit and the overlying zone of fill in the first 30 centimeters of deposits on the mound. The function of this structure was probably domestic. Like Structure 14, debris was scant in its surface layers. It is thus likely that nearby off mound midden deposits contain trash debris that may have been generated by the occupants of this structure. Subop 3b yielded very different materials from earlier Subop 3 excavations on the north slope of this structure in 1997 (Rosenswig 1998), which were almost entirely censer ceramics and coarse Tsabak Unslipped olla fragments. It is possible that this structure may have been inhabited, and later use for censer deposition, or that a ritual area was affiliated with its occupation. These possible interpretations are speculative. Perhaps more horizontal work in this location would reveal further information of this structure’s history beyond the limited perspective provided by this test pit. It is clear, however, that this structure was built and used during the Late Postclassic period.

Subop 11

Located about 50 meters due south of Structure 14, Subop 11, a 1X1 m unit, was initially opened as a potential latrine unit at the beginning of the project by Maxine Oland. Located in a low lying and swampy section of a banana grove, this unit was purposely placed far from any apparent visible architecture. Excavations at Subop 11 and its extension unit, Subop 11b, produced a high density of diverse late Postclassic ceramics and lithic material including chert and chalcedony as well as a post hole excavated into bedrock. The soil around this unit was very dark brown to black and had a greasy texture. Such a color and consistency may be the result of decaying plant and animal matter that often accompany a midden deposit.

Opened as a 1X1 m unit oriented due north, Subop 11 exposed bedrock within the first level at an elevation of 10 to 20 cm below datum. Although it was shallow, this unit provided a rich collection of artifacts including a density of lithic debitage, lithic bifaces, ceramic sherds, faunal bone, obsidian, and shell such as conch and Pomacea. The ceramic assemblage was a large assortment of unique Postclassic wares. Most appeared very late, including a late form of Payil long necked jars termed “Mi Amor Red on Grey Paste” (provisionally, by Shirley Mock) and the slip of a few sherds was more of a wash, which may even represent protohistoric wares in this deposit (Marilyn Masson, personal communication, June 1998). The matrix of this unit was a very dark (almost black) rich humic soil that was fairly clayish with a light root density. There was a very low density of small (5-10 cm) limestone cobbles that were most likely natural occurrences. A circular intrusion into limestone bedrock at the base of this unit was originally thought to be a posthole, but investigations of Subop 11b indicated the existence of other less regularly shaped
hole features that appear to be the result of water erosion from cavities beneath the surface limestone shelf bedrock that percolate up through this shelf in places to the surface soils.

Subop 11b was opened as a 2X2m extension unit adjacent to the west wall of Subop 11. As in the above unit the soil was a very rich dark loamy clay. The artifact density was low at the surface, but increased markedly after a depth of about 3 cm below datum. A large amount of chert and chalcedony flakes, ceramic sherds and obsidian blade fragments (over 12) were recovered in this first layer. A moderate density of Pomacea fragments and at least three large partial conch shells were recovered as well. This level also contained several fragmentary lithic bifaces as well. The ceramics appeared to be for the most part, unslipped body sherds, rim sherd, and a few basal sections. Faunal remains include fish vertebrae, dorsal spines, and otoliths and well as other faunal bone. As we increased depth in this level, the soil became more dark and greasy. At the bottom of this level we exposed bedrock in the northeast corner at an elevation of about 13cm below datum. In the second and final arbitrary level of this subop, bedrock was reached at about 17 to 35cm below datum. Artifact density remained equally as high and besides those types previously mentioned, fragments of coral, a fossil shell, and a spindle whorl were also encountered. Three large (over 25cm in diameter) holes were found in the surface of this bedrock (Lots 662-664). Upon examination however, it was revealed that they were naturally formed eroded cracks formed by the action of water, as described above.

The similar hole in bedrock from Subop 11 (Lot 665) was excavated after Subop 11b had been completed. This hole measured roughly 18X18cm and entered the bedrock at about 19.5 cm below datum. Possessing roughly a conical shape, this feature terminated at a depth of about 30.5cm below datum.

Summary of Subops 11 and 11b

In summary, this area appears to be a zone of dense trash debris in greasy, organic humic midden soils near the west shoreline of Caye Coco. The low, shoreside location of this unit and its excellent preservation resembles dense midden deposits also encountered along the north shore of this island (Barrett, this volume), although this zone is much shallower than the deposits along the north shore. A pattern of waterside trash deposition is emerging from these investigations. The proximity of this midden deposit to the rear of Subop 14 may suggest that occupants of Subop 14 and the surrounding vicinity deposited their trash in this area, along with other probable waterside areas.

General Summary

Excavations at Structures 14 and 15 at the northwest corner of Caye Coco reveal a definite Postclassic domestic occupation. A lack of prestige items make it difficult to conclude that Structure 14 was an elite residence, although its interesting shape and relatively large size make this structure an intriguing one. Excavations at Subop 14a revealed that the inhabitants of this part of the island were committing substantial amounts of labor toward creating a level courtyard area to be associated with Structures 14 and 15. Excavations in Subop 3b did not reveal any more of the ritual goods found in the previous season’s excavations. However, they were able demonstrate strong evidence for a domestic occupation based on the types of ceramic wares and lithics recovered. A direct connection between Structures 14 and 15 was not established but the fact that they both lie adjacent to a substantially modified courtyard, make this likely. The lack of dense midden and occupational debris on the surface of these structures suggests that either they were not occupied for long, or that their trash was deposited off mound in locations such as Subop 11.
References Cited

Aguilera, Miguel Astor

Bey, George III, Craig A. Hansen, and William M. Ringle

Rosenswig, Robert M.

Wharton, Jennifer
Table 4.1 Lot descriptions for Subops 14, 3, and 11.

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Subop</th>
<th>Lot description</th>
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<td>507</td>
<td>14</td>
<td>topsoil</td>
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<tr>
<td>526</td>
<td>14</td>
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<td>14</td>
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<td>14</td>
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<td>585</td>
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<td>14</td>
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<td>14</td>
<td>pit feature of charcoal and burnt marl found at bottom of Lot 585</td>
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<td>14a</td>
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<td>14a</td>
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<td>14a</td>
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<td>concentration of fill that was found to be sealing off entrance to large cavity</td>
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<td>14a</td>
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<td>fifth level, small amount of soil removed to expose bedrock in northeast corner</td>
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<td>640</td>
<td>3b</td>
<td>pit feature of dark stain in soil on west side of unit</td>
</tr>
<tr>
<td>639</td>
<td>3b</td>
<td>posthole excavated in southwest region of unit</td>
</tr>
<tr>
<td>500</td>
<td>11</td>
<td>top soil level, previously excavated as a potential latrine unit</td>
</tr>
<tr>
<td>541</td>
<td>11b</td>
<td>topsoil, first arbitrary level placed adjacent to subop 11</td>
</tr>
<tr>
<td>638</td>
<td>11b</td>
<td>second arbitrary level, rich and dark clayish soil</td>
</tr>
<tr>
<td>662-664</td>
<td>11b</td>
<td>suspected postholes, determined to be natural holes in bedrock</td>
</tr>
<tr>
<td>665</td>
<td>11</td>
<td>conical shaped posthole, excavated in solid bedrock</td>
</tr>
</tbody>
</table>
Figure 4.1. Location of Subop 14 and Subop 3b on Structures 14 and 15.
Figure 4.2. Ceramic concentration Lot 596 in pit (Lots 585/632) at base of Structure 14, west half of Subop 14.
Figure 4.3. Base of Lots 585 and 632, showing stains at base of pit.
Figure 4.4. Plan map of charred logs at base of Lot 632.
Figure 4.5. North profile of Subop 14, west half, showing fill zones to bedrock.
Figure 4.6. South wall profile, Subop 14a, showing limestone ballast fill in subterranean cavity.
Figure 4.7. Plan map of Subop 14a (Lot 573), showing slab bedrock in all areas but the southeast/south central zone, where limestone ballast has filled a subterranean cavity.
Figure 4.8. Plan map of Subop 3b (Lot 586), showing alignment of cobbles (and area underlying fill) that appears to represent an earlier construction episode within Structure 15.

Figure 8. Plan map of Subop 3b (Lot 586)
Figure 4.9. South wall profile, Subop 3b.

Figure 4.10. North wall profile, Subop 3b.
Figure 4.11. West wall profile, Subop 3b.
Figure 4.12. Plan map of natural intrusions into limestone slab bedrock at bottom of Subop 11.
Chapter 5

Excavations of a Deep Postclassic Midden at Subop 18, Caye Coco

Jason W. Barrett

Introduction

Subop 18 (Subops 18, 18a, and 18b) excavation units are located northeast of Structure 4, north of Structure 6, in proximity to the island’s north shore. Lithic and ceramic finds eroding from shore banks prompted this testing, designed to assess the nature of these finds. The test units of the Subop 18 series are not associated with architectural features, and so are oriented to magnetic north. Each of the units measures 1X2m. Subop 18, the first of the units laid out and excavated is 4.7m at 360 degrees from the center point of stone disk 4 (see Hare et al., this volume) at its southeast corner. Subops 18a and 18b represent sequential 1X2m units placed to the west of Subop 18. Together the units constitute a 2X3m excavation area.

The matrix composition found throughout each of the subops consisted of a dense, gray clay which was inundated by waters of the lagoon which kept this clay most right up through the first levels (Figure 5.1). Lower levels of these units would fill up overnight with groundwater, and excavation was possible only after bailing out this water each morning. Screening in ¥4 inch mesh was made possible through wet screening, advantageously exploiting the nearby lagoon. Past the upper humic topsoil horizon, changes in stratigraphy were not observable during the process of excavation. This was due not only to the essentially homogenous character of the subsurface fill, but to the gradual, yet constant seepage of water into the unit through groundwater filtration. To facilitate systematic diachronic comparisons that appeared possible from these artifact and ecofact rich deep deposits, which extended from the surface to a depth of 80cm (at the most), materials were collected in arbitrary 10cm level lots (Table 5.1).

Investigations

Immediately upon initiating investigations at Subop 18, the unit began to yield a then unprecedented volume of material from an array of artifact classes. The variety of materials being recovered, as well as the volume with which they were found and the size and preservation of ceramic and bone artifacts strongly suggested that this was an intact primary Late Postclassic midden context (Table 5.2), as opposed to midden fill. The placement of Subops 18a and 18b sought to test the boundaries of this midden, and also to recover as much data as possible from this rare feature. Such fine preservation, artifact density, and stratigraphic depth are rare in Postclassic contexts, which are often shallow and inhibit chronological analysis. As Subops 18, 18a, and 18b are contiguous and each test essentially the same feature, the following text addresses the Subop 18 series investigations as a whole, specifying individual Subops and/or lots where necessary.

Excavation of the upper 10cm of Subop 18, Lot 590, produced over 350 ceramic sherds and approximately 111g of faunal material. Like volumes of material were found in subsequent lots, a pattern replicated in Subops 18a and 18b (Tables 5.3 and 5.4). In some of these lots, vessel MN1’s based on rim counts exceeded over 50 vessels within individual 10cm lots, and careful analysis of ceramic samples from this midden will hopefully provide an important index of diagnostic ceramic
attributes over time at Caye Coco (Masson and West, this volume). Similar diachronic analyses will be possible for all other artifact categories recovered.

The volume of ceramics recovered generally increased between Levels 1 and 4, with decreased materials noted below 40cm below the surface. The condition of ceramic preservation throughout each of the excavation units was remarkable. Breaks were clean enough to make refitting possible in many instances, many slips appeared unworn and preserved intact their diagnostic attributes. Throughout the midden, many examples of tripod vessel feet, lug and strap handles, appliqué designs, incising, and other such features indicative of diachronic cultural patterns were recovered. Also recovered were a large quantity of rims, necks, and bases, along with seemingly innumerable body sherds. Preliminary analysis completed on the recovered ceramics show a clear chronological development of Payil and Rita Red types (Masson and West, this volume).

The gross volume of faunal material, like ceramics, was most heavily distributed within the first 40cm of excavation. Along with a variety of fish species represented were the remains of crocodile, marine turtle, and deer, replicating finds of large prey found within Postclassic contexts at the sites of Colha and Laguna de On (Michaels and Shafer 1994, Scott 1980, Masson, personal communication). A detailed analysis of the species represented by lot, in comparison with temporal data gleaned from ceramic analysis and carbon dating assays should provide a great deal of insight regarding the dynamics of Mayan subsistence activities over the represented segment of the lowland Postclassic.

The largest category of lithic tools were of the informal expedient classification (see Oland this volume). This finding mirrors findings at Mayapan (Proskourakoff 1962). Formal tools of the types classified by Hester (1985) and Hester and Shafer (1991) were also recovered, many with evident signs of rejuvenation. High numbers of obsidian blade fragments were recovered within the Subop 18 series test units. Most obsidian was recovered 10-30cm below the surface, with the exception of Subop 18a which produced its highest amount of obsidian within the first 20cm (Table 5.3), and a higher upper 10cm density then either of the other two Subops. All fragments of obsidian recovered were gray, most with a noticeable, though faint, burgundy hue. Many blade fragments exhibited white to dark gray banding of variable thickness, and most pieces demonstrated obvious use-wear. One rare find, standing in contrast to the prevailing, nearly universal morphology of prismatic blades within the obsidian sample, is a small obsidian adz-like tool found in Lot 717, Subop 18b. This lot represents the upper 10cm, and so, with regard to obsidian use, is likely representative of the Late Postclassic trend toward heavier obsidian exploitation within utilitarian contexts (Dreiss 1988:75).

Both marine shell and freshwater shell were well represented within the midden. Concentrations of Pomacea occurred throughout, and were recorded in profile. Conch shell fragments were recurrent, with one nearly complete specimen recorded in the south wall profile of Subop 18b (Figure 5.1). Artifacts of carved, perforated and incised shell were recovered, constructed from both freshwater and marine species.

Special Finds

Shell pendants similar to those found at Colha (Dreiss 1994:187) and other lowland sites were recovered, as were perforated bead-like pieces similar to finds at Tulum (Rubio 1985:59). Additionally, a small (<2cm) shell bead carved in the image of a skull was recovered (Table 2). Carved stone was present in a variety of forms, including small (<5cm) beveled stones and incised pieces. Zoomorphic ceramic and carved limestone finds, similar to those recovered at Santa Rita Corazol and Colha, were sporadically recovered (Chase and Chase 1988, McGregor 1994:253). Zoomorphic forms represented included turtle, frog, and crocodile. Ornately carved spindle whorls
were recovered with similar design elements as those found at Mayapan, Colha, and other lowland sites (Proskouriakoff 1962, McGregor 1994:247). Ceramic spherules (possibly the interior elements from tripod vessel feet), similar to those recorded by Buttles from the Northern River Lagoon Site (1994:289), were also recovered.

Bedrock

Bedrock was reached in all excavation units, which exhibited a transition between a dense, hard, pale yellow (Munsell 2.5Y 8/2) composition in the south of all excavation units, the consistency of chalk, and a dense clay of equivocal coloration in the north (Figure 5.3). The clay appeared mottled with dark gray brown areas (Munsell 10YR 4/2) which, upon investigation, were found to be remnant patches of root systems which had penetrated into bedrock crevices (Figure 5.2).

Summary

Excavations at Subops 18, 18a, and 18b explored deep, well-stratified Postclassic domestic midden, most likely associated with elite Structure 4 and Structure 6 due to this area’s relative proximity to those structures, and to ceramic similarities with Subop 15 series investigations (Barrett, this volume). The dense, rich, wet clays of Progresso Lagoon have allowed for the exceptional preservation of organic material, diagnostic ceramic attributes, and temporal relationships. The site of Colha, approximately 20km south, is likely the only other site in northern Belize with Postclassic midden contexts as well stratified and with as good preservation (Hester, Shafer, and Eaton, 1994). The state of ceramic preservation within the Subop 18 series midden will allow for the more precise definition of ceramic chronologies within the northern Belize lowland cultural sphere, as well as provide insight into the regional importance of Caye Coco and the Freshwater Creek drainage system. Faunal and shell remains were superbly preserved, as well as being found in high volume. Subsistence patterns of the Maya lowland Postclassic have been variously addressed (Scott 1980, Michaels and Shafer 1994, Freidel and Scarborough 1982, Feddick 1997, Pohl et al. 1985), but rarely with as high a sample size. The data provided from Caye Coco will make an unprecedented contribution to the enhanced and ever-more lucid understanding of late Maya cultural patterns.

Suggestions for future testing include investigating east and south of Subop 18b in order to delimit the midden’s borders, thereby attaining an approximate estimate of the midden’s total volume. Testing of Structure 6 is also recommended due to its proximity and potential relationship to the midden. The information which may ultimately be gained with regard to domestic disposal patterns, material chronologies, artistic trends, and technologic variability within the lowland Postclassic from detailed analysis of Subop 18 series artifacts is indeed vast. More attention to the location and investigation of such features should be put forth as the research potential of such contexts is seemingly unbounded.

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McGregor, Roberta

Michaels, George H. and Harry J. Shafer

Pohl, Mary D. (ed.)

Proskouriakoff, Tatiana

Scott IV, Robert F.
### Table 5.1. Lot Assignments for Subop 18 Series Excavations.

<table>
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<tr>
<th>WEST</th>
<th>CMBS</th>
<th>Subop 18a</th>
<th>Subop 18</th>
<th>Subop 18b</th>
<th>EAST</th>
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<tr>
<td>0-10cm</td>
<td>677</td>
<td>590</td>
<td>717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-20cm</td>
<td>689</td>
<td>610</td>
<td>718</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-30cm</td>
<td>701</td>
<td>626</td>
<td>721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-40cm</td>
<td>706</td>
<td>637</td>
<td>725</td>
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<td>40-50cm</td>
<td>708</td>
<td>654</td>
<td>726</td>
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<td></td>
</tr>
<tr>
<td>50-60cm</td>
<td>713</td>
<td>670</td>
<td>731</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-70cm</td>
<td>714</td>
<td></td>
<td></td>
<td></td>
<td>732</td>
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### Table 5.2. Lot Numbers and Contexts for Subop 18.

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Sherds (pc.)</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstn Fragnents</th>
<th>Special Finds</th>
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<tr>
<td>590</td>
<td>First arbitrary 10cm level.</td>
<td>0-10</td>
<td>359</td>
<td>16</td>
<td>66</td>
<td>0</td>
<td>6</td>
<td>9</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>610</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>348</td>
<td>22</td>
<td>266</td>
<td>0</td>
<td>8</td>
<td>18</td>
<td>30</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>626</td>
<td>Third arbitrary 10cm level.</td>
<td>20-30</td>
<td>474</td>
<td>130</td>
<td>940</td>
<td>5</td>
<td>8</td>
<td>22</td>
<td>35</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>637</td>
<td>Fourth arbitrary 10cm level.</td>
<td>30-40</td>
<td>536</td>
<td>75</td>
<td>175</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>3 ceramic spherules</td>
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<tr>
<td>654</td>
<td>Fifth arbitrary 10cm level.</td>
<td>40-50</td>
<td>360</td>
<td>248</td>
<td>57</td>
<td>2</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>670</td>
<td>Basal level overlying bedrock clay.</td>
<td>50-60</td>
<td>84</td>
<td>134</td>
<td>8</td>
<td>3</td>
<td>19</td>
<td>4</td>
<td>2</td>
<td>0</td>
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Figure 5.1. Subops 18, 18a, and 18b, South Wall Profile.
Subop 18 and Subop 18a, North Wall Profile

- 7.5YR 2.5/1 ClyLm
- 2.5Y 3/1 Cly w/ Csd
- 1 Gley 3N Cly w/ Csd
- 2.5Y 5/5 SdClyLm
- 10YR 8/2 Cly

Unexcavated

10YR 4/2 SiltLm
Remnant Organic Material

0 — 10 cm
Scale

Figure 5.2. Subop 18 and 18a, North Wall Profile.
Figure 5.3. Subop 18 and 18b, Plan View.
Chapter 6

Subop 17 Test Pits in the Southwest Quadrant of Caye Coco

Marilyn A. Masson

Four 1X2m test pits were placed in the southwest quadrant of Caye Coco, designated Subops 17, 17a, 17b, and 17c. These units were part of a general off-mound exploration program accomplished during the 1998 season in an effort to explore variability in the island’s cultural and natural deposits. The southwest quadrant of the island is located behind the mound architecture of the site, at the base of a gradual slope that descends from the knoll upon which Structure 1 rests to the water (Hare et al., this volume). A well or chultun has been mapped in this vicinity (Barnhart 1998), and scatters of ceramics and other artifacts indicated that domestic occupation of Caye Coco extended to this zone of the island. Tests were placed in this area to determine the density and depth of these deposits, and to get samples of domestic debris from this area that could be compared to tests along Caye Coco’s north shore (Aguilera, Barrett, Mullen, Oland, this volume) for intracommunity status comparisons and other subsequent studies.

Subop 17 test pits were supervised by Lisa Spillett. These results are reported based on her field records which are on file at the Department of Anthropology, The University at Albany-SUNY. These tests were excavated in 10cm arbitrary levels. A list of these levels and lot designations is provided in Table 6.1. A very low artifact density was observed in all four test units. Profiles of these test units were very similar, consisting of dark brown topsoil clay loam in the top 10cm, which overlay a zone of thick, black, densely packed dark brown clay which formed a 30-40cm deep deposit over decomposed limestone bedrock. The clay turned a medium gray color with depth, probably due to mixing of this clay with the underlying bedrock, as limestone crumb inclusions were observed to be intermingled with it. This clay was extremely plastic and malleable to the touch. A sample of it was brought to Anne Deane, who used it for experiments in her study of ceramic technology (Deane, this volume).

Perhaps the most interesting aspect of the Subop 17 investigations was the notably low density of materials on this side of the island. These data provide an important contrast to the denser deposits encountered along the island’s north shore (Aguilera, Barrett, this volume) and northwest corner of the island (Mullen, this volume). Based on these preliminary results it appears that this area of the island was not as heavily inhabited. This area of the island is hot, as the topographic features described above prevent it from getting much breeze. It is possible that this area of the island may have been lightly or temporarily inhabited, or that this zone was under cultivation and cultural materials were only sporadically deposited in this area through slope erosion or occasional activities on this part of the island. Today, this zone represents an orchard planted by the Perez family who live on the island. Further explorations are needed to clarify the types of activities that occurred in Caye Coco’s southwest quadrant.
References Cited

Bamhart, Ed

<table>
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<tr>
<th>Subop</th>
<th>Lot</th>
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<tbody>
<tr>
<td>17</td>
<td>578</td>
<td>10cm zone dark brown black topsoil</td>
</tr>
<tr>
<td>17</td>
<td>582</td>
<td>20cm zone dark brown clay loam, 1x1 south half of unit only</td>
</tr>
<tr>
<td>17</td>
<td>593</td>
<td>10cm zone dark brown clay loam transitional zone with marl limestone bedrock, 1x1 south half of unit only</td>
</tr>
<tr>
<td>17a</td>
<td>595</td>
<td>10cm zone dark brown black topsoil</td>
</tr>
<tr>
<td>17a</td>
<td>607</td>
<td>10cm zone dark grey clay loam with marl inclusions</td>
</tr>
<tr>
<td>17b</td>
<td>613</td>
<td>10cm zone dark brown black topsoil</td>
</tr>
<tr>
<td>17b</td>
<td>618</td>
<td>10cm zone dark brown clay loam</td>
</tr>
<tr>
<td>17b</td>
<td>726</td>
<td>15cm zone dark brown clay loam transitional zone with marl limestone bedrock</td>
</tr>
<tr>
<td>17c</td>
<td>737</td>
<td>10cm zone dark brown black topsoil</td>
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SECTION TWO - TESTING AT CAYE MUERTO
Chapter 7

Investigations on Caye Muerto (Subops 5, 6 and 7), Progresso Lagoon

Alexander M. Mullen

Introduction

Caye Muerto is a small island on Progresso Lagoon located roughly 75km across the water to the north of Caye Coco. This private island is owned by Rual Pelayo of Orange Walk, it is virtually brush free and is currently home to a caretaker and several hundred coconut trees. A visit to the island in June 1998 revealed to us that the caretaker had begun a campaign to plant over one hundred new coconut saplings as a result of a blight that is killing off coconut trees in this part of Belize. The caretaker’s strategy was to excavate a large amount of pits but wait until the next full moon to plant the saplings. As a result of this, when we arrived at the island we were able to visually survey the pits and their associated fill piles in order to get an idea about the artifact assemblage on a portion of the island. One of the piles contained a very high density of ceramic fragments immediately identified as modeled type bucket censer fragments and pieces of applique elements of an anthropomorphic effigy censer. Upon our return the following week to collect the ceramics as a surface collection, we discovered that the arriving rains (as in Subop 11) had washed clear the surface, exposing an entire arm of an effigy censer. Based on these finds, we decided to place a unit directly over this shovel pit (Subop 6) in order to establish the extent and form of the censer concentration. In addition we hoped to determine the types of censers being used and if they were being broken in another location and scattered here. As it turned out, this unit is located due south of a test unit (Subop 3) excavated by Georgia West during tests in the 1997 season (Masson 1998).

While most of the island is bordered by a recently constructed stone wall, there was at least one area on the east shore where a natural bank was exposed in a small cove. Examination of this bank and the floor of the cove revealed that there was an extremely high concentration of ceramics eroding out of the bank. Several of the ceramics were large and robust and similar to Colonial Spanish Olive jars in their form. We decided to place a unit perpendicular to this bank (Subop 5) in order to test possible domestic Postclassic and Colonial deposits on the island that would provide comparative information between Caye Muerto and Caye Coco. The final Subop on Caye Muerto was Subop 7 in which we mapped all of the unfilled pits and tested their fill piles. We hoped to get a chance to sample pits in the north end of the island but unfortunately, time constraints prevented the caretaker from progressing that far by the end of our season.

Subop 6

Located on a gradual slope that we later determined was natural, Subop 6 is roughly 20m from the east shore of Caye Muerto in the same vicinity as Subop 3 from the 1997 season (Masson 1998). Oriented due north, this Subop began as a 2X3m unit that was placed directly over the shovel pit which measured 64X44cm and extended to a depth of 24cm below datum. The soil of this unit was a dark grayish brown clay loam ridden with granules of marl, especially in the central
The density of root material is moderate and most of the roots are small as there was not much brush on the island. As soon as we began to take down the unit, it became clear that the ceramic density was going to be extremely high. Each trowel-exposed layer of the concentration was mapped and removed in a series of episodes that correlated rather well with the arbitrary 10cm levels that were being used to organize our stratigraphy.

The censer concentration itself may be divided into several groups: censer bucket or other vessel fragments, anthropomorphic body elements, and appliqué or adorno elements. Following a typology established by Smith (1971), we observed many similarities to photos published of censer effigy (and non-effigy) vessels recovered from Mayapan. Of the several hundred appliqué and body elements that were recovered, several stand out as most closely resembling Mayapan forms. Five partial or complete faces were present in this sample of the concentration, all with unique facial features and headdresses, including a type that of headgear that Smith referred to as a "Bonnet-Style headdress" (Smith 1971:50). An additional headdress without a face was recovered. Almost two dozen definite arms were recovered of the types shown in Smith (1971:109; 8a, 20a) and most of these arms possessed beaded bracelets. One arm was found to be holding an effigy of a ball of copal or maize dough (Smith 1971:109; 20a). In addition to this, three individual effigy balls of copal or maize dough were uncovered (Smith 1971:113; cc). One conical and one round spiked object, probably copal effigies that were held in a hand were also uncovered (see Smith 1971:52; k). Two "fanlike adorns possibly held in the hand..." of figures were found (Smith 1971:115:8c). Finally, two separate fragmentary nose sections were discovered as we were cleaning the ceramics in the laboratory. These, combined with the five face and one headdress brings the MNI for this concentration to eight effigy figures, using heads alone. At least twice this many appear to be represented by the arms. Three separate chins were also uncovered but since many of the faces lacked chins, these could not be included in the MNI. Further analysis of this concentration will hopefully establish these ratios more definitively using paste characteristics as well as body parts.

The first level of the censer concentration was pulled at a depth of between 8.5 to 10cm below datum (Lot 3004) (Figure 7.1). This lot contained four effigy face fragments. Besides the censer wares, artifact density was fairly low with a moderate amount of Pomacea shells being recovered as well as bead of pink chert. In the second arbitrary level, we began to encounter limestone cobbles ranging in size from 10 to 25cm in diameter in the northeast and northwest corners of the unit. In this level, we began to encounter ceramic wares other than censer vessels. Most notable was fragments of Rita Red slipped plates as well as a vented tripod foot and basal section of a vessel with a filleted impressed appliqué. Lithic density remained quite low although an obsidian core was recovered from the northwest corner of the unit. Although this core appeared to be broken intentionally, no matching core fragment was found in the unit. In the third arbitrary level, the density of the censer concentration began to taper off and other than the censer fragments, only a few lithic flakes and Pomacea shell fragments were recovered. The last of the censer concentration was removed at a depth of 22 to 25cm below datum (Lot 3009).

Although time constraints prevented us from excavating the entire unit further down (and it was virtually sterile at the bottom of Lot 3009), we decided to take the southern 1/3 of this 2X3m unit down in 20cm arbitrary levels in order to determine if there was any construction phase below this assemblage. As we removed this sediment, we quickly uncovered a layer of large limestone cobbles on the east side of this 1X2m section. We initially though this was a bedrock layer but we found it ended rather suddenly at about 80cm from the east wall. To the west of this boundary was primarily soil of the same color and consistency as earlier levels. This soil feature west of what appeared to be a rubble ridge was given the designation of Lot 3010. Begun at about 19 to 27cm below datum, the sediment began to change into a gray clay layer near the bottom of this level. There were very few ceramics in this level but there was a moderate amount of lithic debitage including two chert cores. In the first half of the second 20cm level, the sediment was still a thick
gray clay that was ridden with granules of marl. The artifact density was quite low especially in ceramics but in this level and the previous one, there was a relatively high density of lithic debitage. While this may hint at an Archaic component, none of the lithic material was heavily patinated as would be expected if it was from the Archaic period. The final 10cm of this unit was completely sterile and the unit was closed at a depth of 61 to 64cm below datum (Figure 7.2). The function of the rubble layer on the east side of this unit is still unclear at this time. Although it appears to be a retaining wall built into a subtle bedrock slope (as seen in Subop 3b), few artifacts and a lack of associated features provide little other information. Interpretations of these features cannot be fully developed as such a small perspective of them was obtained from this small 1X2m section.

Subop 6a

This Subop was a 1X2m unit that was placed adjacent to the south wall of Subop 6 so that a greater extent of the concentration could be documented and mapped. In this extension of Subop 6, the censer concentration was primarily uncovered in the north and central portions of the unit. There was very little material recovered from the east and west sides of the unit. As in Subop 6, this unit became rather sterile below the level of the censer concentration. The first 10 to 15cm of this unit revealed a rather low density of lithic and unmodified shell material, although a large portion of a conch shell and a large jade bead was recovered. The soil was the same dark brown clayish loam that was found in Subop 6. There were several portions of censer effigy figures in this unit that were not found either in Subop 6 or in the Smith (1971) volume of ceramics from Mayapan. One of these was a breast plate or anterior torso section of a figure which was located about 15cm below datum and about 15cm from the north wall. We also uncovered several pieces of charcoal and burnt limestone especially along the east edge of this unit. One face was also recovered from this unit. It was unique in that it was about half as large as all of the other faces uncovered. This face was uncovered about four centimeters from the north wall and in very close proximity to the jade bead.

In the second arbitrary level of excavations, we noticed a moderate increase in the amount of limestone cobbles present in the soil. Most of this was confined to the east half of the unit and was probably a continuation of the rubble layer uncovered in the southeast corner of Subop 6. Once the bottom of the censer concentration was established at a depth of about 18 to 21cm below datum, the soil became fairly sterile and the Subop was closed.

Subop 5

As mentioned above, Subop 5 was a 1X2m unit that was oriented due east and placed .5m from the east shore of Caye Muerto with the goal of exposing the high density of ceramics being eroded from the bank of the island. The topsoil of this unit was a dark brown to black clayish loam that was fairly moist and ridden with root material. Below this layer was a bed of rubble ranging in size from 15 to 35cm in diameter. The artifact density was fairly low except for a ceramics, which had a fairly high density off small sherds. We also recovered a few obsidian fragments as well. The rubble layer below the topsoil which was encountered at a depth of approximately 4 to 34cm below datum was fairly extensive and appears to indicate a large scale terrace or platform construction on this part of the east side of the island (Figure 7.3). The rubble surface had a steep slope, roughly 12 degrees. At lower elevations artifacts were concentrated in the northeast corner and included several large ceramic sherds and fragments of chert and chalcedony. Densities of shell, especially Pomacea were high throughout this level.
In the third level of excavation (Lot 3006), the soil became more moist, especially toward the east side of the unit where it exhibited a change to a gray clay. Artifact density also began to increase in the east side of this lot, which is thought to represent the surface of a midden fill zone at the base of this unit. In this level we began to uncover several very thick red wares that resemble tile (Figure 7.4). At the fourth arbitrary level, we decided to begin excavating in 20 centimeter levels since we were still in the construction debris. At the start of this level, we uncovered a gray white chalcedony core at about 40cm below datum as well as a peccary tooth at a depth of about 41cm below datum. At the bottom of this 20cm level, we encountered a very high density of freshwater mussel shells. Too small to be cultural, these shells may be an indicator that we had reached the bottom of the construction phase and had come onto the level of the original shoreline. A similar layer of small freshwater shells was encountered in Subop 18 (Barrett, this volume). There was also a high density of turtle shell 30cm from the north wall beginning at a depth of about 60cm below datum. In the last two levels of this Subop, we uncovered the rich deposit that we observed eroding out of the bank east of this unit. This midden began at about 63cm below datum and included large amounts of slipped and unslipped ceramics including several large thick rim sherds and basal sections. There was also a high density of *Pomacea* as well as crab shell, turtle shell, deer long bone and fish vertebrae. At the bottom of this level, water began to seep in and cover about 80 percent of the unit floor. At the level where the water table began to seep into the unit, between 59 and 71 cm below datum, the sediment changed to a very thick gray clay. Artifact density remained consistently high in this level, especially in lithic material. Special finds included a large, brown chert stemmed biface. In the last five centimeters of this level, artifact density began to taper off markedly and bedrock was encountered in the west end of the unit at a depth of 78cm below datum and in the east end of the unit at a depth of 74 cm below datum.

Preliminary analysis of the ceramics uncovered in the midden deposit at the bottom of Subop 5 suggest that they may be earlier than the Postclassic period in origin. Since they were located below the construction phase, this does not rule out the possibility that the platform or terrace is a Postclassic cultural modification. The high density of high quality lithic material in all levels of this Subop (and all over the surface of the island) is also noteworthy. Future investigations of Caye Muerto may focus on its possible role in flint and chalcedony working activities. Continued ceramic analysis is planned to more fully investigate the possibility of the presence of multiple chronological components on this island, or to see if the earlier ceramics at the base of Subop 5 may simply represent the use of Classic period deposits for fill in Postclassic construction on this island.

**Subop 7**

As mentioned above, the caretaker of Caye Muerto opened a series of shovel pits in the process of rejuvenating the island’s ailing coconut crop. These pits proved very useful in locating the censer concentration that was uncovered in Subop 6. In addition, these pits provided an interesting view of the underlying artifact assemblage on portions of the island. To take advantage of this, a campaign was begun to screen and map the fill piles associated with each shovel pit. The diameter of each hole was roughly 30-40cm and each reached a depth of about 45-60cm. A total of 47 pits were sampled and mapped, primarily in the central area of the island. Mapping was accomplished by establishing the southeast corner of the caretaker’s house as an arbitrary datum and taking bearings and distances with a compass and tape. With the completion of the sampling of pit number 33, this was established as a new arbitrary datum for the remaining holes. Most of the holes produced a moderate density of lithic material, primarily chert and chalcedony. With respect to ceramics, initial analysis has identified a wide assortment of Postclassic domestic wares. Ceramic types recovered included, Zakpah, Tsabak, Rita Red, Santa Flannel Unslipped, and Santa
Coarse. The identification of these ceramic types demonstrates that much of the island has a subsurface Postclassic component. Further work is needed to determine whether these deposits represent occupation zones or construction zones.

Summary

Continuing excavations on Caye Muerto, revealed a fairly extensive human effigy censer concentration at Subop 6. The types of ceramics were found to be similar to effigy wares recovered from Mayapan. The Muerto ceramics are believed to represent locally produced wares which emulation those from Mayapan. Excavations from Subop 5 revealed a relatively deeply buried midden which has yet to be fully analyzed and an overlying construction fill zone which appears to have created an elevated terrace in this area. However, initial analysis suggests the deepest deposits are Classic period occupation layers or fill zones overlain by Postclassic fill zones. These Postclassic ceramics were found in the context of what appears to be a relatively large east facing platform or terrace and hint at a continuous use of Caye Muerto from the Classic to the Postclassic periods. A series of shovel pits covering about 1/8 of the island produced a wide variety of Postclassic domestic wares which suggest a fairly widespread and prolonged use of this island in the Postclassic.

References Cited

Masson, Marilyn A.

Smith, R.E.
Table 1. Lot descriptions for Subops 5 and 6.

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Subop</th>
<th>Lot Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3001</td>
<td>6</td>
<td>surface collection of unit area and fill pile from pre-existing shovel pit</td>
</tr>
<tr>
<td>3002</td>
<td>6</td>
<td>first attempt to expose censer fragments, topsoil level</td>
</tr>
<tr>
<td>3004</td>
<td>6</td>
<td>further exposure of censer fragments, fragments pulled</td>
</tr>
<tr>
<td>3005</td>
<td>6</td>
<td>second arbitrary 10cm level, more censer fragments removed</td>
</tr>
<tr>
<td>3009</td>
<td>6</td>
<td>third arbitrary 10cm level, bottom of ceramic concentration</td>
</tr>
<tr>
<td>3000</td>
<td>5</td>
<td>topsoil, first arbitrary 10cm level</td>
</tr>
<tr>
<td>3003</td>
<td>5</td>
<td>second level, pulled 10 cm of cobbles and cleared matrix</td>
</tr>
<tr>
<td>3006</td>
<td>5</td>
<td>third level, pulled 10 cm of cobbles and cleared matrix</td>
</tr>
<tr>
<td>3008</td>
<td>5</td>
<td>pulled 20 cm of cobbles and cleared matrix coming into clay and water level</td>
</tr>
<tr>
<td>3011</td>
<td>5</td>
<td>fifth level, midden deposit, switched back to 10 cm levels for greater data control</td>
</tr>
<tr>
<td>3014</td>
<td>5</td>
<td>sixth level, reached bottom of midden deposit</td>
</tr>
</tbody>
</table>
Figure 7.1. Plan map of Subop 6 (Lot 3002) showing censer concentration.
Figure 7.2. South wall profile, Subop 6.

Surface of Subop 6a

Unexcavated Rubble Surface

20cm

- Gray Clay Ridden with Marl
- Limestone
Figure 7.3. Plan map of Lot 3003, Subop 5.

- S: Shell
- L: Lithic
- C: Ceramic
- Limestone
- Burnt Root

Scale: 20cm
Figure 7.4 Plan map of surface of Lot 3006, Subop 5.
SECTION THREE - CAYE COCO ARCHITECTURE
Introduction

Testing on Structure 1 during the 1998 field season was conducted with several objectives in mind. The first was to determine the function of the mound during the Postclassic occupation of the island by undertaking broad horizontal clearing on the top and frontal surfaces of the mound. The second objective was to examine the construction sequence of Structure 1 through expanding the looter’s trench in the center of the structure. Initial clearing of the looter’s trench during the 1997 field season yielded the presence of Postclassic sherds within the top 40cm of Structure 1, but clear chronology was ambiguous from the few sherds recovered. It was thought that this mound was probably of Postclassic date and contemporary with Structures 4 and 5 which had yielded clear sherds of this date from the lowest zones of looter’s trench construction fill at least 2m deep into the structures’ sequences. However, the Structure 1 trench had not been taken down to bedrock nor had a column been dug with stratigraphic control over the ceramic sample and thus this chronological assessment was far from definitive. Finally, the testing program at Structure 1 was designed to determine whether the structure’s substantial elevation could be partially attributed to an opportunistic placement on a naturally elevated platform, or whether the entire structure and the massive platform upon which it sits were culturally constructed. In particular, testing on the terraces to the north and south of Structure 1 would determine whether the terrace upon which the structure rests was raised using artificial fill, or was simply a natural rise in bedrock.

Structure 1

Structure 1 is the tallest mound (ca. 10m) at the site. It is a steep sided structure with a rectangular, broad flat-topped upper surface, approximately 36X18 meters (Hare et al., this volume). This structure dominates the site, and forms the southern edge of a plaza of smaller mounds, including Structure 2, 4, 5 to the north, and Structure 13 to the east. The north and south slopes of Structure 1 meet terraces of a large shaped platform upon which it sits.

Previous testing at Structure 1

During the 1997 field season, project volunteers mapped the looter’s trench which penetrates the north edge of the top of Structure 1 at its approximate center. The trench was 1.2 meters wide, 2m long, and 1.7m deep. The east wall of the trench was chosen for mapping (Figure 1). The ceramics that were removed during the cleaning of the walls indicated a mix of Classic and Postclassic period sherds, but due to the lack of stratigraphic control in the wall scrapings, it was impossible to know whether Postclassic sherds were mixed with Classic sherd throughout all layers of construction fill, or whether chronologically distinct ceramics were associated with the different fill strata.

Also during the 1997 field season, a 1X2m unit was placed on top of Structure 1 directly to the south of the looter’s trench. The unit was excavated in two arbitrary 10cm levels around
numerous large stones which were left in place. The few ceramics encountered in these levels were highly eroded, but suggested a Postclassic date for at least the most recent occupation and construction fill zone of the structure.

Testing on Top of the Structure 1: Subops 1b, 1c, 1h, 1i

Suboperation 1b

Subop 1b was a 2X3m unit oriented along the axis of Structure 1 (20 degrees east of north). This unit was placed 9 meters south of the northern edge of the platform, and 3m east of the looters trench. The unit was taken down in two 10cm arbitrary levels. Level 1 (Lot 504) consisted of loosely packed dark brown soil with some root mat around large limestone rocks. The presence of eroded marl rubble and some pieces of chalky limestone plaster suggested an eroded limestone plaster floor once covered these rocks. Around 5cm below surface we hit an almost continuous layer of limestone rocks so that there was very little soil matrix to dig through. Although the artifact density in Level 1 (Lot 504) was very low, the density increased we reached the bottom of the Lot. In particular, as one would expect, we found the greatest amount of artifacts in the crevices underneath and between the large rocks.

The artifacts encountered in this level included some very eroded ceramic sherds, some of which are identifiable as unslipped, utilitarian Postclassic types, some chert and chalcedony lithic debris, and a small amount of faunal material, particularly turtle shell. The most interesting artifacts found in this level were two obsidian side and basal notched points, as well as an obsidian projectile point preform. The projectile points showed considerable reworking, and their very small size suggests they were recycled tools, perhaps made from utilized obsidian blades. The points were all found in the vicinity of the northwest corner of the unit, which is also where the faunal material was concentrated.

Before digging down the next 10cm level (Lot 530), the surface layer of rocks was removed. The soil in Level 2 (Lot 530) remained the same as in Level 1, dark brown loosely packed organic soil. The artifact density also remained consistent with the bottom half of Level 1, with low quantities of lithic debris and ceramic material encountered. The ceramics continued to be highly eroded and the assemblage consisted of largely unslipped utilitarian Postclassic ceramics. Artifacts of significance that we encountered in this layer included three obsidian side and basal notched projectile points, a fragment of green obsidian, possibly from Central Mexico, and a piece of low quality greenstone. The obsidian points again all came from the vicinity of the northwest corner indicating possibly some kind of bioturbated concentration.

Subop 1c

Subop 1c was a 1X5m unit placed along the north and west walls of Subop 1b. We took down only one 10cm arbitrary level in this unit (Lot 530). The soil matrix in Level 1 (Lot 530) consisted of a dark brown and loosely packed soil matrix around large limestone. The large rocks were less continuously placed than in Subop 1b. The artifact density was very low, with some eroded ceramic sherds, lithic debris, and one broken obsidian projectile point, found in the southeast corner near where we found the projectile points in Subop 1b.

It is significant to note that the obsidian projectile points found in the units on top of Structure 1 were the only such points found in any of the Subops from the 1998 field season, many of which were placed in domestic midden contexts. Furthermore, the majority of obsidian projectile points found in excavations at the Postclassic site of Laguna de On (Masson 1997) were encountered at the central ritual structure of the site. These facts suggest that the obsidian
projectile points found at Structure 1 had a ritual rather than utilitarian function, an idea further supported by the very small size of the points, and the evidence that they are heavily reworked and recycled tools.

Subops 1h and 11

Subops 1h and 11 made up a 5X1.5m trench placed along the eastern edge of the south wall of Subop 1b (Figure 8.1). This trench continued south from Subop 1b over the southern edge of the platform and down the southern slope of the Structure 1. The placement of these units was aimed at exposing what appeared from the surface to be the wall foundations of a C-shaped structure running along the southern edge of Structure 1 and half-way north up the eastern and western edges of the platform (George Bey, personal communication during July 1998 site visit). Such C-shaped structures are common on Postclassic period platforms, and are thought to represent council meeting long-houses (Fox 1987, Bey et al. 1997). Such a structure would not be unexpected on top of the largest and most centrally located platform of the island's monumental center.

Subop 1h was 3X1.5m unit aligned on the axis of Structure 1 (20 degrees east of north), and extending from the southern edge of the mound from what appeared to be, from surface inspection, a rear wall alignment. The unit was excavated in three arbitrary 10cm levels. The first level (Lot 667) was a dark brown loosely packed soil (like Level 1 in Subops 1b and 1c) around large irregularly placed limestone rocks. Generally the artifact density was low, although it increased as we approached the bottom of Level 1. Artifacts consisted of large heavily eroded ceramic sherds, some lithic flakes and shatter, and the bottom half of an obsidian projectile point, found in the northeast corner, adjacent to the southeast corner of Subop 1b. Also encountered in Level 1 of Subop 1h was what appears to have been a concentration of ceramic fishnet weights. These weights, 5 of which were found in the same location towards the center of the unit, were the same size and style and may even have been made from one ceramic vessel as the paste and thickness of each weight was remarkably similar. The quantity of ceramic fish net weights found concentrated in one small area of the unit, as well as their similarity in size and form, may suggest a deposit of ritual nature, similar in kind to the “concentration” of obsidian projectile points found in Subop 1b and 1c. Lack of soil differentiation makes the identification of possible surface “caches” difficult to confirm.

Level 2 of Subop 1h (Lot 699) was taken down after having removed the surface layer of rocks. This level was presumably fill. The soil was dark brown and loosely packed and became increasingly sandy in texture towards the bottom of the level. Artifacts from this lot included two more ceramic fish net weights, encountered in the area where they had been concentrated in Lot 667, a piece of a broken metate, ceramic sherds, and some large chert flakes. The density of ceramics increased in this level, and they again were heavily eroded and utilitarian in form.

In Level 3 (Lot 705) of Subop 1h we encountered an even higher density of large, eroded ceramic sherds but little else. The density of ceramics decreased significantly as we reached the bottom of this level. Among the ceramics recovered was the foot of a Chen Mul Modeled effigy censer, confirming the Late Postclassic date of Levels 1 and 2.
Subop 1i

Subop 1i was a 2X1.5m unit running part-way down the south slope of Structure 1. The unit was taken down in three arbitrary 10cm levels. The first level (Lot 668) was similar to Level 1 in Subop 1h (Lot 667), consisting of a dark brown organic soil matrix around large irregular limestone rocks, except the artifact density was even lower. The lower density could be due to erosion which may have carried artifacts to the bottom of the slope.

Level 2 (Lot 700) was a fill level of lighter gray brown sandy soil. In Level 2 (Lot 700), after removing the surface layer of rocks, we encountered a greater quantity of artifacts, including some obsidian prismatic blade fragments, and a higher density of large ceramic sherds.

Level 3 consisted of an increasingly clay-like dark brown soil matrix. We continued to find a fair amount of eroded utilitarian ceramic sherds. Included among these were some large red-slipped sherds with a large everted padded rim, possible from one vessel. These sherds were found in a concentration along the northern edge of the unit, among the rocks of what would have been the base of a rubble and perishable wall alignment inferred to have been in this location. As we neared the bottom of this level, the density of ceramics decreased until we were finding almost no artifacts in the last screens.

Summary of Subops on the Upper Surface of Structure 1

The result of these Subops was generally inconclusive in terms of providing evidence that Structure 1 represents a “C-shaped structure,” as no distinguishable wall alignments were identified along the presumed rear, southern edge of the structure’s upper surface. It is possible that the wall-like appearance of the rocks along the southern edge of the structure from the surface inspection is due simply to greater soil erosion along the edge of the platform. For all of these units atop Structure 1, difficulties in distinguishing surface soil from underlying soil between the rocks make it difficult to know whether Levels 2 and 3 represent materials from the use of the structure’s surface or underlying midden fill materials as the increase in domestic-like artifacts might suggest. The surface rubble of Level 1 was probably originally smoothed over by a marl or hardened earth floor, as this surface is currently hard to walk upon. This surface soil is thought to have eroded away, leaving the rubble exposed and the remaining artifacts trapped between the crevices of the stones. Figure 8.1 shows an example of the type of rubble exposed, photographed, and mapped in the surface zones of all of these Subops, which was much the same.

Testing north and south of Structure 1: Subops 1d, 1e, 1f, and 1g

Subop 1d and 1e

Subops 1d and 1e were two 1X3m units placed at the base of the north slope of Structure 1, running north-south along the central axis of the structure. The purpose of these units was twofold: to gain further information on the function and construction of the mound, and to determine where the mound meets the terrace, as erosion has made it difficult to identify this point.

Subop 1d, the southern unit, ran down the northern slope of Structure 1 and was taken down in two arbitrary 10cm units. The soil in the first level (Lot 536) was topsoil similar to the topsoil found in Level 1 of the Subops on top of the mound, consisting of dark brown, loosely packed soil with some root mat. The artifact density in this level was extremely low (a total of 30 ceramic sherds), with no notable artifacts encountered other than a rather large piece of obsidian shatter found approximately 7cm below the surface in the southwestern portion of the unit. The
sherds encountered were heavily eroded but included some identifiable Postclassic types, including a Tsabak jar and some Rita Red sherds. Although ephemeral, the pattern in the surface layer of rocks may suggest a disturbed step formation, in which a fill of soil and smaller stones was placed between retaining walls of larger rocks.

Level 2 (Lot 549), was taken down after removing the surface layer of rocks. The soil matrix of Level 2 (Lot 549) did not change from Level 1 (Lot 536), continuing to be dark brown and loosely packed. The artifact density continued to be extremely low. The ceramics encountered were heavily eroded, but the assemblage did include several identifiable Postclassic utilitarian, unslipped types.

Subop 1e, the northern unit, covered the bottom part of the north slope of structure 1 and continued onto the flat terrace upon which Structure 1 is elevated. Level 1 (Lot 537) of 1e consisted of dark brown organic topsoil with very few artifacts. Around 1m north of the south edge of the unit we hit an abrupt end in large stones that made up the facing of structure 1, signaling the base of the mound. Towards the bottom of Level 1 at the base of the mound, and continuing to the northern edge of Subop 1e, we encountered lighter gray-brown clay-like fill. Level 2 (Lot 548) was a 10cm level consisting of a dense light gray clay fill with a low artifact density including ceramics dating to the Postclassic period.

After having dug down these two arbitrary 10cm levels we began picking through the clay-like fill. Our aim was to reach bedrock in order to determine the extent to which this sloping terrace in front of Structure 1 was constructed from fill placed upon a natural bedrock elevation. Level 3 (Lot 562) was an arbitrary 30cm level. The ceramic density in this level increased significantly (from about 20 sherds in 537 and 548, to 206 in this Lot). We encountered some ceramics that are possibly Late and Terminal Classic types (George Bey, personal communication, 1998; Sandra Lopez, personal communication, 1998), as well as some sherds of Postclassic date. In other words, the fill consisted of a mixed deposit and was most probably constructed in the Postclassic period.

At around 43cm below the surface, towards the southern edge of Subop 1e, we hit a very large ceramic sherd (Lot 576) lying flat on a concentration of what appeared to be small river worn pebbles (Figure 8.2). The placement of this very large sherd at the base of Structure 1 suggested possibly a termination offering. We originally thought the sherd was Terminal Classic in date, as it is similar to Terminal Classic ceramic types (George Bey, personal communication, 1998). However, similar forms were found in the Santa Rita type collection at Belmopan from the Late Postclassic period (Shirley Mock, personal communication, 1998), and thus the chronological designation of the sherd remains unclear. Also found in association with the large ceramic sherd was a thick, incised rectangular piece of ceramic which is probably part of a “patolli board.” Elizabeth Graham has found pieces of such game boards in Terminal Classic/Early Postclassic offerings in the Stann Creek area (Graham 1986). The ceramic sherd and cobble concentration were given a lot number (Lot 576) and dug as a possible pit feature.

The rest of the Subop was given a new lot number (Lot 587) after Lot 562 was taken down 20cm in the northern portion of the unit. As we continued to dig down through Lot 576 we found that the pebble concentration continued downwards and expanded northwards in the subop. The density of small cobbles decreases significantly after approximately 15cm, at which point we ended Lot 576, but they did continue to occur in the white-yellow clay-like matrix down to sterile soil. Although some ceramics were found among the pebbles (some Postclassic in date), no artifacts or features were encountered that suggested that the pebbles had been placed over a pit. The concentration of small cobbles may have been part of the construction of Structure 1. After reaching the end of the small cobble concentration (Lot 576), the level down to sterile was designated as part of Lot 587.

Lot 587 was a 16-25 cm level that consisted of a brownish gray clay fill in the top centimeters, but became yellowish-white as we dug down further. The density of artifacts in this lot
decreased from that of Lot 562. The ceramic assemblage included Rita Red sherds, confirming that the terrace was constructed in the Postclassic period. Approximately 55cm below datum in the northern part of the unit we hit the layer of small cobbles that we had found at a lower depth in the southern portion of the unit. The fact that we found these cobbles in sterile white clay suggests that they are of natural derivation, although that does not explain their concentration at the base of Structure 1 in a manner that has not been observed in bedrock anywhere on the island thus far.

Summary of Units on the Frontal North Slope of Structure 1

Subop 1d revealed the presence of rubble beneath the surface on the front slope of Structure 1. No clear architectural features were revealed. As we were not authorized to perform penetrating excavations of this structure, only the surface soils were excavated. Few artifacts were found that might suggest the structure’s function.

The stratigraphy of Subop 1e consisted of three main soil strata (Figure 8.3). A top 10cm level of loosely packed dark brown humic soil with low artifact density. The second stratum, approximately 30cm deep, consisted of lighter brown clay-like fill. This layer had the highest density of artifacts, consisting mainly of ceramics. The third stratum, which lay over a white clay-like bedrock, was approximately 30cm deep, and consisted of a yellow-gray clay fill with a lower density of ceramics.

Minimally, it is probable that the large basin eroded slipped ceramic sherd (of possible Terminal Classic date) represents a dedication offering at the base of this structure, as it is found at the center of the back of the mound. It is unclear if the cobble concentration beneath this sherd is also part of this feature, but this is possible, as the cobbles may be a natural phenomena in this location. It is clear from these investigations that the slope upon which Structure 1 sits is primarily natural, but a level of soil, fill construction, and debris of around 50cm in depth is present above bedrock in front of this structure. Structure 1 was thus built at the top of a prominent natural hill located on Caye Coco. The recovery of a probable Terminal Classic large sherd offering in the front of the structure suggests that this mound was one of the first constructed on the island. The sherd may be an heirloom from earlier deposits used in the construction of this mound. This argument is supported by the fact that this sherd, if it is Terminal Classic in date, is the only one identified from this period in the unit. The presence of a majority of Late Postclassic sherds in the soil and fill zones above bedrock in this location provides a clear Postclassic date for activities around the base of this mound.

Subop 1f

Subop 1f was a 1x2m unit placed along the edge of the lagoon on the southern side of Structure 1. The purpose of placing a Subop here was to determine whether the shore of the southern side of Caye Coco was an area of domestic habitation as was the northern shore of the island, where a high artifact density was found both on and off-shore in almost all areas tested (Aguilera, Barrett, this volume).

Subop 1f was a 1X2m unit taken down in 6 arbitrary levels of 10 and 20cm. Level 1, Lot 612, was a 20cm level of very dark brown clay-like organic soil. The artifact density in this layer was extremely low. A total of only three highly eroded ceramic sherds were encountered. Level 2, Lot 615, was a 20cm level of a lighter brown clay matrix. The artifact density in this level increased somewhat, although remained very low (31 ceramic sherds). Ceramic types encountered in this layer were Postclassic in date. Level 3 (Lot 631) was a 20cm level of light gray brown clay in which very few artifacts were encountered. No ceramics were encountered in this lot. After Level 3, we decreased the size of the unit to 1X1m due to the low density of artifacts encountered. Level
4, Lot 636, was a 10cm level of light brown clay in which the artifact density increased. This increase may be due to the fact that we began water screening at this point to ensure that no artifacts were missed in the extremely dense clay which was very difficult to screen. Again, Postclassic ceramics were encountered. Level 5, Lot 692, was a 20cm level that consisted of yellowish white clay. The artifact density remained low, although higher than the top levels. The ceramics continued to be Postclassic in date. Level 6, Lot 695, was a 20cm level of white yellow clay. Surprisingly, although the bottom 10cm of this level were sterile, the density of ceramics in the top 10cm was the highest of all the levels (a total of 55 ceramic sherds). The higher density of ceramics at the bottom of the unit may be due to formation processes in which surface ceramics brought down by erosion from the southern slope of the island were deposited earliest at the foot of the slope, and layers of increasingly sterile soil built up over time. In any case, the low artifact density throughout the unit suggests that there was no significant occupation in this area of the island.

The stratigraphy of Subop 1f consisted of five main soil strata (Figure 8.4). The first layer, ranging in depth from 15 to 30cm was a very dark brown organic clay topsoil. The second layer, ranging in depth from 15 to 25cm was a lighter brown clayey soil. The third layer was a light brown clay with marl flecks and ranged in depth from 20-50cm. The fourth layer was a light gray clay soil that intruded in a pit like formation into the fifth layer. Stratum four ranged in depth from 0-20cm. The fifth layer was a yellow-white clay that was first encountered at 50 cm below the surface, but in some areas of the unit was not encountered until 110cm below surface. As this soil stratum resembled the white clay found above bedrock in many parts of Belize, and was sterile in its lowest 10cm, we stopped digging further in this stratum at a depth of 120cm below the surface. This depth was actually below the water level of the lagoon just a few steps south of the unit.

Subop 1g

Subop 1g was a 1X2m unit placed approximately 15m north of Subop 1e were the slope leading down to the southern shore of the island from Structure 1 to the waterline flattened out and the landscape became relatively flat and terrace-like. The purpose this unit was to determine whether the terrace-like landscape was due to a natural rise in bedrock, or a result of culturally placed fill.

Subop 1g was taken down in three 10cm arbitrary levels (Figure 8.5). We encountered bedrock at approximately 30cm below the surface. Level 1, Lot 616, was a 10cm layer of a very dark brown clayey soil with eroded marl rubble extending throughout the unit. The artifact density was low, consisting of a few Postclassic ceramics as well as an obsidian prismatic utilized blade and a fish net weight made with a Rita Red ceramic sherd. Level 2, Lot 617, was a 10cm level a dark brown clay with large quantities of marl chunks. The artifact density was extremely low with a total of only 11 ceramic sherds found in this level. The ceramics were of Postclassic date. Level 3, Lot 630, was a lighter gray clay mixed with eroded limestone bedrock. Only two ceramic sherds were found in this level. At the bottom of Level 3 (Lot 630) we hit bedrock, indicating that the terrace on the southern side of structure 1 is natural, and that the largest platform on the island achieved much of its height through opportunistic placement on raised bedrock.

The Construction Sequence of Mound 1: Subop 6

In order to expedite our examination of Structure 1’s construction sequence, we made opportunistic use of the looter’s trench already placed in the center of the mound on its northern side. Our explorations of this looter’s trench (Subop 6) consisted of three stages. The first was to get a better look at the structure’s profile by cleaning the walls of the trench, which we did by
cutting the trench’s sloping walls to a straight-walled section of 1.6X2m from 1.2X2m. The second stage of our explorations consisted of taking a 1X2m unit within the looter’s trench down to bedrock. The third stage consisted of taking a 1X1m unit off the northwest corner of the trench down by the stratigraphic levels evident in the west wall profile, in order to examine ceramics associated with each stratum and determine the chronological sequence of construction.

Looter’s trench expansion.

The eastern wall of the looter’s trench was cleaned and profiled during the 1997 field season but was cleaned and moved back again this season to facilitate work in the trench. At approximately 115cm below the surface of the mound we hit a wall structure oriented directly north, as opposed to 20 degrees east of north which is the orientation of the surface, visible exterior of Structure 1. The wall consisted of three very large limestone rocks, all approximately of the same size and placed evenly in a row stretching diagonally across the northeastern corner of the trench (Figure 8.6). This wall presumably represents an earlier construction underlying later construction stages of Structure 1.

Approximately 10-50cm above the wall structure (northeast corner of unit) within an overlying fill zone was a human burial eroding out of the wall associated with some highly eroded, fine paste, slipped thin-walled ceramic sherds which are difficult to classify to type or chronological period, but their paste attributes are within the range of variation of eroded slipped sherds recovered elsewhere on the island. That is, they do not possess any characteristics that would suggest they are not of Postclassic date. As the burial was largely located in the wall, we left its protruding section vertically pedestalled in the profile, as research design for the summer did not include deep excavations from the structure’s surface.

The wall fall from the north and east profiles was designated as Lot 552. Along with Postclassic ceramics found in this lot were also sherds of Late Preclassic, Late, and Terminal Classic sherds. Wall scrapings from the southern and western walls of the trench were designated Lot 553 and also consisted of ceramics spanning the Late Preclassic through to the Late Postclassic periods. Present in these lots were also some very large lithic flakes, more common to earlier periods, as well as two broken biface adzes, again a tool form more common to the Classic than Postclassic period (Hester 1985, Michaels and Shafer 1994). It was unclear from these wall scraping operations whether this mix of ceramics and lithics originated from mixed fill in the construction of Structure 1, or whether they represented chronologically distinct construction phases.

Taking the looter’s trench down to bedrock: Lots 666, 671, and 678

To be able to examine the full sequence of Structure 1’s construction, and to determine the actual height of cultural construction from bedrock, we took a 1X2m section of the base of the looter’s trench down to bedrock in 10cm arbitrary levels. The base of the looter’s trench was only 1.7m below the surface of the mound, and as the full elevation of Structure 1 from the surrounding terrace is 3.5 meters (see map, Hare et al., this volume), we expected several more layers of fill before hitting bedrock. Such, however, was not the case.

Both Lot 666 and Lot 671 consisted of a very light gray dusty fill with large and small rocks and very few artifacts. The soil was almost sterile, with a total of only 5 ceramic sherds encountered. At the bottom of Lot 671 we hit bedrock, approximately 1.9m below the surface of Structure 1. Intruding into bedrock was a pit (Lot 678) filled with loosely packed dark soil, at the bottom of which were the remains of a flour sack. This evidence of looting, and the sterile nature of
Lots 666 and 671 led us to conclude that these layers actually consisted of very hard-packed back
dirt.

The digging of Lots 666 and 671 confirmed that Structure 1 was indeed built upon a
bedrock knoll. There is actually only 1.9m of cultural fill in the center of Structure 1, and thus it is
not a particularly massive construction but rather represents a resourceful and labor-saving use of
the natural landscape.

Stratigraphy of Structure 1: Profiles and Subop 6a

The east, south and west walls of the enlarged looter’s trench were chosen for mapping.
The north wall profile was not mapped because it was almost wholly collapsed in as the result of
looters, who appear to have used this side of the trench as an entranceway. A 1X1m unit (subop
6a), placed at the northwest corner of the looter’s trench, was also excavated according to the
cultural strata revealed in the wall profiles. This excavated column gave us a stratigraphically
controlled sample of ceramics with which to evaluate the chronological sequence of contraction.

The profiles of the west, east, and south walls, shown in Figures 8.6-8.8 reveal five
subsurface deposits. The first 45-50cm layer of the mound (Stratum 1) in this area is of a dark
brown loam midden fill surrounding a layer of large limestone ballast rubble. It is in this layer that
Levels 1-3 of Subops 1b, 1c, 1i, and 1h were dug on the surface of the mound, and whose artifact
assemblage unambiguously points to construction in the Postclassic period. This layer
corresponded with Lot 601 of Subop 6a. Below the more organic top 10cm of topsoil, the soil had
an almost silty feel to it, and became lighter and less organic as it approached Stratum 2 (Lot 602).
Artifacts found in Lot 601 included another small obsidian side-notched point similar to those
found in Lots 504 and 530 of subop 1b and Lot 518 of Subop 1c. The ceramic density increased
significantly in the lower 20 centimeters of Lot 601 as we neared Stratum 2.

Stratum 2 consisted of a 10-20cm layer of gray-brown loam midden fill with marl
inclusions and numerous ceramics. Stratum 2 corresponded with Lot 602 in Subop 6a. Almost all
of the ceramics from Lot 602 appear to be Terminal Classic in date, with a large percentage of
striated wares. However, the ceramics have yet to be fully analyzed and thus their chronological
placement remains inconclusive. Specifically, it is not clear whether this is a fill zone constructed
in the Postclassic using primarily Terminal Classic deposits for mound fill, or whether the fill
actually represents Terminal Classic period construction.

Below Stratum 2 a well-made marl plaster floor was documented which could be seen
partially intact in the west and south profiles, as well as in the north wall profile which was not
drawn (largely disturbed). Although the plaster floor was not visible in the east wall profile, an
animal burrow was located on top of this plaster surface along the east wall, preventing us from
tracking it on the east side of the trench. The plaster floor corresponded with Lot 603 of Subop 6a.
Several intrusive pits were found in the floor in Subop 6a (Figure 8.9, Lots 709-712). The pits
were excavated and appeared initially to be sterile. However, 20cm below Lots 711 and 712 (the
pit in the northwest corner), the corner of a burial, associated with Payil or Zakpah Orange Red
slipped incised, flanged sag bottom bowl ceramics, was encountered (in Stratum 4, described
below). The placement of this burial suggests that the pit in the northwest corner of Lot 603 (Lots
711 and 712) resulted from a later Postclassic intrusion.

Below the plaster floor a layer of light gray-brown loam fill was documented ranging in
depth from approximately 15-30cm (Stratum 3). This stratum corresponded with Lot 604 of Subop
6a. The density of ceramic sherds in Lot 604 decreased in density from Lot 602. The chronological
placement of the ceramic sample from Lot 604 remains ambivalent (despite close inspection by the
author in the lab) due to heavy erosion and lack of distinctive surface treatment or form. There
were among the assemblage a fair amount of striated sherds perhaps suggesting a Terminal Classic
date for this construction phase. However, striated wares also exist throughout the Postclassic period, and thus are not necessarily indicative of Terminal Classic activity.

Stratum 4 was a thick (up to 65cm) layer of densely packed gray rubble fill with marl inclusions. This stratum corresponded to Lot 605 in Subop 6a, and is the layer that lies directly above the stone wall found at the base of the looter’s trench. The artifact density in Stratum 4 remained fairly low, and again, the chronological placement of the ceramics from Lot 605 is difficult due to a paucity of highly diagnostic sherds. At least four sherds in the sample of 65 total may be Payil, a type diagnostic of the Late Postclassic period. The majority of the ceramics remain unidentified however, and await further analysis by a ceramicist familiar in the Classic period. Project ceramicist Shirley Mock had departed from the field by the time these materials were excavated.

Just below Stratum 3, the edge of a burial was encountered (Burial 9, Lot 729) under several large marl rocks. The burial pit was in the northwest corner, approximately 90cm below the surface of the mound, and 20cm below the northwestern pit (Lots 711 and 712) in the plaster floor (as described above). Within the burial, the soil was light brown and loosely packed (Stratum 5). Around 8 teeth were found with some very weathered bone fragments. In association with the bone were a couple of ceramic pieces from one vessel and are incised with a square box design. These ceramics appear to be Postclassic in date (described above), although plans to radiocarbon date the bone will confirm the age of the burial. The burial pit reached a depth of 118cm below the surface, and no grave goods beside the weathered ceramic sherds were found in association with it. Interestingly, the burial eroding out of the eastern wall of the looter’s trench is at approximately 100cm below the surface of the mound, suggesting that the two burials may be contemporaneous in date, and that a number of burials may intrude into the structure’s fill. Due to the dark brown color of the loosely packed topsoil and rubble, it is not possible to determine stratigraphically if they intrude from the Postclassic surface levels of the mound, or if they originate at the plaster floor (Lot 603) located beneath this upper 45cm of rubble.

Also found in Stratum 4, perhaps in association with Burial 9, was a small concentration of ceramics from one vessel (although not an entire vessel, Lot 730). This concentration was found below some large marl rocks at 119cm below the surface of the mound in the southwest corner of Subop 6a. The vessel is possibly Rita Red, a type diagnostic of the Late Postclassic.

Below Stratum 4 was a layer of densely packed dark brown loam which ranged in thickness from 20 to 30cm. This layer (Stratum 5) corresponds with Lot 606 of Subop 6a and rests directly on bedrock. The artifact density in this layer was extremely low. Virtually no ceramics were found in Lot 606 and it may represent the original topsoil over bedrock upon which Structure 1 was originally built. The wall feature visible in the eastern wall of the looter’s trench appears to have been built almost directly on bedrock, and clearly represents the first construction phase of the structure.

In summary, the profiles of the looter’s trench and the ceramics from Subop 6a suggest three construction phases. The first is represented in the north aligned wall placed on bedrock encountered at the bottom of the looter’s trench. The second phase is represented in Strata 4, 3, and the marl plaster floor (Lot 607) placed on top of these fill layers. It is unclear as to whether this phase dates to the Terminal Classic/Early Postclassic or Late Postclassic periods due to an inadequate sample of well-preserved ceramics. However, in almost all other mound construction (for example, Structures 4 and 5, see Rosenswig, Barrett, this volume) at the island, Late Postclassic sherds have been extremely well-preserved in fill zones, making chronological assignment very clear. Circumstantially, the eroded condition and ambiguous, contrastive nature of Structure 1’s inner core assemblage suggests that these materials are chronologically distinct from those of Structures 4 and 5 and they probably date to the preceding period. Whether the mound was built then or whether Terminal Classic deposits were simply used during the Late Postclassic
for initial construction is a more difficult question that merits continued investigation at this
structure in controlled units larger than 1X1m in dimension. A third and final distinctive
construction phase is represented in Stratum 1, and is definitively Late Postclassic period in date.

Summary

The testing program at Structure 1 during the 1998 field season was relatively successful
in achieving its goals. The low artifact density found in the horizontal excavations on top of the
mound suggest either that this structure was not heavily utilized during the Postclassic period, or
was swept clean as a ritual space. The relatively large quantity of obsidian projectile points, and
the concentration of fish net weights may indicate offerings of a ritual nature. Surprisingly few
ceramics were found that are associated with Postclassic ritual, such as Kol Modeled effigy
censers. The utilitarian nature of the ceramics may suggest consumption or offerings of food or
beverages on this structure. Domestic materials and features do not appear of sufficient quantity to
suggest that this structure was occupied as a residence, and dense deposits of domestic trash were
not located to the front or rear of the structure in off-mound locations which might also have
indicated this. It thus appears probable, based on its size, unique “long structure” rectangular
configuration at the island and lack of substantial domestic indicators, that Structure 1 was the
primary public building at Caye Coco.

The testing on the north and south terraces found that while the southern terrace appears to
be wholly natural in its elevation, the northern platform was built up by at least 40cm of clay like
fill, and this construction seems to date to the Postclassic period. Based on these tests and those in
the looter’s trench, Structure 1 appears to have been built at the very top of a prominent limestone
hill near the center of the island of Caye Coco.

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Figure 8.1. Surface Rubble Exposed in Subops Ia and Ib at the top of Structure 1. Rear wall of structure is indicated by larger stones within the south 1m of the unit. Rubble subfloor is shown in the smaller stones in the northern 2/3 of the unit. Similar rubble was exposed on the upper surface of Structure 1 in Subops Ib and Ic, described in the text.
Figure 8.2. Lot 576 of Subop 1e, a large basin sherd offering (of probable Terminal Classic date) and cobble concentration amidst Postclassic period fill zone, centrally placed in front of the base of Structure 1's slope.
Figure 8.3 West Profile of Subop 1e.

A = Dark brown soil
B = Light brown soil
C = Yellow-grey clay

20cm. Limestone
Root
Figure 8.4 East Profile of Subop 1f.

A = Very dark brown clayey topsoil
B = Lighter brown clayey soil
C = Brown soil with marl flecks
D = Light gray clay
E = White and yellow clay-like marl

20cm
Figure 8.5 Profile of Subop 1g.

A = Very dark brown clayey topsoil
B = Brown, clayey soil with marl flecks
C = Brown soil with marl flecks
D = Bedrock

20cm
Figure 8.6 East Profile of Subop 6 (looter’s trench), showing lower wall construction with Structure 1.
Figure 8.7 West Profile of Subop 6 (looter’s trench), showing interior construction zones of Structure 1.
Figure 8.8. South Profile of Subop 6 (looter's trench), showing interior construction zones of Structure 1.

A = Dark brown fill with large limestones
B = Medium dark brown-grey loam
C = Marl plaster floor
D = Lighter brown-grey clayey loam
E = Light grey sandy with white flecks and many pebbles
F = Dark grey loam with white flecks and pebbles
G = Bedrock

20cm

= Marl plaster floor
○ = Limestone

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Introduction

Subops 5 and 15 are associated with Caye Coco, Structure 4, which was first recorded during the 1997 season of the Belize Postclassic Project (Barnhart 1998; Masson 1998). Project goals for the 1998 season were to assess architectural features on the Structure 4 mound surface (Subop 15), and evaluate the construction episodes of Structure 4 through looter's trench examination (Subop 5).

Structure 4 is located to the north of Structure 1, midway between Structures 5 and 6 (Hare et al., this volume). Although previously believed to constitute the only structure at Caye Coco to exhibit remnant surface architecture (Barnhart 1998: 108), it is now known that Structure 5 retains similar, if not identical, architecture. Structure 4, as well as its associated architecture, is oriented 20 degrees east of north. Examination of the construction sequence has shown Structure 4 to be built a minimum of four meters above bedrock at its southern end, and likely represents at least three periods of building activity. Structure 4's vertical height above bedrock suggests that it shows a greater amount of landscape modification than any of the island's other structures. The clearly discernible wall features atop Structure 4 offered the opportunity to assess many issues relevant to Postclassic domestic dynamics including architectural design, space utilization, and domestic ritual. The various test units of the Subop 15 series were placed advantageously to address these issues. A looter's trench that penetrates the southwest corner of the structure (Masson 1998) was profiled in detail and excavated to reveal a four-meter column (Subop 5). This offered the opportunity to examine phases of construction history.

Subop 5

Structure 4 has three looter's trenches. The first penetrates the southwest corner of the structure approximately a meter and a half from the structure's surface and extends approximately 2.5 meters into the structure. A second trench shallowly penetrates the southeast corner of the structure on its eastern side, and travels approximately one meter west from there. The third trench is located on the eastern slope of the structure very near to the centerline of the mound. The most extensive intrusion, and thus the one with the most research value in terms of viewing structural design, is that located in the mound's southwest corner.

In order to clearly define building phases, trowels, geologic picks, and brushes were used to provide an even profile along the north and east walls (Figures 9.1 and 9.2 respectively). It was assumed that artifacts recovered prior to this effort (during wall shaving) may be from mixed contexts, so contextual assignments were made only after stratigraphic relationships were clearly defined through moderately intrusive wall clearing. An excavation unit was placed on the trench floor measuring 70X160cm, its size determined in large part by the dimensions of the existing intrusion. Excavations were carried out using picks and shovels with the goal of eventually
revealing the initial building episode overlying bedrock. Once a level devoid of any evidence of disturbance was reached, the "lot" system was employed, with lots assigned on the basis of discernible cultural zones. A datum point was established on the surface of Structure 4, ground level immediately above the trench (Figure 9.1), and all elevations given for Subop 5 are relative to this point. All lots were assigned below the basal marl surface, which is visible in the construction sequence at approximately 300cm below datum (cmbd), beginning at the floor of the looter’s trench.

Looter’s trench south wall matrix descriptions

Above the looter’s trench floor at least one building phase is observed, which is capped by a marl horizon that occurs at approximately 150cmbd. Below this marl horizon, observable at about 265cmbd, is a pale yellow (Munsell 5Y 8/2) silty-clay fill stratum. A horizontally distinct boundary between a generally homogenous dark gray (Munsell 2.5Y 4/1) zone comprised of clayey-silt with coarse sand and cobbles, and a zone of alternating layers of pale yellow-to-white bedrock clay (Munsell 5Y 8/2 to 5Y 8/1) - intermixed with variably sized blocky cobbles, and a dark gray-to-gray (Munsell 2.5Y 4/1 to 2.5Y 6/1) clayey-silt with fine sand and small-to-medium nodular cobbles, exists between this zone and the marl layer observed at 150cmbd. The division between these two zones can be seen on Figure 9.2 approximately 40cm south from the north-most point of the east wall, running from 160cm below datum to 265cm below datum. A Mayapan style (Kol Modeled) Late Postclassic effigy foot was found within these fill zone of Structure 4. A stuccoed, blue-painted filleted impressed Late Postclassic censer was also found. These artifacts indicate that Structure 4 was constructed during the latter half of the Late Postclassic period (late 14th or 15th centuries).

The outer zone of alternating strata may very well have served as structural support for the more loosely aggregated inner fill. The marl zone, at 150cm below datum, overlays both these zones as a homogenous horizon, and supports the plausibility of such a relationship. The final, distinct construction phase is an outer dome built over this occupational level. The fill that comprises this final mound-raising episode has two main components. The first is, effectively, a shell capping the last stable horizon, adding to both the total height and base area of the structure. This shell is constructed primarily of pale yellow (Munsell 2.5Y 8/2) bedrock clay (presumably from the lagoon margins), 10% mottled with light gray (Munsell 2.5Y 7/2) clay and flecks of olive yellow (Munsell 2.5Y 6/8) clay. Intermixed with this matrix are varying-sized cobbles of cut bedrock and other locally available materials. This matrix adds 75cm to the height of the mound (Figure 9.1), and at its base appears to originate on plain with the marl floor evident at 300cmbd (Figure 9.2). The second component is a pale yellow (Munsell 2.5Y 7/3) clayey-silt fill which overlies the more clayey shell, represented exclusively at the structures surface. This fill stratum adds 30cm to the height of Structure 4, though possibly not over the entirety of the structure’s surface (see below). Although not observable in the area immediately over the trench (likely compromised during or as a result of looting activities), large, flat, vertically set stones form a distinct line along the southern perimeter of Structure 4’s surface, which may have functioned as a retaining wall for this silty fill. No observable marl floor appears related to this terminal construction phase, though all remnant architectural features on the surface of Structure 4 are directly associated with it.

Excavations (Lots) into floor of looter’s trench

A rich midden deposit within a very dark grayish brown (Munsell 2.5Y 3/2) clay matrix was found immediately below the basal component of the initial construction phase. This midden
continued below the marl surface evident at 300cmbd. The midden, designated Lot 742, appeared mottled due to an extraordinarily high volume of charcoal. This zone extended to an average depth of 23cm, but was horizontally bisected at approximately mid-depth by a thin (<1cm) white lens. This lens, possibly ash, was unbroken through both north and east profiles at a depth of between 313cm and 306cmbd. The midden deposits above and below this lens were equivocal, exhibiting no difference in artifact composition, artifact volume, or matrix constitution. Lot 742 yielded a high volume of ceramics and faunal remains, along with a low volume of lithic materials and freshwater shell.

The ceramics of Lot 742 are particularly notable (Table 9.1). There is very little evidence of erosion, and many pastes and slips are in remarkable preservation. Also, a high number of rims were recovered, which should prove a great diagnostic aid during analysis. This midden compares favorably in quantity and quality of materials to that tested in nearby Subop 18 (Barrett, this volume). These included some of the finest Payil Red ceramics, in terms of paste hardness, slip quality, and preservation, found on the island (Marilyn Masson, personal communication, August 1998).

Only a few small fragments of freshwater shell were noted during excavation of Lot 742. Shell represented only a minute component of the midden and would seem to have been rarely exploited during the time period represented by this midden. Lithic remains were weakly represented. Six flakes were recovered, along with one utilized tool that was badly fractured. Two small obsidian blade fragments were recovered from this context.

After ceramics, faunal remains constituted the next most voluminous artifact class from the midden. Most remains were well preserved. Immediately observable among the faunal sample from Lot 742 was the absence of remains from moderately large species. This is in sharp contrast to the faunal remains recovered from the series midden. A detailed comparison of faunal inventories from the midden of Subop 5 and that of the Subop 18 series may have the potential of revealing important information regarding the synchronic and/or diachronic dynamics of subsistence activities, as well as refuse disposal patterning.

Lot 742 terminated with the midden's cessation at an average of 323cmbd, and the beginning of a dense, heavily mottled clay zone designated Lot 760. The difficulty involved in excavating this dense fill, which occurred within a mercilessly confined space due the inward tapering of limestone ballast fill at the base of both walls of the looter's trench, was rewarded with approximately 40cm of near sterility. In the east wall profile, two zones of dense clay fill became evident, separated by a weak transitional zone. The first zone is a light brownish gray (Munsell 10YR 6/2) clay fill 10% mottled with grayish brown (Munsell 2.5Y 5/2) clay that immediately underlies the Lot 742 midden. The second zone underlies the first in all but the north 20cm of the floor in plan view at 325cmbd, where it underlies the Lot 742 midden. This zone is a dark gray (Munsell 10YR 4/1) clay fill 10% mottled with very dark brown (Munsell 10YR 3/2) clay. At 345cmbd, the light brownish gray zone is no longer observable.

Underlying the dark gray zone at 333cmbd in the northwest corner of the excavation unit, sloping to underlie the dark gray zone at 372cmbd near the southeast corner of the unit, emerged a very dark gray (Munsell 10YR 3/1) dense clay fill mottled with very dark grayish brown (Munsell 10YR 3/2) clay. This zone, designated Lot 763, was littered with charcoal and was dense in ceramic materials. Two net weights were also recovered from this Lot. Unlike the ceramics recovered from Lot 742, the ceramics of Lot 763 were very badly eroded, and few diagnostic elements were preserved.

Excavation of Subop 5 was ended at a depth of 390cmbd due to time constraints of the field season. Bedrock was not encountered at this depth, which led to the conclusion that Structure 4 represents nearly four meters of vertical construction. Observed in plan view, where the excavations terminated, at 390cmbd are two strate which appear at the base of Lot 763. The first is
a primarily light brownish gray (Munsell 2.5Y 6/2) sterile clay fill first noticeable at 352cmbd in the northwest corner of the excavation unit. The zone expanded in diameter with increased depth, and at 390cmbs constitutes the north 70X35cm of the excavation unit. The second zone, a primarily light yellowish brown (Munsell 2.5Y 6/3) sterile clay fill, became observable in the southwest corner of the excavation unit at 361cmbs. At 390cmbs it is present in the southwest corner of the unit in an approximately 50X50cm section. This zone, like the previous one, expanded in diameter with increasing depth. The precise relationship of these zones is necessarily speculative, given the termination of excavations.

Subop 5 Summary

Exploration of the looter’s trench, located at the southwest corner of Structure 4, was more substantial and detailed than time had allowed during the previous 1997 examination. As a result, complex details of construction fill sequences have been recorded and the Late Postclassic date of this structure is more securely dated from the collection of highly diagnostic ceramics from specific interior fill zones and underlying midden. At least three phases of mound construction are documented.

Upper Surface Features of Structure 4: Subops 15, 15a, and 15b

Extensive clearing of brush and overburden at the start of the 1998 field season revealed that Structure 4 surface architecture was more extensive than previously realized. Rather than "an L-shaped wall foundation" (Barnhart 1998), there appears to be a central rubble zone that contains rooms to the east and west, constructed along the south of the structure's top surface (Figure 9.3). Emanating from the outer margins of each end room, continuing north, are 1.5m wide wall features which extend six meters from the exterior of the east room and seven meters from the exterior of the west room. The surface architecture atop Structure 4 extends approximately 14.5m from east most to west-most points.

A discernible depressed area in proximity to the center of the structure's top surface was noted during the initial preparation of a testing strategy, and became the focus of Subop 15. Subop 15a was placed over the central rubble zone, between the two apparent room blocks. Subop 15b was positioned to allow testing of both interior and exterior areas associated with the east room. Subop 15c was placed at the north base of the mound along the structure's centerline, with Subops 15e and 15f excavated as extensions off 15c. Subop 15d was placed at the south base of the mound along the structure's centerline.

Placement of the Subop 15 series excavation units was purposefully designed to gain insight into techniques of construction and architectural design, space utilization, presence of ritual indicators, and the assessment of post-abandonment formation processes were addressed through these excavations. Portions of architectural walls exposed through excavation suggest that the orientation of the Structure 4 superstructure was 20-25 degrees east of north. All excavation units within the Subop 15 series are oriented 20 degrees east of north, and were thus aligned with the structure.

The assessment of wall features was based on known architectural features commonly found in the Maya lowlands during the Postclassic period (Rice 1988, Freidel and Sabloff 1984, Eaton 1980, Pollock et al. 1962). Hypothesized patterns observable at the surface were investigated through subsurface testing. Cobbles in alignment at the surface were further assessed to see if they constituted actual walls, and efforts were made to distinguish true alignments from fill zones of cobbles that had leveled them in later construction on the mound’s surface. Random fill
and wall disintegration may result in false alignments, but these were not thought likely to extend past a single course.

Subop 15

The superstructure features of Structure 4 were tested to assess the function and use of domestic areas. Subop 15, a 3X1.5m unit with long axis oriented north-south, was placed near the center of the mound surface with its west wall bisecting a depression feature (Figure 9.3). The depression measured roughly 50cm in diameter. The position of this unit in architectural context is in the outer area of a Postclassic tandem room structure (Rice 1988:235, Freidel 1981:315, Freidel and Sabloff 1984:31, Smith 1962:230).

Excavations commenced with the removal of three arbitrary 10cm levels, designated Lots 508, 509, 528, and 529 (Lots 528 and 529 were horizontally-adjacent fill zones, with Lot 528 continuing below Lot 529 at 25-30cmbs). A thick, rich, humic zone that overlays a sandy clay-loam fill characterized the upper 30cm excavation zone (Figure 9.4). This zone yielded varying densities of ceramic sherds, lithic debitage, faunal bone, freshwater shell, and obsidian blade fragments (Table 9.2). One interesting pattern that emerges is the contrast between areas yielding denser finds of bone and shell and those yielding denser finds of ceramic sherds and expedient stone tools. Interpretations are necessarily tempered due to the effects of natural formation processes affecting this zone.

The remains of a badly eroded marl floor within a medium gray fill were found toward the bottom of Lot 528. The floor context was designated Lot 556 and excavated as a 1X2m unit measured from the southwest corner of the initial 3X1.5m area. Packed floor debris continued for about 10cm, and contained small amounts of freshwater shell, lithic debitage, faunal bone, ceramic sherds, a utilized flake-tool, red pigment, and a small obsidian blade fragment. Lot 528 terminated at approximately 45cmbs, where a well-defined marl surface was encountered. This marl surface lay atop approximately two-to-three courses of like-size cobbles, which seemed to be fit as a purposeful ballast zone. Intermixed with the ballast cobbles was a dark olive-gray clayey silt (Munsell 5Y 3/2) fill which contained a remarkably high density of ceramic sherds, faunal bone, and shell. Net weights and obsidian blade fragments were also found within this context. Lot 575 may best be interpreted as a deliberate construction event with the intent of providing a level surface for the overlaying marl floor. A zone of randomly piled cobbles, designated Lot 592, lay beneath Lot 575, characterized by a darker fill (Munsell 1 Gley 3/10Y) with a significant concentration of ceramic sherds, faunal bone, and shell. While relatively high, the concentration of artifacts recovered from Lot 592 is a dramatic decrease from that found in Lot 575. Excavations terminated approximately 5cm into Lot 592 at 65cmbs.

Evaluation of the depression feature continued throughout excavations of Subop 15. The amorphous and inconsistent shape of the feature in plan, combined with its heavily organic composition and the absence of an evident backdirt pile in proximity to the feature, leads me to the conclusion that the depression was more likely the result of natural formation process. A tree fall, for instance, could have occurred, rather than looting activity.

Subop 15a

The central area of the architectural zone, aligned along the south edge of Structure 4, is to a degree enigmatic, as it contrasts in appearance with the room blocks to the east and west. The source of the disparity is its lack of a clear interior area, it is characterized by an aggregation of large cobbles giving it an elevated appearance. This area appears to represent a platform or altar between the two room blocks. This, however, is not a feature typical of Mayapan-style tandem
house structures, though is similar to those reported by Smith et al. at Ichmul de Morley (1998:4, 17). Subop 15a, a 3X1.5m unit with long axis oriented north-south, was positioned over the east portion of this central area to evaluate the nature of this construction (Figure 9.3).

Excavations proceeded with arbitrary lot numbers assigned for the first three 10cm levels. The upper most 10cm, Lot 509, was primarily a humic horizon, characterized by a dark organic matrix and some shallow root activity. Small amounts of freshwater shell and ceramic sherds were found within this context. The following level, Lot 534, was a dark grayish-brown clayey silt (Munsell 2.5Y 4/2) fill (Figure 9.5). An unslipped offering vessel (Lot 535) was found within this matrix in the north third of the excavation unit. This vessel displayed a filleted-impressed band with button appliqués at the juncture of the neck and body similar to those found at Lamanai in Late Postclassic and Colonial levels as reported by Pendergast (1985: 101), though of inferior quality. Two incised vertical flange segments were found which likely attached to the vessel’s sides. Basal attributes suggest that a weak pedestal base may have once been present. Remnant stucco, visible within the vessel’s filleted band, exhibited traces of color. Preservation of aesthetic design to this degree is indeed quite rare.

Materials recovered in the surrounding matrix and possibly associated with the vessel included coral, scallop shell, a crab claw, and an obsidian blade fragment. Similar offerings that suggest a strong marine component within ritual contexts were found in many of the burials excavated this season, including the two uncovered in Subop 15c (discussed below).

The Lot 534 matrix surrounding the vessel contained moderate quantities of freshwater shell, ceramic sherds, and flake tools (Table 9.3). Underlying this horizon was a light yellow-brown (Munsell 2.5Y 6/3) silty clay fill likely comprised primarily of lagoon shore bedrock clays. This context, Lot 540, yielded small quantities of freshwater shell and ceramic sherds, and also a conch shell fragment and an obsidian blade core. The wall features that bound the excavation unit along the south and east was designated Lot 533. These walls were constructed of upright slab facing stones on both anterior and posterior aspects, with a cobble and fill core (Figure 9.7). Traces of masonry stucco were found on the interior aspect of the south wall.

The general aspects of wall design and the nature of artifacts suggests that this central architectural area may represent a shrine room (Smith 1962: 228). Smith, in describing shrine rooms at Mayapan, states “Shrine rooms were also formed by dividing the rear room into three, the central one being the shrine room... the objects found on the floors of shrine rooms leave little doubt as to their use (1962: 228-229).” The elevated nature of this central area may be a result of wall-fall to some degree (or later infilling), though shrine rooms, as described by Smith (1962), typically have an altar constructed within them along the rear wall. However, no explicit indication of such an altar was uncovered during excavation.

Subop 15b

Subop 15b, a 3X1.5m unit, was placed over the east room of the superstructure. Subop 15b was divided at its approximate midsection by a 78cm wide wall running east-west (Figure 9.6). As the areas on either side of this feature represented the interior and exterior spaces of the east room block, they were lotted separately to control each of the assemblages and to allow their comparison. This effectively created two separate, but related, excavation units. Excavations proceeded, and the first 20cm of each unit were assigned Lots on the basis or arbitrary 10cm increments. Below the second arbitrary 10cm level, Lot assignments were designated in concordance with cultural stratigraphy.

The south section of Subop 15b (interior space) was excavated as three Lots (555, 558, and 608) to a depth of approximately 35cmbs. Artifact densities from these lots were low, with only freshwater shell in the upper most level (Lot 555) represented to any significant degree. The
north portion of the excavation unit (exterior) was excavated to a depth of approximately 45cmbs. Large cobbles from degradation of the east bench feature occurred throughout the excavation unit. Artifact densities were consistently light, with a groundstone fragment and a few flake tools being found in the uppermost 10cm horizon (Lot 538). Ceramic sherds and freshwater shell remains were the most common artifacts encountered, though neither to a significant degree (Table 9.4).

Subops 15c, 15e, and 15f

Subop 15c is a 2X1 meter excavation unit oriented 30 degrees east of north, the long axis of which was oriented east-west. The excavation unit was placed at the northern base of structure 4, at the structure’s approximate centerline. Caches at the northern base of structures have often been observed, at times serving to temporally calibrate mound occupation. Subop 15c was initiated to identify caches or midden deposits in front of Structure 4.

Topsoil depth varied from north-south within the unit, the south exhibiting more humic build-up from alluvial and colluvial wash eroding off the Structure 4 north slope. Artifacts within this horizon were expectedly disturbed, with a chert oval biface (ca. Middle Postclassic), British Colonial period green bottle glass, and European whiteware ceramics all found within the same context (Table 9.5). A cobble layer was found immediately below the transitional soil horizon. This floor was distinctly observable throughout the unit, consisting of a single layer of like-sized cobbles, apparently fitted in a single construction event. Removal of the cobbles revealed a heavily mottled fill. Trowel scraping revealed an anomalous brown stain in the unit’s east wall, as well as a dark gray stain located in the southwest portion of the unit, along the south wall. The feature to the east was designated Lot 597, and that to the southwest Lot 598.

Investigation of each of the mottled layers surrounding the features proved it to be a relatively shallow horizon overlying bedrock. Bedrock at this location is hard, pale yellow sediment, texturally similar to chalk. The Lot 597 investigation showed the brown staining to be caused by a concentration of crushed ceramics. This concentration was removed as a feature sample to be further tested. Further investigation defined Lot 597 as a roughly circular feature cut down into bedrock. As was suspected upon defining Lot 597 as a well-circumscribed pit feature, further excavations exposed sections of long bone, this distinguished the feature as a burial (designated Burial 5). The human remains associated with Burial 5 were in extraordinarily poor condition. No long bone epiphyses survived intact, which undermined any attempts at statural determination. Gender was also indeterminable, as no pelvic elements were preserved and only a few badly fragmented cranial elements were recovered. Bone fragments are badly eroded and highly friable. The fill encompassing Burial 5 is mainly a medium to coarse sand, with clay being a comparatively minor component. This matrix would have allowed for the frequent fluctuation of moisture levels within the burial, as well as the extended retention of moisture following rainwater filtration due to its inability to easily penetrate the more dense bedrock encompassing the feature. These characteristics of the fill led to the high degree of bone destruction observed.

Many cultural materials were found within the Lot 597, Burial 5 feature. Notably, an upturned, smashed tripod vessel sherd was found immediately below the crushed ceramic concentration. At roughly the same elevation as the vessel, a conch shell was recovered. One hammerstone, an obsidian blade, two net weights, a spindle whorl, and a tubular, carved stone bead were recovered, presumably representing grave goods. Other items include chipping debris, ceramic fragments, marine and fresh water shell fragments, and faunal bone. While some of these may well be items interred as offerings, they could also have been a component of the fill encasing the skeleton.

Investigations of Lot 598 revealed that this feature was in fact a second burial, designated Burial 6. The presence of crushed ceramics overlaying the feature was not observed, however, the
grave good inventory was remarkably similar to Burial 5. As in Burial 5, Burial 6 exhibited an upturned tripod vessel fragment overlaying the feature, a conch shell resting on bedrock, and a selection of net weights. Also like Burial 5, there were finds of questionable intentional inclusion, such as chipping debris, ceramic fragments, and shell of fresh water and marine origin.

The fill surrounding Burial 6 was noticeably more clay-rich than that of Burial 5. As a result, the human osteological remains within Burial 6 were found in a better state of preservation. Though still quite fragile, the bones of Burial 6 were less friable and generally more complete than those of Burial 5. Portions of both sets of tibia, fibula, femur, humerus, radius, and ulna were recovered. Additionally, phalanges of the left foot and right hand, a sizable portion of the crania (though quite fragmented), teeth, and several small unidentifiable fragments of bone were recovered. Burial 6 was found to be interred in a flexed position.

Two units were initiated from Subop 15c. Subop 15e was a 50X60cm extension off the east wall of Subop 15c, positioned to better define the boundary of Burial 5, and to make possible the feature's full excavation. Subop 15f was a 40X100cm unit placed off the west half of the south wall of Subop 15c, positioned to better delineate the border of Lot 598, Burial 6.

Subop 15e

Subop 15e was excavated in arbitrary 10cm intervals, exhibiting stratigraphy and cultural materials in general concordance with those recovered from horizontally corresponding lots excavated in Subop 15c (Table 9.6). A second soil discoloration was noted following the removal of Lot 635, the basal fill stratum overlaying bedrock. The initiation of this feature, designated Lot 727, occurred on-plain with the detection of Lot 597 which continued from Subop 15c approximately 15cm into Subop 15e. Lot 727 was further defined as a dark brown, circular pit feature dug into the bedrock matrix, which continued laterally into the south wall of Subop 15e. Smashed ceramic fragments were visible at its surface, and its west margin partially cut into the southwest margin of Burial 5.

The Lot 727 pit feature, from all visible traits, most likely represents another burial. During excavation of Burial 5, particular attention was given to defining the context of materials removed from the southwest corner of the feature. A small 10X10cm column of material, deemed to be in questionable context, was preserved in the southwest corner of Lot 587 until total excavation of the remaining portions of Burial 5 feature were concluded. The column of material was screened separately. A subtle contrast in soil color was noticeable in plan following removal of the column, which showed Lot 727 to be an intrusion into Lot 597, rather than the reverse. With this finding, materials recovered within the column were included with Lot 727, an evidently later internment.

Subop 15f

Subop 15f was also excavated in arbitrary 10cm levels, and differed stratigraphically from Subop 15c by an additional lot, which was needed to reach the horizon on which Lot 598, Burial 6, was excavated. This was due to the placement of Subop 15f closer to the north slope of Structure 4, where it exhibited a greater amount of sediment accumulation from erosional processes that affect Structure 4.

Like Subop 15e, Subop 15f exposed additional pit features (also believed to be burials) which were not evident in Subop 15c. The first of these is an unlotted feature with a circular, well-circumscribed margin present in the southwest corner of Subop 15f. It is presumed to continue southwest of the excavation area. The second, designated Lot 769, emanated from the east side of
Subop 15f and extended partially into Subop 15c. This feature was not immediately observable due to the presence of burned rock that overlaid it and Burial 6.

The presence of burned rock fragments capping Burial 6 is the most obvious variation from patterns observed within Burial 5. These rock fragments appear to have been a deliberate element of the burial feature, with no evidence to suggest that they were displaced from the floor constructed above the burial features.

Burned rock was observable in the southeast wall of Burial 6, Lot 598. This area was cut back to define its relationship with Burial 6. Among the burned stones, a conch shell, two ceramic fragments, and three groundstone fragments constructed of local limestone were exposed and recovered (Table 9.7). Although no human bone was observed, the nature of the material recovered from the feature suggests that it is likely representative of another pit burial. Lot 769 became more clearly separated from Lot 598 as distance below the feature surface increased. Any contextual co-mingling between Burial 6 and the Lot 769 feature would have affected only the uppermost areas in the southeast, within which only burned rock fragments were found. No evidence was uncovered which would allow for assessing the relative antiquity of Lots 598 and 769.

Subop 15d

Subop 15d was a 2X1m excavation unit oriented 20 degrees east of north, with the long axis running east-west. The unit was positioned at the south base of the slope of Structure 4. Excavation proceeded through the first two arbitrary 10cm levels before being terminated due to the time constraints of the field season.

At 20cmbs the dark brown, organic rich soil below the surface humic zone was still evident throughout the excavation unit. Similar to Subop 15f, Subop 15d is in close proximity to a slope face of Structure 4. Subop 15d contained many more cobbles that Subop 15f due to the south slopes direct association with mound superstructure. The thickened topsoil component of Subop 15d is a result of erosion of soils downslope from the top of the mound.

A small amount of ceramics and lithic debitage was recovered, along with a significant amount of freshwater shell (Table 9.8). As all materials were recovered in topsoil context, described above, they are not presumed to be in primary context. Further excavation may wish to expand the excavation unit and further explore the midden discovered in Subop 5 by ascending upon it through continued vertical excavation. If present below Subop 15d, the midden should be encountered at approximately 115cmbs.
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Eaton, J. D.

Freidel, David A.

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Masson, Marilyn A.

Pendergast, David M.

Pollock, H. E. D. (ed.)

Rice, D. S.

Smith, A. L.

Smith, J. Gregory, William M. Ringle, and Tara M. Bond
Table 9.1
Lot Numbers and Contexts for Subop 5

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBD</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>742</td>
<td>Structure 4 looter's pit. Clay midden below marl floor.</td>
<td>300-320</td>
<td>390</td>
<td>6</td>
<td>69</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
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<tr>
<td>760</td>
<td>Dense gray-brown clay fill underlying midden.</td>
<td>320-334</td>
<td>25</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>763</td>
<td>Dark gray clay fill.</td>
<td>334-361</td>
<td>204</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
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Table 9.2
Lot Numbers and Contexts for Subop 15

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<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
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</thead>
<tbody>
<tr>
<td>508</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>26</td>
<td>1</td>
<td>23</td>
<td>0</td>
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<td>1</td>
<td>0</td>
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<tr>
<td>517</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>30</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>528</td>
<td>Gray-brown sandy clay. Immediately underlies Lot 517 in north half of unit.</td>
<td>20-30 N½</td>
<td>72</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
<td></td>
<td></td>
<td>25-30 S½</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 pc. pigment</td>
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<tr>
<td>529</td>
<td>Dark gray loamy clay overlying Lot 528 in south half of unit.</td>
<td>20-25 S½</td>
<td>36</td>
<td>1</td>
<td>2</td>
<td>0</td>
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<tr>
<td>556</td>
<td>Gray-brown compact clay with marl fragments.</td>
<td>30-47</td>
<td>19</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>1</td>
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</tr>
<tr>
<td>575</td>
<td>Cobble ballast 2-3 courses thick with fill.</td>
<td>47-65</td>
<td>216</td>
<td>12</td>
<td>139</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>5</td>
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<tr>
<td>592</td>
<td>Loose, randomly arranged cobbles with dark green-gray fill.</td>
<td>65-66</td>
<td>37</td>
<td>5</td>
<td>71</td>
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### Table 9.3

**Lot Numbers and Contexts for Subop 15a**

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<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Sherds</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>509</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Strewn with cobbles from wall decay.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>533</td>
<td>Wall features along east and south of unit.</td>
<td>Wall</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>534</td>
<td>Second Arbitrary 10cm level.</td>
<td>10-20</td>
<td>29</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
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<tr>
<td></td>
<td>Strewn with cobbles from wall decay.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>535</td>
<td>Censor vessel cache.</td>
<td>12-18</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<td>0</td>
<td>0</td>
<td>1 crab claw; coral</td>
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<tr>
<td>540</td>
<td>Third arbitrary 10cm level.</td>
<td>20-30</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td></td>
<td>Compact fill.</td>
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### Table 9.4

**Lot Numbers and Contexts for Subop 15b**

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<th>Lot #</th>
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<th>Ceramic Sherds</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
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<th>Special Finds</th>
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</thead>
<tbody>
<tr>
<td>538</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>34</td>
<td>18</td>
<td>0</td>
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<tr>
<td></td>
<td>East room exterior.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>555</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>20</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>East room interior.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>557</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>East room exterior.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strewn with cobbles from wall decay.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>558</td>
<td>Second arbitrary 10cm level.</td>
<td>10-20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>East room interior.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>580</td>
<td>East room exterior.</td>
<td>20-40</td>
<td>19</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Compact clay zone adjacent to wall/bench feature.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>581</td>
<td>East room exterior. Dark gray-brown fill.</td>
<td>40-44</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>600</td>
<td>East room exterior. Dark brown fill visible only in NW corner.</td>
<td>44-45</td>
<td>12</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>608</td>
<td>Third arbitrary 10cm level. East room interior.</td>
<td>20-30</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>
### Table 9.5

**Lot Numbers and Contexts for Subop 15c**

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>567</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 pc. Euro, whiteware; 1 green bottle glass</td>
</tr>
<tr>
<td>579</td>
<td>Second arbitrary 10cm level containing horizontal layer of cobbles.</td>
<td>10-20</td>
<td>99</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>591</td>
<td>Third arbitrary 10cm level. Sub-cobble fill zone. Overlays bedrock.</td>
<td>20-35</td>
<td>40</td>
<td>3</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>597</td>
<td>Burial 5</td>
<td>35-75</td>
<td>124</td>
<td>1</td>
<td>28</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1 carved stone bead</td>
</tr>
<tr>
<td>598</td>
<td>Burial 6</td>
<td>35-80</td>
<td>75</td>
<td>4</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
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### Table 9.6

**Lot Numbers and Contexts for Subop 15d**

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<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>584</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>599</td>
<td>Second arbitrary 10cm level composed of mound erosion sediments and debris.</td>
<td>10-20</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

### Table 9.7

**Lot Numbers and Contexts for Subop 15e**

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Context Description</th>
<th>CMBS</th>
<th>Ceramic Shards</th>
<th>Lithic Debitage (pc.)</th>
<th>Faunal Bone (pc.)</th>
<th>Formal Stone Tools</th>
<th>Flake Tools</th>
<th>Obsidian (ct.)</th>
<th>Net Weights</th>
<th>Spindle Whorls</th>
<th>Groundstone Fragments</th>
<th>Special Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>627</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>634</td>
<td>Second arbitrary 10cm level containing horizontal layer of cobbles.</td>
<td>10-20</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>635</td>
<td>Third arbitrary 10cm level. Sub-cobble fill zone. Overlays bedrock.</td>
<td>20-33</td>
<td>38</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>727</td>
<td>Hypothesized burial feature.</td>
<td>33-66</td>
<td>17</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lot #</td>
<td>Context Description</td>
<td>CMBS</td>
<td>Ceramic Shards</td>
<td>Lithic Debitage (pc.)</td>
<td>Faunal Bone (pc.)</td>
<td>Formal Stone Tools</td>
<td>Flake Tools</td>
<td>Obsidian (ct.)</td>
<td>Net Weights</td>
<td>Spindle Whorls</td>
<td>Groundstone Fragments</td>
<td>Special Finds</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------</td>
<td>------</td>
<td>----------------</td>
<td>-----------------------</td>
<td>------------------</td>
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<td>----------------</td>
<td>-----------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>641</td>
<td>Arbitrary 10cm surface level.</td>
<td>0-10</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 pc. Euro. whiteware</td>
</tr>
<tr>
<td>676</td>
<td>Second arbitrary 10cm level containing horizontal layer of cobbles.</td>
<td>10-20</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>685</td>
<td>Third arbitrary 10cm level Sub-cobble fill zone.</td>
<td>20-30</td>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>690</td>
<td>Continuance of sub-cobble fill zone. Overlays bedrock.</td>
<td>30-33</td>
<td>28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>769</td>
<td>Hypothesized burial feature.</td>
<td>44-80</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
Figure 9.1

North Wall Profile

Subop 5

North Wall Profile

Scale
Figure 9.3

Structure 4 Superstructure, Plan View

- East Room
- Center Area
- West Room
- Subop 15a
- Subop 15b
- Depress Feature
- Excavated Wall Features
- Cobble Wall Features Visible at Surface
- Excavation Area

Scale: 1m

Legend:
- Cobble Wall Features Visible at Surface
- Excavation Area
- Excavated Wall Features
Figure 9.4

Subop 15, West Wall Profile
Figure 9.5

Subop 15a, West Wall Profile
Figure 9.6

Subop 15b, West Wall Profile
Figure 8.9. Intrusive pit features (Lots 709-712) in plaster floor (Stratum 2, Lot 603) detected in Subop 6a, a 1X1m column excavation of Structure 1's west looter's trench wall.

- Intrusive pits
- Plaster floor
- Zones where plaster floor eroded showing rubble beneath
Lot 533 Wall Feature, Subop 15a [view south], Caye Coco, Belize.
Photograph by author.
Chapter 10

Looter's Trench Documentation in 1998 and a Brief History of Architectural Construction at Caye Coco, Belize

Robert M. Rosenswig

During the 1998 field season, looter’s trenches in six structures (1, 4, 5, 11, 12 and 13) were exposed, cleaned and documented. Descriptions of structure 1 and 5's looters’ trench work is embedded in the chapter describing the excavation at these structures (West, chapter 8; Barrett, chapter 9) and will not be reviewed here. However, these results, along with work at other structures, are discussed in this chapter as an overview of the history of architectural construction at Caye Coco. The focus of this chapter is a description of Structures 5, 11, 12 and 13 and the profiles in their respective looter’s trenches which includes a discussion of each structure’s placement on the island, a description of the ceramics recovered from each structure as well as an estimation of the period that each was built. Included in this presentation is a summary of the other structures on the island. Finally there is a brief discussion of how the architectural layout of the island changed during the Postclassic period and the possibility that a Terminal Classic/Early Postclassic component existed at the site.

Each of the six looter’s trenches were documented in the same manner as follows. After all vegetation had been removed from in and around a trench, a surface was selected to be profiled. The profiles varied in size but all were at least two meters wide and located on the wall of the looter’s trench that would provide the most information regarding the history of architectural construction. As a result, this was usually the wall closest to the center of the mound. The walls were scrapped with trowels and stone and earth was removed to produce as flat and even a surface as possible. Next, a unit was placed at the base of each wall and excavated by cultural levels until bedrock was reached. As a result, the construction sequence of each structure was documented and artifacts from the lowest levels were collected from controlled contexts. Finally, each of these profiles, extending from ground surface down to bedrock, were drawn and photographed.

Profiles of the looter’s trenches in Structures 1, 4 and 5 have previously been reported (Masson 1998). However, the two days of profiling carried out in 1997 was of the inside of looter’s trenches as they were found. During the 1998 season greater section of these same looter’s pits were examined, as described above, and the walls were remapped. As a result, the profiles documented in this chapter as well as by West (chapter 8) and Barrett (chapter 9) incorporate, and thus replace, those previously reported.

Central Area

The most dramatic topological feature on Caye Coco is a 10m high hill located at the south central portion of the island (Hare et al., this volume). On the upper slopes of this hill is Structure 1, the highest mound on the island, as well as Structure 10, 11, 13 and 17. Also included in what I will refer to as the central area of Caye Coco is an enclosed region between Structures 1, 2, 4 and 5. This region is nothing like the formal and symmetrical Classic period courtyards, nor have we documented that this was a ceremonial precinct. However, the area is a low region sloping up toward Structure 1 and is between the three largest structures on the island. It is also the only location on Caye Coco where the majority of one’s line of sight is occupied by cultural features.
This centrally located “courtyard” is not the focus of all surrounding mounds as the wall alignments atop Structures 4 and 5 open north-northeast toward the lagoon. This region is nevertheless the most culturally defined space on the island.

Structure 1 (Subop 6)

This structure defines the south extent of the central area and it is 6.5m above the flat area between structures 4 and 5 as well as being 10m above the waters of the lagoon. The view that is commanded from the top of Structure 1 is striking. Without the current vegetation almost every part of the island would be visible. The stratigraphy was described by West (chapter 8) and I wish only to add two points here. First, the culturally constructed component of this mound is only 1.9m high and so does not represent the greatest quantity of energy expended in architectural construction on the island. In fact, many times more effort was required to build either Structure 4 or 5. The quantity of energy expenditure in this case is a poor indicator of the mounds importance as this is by far the most dominant architectural feature on Caye Coco. In fact, the majority of cultural modification of the top of the central hill (i.e. Structure 1) resulted in it being squared off so that its appearance is more pyramid-like. This reflects a very pragmatic and efficient use of resources to achieve a desired effect.

Second, the core of Structure 1 was built at an earlier time, possibly during the Terminal Classic/Early Postclassic period. A small structure originally built atop this hill was oriented magnetic north, as opposed to the 20° east of north of the later Postclassic rebuilding. The earlier component of Structure 1 was aligned with Structure 13, the only other structure with similar contents of its construction fill encountered thus far at Caye Coco. The reason that structure 1 was realigned is not clear at the moment. One possible explanation is that the amount of energy that would have been required to build a mound of equivalent dimensions that diverged from the hill’s original shape would have been many, many times greater than what was done.

Structure 2

This large flat structure defines the east extent of the central courtyard and has not been investigated to date. As with Structure 1, structure 2 incorporates the natural topography of the central hill and was simply built up on the north side (away from the hill) to create a flat surface. This surface would have served well as a living platform and is approximately as high as Structures 4 and 5 relative to the lagoon. Structure 2, however, required substantially less effort to construct and, like Structure 1, took advantage of the natural landscape. Therefore, if Structures 2, 4 and 5 were elite residence mounds, no one would have been looking down on their neighbors.

Structure 3

This is a small, low structure at the northeast edge of the central area that has not been investigated to date. Structure 3 has been badly looted in its center and its function is not known. Due to its small size and central location it resembles other such features at well know Postclassic sites such as Lamanai and Mayapan.

Structure 4 (Subop 5)

Structure 4 defines the northern extent of the central area of Caye Coco (discussed by Barrett in chapter 9). The looter’s trench documented in 1998 was located in the southwest corner of the structure and dug into the steep east and south walls. This structure is very similar to

126
Structure 5 both in terms of the alternating bands of fill and rubble and the existence of an earlier low plastered mound at its core. However, alternating layers of large limestone cobbles and grey clay in this profile are less individually discrete when compared to those of Structure 5. This is due to the location of Structure 4's trench closer to the edge of the mound. The upper levels of Structure 4 contain Postclassic ceramics, most notably a diagnostic effigy censor leg and other assorted pieces (see Barrett chapter 9). Two thin marl floors define an earlier, low, broad Postclassic mound. The lower marl floor is 80cm above bedrock and was excavated as Lots 742, 760 and 763. Payil Red ceramics within these lots date this earlier structure to the Postclassic period as well (Table 10.1).

Structure 5 (Subop 10)

This structure defines the western extent of the central area and is very similar in appearance to Structure 4. This is true both in terms of the steep sides, the broad, flat occupation surface and a similar configuration of wall alignments on top. Both of these structures had a wall along their southern edges and the south two meters of their eastern and western edges. The low, crumbling wall outlined a 50cm high raised bench at the south of both structures. The construction strategy of Structure 4 and 5 is also similar. Both structures were built up 3 to 4 meters from the ground level at their bases with successive layers of limestone cobbles which were held together by alternating layers of grey clay. Both structures also contain earlier low mounds covered by thin marl plastered floors.

The profile drawing from Structure 5 documents twenty-seven levels (Figure 10.1). Level A is a brown organic topsoil full of roots and insects. Level B is lighter brown and less organic than Level A and the exact transition between these levels is a bit arbitrary. However, the contact with Level C is flat and very distinctive and level C consists of marl plaster with large limestone cobbles that would have formed the original structure's surface. The next seventeen levels are the alternating fill layers described above. Levels D, F, H, J, L, N, P, R and T are each dark grey clay that appears to have been taken from the lagoon as it is identical to the matrix we were excavating on the north shore of Caye Coco. These eight layers of clay were stabilizing nine alternate levels (E, G, I, K, M, O, Q and S) of large limestone cobbles that seemed to be placed with large open spaces between cobbles in order to produce the greatest amount of volume with the least number of cobbles transported. Level U is a 1cm band of marl plaster and is interpreted as forming the surface of a half meter high mound. Level W is a continuation of Level U that consisted of a distinctively more yellow marl. Level V is a layer of dark grey lagoon clay similar to those described above and supports the plastered floor. Level X is a 3cm band of marl plaster and the earliest documented surface of Structure 5. Below this, Levels Y and Z both consisted of brown earth that were divided due to the increasing large size of limestone rubble inclusions. Finally, Level AA consists of soft, white decomposed limestone bedrock. Levels T through Z were excavated from Subop 5, a 1X2m unit, and 100% screened. The ceramics found in these layers conclusively date all of the construction fill to the Late Postclassic (Table 10.1).

Structure 11 (Subop 23)

This structure is the most southerly mound on the island and is perched atop the central hill facing the water 7.5m below to the south and the shore in the distance. As with Structure 2, discussed above, and a number of other structures at the site, Structure 11's construction utilized the natural topography and built up the south side of the hill on Caye Coco to produce a flat surface. The interior east wall of the looter's trench in this structure was profiled and was 2m wide and 2.3m deep.
The profile drawing from Structure 11 documents eight levels (Figure 10.2). Level A is a dark brown topsoil containing small rocks and cultural material. Level B is a brown soil mixed with limestone nodules 5-15cm in diameter as well as ash and carbon. Level C is a sandy grey clay with larger limestone cobbles 20-40cm in diameter. Level D is a medium brown fill containing small stones 1-5cm in diameter and rich in cultural material. Level E is a nearly sterile stratum consisting of tightly packed pebbles and a small quantity of medium brown soil overlying bedrock. Level F consists of the medium brown soil, similar to Level D, from a 40x35cm pit dug 55cm into bedrock. Level G is decomposed limestone bedrock.

Levels D, E and F were excavated from Subop 23, a 1x2m unit, and 100% screened. The bottom 30cm of Level D was excavated and collected as Lot 748 and, among other things, a ceramic Kol Modeled “feathered spear” was recovered from the bottom of this level. This object was approximately 10cm high and had four sets of two drooping “feathers and ended in an oval “spear point”. The closest analogue that I am aware of comes from Late Postclassic caches at Santa Rita Corozal where ceramic figurines have been recovered holding spears without feathers (Chase and Chase 1988:9,58). The ceramics recovered from all levels of Subop 23 date all of the construction of Structure 11 to the Postclassic period (Table 10.1).

Structure 13 (Subop 24)

This structure, located to the west of Structure 1 is unusual for this site as it is aligned on the cardinal directions rather than 20° east of north as all of the other structures are. It is also distinctive in that it contains a number of Terminal Classic period remains. A large looter’s pit was dug into the center of this structure and we cleaned and profiled a 2.2m wide and 2.4m deep section on the interior north wall of the unit.

The profile drawing from Structure 13 documents eight levels (Figure 10.3). Level A is a dark brown organic topsoil. Level B is light brown soil with small stone inclusions. Level C is also consists of a light brown matrix but is distinguished from the level above by larger rocks and marl inclusions. Level D is a hard-packed marl limestone plaster layer that ranges from 10-15cm thick. Level E consists of small, smooth river cobbles with spaces between them and no soil. Level F is a medium brown clayey matrix. Level G is decomposed limestone bedrock. Level H is 5cm layer of yellow/white marl located in the pit in level F and is found above a number of small, burnt limestone nodules.

The bottom 30cm of Level F was excavated as Lot 756 and below this, the contents of the pit on the east of Figure 9.3 was excavated as Lot 764. These lots were excavated from a 1x2m unit and 100% screened. A number of Classic period polychrome shards were recovered from the fill of this mound as well as some striated shards that we have not encountered elsewhere. These striated shards were encountered while cutting back the profile from Level C and were bright red, had sandy paste and were unslipped (location indicated on Figure 9.3). Structure 13 was apparently built during the Postclassic due to the a Rita Red and a Payil shard found at the bottom of Level F in Lot 764 (Table 10.1).

Structures 17 and 18

These are two low mounds located to the west and south of Structure 1 on the south side of the central hill. Both structures are extensions of the hill built to achieve flat surfaces and are thus similar to Structures 2 and 11. Neither have been investigated but there are two large looter’s trenches in Structure 17, on its south and another on its east sides.
Surrounding Areas

Structure 12 (Subop 25)

Structure 12 was a small, low, relatively isolated mound located to the west of Structure 5. This structure was low and the looter's trench went straight through its center to bedrock and exposed a small cavity in the limestone underneath. Part of what attracted us to this mound was the extent of digging that occurred here and the resulting large quantity of back dirt piled up around the mound. We excavated a 2m wide and 1.15m deep profile of the interior west wall of the crater-like looter's pit and a 1m wide section on the interior south wall. This location was chosen as it appears to encompass the original height of this structure.

The profile drawing from Structure 12 documents six levels (Figure 10.4). Level A consists of a brown grey organic topsoil. Level B was a dark grey soil with many small marl inclusions. Level C was the remains of a plastered limestone marl surface that has dried out and been broken up, yet is still readily identifiable as a surface. Level D consisted of a light grey soil with many rocks 5-10cm in diameter. Level E was a dark brown matrix with many small stone inclusions. In the middle of this level there was a concentration of burnt limestone nodules. Level F was decomposed limestone bedrock. The contents of this mound were pure Postclassic material (Table 10.1). Structure 12 is likely a low house mound, though the extensive looting makes any conclusive assessment difficult.

Structure 14 (Subop 14) and 15 (Subop 3)

Structures 14 and 15 are located on the north end of the island and test units from the 1998 season have been excavated to bedrock. We therefore have stratigraphic profiles and ceramic shard associations of their full construction histories. The reader is referred to the descriptions of these excavations elsewhere in this volume for the details (Mullen, chapter 3). Both contain solely Postclassic fill and are possibly domestic structures.

Structures 6, 7, 8, 9 and 10

These structures are all located due north of the central hill and none have been investigated. Each of the five mounds is broad with a flat top. Structures 6, 7 and 8 are each relatively high and there is a large looter's pit in the center of Structure 6. Structures 9 and 10 are relatively low; the former is irregular in shape and the latter has stone wall alignments on top that date to the 1960s when the landowners built a house here.

Conclusion

Although there is much left to be done, an impression of the architectural history of the site of Caye Coco is emerging. This impression is based on six structures whose looter's trenches have been documented, the three other excavated mounds (#14, 15 and 20) and one non-mounded structure (Aguilera, this volume) excavated during the 1998 field season.

From this work, the only evidence of an earlier (i.e. pre-Late Postclassic) period component we have to date are two mounds (#1 and 13) which were built at the highest point on the island and face north towards numerous Late Classic period mounds on the shore a kilometer away. The sandy paste, striated shards found in the fill from both of these structures, as well as polychromes from Structure 13, are like few other shards found elsewhere on the island. All other structures exclusively mined Postclassic deposits (i.e. containing distinctive Payil, Rita Red, etc.)
diagnostics) for construction fill. However, just because fill containing earlier period ceramics were used to build these mounds does not prove that they were built in an earlier period. However, at both Structures 1 and 13 the component containing mixed fill is covered with Postclassic fill of the sort used elsewhere on the island. The early component of Structures 1 and 13 also have a distinctive orientation, were built next to each other and are stratigraphically below latter Postclassic construction episodes. This provides circumstantial evidence for an earlier temporal designation. If there was a Terminal Classic/Early Postclassic period occupation on the island (from where the deposits were mined) it was neither intensive, nor long lasting as no other shards have been found in the 105m² of units excavated to bedrock on Caye Coco from both off-mound and structural locations.

All other evidences of occupation and construction at the island is ceramically dated to the Late Postclassic period and the topographic map of Caye Coco reflects this occupation. This occupation can be architecturally characterized as a loosely organizationed set of broad, flat mounds facing 20° east of north toward the lagoon. These structures were distributed along the north side of the island and up onto the central hill. Two things are noteworthy of this organization. First, with the exception of Structure 17, the top of every structure has a clear view north up the lagoon to where it connects with Cocos Lagoon. In fact, the long axis of Progresso Lagoon is itself oriented approximately 20° east of north and so all Postclassic architecture is aligned with the water. This is significant, as from the top of any of these structure one can look out over Caye Muerto and see anyone approaching from Cocos Lagoon on their way in from the ocean, 15km away. In addition to the structures described in this section there are also at least four concentrations of boulder on the north shore of the island that have been described as docks (Barnhart 1998). Therefore, this architectural construction makes sense if the site is concerned with maritime trade coming in from the ocean. Second, and perhaps equally as important, the wind comes from the east and northeast so that the top of all of these structures, including Structure 17, is pleasantly ventilated. In fact, in very general terms (not quantitatively documented) there is a correlation between a good breeze on Caye Coco and the location of architecture as well as high densities of archaeological debris.

In the future it would be elucidating to clean and document the other structures on the island with looter’s trenches; these are the centrally located Structures 3, 6, 17. Also instructive would be to test Structures 7, 8, 9, 10 and 18. All of these structures are covered with Postclassic shards and are largely undisturbed.

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1988 A Postclassic Perspective: Excavations at the Maya Site of Santa Rita Corozal, Belize. Pre-Columbian Art Research Institute, San Francisco.

Masson, M.

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Table 10.1. Identified ceramics from looter’s trenches excavated at Caye Coco in 1998.

<table>
<thead>
<tr>
<th>Level</th>
<th>Lot</th>
<th>Ceramic Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure 4</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>Structure 4 - Subop 5</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>wall scrapings 1                      1 Kol Modeled effigy leg, 3 Santa Flannel, 5 Rita Red, 5 Payil, 1 Payil Incised, 17 Santa Coarse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>742 1 Rita Red, 4 Payil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>760 4 Rita, 3 Payil, 3 Santa Coarse, 3 Tsabak, Red Sandy paste striated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>763 1 Zakpah, Santa Flannel, 1 Rita, 1 Payil, 1 Red Sandy</td>
</tr>
<tr>
<td>Structure 5</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>Structure 5 - Subop 10</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>wall scrapings 6                      1 Rita Red, 1 Santa Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q --- 1 Rita Sliped, 5 Payil, 4 brown sandy paste, black rim brown ware</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R --- 2 buff Payil, 3 red Payil, 1 buff sandy, 1 red sandy, 1 grey coarse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T --- 12 Rita Red, 3 Payil, 4 Santa Flannel, 2 Tsabak, 1 Zakpah, 1 orange sandy, 1 cream ware</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U 744 1 Tsabak, 3 Rita, 1 Santa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>V 745 10 Rita, 2 brown sandy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y 757 1 Payil, 1 Red Sandy</td>
</tr>
<tr>
<td>Structure 11</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>Structure 11 - Subop 23</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D 748 1 Kol Modeled &quot;spear&quot;, 4 Rita Red, 1 Payil, 1 red sandy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D 755 2 Payil, 6 Rita, black slipware</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D 758 1 Rita</td>
</tr>
<tr>
<td>Structure 12</td>
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<td></td>
<td></td>
<td><strong>Structure 12 - Subop 25</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E 759 2 Rita Red, 1 Santa Flannel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E 762 2 Santa, 1 Rita, 1 Zakpah, 1 sandy red</td>
</tr>
<tr>
<td>Structure 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Structure 13 - Subop 24</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 753 1 Red slipped, striated; 3 brown paste, 4 red striated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F 756 4 Zakpah, 6 unfamiliar striated, 2 sandy red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F 764 1 Rita Red, 1 Payil, classic period polychrome plate; Classic period red bichrome; outer incised buff ware</td>
</tr>
</tbody>
</table>
Figure 10.1. Structure 5 (Subop 10), Profile of West Wall.
Figure 10.2. Structure 11 (Subop 23), Profile of East Wall.
Figure 10.3. Structure 13 (Subop 24), Profile of North Wall.
Figure 10.4. Structure 12 (Subop 25), Profile of West Wall.
SECTION FOUR - SHORE SITE TESTING AT PROGRESSO LAGOON
Chapter 11

Testing Progresso Lagoon Shore Sites, (PR4) and (PR5) Localities

Georgia West

Introduction

This year’s testing program on the shores of Progresso lagoon represented the preliminary stages of a longer term research design to locate and explore Postclassic and Colonial Maya shore communities and their relationship with Caye Coco. Previous testing and reconnaissance around Laguna de On has found that sister settlements existed on the shores of the lagoon that probably had a symbiotic relationship with the community residing on Laguna de On island (Masson and Waid 1998). Examining only the island settlements in the lagoons of northern Belize does not give a full picture of the microregional structure that most Postclassic communities were a part of. One can only understand the larger social, political, and economic contexts of such communities by examining both island and shore settlements.

Furthermore, it is the belief of the Belize Postclassic Project that Caye Coco is the former regional “capital” of Chanlacan, the contact period site that led a regional rebellion against the Spanish in 1547 (West et al. 1998). The paucity of colonial period artifacts on the island itself is most likely due to the fact that after this rebellion was quelled, the Spaniards removed the remaining Maya community of Caye Coco onto the shore of the lagoon: clearly a less defensible and more easily controlled location than was Caye Coco’s island fortress.

Testing at PR4

PR4 is located on a bluff along western edge of Progresso town, approximately 500 meters from the western shore of the lagoon. There is a medium density of ceramic sherds on the surface, as well as a fair amount of lithic material, including several broken biface adzes. Several small mounds have are visible at PR4, and seem to have made opportunistic use of naturally elevated bedrock which can be seen eroding through the surface in many places. The site lies in the yard of several houses, and has suffered rather intensive disturbance due to this occupation.

The first test pit, Subop 1a, was placed to the north of where the bluff drops off, in an area of lower elevation. Subop 1a was a 1X1 meter test pit that was taken down in three arbitrary 10cm levels. The soil remained consistent down to bedrock which was a very dark, loosely packed organic soil mixed with marl rubble. Bedrock was approximately 30cm below the surface. The artifact density in these levels was not particularly high. Thirty two sherds were found in Level 1 (Lot 2001), 50 sherds were found in Level 2 (Lot 2002), and 16 in Level 3 (Lot 2004). The ceramics encountered were highly eroded. It is this author’s belief that they date to the Terminal Classic period due to their dissimilarity to Caye Coco ceramics, and the presence of several very large bolstered rim sherds. However, the presence of some folded rim sherds may indicate a Postclassic presence as well.

Subop 1b was a 1X1m test pit placed approximately 20 meters south of Subop 1a off a small mound on the top of the bluff. Subop 1b was excavated in 4 arbitrary 10cm levels. Bedrock
was reached at approximately 37cm below the surface. Level 1 (Lot 2003) consisted of very dark brown organic soil mixed with marl rubble, probably eroding up from bedrock which is close to the surface. The artifact density was low and included some very eroded ceramic sherds including a bolstered rim of a large jar and some striated sherds, suggesting a Late or Terminal Classic date. Other artifacts encountered in this level included lithic flakes and a broken obsidian prismatic blade. The soil in Level 2 (Lot 2005) continued to be very dark, loosely packed, and mixed with marl rubble. The density of artifacts increased in this level and included very eroded ceramic sherds, a ceramic fish net weight, and a broken biface adze. The soil in Level 3 (Lot 2007) remained the same, but the artifact density dropped significantly. Virtually no artifacts were found in this level. Level 4 (Lot 2008) consisted of a lighter brown soil matrix around some large limestone rocks lying on bedrock. Bedrock was reached after only 3-6cm. The artifact density in this level was again very low and the entire assemblage consisted of only 2 ceramic sherds which are too eroded to identify.

Subop 1c was a 1X1m test pit placed 12m south and 8m west of Subop 1b on the side of a small mound where two broken biface adzes were found lying on the surface. The mound was placed on top of the bluff and appeared to have been constructed out of marl rubble. The unit was taken down in 5 arbitrary 10cm levels, except level 5, which was a 20cm level. Level 1 (Lot 2006) consisted of dark brown soil mixed with marl rubble. Ceramics (N=49) encountered in this level were highly eroded and essentially unrecognizable. Many large primary chert flakes were also present in Lot 2006. There was no change in soil in level 2 (Lot 2009) although the ceramic density decreased by half (N=29). In this level at least one sherd appeared to be Postclassic in date. Aside from several striated sherds, which could actually be either Classic or Postclassic, the sherds retrieved from this lot tended to be nondiagnostic. We continued to find a relatively large amount of secondary and primary chert flakes in Level 2.

There was no soil change in Level 3 (Lot 2010) and a slight increase in artifact density, although it essentially remained low. Several (N=6) of the sherds in this lot appear to be Postclassic types (eroded Rita Red and Payil). Level 4 (Lot 2011) consisted of the same dark brown loosely packed soil mixed with marl rubble. Artifact density decreased although we continued to find a fair amount of lithic flakes. Some of the rim sherds encountered in this lot are entirely foreign to the Postclassic assemblage of Caye Coco and suggest a Late or Terminal Classic date. Level 5 (Lot 2012) was a 20cm level taken down to bedrock. The soil in this layer became a lighter brown as we approached bedrock and the artifact density dropped off significantly. No ceramics were found in this level, and only a few chert flakes were encountered.

Testing at Shangrila: PR5

The site of Shangrila is located on the shore closest to the island of Caye Coco and strikes one immediately as the most obvious place for a sister shore settlement to Caye Coco. Situated on a small peninsula jutting out into the lagoon just north of the island, it is on high ground with access to a steady breeze from across the lagoon. Unfortunately, the idyllic nature of the spot has not missed by contemporary Belizeans, and during the 1980’s a resort (currently in ruin) was constructed at the site. The deposits along the shore of the peninsula therefore tend to be rather heavily disturbed, if not entirely removed through the use of heavy equipment. There also tends to be low visibility on the surface of the peninsula which is heavily overgrown, and where there is good visibility, there are few surface artifacts. However, previous reconnaissance for Colonial period sites conducted by Pendergast, Jones and Graham found that at Lamanai there were virtually no Spanish artifacts on the surface, and at Tipu there were no artifacts at all on the surface (Pendergast et al. 1993). Subsurface testing is thus a crucial step in any search for Spanish Colonial period settlements. The test pits of PR5 were opportunistically placed in areas that
seemed logical for settlement and showed no evidence of disturbance. With the exception of Subop 2a, there were no artifacts on the surface that led us to choose the areas to test.

The first test pit at Shangrila (Subop 1a) was placed several meters west of the lagoon shore where a fragment of a Postclassic Cehace-Hunacti Composite censer had been found by Robert Rosenswig during a brief reconnaissance of the site earlier in the summer. Subop 1a was taken down in 6 arbitrary 10cm levels, although the artifact density dropped to insignificance after the first three levels. Level 1 (Lot 2013) consisted of a very dark, dense clay with root mat. Aside from a small amount Late Postclassic Rita Red sherds, very few artifacts were encountered in this level. However, at the bottom of Lot 2013, 10cm below the surface a sherd of blue and white majolica was found. Although this majolica sherd has yet to be precisely identified, it appears to be of a type used by the Spanish in the 16\textsuperscript{th} or 17\textsuperscript{th} centuries (George Bey and Daniel Finamore, personal communication, July 1998). Also mixed in this lot were some 19\textsuperscript{th} century ceramic sherds, following a pattern found during the 1997 field season at Laguna Seca, in which 19\textsuperscript{th} century ceramics were found mixed on the surface with earlier majolica sherds (West 1998). The finding of this majolica fragment is clearly extremely significant in the identification of Caye Coco as the site of Chanlacan, as it indicates an early Colonial period presence at Progresso Lagoon, as do Spanish Olive Jar fragments (less temporally sensitive) found at the waterline of Caye Coco last summer.

Level 2d (Lot 2014) continued to be a dark brown dense clay with root mat. The ceramic density increased in this lot, and more late facet Rita Red type ceramics were encountered (N=130). The number of ceramic sherds found in this lot is somewhat misleading as they tended to be very small pieces indicating that they had been extensively trampled upon at some point in their depositional history. Fifteen centimeters below the surface in Lot 2014, a chalcedony side-notched projectile point was found, a form diagnostic of the Postclassic (Hester 1985, Michaels and Shafer 1994) or Colonial periods. No further historic material was found in this lot.

Level 3 consisted of the dark gray clay with numerous snail shell inclusions. The artifact density decreased in this level, although late facet Rita Red ceramics continued to be encountered. Also found were a ceramic fish net weight and a ceramic bead. At the top of Level 3, approximately 20cm below the surface, a lens of small burned limestone could be seen in the profile. This could indicate some kind of burned surface. Levels 4, 5, and 6 (Lots 2016,2017, and 2018) were almost sterile. Only six ceramic sherds were found in Level 4, and the numbers decreased to two in Level 5. Level 6, which lay above bedrock, was entirely sterile.

The stratigraphy of Subop 2a consisted of three main soil strata (figure). The first layer was a very dense organic dark brown clay with root mat ranging in thickness from 25-30cm. The majority of artifacts were found in this layer. The second stratum was a dark gray clay with numerous snail shell inclusions that ranged in thickness from 25-30cm. This level was almost completely sterile. The third layer consisted of light gray-brown clay that lay direct over bedrock and ranged in thickness from 25-35cm. It is important to note that several of the rim forms of unslipped (or eroded slipped, washed) ceramics (N=6) found in Levels 1, 2, and 3 (Lots 2013, 2014, 2015) are of a form that has been designated transitional Terminal Postclassic/Early Colonial at the sites of Tipu and Lamanai (Graham 1987), Early Colonial at the Colonial village of near Ek Balam in northern Yucatan (Hansen 1991; George Bey, personal communication, July 1998), and to the Late Postclassic/Colonial component at Laguna Seca (Red-Haired Mama Type, Mock, this volume). The finding of these rim forms associated with a 16\textsuperscript{th} or 17\textsuperscript{th} century majolica sherd in Subop 2a strongly points to the Shangrila site as the location of the early Colonial period community of Chanlacan. Illustrations of these types of rims are provided in Mock's Appendix D to this volume.

Subop 2g
Because of the significance of the majolica and possible Colonial period indigenous artifacts found in Subop 2a, we extended the unit south by 2 meters to recover a larger ceramic sample for analysis. Subop 2g was a 1X2m unit that was excavated in three arbitrary 10cm levels. Because of the clay-like texture of the soil, all lots were water screened for maximum recovery. Level 1 (Lot 2033) consisted of the dark brown clay with root mat and marl rubble. Artifacts recovered included several sherds of 19th century porcelain, a 19th century pipe stem, and a low density of ceramics and lithic material. Included among these were three rims that may be Terminal Postclassic or early colonial.

The artifact density increased in Level 2 (Lot 2034) which continued to consist of a dark brown clay with root mat. There continued to be some 19th century sherds (N=3). Also recovered were one whole, and three fragments of chalcedony and sherd side-notched points. The ceramic density increased significantly, and included among the assemblage were six or seven rim forms that may be Colonial. Although the erosion on the ceramic sherds was not overwhelming, it was difficult to classify the sample retrieved from this lot. The pastes appeared to be extremely variable, with almost no two sherds alike, even on slipped wares. This pattern may indicate a diversification (and de-standardization) of ceramic manufacture during the Colonial period, though much more work is needed on larger samples of these materials to fully investigate this variability.

Level 3 continued to be a dark brown clay, with a fair amount of shell inclusions towards the bottom of the level. The artifact density decreased. Artifacts recovered included several ceramic fishnet weights, lithic flakes, and ceramic material. The ceramic assemblage included some late Postclassic types, as well as 2 rims that may be Colonial.

Subop 2b

Subop 2b was a 1X1m unit placed 5 meters west of the lagoon shore, on the slope of a bluff, directly to the west of Caye Coco. This unit was taken down in two arbitrary 10cm levels, at which point sterile eroded marl bedrock was encountered. Levels 1 and 2 (Lots 2020 and 2021) were essentially sterile in this Subop. The only artifacts encountered were one ceramic fishnet weight, and four sherds that were part of one vessel, lying flay on the ground, in Lot 2020, and one eroded ceramic sherd in Level 2. The soil in these levels was a very loosely packed dry light brown soil with root mat a fair amount of eroded marl. The soil became lighter as we approached bedrock, but remained essentially the same in texture.

Subop 2c

Subop 2c was a 1X1m unit placed very close to the shore on the northern edge of the Shangrila peninsula. This unit was excavated in three arbitrary 10cm levels. All Lots were water screened through a ¼” screen. This test pit was essentially sterile, as well as intensively disturbed. The number of ceramics encountered in Level 1 (Lot 2022), Level 2 (Lot 2023), and Level 3 (2024) totaled 11 (8 from Lot 2022 and 3 from Lot 2023). A 19th century sherd found in the Level 3 confirmed that this deposit was not in situ, not surprising due to the fact that it lies alongside an area that had been ploughed for future use as a basketball court.

The stratigraphy of this lot consisted of 2 main soil strata. The first was a dark brown clay with root mat and marl rubble inclusions. This layer ranged in thickness from 10-20cm. The second stratum, ranging in thickness from 15-18cm, was a yellowish white clayey soil with numerous marl inclusions eroding up from bedrock upon which it lay.
Subop 2d

Subop 2d was a 1X1 meter test pit placed 50m northwest of Subop 2b, on top of the bluff. This unit was excavated in three arbitrary 10cm levels. All lots were water screened. Level 1 (Lot 2019) consisted of a dense dark brown organic clay-like soil with root mat. Although the level was sterile in the top 5cm, the density of ceramics increased in the bottom 5cm. Artifacts recovered included some lithic debris, ceramic sherds, and a piece of obsidian shatter. Most of the ceramics in this lot were too eroded to identify.

The soil in Level 2 (Lot 2027) continued to be a dark brown organic clay-like soil with root mat. The artifact density increased in this level. Artifacts encountered included 3 ceramic beads, a chert side notched projectile point, 2 obsidian blade fragments, and a small amount of ceramic material (n=36). Included among the ceramics was a Terminal Postclassic/Early Colonial rim form. At approximately 15cm below the surface, we hit a very large boulder, or bedrock outcropping, in the center of the unit.

Level 3 (Lot 2031) consisted of the very muddy dark brown soil matrix around the large bedrock protrusion in the center of the unit. The artifact density decreased significantly in this lot. We found very little ceramic or lithic material. We also hit an underground spring, which caused the unit to fill with water, making it difficult to dig down further, although we did not hit bedrock in all areas of the unit at the bottom of the level.

Subop 2e

Subop 2e was a 1X1m unit placed approximately 20m west of the shore of the lagoon, and 25m east of Subop 2d. This unit was excavated in five arbitrary 10cm levels. All lots were water screened. Level 1 (Lot 2025) a dark brown organic clay-like soil with root mat. The few ceramics encountered in this unit were at the bottom of the 10cm level. The top 8cm of topsoil were almost entirely sterile. Also found at the bottom of Lot 2025 was faunal material, lithic debris, and some unmodified shell.

The soil in Level 2 (Lot 2026) continued to be a dark brown clay with root mat. However, in this level we encountered a midden like assemblage in which there was a relatively high artifact density. Artifacts recovered included a fair amount of ceramic sherds (n=115), faunal material, and lithic debris. Also found were one fish net weight, one ceramic bead, a chalcedony side-notched projectile point, and some small pieces of obsidian. Interestingly, several artifact classes (i.e., the faunal, obsidian, and ceramic material) were in very small pieces, similar to the material recovered from Subop 2a, as if the deposit had been severely trampled on.

At the top of Level 3 (Lot 2028), approximately 20cm below the surface, was a lens of small limestone cobbles that may represent some kind of surface upon which the midden like assemblage of Lot 2027 was resting. Below these cobbles the soil immediately turned to a dark gray very dense clay that was almost impossible to screen through, even using a water screening technique. The artifact density in this level dropped significantly, although we continued to find small pieces of ceramics, lithic shatter and flakes, and faunal material.

Level 4 (Lot 2029) consisted of the dark gray very dense clay in the top 5cm, but became a lighter gray towards the bottom of the unit as it began to mix with the eroding marl from bedrock. The artifact density in Level 4 continued to decrease although a few ceramic and lithic artifacts were recovered. Level 5 (Lot 2030) was light gray clay lying on bedrock in which no artifacts at all were encountered.

Stratigraphy of Subop 2e
The profile of Subop 2e revealed three main soil strata: The first was a very dark brown organic clay like soil with root mat. The great majority of artifacts were encountered in this layer, which ranged in thickness from 18-23cm. The second stratum was a dark gray, very dense clay with few artifacts. This layer ranged in thickness from 13-18cm. The third stratum was a light gray clay that lay over bedrock that was completely sterile and was approximately 13cm thick. Bedrock was encountered at 44-54cm below the surface.

Conclusion

Testing on the shores of Progresso Lagoon was successful in meeting the goals we set out to achieve during the 1998 field season. The testing at the site of Shangrila located a significant settlement on the shore of the lagoon that would be the logical place for a sister settlement of Caye Coco to reside. The presence of the majolica sherd, and the occurrence of several Terminal Postclassic/Early Colonial rim forms among the artifact assemblage recovered from Subops 2a, 2g, and 2e all suggest that this settlement may indeed be the Colonial component of the Caye Coco Postclassic community. Moreover, the midden assemblage encountered in Subop 2e is a hopeful sign that some of the remains of this settlement may remain intact, undisturbed by the extensive construction of the unfinished Shangrila resort. Further excavations at this site are planned for the 1999 field season, to gain a greater understanding of the nature of this shore settlement.
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SECTION FIVE - SPECIAL STUDIES
Chapter 12

Preliminary Analysis of Lithics from Caye Coco, Caye Muerto, and the Shores of Progresso Lagoon 1998

Maxine H. Oland

This chapter presents a preliminary inventory and classification of chipped-stone tools recovered from Caye Coco, Caye Muerto, and the shores of Progresso Lagoon in the 1998 field season. The data also represent those lithic tools recovered during survey at Caye Muerto in the 1997 field season. Included in the analysis were the total lithic debitage from PR1, PR3, PR4, and PR5, and a portion of the tools (47.03% from Caye Coco, 24.06% from Caye Muerto, 0% from PR4, and 51.85% from PR5). As the complete tool data are not currently available, no broad conclusions may be made at this time. Further analyses of the tool assemblage, including use wear, distribution of lithic types across the landscape, and raw material identification, will address social and economic issues of the Postclassic in Northern Belize. A total of 364 lithic tools have been analyzed from Caye Coco. These include 356 tools made of chert, chalcedony, quartz-blends, and other siliceous materials found in Northern Belize, and 8 tools made of obsidian. A total of 32 tools from Caye Muerto, and 14 from PR5 have also been analyzed, all non-obsidian. Analysis of the full obsidian assemblage, including flakes, chips, chunks, blades, and cores, is not available at this time.

Classification for the lithic tools was based upon similar assemblages from the Postclassic site of Laguna de On (Masson 1993, 1997a, 1997b, Oland 1998). In addition, descriptions of the tools manufactured at the nearby lithic production center of Colha were used to identify formal tool categories (Shafer and Hester 1983, 1991).

Debitage analysis was performed on the 7704 non-obsidian lithic flakes and shatter recovered from PR1, PR3, PR4, and PR5 in the 1998 season. The flakes and shatter were collected through excavation from a 1/4” screen in the field. Shatter was defined as chips and chunks of lithic material, encompassing all forms of lithic debris other than platform bearing flakes, tool fragments, and cores. In the field laboratory, shatter was counted as burned or unburned pieces and discarded. Platform bearing flakes were also analyzed in the field laboratory, but were retained for further analysis. The flakes were counted as burned or unburned, and then analyzed for the degree of cortex present.

Burned lithic flakes and shatter could be representative of areas that were subjected to burning, as seen through varying frequencies of burned material. However, the data presented (Tables 12.1-12.4) do not differentiate burning by temporal periods. The modern-day burning of the milpa on Caye Coco has probably inflated the numbers of burned flakes and shatter presented in Table 12.1. Caye Muerto and the shore of the lagoon do not seem to be subjected to the same systematic burning patterns. A temporal analysis of each Subop on Caye Coco would be necessary to ascertain true variations in spatial burning frequencies. Burning of lithic debris could also be representative of heat-treating of the local cherts and chalcedonies in order to improve the quality of the material. It has been observed (Masson, personal communication) that tools and flakes made of superior Colha chert are less often heat-fractured. More investigation is needed to address this issue.
Formal and Expedient Lithic Tools

The 364 tools analyzed from Caye Coco include 50 blades, 6 hammerstones, 35 bifaces, 15 projectile points/knives, 16 scrapers, 197 utilized flakes, 22 utilized cores, 22 cores/core fragments, and 1 polished unifacial bit tool (Table 12.5). Only 8 of these tools are made from obsidian. The 32 tools analyzed from Caye Muerto (PR3) include 6 blades, 6 bifaces, 4 projectile points/knives, 1 scraper, and 15 utilized flakes (Table 12.6). Only 14 lithic tools in total were recovered from PR5, including 3 blades, 2 hammerstones, 2 projectile points, 1 utilized flake, and 4 core fragments (Table 12.7).

Formal tools, including oval bifaces, laurel leaves and lenticular bifaces, triangular bifaces, blades, stemmed blades, and projectile points, make up the minority of the total tools at Caye Coco, Caye Muerto, and PR5. From Caye Coco 19.78% of all analyzed tools fall under formal categories. From Caye Muerto 31.25% of analyzed tools are formal, and 42.86% are formal from (PR5), although the sample size for these Ops is smaller than from Caye Coco. Formal tools are thought to have been obtained primarily from Colha, similar to other such consumer sites as Laguna de On, Pulltrouser Swamp, and Santa Rita Corozal (Masson 1993; McAnany 1989, 1992; Dockall and Shafer 1993). Following the typical consumer pattern, the formal Colha tools found at Progresso Lagoon are often heavily retouched or recycled.

Expedient tools make up the bulk of the analyzed tools from all Ops (80.22% from PR1, 68.75% from PR3, 57.14% from PR5). Expedient tools are thought to be locally made, due to their frequency in the archaeological record. Most expedient tools are made from lower grade materials such as chalcedonies, quartz-blends, and coarse cherts that are locally available in the Freshwater Creek vicinity. Expedient tools are less often recycled than are formal tools, due to the inferior quality of their raw materials.

Evidence for lithic production is limited at Progresso Lagoon. Hammerstones are present in low numbers among the analyzed tools (Tables 12.5-12.7). There are also relatively few cores/core fragments, and utilized cores, used as hammerstones and choppers, are not frequent. Tertiary flakes make up the majority of flakes at all four Ops, while there are very few primary flakes, implying little primary reduction (Tables 12.1-12.4).

Raw Materials

From lithic raw material survey completed in the Freshwater Creek Drainage area (Hester and Shafer 1984, Oland 1998), it is known that some stone raw materials are locally available in the vicinity of Progresso Lagoon. Survey around Honey Camp Lagoon and Doubloon Bank Lagoon in the 1997 season revealed significant outcrops of primarily clear chalcedonies and cloudy chalcedony-quartz blends (Oland 1998). This survey was continued in the 1998 field season. Limited outcrops of quartzite and chalcedony-quartz blends were found very close to the southwest shore of Progresso Lagoon, but the chalcedony bearing zone, of which Honey Camp Lagoon seems to be a part, appeared to extend only as north as Chan Lagoon. The majority of the area around Progresso Lagoon seemed devoid of lithic raw material sources. Those materials that were found near Progresso Lagoon were very coarse and rough in quality. Chert was naturally occurring in the soils of Caye Coco, but in very small pebble form, and with a thick cortex. These tiny nodules were most often identified only when they had been cracked open by the modern milpa fires. The raw materials represented in the analyzed tools from Caye Coco (PR1) show a heavy reliance on Colha chert. Preliminary raw material analysis yielded the following frequencies: Colha chert 25.27%; chalcedony 21.70%; patinated low-grade chert 11.81%; chalcedony-quartz blends 11.54%; coarse grain cherts 5.77%; quartzite 3.02%; obsidian 2.20%; and hard limestone rock 0.54%. Tools that were burned or subjected to anaerobic patination (usually from being in water),
were not analyzed for raw material. These lithics represented 18.13% of the total analyzed tools from Caye Coco.

Too few tools were analyzed from Caye Muerto and PR5 to make broad assessments of raw material utilization. Raw material frequencies at Caye Muerto are as follows: CoIba chert 40.63%; chalcedony 25.00%; and chalcedony-quartz blends 15.63%. Similar to Caye Coco, 18.75% of the tools from Caye Muerto were not typed due to burning or damage from the water. Patinated low-grade chert and other coarse cherts were not represented in the sample analyzed thus far. Analyzed tools from PR5 show the following frequencies: CoIba chert 43.75%; patinated low-grade chert 18.75%; chalcedony 12.50%; and chalcedony-quartz blends 6.25%. Burned and water-damaged lithics represented 18.75% of the total tools from PR5.

Further study is planned to examine the dynamics of intercommunity exchange in Northern Belize through raw material frequencies at Caye Coco and Laguna de On. The only foreign raw material among the chipped-stone tools at Progresso Lagoon was obsidian. CoIba chert tools were an important resource at Caye Coco and the other sites around the lagoon, and were probably acquired in manufactured form. Other lithic resources such as chalcedony, chalcedony-quartz blends, patinated low-grade chert and other coarse grain cherts, and quartzite, were more likely acquired in raw form from the Freshwater Creek vicinity and manufactured on a small-scale basis. No lithic workshops implying large-scale manufacture or craft specialization, such as those at Colha (1983, 1991), have been found in this area, although a small workshop area was identified at Kichpanha (Gibson 1982, Shafer 1982). A probable lithic quarry was also identified near Doubloon Bank Lagoon (Oland 1998), as evidenced by a number of weathered tested cobbles, and many different types of chalcedonies and chalcedony-quartz blends.

Summary

In summary, although the lithic data are limited from the sites at Progresso Lagoon, this preliminary analysis sets the stage for more detailed examinations of exchange, internal social stratification, and intercommunity relations. A variety of expedient and formal tool types speaks to the diverse functions of Caye Coco, Caye Muerto, and PR5. The flake analyses, in which almost all of the flakes were tertiary in cortex, are significant in understanding lithic production and recycling patterns. Combined with the raw material data, the cortex ratios contribute to an examination of local economy, as seen through stone tool production and consumption. These lithic data represent external relationships with the manufacturing center of Colha. Further spatial and temporal analyses, combining lithic data with other forms of artifact analysis, will be completed in order to better understand dynamics of Postclassic social and political organization. Regional survey of lithic raw material sources will be continued in the 1999 field season at Progresso Lagoon.
References Cited

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Gibson, Eric C.

McAnany, Patricia A.


Masson, Marilyn A.
1993 *Changes in Maya Community Organization from the Classic to the Postclassic Periods: A View from Laguna de On, Belize*. Ph.D. dissertation. Department of Anthropology, the University of Texas at Austin.


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Shafer, Harry J.

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Table 12.1. Debitage from Caye Coco (PR1) 1998. Burned and unburned platform-bearing flakes (br flks and unbr flks) and lithic shatter (br sh and unbr sh). Cortex analysis of total platform-bearing flakes.

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Table 12.2. Debitage from Caye Muerto (PR3). Burned and unburned platform-bearing flakes (br flks and unbr flks) and lithic shatter (br sh and unbr sh). Cortex analysis of total platform-bearing flakes.
Table 12.3. Debitage from (PR4) 1998.

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Table 12.7. Analyzed chipped-stone lithic tools from Shangri La (PR5) 1998.

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</table>
Figure 12.1. Formal lithic tools from Caye Coco, 1998 season. The majority of formal tools from Progresso Lagoon are made of Colha chert and highly curated. From top left, bifacial stem of a stemmed blade, distal oval biface celt, medial biface celt. See also Appendix E.
Figure 12.2. Expedient lithic tools from Progresso Lagoon, 1998 season. Top, utilized flake; center left, utilized flake/scraper; center right, scraper; bottom, utilized flake.
Chapter 13

Mapping and 3D Modeling of Caye Coco

Timothy S. Hare, Laurie Campbell and Steve Durivage

Several new technologies enable archaeologists to quickly produce detailed settlement maps for spatial analysis, visualization and reconstruction. We are using these technologies to provide the spatial contextual data necessary for explaining Maya society at Caye Coco. Our goal is to provide contour and surface maps in order facilitate anthropological analysis, and the construction of a three-dimensional (3D) interactive virtual reality data management and analysis system. Our goals include:

1. The mapping of topographic and archaeological features at Caye Coco.
2. The generation of contour maps to facilitate ongoing researches and aid in spatial analysis.
3. The generation of a three-dimensional surface model as the base for 3D modeling and, of course, to create pretty pictures).
4. The computer aided reconstruction of environmental features such as the lagoon, vegetation and sky.
5. The computer aided reconstruction of archaeological features such as wall-lines and mounds.
6. The digitization of excavation data.
7. The draping of reconstructed features and excavation data over the 3D surface in an interactive visualization system.
8. The entry of tabular data into relational databases.
9. The linking of the virtual reality model with the tabular archaeological data within a GIS program for querying and statistical analysis.

The result will be two 3D models of Caye Coco. The first model is a reconstruction of Caye Coco at the time of archaeological investigations. The second model is a reconstruction of Caye Coco during the period of Postclassic occupation. Both models will be rendered in an interactive and navigable 3D virtual world and queryable through relational links to tabular data. These models will integrate mapping, data management, visualization, and analysis within an online archaeological information system (AIS). This system will store artifact, feature and architectural data in their 3D environmental context and provide analytical tools for statistical, view-shed, cost-surface and catchment area analyses within a virtual world that allows user controlled walk- and fly-through.

Mapping

During the summer 1998 field season, Timothy S. Hare directed mapping of Caye Coco and with the aid of several field school students generated a detailed dataset of the island's topography. We used an electronic total station (ETS) to record approximately 3000 data points with location and elevation data. We also recorded points and lines outlining architectural features including isolated rock walls, stone disks, looter's pits, and mounds. These data were transformed into contour maps (Figure 13.1). The architectural features can be draped over the contour maps to facilitate analysis of the settlement system.
Surface Modeling and Virtual Reality

During the fall of 1998 Hare and Steve Durivage used the Caye Coco map data to generate the topographic surfaces that are the foundation of the 3D virtual archaeological world. The data points were imported into MicroSurvey CAD Pro 3.1 and the three-dimensional surface mesh and associated contour maps were generated using the integrated QuickSurf 5.1 modeling system. We built our 3D surface mesh using QuickSurf's triangulated grid option with a cell size of 1.25 meters to retain surface details. Once the surface was generated and the boundary set, the project mesh was exported to AutoCAD for further surface enhancements and view settings.

The final rendering was implemented using Art-Lantis Render 3.0. As illustrated by the plan view map (Figure 15.2), Art-Lantis Render was very effective at revealing architectural details and other surface anomalies. The island's surface came to life and features such as the looter's pits and mounds became much more discernable (Figure 15.3).

Not only will these rendered images of Caye Coco assist in our reconstruction of a Mayan society through visualization, they will also increase our ability to communicate, remember and analyze our data through continual photographic representation.

Architectural Reconstruction

Architectural features are reconstructed in several different ways and for different purposes. Architectural reconstructions are usually created using recorded data, with gaps being filled in using ethnographic analogy. Reconstructions until recently were rendered as paintings or drawings, but both methods tend to be theoretical and imaginative (Adkins and Adkins 1989). Such reconstructions are not considered true representations and cannot be used as evidence for comparisons or generalizations. As Lesley and Roy Adkins point out “more and more reconstructions are being done as there is a move towards the more effective presentation of archaeological evidence to the general public (1989: 131).” They believe that “reconstructions contribute towards a better understanding of particular aspects of archaeology and also assist in the presentation of the subject (1989: 131).” Besides using the simple methods of reconstruction mentioned above, another method that is being more widely used is creating a three dimensional model on computer, also known as virtual archaeology (Forte and Siliotti eds. 1996, 1997). The advantages of virtual archaeology include a three dimensional view of the site, which could not be fully achieved on paper, as well as a chance to better view the spatial context of artifacts and structures.

Progress and Data

The most important aspect of any reconstruction is to maintain a high level of accuracy. For this purpose Laurie Campbell compiled data from many archaeological and ethnographic sources (e.g. Andrews 1975, Proskouriakoff 1963, Smith et al. 1962, Wauchope 1934) on the subject of Maya building technologies and architectural styles. Campbell grouped the data into categories: mound types, wall types, roof types, and details such as decoration or added elements. The architectural characteristics provide us with a consistent basis for accurately reconstructing Postclassic Caye Coco. We are currently comparing these data to the data collected at Caye Coco during the 1997 and 1998 field seasons (Masson and Rosenswig eds. 1998) to prepare for adding the architectural reconstructions to Virtual Caye Coco.

To further aid in the analytical value of our project, we are constructing two models: Virtual Archaeological Caye Coco (VACC) and Virtual Postclassic Caye Coco (VPCC). VACC will integrate all archaeological data on the island and VPCC will be a researched reconstruction of
what we believe to be an accurate view of the island during Postclassic Mayan occupation. By producing two parallel models we provide a method for differentiating the archaeological data from the reconstruction and avoid ambiguous presentations of the data.

Conclusion

Thus far, we have achieved our first three goals; to map Caye Coco, to generate contour maps, and to construct the basis for 3D modeling. We can now generate maps and 3D images of Caye Coco showing the location of architectural features. The goal of our project, however, is to construct not only visually appealing images, but also a spatial analytical research tool. Toward this goal we are currently preparing the architectural reconstructions and placing environmental features in the model. We are applying new computer technologies to generate an interactive, three-dimensional, GIS and visual data management and analysis system.

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Figure 15.1  Caye Coco Contour map with architectural features.
Figure 15.2  Plan-view rendering of Caye Coco.
Figure 15.3 Perspective from shore south toward mound 1.
Chapter 14

Preliminary Observations on Ceramic Development at Caye Coco

*Marilyn A. Masson and Georgia West*

The 1998 Ceramic Analysis Project

Efforts at ceramic analysis were concerted at the end of the 1998 season, when students and volunteers assisted the authors with the typological classification of nearly every lot of ceramic sherds collected this summer from Caye Coco, Caye Muerto, and Progresso west shore sites. These typological classifications were aided by earlier conversations and consultations during the 1998 season with George Bey and Shirley Mock, both of whom visited the project for this purpose. Our classifications from this summer built upon a type collection established from Laguna de On during earlier seasons by Mock (1997, 1998), and it was aided by the greater quantity, quality of preservation, and diversity of ceramics that appear to be present at Caye Coco compared to those of Laguna de On. In addition, the deep midden deposit encountered by Barrett (this volume) in Subop 18 offered new opportunities for diachronic comparisons of changes in Postclassic ceramic types over time which was not possible for the relatively shallower and more chronologically compressed deposits at Laguna de On. The Subop 18 midden has the potential to provide an index of diachronically sensitive types and attributes that can be used for chronological placement of other contexts at this site and at Progresso Lagoon and Laguna de On.

Past and Present Machinations Over Chronology

It has been customary, in the last two years of reports published in this series (Masson and Rosenswig 1997, 1998), for the senior author of this chapter to provide an overview of her current thinking on site chronology and diachronic trends. This inclusion has been intentionally eliminated from the introductory chapter of this volume, as it has become clear that our understanding of Postclassic ceramic trends is increasing and evolving with each new year of investigations and each analysis of a season’s sample of sherds. Previous discussions of site chronology in this series (Masson 1997, 1998) attempted to place Laguna de On in the context of other published chronologies, in an effort to contend with the use of “Early Postclassic” and “Middle Postclassic” divisions that were distinct from “Late Postclassic” assemblages in interpreted for other sites (Valdez 1987, Graham 1987). These divisions at Laguna de On were not clear in preliminary analyses of data from this site, however, nor were they quantitatively demonstrated at this early stage of research as we were only just establishing a type collection and classification system for this site.

Later in 1998, with the first initial quantification of this preliminarily classified sample, the presence of common types in the lowest through highest levels of the site led the senior author to propose that a continuum of ceramic production is represented at Laguna de On, a pattern observed with the aid of AMS dates (Stafford 1998) to extend from the 11th-15th centuries. Chronological divisions within Laguna’s sequence are thus thought to be best represented as Early and Late Facets of the Late Postclassic, generally following the chronology assigned to the nearby site of Santa Rita (Chase and Chase 1988:Table 1, Masson and Stafford 1998, Masson 1999).
These divisions are also partly based on differences in feature patterns from the earlier and later deposits at this site, dated by absolute means (Masson and Stafford 1998, Masson 1999). More variability probably exists in the Laguna de On sample than is currently documented in ceramic analysis data sheets, which represent our first “run through” in classification at this site. The sample is currently being re-analyzed by graduate students at The University at Albany, with the goal of refining typological distinctions, temporal trends, and attribute variability that is separate from the type:variety system. The work at Caye Coco, described below, is also helping in this effort.

Caye Coco Ceramics

Because of the diversity and quality of ceramics represented in the Subop 18 midden, the authors chose to analyze these lots first as a way to train our eyes to the full array of ceramic types at Caye Coco. This was an effective approach which greatly augmented our ability to recognize types among the less abundant and more eroded lots from other excavation areas. It is felt, however, that the Subop 18 sample must be re-analyzed during the forthcoming 1999 season to further fine tune the identifications in these lots and to document rim form variability and diameters within typological groups. Many forthcoming studies of Caye Coco’s ceramics are anticipated, and the purpose of this chapter is twofold. First, we would like to offer a brief synopsis of diachronic trends observed in the Subop 18 levels and other excavation areas. Second, we would like to record the criteria by which we assigned new typological (working, preliminary) names to types that did not previously exist in the type collection so that those who follow in subsequent work at this site will be able to replicate our identifications.

A Brief Synopsis

Table 1 provides a list of types identified at Caye Coco, and the numbers of sherds in each category. Diachronic quantification of these results will be presented elsewhere (Masson and Mock 1999), and the following represent a synopsis of notes on ceramic lot forms recorded in the field in 1998. Perhaps the most interesting observation in the Subop 18 midden is that the lowest levels (Levels 5 and 6) of these three 1X2m units exhibited greater quantities of three types of ceramics, including 1) Zakpah Orange Red, 2) Developmental Payil (“Muddy Payil/Slate”), and 3) a range of sandy paste and other unrecognized unslipped sherds. Zakpah Orange Red shares forms (sag bottom tripod dishes, with occasional incising basal flanging) with later Payil (Mock 1998), but it is much more crudely made. The slip is more prone to eroding away, and the paste is crumbly and exhibits internal heterogeneity suggestive of differential firing. The “Muddy/Slate Payil” is a new form, which also exhibits characteristics of later Payil, such as bowls and sag bottom tripod dishes and incising, but its homogenous appearing paste is much more silty, chalky, and erodible to the touch and the slip is a buff color or eroded away. In some specimens, small flecks of calcite appear in the paste, which is an attribute of Payil, but the high-fired, rock hard, technologically superior appearance of true Payil appears absent in these early specimens. Small numbers of Payil sherds are present in the earlier levels, and it is thought that these contemporary less well-made forms represent experimentations with technology as Payil is fully developed and standardized over time. The presence of a great variety of sandy paste (and other) unslipped types also suggests that Santa Unslipped is being developed and perfected over time and that it is not fully established at the time the assemblage from these lower levels was demonstrated.

Payil appears in force by the middle levels of these units (Level 4), where it remains prevalent through the final surface layers, as these earlier types disappear. There were many types
of Payil represented in these samples. For the first time in this project's history, it was recognized that Payil Red wares can also exhibit buff, black, or even olive slip characteristics. The recovery of a large bowl fragment from a burial in Subop 13 exhibited red, buff, and black slip zones on a single partially reconstructed vessel. This variability is attributed to factors of firing, and evidence has not been found for the intentional manufacture of black or buff ware vessels in the true Payil tradition. The identification of black and buff fired Payil sherds was easily accomplished by their thin wall, well-applied slip characteristics, their hard well-fired consistency (and customary "clank" when dropped on the table) and fine, powdery, "snowflake" calcite inclusions in buff-to-grey pastes. They were recovered along with Payil Red sherds in the same levels of Subop 18, demonstrating their contemporaneity. Another form of Payil recognized was Payil Coarse, a type established by Mock during the previous season (1998). Payil coarse sherds appear to represent different forms, notably large long necked, lugged ollas and perhaps others as well. Specifically, these forms represent those previously recognized for Rita Red (Chase 1982), as well as Mama Red at Mayapan (Smith 1971). The rougher paste of Payil coarse would occasionally exhibit tiny porous cavities where calcite had been leached from the paste. This paste also exhibited a "two tone" characteristic, with one side exhibiting a more traditional Payil grey color, and the other half exhibiting a red color. This effect was regular and even, effectively dividing the paste in half in a layered "cookie" like appearance. Its cause is not known, but it does not appear to be the product of unintentional firing defects.

Other Payil sherds in the top three levels were classified as Payil/Rita transitional as it was difficult to determine whether they were Payil or Rita Red or a fusion of these two technologies. It is not clear from our current observations whether Rita actually develops out of Payil, in fact, our inclination is that it does not, as Rita Red wares appear in the same lots with the "transitional" wares. The latter probably represent wares that are closely related to each other. An additional type of ceramic that we ultimately subsumed under the Payil group was a type named "Mi Amor Red" which Shirley Mock had named earlier in the season. Mi Amor Red has a dark matte red slip on a distinctive, hard, homogenous grey paste that appears related to the harder Payil grey paste, calcite tempered sherds and occasionally exhibits some of these finely powdered calcite inclusions as well. These sherds are primarily in the form of long necked jars.

The upper two levels of the columns show the significant addition of Rita Red wares to the assemblage. This pattern suggests that these wares are later in time than Payil, as suggested at Santa Rita (Chase and Chase 1988). However, at Caye Coco, the manufacture of Payil continues through the levels where Rita is found, and replacement does not appear to occur as it does at Santa Rita (Chase and Chase 1988). Rita Red, for the purpose of this analysis was identified primarily by paste characteristics, as all ceramics analyzed were in fragmentary sherd form. Forms of Rita in this sample shared attributes with Payil, and overlap was observed in tripod footed sag bottom bowl dishes, bowls, slipped ollas, and large lugged jars. Rita did appear to exhibit a folded rim olla form that Payil did not. Rita pastes were generally brick-like and red in color, occasionally with coarser inclusions. Sometimes, but not always, Rita slips would be more prone to erosion than those of Payil. Distinguishing Rita from Payil was often very difficult, and required much consultation between the authors, and many sherds were assigned to the category "Rita or Payil" because of insufficient criteria for their distinction. This occurred most often in thick, Payil Coarse sherds that appeared to have lost much of their grey, calcite tempered Payil-like paste characteristics and exhibited more of a solid red paste.

A further type that was newly distinguished in the sorting from the 1998 season was that of Red Santa. Many lots were sorted before this type was finally recognized, and reanalysis may pull more of these out of the "unidentified red slipped" category. An alternative name that was used on a preliminary basis for this sorting was "Payil chunky," based on the large pieces of grit and calcite that appear in the paste of this type. It was ultimately decided that the size of these
inclusions more closely resembled Santa Unslipped than Payil, which, by its definition has an extremely fine paste. Red Santa appeared to represent small thin walled bowls and ollitas made on a coarse paste and covered with a red wash or poorly adhering slip. It is interesting to observe some of the crossover in forms between the Santa Unslipped group, which is very diverse, and the Payil and Rita groups. Both Rita and Santa share folded rim ollas, though the former are much smaller. Small bowls appear common to Santa and Payil. Applique decorations, notably filleted impressed and stuccoed Santa wares are also shared by Rita in this assemblage. Santa Unslipped appears contemporary with Payil and Rita Red, and it is present in low numbers in the basal levels of Subop 18. Generally, the trend observed over time at Caye Coco is the development of Payil and Santa Unslipped as the dominant utilitarian wares of this site, joined by Rita Red in the latter part of the sequence. Over time, greater technological skill is exhibited, and greater diversity in forms are observed for each type. Such development over time is also noted for Postclassic wares of the Peten Lakes region (Rice 1980:79-80).

Other types listed in Table 1 have been more fully described in previous works by Mock (1997, 1998). Hopefully, this initial inroad into the variability of the Caye Coco assemblage will be more fully developed in future ceramic analysis projects at this site.

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Masson, Marilyn A. and Shirley Boteler Mock

Mock, Shirley Boteler


Rice, Prudence M.

Smith, Robert E.

Stafford, Thomas W. Jr.

Valdez, Fred, Jr.
Table 14.1 Caye Coco Ceramic Assemblage - Totals of Identified Sherds from the 1998 Season

<table>
<thead>
<tr>
<th>Slipped Wares</th>
<th>Unslipped Wares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payil Red</td>
<td>867 Kol Modelled</td>
</tr>
<tr>
<td>Payil olive or buff</td>
<td>238 Cehac-Humacti Composite (Santa Applique)</td>
</tr>
<tr>
<td>Payil: Mi Amor Red</td>
<td>92 Santa Unslipped</td>
</tr>
<tr>
<td>Payil/Rita</td>
<td>1235 Santa Unslipped Flannel</td>
</tr>
<tr>
<td>Payil &amp; Rita Incised</td>
<td>162 Santa Unslipped Coarse</td>
</tr>
<tr>
<td>Payil &amp; Rita Grater</td>
<td>17 Santa Unslipped Stucco</td>
</tr>
<tr>
<td>Rita Red</td>
<td>793 Santa Unslipped Incised/Punctated</td>
</tr>
<tr>
<td>Rita Unidentified (mottled)</td>
<td>18 Navula Unslipped ladle censer</td>
</tr>
<tr>
<td>Rita Applique</td>
<td>3 Tsabak</td>
</tr>
<tr>
<td>Rita Stucco</td>
<td>3 Unidentified Red Striated</td>
</tr>
<tr>
<td>Zakpah</td>
<td>281 Unidentified Grey Striated</td>
</tr>
<tr>
<td>Red Santa</td>
<td>336 Unidentified Buff Striated</td>
</tr>
<tr>
<td>Unidentified Black rim buff ware</td>
<td>2 Unidentified Striated</td>
</tr>
<tr>
<td>Unidentified Black slip</td>
<td>64 Unidentified Brown Sandy</td>
</tr>
<tr>
<td>Unidentified Brown slip</td>
<td>5 Unidentified Buff Sandy</td>
</tr>
<tr>
<td>Unidentified Brown slip stucco</td>
<td>2 Unidentified Red/Pink Sandy</td>
</tr>
<tr>
<td>Unidentified Red slipped</td>
<td>146 Unidentified Red Sandy</td>
</tr>
<tr>
<td>Unidentified Cream ware</td>
<td>16 Unidentified Black Sandy</td>
</tr>
<tr>
<td>Unidentified slipped</td>
<td>72 Unidentified Grey Sandy</td>
</tr>
<tr>
<td>Eroded slipped</td>
<td>3370 Unidentified Misc. Sandy</td>
</tr>
<tr>
<td>Red Haired Mama</td>
<td></td>
</tr>
<tr>
<td>Yglesias Unslipped</td>
<td></td>
</tr>
<tr>
<td>Other Unslipped</td>
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<tr>
<td>Unidentified Unslipped</td>
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<tr>
<td>Total Slipped</td>
<td>7722</td>
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<tr>
<td>Total Unslipped</td>
<td>10607</td>
</tr>
<tr>
<td>Unidentified unslipped or eroded slipped</td>
<td>2111</td>
</tr>
<tr>
<td>Grand total</td>
<td>20440</td>
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</table>
Chapter 15
Experiments in Ceramic Technology
Anne Deane

LAGUNA DE ON CLAY EXPERIMENTS 1997

During the 97 season at Laguna de On there was some speculation about the use of pits found on the island. These pits were fired blackened and it was thought that they may have been used as kilns to fire the plentiful supply of local white clay found in pockets of bedrock at Subop 19. To experiment with firing the clay was the next obvious step and to examine the similarity between the newly fired clay and the ceramic sherds being unearthed on the island.

The clay was a white-to-light-grey color, with a high proportion of marl inclusions. Large pieces of marl were removed. And the clay was mixed with water to gain an even consistency. When the excess water had evaporated in the sun the clay was wedged, rolled and cut to make several tiles. It became clear at this stage that further refinement would be needed if the clay was to be used for making pots. The high content of marl made coiling extremely difficult as the coils cracked and dried too quickly. However, at this stage we were only interested in the firing process and the type of ceramic produced.

A small pit was dug back at base camp, approximately 2 feet deep by 1.5 x 2.5 feet. The tiles were stacked into the spaces of a cinder block, which was lowered into the pit. The block was used to protect the tiles during the firing process and to prevent fire clouds, i.e. the deposition of carbon on the pot as a result of direct contact with the flames. A fire was made in the pit using dry vegetation and wood, this was continually added to over the course of the afternoon, possibly 2 to 3 hours. When the wood had burnt down soil was thrown back onto the pit to allow the firing to cool down slowly.

The pit was opened next morning, and all the tiles appeared to have through the ceramic change. This is the point at which clay becomes ceramic and will not regain its plasticity when in contact with water, to attain this change to temperature in excess of 550 C is required. The color of the clay had not changed significantly during the firing process and closely resembled that of the flannel sherds found at the site. However, the paste used to produce these vessels was far more refined, without the heavy marl content, and what appeared to be an addition of calcite.

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The idea of continuing with the firing project gathered pace this season with the help of Earthwatch volunteer, Steve Reeves, who is an art teacher and potter. Three samples of clay were acquired, two from sites on Caye Coco, and one from a nearby swamp site, K'axob, being investigated by Dr. McAnany from Boston University. The two from Caye Coco were very different, one being light grey almost white in color, and the other black. Eventually the black clay was discarded due to its high organic content. The clay from K'axob was dark grey in color.
These remaining clays were mixed with water and sieved through fine mesh to remove organic material, marl etc. and left in the sun for the excess water to evaporate.

Several vessels were handbuilt using improvised tools and coiling techniques, it soon became apparent that the K’axob clay was easier to work, being the more plastic of the two. The Caye Coco clay was gritty despite the sieving, cracked easily when coiled, and collapsed under its own pressure. Only two vessels from this clay survived the drying and firing process.

This year it was decided to have an open firing on the island. A fire would not interfere with the integrity of the site as Fabian and Deodoro Perez who live on the site regularly build fires for agricultural purposes. There was also an excitement about firing pots on a Mayan site for the first time in several hundred years. Added to this was the uncertainty about open firing which, by its very nature, is difficult to control especially in the hands of novices. Below is a description of the process in steps.

Step 1

The vessels were laid on the metal surface which was raised on large rocks, leaving a space underneath, which was filled with dry tinder vegetation. The fire was started here and the draft created in the space under the metal helped in igniting the rest of the structure.

Step 2

The pots were laid on the sheet of metal. An additional sheet of metal was laid over the pots to protect them from contact with the flames and prevent fire clouds.

Step 3

Dry branches were stacked vertically, “teepee style” all around the vessels and their rock and metal encasement. The eventual height of this branch structure was approximately seven feet.

Step 4

The structure was ignited. Because of the materials used and the way the structure was built, the fire took hold easily and it was not necessary to use flammable chemicals.

Step 5

The fire burnt rapidly and the firing was finished with 45 minutes. At this stage the pots were still too hot to move without long handled tongues.

Final Results

The collection of pots showed clear distinction in color between the clays. The results of the firing were not entirely successful, as while the temperature had reached the required level for the ceramic change to have taken place on most of the superficial areas of the pots, the short firing time had resulted in the inner layer not being completely changed. This may have been a common occurrence in pots fired this way (Gibson and Woods 1997). Gibson and Woods comment on firing processes as follows:

"There are several tall tale signs which immediately allow us to distinguish open-fired from kiln-fired vessels. Firstly, it is difficult to control the atmospheric conditions in an
open firing and they will be constantly changing; as a result, the surfaces of open fired vessels are usually blotchy and uneven in color and frequently feature fire clouds (black patches caused by the deposition of carbon as a result of direct contact with the smoky flames or partially burnt fuel). Secondly, the vessel walls usually exhibit a black central zone when seen in section. This blackness is most frequently a result of incomplete combustion of carbonaceous material naturally occurring in the clay and it is indicative of a short firing time, as is typical of open firing; if firings last for several hours (as usually happens, for instance, in a kiln), the hear and oxidising gases present have more time to penetrate the vessel walls and thus ensure that the clay is completely fired and oxidised.”

Our vessels exhibited both of these characteristics. It is interesting to note that only a small percentage of ceramics found at Laguna de On and Caye Coco exhibit these characteristics. From this, we may draw the conclusions that either the vessels were fired in kilns, for which there is no supporting archaeological evidence on these sites, or that they were fired in pits or through more prolonged and proficient efforts at surface firing than were performed in these experiments. However, it may be said without doubt, that there is certainly a plentiful supply of good raw material available for the manufacturing of ceramics in this area.

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## APPENDIX A: 1998 Burials recovered from Caye Coco

*Robert M. Rosenswig*

<table>
<thead>
<tr>
<th>Burial Number</th>
<th>Subop</th>
<th>Year</th>
<th>Sex</th>
<th>Age</th>
<th>Type</th>
<th>Body Position</th>
<th>Oriented</th>
<th>Facing</th>
<th>Association</th>
<th>Dental Observations</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13/13a</td>
<td>1998</td>
<td>F</td>
<td>35-50</td>
<td>flexed</td>
<td>sitting</td>
<td>sw</td>
<td>sw</td>
<td>cemetery 1</td>
<td>4 mandibular incisors filed and extensively worn; 3 maxillary incisors filed, 4th not recovered; 2 carries in 20 teeth recovered; mandibular left PM2 and all 3 molars missing and bone resorption complete</td>
<td>grave goods include: 1 obsidian flake recovered from under atlas; conch shell cup</td>
</tr>
<tr>
<td>2</td>
<td>13/13c</td>
<td>1998</td>
<td>M</td>
<td>adult</td>
<td>flexed</td>
<td>sitting</td>
<td>up</td>
<td>w</td>
<td>cemetery 1</td>
<td>26 teeth recovered: 3 carries, cementum build up on right maxillary canine</td>
<td>Fronto-occipital cranial deformation; grave goods include: 1 obsidian blade frag., 1 bone bead, 1 greenstone bead</td>
</tr>
<tr>
<td>3</td>
<td>13/13d</td>
<td>1998</td>
<td>F</td>
<td>50+</td>
<td>flexed</td>
<td>sitting</td>
<td>down</td>
<td>w</td>
<td>cemetery 1</td>
<td>all mandibular teeth except for 2 left incisors, missing and bone resorption complete; only 2 maxillary teeth found—both incisor, each with a carrie</td>
<td>Fronto-occipital cranial deformation; 1 complete red-slipped sag bottom, vented-foot tripod bowl recovered as the sole grave good</td>
</tr>
<tr>
<td>4</td>
<td>13/13e</td>
<td>1998</td>
<td>indet.</td>
<td>3-4</td>
<td>flexed</td>
<td>sitting</td>
<td>w</td>
<td>w</td>
<td>cemetery 1</td>
<td>1 of 6 teeth recovered has a carrie; 2 of 3 incisors recovered were filed to points</td>
<td>adult premolar found with this child</td>
</tr>
<tr>
<td>5</td>
<td>15c/15e</td>
<td>1998</td>
<td>indet.</td>
<td>adult</td>
<td>flexed</td>
<td>sitting</td>
<td>--</td>
<td>--</td>
<td>Mound 4</td>
<td>2 of 19 teeth recovered have carries; 1 incisor filed; teeth very worn</td>
<td>bone preservation too poor to ascertain sex; grave goods include: 1 complete conch shell, 1 hammer stone, 2 net weights, 1 spindle whorl, 1 stone bead</td>
</tr>
<tr>
<td>6</td>
<td>15c/15f</td>
<td>1998</td>
<td>indet.</td>
<td>adult</td>
<td>flexed</td>
<td>sitting</td>
<td>--</td>
<td>--</td>
<td>Mound 4</td>
<td>skull and femur missing due to pit dug by landowner who disposed of the remains</td>
<td>bone preservation too poor to ascertain sex; grave goods include: 4 net weights, 1 conch shell</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>1998</td>
<td>F?</td>
<td>adult</td>
<td>flexed</td>
<td>left side</td>
<td>--</td>
<td>--</td>
<td>cemetery 1</td>
<td>Fronto-occipital cranial deformation; porotic hyperostosis on back of skull indicating nutritional stress; extra frontal bone recovered with this burial</td>
<td>burial not excavated; samples taken for isotope analysis and dating purposes; stratigraphic association indicates that this burial dates to an earlier period than the others excavated in 1998</td>
</tr>
<tr>
<td>8</td>
<td>13</td>
<td>1998</td>
<td>F</td>
<td>20-21</td>
<td>flexed</td>
<td>sitting</td>
<td>w</td>
<td>w</td>
<td>cemetery 1</td>
<td>4 of 30 teeth recovered have carries</td>
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# Appendix B

## List of Lots for Caye Coco and Progresso Shore, 1998 Season

<table>
<thead>
<tr>
<th>Date</th>
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<th>OP</th>
<th>SOP</th>
<th>Init</th>
<th>Description</th>
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<tr>
<td>22-Jun</td>
<td>500</td>
<td>1</td>
<td>11</td>
<td>MO</td>
<td>top soil level 1 1x1m latrine unit #1</td>
</tr>
<tr>
<td>22-Jun</td>
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<tr>
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<td>12</td>
<td>MO</td>
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<tr>
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<td>13</td>
<td>MA</td>
<td>top soil level 1 2x2m</td>
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<tr>
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<td>504</td>
<td>1</td>
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<td>GW</td>
<td>top soil level 1 2x3m</td>
</tr>
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<td>12</td>
<td>MO</td>
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<tr>
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<td>15</td>
<td>JB</td>
<td>top soil level 1 1/2 x3 in center of str. 4</td>
</tr>
<tr>
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<td>509</td>
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<td>15a</td>
<td>JB</td>
<td>top soil level 1 1/2 x3 in central platform at south side of str. 4</td>
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<tr>
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<td>510</td>
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<td>13</td>
<td>MA</td>
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<tr>
<td>24-Jun</td>
<td>511</td>
<td>1</td>
<td>16</td>
<td>MO</td>
<td>top soil mixed with bedrock 1x2m south of well 4</td>
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<tr>
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<td>512</td>
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<td>13</td>
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<td>dark soil with ceramics in SE corners</td>
</tr>
<tr>
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<td>513</td>
<td>1</td>
<td>16</td>
<td>MO</td>
<td>level 2 arbitrary 10 cm</td>
</tr>
<tr>
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<td>514</td>
<td>1</td>
<td>16a</td>
<td>MO</td>
<td>top soil level 1 lower terrance</td>
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<tr>
<td>25-Jun</td>
<td>515</td>
<td>1</td>
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<td>MA</td>
<td>top soil level 1 1x3.5m south sap 13</td>
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<td>MA</td>
<td>burial # 1</td>
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<tr>
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<td>GW</td>
<td>top soil level 1 5m^2 units</td>
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<td>519</td>
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<td>MA</td>
<td>roric covered dark soil in NE burial 2 corner</td>
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<td>dark soil in center of unit</td>
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<tr>
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<td>MA</td>
<td>dark soil in NE corner Burial #3</td>
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<tr>
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<td>523</td>
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<td>dark soil in SW corner</td>
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<td>26-Jun</td>
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<td>1</td>
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<td>AM</td>
<td>soil in north 1x2 of unit level 2</td>
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<td>MA</td>
<td>level 2 arbitrary 10cm level</td>
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<td>26-Jun</td>
<td>528</td>
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<td>15</td>
<td>JB</td>
<td>level 3 10 cm arbitrary level north 1 meter</td>
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<tr>
<td>26-Jun</td>
<td>529</td>
<td>1</td>
<td>15</td>
<td>JB</td>
<td>level 3 10cm arbitrary level south 2 meter</td>
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<tr>
<td>26-Jun</td>
<td>530</td>
<td>1</td>
<td>1b</td>
<td>GW</td>
<td>level 2 under rubble level</td>
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<tr>
<td>27-Jun</td>
<td>531</td>
<td>1</td>
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<td>AM</td>
<td>soil in mark 1x2 of unit level 3 (40 cm)</td>
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<tr>
<td>27-Jun</td>
<td>532</td>
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<td>14a</td>
<td>AM</td>
<td>top soil 2x2m unit 10cm arbitrary level 1</td>
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<tr>
<td>27-Jun</td>
<td>533</td>
<td>1</td>
<td>15a</td>
<td>JB</td>
<td>rubble platform in lot 509</td>
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<td>534</td>
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<td>JB</td>
<td>10cm arbitrary level 2</td>
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<td>27-Jun</td>
<td>535</td>
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<td>15A</td>
<td>JB</td>
<td>possible cache in lot 534 north edge</td>
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<td>1d</td>
<td>GW</td>
<td>top soil level 1 1x3m on north face of str. 1</td>
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<tr>
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<td>537</td>
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<td>1e</td>
<td>GW</td>
<td>top soil level 1 1x3m north of 1d</td>
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<td>29-Jun</td>
<td>538</td>
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<td>15b</td>
<td>JB</td>
<td>top soil level 1 1.5x3 SE rod m 1/2 of sz</td>
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<td>MA</td>
<td>top soil level 1 2x2m near water at Perez dock</td>
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<tr>
<td>29-Jun</td>
<td>540</td>
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<td>15a</td>
<td>TB</td>
<td>level 3 soil change sandy silt</td>
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<td>541</td>
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<td>AM</td>
<td>top soil level 1 2x2m</td>
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<td>542</td>
<td>1</td>
<td>3b</td>
<td>AM</td>
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<tr>
<td>29-Jun</td>
<td>543</td>
<td>1</td>
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<td>level 2 arbitrary 10cm</td>
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<tr>
<td>29-Jun</td>
<td>544</td>
<td>1</td>
<td>16a</td>
<td>MO</td>
<td>level 3 arbitrary 10cm</td>
</tr>
<tr>
<td>1-Jul</td>
<td>545</td>
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<td>13c</td>
<td>MA</td>
<td>top soil level 1 50cmx30cm NW corner burial #2</td>
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<tr>
<td>1-Jul</td>
<td>546</td>
<td>1</td>
<td>13d</td>
<td>MA</td>
<td>top soil level 1 80x50cm north wall</td>
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<tr>
<td>1-Jul</td>
<td>547</td>
<td>1</td>
<td>14a</td>
<td>AM</td>
<td>level 2 arbitrary 10cm</td>
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</tbody>
</table>
APPENDIX B. cont'd.

1-Jul 548 1 1e GW level 2 arbitrary 10cm
1-Jul 549 1 1D gw level 2 arbitrary 10cm
1-Jul 550 1 16a MO level 4 10cm arbitrary
1-Jul 551 1 16a MO voided
1-Jul 552 1 6 GW scrappings from east wall
2-Jul 553 1 6 GW scrappings from west wall
2-Jul 554 1 16b MO top soil level 1 1x2m
2-Jul 555 1 15b JB top soil SE room N 1/2 of unit
2-Jul 556 1 15 JB level 4 1x2m in SW corner of 1 1/2x3m unit
2-Jul 557 1 15b JB level 2 arbitrary 10cm N 1/2 of unit (outside room)
2-Jul 558 1 15b JB level 2 arbitrary 10cm S 1/2 of unit (inside room)
2-Jul 559 1 16b MO level 2 arbitrary 10cm
2-Jul 560 1 13d MA level 2 arbitrary 10cm
2-Jul 561 1 13d MA level 3 arbitrary 10cm
2-Jul 562 1 1e GW level 3 arbitrary 30cm reduced to 1x2m
2-Jul 563 1 14a AM level 3 arbitrary 10cm
3-Jul 564 1 15b MO level 3 arbitrary 10cm
3-Jul 565 1 14 AM level 4 arbitrary 40cm N 1/2 if unit
3-Jul 566 1 3b AM level 2 arbitrary 10cm
3-Jul 567 1 15c JB top soil level 1 1x2 north if str. 4
4-Jul 568 1 16b MO pit feature 1 north side of unit
4-Jul 569 1 16b MO pit feature 2 center of unit
4-Jul 570 1 16b MO pit feature 3 south side of unit
4-Jul 571 1 13b MA cobbles and surrounding matrix level 2 10cm arbitrary level
4-Jul 572 1 14a AM level 4 dark soil in NE corner
4-Jul 573 1 14a AM level 4 soil in SE corner amongst rocks
4-Jul 574 1 13 MA level 3 arbitrary 10cm
4-Jul 575 1 15 JB level 5 dense artificial level 10cm
4-Jul 576 1 1e GW cache at south and of north 1x2m and rock
4-Jul 577 1 16b MO pit feature 4 in center of pit
6-Jul 578 1 17 LS top soil level 1
6-Jul 579 1 15c JB 10cm arbitrary level 2
6-Jul 580 1 15b JB level 3 arbitrary 30cm
6-Jul 581 1 15b JB level 3 white region near central wall
6-Jul 582 1 17 LS level 2 arbitrary 10cm
6-Jul 583 1 13b MA level 3 10cm arbitrary level
6-Jul 584 1 15d JB top soil level 1 10cm arbitrary S. side of str. 4
6-Jul 585 1 14 AM level 5 arbitrary 10cm
6-Jul 586 1 3b AM level 3 arbitrary 10cm
6-Jul 587 1 1e GW level 4 arbitrary
7-Jul 588 1 13e MA level 1 10cm arbitrary unit west of 13- 50x70cm
7-Jul 589 1 14a AM level 5 soil in NE corner
7-Jul 590 1 18 JB top soil level 1 10cm arbitrary
7-Jul 591 1 15c JB level 3 arbitrary 10cm
7-Jul 592 1 15 JB level 6 darker soil
7-Jul 593 1 17 LS level 3 10cm arbitrary
7-Jul 594 1 13e MA 10cm arbitrary level 2
7-Jul 595 1 17a LS top soil 10 cm level 1x2m test pit
7-Jul 596 1 14 AM vessel and ceramic conc. at north end of unit
<table>
<thead>
<tr>
<th>Date</th>
<th>No.</th>
<th>Time</th>
<th>Location</th>
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</tr>
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<td>7-Jul</td>
<td>597</td>
<td>1 15c</td>
<td>JB</td>
<td>pit feature east</td>
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<tr>
<td>7-Jul</td>
<td>598</td>
<td>1 15c</td>
<td>JB</td>
<td>pit feature west</td>
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<td>7-Jul</td>
<td>599</td>
<td>1 15d</td>
<td>JB</td>
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<tr>
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<td>600</td>
<td>1 15b</td>
<td>JB</td>
<td>slightly lighter soil north 30cm of unit</td>
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<td>601</td>
<td>1 6a</td>
<td>GW</td>
<td>dark brown top soil level 1</td>
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<td>1 6a</td>
<td>GW</td>
<td>medium brown grey soil level 2</td>
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<td>603</td>
<td>6a</td>
<td>GW</td>
<td>plaster floor level 3</td>
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<td>GW</td>
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<tr>
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<td>606</td>
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<tr>
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<td>1 18</td>
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<td>1 13/13d</td>
<td>MA</td>
<td>bone and carbon in vessel with burial #3</td>
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<tr>
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<td>612</td>
<td>1 1f</td>
<td>GW</td>
<td>1x2m unit by water level (10cm)</td>
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<tr>
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<td>613</td>
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<td>LS</td>
<td>level 1 (10cm) top soil</td>
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<td>1 3b</td>
<td>AM</td>
<td>level 5 arbitrary 10cm</td>
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<td>1 1f</td>
<td>GW</td>
<td>level 2 (20cm)</td>
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<tr>
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<td>1 1g</td>
<td>GW</td>
<td>level 1 top soil (10cm) 1x2m</td>
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<td>1 1g</td>
<td>GW</td>
<td>level 2 (10cm)</td>
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<td>1 19a</td>
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<td>level 1 top soil (10cm) 1x1 on shore</td>
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<tr>
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<td>1 19b</td>
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<td>level 1 (20 shovel fulls) 1x2 12m 19a</td>
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<td>JW</td>
<td>level 3 (20 shovel fulls)</td>
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<td>JW</td>
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<tr>
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<td>1 15c</td>
<td>JW</td>
<td>level 1 (20 shovel fulls) 1x1 8m north of 19a</td>
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<td>1 19c</td>
<td>JW</td>
<td>level 2 (20shovel fulls)</td>
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<td>626</td>
<td>1 18</td>
<td>JB</td>
<td>level 3 (10cm)</td>
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<td>1 15e</td>
<td>JB</td>
<td>top soil level 1 60cmx50cm</td>
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<td>1 21</td>
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<td>top soil level 1 (10cm) 1x2m</td>
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<td>630</td>
<td>1 1g</td>
<td>GW</td>
<td>level 3 (10cm)</td>
</tr>
<tr>
<td>13-Jul</td>
<td>631</td>
<td>1 1c</td>
<td>GW</td>
<td>level 3 (20cm)</td>
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<tr>
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<td>1 14</td>
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<td>pit at base of unit (under level 6)</td>
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<td>633</td>
<td>1 13b</td>
<td>MA</td>
<td>level 4 (10cm) hit bedrock therefore not used</td>
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<tr>
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<td>1 15e</td>
<td>JW</td>
<td>level 2 (10cm)</td>
</tr>
<tr>
<td>13-Jul</td>
<td>635</td>
<td>1 15e</td>
<td>JB</td>
<td>level 3 (10cm)</td>
</tr>
<tr>
<td>13-Jul</td>
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<td>GW</td>
<td>level 4 (20cm) 1x1m in north end of unit</td>
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<td>637</td>
<td>1 18</td>
<td>JB</td>
<td>level 4 (10cm)</td>
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APPENDIX B. CONT'D.

15-Jul 659 1 13b MA small pit on west side south of 658
15-Jul 660 1 13b MA larger pit on south side
15-Jul 661 1 13b MA pit on east side
15-Jul 662 1 11b AM possible pit west side of unit
15-Jul 663 1 11b AM possible pit center of unit
15-Jul 664 1 11b AM possible pit east side of unit
15-Jul 665 1 11 AM pit east side of unit
15-Jul 666 1 6 GW 1x2m unit below looter's trunk #1 (10cm)
15-Jul 667 1 1h GW 1 1/2 x 3m top soil level 1 (10cm) north
15-Jul 668 1 1i GW 1 1/2 x 2m top soil level 1 (10cm) south
15-Jul 669 1 2o MO level 4 (30cm)
15-Jul 670 1 18 JB level 6 (10cm)
15-Jul 671 1 6 GW below looter's #2
20-Jul 706 1 18a JB level 4 (10cm)
20-Jul 707 1 13f MA post hole from Perez old house
20-Jul 708 1 18a JB level 5 (10cm)
22-Jul 709 1 16a GW pit on SE corner
22-Jul 710 1 16a GW pit on South wall
22-Jul 711 1 16a GW pit on west wall
22-Jul 712 1 16a GW pit on north wall
22-Jul 713 1 18a JB level 6 (10cm)
22-Jul 714 1 18a JB level 7 (10cm)
22-Jul 715 1 21/21a MO level 4 (10cm)
22-Jul 716 1 21/21a MO level 5 (10cm)
23-Jul 717 1 18b JB level 1 (10cm)
23-Jul 718 1 18b JB level 2 (10cm)
24-Jul 719 1 3b MA level 1 (10cm) north of wall
24-Jul 720 1 13b MA level 2 910cm) south of wall
24-Jul 721 1 18b JB level 3 (10cm)
27-Jul 722 1 13i MA level 1 (10cm) 1 1/2 x 1 north side
27-Jul 723 1 13i MA level 1 (10cm) 1 1/2 x 1 south side
27-Jul 724 1 13g MA ceramic conc.
27-Jul 725 1 18b JB level 4 (10cm)
27-Jul 726 1 18b JB level 5 (10cm)
27-Jul 727 1 15c/e JB extension of burial #5 lot 597 in
27-Jul 728 1 2i MO post hole at south of unit
28-Jul 729 1 16a GW burial #9 in NW corner of lot 605
28-Jul 730 1 16a GW ceramic conc. North wall of lot 605
28-Jul 731 1 18b JB level 5 (10cm)
28-Jul 732 1 18b JB level 6 (10cm)
30-Jul 733 1 22 MA top soil level 1 (10cm) 1x2m
30-Jul 734 1 22 MA level 2 (10cm)
30-Jul 735 1 13i MA ceramic conc. in level 1 lot 723
30-Jul 736 1 17b LS level 3 (15cm)
30-Jul 737 1 17c LS top soil level 1 (10cm)
31-Jul 738 1 22 MA level 3 (10cm)
31-Jul 739 1 13g MA ceramic conc. in center of lot 689
31-Jul 740 1 13i MA level 2 (10cm) south side
31-Jul 741 1 13i MA level 2 (10cm) south side
31-Jul 742 1 5 JB looter's pit str 4 level 1 non-screened middle
31-Jul 743 1 10 R2 level 4 loofers pit str. 5
31-Jul 744 1 10 R2 level 5 north loogers pit str. 5
31-Jul 745 1 10 R2 level 5 south loogers pit str. 5
31-Jul 746 1 10 R2 level 6 north floor str.5
31-Jul 747 1 10 R2 level 7 dark brown fill str. 5
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## Appendix C: 1998 Excavation Units at Caye Coco - PR1

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APPENDIX D. NEW CERAMIC TYPES DEFINED FOR LAGUNA SECA AND CAYE COCO

Ceramic Type Descriptions: Belize Postclassic Project, 1999
Shirley Boteler Mock, ceramicist

Late Postclassic-Colonial?

TYPE: James Bond: Gray slipped ware, incised
CERAMIC GROUP
CERAMIC COMPLEX
CERAMIC SPHERE
ILLUSTRATED: ANN DEANEE
ESTABLISHED
FREQUENCY: RARE AT PROGRESSO
PRINCIPLE IDENTIFYING ATTRIBUTES
1. thick gray brown slip
2. basal break bowl with broad, flat everted rim (like chalice bowl rims)
3. incision around break

Description:
This type was singled out for hardness and density of orange paste. One sherd is incised and obviously part of the same bowl. Another sherd with incising was found in the fill. Looks like a slipped censer bottom.

INTRASITE DISTRIBUTION:
INTERSITE DISTRIBUTION:
This may resemble the Manta Buff: Manta Variety described by Chase 1985:535-536). The form is a flanged tripod bowl. However, we have the incised version.

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Mi Amor Red
CERAMIC GROUP: Payil
CERAMIC COMPLEX: Payil
CERAMIC SPHERE: Payil
ILLUSTRATED: Ann Deane
ESTABLISHED?
FREQUENCY: uncommon at Progresso
PRINCIPLE IDENTIFYING ATTRIBUTES
1. Dark, dense, well-fired, hard, homogenous bone-gray paste which shows peculiar fractures, and sometimes Payil-like calcite inclusions although much more fine than Payil and thicker.
2. Sag bowl form with basal straight flange and out flared rim
3. Incising on vessel flange
4. Mat dark red slip
5. Long neck jar form

Description:
This type is singled out on its dense paste and finely textured surface.
It co-occurs with Rita Red and Payil in late Facet lots at the site, thought to date after around A.D. 1300.
Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Red on buff paste (Tecah Red on Buff?)
CERAMIC GROUP: ?
CERAMIC COMPLEX?
CERAMIC SPHERE: ?
ESTABLISHED: Progresso or Cozumel-later Postclassic. Occurs with Rita Red

FREQUENCY: Abundant at Progresso in one vertical excavation unit
Found in latest lots.
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Thin-walled vessels, only direct rims
2. Eroded red band on rim
3. Buff colored slip and paste

DESCRIPTION:
Appear to have been slightly outcurved little bowls. Found in context with Red Haired Mama. May be late Postclassic or even Colonial.

INTRASITE DISTRIBUTION: one unit at Progresso
INTERSITE DISTRIBUTION: ?

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: white paste wear
CERAMIC GROUP: ?
CERAMIC COMPLEX?
CERAMIC SPHERE: ?
ESTABLISHED: not yet
FREQUENCY: rare-5 sherds from Progresso
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Hard fine white paste and slightly rough, dull surface
2. Very small vessels with beveled-in-rims or rim with pointed lip.

DESCRIPTION: Tentative based on small collection

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Unnamed thick gray striated
CERAMIC GROUP: ?
CERAMIC COMPLEX ?
CERAMIC SPHERE: ?
ESTABLISHED?:
FREQUENCY: rare
PRINCIPLE IDENTIFYING ATTRIBUTES:
1. thick walled vessel with vertical and horizontal striations.
2. Olla or jar

DESCRIPTION:
Tentative at present

INTRASITE DISTRIBUTION: 5L-284
INTERSITE DISTRIBUTION:?

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Red Haired Mama: Variety Unspecified
CERAMIC GROUP:
CERAMIC COMPLEX
CERAMIC SPHERE:
ESTABLISHED: Seca
FREQUENCY: rare
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Crude finishing and scraping on the surface of vessel.
2. Blotchy red slip, often eroded.
3. Little rims ranging from 5-2mm
4. Small slightly outcurved bowls

DESCRIPTION:
This type is easily recognized. The paste consists of poorly sorted clay and coarse sand tempering. The paste typically is a yellowish reddish color, and the sherds are light and easily broken. Sherds appear to be worn and if not for the presence of numbers of this type, it could have easily been overlooked. Rim is generally small and flat or slightly angled, poorly and unevenly finished. Vessels appear to have been small nonrestricted orifice, slightly outcurved bowls.

INTRASITE DISTRIBUTION: Laguna Seca, Progresso
INTERSITE DISTRIBUTION: Occurs in the northern lowlands at sites such as Cancun. See for example, El Meco (Andrews 1977:120-123) for exact rim types. It is more restricted to sites near the coast.

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Guiness Stout Striated
CERAMIC GROUP:?
CERAMIC COMPLEX:?
CERAMIC SPHERE:?
ESTABLISHED: Progresso
FREQUENCY: rare
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Surface color can be red or a red-gray
2. Finely finished surface with horizontal striations occurring up to the body juncture or in some cases almost up to the rim
3. Gray paste

DESCRIPTION:
Tentative based on rarity of this type.

INTRASITE DISTRIBUTION?
INTERSITE DISTRIBUTION?

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Thin Red Striated
CERAMIC GROUP:?
CERAMIC COMPLEX:?
CERAMIC SPHERE:?
ESTABLISHED: ?
FREQUENCY: rare
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Striations occur in all directions on this olla form
2. Vessel walls are very thin
3. Paste is very red.

DESCRIPTION:
It is possible that a red wash was applied on some sections of the vessels

INTRASITE DISTRIBUTION:?
INTERSITE DISTRIBUTION?

Ceramic Type Descriptions: Belize Postclassic Project

TYPE: Thin buff slipped
CERAMIC GROUP:?
CERAMIC COMPLEX:?
CERAMIC SPHERE:?
ESTABLISHED: ?
FREQUENCY: rare
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. A buff or slightly yellowish slip
2. Thin walled vessels

DESCRIPTION:
This type is rare and may represent differential firing.

INTRASITE DISTRIBUTION: occurs at Progresso in contexts with Rita and Payil, Santa Unslipped

INTERSITE DISTRIBUTION: unknown
Bz Post-Classical
Survey 1998
Surface Collection
O'Brian Localities #1 #2

ADene
PRI Subop 13 H. 719.
PRI Subop 14 Lot 531.

PRI Subop 13f
Lot 653

PRI Subop 16
Lot 504

PRI Subop 14
Lot 507
# 36.

A. Creme.

6 23 98
Surface
(10 ME 8) 8.0.13
Bone Thread Spool
APPENDIX E. SELECTED ARTIFACT ILLUSTRATIONS BY ANNE DEANE AND BEN KARIS

PR3 = Caye Muerto, PR1 = Caye Coco
Ceramic Type Descriptions: Belize Postclassic Project

TYPE: thin buff composite
CERAMIC GROUP:?
CERAMIC COMPLEX:?
CERAMIC SPHERE:?
ESTABLISHED: not known presently
FREQUENCY: 1 sherd
PRINCIPLE IDENTIFYING ATTRIBUTES:

1. Buff slip with applique and incised surface treatment

DESCRIPTION:
This new type is rare. Two sherds from Lot 670 adjacent to 713 appear to be body sherds of this type. One body sherd from 626 has a suspension hole.

INTRASITE DISTRIBUTION: unknown
INTERSITE DISTRIBUTION: unknown