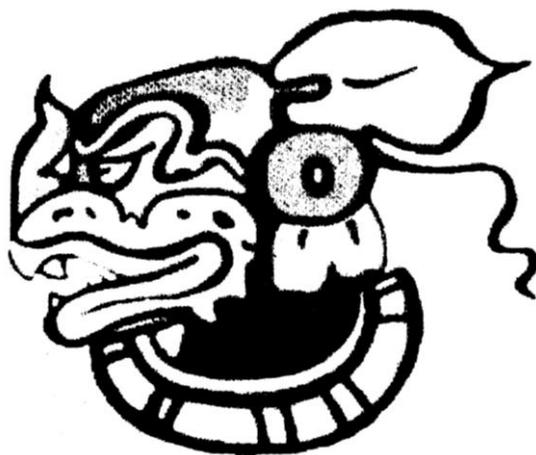


***The Belize Valley Archaeological
Reconnaissance Project***

A Report of the 2011 Field Season



Volume 17

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*The Belize Valley Archaeological
Reconnaissance Project*

A Report of the 2011 Field Season

Volume 16

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Editors Note

2011 research focused at three major centers, Cahal Pech, Baking Pot, and Lower Dover, aiming to build a comprehensive understanding of the development and decline of the sociopolitical institutions of polities, communities, and households within a broad regional area. By understanding long-term social change at multiple scales, we will be able to identify variability, continuities, and patterns in the manifestations of social complexity at all three sites, building a comparative framework to understand ancient Maya society in the Belize Valley.

Research at the site of Baking Pot aimed to build upon previous research at formal patio groups in Baking Pot's settlement. Christina Zweig's 2011 research focused on the excavation of one group (M-410) in the northwest portion of the site's settlement to understand the chronological settlement and abandonment of this area, as well as the integration of this house group within the broader network of interaction between the Baking Pot polity and high status households which likely served as "community focal groups" Zweig's research compares strategies of construction, ritual, and domestic practice at the Luhul Hu Group (M-410) with the Atalaya, Bedran, and Yaxtun Groups. Carrie Perkins excavated a chultun in the foothills of Baking Pot's southern periphery, aiming to understand domestic storage patterns and uses of chultunob through the utilization of phosphate and nitrate chemical analysis. Building upon the earlier BVAR research of *chultunob* by Nadine Gray, Perkins' research will serve as the basis for a broader regional study on storage patterns across the Belize Valley.

Major archaeological investigations were conducted at Cahal Pech in the 2011 season with excavations in the epicenter of the site as well as a re-initiation of the settlement survey in the periphery of Cahal Pech. Catharina Santasilia, Anna Novotny, and Marc Zender supervised excavations on Structure B-1, discovering an elite tomb dating to the early part of the Late Classic period (see Santasilia, this volume and Novotny, this volume). The discovery of this tomb offers a glimpse into kingship at Cahal Pech at the end of the Early Classic period, providing important information about mortuary ritual and rulership at the site. AFAR excavations, supervised by Christy Pritchard, Jim Pritchard, and C. Mat Saunders focused on the excavation of several units in and adjacent to Structure B, the eastern triadic group of the site, while Nancy Peniche May focused her excavations in Plaza B and Plaza C at Cahal Pech, aiming to understand archaeological manifestations of power at Cahal Pech during the Preclassic period while Catharina Santasilia focused on the Terminal Classic period in Plaza H. Wendy Dorenbush led the settlement survey, seeking to expand the settlement survey in Cahal Pech's periphery, particularly focusing on the areas to the south and west of the site.

Research in 2011 marked the third year of archaeological research at the site of Lower Dover. Rafael Guerra's excavations at the site sought to understand the chronological development of the center, while Patrick Wilkinson conducted test pit excavations in Plaza C. Shawn Morton and Josue Ramos continued the survey of the site core, while Marieka Arksey's excavations tested a low wall feature south of Plaza A. Overall, the initial results of the first three years of research at Lower Dover indicates late development of the major

center, emerging at the time of political expansiveness and competition in the Late Classic period.

BVAR's 2011 research is indebted to a number of individuals and establishments. We would like to thank Hode's Restaurant, Mana Kai Cabins, Pacz Inn, Western Guesthouse, Tropicool, Lower Dover Field Station, Erva's Restaurant, Pacz Tours, Shell Gas station, and Celinas. The owners and employees of these establishments were essential in the housing, transport, and daily lives of the BVAR staff and students. In addition, we would like to acknowledge the 2011 field school students, staff, and local assistants. 2011 staff included: Marieka Arksey, Jaime Awe, John Bowler, Wendy Dorenbush, Rafael Guerra, Julie Hoggarth, Shawn Morton, Anna Novotny, Nancy Peniche May, Carrie Perkins, Jim Pritchard, Christy Pritchard, Josue Ramos, Catharina Santasilia, C. Mat Saunders, Myka Schwanke, Patrick Wilkinson, Marc Zender, and Christina Zweig. We offer our utmost thanks to the Belize Institute of Archaeology.

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PRELIMINARY INVESTIGATIONS OF M-410 BAKING POT, BELIZE

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INTRODUCTION

The site of Baking Pot is located in the Cayo District of western Belize. The major center of Baking Pot is situated on the southern bank of the Belize River, between the modern cities of San Ignacio and Belmopan. The site was occupied in the Middle Preclassic period (c. 600-300 B.C.) through the Early Postclassic period (A.D. 1200), and reached its peak in the Late Classic period (A.D. 600-850) (Hoggarth *et al.* 2008:158). The monumental center is made up of two groups (Groups A and B) connected by Causeway1 (306m in length) (Helmke and Awe 2008: 84). The monumental architecture in the site cores are mostly covered by trees with the majority of the surrounding areas being cleared grassland, used as pasture for cattle.

Previous archaeological work at the site was conducted by five major archaeological projects with the earliest conducted by Oliver Ricketson Jr. in 1924 (Ricketson 1929). The trend of research at the site focused primarily on the monumental centers until the early 1990s when the Belize Valley Archaeological Reconnaissance Project turned primary focus to survey and excavation of peripheral settlement (Conlon and Ehret 2000). The Belize Valley Archaeological Reconnaissance Project has conducted extensive previous research on residential structures located in the periphery of Baking Pot, particularly plazuela groups (Audet 2002; Audet and Awe 2000; Conlon 1993,1996; Conlon, Finlayson, and Powis 1995; Conlon, Powis, and Hohmann 1994; Moore 1999; Powis 1993). The more extensively excavated groups at Baking Pot include the Bedran Group, Atalaya Group, and Yaxtun Group. Previous research interests included the chronology of occupation, functional uses of the structures, and to define the orientation, size, and shape of the structures.

In the 2011 field season, BVAR decided to investigate another plazuela group at the site of Baking Pot and chose a group in an area of the site that was more limited in previous research. In 2007 the northwest area (1 km²) of the Baking Pot site, in proximity to the Cayo Deaf Institute, was completely mapped and surveyed. This area



Figure 1: M-410 and the surrounding area, including Groups A and B.

revealed dispersed settlement, generally on a raised ground above the flood plain of the river (Hoggarth *et al* 2008:167). M-410 was located in this area and was mapped during the 2007 field season, though the report does not go further in depth on M-410. Surveyors did mention that in this area there was a very large mound, ~100 m in diameter and 25 m in height (M-254). M-410 was chosen for the 2011 field season to conduct preliminary investigations and to gather information regarding the occupational sequence at the plazuela group.

BACKGROUND

One of the earlier groups to be excavated by Conlon (1993) was the Bedran Group, located approximately 2 km southwest of Group B. The general size of the group was approximately 40 meters north/south and 50 meters east/west. This group was also part of a larger cluster with two other groups, the Miami Group to the south and the West Palm Group to the West.

Mound 1 at Bedran was the tallest at 3.14 m and was located along the southern edge of the group. Conlon found altogether 11 constructions and modifications (Conlon 1993: 188). Mound 2 was located on the eastern edge of the Bedran Group and had a similar height (3.07 m) to Mound 1. They were joined in the terminal phase of their construction by an ancillary platform (Conlon 1993: 192). There was mention of large river cobbles used on Mound 2 of the Bedran Group to form a retaining wall, and isolated large cobbles were also reported on Mound 1 (Conlon, Powis, and Hohmann 1994:239). Mound 2 was squarer than the other structures in the group and investigators suspected a special function for the structure. Powis (1993) focused more on Mound 2 of the Bedran Group, which had three construction phases (Early Classic-Late Classic) and associated with this architectural phases there were five burials and six caches found (Powis 1993:214). The fill was also described as red-brown clay-loam mixed with construction ballast, which was consistent with Early Classic construction materials within the group. Mound 3 was located on the north side of the plazuela and was a range type mound. The height of this structure was less at 2.30 m. There was an adolescent burial found (A.D. 850). In the platform section of the mound and there was an undetermined feature (hearth or midden) uncovered in the terminal phase plaza area (A.D. 900) (Conlon 1993:195). On Mound 3 there were only two construction phases evident with one or two platform modifications. There was a description of Late Classic construction fill was clay and this was distinguished from the Early Classic medium ballast fill, with a total of 74 briquettes found (Conlon 1993: 195). Mound 4 was the smallest mound of the group with a height of 1.90 m and is located on the west edge of the group. The construction consists of one platform and two modifications, all in the Late Classic period (A.D. 700-900). There were no ritual deposits found in this mound and clay fill was used for the entirety of the construction.

The evidence of ritual activity in the Bedran Group was found in three of the four mounds. The evidence at Mound 1 included a Late Classic dedicatory cache (c. A.D. 800) and a red ochre stain was located on this same platform. Also a metate fragment was recovered from the Early Classic (A.D. 500) plaza section and red clay briquettes recovered from almost all levels of construction. In Mound 2 there was a half vessel cache, which was similar to that of Cache 1 in Structure 1 (Conlon 1993:192). In the 1994 Season there were numerous caches reported at the Bedran Group. Some examples include: Cache 19, an eroded partial vessel of the Belize Red Type; Cache 20, adjacent to Cache 19 with two inverted “finger” bowls; Cache 21, a partial vessel; Cache 22 and 23, partial vessels with a wide variety from utilitarian ollas to portions of beautiful polychrome vessels; Cache 24, three chert bifaces (Conlon, Finlayson, and Powis 1995:58).

The Yaxtun Group was focused on in the 1999 field season and was composed of three to four structures on top of a large platform that is roughly aligned with the cardinal directions (Audet and Awe 2000:1). Structure 198 is the tallest at 2.8 m high and is the north structure, which differs from the Atalaya and Bedran Groups where the tallest structure is on the southern edge of the plazuela group. There was Preclassic occupation documented in Structure 198 with a low building platform with poor preserved plaster floor laid over small river cobbles that were used as ballast above an alluvial soil fill.

Audet (2002) continued to investigate Structure 198 with only exposing more of the terminal architecture. The earliest construction on the structure was in the Late Preclassic. There were two Late/Terminal Classic period phase constructions with what was described as typical construction techniques in all modifications for the other housemounds at Baking Pot (Audet 2002:95). All the platforms have retaining walls made from dressed limestone blocks and the use of alluvial clay fill with floors that appear to have been surfaced with a thin layer of plaster. The types of artifacts found are also described as household artifacts including manos, metates, obsidian blade fragments, ceramics, spindle whorls, celts, and chert bifaces. Some of the status items described included tinkler shells, jade beads, ceramic beads, a canine tooth, and a conch shell bead and adornments (Audet 2002: 95). There were caches described from the Classic period. Cache 1 contained a Balanza Black dish (Early Classic) and other ceramics from the level date to the Terminal Classic. Cache 2 contained a partially complete bowl at the juncture between two walls. Cache 3 was a ceramics cluster that was directly on the terminal phase floor. Cache 4 had three manos, two metates, four chert bifaces, and a complete Belize Red dish. Cache 5 contained a large concentration of Late to Terminal Classic ceramics with pottery stacked 20 cm thick with many utilitarian sherds and none were complete. In a Postclassic midden there were three copper bells, partially complete ceramic vessels, ceramic beads, partially complete ceramic mask, ceramic net sinkers, faunal remains, obsidian blades, projectile points, chert debitage, mano, two crystal beads, and shell beads (Audet 2002:97).

Structure 199, located on the west side of the group, was smaller than Structure 198 and at the northern end joins with Structure 198. The terminal structure was 8.4 m long and 3.5m wide. The earliest phase of construction was during the Late Classic with a low platform, poorly preserved plaster floor, and alluvial clay fill. At the juncture between Structure 198 and 199 there was a cache of highly eroded ash tempered sherds that date from the Terminal Classic-Early Post Classic (Audet and Awe 2000:10). In the plaza there is evidence of Preclassic occupation with three levels of construction. The first plaza floor was a layer of ballast with no evidence of a plastered limestone surface (Audet and Awe 2000:10). Below this there was numerous jute shells and Late Preclassic pottery. Most of the pottery was concentrated in a large cache with six partially reconstructable vessels that were nested on top of each other.

At the Yaxtun Group there were several features associated with ritual activity including a cached rounded vessel below the penultimate floor and in the fill of this phase there were also the remains of a termination cache (Audet and Awe 2000:9). There was a charcoal layer surrounded by clay was found with painted Early Classic sherds inside. Also on the plaza floor there were several cached sherds forming half a plumbate vessel.

At the Atalaya Group construction sequence was composed of a final configuration by gradual addition of structures above a large raised platform, which is interpreted as the four mounds of the group were part of the original planned formal configuration (Audet and Awe 2000:11). The authors mention that Bedran and Yaxtun are similar in evolution but they differ in occupational establishment. There is also a difference noted in the abandonment.

METHODOLOGY

The M-410 plazuela group was chosen to add to the already growing peripheral settlement research with focus on household groups. The approach of investigation was through test pit excavation with the intent to collect data regarding the chronological sequence of the structures. Units were situated in an orientation matching the architecture, 20° west of north. Excavations were conducted using both cultural and arbitrary levels with the use of a datum and tape measure to document elevations. Artifacts were collected and separated based on unit, level, and lot, and when appropriate feature number. All excavated matrix was screened through ¼ inch mesh. Artifacts collected from 2011 have been through initial analysis, but more extensive results will be included in future publications. All three test pit excavations were unfinished and backfilled with the intent to continue excavation in the 2012 field season.

2011 INVESTIGATIONS

M-410 is located approximately 870 meters west of Group B and presently is surrounded by agricultural fields that are actively cultivated. The surrounding immediate area of M-410 has a slope declining west to east with a natural water reservoir 130m east of M-410. The Belize River is also fairly close and is approximately 830m north of M-410. Due to its size the mound has not been plowed or disturbed by agricultural processes and is overgrown with large trees and vegetation. With the exception of the outer edges and corners, the mound appears to have been left undisturbed from modern farming and looting. The mound is a larger platform with at least two superstructures. The larger structure was west of the patio and the second structure was north of the patio. The dimension of M-410 was approximately 45m-north south and 62m-east west. Due to the platform being situated on the natural slope, the platform height appears to be approximately 1m-1.5m on the west side and 2m-2.5m on the east side, judging by the current surfaces. The orientation of the architecture is roughly with the cardinal directions, but as we learned when aligning our units with the orientation of the architecture we found that the mound is roughly 20° west of north.

The intent of the 2011 investigations of M-410 was entirely preliminary. The focus was to collect data regarding the occupational sequence of the structures on M-410 and to get a sense of the status of the occupants. A test pit was placed in both visible structures and a third was placed in the patio. Due to time constraints the investigations were terminated prior to completion of the test pits and all the units were backfilled with the intent to continue investigations in the 2012 field season.

Structure 410A

The tallest structure of M-410 was visibly Structure 410A, a range type structure. Its height is approximately 2m from the current patio surface and the structure is situated on the west side of patio. We wanted to test this structure and placed a 2m x 2m unit (EU 410A-1) in what we estimated was the center atop of the structure. Though the excavations were not completed, in 2011 we found at least four construction

phases/renovations. The first level we had encountered was interpreted as previous living surface, which may have been occupied or this was the previous surface before serious overgrowth ensued. This surface was compact and had a color change to a light orange-brown and we suspected that this may have been a stamped earthen floor due to the tiny amounts of daub inclusions seen in the matrix as we removed this compact surface.

The following feature we found was a floor made up of small cobblestones (5cm-10cm). This was approximately 6cm below the compact earthen surface. The fill below the cobble floor contained a light brown loam-clay matrix and we continued to see small daub inclusions within the matrix. In the fill below the cobble floor we also noticed some red clay in the northwest corner and a fluctuation to more of an orange color in the matrix due to an increase of daub particles.

The construction level below the cobble floor was 75cm below the cobble floor and was a compact chert and cobble floor with plaster partially preserved throughout the unit. On the west and east side of the floor, just in the baulk of the excavation unit, there were small sized plaster coated limestone exposed. There was also evidence of burning along the north side of the unit with gray coloration and some of the chert was fire cracked. The chert and cobblestones were very uniform in size and some of the chert was even broken so a flat surface was facing up. It was also compacted together very well. We removed the chert and cobble to find another plaster floor immediately below the stones. This was considered as a possible renovation.

Below the plaster floor we found more fill composed of loam-clay, but this seemed to have a higher proportion of clay than previously seen in the above levels and the daub inclusions were more noticeable. As we continued to excavate we noticed a gradual change in the matrix that included more daub particles, plaster flecks, and bits of carbon. The unit was also condensed during the excavation of the fill to a 2m x 1m unit in the interest of time. The unit was 2m-east west and 1m-north south.

The last construction phase we were able to uncover was 170cm below the previous found plaster floor and included a line of large alluvial boulders along the west baulk of the excavation unit with a plaster floor associated. The floor appears to be of fine quality and was seen throughout the unit. This was where we stopped in Unit 410A-1 for the 2011 season.

Artifacts

Over the course of excavation many different kinds of artifacts were collected including ceramic sherds, chert debitage, pieces of quartz, daub, obsidian, fragments of marine shell (some with evidence of burning), few fragments of granite, faunal remains, several pieces of slate, and small amounts of carbon. There were artifacts considered special finds from EU 410A-1. In association with Floor 3 and Floor 4 were two chert eccentrics (SF# 410A-1/2), two jadeite beads (SF #410A-4/5), and modified quartz (SF# 410A-3) that appeared to be in the shape of a tooth similar to single rooted front teeth. In



Figure 2: Special finds from EU 410A-1.

the fill below Floor 4 there was a jadeite figurine appendage (SF#410A-6) and a chert point form (SF# 410A-7). Above Floor 5 there was a crown to a human molar (SF# 410A-9) found in the fill.

Ritual activity

With previous mention from other patio group investigations of caching of items in relation to construction events, whether dedication or termination in nature, it is suspected that the number of special finds in association with Floors 3 and 4 may have been functioning toward a cache or some other significance with the objects.

Structure 410B

The second visible structure at M-410 was Structure 410B and it appeared to be a similar range type structure as 410A. Structure 410B was located along the north side of the patio and reached to an elevation approximately 1m above the current patio floor. An Excavation unit was placed somewhat centered on the structure, but due to an extremely

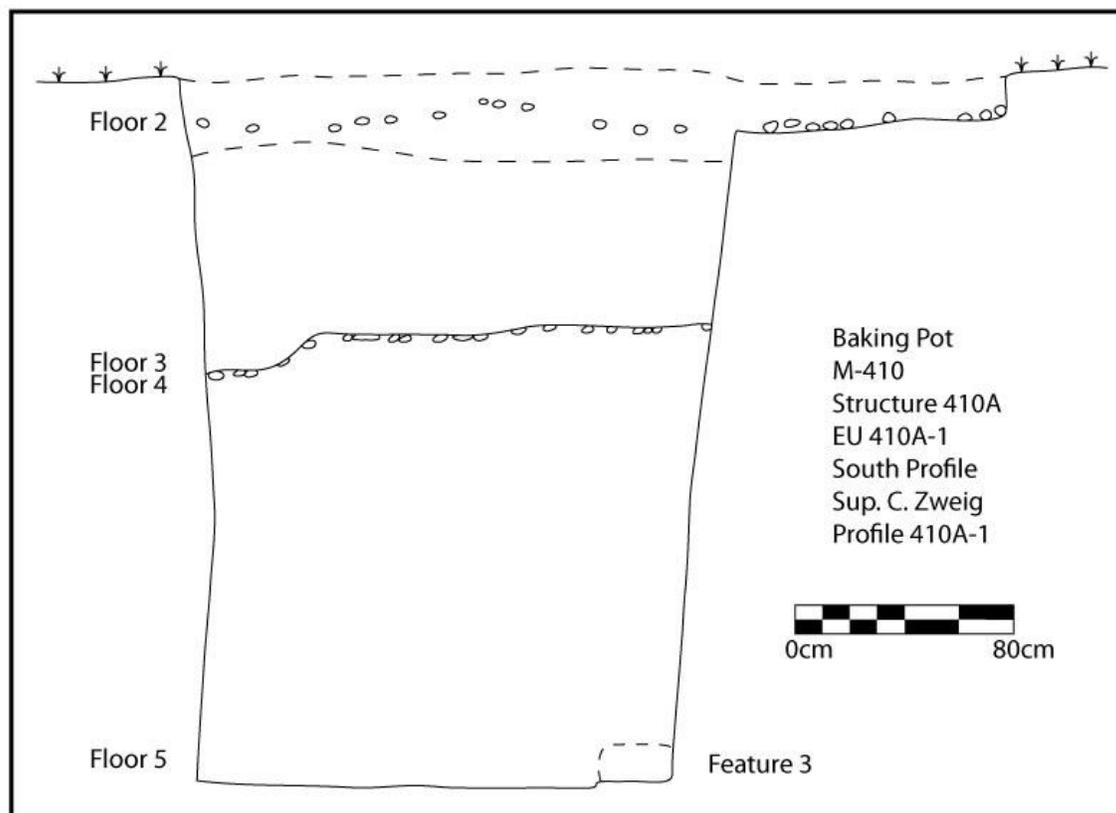


Figure 3: EU 410A-1 south profile.

large tree and other difficult vegetation we placed the unit somewhat east of center and also north of the large tree. The unit (EU 410B-1) was originally a 2m x 2m unit but was later expanded to a 3.5m (east-west) by 3m (north-south) unit to explore the terminal architecture found. We also eventually added four extensions (EU 410B-1A/ B/ C/ D).

Initially we encountered the same lighter brown compact surface less than 5cm below the current surface that also contained daub inclusion in the matrix. We referred to this surface as Floor 1. Above this in the northwest corner of the expanded unit we found a cluster of small cobbles, which may have been remains of a deteriorated floor. We referred to the cluster as Feature 2. We also encountered plaster remains that may have been a plaster floor that was laid directly on top of clay fill, but this was not seen consistently throughout the unit. This plaster was considered Floor 2 and was approximately 10cm below the surface. As we continued excavating we found a very nice quality plaster floor (Floor 3) approximately 25cm below the surface. All the terminal architecture exposed was associated with Floor 3 and occurred in the same occupational level. Architectural features associated with Floor 3 included Feature 3, undefined architecture affected by the large tree root crossing north through the unit. Feature 1 was also associated with Floor 3. Feature 1 was an elongated rounded enveloped area of limestone with stones of various sizes (10cm – 40cm). There are also various sized stones within this area that

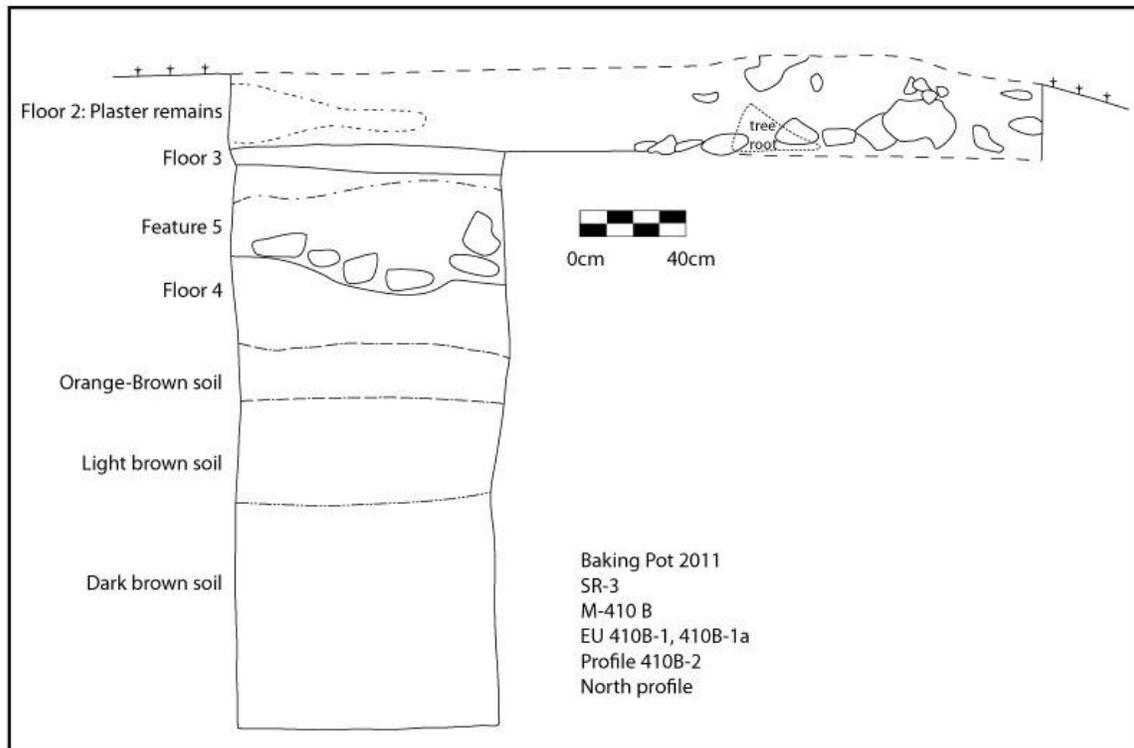


Figure 4: North profile of EU 410B-1.

one of the tree roots passes under. Outside of Feature 1 on the northern edge of the stones we found a cluster of ceramic sherds. We considered this cluster to be Feature 4.

We continued the test pit excavation in the northwest corner of the expanded unit to avoid disturbing the terminal architecture we found. The area for test pit excavation was condensed down to a 2m x 1.1m area. We broke through Floor 3 and found it to be a very thick (10cm-15cm) and high quality plaster floor that was laid directly on top of the clay fill. In the underlying fill there were daub inclusions but with more of a red color. The construction level found below Floor 3 was Feature 5 and Floor 4. Feature 5 was a two-course cobble boulder wall in the north baulk of the unit and it had an associated plaster floor (Floor 4). However, Floor 4 was a very poorly preserved plaster floor that would have been directly on top of the clay fill. There was 25cm from Floor 3 and the first course of Feature 5 and 42cm from Floor 3 to Floor 4. Below this construction sequence we continued excavating but did not find any more features before excavations

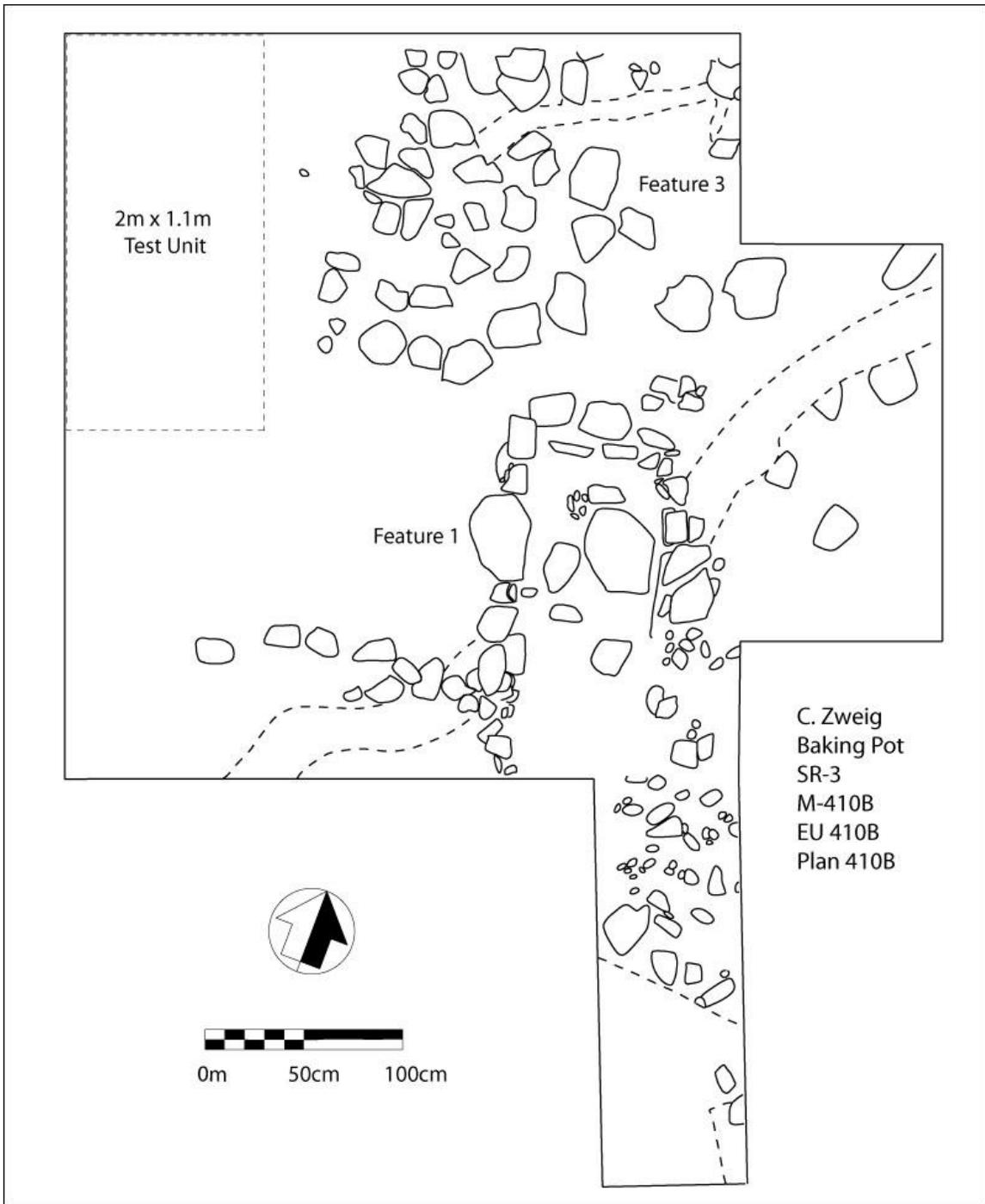


Figure 5: Plan view of EU 410B-1 and extensions.

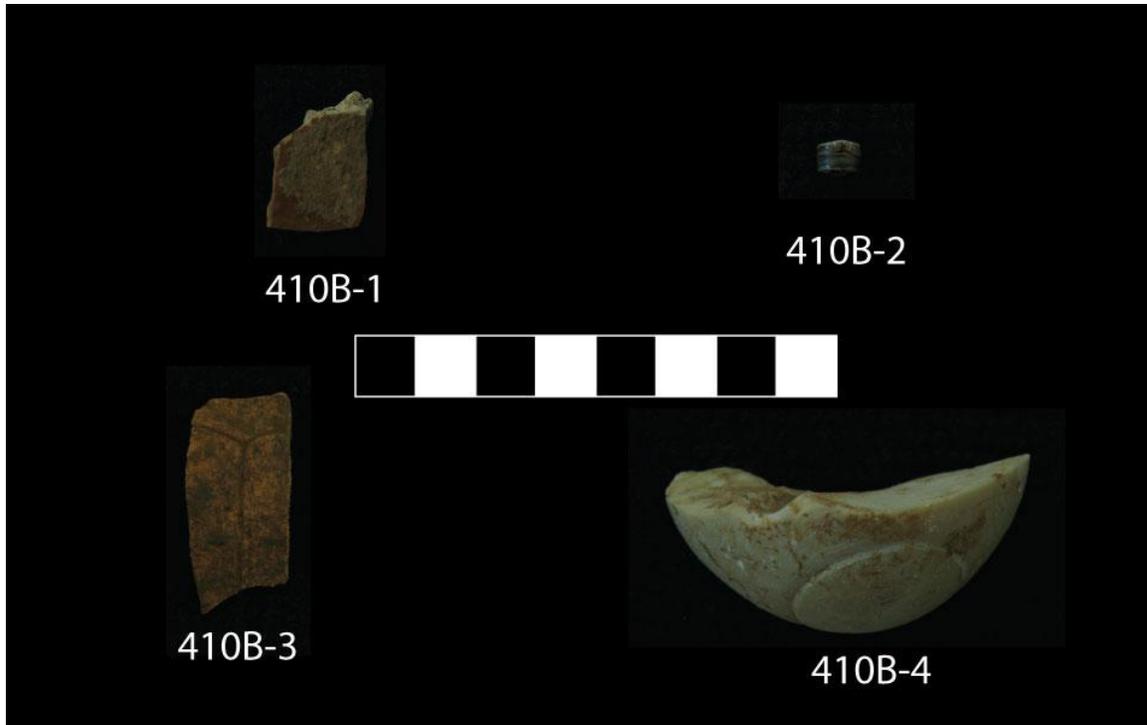


Figure 6: Special finds from EU 410B-1.

were halted due to time. We ended the excavations 253cm below the surface and 164cm below the last cultural feature identified in the unit (Floor 4).

Artifacts

There was a wide range of artifact types collected from EU 410A-1. Items collected included ceramic sherds, chert debitage, pieces of daub, quartz, fresh water shells, faunal remains, limestone, obsidian bladelets and flakes, marine shell, carbon, and granite. The special finds collected from the 410B excavations included polished bone (SF# 410B-1), a marine shell bead (SF# 410B-2), and a piece of incised bone (SF# 410B-3). All of these finds were from the context associated with Feature 5 and its floor (Floor 4). There was also a chert-modified core (SF# 410B-4) that was found in association with Feature 1. The core is partial, but may have been rounded like a ball with a perforation through the center of the core. There is also a thinly etched circle on the surface of the surviving core. The identification of this item is currently not definitive.

Ritual Activity

The evidence for ritual activity associated with Structure 410B was not very strong for this field season, but there is reason to suspect that Feature 4 may have been a ritual deposit of some sort. It was a ceramic sherd cluster that was placed up against

Feature 1 and it would be worthwhile to more closely examine those ceramics and to revisit Feature 1 because it seems to be enclosing an area.

Structure 410P

To designate the patio area on M-410 we used the structural identifier of 410P. The patio unit (EU 410P-1) was placed somewhat center and east from the overall center of the mound due to an attempt to avoid trees and larger vegetation. The unit was a 2m x 2m area and was also set to an orientation matching the other units and architecture (20° west of north). The first level encountered was the same compact earthen surface seen on Structure 410A and 410B. This surface was approximately 7cm below the surface and was designated as Floor 1. Within Floor 1 there was the same small daub inclusions. The next construction sequence encountered was a cobble floor (Floor 2) made of small cobbles with no plaster. The cobble floor was 12cm below Floor 1. The fill below Floor 2 was a loam-clay and within the fill, approximately 30cm below Floor 2, there was a concentration of ceramic sherds found with small faunal remains. This was designated as Feature 1 and was located only in the northern half of the excavation unit. We continued to find artifacts in the southern half of the unit but it was not compact and concentrated as in the northern half of the unit. Below Feature 1 we continued to find an abundance of artifacts and the matrix appeared to have a higher proportion of clay to loam. We then found another concentration of ceramic sherds in the southeast area of the excavation unit, approximately 21cm below the elevation of Feature 1. This concentration was designated as Feature 2 and differed from Feature 1 in that there were less faunal remains and a larger concentration of clay with the sherds. Feature 2 was in the east baulk of the southeast corner of the 2m x 2m unit. We decided to extend 1m x 1m east from the corner to extract the entire concentration. Feature 2 extended 10cm down in elevation and below the feature it was clear when the concentration was completely removed because the fill became void of artifacts and we found a solitary limestone approximately 20cm in size just below the western edge of Feature 2. The stone was on top of a cache of two bowls placed lip-to-lip. We designated this as Cache 1 and it was approximately 5 cm below the bottom of Feature 2. We excavated another 30cm below the cache to see if there were more deposits, but did not find anything and redirected our focus to the test pit in the northern half of the unit.

In the 2m x 1m test pit area of EU 410P-1 we continued below the elevation of Cache 1 and noticed that the matrix continued to increase in its proportion of clay to loam with a red-brown color. The matrix did change to a more orange-brown sandy-clay with fewer artifacts being extracted. Within the sandy-clay matrix we came across an abundance of a type of mineral that was unknown to us at the time. Excavations continued into the start of a matrix change to a more yellow-brown silty-clay that was more compact than the sandy-clay level. I suspect we may have started to excavate in natural levels, but we stopped excavations at this point due to time. The excavation unit was halted at 226cm below the surface.



Figure 7: Special finds from EU 410P-1.

Artifacts

The types of artifacts collected from 410P excavations included ceramic sherds, chert debitage, pieces of slate, quartz, granite, daub, faunal remains, obsidian flakes and bladelets, carbon, marine shell, and jade. The special finds that were recovered included a jade stone pendant (SF# 410P-1) that was in association with Floor 2. There were unknown beads that are suspected to be shell (SF# 410P-2) that were found in association with Feature 1, and a piece of silt stone that appeared to have been shaped (SF# 410P-9) was from Feature 1. There was a shell ornament (SF# 410P-3) and two perforated bone needles (SF# 410P-4/5) found below Feature 1. A piece of incised bone (SF# 410P-6) was found in the fill below Floor 2. In Feature 2 there were two marine shell inlays (SF# 410P-7/8).

Ritual Activity

There were several ritual deposits encountered during the course of the 2011 field investigations in the patio of M-410. Feature 1 is considered a ritual deposit and was comprised of a dense concentration of ceramic sherds and faunal remains. Some of the ceramic sherds could be fitted together, forming a possibility of partial vessels being contained in this deposit. Feature 2 is also considered to be a ritual deposit. This deposit was primarily a dense concentration of ceramic sherds, that could also be partially fitted together, and larger amounts of dense clay with the sherds. In this level it was noticeable

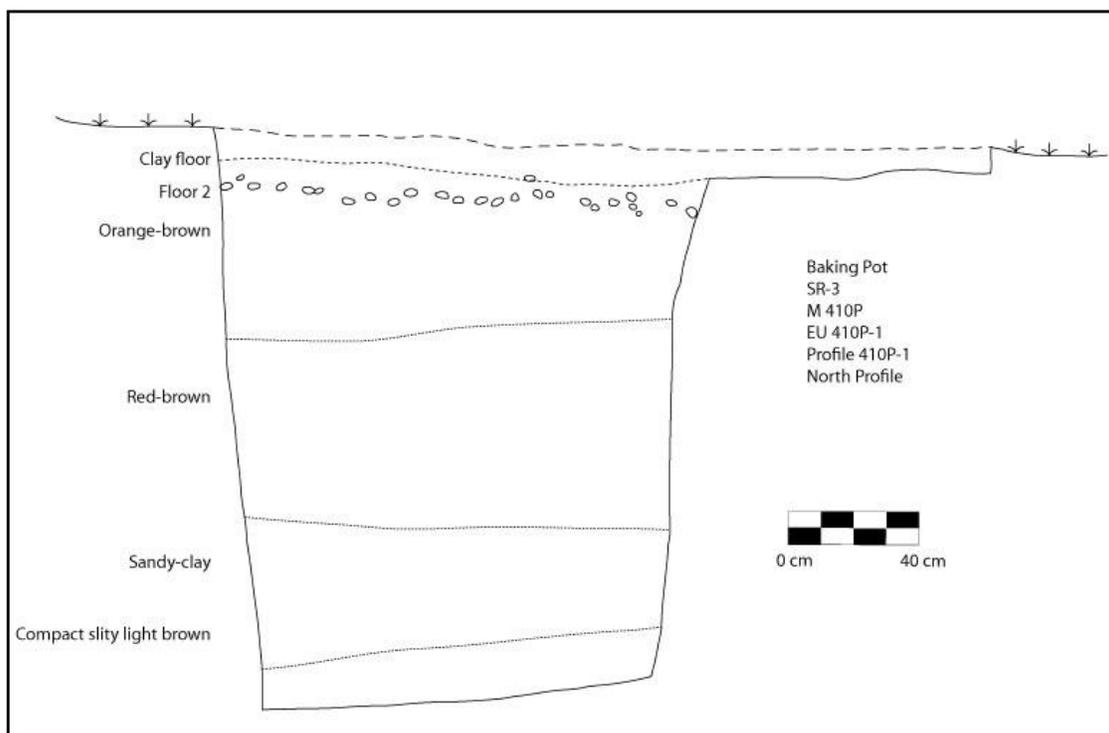


Figure 8: North profile of EU 410P-1.

how vacant cultural materials were from the matrix surrounding the deposit. Cache 1 was composed of two whole vessels in the form of bowls, with one partial vessel east of the lip-to-lip configuration. All three components were able to be refitted following removal. There was also matrix that was compact and filled between the two bowls. There were no objects placed within the two bowls, but it would be important to note that the fill surrounding this cache was mostly clay-loam. The matrix within the vessels was alluvial and different from the clay matrix surrounding the cache. The profile of the matrix from within the bowls revealed a level of approximately 2cm of alluvial soil with a layer of carbon atop of this. The remaining matrix in the bowls was an alluvial soil with white particles dispersed throughout. It looked like it may have been a shell material, but there is no final determination. Feature 2 was almost directly on top of the cache, and Feature 1 was north and west of the cache at a higher elevation within the fill. However all of these features appear to have been in the same construction phase or level of fill. It is suspected they all share a chronological contextual association.



Figure 9: Vessels 1 and 2 from 410P-1, Cache 1.

DISCUSSION

The 2011 field season had the goal to conduct preliminary investigations at M-410 with the intent to collect data that would give information in regards to the occupational sequence of the plazuela group and to infer on the status of the ancient occupants. There was also an interest in using the collected data and interpretations for a comparison with other mound groups at the site of Baking Pot. While investigations

were preliminary and some of the artifact analysis incomplete, there are still deductions that can be made.

In regards to the configuration of M-410 there are similarities with the Atalaya, Bedran and Yaxtun Groups. The four groups are on raised platforms with superstructures of two to four structures, and are roughly aligned with the cardinal directions. The tallest structures per group do differ. M-410 has its tallest structure configured on the west side of the patio, while the Yaxtun's tallest structure is situated on the north side of the patio and the Atalaya and Bedran Groups have theirs on the southern edge of the patio.

There are similarities to the type of materials used in construction at M-410 and the other groups. On M-410 the use of clay-loam fill was predominate for both structures and the patio. The floors varied with some being a layer of plaster on top of the clay fill, cobbles on top of clay fill with no plaster, and only one instance in M-410A that plaster was used in combination with stones. Conlon (1993:188) commented that at the Bedran Group, "construction fill begins as medium ballast type fill in the Early Classic and eventually converts to a more clay based fill with some minor use of small rubble just underneath the plaster surfaces as the Late Classic construction begins." Powis (1993) also commented that the fill from the Bedran Group was red-brown clay-loam mixture with construction ballast. At the Yaxtun Group (Audet and Awe 2001) there was a Preclassic occupation documented in Structure 198 with a low building platform with a poorly preserved plaster floor laid over small river cobbles that were used as ballast above an alluvial soil fill. "These materials and type of construction reflect a pattern that is typical at Baking Pot and its occurrence in Preclassic levels at Yaxtun suggests that it persisted throughout the occupation at the site (Audet and Awe 2001: 7). The last phase of construction on the Yaxtun Group included a poorly preserved plaster floor with only a single line of crude limestone and alluvial boulders outlining the perimeter of the platform (Audet and Awe 2001: 8). The use of alluvial boulders was documented at M-410 in the excavations on both 410A (Feature 3) and 410B (Feature 5).

The types of artifacts collected from M-410 were also consistent with artifacts found from other plazuela groups at Baking Pot. From the Yaxtun Group, while exposing terminal architecture, Audet (2002:94) found items such as a bone needle, two fragments of modified bone, a modified conch fragment, six obsidian blade fragments, a chert biface, and two metate fragments. Other objects mentioned were described as household artifacts including twenty manos, thirty-four metates, several hundred obsidian blade fragments, numerous ceramics, spindle whorls, celts, and chert bifaces. Some of the satus items described included three tinkle shells, two jade beads, ten ceramic beads, one canine tooth, and a conch shell bead and adornments (Audet 2002:95). These are all similar objects that have been found during the course of investigations at M-410.

The conclusion of the ritual nature of the features from M-410 was primarily deduced from the similarities seen from other groups around Baking Pot. From Mound 2 at the Bedran Group there was a half vessel cache (#1) (Conlon 1993:192). Also from Mound 2 Cache 4 included three chert eccentrics, Cache 5 included one chert eccentric and a dish, and Cache 6 included a single inverted bowl (Powis 1993). In the 1994 season

at the Bedran Group there were numerous caches reported. Some examples of these deposits include: Cache 19, an eroded partial vessel; Cache 20, two inverted finger bowls; Cache 21, partial vessels with a wide variety from utilitarian ollas to portions of beautiful polychrome vessels; Cache 24, three chert bifaces. The sherd cluster caches are described as having parts of the vessels that range from $\frac{1}{4}$ to $\frac{3}{4}$ complete and interpret them as a possibility that the elements comprising the sherd clusters were simply refuse collected from in and around the immediate settlement for use as fill construction, but this was reconsidered because these deposits differ from sherds found more typically distributed relatively homogenously throughout the construction fill (Conlon, Finlayson, and Powis 1995: 58). The partial vessels within the sherd clusters were considered evidence of the purposeful removal of portions of vessels either before or after deposition. This description and pattern of sherd cluster caches from the Bedran Group is very similar to Features 1 and 2 from 410P excavations, and Feature 4 from 410B. Both 410P features were found likely associated with another cache and within the fill below a cobble patio floor. There was also mention at the Boca Raton Group that within a terminal architectural collapse there was Cache 7 that included a cluster of sherds (Conlon, Powis, and Hohmann 1994: 240). Cache 3 from the Yaxtun Group was a ceramics cluster that was directly on the terminal phase floor (Audet 2002: 97). These ceramic cluster caches are reminiscent of Feature 4 from Structure 410B, a concentration of ceramic sherds along Feature 1.

At the Boca Raton Group within the Bedran Group cluster, Cache 8 included a large concentration of sherds. A number of the sherds could be refitted together to form partial vessels and there was one single eccentric. Also at the Yaxtun Group there was a large concentration (Cache 5) of Late to Terminal Classic ceramics with pottery stacked 20cm thick with many utilitarian sherds and none were complete (Audet 2002: 97).

CONCLUSION

It is intended to complete the 2011 investigations while continuing to explore M-410 in the 2012 field season. Future plans for research are still tentative, but it is desired to properly map the plazuela group. There is also an intention to expose more of Structure 410A with a focus on the façade of the structure to possibly expose a stairway. There is also the question of the juncture of Structure 410A and 410B and we would like to know when these structures joined and how they articulate. It is also intended to excavate a trench as a cross section on the edge of the mound to locate the platform walls.

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EXCAVATIONS OF CHULTUN CH-01, BKP-SOUTH, BAKING POT, CAYO DISTRICT, BELIZE

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INTRODUCTION

Excavations at BKP-S on chultun CH-01 were conducted in the summer of 2011 as part of the ongoing research conducted by the Belize Valley Archaeological Reconnaissance (BVAR) project at the site of Baking Pot, Belize. Baking Pot is located in the upper Belize River Valley of the Cayo district, downriver from the confluence of the Macal and Mopan Rivers and on the southern bank of the Belize River. (Hoggarth et al. 2008) CH-01 was one of three initial chultuns discovered in Baking Pot and the first to be excavated. In stark contrast to the flood plains the majority of Baking Pot resides on, BKP-S is located in the foothills of the southern region that provides the elevated and well-drained ground most commonly associated with chultun construction (Puleston 1965).

While excavations did not yield an abundance of artifacts, they did help add to our growing picture of domestic life in the settlement of the Baking Pot monumental epicenter while opening the door for further investigation. The following report should serve to summarize our findings on CH-01 as well as place its discovery in the context of a wider pattern of chultun use across the Maya world.

METHODOLOGY

The chultun was prepared for excavation by clearing large vegetation from the opening as well as surface debris from inside both chambers. Once cleared, excavations performed at BKP-S were horizontal in nature, using standard triangulation to set up 1x1 meter units in both underground chambers. Standard archaeological excavation procedures were used in both units (Ch-1 and Ch-2) including troweling, brushing and screening. All artifacts collected were bagged and labeled according to unit, level and artifact type each day.



Figure 1 (Above): Extent of BVAR survey in 2008 (from Helmke 2008), showing locations of sites and the grid system for Baking Pot's survey

EXCAVATIONS

Baking Pot-South (BKP-S) largely consists of foothills on a privately owned section of land in the Southern periphery of Baking Pot's core. CH-01, a chultun discovered on this property by the landowner, has a single orifice for entry measuring approximately 68 cm across and 53 cm wide (Figure 2). Carved into limestone bedrock, it contains two underground chambers: one facing Northwest measuring 3m wide by 2m long and one facing Southeast measuring 3.5m wide by 2.5m long. Excavations on CH-01 began July 13th, 2011 and ended July 17th, 2011. This purpose of this short excavation was two-fold: 1) To understand how chultunob may have been utilized within Baking Pot as there has been no known recorded history of chultun excavation in nearly 90 years of research at the site; and 2) to add to the growing dialogue concerning how chultunob were used by the Maya in the context of both time and place.

As noted by past and present archaeologists alike, chultun excavation is anything but standard, often challenging even the most seasoned professional:

“The actual excavation of the chultun involves some of the most cramped digging imaginable. All the earth has to be removed by buckets which are drawn out by rope, emptied, and then refilled by a man working down inside. As it can be quite dark, artificial lighting is provided with candles or flashlights. To add to the difficulties, chultuns, before excavation, are often already serving as homes for rats, snakes, bats, and even certain species of birds.” (Puleston 26:1965)

As indeed was the case with CH-01, we found it to be the home to several bats, lizards, tarantulas and various cave spiders.

Unit Ch-1 – Northwestern Chamber

Excavations began on unit Ch-1 on July 13th, 2011. We placed a 1m x 1m unit in the center of the chamber and assigned lot #BKP-S1 for Level 1. A datum was secured into the SW corner of the chamber wall with a metal nail, measuring 47cm above the SW corner of the unit. The lot was characterized by homogeneous sandy silt that was light grey in color and soft to the touch. No disturbances were noted and we theorized that the texture of the matrix could be a combination of eroded limestone and possible bat droppings. No artifacts were recovered in this unit although several large limestone rocks were present. There were no notable signs of internal man-made architecture. This unit was closed on July 15th, 2011 after approximately 40cm of excavation, as we believed it to be sterile.

Beginning elevations:

NE: 72cm SE: 50cm SW: 56cm NW: 60cm Center: 62cm Datum: 1

Ending elevations:

NE: 99cm SE: 88cm SW: 98cm NW: 97cm Center: 91cm Datum: 1



Figure 2 (Above): CH-01, single orifice entry (Photos by C. Perkins)



Figure 3 (Above): Unit Ch-1, end of excavations (Photos by C. Perkins)



Figure 4 (Above): Unit Ch-2, begin excavations (Photos by C. Perkins)

Unit Ch-2 – Southeastern Chamber

Excavations began on unit Ch-2 on July 14th, 2011. We placed a 1m x 1m unit in the center of the chamber and assigned lot BKP-S2 for the surface level. A datum was secured into the northern section of the chamber wall with a metal nail, measuring 22cm above the NW corner of the unit. The lot was characterized by heterogeneous humus that was dark brown in color and mixed with silty sand. While clearing the surface materials we found one piece of blackish-grey, non-diagnostic ceramic. Due to the lack of other artifacts and its location on the surface, I believe this piece of ceramic may have been washed inside at some point during a rainstorm. After finishing clearing the surface materials and recording the ceramic, we switched to level 1, lot BKP-S3. There were no notable signs of internal man-made architecture or artifacts discovered in this lot. This unit was closed on July 15th, 2011 after approximately 30cm of excavation as we began to hit bedrock and believed it to be sterile.

Beginning elevations:

NE: 25cm SE: 16cm SW: 26cm NW: 24cm Center: 22cm Datum: 2

Ending elevations:

NE: 49cm SE: 48cm SW: 55cm NW: 58cm Center: 50cm Datum: 2

CONCLUSIONS

While the presence of chultunob in the Maya world have been consistently documented in their relation to domestic settlement, the function and meaning remain somewhat unclear. Undoubtedly the most common explanation is that of water storage as primary purpose, followed by food storage or refuse deposit when the chultun is no longer able to retain water. (Puleston 1971). The function of chultunob found in the northern Yucatan and as far south as Uaxactun are widely accepted as cisterns due to their size, location and plaster coating. CH01, with its large plastered chambers, noted lack of cultural artifacts and location on elevated terrain are all indicators that point to a primary function of water storage. However, it is impossible to say with certainty what role chultunob played at Baking Pot, as well as within the greater Belize River Valley, without the context additional excavation and research would provide.

ACKNOWLEDGEMENTS

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PRELIMINARY REPORT ON SETTLEMENT IN THE SOUTHERN PERIPHERY OF CAHAL PECH, BELIZE

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INTRODUCTION

During the 2011 Belize Valley Archaeological Reconnaissance (BVAR) field season the southern periphery of Cahal Pech was surveyed by Wendy Dorenbush and field school students. The survey documented settlement from the southern edge of the acropolis to approximately three (3) kilometers south of the core. The 2011 field survey is a continuation of the survey started by Dr. Jaime Awe with the Cahal Pech Project in 1988-1992 that documented major plazuela groups (Zotz, K'ik', Cas Pek, Figueroa, Zinic, Chechem, Zopilote, Tolok, Manchich, Zubin and Nax Che) within the southern periphery of the site acropolis (Awe and Brisbin 1992). The primary objective of the 2011 survey at Cahal Pech was to survey and document settlement between the groups and to determine settlement density and patterns of distribution throughout the landscape. Along with mapping the settlement in the southern periphery, minor surface collections were made within areas that had been greatly disturbed; areas such as looter's trenches and bulldozed or destroyed mounds.

BACKGROUND

The site of Cahal Pech is located on the outskirts of San Ignacio, the capital of the Cayo District of Belize, in the upper Belize River Valley. Located on the crest of a steep hill on the west bank of the Macal River, two kilometers upstream from the Macal's confluence with the Mopan River, and about 200 river kilometers from the Caribbean coast, Awe describes the central acropolis as having "a commanding view of the Maya Mountains to the south, and the interfluvial bottomlands between the Macal and Mopan

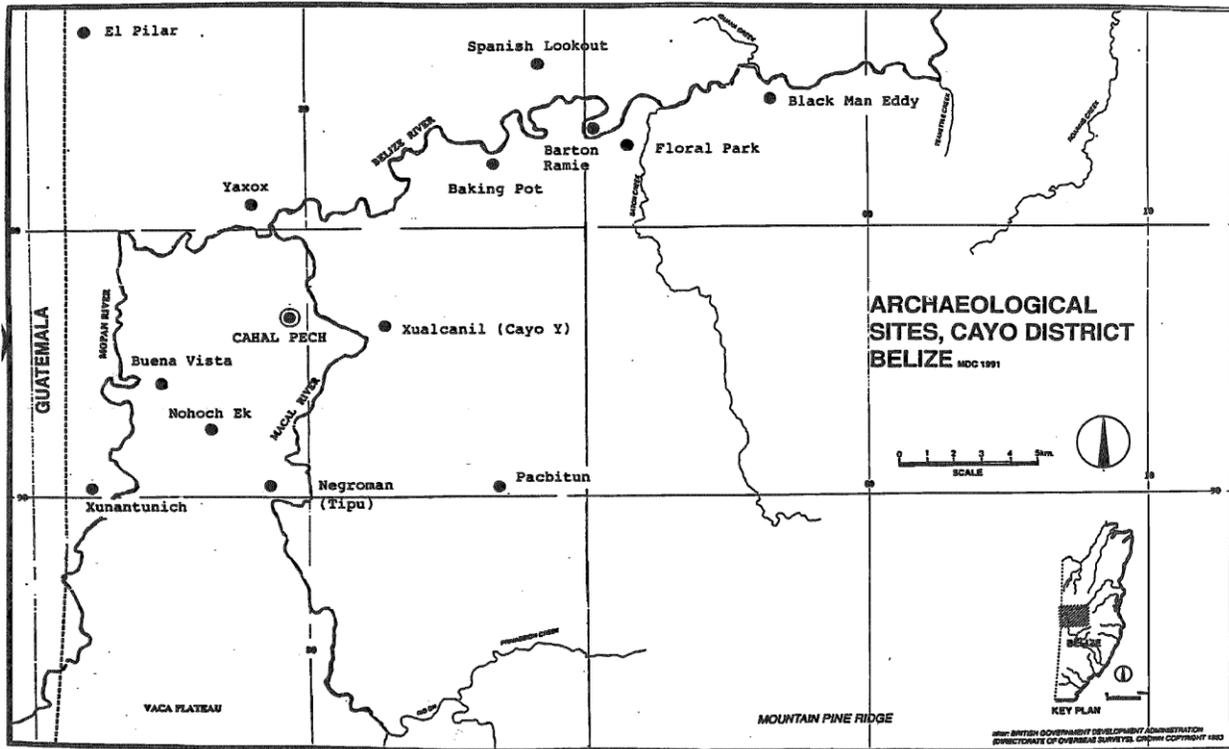


Figure 1: Map of the Upper Belize River Valley and the location of sites relative to Cahal Pech

Rivers to the north” (Figure 1; Awe 1992: 48).

The discovery of Cahal Pech is unknown, though the first publication of the site was by Thompson in 1939, who listed it under the name El Cayo (Awe 1992:55). Later Gordon Willey visited the site core during his survey of the Belize River Valley. Although Willey and his team did not conduct investigations at Cahal Pech, he did note it as a major center in the Belize River Valley in his settlement hierarchy discussion (Willey et. al. 1965:557-579; Awe 1992:57-58). Willey and his colleagues were aware that the Belize River Valley was densely settled but focused their research on the alluvial bottoms in pursuit of observing specialized agricultural patterns (Willey et. al. 1965; Ford and Fedick 1992:37). Ford and Fedick noted in the B.R.A.S.S. survey report of the northern portion of the Belize River Valley that in comparison with other sub-regions of the central Maya Lowlands, the upper Belize River Valley “exhibits relatively high settlement density” (Ford and Fedick 1992:39). This pattern seems to hold true for the settlement at Cahal Pech.

In the 1960s, A.H. Anderson, Belize's first archaeological commissioner, recognized the need for the site to be protected and recommended to the government that it be left unaffected by private development and established as a National Park (Awe, Campbell, and Bill 1988: 4-5). Various salvage work was conducted in the 1970s and 1980s by the Belize Department of Archaeology in response to heavy looting and destruction of the site's precinct (Awe 1992: 59; Awe, Campbell, and Bill 1988:5; Awe and Brisbin 1992). Due to the rapid expansion of San Ignacio and an increase in looting, the preservation of the center was in danger. Awe reported in his dissertation that "by 1985 the southern limits of the town were within 50 meters of the central precinct and many of the structures at the site had been vandalized or partially destroyed" (Awe 1992: 44). The Cahal Pech Project, directed by Awe from 1988 to 1994, initiated research at Cahal Pech with the objectives to: "1) halt further destruction of the center, 2) produce a map of the site demarcating an area to be established as a national park, 3) develop the site for tourism, and 4) obtain the data for publishing a preliminary guide book which could be sold to tourist and help to increase local cultural awareness" (Awe 1992: 44-45). Cahal Pech was finally designated as a National Park in 1988 (Awe and Brisbin 1992:7).

The Cahal Pech Project, which subsequently evolved into the Belize Valley Archaeological Reconnaissance Project (B.V.A.R.) in 1992, began its first season of investigations at Cahal Pech in the summer of 1988 (Awe and Brisbin 1992:1). The results of the 1988 to 1992 survey produced a map in 1994 by Shawn M. Brisbin (Figure 2). The project focused on groups that were in immediate danger of being destroyed due to development, which accounts for the maps "gaps" between the groups. Awe and Brisbin described the tribulations of the survey in their "*Now You See It, Now You Don't*" article, which outlined the objectives, results and difficulties of surveying at Cahal Pech: "Quite often surveying in an area would have to be put on hold in order to allow the survey team to take off and map settlements that had been exposed by land clearing for the construction of new homes" (Awe and Brisbin 1992:4). Therefore, a fully systematic survey was never fulfilled.

The 2011 settlement survey picked up where the Cahal Pech Project left off, by conducting a more thorough and systematic investigation of the southern periphery of Cahal Pech to fill in the "gaps".

METHODOLOGY

The 2011 B.V.A.R. settlement survey was completed in three phases. Each phase focused on gathering data on settlement within the southern periphery of Cahal Pech, though the method of survey differed. For the purposes of collecting data, the survey used the permanent datum on Structure A1 as the main datum to tie in locations, and the

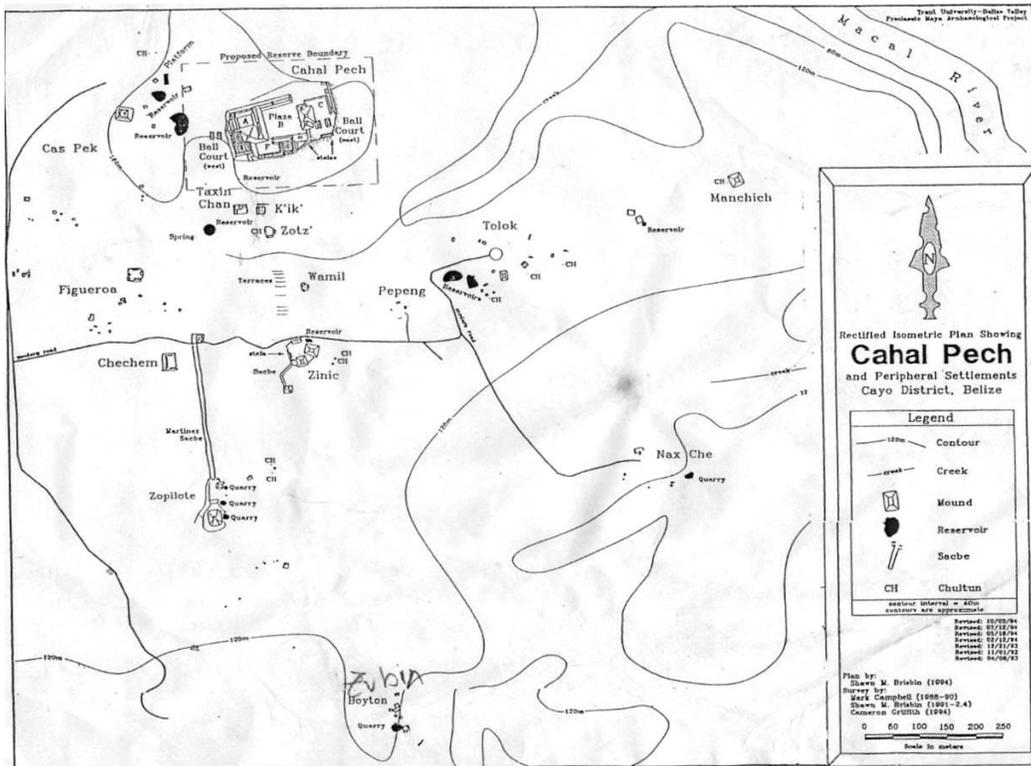


Figure 2: 1994 Map from Cahal Pech Project Survey

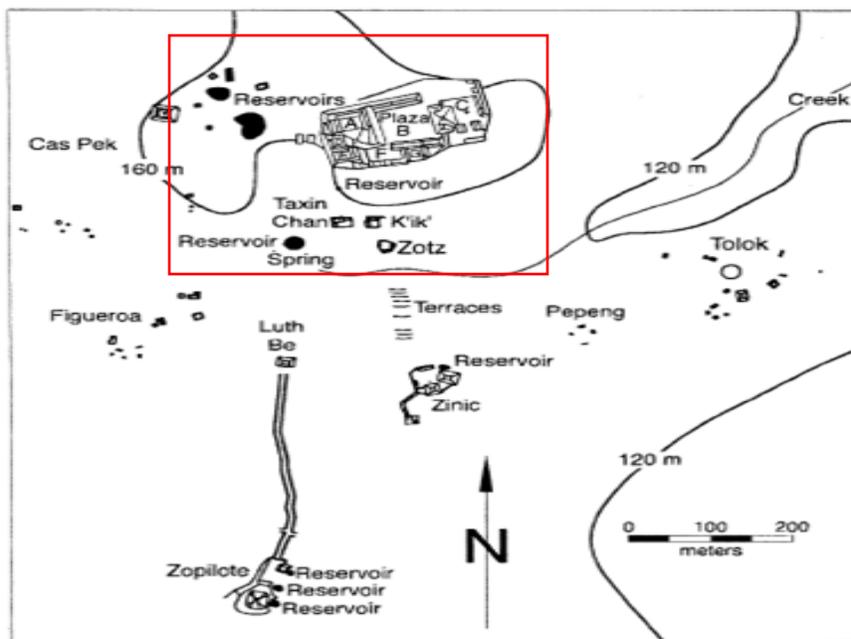


Figure 2: Map of Cahal Pech and southern periphery as far as the Zopilote group and boundary of the first phase of 2011 survey.

Archaeological Park Visitors Center was used as a control point. Cultural and geographical features were recorded using a handheld GPS (GARMIN 60CSX) using the worldwide datum WGS84.

Due to availability of equipment and time limitations, the methodology changed twice during the 2011 field season. The first phase consisted of a pedestrian survey from the southern boarder of the site's acropolis toward the Zinic group located directly south of Cahal Pech and just off a modern road. Using the road as a boundary and the Cahal Pech Archaeological Park Trail, both oriented East-West, as a baseline, which transects were established every 20m, began its investigation of the area between the Zotz, K'ik', Zinic, and Figueroa groups (Figure 2). The transect created by the 1988-1994 settlement survey bisected this area and was used to align perpendicular transects at 20m apart.

The second phase comprised of vehicular and pedestrian surveys. With the access of a project vehicle, the survey followed modern roads and worked in a similar grid-like pattern through urban, agricultural and undeveloped spaces. The objective was to work further out and move in toward the site core. With direction from Awe, the survey focused on hillier regions within the southern periphery and began its investigation in hills three (3) kilometers from the core, south of the group Zubin. Awe noted in his dissertation that "most of the settlement recorded in this peripheral zone are located on the higher river terraces to the northeast, or along the crests of hills and small river valleys east and southeast of the site core" (Awe 1992:65).

In the final phase, which took place during the final week of the field school, the survey team documented modern geographical features, such as roads, trails, and landmark, for creating the final map. Along with mapping these features, the team also tested the hypothesis that settlements are most common on hilltops and crests. This was accomplished by surveying valleys between hills that were previously investigated. During this process, no cultural features were located which supported the hypothesis. The survey area used geographical landmarks as boundaries (Figure 3): the northern boundary is the town of San Ignacio and the Western Hummingbird Highway; the eastern boundary is the Manchich group; the western boundary is the Western Hummingbird Highway; and the southern boundary is the abandoned Casas Mayas Resort and three (3) kilometers directly south of the central precinct.

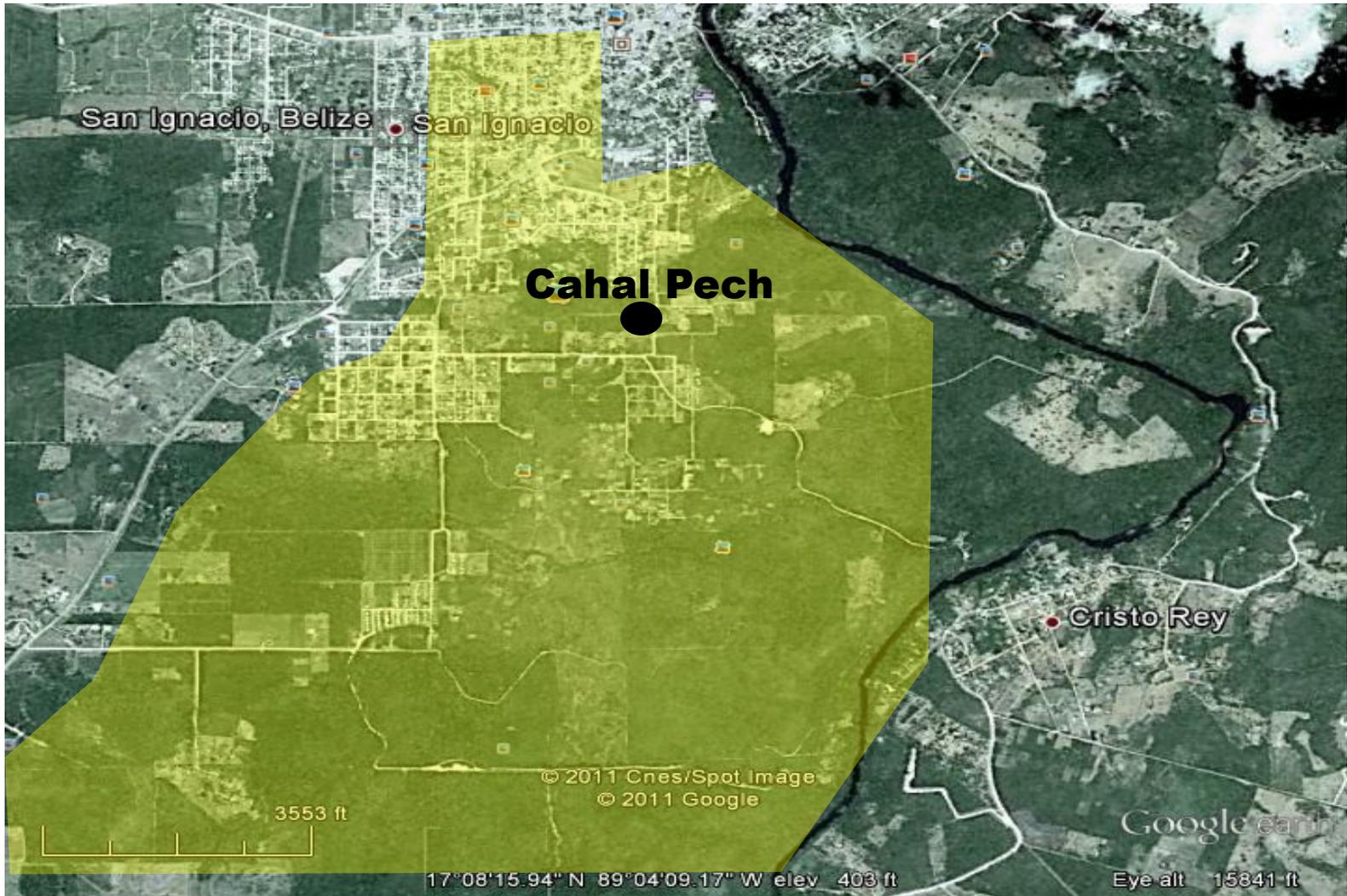


Figure 3: Map, from GoogleEarth, of the total area surveyed during the 2011 field season



Figure 4: (left) Looter’s trench in chultun. **Figure 5:** (right) Chultun built into a platform.

RESULTS

Mounds

The survey located 217 mounds within the survey area (including previously recorded mounds and structures; 199 mounds were located in the 2011 survey). There were also 44 surface scatters that were for the purposes of this project recorded as scatters and included in the mound category. The scatters included cultural remains, such as ceramic and lithic artifacts, along with limestone that had been crushed and scattered during the destruction process of the feature. The average size of the mounds found ranged from 3-5 meters in length and width, and 1-2 meters in height. Mounds were commonly found in groups of 2, 3, or 4, some isolated mounds were discovered; however, due to the humus layer, the overgrowth of the jungle, and often modern development it is most likely more mounds existed than were recorded. Most of the mounds recorded were located in higher elevations, along the hilltops and crests of the hilly region of the southern periphery of Cahal Pech.

Chultunob

Eight (8) chultunob were located and recorded during the survey. Every chultun documented was either built into a platform (Figure 5) or constructed in a mound; all were associated with settlement, terraces on slopes, platforms or mounds. One chultun had been looted (Figure 4); the looters accessed the chultun from the side by removing a piece of the chamber’s wall, creating a double entrance. The removed piece was found meters away. With the looter’s entrance, two members of the survey crew were able to

collect ceramics from inside the chamber. Chultunob were documented with the handheld GPS.

Terraces, Platforms, Walls, and a Dam

Terracing along the slopes of hills in the southern periphery of Cahal Pech was common. The best example of terracing was found immediately south of the site's acropolis. Nine (9) terraces, oriented East-West, were mapped along the slope leading up from a dried creek towards the Zinic group. Other terraces were found down slope from settlements on hilltops. Overall, approximately forty (40) terraces were documented (two GPS points were taken along terraces; 80 points recorded).

Platforms were mostly associated with mounds and chultunob. The platforms without features probably contained a residential structure or group of structures. Demarest (2004:116) noted that most Classic Maya household groups fall between the extremes of "isolated huts without even a basal platform to plaza groups" Twenty-six (26) were recorded by taking a GPS point in the center then manually measured in North-South and East-West lines.

Fifteen (15) wall features were located on the survey. Two walls features were cut out of bedrock then built upon with cut limestone. The other wall features were constructed out of cut or blocks of limestone that were stacked on top of each other.

A dam (Figure 5) constructed from blocks of limestone was located immediately south of the site acropolis at the end of the dried creek below the nine (9) terraces. The proximity of the dam to the terraces is interesting as it may suggest an agricultural function.

DISCUSSION

The 2011 settlement survey at Cahal Pech reaffirmed Maya settlement patterns previously documented in the Belize River Valley. Settlements in the southern periphery at Cahal Pech were more commonly found in higher elevations, on hilltops, and dissipated down slope. The plazuela groups located by the Cahal Pech Project (Awe 1992; Awe, Campbell, and Bill 1988) are situated on hilltops. The northern periphery has yet to be systematically surveyed, however due to the difference in terrain, low flat valley, it is speculated that the settlement is less dense and will exhibit different patterns than those in the south, east, and west peripheries (Awe, Campbell, and Bill 1992:7-8).

Future surveys will focus on the east, west and north peripheries so as to confirm, or reconsider, the regionalized settlement patterns of Cahal Pech.

ACKNOWLEDGEMENTS

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THE DISCOVERY OF AN ELITE MAYA TOMB: EXCAVATIONS AT THE SUMMIT OF STRUCTURE B1 AT CAHAL PECH, BELIZE

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INTRODUCTION

During the summer of 2011, excavations at structure B1 at Cahal Pech were supervised by Catharina E. Santasilia from University of Copenhagen, Denmark, with help from field school students from BVAR and AFAR (American Foreign Academic Research). The first session concentrated on excavation at the site of Cahal Pech. The second session focused on registration and analysis.

Excavations in 2011 were focused at the summit of the largest temple of the eastern triad temples in Plaza B at Cahal Pech in San Ignacio, Belize. The aim of the research was to preserve the western façade of the temples; Temple B1, B2 and B3, at Cahal Pech. This led Dr. Jaime Awe to start excavations on top of the temple B1, which had not been done since the late 1960s, when Peter Schmidt had uncovered an elite tomb, as well as an intrusive burial. Unfortunately have no reports of these excavations until this day been published. In the 2011 season, excavation started to the west of where Peter Schmidt had excavated, which eventually led to the discovery of several caches as well as an excellently preserved elite tomb, including a variety of luxury goods, including jade, shell, obsidian, and other materials.

BACKGROUND

Cahal Pech is located on the southern outskirts of modern day San Ignacio, in the Upper Belize Valley. Unfortunately, most of the surrounding settlement of ancient Cahal Pech has been succumbed by the growing city. Cahal Pech is located on a hilltop on the west bank of the Macal River and is surrounded by the foothills to the south. Excavations by BVAR at Cahal Pech have been conducted since 1988. The excavations were started by the Belize Tourism Industry Association (B.T.I.A.) and UNESCO to preserve the history of the Maya by turning Cahal Pech into a national park. The reason for starting this project was to preserve the area as well as to gain more information about the site and its relation to other sites in the vicinity. Dr. Jaime Awe has directed excavations that have been conducted at the site since 1988. Earlier

excavations of the site have been excavated by Willey, Satterthwaite, Ford, Ball & Taschek and Schmidt. Although the site had been vividly excavated a chronology still needed to be produced, which became one of the issues for Dr. Awe who has established that Cahal Pech has been populated as far back as 1200 BC and new evidence supports that the site was extendedly used during the Terminal Classic period.

METHODOLOGY

Two units were defined on top of structure B1: B1-1 and B1-2. B1-1 was defined to establish the top floor of the temple. B1-2 is situated to the west of where Peter Schmidt excavated back in the late 1960s, where a remarkable tomb had been uncovered. Unit B1-2 was located on the western side of the structure. Through our excavation we aim to establish the different periods the temple has been used. Due to the discovery of the tomb with human remains, the whole excavation was slowed down. Arrangements were made to finish the excavations of the tomb, and then to continue the work on the structure in summer of 2012.

Drawings were made of the different levels of the tomb. The tomb revealed quite a lot of interesting and unique artifacts. All special finds were registered, drawn and photographed as they were exposed. The artifacts surrounding the human remains could not be assigned to one or other. Therefore the drawings indicate only where the artifact was found, but not its elevation.

All artifacts found during excavation were cleaned, analyzed, measured, photographed, drawn and cataloged. Gedisa Avella, from Galen University, Belize, assisted Santasilia in analysis and registration during second session. The vessels found inside the tomb were almost all intact in contrary to the vessels found in the caches, which all took a lot effort to restore. Shells and lithics were analyzed and registered. All artifacts excavated in the levels above the tomb were processed at the site during ongoing excavations, except for special finds and artifacts from the two caches. Monica M. Oropeza, Shawn Morton and Bri Bol were most helpful using their artistic skills drawing artifacts.

EXCAVATION RESULTS

A 2 by 1.5m unit (B1-1) was defined on the north-western side of Structure B1. The aim was to reach the top floor of the structure and to determine the purpose of a line of stones situated at the eastern side of the unit.

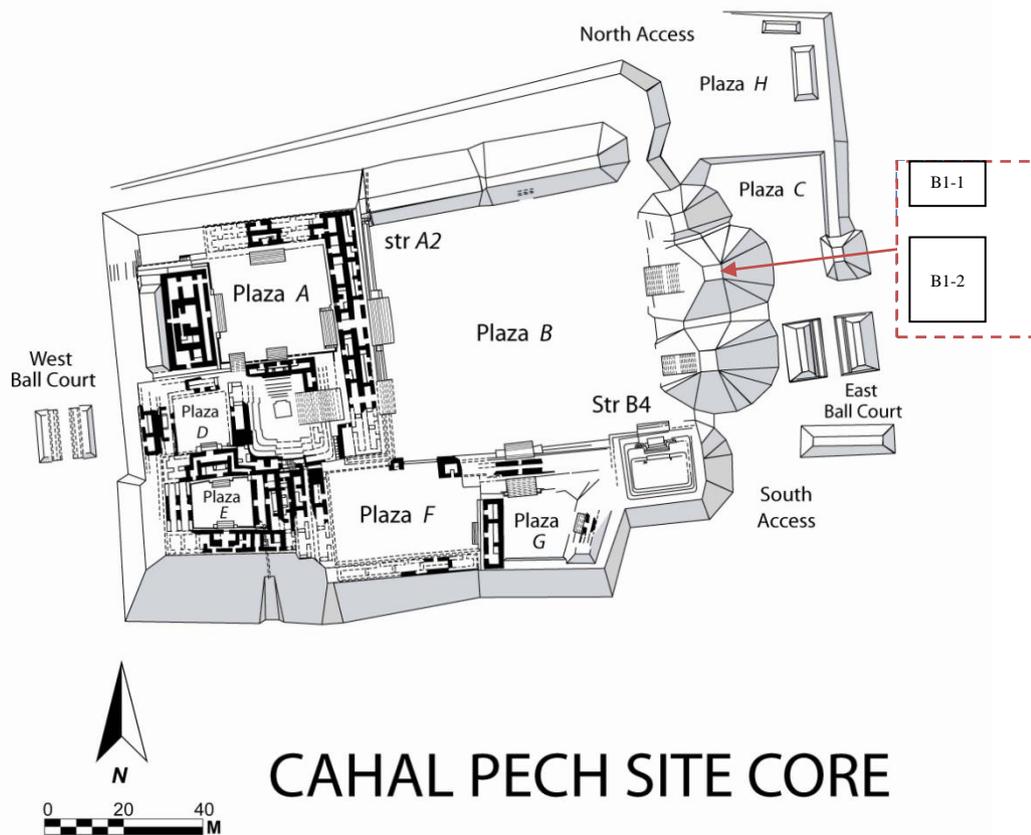


Figure 1: Cahal Pech site core (map used by courtesy of Dr. Awe).

The second unit (B1-2), measuring 2 by 2m, was defined on what was estimated to be the center of the structure on the western side of the temple. Later this unit was extended both eastwards as well as southwards. Due to differences between the eastern and western side of unit B1-2, it proved necessary to subdivide the unit into different sections.

EU B1-1 (Lot B1-1, lvl 1) In this level, excavations exposed a floor at the southwestern corner of the unit. The northwestern corner showed no evidence of the same plaster floor. However the structure is sloping and general wear from weather and human activity have most likely caused destruction of the floor. The lot was changed. Besides from the floor a large quantity of chert and some ceramic were found.

EU B1-1 (Lot B1-2, lvl 2) This lot includes the plastered floor, which was left in order to preserve it, but elsewhere in the unit where there was no indication of the floor, excavations continued for another 20-30 cm. Eventually this unit was closed

and focus was moved to the larger unit at the center of the structure. Chert and ceramics were the predominant type of artifacts recovered in this level.

Note that in general a large amount of chert and ceramics appeared on the structure surface, which was eventually collected, albeit out of context it still belongs to the structure. Other things were collected as well, such as a few obsidian pieces and shell. Whether they belong to the last face of the structure or could have been uncovered during the excavation in the late 1960s is speculative.

EU B1-2 (Lot B1-3, lvl 1) This lot includes the 2 by 2m unit at the summit of the structure: After just a few centimeters of excavation the first floor appeared. The lot was changed. This lot included chert and ceramics.

EU B1-2 (Lot B1-4, lvl 2) This level includes the area below the floor where a concentration of stones appeared. Whether they formed a new floor or were fill below the first floor is speculative. However the lot was changed again as the stones appeared to be leveled and the northern and western side of the unit was plastered. This was also just a few centimeters below former lot.

EU B1-2 (Lot B1-5, lvl 3) In this level, excavations continued through the leveled stones. After approximately 10 cm it was evident that there was a clear distinction between the east and west side of the unit. Aligned stones made a natural separation of the unit, where it was clear the leveled stones on the eastern side did not occur on the outer side of the 'wall' (the aligned stones) whereas on the outside of it the soil was also much more brownish than on the inside. The western side was still much closer to the structure surface and the explanation of the differences of the color of the soil can be found to be merely due to natural causes. However it was decided to separate the unit into two: B1-2A and B1-2B so future artifacts could be kept separately.

EU B1-2A (Lot B1-6, lvl 3) This level includes the eastern side of Unit B1-2. A possible third floor appeared in this level. The floor appeared broken and the stones seemed more piled than leveled. Quite a few pieces of ceramic and chert were uncovered. Elevation at this point was approximately 65 cm from the structure surface. Towards the western portion of the excavations, a protective baulk had been constructed during the excavations by P. Schmidt. It became unstable and due to the danger of collapse, it was excavated as unit: B1-2AX. After it was leveled with the rest of unit B1-2A, the baulk area became incorporated into unit B1-2A.

EU B1-2A (Lot B1-8, lvl 4): The large stones in this level which formed the broken floor were drawn and then moved aside, as they would later be used for reconstruction



Figure 2: Cache 1 Vessel 1 (upper) and vessel 2 (lower).

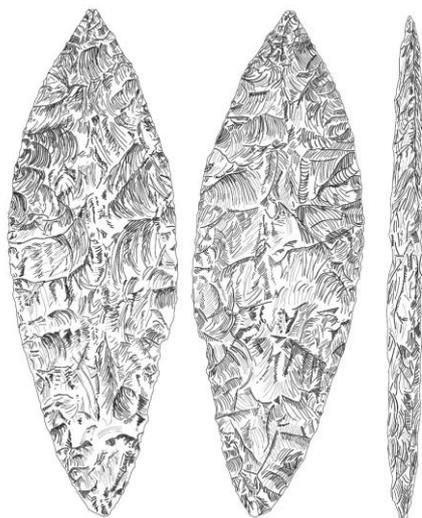
of the façade of the whole western side of the structure. Below the broken floor (possible floor 3), in the southwestern corner, two red unslipped lip-to-lip vessels were found (cache 1). The upper vessel was laying broken on top of the lower one. The lower one (vessel 1) was only broken into 3-4 pieces and was later restored. They both had small nubbin feet. The upper vessel (vessel 2) was likewise later restored. On the western side of the unit where the two lip-to-lip vessels had been found, the soil was a lot more brownish and loose than at the eastern side. The soil corresponded more with the soil from Unit B1-2B which had been separated from B1-2A about 50 cm above. Directly below the vessels was a large concentration of chipped chert spread out, as if the vessels had been resting on it. Chert of that amount almost always indicate that a tomb could be found below –which was also the case this time, as we found out later. Large amounts of chert have also at the site of Baking Pot revealed one of the most elaborate tombs to be found at the site (Audet 2002). At Tikal a large quantity of chert was likewise found inside Temple 1, just above a tomb (Trick 1963).

Excavations continued on the eastern side of the unit where the soil was more compact with a lot of stone inclusions. Some large cut limestone blocks were uncovered aligned north south (at approximately 130 cm below structure surface). We changed the lot, and it was also necessary to return to excavate EU B1-2B so it would not collapse on top of us. It was necessary to extend southwards as the wall was in danger of collapsing. In unit B1-2A, level 5, a small tunnel appeared, running along the eastern wall. Later we extended the unit (B1-2C) according to the measurements of the tunnel, which was 120 cm.

EU B1-2B (Lot B1-7, lvl 3) This level included the western side of Unit B1-2. This unit was put on standby, while EU B1-2A (Lot B1-8, lvl 4) continued. But it had to be excavated so that it would not collapse. Excavation of cache 1 had made the unit very unstable. The northern end was not excavated until later, as first we had to find out what was below all the chert that was not far underneath the two lip-to-lip vessels (cache 1). Only a small amount of ceramic was found. After discovering the capped stones in Unit B1-2BX (see below) the rest of unit B1-2B was excavated. From unit B1-2BX it was clear from measurements taken from below the cap-stones, where



Figure 3: Cache 2 vessels 3-9.



Cahal Pech
 EU: B1-2C, Lot: B1-11, lvl: 2
 16.6 by 5.5 by 1.2cm
 by M. Oropeza and C. Santasilia

Figure 4: Double pointed biface.

cavity had occurred, that the chamber of the soon to be uncovered tomb, was exactly the length of the unit.

EU B1-2A (Lot B1-9, lvl 5) In this level, the large cut limestone that was aligned north-south was removed. Underneath the stones, two Dolphin Head Red vessels lay broken (vessel 3 and 4). They were carefully collected and soil was removed to level out the unit, which exposed 4 more broken vessels (vessel 5 and 8, similar Dolphin Head Red, vessel 6 a bowl and vessel 7 part of a red dish with a ringbase). They were

situated approximately 155 cm from structure surface. They differ from vessel 1 and 2 which were unslipped tripod vessels, whereas these are all red-slipped, no feet, and different shapes, so we assume they are not part of same offering (and are referred to as cache 2).

EU B1-2C (Lot B1-10, lvl 1) This unit was an extension southwards. It was intended to reach the same levels as in unit B1-2A. First level was 10 cm below surface. It still had another 150cm before being leveled with unit B1-2A. A small amount of ceramic and chert was found.

EU B1-2C (Lot B1-2011 lvl 2) In this level, at the western end of the unit, a 16.5 cm long white intact double pointed bi-face was found (probably Terminal Classic, but could also be Late Classic). This lot reached the level of unit B1-2B, Lot 7, lvl 3. The lot will be changed. Apart from the biface, chert, ceramics, and a few shells were found.

EU B1-2C (Lot B1-12, lvl 3) At approximately 25 cm below surface, excavations continued to reach the levels of unit B1-2A. It soon became clear that the unit also had to be separated into two just like the original B1-2. An Early Postclassic chert point with notches was found.

EU B1-2B (Lot B1-13, lvl 4) The southern end of the unit was excavated as the danger of collapse into B1-2A was most likely to happen there. Based on differences in the soil in unit B1-2C that unit was also (as unit B1-2) divided into two. The western end of B1-2C was from then on treated as an extension of unit B1-2B, and was henceforth referred to as unit B1-2BX that includes the original unit B1-2B. Note: unit B1-2B was lvl 4 but unit B1-2C lvl 3, unit B1-2BX is therefore lvl 4.

EU B1-2C (Lot B1-14, lvl 4) At approximately 40 cm this unit continued to reach the level of unit B1-2A. At about 60 cm in depth, another vessel was found (vessel 9, another Dolphin Head Red). Although it is not quite at the same depth as where vessel 3-8 was found, this vessel has been considered part of cache 2. The vessel was resting on a possible floor, and the lot was changed.

EU B1-2BX (Lot B1-15, lvl 4) A large amount of chert was uncovered in this level, which indicated we were getting closer to the tomb. The chert was not worked, but simply spread out chips in various sizes. A marine shell pendant was found (8 by 6 cm, possibly made from a limpet shell). After having removed a large amount of chert, nicely aligned capstones appeared. This was the top of the tomb. The lot was changed (the depth was approximately 175 cm).

EU B1-2C (Lot B1-16, lvl 5) Many larger stones were removed in this level and we reached the elevation of unit B1-2A, lot 9, lvl 5. A large amount of ceramics and chert was found in this unit. Note: unit B1-2C was incorporated into unit B1-2A. Unit B1-



Figure 5: EU: B1-2BX: tomb with capstone above.

2A was not further excavated the season of 2011 but assigned lot 17, which was later deleted.

EU B1-2BX (Lot B1-18, lvl 5) One of the capstones was removed and Lot 18 became the lot of the tomb, which measured approximately 285 cm by 80 cm. The soil underneath the capstones had an elevation of approximately 2 m. The rest of unit B1-2B had to be excavated if we were to expose the capstones.

EU B1-2B (Lot B1-19, lvl 4) This lot is just above the capstones in the northern end of the excavation area. Materials in this lot included a large amount of chert and quite a few pieces of ceramics.

EU B1-2BX (Lot B1-20, lvl 4) This lot includes the capstones and artifacts around them. A one-pointed bi-face was found (about 5 cm long) and more chert was collected.

EU B1-2BX (Lot B1-18, lvl 5) This level continued from above. The capstones were removed and the soil was slowly removed from inside the chamber. Charcoal was uncovered and samples were taken. Small faunal remains were present as well

The tomb has been designated CHP-B1-BU7 and will be discussed below. The majority of the tomb is from unit B1-2BX (Lot 18, lvl 5).

EXCAVATION OF TOMB (CHP-B1-BURIAL 7)

Initial excavations of the tomb revealed small finds. All matrix from the tomb was screened using a 1/8 inch burial screen. Small materials included faunal remains such as a tooth that was not human, as well as some charcoal samples collected. Three vessels were located at the southern end: vessel 1: a nice stucco vase, vessel 2: a large dish, and vessel 3: a polychrome tripod.

Two additional vessels were identified in the northern end of the tomb; vessel 4: a polychrome basal flange with an ancestor drawing on the outer frieze and a tall standing ancestor on the inside, and vessel 5: a tall fluted cylinder vessel. Two jade celts were found along with large oyster shells.

As excavations continued, human remains were exposed and soil was kept separately for later reference. Vessel 5 was then fully uncovered and removed. Three other vessels were excavated in the northern end. Vessel 6 was a small polychrome dish. Vessel 7 was another polychrome basal flange vessel with decoration and no iconography. Vessel 8 was resting up against vessel 7 and was not complete. The missing pieces were not located in excavations. Between vessel 7 and 8, a third jade celt was identified. These materials were recovered at an elevation of about 3.25 m from structure surface.

In the northern end of the chamber, 3285 drilled jaguar teeth were found. The teeth were divided into three find areas: east, west and center. The teeth were various sizes, primarily small teeth along with a few large and medium sized teeth. They likely adorned a necklace or a piece of garment made of organic material which was no longer preserved. The surrounding soil was screened separately so artifacts and faunal remains could be kept separate.

Cahal Pech 2011

CHP-B1-BU7
Tomb drawing, Main drawing
E.U.: B1-2BX
LOT: B1-18
LVL: 5'

BY: C. Santasilia, M. Zender, A. Novotny

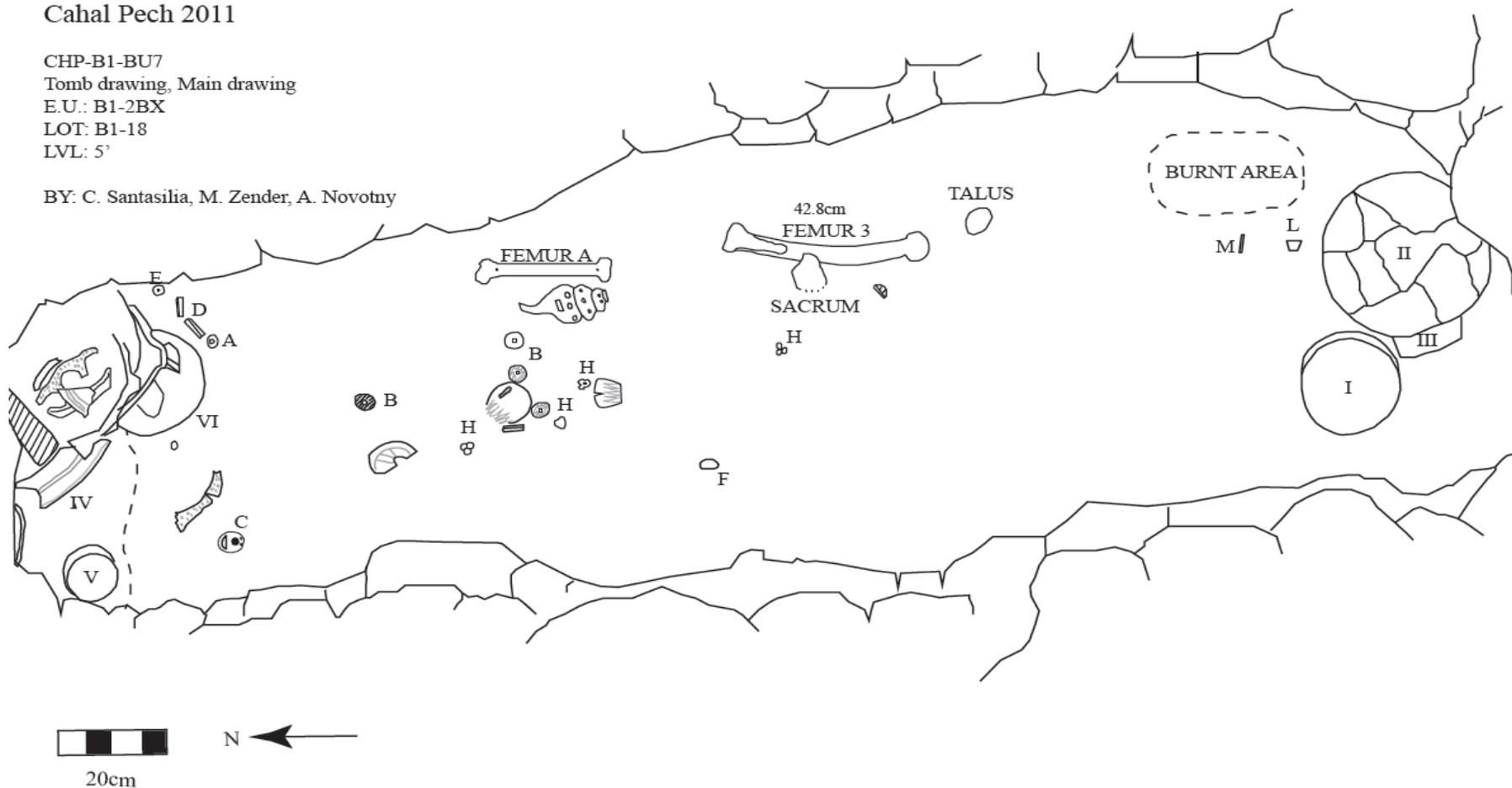


Figure 6: Drawing of Burial B1-Burial 7 (by C. Santasilia, M. Zender, and A. Novotny (2011)).



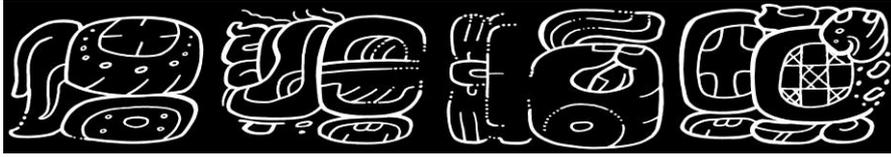
Figure 7 (Left): Tomb vessels 1-8. **Figure 8 (Right):** Jade celts.

In addition to the jaguar teeth, an engraved bone ring was present in this level (the first of 3 rings, of which two were engraved). Marc Zender has studied the glyphs and deciphered what he thinks is a new sign for ‘ring’. Both rings have the same inscriptions just spelled out differently. In addition to the rings, vessels and jade, other impressive artifacts were found. Although at first it was referred to as a ‘hairpin’, several of them (8 to be precise) were recovered and we reconsidered it to be a stylus /scribe tool. All 8 were found around the skull and pelvis area.

Continuing excavations exposed jade bar pectorals as well as shell pendants with inlays. The bar pectorals are simple in design. One is 5 cm long the other 15 cm long. An additional two rings were also exposed. The first ring that was previously identified was intact except for a small chip, while the additional two were fragmented into 4-5 pieces. Based on the first intact ring, it was possible to reconstruct the second ring using the glyphs, as the inscriptions are almost the same as the previous ring. The pendants are made of shell with inlays from obsidian and red shell. Other small ornaments in various shapes were found as well.

Continuing excavation of the tomb revealed that two individuals were present in the tomb, based on the presence of a second skull¹. The skull of the second individual was not articulated with the spine, which indicates that the head had probably been placed there after the rest of the body had been interred. The primary individual (likely female) was facing upwards, whereas the second individual (likely male) was facing east. Jade earspools were located in association with the second skull. In addition to the human remains, a conch shell ink pot was uncovered, with compartments with remnants of paint: blue, red, black and either yellow or white

¹ See Field report from 2011 at Cahal Pech by Anna Novotny for analysis of the human remains



yo-?-bi K'AWIIL-la-CHAN-na K'IN-ni-chi K'AN-na-?-wa-BAHLAM
 y-o...-ib K'awiil Chan K'inich, K'an ... Bahlam
 The ring(?) of K'awiil Chan K'inich, K'an ? Bahlam



yo-?-bi K'AWIIL-la-CHAN-na K'INICH K'AN-na-?-wa-BAHLAM
 y-o...-ib K'awiil Chan K'inich, K'an ... Bahlam
 The ring(?) of K'awiil Chan K'inich, K'an ? Bahlam

Figure 8 (Above): Hieroglyphic inscription on ring 1. **Figure 9 (Below):** Hieroglyphic inscription on Ring 2 (Drawings and epigraphic analysis by M. Zender 2011)



Figure 2011 (Left): Intact ring with glyphs. **Figure 12 (Right):** Intact stylus after restoration.



Figure 13 (Left): Jade bar pectorals. **Figure 14 (Right):** Four shell pendants with obsidian and shell inlays.



Figure 15 (Left): Ink pot with paint remnants. **Figure 16 (Right):** Second skull with jade earspools.



Figure 17: Hand shaped spatula.



Figure 18 (Left): Jade figurine. **Figure 19 (Right):** Jade earspools.

Excavations uncovered the entirety of the human remains and soil samples were collected near the rib area, by the left femur, and by the pelvis. As the individuals were located very close together, many of the remains were co-mingled, making it difficult to distinguish which of the artifacts might belong to which individual. The second (lower) individual was lying further towards the eastern wall. This may indicate that the individual might have been moved aside to make space for the upper individual. Albeit poorly preserved bones, they indicate being a male and a female.

The exposure of the second individual uncovered small mosaic pieces along with a small hand-shaped bone artifact, a small jade figurine, jade ear spools, jade beads, mosaic artifacts, and very small pieces of pyrite.

The presence of additional tarsals of a third individual to the north and not to the south as the first two individuals indicates the presence of a third individual. The texture of the soil surrounding the third individual was much more compact than the



Figure 20: Bone pin fragment w/glyphs.

soil of the individuals above, and may have been part of an earlier burial. The southern end did not show any similarity so the lot and level was changed.

EU B1-2BX (Lot B1-23, lvl 6): In this lot, the feet of a third individual were located at approximately 3.6 m below the surface. Other materials in this lot included chert and some ceramic, including one polychrome sherd. Directly below the elevation of the feet at the southern end of the tomb, flat cut stones formed what appeared to be a floor. The stones continued underneath the ‘platform’ to the east (unit B1-2A).

The excavations were cleaning up and it was determined that additional excavations of this platform would be conducted in the 2012 season. The closing elevation of the tomb chamber (CHP-B1-BU7) was approximately 4 m.

After the excavations were complete and analysis of the artifacts was initiated, additional materials were identified including a small bone pin with hieroglyphs. Marc Zender analyzed the glyphs and concluded that they were commonly used glyphs: (u-)ba-ki (*u)baak* interpreted as (his/her) bone (Figure 20). As it was only a small fragment, we can only speculate which other hieroglyphs that could have adorned this little pin.

DISCUSSION

Excavations at Cahal Pech Structure B1 in the 2011 season revealed many interesting finds which add to our understanding of the material culture and mortuary practices of ancient Maya royals. The discovery of the tomb (CHP-B1-BU7), with its impressive material culture, will help understand the sociopolitical aspects of power and influence of the rulers of Cahal Pech. The discovery of materials with hieroglyphs at Cahal Pech is unusual and provides insights into what was happening in the Maya lowlands nearly 1500 years ago. The tomb has been dated to the beginning of the Late

Classic period. The vessels are typical Late Classic in style and the hieroglyphic writing supports this dating. Future results from the soil and charcoal samples aim to provide another confirmation of these dates.

The large amount of chert which was found on top of the roof of the chamber indicated the classic Maya ritual, of placing chipped untouched chert flakes above a burial. In total, 114.35 kilograms of chert was removed.

Burial CHP-B1-BU7 was the seventh burial discovered at structure B1. Earlier burials were excavated by Peter Schmidt, who excavated two, and Joe Ball, who excavated four burials in the structure. Little information has been published on the 6 earlier burials.

Several questions remain unanswered about Burial 7 in B1. Why were the two articulated individuals buried with the head towards north when burials in the Belize Valley were usually buried with the head towards south? In addition, it is notable that the second individual shows extensive evidence of pathology, with bones indicating that his feet were deformed and his left arm had probably not been able to function while he was alive (A. Novotny, personal communication, 2011). The occurrence of scribe tools in the tomb may indicate that one or both of the individuals may have been connected to the scribal profession, although this is only a hypothesis and cannot be confirmed. Future excavations in the 2012 season will continue excavation below the level of the tomb in efforts to identify earlier constructions and ritual deposits.

ACKNOWLEDGEMENTS

I would like to thank the local workers who proved their worth as steady and professional excavators, and the excavations would not have been the same without Antonio Itza and Jim Puc Jr. Thanks to Anna Novotny from Arizona State University, our specialist on human remains, who contributed exposing and preserving the human remains. Marc Zender from Tulane University was a great help with the main drawings and deciphering of the glyphs which was found in the tomb. All together a great team, overseen by the director of BVAR, Dr. Jaime Awe, as well as Julie Hoggarth, the Assistant Director. A big thank you to those whose donations funded the excavations: Doug Tilden, Teresa Keller and Ann Anderson. Without your funding, these results would never have been achieved.

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APPENDIX:

List of all special finds from tomb: CHP-B1-BU7

| S.F. # | Artifacts | Class | Date | E.U. | Lot |
|-------------------|--|-------|---------------|--------|-------|
| CHP-B1-BU7: 01 | Conch Paint Pot | Sh | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 02 | Jade Bar Pectoral (c. 15cm) | Jd | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 03 | Jade Bar Pectoral (c. 5cm) | Jd | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 04 | Jade figurine | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 05 | Ring 1 | Fa | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 06 | Ring 2 | Fa | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 07 | Ring 3 | Fa | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 08 | Vessel # 1 polychrome | Ce | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 09 | Vessel # 4 polychrome with Ancestor | Ce | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 10 | Vessel # 7 polychrome with squared pattern | Ce | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 11 | Vessel # 6 polychrome with dotted pattern | Ce | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 12 | Vessel # 2 red slipped | Ce | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 13 | Vessel # 3 duochrome, orange slip w/ red lines | Ce | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 14 | Vessel # 5 tall brown with pattern | Ce | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 15 | Vessel # 8 red-brown slipped | Ce | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 16 | Pendant | Sh/Ob | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 17 | Pendant | Sh/Ob | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 18 | Pendant | Sh/Ob | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 19 | Pendant | Sh | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 20 | Inlays for pendant | Sh/Ob | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 21a-b | Celts (2) | Jd | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 22 | Celt | Jd | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 23 | Jade earspool (front?) | Jd | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 24 | Jade earspool (front?) | Jd | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 25a-b | Jade earspool (2) (back?) | Jd | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 26 | Jade earspool | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 27 | Jade earspool | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 28 | Hairpin / stylus # 1 | Fa | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 29 | Hairpin / stylus # 2 | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 30 | Hairpin / stylus # 3 | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 31 | Hairpin / stylus | Fa | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 32 | Hairpin / stylus | Fa | 15. June 2011 | B1-2BX | B1-18 |

| | | | | | |
|-------------------|--|-----|---------------|--------|-------|
| CHP-B1-BU7: 33a-b | Hairpins /styluses | Fa | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 34 | Hairpin /stylus | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 35 | Hand shaped spatula | Fa | 20. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 36 | Obsidian bloodletter | Ob | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 37 | Obsidian blade | Ob | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 38 | Obsidian | Ob | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 39a-e | Spindle whorls (5) | Ls | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 40 | Large Spindle whorl | Qz | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 41 | Spindle whorl | Ls | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 42 | Jade bead | Jd | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 43 | Jade bead | Jd | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 44 | Jade bead | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 45a-e | Jade beads | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 46a-b | Jade beads | Jd | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 47a-c | Jade beads | Jd | 23. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 48 | Jade pearl | Jd | 18. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 49 | Jade Pearl | Jd | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 50 | Jade (mosaic ?) | Jd | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 51 | Star ornament | Sh | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 52 | Quadrafoil | Sh? | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 53 | Drilled teeth | Fa | - | B1-2BX | B1-18 |
| CHP-B1-BU7: 54 | Mask ornaments? | Sh | - | B1-2BX | B1-18 |
| CHP-B1-BU7: 55 | Bead/ornament | Sh | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 56 | Bead/ornament | Sh | 14. June 2011 | B1-2BX | B1-18 |
| | Large pieces of spondylus and possible coral? | | | | |
| CHP-B1-BU7: 57a-c | | Ms | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 58a-b | Oystershell ? And Coral ? | Ms | 12. June 2011 | B1-2BX | B1-18 |
| | Large carved tooth shaped like a fish | | | | |
| CHP-B1-BU7: 59 | | Fa | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 60 | Carved needle | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 61 | Carved needle | Fa | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 62 | Carved needle | Fa | 24. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 63 | Fragment of carved needle? | Fa | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 64 | Stingray spine | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 65 | Stingray spine #2 | Fa | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 66 | Spondylus -pendant? | Sh | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 67 | Spondylus | MS | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7: 68 | Small drilled shell piece | Ms | 15. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:69 | Shiny flat shell mosaic? | Ms | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:70 | Red shell mosaics? | Sh | 20. June 2011 | B1-2BX | B1-18 |
| | Large white and small red mosaics | | | | |
| CHP-B1-BU7:71a-b | | Sh | 20. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:72 | Red shell mosaics? | Sh | 24. June 2011 | B1-2BX | B1-18 |

| | | | | | |
|------------------|----------------------------------|--------|---------------|--------|-------|
| CHP-B1-BU7:73 | Mosaic pieces | Sh | 18. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:74 | Mosaic pieces | Sh | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:75 | Mosaic pieces | Sh | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:76 | Cacao bean shaped bead | Sh | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:77 | Jaguar humurus, Perforated | Fa | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:78 | Jaguar femur, Perforated | Fa | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:79 | Needle fragment | Fa | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:80 | Pendant inlay | Ob | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:81 | Pendant inlay | Ob | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:82 | Mask ornaments? | Sh | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:83 | Mask ornaments? | Sh | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:84a-c | Mosaic pieces | Sh | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:85 | Pyrite fragments | Py | 24. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:86 | Pyrite fragment | Py | 23. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:87 | Pyrite fragment | Py | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:88 | Fragmented pyrite cube | Py | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:89 | Possible earplug for mask? | Fa | 18. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:90 | Mandible with hematite | Fa | 22. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:91 | Small fragment of a stylus | Fa | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:92 | Polished piece of bone | Fa | 24. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:93 | Counters / divining balls? | Stone? | 13. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:94 | Counter / divining ball ? | Stone? | 21. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:95 | Counter? | Org.? | 18. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:96 | Counter /divining ball | Stone? | 18. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:97 | Ceramic adorno | Ce | 12. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:98 | Ceramic adorno | Ce | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:99 | Pendant inlays for shell pendant | Sh/Ob | 16. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:100 | Carved pin with glyphs | Fa | 20. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:101 | Flower ornament | Sh | 14. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:102 | Perforated antler | Fa | 11. June 2011 | B1-2BX | B1-18 |
| CHP-B1-BU7:103 | Pin fragment carved?? | Fa | | B1-2BX | B1-18 |

OSTEOLOGICAL ANALYSIS OF BURIALS B1-1, B1-2, AND B1-3 FROM TOMB 1, STRUCTURE B1, CAHAL PECH

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INTRODUCTION

Three individuals and additional isolated human remains recovered from Structure B, a pyramidal structure on the eastern side of Plaza B at Cahal Pech. These remains were interred in a tomb constructed of cut stone blocks that was intrusive into the architectural fill of the building (see Santasilia this volume). Human remains were also encountered in the southeast corner of Plaza B, beneath the plaza floor. The context consisted of a secondary deposit commingled with burned faunal bone and ceramic sherds (see Peniche May this volume). This report contains the bioarchaeological analysis of all human skeletal remains from Cahal Pech Structure B1 and Plaza B. The excavation and analysis of these individuals was conducted during the 2011 field season.

METHODOLOGY

All skeletal data were collected in accordance with the Standards for Collection of Data from Human Skeletal Remains (Buikstra and Ubelaker 1994). Standards is a compilation of techniques used in osteological analysis which outlines methods for determining age, sex, pathological conditions, and cultural body modifications. As much of these data were collected for each individual as possible. Age was estimated for most skeletons by dental wear and dental eruption, although where preservation was adequate epiphyseal closure, cranial sutures, and pelvic morphology were also used. Sex was determined by skeletal development and carpal measurements.

BURIAL B1-BU7 INDIVIDUAL 1 (LOT 18)

Individual 1 was placed in an extended, supine position with arms and legs straight at its sides. Maintained joint articulation and presence of small bones of the hands and feet indicates that the burial was recovered from its primary location. Individual 1 was interred in stone-lined tomb that contained the remains of at least 2

| Element | Side | Completeness |
|-------------------------|-------------|---------------------|
| Femur | Left | 75% |
| Patella | Left | 75% |
| Tibia | Right | 25% |
| Humerus | Right | 25% |
| Rib Fragments | --- | >25% |
| Sacrum | --- | >25% |
| Pelvis Fragments | --- | >25% |
| Vertebral Fragments | --- | >25% |
| Scapula | Right | 25% |
| Cervical 1 | --- | >25% % |
| Fibula | Left | 5% |
| Metacarpal Fragments | Left | 5% |
| Cranial Fragments | --- | 25% |
| Femur | Right | 25% |
| Trapezoid | Right | 100% |
| Scaphoid | Right | 50% |
| Hamate | Right | 25% |
| Hand Phalanges | --- | 25% |
| Metacarpals | Right | 75% |
| Patella | --- | 50% |
| Cuneiform1 | Right | 50% |
| Cuboid | Right | 50% |
| Metatarsals | --- | 25% |
| Pedal Phalanges | --- | 100% |
| Tibia | Right | 25% |
| Fibula | Right | 25% |

Table 1: Skeletal inventory, CHP-B1-BU7, Individual 1.

other individuals as well as numerous artifacts (Santasilia, this volume).

The skeletal remains of Individual 1 from Burial B1-BU7 were extremely fragmented; the bones disintegrated as soon as they were removed from the soil matrix. Thus, the skeletal inventory was mostly done in the field, although some analysis was possible in the lab. The combination of the two skeletal inventories revealed that the

body was complete when interred but taphonomic processes rendered the bone very fragile.

The long bones and bones of the hands and feet were better preserved than other parts of the body (see Table 1). The skull was badly preserved; upon excavation, the facial bones were disintegrated. Several teeth were found near the left shoulder and ribs. These teeth most likely belonged to Individual 1 (they were duplicates of the teeth associated with Individual 2).

Age and Sex

Age was estimated to be adult based on dental wear and skeletal development. No skeletal elements diagnostic for sex such as the pelvis or skull was recovered intact. However, several carpals from the right hand were recovered intact. Measurements of these bones were used to estimate sex of the individual using a discriminant function analysis (after Mastrangelo *et al.* 2011). Discriminant functions are known to be population specific and Mastrangelo *et al.*'s was calculated using osteometric data from a modern Mexican sample. The modern Mexican sample was deemed appropriate for initial estimation of sex. The sex of B1-BU7 Individual 1 was estimated to be female.

Dentition

Several teeth were recovered from the grave fill around Individual 1. None of the teeth were in alveolar bone but were scattered near the head and shoulders. Metric and non-metric data were collected on from the dentition to the extent possible. Wear on the occlusal surface and calculus buildup impeded data collection on several teeth. Teeth were also taken for stable isotope analyses.

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| RM3 | RM2 | RM1 | RP4 | RP3 | RC | RI2 | RI1 | LI1 | LI2 | LC | LP3 | LP4 | LM1 | LM2 | LM3 |
| | X | | | | X? | | | | X | X | | | X? | | |
| | | X | | | X | X | X | | | | | | X | | |
| RM3 | RM2 | RM1 | RP4 | RP3 | RC | RI2 | RI1 | LI1 | LI2 | LC | LP3 | LP4 | LM1 | LM2 | LM3 |

Table 2: Dental inventory, CHP-B1-BU7, Individual 1.

Pathology and Trauma

No pathologies or evidence of trauma were observed. No cultural body modifications in the form of tooth filing and inlays or cranial shaping were observed.

Conclusion

Although the skeletal remains of Individual 1 were poorly preserved, information

on age, sex, and mortuary ritual were attained. The body was that of an adult female who was laid in an extended, supine position with head to the north. The position of the body is interesting as it departs from the typical Belize Valley practice of interring bodies prone with the head to the south (Awe 1992; Freiwald 2011). No pathologies, evidence of trauma, or culturally motivated body modification was observed.

BURIAL B1-BU7 INDIVIDUAL 2 (LOT 18)

As the excavation of Individual 1 proceeded the remains of Individual 2 were encountered immediately beneath the remains of Individual 1. Burial B1-BU7 Individual 2 was a primary, disturbed interment of an adult individual placed within the same stone-lined tomb as Individual 1. Individual 2 was in an extended, supine position with the right arm straight and the left arm semi-flexed at the elbow and lying across the lower abdomen. The right leg was extended and the left leg was disturbed some time in antiquity. Numerous artifacts were interred with this individual, as well, including jade and shell ornaments, and a shell paint pot (Santasilia, this volume).

Preservation of Individual 2 was much better than Individual 1, but still was not very good. Similarly, preservation was moderate in the ground but the elements crumbled upon removal. Long bones, cranial bones, and bones of the hands and feet were the best preserved (Table 2).

The burial was judged to have been primary due to the maintained articulation of the left hand, as well as the presence of the small bones of the right hand and both feet. All bones of the body were found in the correct anatomical position with two clear exceptions. The body of Individual 2 was disturbed after decomposition was nearly complete and several parts of the body were disarticulated, the cranium and the left leg in particular.

The cranium, which showed traces of red pigment, was placed above the left shoulder resting on the base of the cranium (i.e. with orbits facing forward). The mandible was not recovered. Cervical vertebrae were present and were slightly out of their correct anatomical position. The bone was not very well preserved, but no cutmarks were observed on the vertebrae or the cranium.

The lower left leg was much more out of place. The left tibia and fibula, which were still articulated upon excavation, were recovered lateral to the left femur and oriented with their proximal epiphyses to the south (i.e. away from the head). Bones of the left foot were found scattered throughout the space where the left foot should have been. The bones of the left leg and foot were found to be from the same individual because they had similar pathologies.

The right leg was articulated and in correct anatomical position, but the positioning of it was abnormal. The right leg was rotated laterally so that the right knee joint faced away from the body. This extreme rotation may have been caused by the manipulation of the left side of the body.

| Element | Side | Completeness |
|----------------------------|-------------|---------------------|
| Maxilla | Left | 25% |
| Zygomatic | Left | 25% |
| Maxilla | Right | 25% |
| Temporal (TMJ) | Right | 25% |
| Occipital | --- | 10% |
| Parietal/Frontal Fragments | --- | >25% |
| Temporal | Left | >25% |
| Zygomatic | Right | 50% |
| Humerus | Right | 50% |
| Ulna | Right | 25% |
| Radius | Right | 50% |
| Humerus | Left | >25% |
| Radius | Left | 50% |
| Ulna | Left | 50% |
| Scapula | Right | >25% |
| Clavicle | Right | >25% |
| Capitate | Left | <75% |
| Scaphoid | Left | 25% |
| Metatarsal 1 | Left | 50% |
| Hand Phalanges | --- | 25% |
| Metacarpal Fragments | --- | --- |
| Ilium | --- | 25% |
| Rib Fragments | Left/Right | >25% |
| Fibula | Left | 75% |
| Tibia | Left | 75% |
| Patella | Right | >25% |
| Lumbar Vertebra | ---- | 50% |
| Tibia | Right | 25% |
| Femur (head only) | --- | >25% |
| Fibula | Right | 25% |
| Calcaneus | --- | >25% |
| Talus | --- | >25% |
| Metatarsal Fragments | --- | >25% each |
| Pedal Fragments | --- | 25% |

Table 3: Skeletal inventory, CHP –B1-BU7, Individual 2.

Age and Sex

Cranial and pelvic indicators of age were absent. Osteological and dental development clearly show that the individual was an adult. Cranial indicators of sex were few but suggested a sex estimation of male. A discriminant function analysis was done for Individual 2 using measurements from two different carpal bones (after

Mastrangelo et al. 2011). The results of this analysis indicate a sex estimation of male, which agrees with the observations of the cranium.

Dentition

None of the teeth associated with Individual 2 were in occlusion. They were scattered among the ribs and cervical vertebrae. This is likely due to the fact that the skull was moved at some point after decomposition took place. Most of the teeth were covered in an extremely large amount of dental calculus which distinguished them clearly from the other isolated teeth in Tomb 1. The observable dental wear was minimal and there were no carious lesions observed. None of the teeth showed any cultural modification in the form of tooth filing and dental inlays.

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| RM3 | RM2 | RM1 | RP4 | RP3 | RC | RI2 | RI1 | LI1 | LI2 | LC | LP3 | LP4 | LM1 | LM2 | LM3 |
| | X | X | X | X | | X | | | X | X | X | | X | | |
| | | | X | X | X | X | X | | X | X | | X | X | | |
| RM3 | RM2 | RM1 | RP4 | RP3 | RC | RI2 | RI1 | LI1 | LI2 | LC | LP3 | LP4 | LM1 | LM2 | LM3 |

Table 4: Dental inventory, CHP-B1-BU7, Individual 2.

Pathology and Trauma

Pathological bone changes were difficult to evaluate due to the fragmented nature of the skeletal material. Most bones and joint surfaces were free of degenerative or pathological bone formation. Individual 2 did show several forms of pathological bone formation, however. A fragment of the lumbar vertebra showed moderate lipping and osteophytic activity on the centrum. This type of change is associated with advanced age and habitual physical activity.

The left ulna and left radius showed pathological bone formation involving their proximal epiphyses, including the articular surfaces. The diaphyses and distal epiphyses of the left ulna and radius were not well preserved. The distal epiphysis of the left humerus may also have been involved in the observed abnormal bone formation but it did not preserve.

The head of the left radius is an abnormal shape – it is oval shaped, sloping inferiorly at a steep angle, and is flattened superiorly. The bone on the head of the radius is porous, although it is not woven bone, and there is abnormal bone formation around the edges. The bone around the edges is smooth and well integrated. While the rest of the bone was present upon excavation, it quickly disintegrated after removal from the burial matrix.

The posterolateral aspect of the olecranon process of the left ulna shows a similar bone formation, although it is more severely expressed. The shape of the bone formation is a blunt nodule projecting superiorly and laterally from the posterior, superior, and

lateral aspects of the olecranon process. The bone is well-healed in parts while bone reaction appears to still be active in others. The surface of the bone formation is mostly smooth which gives the bone a well-healed look, but these areas were surrounded by small, smooth walled porous areas. The articular surface of the ulna was partially involved. The blunt, smooth, slightly porous bone formed on the superolateral edge of the articular surface, lateral of the guiding ridge. The surface of the bone medial of the guiding ridge appears normal.

It seems likely that the bone reaction was due to arthritis secondary to a fracture or a dislocation of the elbow joint. A dislocation of the elbow joint could be caused by catching a fall on an outstretched hand with the arm extended and pronated. The poor preservation of all three bones of the arm prevents a clear diagnosis of the cause of the bone formation. It can be said with some certainty that range of motion in the elbow joint was compromised. In fact, the left arm was flexed across the lower abdomen and not extended at the side like the right arm. This may support the conclusion that the arm was at least partially immobile.

The left leg also showed interesting, abnormal bone formation. The bones involved included the left ankle – the distal left tibia, distal left fibula, and the left talus. The calcaneus was not recovered but may also have shown similar changes. The distal epiphysis of the left fibula is not very well preserved but bone formation was evident around the edges of the articular surface of the lateral malleolus. The bone formation looks similar to that on the left ulna – a series of smooth nodules punctuated by smooth edged pores. The most distal aspect of the articular surface is very smooth and glassy from eburnation, bone-on-bone contact within the joint. The eburnation matches a patch of eburnated bone on the posterior aspect of the articular facet for the fibula on the left talus.

The left talus is extremely well preserved; every bone surface is observable. The edges of the articular surfaces of the left talus also shows the smooth surfaced nodules that the left fibula and left olecranon process display. Those of the left talus are not as porous as those of the other two bones. Most striking is the eburnated patch of bone located just posterior to the articular facet for the left fibula. It appears that the fibula may have been dislocated and a new joint created at this location. In addition, a spicule of bone extended posteriorly and inferiorly from the lateral tubercle. A patch of eburnation and minor porosity was also present on the superior surface of the trochlea towards its posteromedial aspect. This patch of eburnation corresponds to the articulation with the left tibia. Finally, the shape of the articular surfaces on the inferior aspect of the left talus suggests that the talus was misaligned with the other bones of the ankle.

The pattern of bone formation and eburnation of the left ankle suggests that the arthritic bone formation was secondary to a traumatic episode involving dislocation of the fibula and possibly the tibia from the talus. The joint was not re-aligned properly which led to the bone formation and bone on bone contact that produced the eburnated loci. The individual almost surely walked with a limp. It is likely that the event that caused the dislocation of the elbow and of the ankle occurred at a similar time, as the healing

process of both appear to be consistent.

No cultural body modifications in the form of tooth filing and inlays or cranial shaping were observed.

Conclusion

Individual 2 was the primary interment of an adult male laid in an extended, supine position with head oriented to the north. Several parts of the body were disturbed after its initial interment. The left leg was found disarticulated from the body but lying next to it, and the right leg was found to be rotated extremely to the right. The cranium was also disturbed and had been placed just above the left shoulder. Traces of red pigment were found on the skull. The individual suffered traumatic injuries to his left elbow and left ankle – both likely disarticulations of the joints. Neither joint healed well; the individual suffered from severe osteoarthritis secondary to the trauma. Movement of the elbow and ankle were almost certainly impeded. The ostentatious grave goods, the traces of red pigment on the skull, and the secondary treatment indicate he was probably a person of some importance in the Cahal Pech community.

ISOLATED HUMAN REMAINS FROM TOMB 1

Human skeletal remains were encountered on the capstones of Tomb 1 as well as intermingled with the soil above the articulated skeletons. These isolated, disarticulated remains were extremely fragmented. They could not be matched to any of the other individuals in the tomb. The elements come from all parts of the skeleton – cranial, axial, and appendicular skeleton (Table 1).

Beneath the capstones of the tomb, at the north end of the tomb space, nine (check) ceramic vessels were recovered. The stacked vessels contained artifacts including several jade celts, deer antlers, and human skeletal remains (Santasilia, this volume). Preservation of each element varied greatly. The skeletal elements were from the cranium, axial, and appendicular parts of the skeleton, although the thoracic region and the hands were not well represented. The remains were disarticulated and were most likely removed from their primary place of interment and re-deposited in the B1 tomb. The iconography of one vessel referenced ancestral beings, and secondary burial of important ancestors was a practice of the ancient Maya (McAnany 1995).

Age and Sex

Two diagnostic fragments were recovered from the vessel assemblage – the mastoid process of a right temporal, fragment of os coxa. Both elements indicate a female individual was part at least a part of the interment. Tarsals and metatarsals collected from the vessel were also small in size. Due to the fragmented nature of the remains, no elements diagnostic for specific age were recovered. The individual was an

adult based on skeletal development.

Dentition

Two teeth were found from the North end of the tomb. Because they were isolated, it is not possible to say which individual they came from. No trauma or pathologies were observed on these teeth.

Pathology and Trauma

None of the skeletal elements showed pathological changes.

Conclusion

In sum, the isolated remains from Tomb 1 are most likely a secondary interment. The remains from within and around Vessel 8 may have been from the same individual. The fact that there are no duplicate skeletal remains suggests that the bones are from one individual. However, lack of articulation and poor preservation makes it difficult to say for sure. At least one individual was an adult female, based on morphology of the cranium and pelvis. No pathologies, evidence of trauma, or cultural body modifications were observed.

BURIAL B1-BU7 INDIVIDUAL 3 (LOT 18)

A group of foot bones were recovered immediately beneath Individual 2, in the northwest corner of Tomb 1 (Table 5). The deposit consisted entirely of foot bones, and possibly fragments of lower limb bones such as the fibula. The bones were extremely fragmented and turned to dust upon excavation. These bones were surrounded by an organic matrix, which was tinged red. Some of the red color transferred to the bone's surfaces. The bones all seemed to be in articulation, in situ. The presence of a talus from the left and right sides suggests that they are the feet of one individual. The rest of the body was not recovered.

Two scenarios explain the deposit. First, the feet are the remains of a primary burial that was removed for interment of Individual 2. They may have belonged to the individual whose isolated remains were found in the vessels at the north end of the tomb, although there is no way to know for sure. Second, the feet were deposited as part of the interment of Individual 2 and were taken from a primary burial that was disturbed during

| Element | Side | Completeness |
|-------------------------|-------------|---------------------|
| Talus | Left | 75% |
| Sesamoid | --- | 100% |
| Metatarsal Fragments | --- | >25% |
| Cuboid | --- | 50% |
| Cuneiform | --- | 50% |
| Pedal Phalanges | --- | 100% |
| Calcaneus Fragments | --- | >25% |
| Talus | Right | >25% |
| Calcaneus Fragments | --- | >25% |

Table 5: Skeletal inventory, CHP-B1-BU7, Individual 3.

construction of Tomb 1 or whose feet were exhumed for special interment with Individual 2 in Tomb 1.

BURIAL CHP-PB-BU1 INDIVIDUAL 2 (LOT UNKNOWN)

The remains of one individual were found immediately beneath the floor of Plaza B. The remains were commingled with a large deposit of ceramic sherds and burned faunal bone. Human remains present included a mandible, a right calcaneus, right metatarsals 2-4, a foot navicular of unknown side. The metatarsals were well articulated. No other human remains were found in the vicinity. This deposit is interpreted as a secondary deposit of human remains.

DISCUSSION

The multiple interments in Tomb 1 clearly indicate extended mortuary treatment. The following is a reconstruction of events that produced the deposit within building B:

1. The deposit consisting of bones of the feet were deposited at the north end of Tomb 1. There is not enough information to determine whether it is a primary, disturbed or secondary deposit.
2. Individual 2, an adult male, was interred slightly above and to the east of the deposit of foot bones.
3. The Tomb was opened again and the bones of Individual 2 were disturbed. This occurred when the body was mostly, but not completely, decomposed. The skull was placed on its base, facing south, at the left shoulder of the Individual 2. The teeth of the individual were found scattered among the ribs and vertebrae and

were most likely dislodged when the skull was moved. The left leg was also disturbed. There are several possible reasons for this disturbance.

- a. First, Individual 2 may have been disturbed accidentally by workers attempting to locate the bottom of the tomb. In this scenario the disturbance of the bones is accidental and not intentional.
 - b. Second, Individual 2 may have been the subject of ancestor veneration ceremonies involving tomb re-entry, ritual treatments like smoking or painting the bones red, or curating them for ritual purposes. These rituals were done to appease and communicate with deceased ancestors (McAnany 1995).
4. After the disturbance to Individual 2 the remains of Individual 1, an adult female were placed within Tomb 1, directly on top of Individual 2. She was placed in a supine, extended position with head to the south. It is not known how much time elapsed between their interments.
 5. Ceramic vessels were placed at the north and south ends of Tomb 1, one of which held a secondary deposit of human skeletal remains.
 - a. The placement of these vessels could have been concurrent with the interment of Individual 1.
 6. Tomb 1 was backfilled and remnants of Individual 2, which was disturbed for the interment of Individual 1, were left intermingled with the soil.
 - a. The remains were mostly too poorly preserved to determine if they actually belong to Individual 2 or to the secondary burial within Vessel 8.
 7. Tomb 1 was sealed for the second time.
 8. Several ceramic vessels were placed over the tomb capstones either later in time or immediately after the tomb was re-sealed.
 - a. These may have functioned as place markers within the building fill.

There are several interesting aspects of these burials. The first interesting aspect is that the body position of the individuals, supine (face up) with head to the north, departed from the Belize Valley specific burial pattern of prone (face down) with head oriented to the south (Freiwald 2011). This suggests that these individuals either did not consider themselves or were not considered by their survivors to have been local to the Belize Valley. Strontium isotope analyses are planned to determine the origin of these individuals.

The second interesting point is that several artifacts suggest affiliations with groups outside of the Belize Valley. A Teotihuacan style ceramic vessel and several bone rings with hieroglyphs etched on them are two examples of these finely crafted and exotic items. Future research will focus on the origins of these and other items from the grave.

The third, and final, interesting aspect of the Tomb 1 interments is that they are in a location that associates them with ancestors. Across the Maya area structures located on the eastern side of plaza groups contain numerous burials and caches (Becker 1971, McAnany 1995) and the pattern is also observed in the Belize River Valley (Audet and Awe 2003; Connell 2000; Iannone 1996; Novotny and Kosakowsky 2009; Powis 1993).

The east is associated with deceased ancestors and, thus, the individuals interred in these structures were most likely the remains of those considered ancestors. Many of these structures in the Belize Valley contain multiple individual and secondary interments (Iannone 1996; Novotny and Kosakowsky 2009). Ethnohistoric, ethnographic, and iconographic data suggest that ancestors were conceptualized by the ancient Maya as prominent community leaders which anthropologists have long assumed must have been locals (Astor-Aguilera 2011). Although, recent work at the Maya site of Copan suggests that foreignness was a way that some ancient Maya leaders legitimized their right to rule (Bell et al. 2003). That individuals associated with non-Belize Valley material culture and mortuary treatment are interred in a prominent valley location in a structure that is traditionally associated with ancestors departs from the way that ancestors are usually perceived. Further research on this topic will refine our understanding of power at smaller Maya sites.

CONCLUSION

In conclusion, the remains of at least three individuals were encountered in Structure B at Cahal Pech. All remains were those of adults, but no further age determination could be completed due to poor preservation of the skeletal material. Of the two primary burials one was a male and one was a female. At least one female was included in the secondary deposit of skeletal remains within Vessel 8. Numerous isolated remains, including bones of the feet found near the floor of the tomb, were also encountered but it was not possible to estimate sex for these.

The skeletal remains of all individuals were extremely deteriorated. However, pathological bone formation was observed in the left elbow and ankle joint of Individual 2. These pathologies are most likely osteoarthritis occurring secondary to a trauma like a fall. The skeletal remains of Individual 2 were also disturbed, either for purposes of veneration or in the process of interring Individual 1. Future research will focus on determining the geographical origin of the individuals interred in Tomb 1, as well as the origin and significance of the numerous artifacts interred with them.

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2011 AFAR EXCAVATIONS IN THE B GROUP, CAHAL PECH, BELIZE

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INTRODUCTION

In the summer of 2011 several operations were excavated at the site of Cahal Pech, located along the Belize River in western Belize. Cahal Pech is one of the largest sites in the valley, along with Xunantunich, Baking Pot and Buenavista del Cayo, which are all located approximately 10 kilometers apart. The ancient Maya site of Cahal Pech, like the aforementioned Belize Valley sites, is arranged with a monumental epicenter, with hundreds of surrounding housemounds.

In the summer of 2011 several operations were excavated at the site of Cahal Pech, abutting, atop, and penetrating structures B1 and B2, within the B Group towards the eastern extent of the epicenter. These excavations were undertaken, in large part, as part of the American Foreign Academic Research 2011 Field School, which is affiliated with the Belize Valley Archaeological Reconnaissance project. This chapter summarizes the excavations and findings of units placed along the plaza floor, abutting B1 and B2. Units B-1, B-2, B-3, B-4, B-5, and B-6 were excavated with the hope of identifying the basil molding, basil wall along the west façade of structures B1 and B2, and a possible staircase centered on the western façade of B1. Summaries of these units follow herein.

EXCAVATION OF B-1, B-2, B-3, and B-4

Methodology

Prior to the excavation of any units associated with structures B1 and B2, and Plaza B, the general approach to unit placement and excavation was coordinated with Dr. Jaime Awe of the Institute of Archaeology. Units B-1, B-2, B-3, and B-4 were



Figure 1. Opening photo for unit placement of units B-1, B-2, B-3, and B-4.

placed along the base of the façade of structure B2 (Figure 1). In total, these units measured 12 meters in length and approximately 3 meters from the plaza floor up the façade of the structure B2. The sole purpose in excavating these units was to expose the basal molding of structure B2 and any structural elements defining the northwest corner of structure B2. While the units appeared as a long contiguous trench-like excavation area, each 3-meter unit was excavated and recorded as discrete unit in order to maintain better control of any data extrapolated from the base of the structure. Laying the grid work for discrete units also allowed for special finds and features to be documented within a smaller context of a unit, rather than a trench or block.

These four units were excavated in both cultural and arbitrary levels, first removing the overburden and then defining the plaza floor and basal molding. All matrix from all units and levels were sifted through $\frac{1}{4}$ inch screens. All cultural material was collected and bagged within its context, in order to be analyzed later by lab and field director. A handful of students participated in the practical work as well as note taking every day in order to gain knowledge of the process and to complete their fieldschool requirements. Carrie Bader and Mike Elkin supervised, recorded field notes and pictures of the progress, as well as participation in the physical part of excavation of units B-1, B-2, B-3, and B-4.



Figure 2. Exposed basal molding on the western façade of structure B2.

Excavation Results

Units B-1, B-2, B-3, and B-4 were set up in order to penetrate the base of structure B2, with the purpose of exposing the basal molding and any structural elements defining the corner of the structure. The units were excavated in cultural levels, first removing all overburden, then removing any structural collapse from erosion, to expose the underlying construction episode defining the terminal phase plaza and basal molding on the western façade of the structure. The base wall, corner elements, and basal molding were located and exposed through excavation for consolidation immediately following the field school session (Figures 2 and 3). Considering the amount of bioturbation, it is important to keep in mind that the first level is heavily disturbed by tree root and burrowing animal activity. Excavation of these units initiated with the removal of a humic layer which contained both understory plants and trees, and therefore included many roots. Matrix tends to be dark brown soil, until a depth of approx. 40-50cm. where after it becomes a lighter yellowish brown containing rocks and lime deposits, indicative of structural fill deposit. Larger limestone rocks recovered from the fill deposits were set aside to use



Figure 3. Exposed basal molding and structural elements of the corner of structure B2.



Figure 4. Representative sample of limestone recovered from fill deposits to be used for consolidation.



Figure 5. Representative sample of ceramics recovered from plaza units associated with Structures B1 and B2.

in the consolidation process schedule to follow the excavations (Figure 4). Materials recovered included matrix saved for later analysis included ceramics, chert, and marine shell. Figure 5 shows a representative sample of ceramics recovered from the plaza excavation units.

EXCAVATION OF B-5 and B-6

Methodology

Prior to the excavation of the units associated with structures B1 and B2, and Plaza B, the general approach to unit placement and excavation was coordinated with Dr. Jaime Awe of the Institute of Archaeology. Units B-5 and B-6 were placed along the base of the façade of structure B1. These two units were placed specifically to locate the base wall of the terminal phase of architecture and to define the main staircase of the west face of structure B1. Unit B-5 was a 3 x 5-meter unit and unit B-6 was a 2x2-meter unit adjacent to B-5 to the north

Both units B-5 and B-6 were excavated in both cultural and arbitrary levels, first removing the overburden and then defining the plaza floor and base wall. All



Figure 6. Opening photo of unit B-5 placed on the western façade of Structure B1.

matrix from all units and levels were sifted through $\frac{1}{4}$ inch screens. All cultural material was collected and bagged within its context, in order to be analyzed later by lab and field director. A handful of students participated in the practical work as well as note taking every day in order to gain knowledge of the process and to complete their field school requirements. Christy Pritchard and James Pritchard supervised, recorded field notes and pictures of the progress, as well as participation in the



Figure 7. West facing wall and south edge of west facing staircase of Structure B1.



Figure 8. Representative sample of ceramics recovered from unit B-5 and B-6

physical part of excavation of units B-5 and B-6.

Excavation Results

Units B-5 and B-6 were set up in order to penetrate the base of structure B1, with the sole purpose of exposing the base wall, the south edge of the west facing staircase, and any other structural elements defining the convergence of the staircase and the wall (Figure 6). The units were excavated in cultural levels, first removing all overburden and then removing any structural collapse from erosion, to expose the underlying construction episode defining the terminal phase plaza and base wall on the western façade of the structure. Larger limestone rocks recovered from the fill deposits were set aside to use in the consolidation process schedule to follow the excavations (Figure 4). The excavations did meet the goal of defining the base wall and associated plaza floor, and the southern edge of the staircase (Figure 7). These structural elements were defined and exposed for consolidation immediately following the field school session.

Contemporaneous with all other unit excavations in and around structures B1 and B2, there was a large amount of bioturbation to excavate in order to define any architectural phase of the structures. It is important to keep in mind that the first level is heavily disturbed by tree root and burrowing animal activity. Excavation of these units initiated with the removal of a humic layer which contained both understory plants and trees, and therefore included many roots. Due to the high volume of fill overburden and fill debris, students were instructed to screen approximately 50 percent of the overburden and 25 per cent of the fill deposit. Matrix tends to be dark brown soil, until a depth of approx. 40-50cm. where after it becomes a lighter yellowish brown containing rocks and lime deposits, indicative of structural fill deposit. Materials removed sand saved for later analysis included ceramics (Figure 8), chert, and marine shell.

EXCAVATION OF CHP B1/B2 – 1

Excavation unit CHP B1/B2-1 is located in the transition zone between Structure B1 and Structure B2 and horizontally level with the apex of structure B2 and 4 m from the apex of Structure B1. The unit initially measures 4 by 4 m (north-to-south x east-to-west) but was later extended 3.5 m to the west to achieve the final measures of 4 by 7.5 m (north-to-south x east-to-west). The purpose of this unit was to define the northernmost limits of Structure B1 and the southernmost limits of Structure B2 in addition to defining the architecture of the transition zone between and the western façade of the two structures.

The unit datum was set at 0.19 cm above ground surface at the southwest corner of the unit. The entirety of Unit CHP B1/B2-1 was excavated as one level.

Level one was excavated to an average depth of 266 cm below datum and consisted of a humic soil layer and a mix of small rubble fill and a moderate amount core and collapse. A course of large facing stones (running east-to-west) was exposed in the southeastern quadrant of the unit at a depth of 45 cm below datum and was followed to the southwestern quadrant of the unit. A course of more crudely fashioned facing stones was found 150cm south of the northern unit wall running parallel to the aforementioned course. These facing stones were discovered at a depth of 250 cm below datum. A plaster floor was found at a depth of 266 cm below datum and connected the basal courses of the two sets of parallel facing stones. This floor was present in the eastern half of the unit and terminated 3 m from the western unit wall. Materials recovered from this unit include ceramics, chert, slate, obsidian, charcoal, faunal bone, and freshwater and marine shell. The unit excavation and lot were terminated and closed at this level once the terminal phase architecture was reached.

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REPORT OF THE 2011 EXCAVATIONS AT STRUCTURE B-2, CAHAL PECH, BELIZE

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INTRODUCTION

Cahal Pech is an archaeological site located in the Belize Valley that was occupied from the late Early Preclassic to the Late Classic period. The terminal site core dating to Late Classic times is composed by an acropolis of 34 structures that delineate seven plazas (Awe 2008). The largest of these plazas is Plaza B, located in the eastern section of the acropolis. Plaza B is bordered on the north by Structures B-6 and B-7, to the south by B-4 and B-5, to the east by B-1, B-2 and B-3, and by Structure A-2 to the west. As part of the research of the 2011 field season, explorations were conducted in the eastern structures of Plaza B. This report refers to the exploratory excavations carried out at Structure B-2, located north of Structure B-1.

Structure B-2 was previously explored in 1988 through three operations (see Awe 1988, 1992). Operation B-2:1 was an axial trench on the west face of Structure B-2 whose purpose was to expose the terminal phase of construction and to record information on the form, style and date of the architecture (Awe 1992:99). In addition, two test pits were conducted at the building to expose its earlier phases of architecture (Awe 1992). Operation B-2:2 was located in the topmost apron or terrace, while Operation B-2:3 was in the center of the terminal phase platform at the summit of Structure B-2 (Awe 1992:101, Fig. 17). The excavations units permitted to suggest that the construction sequence of Structure B-2 consisted of nine stages that span from the late Middle Preclassic to the Late Classic periods (see Awe 1992:104-106).

According to Awe (1992), the earliest structure named B-2/1st was represented by a stucco floor, Floor 11, that may have supported a perishable building dating to the late Middle Preclassic period. Structures B-2/2nd and B-2/3rd, dating to the Late Preclassic

period, were the next two phases represented by the stucco Floor 9 and 10. With B-2/3rd, the structure was raised 2.30 m. The next construction phase, Structure B-2/4th, was represented by another stucco floor, Floor 8, and probably dated between Late Preclassic and Early Classic periods. During the Early Classic period, the structure acquired a form that resembled the basic form of the final construction phase, except for the size. This structure named B-2/5th was represented by Floor 7 of a raised structure or apron and Floor 6 of a building platform at its summit. The following stages of construction dated to the Late Classic period. Structure B-2/6th associated with Floor 5 and Structure B-2/7th associated with Floor 4 were two subsequent building platforms that modified the summit of Structure B-2. At the construction of Structure B-2/8th another apron was added to the raised structure of B-2/5th and a small building platform crowned its summit. Structure B-2/9th corresponded to the last phase of construction and its associated to Floors 2 and 1. This terminal phase of Structure B-2 consisted of at least three aprons, which ascended from Plaza B to a small platform at the summit of the mound. There was no presence of a superstructure and it does not have a stairway on the west face.

The aims of 2011 explorations of Structure B-2 were to gain a better understanding of the construction and chronological sequence of this building. With these goals in mind we carried out two test pits, EU B-2/1 and EU B-2/2.

METHODOLOGY

Explorations conducted at Structure B-2 were conducted to gain an understanding of their constructive sequence as well as to obtain cultural materials that permit us to date the different stages of the building. Excavations were conducted using both cultural and arbitrary levels. Artifacts were collected and separated based on unit, level and lot. All matrices were screened through ¼ inch mesh. Artifacts collected are in the process of being analyzed and the results will be discussed in future reports.

2011 EXCAVATIONS

EU B-2/1

Excavation unit B-2/1 was located on top of Structure B-2 and it had as goal to explore the constructive sequence of the building. The unit had nine levels and it was approximately 5 m deep. Figure 1 shows the stratigraphic sequence of this excavation unit, as well as of EU B-2/2.

Level 7, Lot B2-7

Lot B2-7 corresponded to the level below a layer made of soft lime, which was named during the excavations Floor 5 since it was thought that it represented a surface.

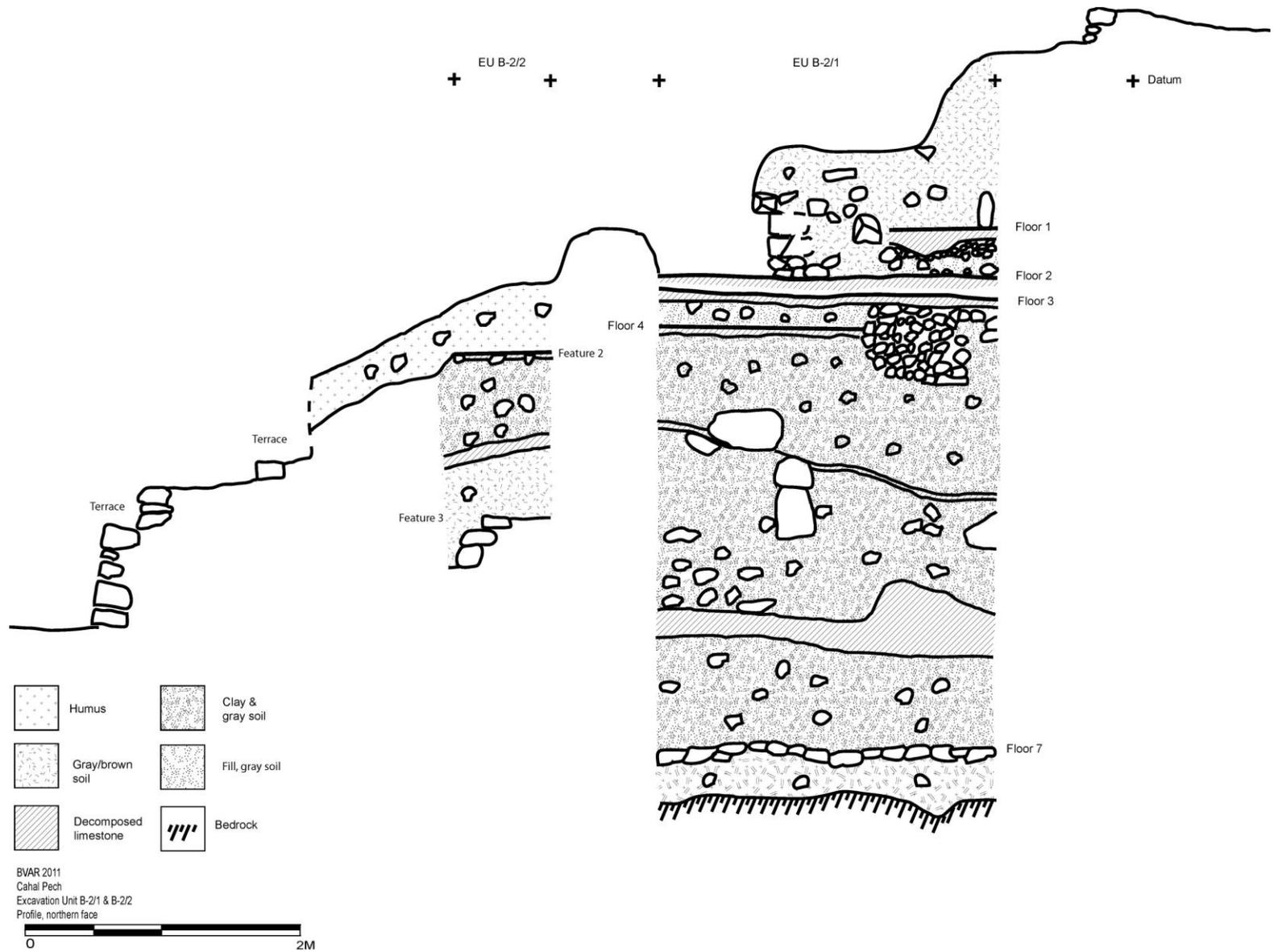


Figure 1. East-West profile of Excavation Units B-2/1 and B-2/2.

Below this feature, the matrix was homogeneous and consisted of clay-loam, gray in color. The consistency was semi-compact. Mixed with the matrix we identified small and medium stones. During the excavation, we reported a retaining wall made of coarse limestone blocks. Although it is difficult to establish the correct construction phase of this retaining wall, I suggest that it could have been associated with the apron uncovered at EU B-2/2. Among the cultural elements found in the matrix were ceramic, chert, and freshwater shell as well as a special finding (SF-B2-1) consisting of a figurine fragment made of ceramic. This lot was ended when a surface made of soft lime was uncovered. This surface was labeled as Floor 6, although it might not have been a floor per se but a layer of soft lime placed to level the fill. The ending elevation was 374 cm below the datum.

Level 8, Lot B2-8

This lot represented the level below Floor 6 or a layer of soft lime whose thickness ranged from 20 cm to 54 cm. Beneath this layer of soft lime, the matrix consisted of compact clay-loam mixed with small and medium stones. Cultural remains identified included ceramic, chert, freshwater shell and 16 special finds. The special finds included two spindle whorls (SF-B2-2 and SF-B2-9), nine figurine fragments made of ceramic (SF-B2-3, SF-B2-5, SF-B2-6, SF-B2-7, SF-B2-8, SF-B2-10, SF-B2-14, SF-B2-18 and SF-B2-19), two perforated marine shell fragments (SF-B2-15 and SF-B2-16), an ocarina (SF-B2-4), a tejo (SF-B2-17) and a ceramic fragment with perforations (SF-B2-11). The lot was ended when we uncovered a feature made of small slabs (Figure 1). This surface was named Floor 7. The ending elevation was around 490 cm below the datum.

Level 9, Lot B2-9

This lot represents the level below Floor 7, the surface made of small slabs or *lajas*. The matrix consisted of compact clay-loam mixed with few small stones. After removing the dirt, Feature 1 was uncovered (Figures 2 and 3). Feature 1 was a double wall, perhaps part of a rectangular structure, made of a single row of semi-worked and coarse stones. It was approximately 60 cm thick. This structure was resting directly on bedrock and soft lime used to level the bedrock surface. It was raised approximately 10 cm to 16 cm above the bedrock. Apparently, the bedrock and the leveled surface were the original surface related to Feature 1. Cultural materials recovered included ceramics, chert, freshwater shell as well as two special findings, an ocarina fragment (SF-B2-12) and a spindle whorl (SF-B2-13). The lot ended on bedrock and the ending elevation was 517.4 cm below the datum.

EU B-2/2

This excavation unit was located on top of the second apron of Structure B-2, west of EU B-2/1. It measured 1.50 m by 1.50 m. It was started in order to seek for the

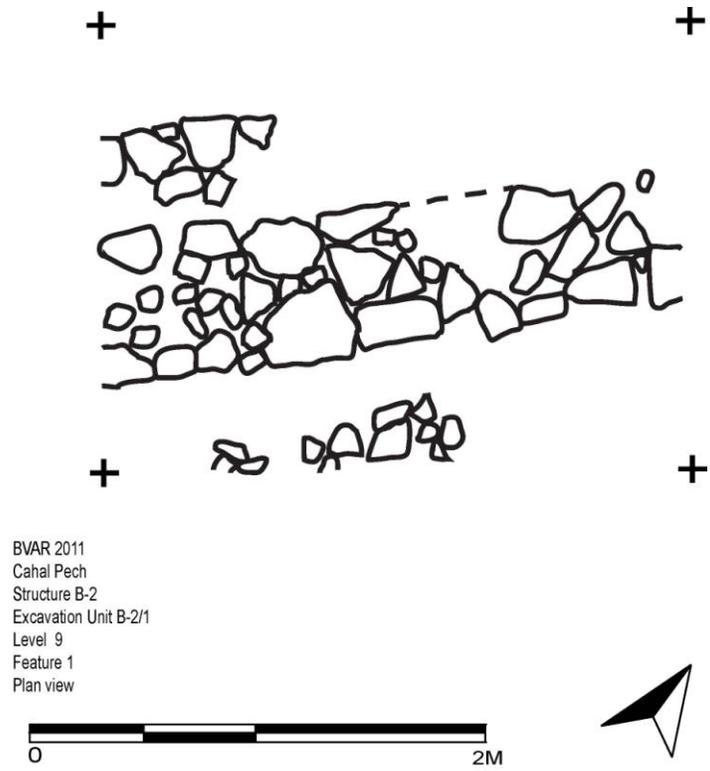


Figure 2. Plan view of Feature 1 reported at Level 9 of Excavation Unit B-2/1.

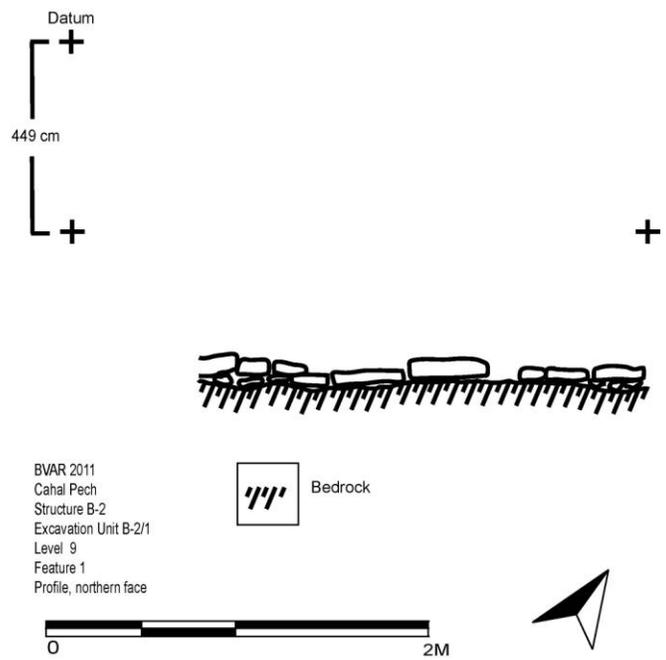


Figure 3. Profile of Feature 1 reported at Excavation Unit B-2/1.

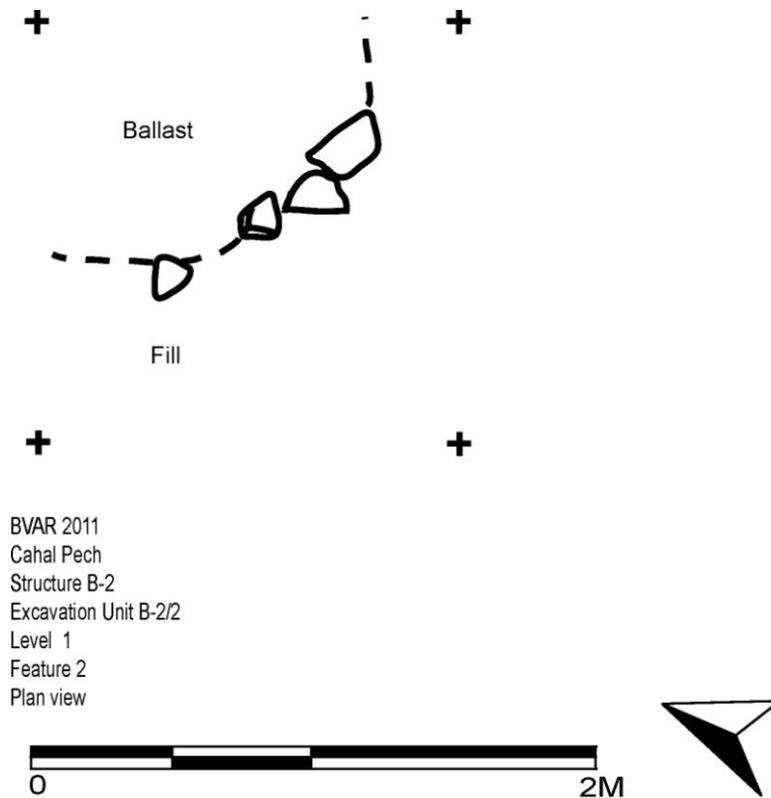


Figure 4. Plan view of Feature 2 at Excavation Unit B-2/2.

Late Preclassic substructures. Three lots were opened in this test pit, which was approximately 186 cm deep (Figure 1).

Level 1, Lot B2-10

This level corresponded to the removal of the humus, an organic dark brown soil. The beginning elevation was 161 cm below the datum. The matrix was mixed with natural materials such as small and medium stones. The lot was ended when we reported Feature 2, which was covered by the organic soil (Figure 4). Feature 2 consisted of the end of a structure, perhaps apsidal in shape. Only three stones of the foundation were preserved but the structure was easily recognized because the ballast of their floor was quite well preserved. Above of the ballast we reported three big stones, which could have been fragments of a stela. Interesting, Feature 2 seemed to be resting on the fill of Structure B2. Among the cultural remains reported we include ceramic, chert and freshwater shells. Ending elevation was 215 cm below the datum.

Level 2, Lot B2-11

This lot corresponded to the level below the surface of Feature 2. The excavation unit was reduced to 1.10 m x 75 cm, restricting the space to the interior of Feature 2. The matrix of the lot consisted of fill made of light gray clay mixed with small and medium



Figure 5. Feature 3 reported at Excavation Unit B-2/2

stones. During the excavation of this level, we were able to confirm that Feature 2 was resting on the fill of Structure B-2. Among the cultural remains reported, we can mention ceramic, chert, freshwater shell, obsidian and slate. We ended this lot when we reported a decomposed lime surface, around 10 cm thick. At this moment of the excavation, we were not able to correlate this surface with the floors reported at EU B-2/1. After the process of drawing of the east-west transect, however, we could observe that this limesurface was the same than the called Floor 5 of EU B-2/1. The ending elevation was 257.8 cm below the datum.

Level 3, Lot B2-12

This level was below the decomposed lime surface. The matrix of this lot was light brown-gray fill mixed with medium and small stones. The consistency of the matrix was compact. During the excavations we reported a wall, which may be the apron of the Structure B2-5th identified by Awe (1992). This apron was labeled as Feature 3 and it was represented by a north-south running wall made of semi-worked limestone blocks (Figure 5). Unfortunately, due to the dimensions of the excavation unit we could not continue exploring this feature. We only could uncover 28 cm of the height of this feature. The exploration of this level, however, permitted to identify certain construction facts. First, we identified a phase represented by Feature 2 that might be a Terminal Classic modification. Second, we corroborated that the soft lime layer was used to level the fill that composed the matrix. Third, this fill was used to bury Feature 3—the apron of Structure B2-5th. We stopped the excavation when we were not able to go deeper.

Cultural remains recovered included ceramic, chert, freshwater shell and a special finding consisting of a figurine fragment made of ceramic (SF-B2-20).

CONTRASTING DATA: THE CONSTRUCTION SEQUENCE OF STRUCTURE B-2

The findings of Excavation Units B-2/1 and B-2/2 explored in 2011 need to be interpreted based on the conclusions of 1988 season (Awe 1988, 1992). Based on the information recovered in 1988, an architectural sequence consisting of nine construction phases was reported. Information uncovered during 2011 permitted to refine this sequence but, at the same time, some questions raise.

Before any structure was built in the area of the actual Structure B-2, the irregularities of the bedrock were leveled using soft lime. On top of this surface, the ancient inhabitants of Cahal Pech built Feature 1 reported at the EU B-2/1. Although we were not able to identify the entire architectural characteristics of this building, due to the restricted space of the excavation unit, we could establish that this feature, Structure B-2/1sub, was a low platform whose double wall perhaps help to support the posts of a perishable structure. The next phase of construction is less clear. Based on our 2011 data, the next stage was represented by Floor 7, a surface made of small slabs that covered Feature 1. Almost at this same level, however, 1988 exploration discovered the stucco Floor 11 that was associated with Structure B-2/1st. The obvious question is whether Floor 7 of EU B-2/1 and Floor 11 representing Structure B-2/2nd of Operation B-2/3 corresponded to the same building. If the answer is affirmative, the plaster layer of Floor 7 of EU B2-1 did not preserve. Contrarily, we are referring to two different stages of construction whose sequence needs to be further explored.

In the 1988 explorations, the next stage of construction was Structure B-2/2nd represented by Floor 10. This phase has been dated to the Late Preclassic period. During the 2011 season we did not report any floor that could be at the same height as Floor 10. Instead, we only removed fill that was deposited to raise the height of the structure. This fill consisted of a layer of clay deposited on top of 2011 Floor 7, followed by a thick layer of soft lime and another layer of clay, which was contained by a retaining wall.

As mentioned above, during the Late Preclassic period the structure underwent another modification in which it was raised 2.30 m. This structure, B-2/3rd, was represented by Floor 9. According to 2011 data, there was an intermediate phase of construction between B-2/2nd and B-2/3rd. I proposed this statement based on the apron, Feature 3, identified in EU B-2/2, and the fact that 2011 Floor 7 was buried to build this structure, and because Feature 3 was buried to build Structure B-2/3rd represented by 2011 Floor 4. No stucco floor was associated with this stage of construction. During the transition Late Preclassic to Early Classic periods, Structure B-2/3rd was covered by Structure B-2/4th, represented by Floor 8 identified in 1988 and Floor 3 from 2011. During the Early Classic, Structure B-2/4th was buried by Structure B-2/5th. This structure was represented by Floors 1 and 2 in the 2011 season, that I interpret as being the same as

Floors 6 and 7 from 1988 excavations. According to Awe (1992) this structure may have had two aprons on its western face that ascended into a platform at its summit.

The next two stages of construction reported by Awe (1992) were not represented in the test pits that we explored in 2011 but Structure B-2/8th was identified. This phase of construction occurred during the Late Classic and it corresponded to the addition of a third apron to Structure B-2/5rd reported at EU B2-1. This apron was directly built on top of 2011 Floor 2 but we cannot say anything else since it was poorly preserved. Awe (1992) described that the last stage of construction was Structure B-2/9th, the actual form of the building. In this form, Structure B-2 was slightly more than 6 meters high and consisted of a small platform that may have supported a perishable superstructure. On its western face the structure descended to Plaza B by a series of three aprons or terraces (Awe 1988). In addition to this eleven phases of construction, we identified a latter modification was represented by Feature 2, the apsidal structure. This modification could have been carried out after the structure was abandoned and partially collapsed since it was built at the height of the second middle apron.

In brief, the exploration of two excavation units at the Structure B-2 permitted to refine the construction sequence of this building. However, we continue having questions about the architectural characteristics of the structures due to the nature of the explorations; this is especially true in the case of the earliest buildings. In addition, we still have doubts about the dating of those earlier buildings since the analysis of the ceramic and other cultural materials is in process.

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2011 TEST PIT EXCAVATIONS IN PLAZA C, CAHAL PECH, BELIZE

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INTRODUCTION

Explorations conducted at Plaza C were conducted to gain an understanding of the constructive sequence of this part of the Acropolis of Cahal Pech, as well as to obtain cultural materials that permit to date the different stages of the building. Plaza C is located at the eastern end of the acropolis at Cahal Pech. It is approximately 2 meters lower in elevation than Plaza B and it contains seven structures. To the east, Plaza C is bordered by Structure C-1, a small mound that abuts Structure C-2, a long low platform. To the west, the plaza is delimited by Structures B-1, B-2 and B-3. Structure C-3, a raised platform, is located on the northern side. Structure C-6 delimits the plaza on the southern side. Within Plaza C, and just north of Structure C-6 and east of Structure B-1, B-2 and B-3, is the eastern ballcourt (Structures C-4 and C-5).

During the late 1980s explorations, Awe (1992) conducted a 1.0 m x 1.0 m test pit at Plaza C, which was also located just north of Structure C-6. This excavations unit descended 1.46 m from surface to sterile level and uncovered three plaza floors. According to Awe (1992:155), the earliest floor was 1.18 m from surface and dates to the second half of the Early Classic period. The two subsequent floors, Floor 1 and 2, dated to the Late Classic period. There was no evidence of Preclassic construction phases in these excavation units.

METHODOLOGY

Excavations were conducted using both cultural and arbitrary levels. Artifacts were collected and separated based on unit, level and lot. All matrixes were screened through ¼ inch mesh. Artifacts collected are in the process of being analyzed and the results will be discussed in future reports.

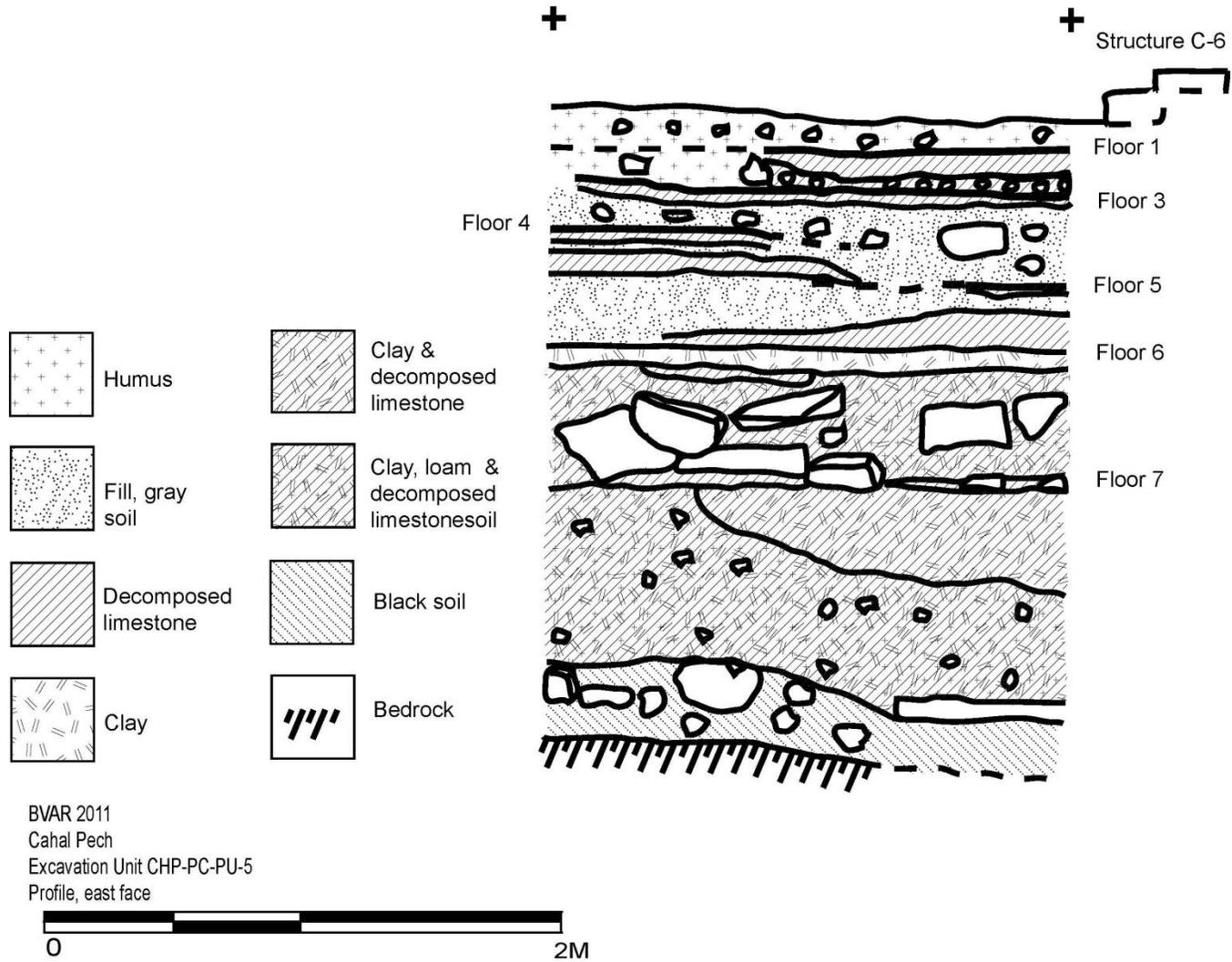


Figure 1: Profile of EU CHP-PC-PU-5

2011 EXCAVATIONS OF PLAZA C

EU CHP-PC-PU-5

Excavation unit CHP-PC-PU-5 was located at Plaza C, immediately in front of Structure C-6. It measured 2 m x 2 m and it was oriented following the axis of Structure C6. The purpose of this excavation unit was to obtain information about the construction sequence of Plaza C and to find out whether it was occupied during Preclassic times. The excavation unit was approximately 240 cm deep (Figure 1).

Level 1, Lot PL-C-1

Lot PL-C-1 corresponded to the removal of humus or dark-brown soil, which was mixed with small stones. The lot ended when we reported a stucco floor, Floor 1. This stucco floor was badly preserved since the plaster was not present at all and the ballast was only reported in the southern section of the excavation unit. At the northern section of the excavation unit the humic soil continued. Cultural remains included ceramic, chert and quartz. Beginning elevation of the excavation unit was 38.4 cm, while the ending elevation was 54.2 cm.

Level 2, Lot PL-C-2

This lot referred to the level below Floor 1. The lot ended when we reported another stucco floor, which was better preserved than Floor 1. This stucco floor was named Floor 3 since we uncovered a second floor and its corresponding ballast, which were only visible in the profile of the eastern and southern baulks. Beneath Floor 1, we identified whitish brown soil mixed with small stones, which constituted the ballast of both Floor 1 and Floor 2. This ballast, however, was not identified throughout the entire excavation unit. It was only present in the southern section of the excavation unit. In the northern section of the test pit, we removed humus or dark brown soil. In brief, the matrix was not homogeneous. Cultural material uncovered during the exploration of this lot included ceramic and chert. Ending elevations were 64.4 cm.

Level 3, Lot PL-C-3

Lot PL-C-3 represented the exploration of the level beneath Floor 3, a fairly preserved stucco floor. The matrix of this lot consisted of ballast composed of small stones mixed with decomposed limestone soil. The lot ended when we uncovered Floor 4, a poorly preserved stucco floor. The plaster of stucco Floor 4 was only identified in the northeastern section of the excavation unit. In the rest of the unit, we only reported the ballast. Cultural materials uncovered consisted of ceramic, freshwater shell, quartz and daub. Ending elevations were 93.2 cm.

Level 4, Lot PL-C-4

This lot corresponded to the level beneath Floor 4, a poorly preserved stucco floor. Although there were some areas (such as the northeastern section of the excavation unit) in which the plaster was preserved, this floor was mainly identified by its ballast. The matrix of the lot consisted mainly of ballast, small stones mixed with gray soil, but it was not homogeneous since we reported clay at the northeastern corner of the excavation unit, as well as a layer of lime. The lot ended when we identified Floor 5, a stucco floor. It was interesting to note that both Floor 4 and Floor 5 were broken at the southeastern corner of the excavation unit. This could have been a result of pre-Hispanic activity related to the Floor 3 stage of construction. Artifacts recovered at this level included ceramic, chert, freshwater shell, daub, and obsidian. Ending elevations were 124 cm.

Level 5, Lot PL-C-5

Lot PL-C-5 corresponded to the exploration of level 5, beneath of Floor 5. As mentioned above, Floor 5 was broken at the southeastern corner of the excavation unit, like Floor 4. This disturbance could have been related to the stage of construction of Floor 3. The matrix of this lot was typical Maya fill or core. Beneath Floor 5 we identified the ballast consisting of small stones mixed with light brown soil. Below the ballast, we uncovered a layer of clay, followed by one consisting of loam, clay and lime. This mixture of soils was resting on a wet core consisting of big stones and gray sandy soil. The lot was ended at the beginning of this wet core. Cultural materials recovered included ceramic, chert, freshwater shell, and daub. Ending elevations were 165.2 cm.

Level 1-5, Lot PL-C-6

This lot was opened to record materials that were recovered during the cleaning of the excavation unit. This process of cleaning was necessary because the rain washed some dirt into the excavation unit. Cultural remains included ceramic, chert, freshwater shell and daub.

Level 6, Lot PL-C-7

With Lot PL-C-7 we continued the exploration of the test pit. This lot represented the excavation of the wet core beneath Floor 5. This lot was the same context that PL-C-4 but we separated into a new lot because: (1) the type of fill was different and (2) we had to clean the unit of collapsed dirt due to the rain. The matrix was too wet to provide a detailed description. Nevertheless, we could observe that the big stones were mixed with gray sandy soil. We decided to end the lot when we identified pieces of stucco floor. Because the matrix was too wet, it was difficult to assess whether we had another stucco floor. We decided to change levels and open another lot in view of the possibility of having found another stucco floor (Floor 6). Cultural remains recovered during the exploration of Lot PL-C-7 included ceramic and chert. Ending elevations were 180.2 cm.

Level 7, Lot PL-C-8

This lot corresponded to the excavations below Floor 6, a possible stucco or lime floor. The wet core of the previous lot was directly resting on top of this surface. The matrix of lot PL-C-8 consisted of a mixture of small stones. Although the soil was wet we could observe that the soil was sandy. The lot ended when we report a possible floor (Floor 7), represented by small pieces of stucco and lime. Because the matrix was too wet and we were not able to assess whether or not this discovery was a real floor, we decided to end Lot PL-C-8 and start a new level and lot. Cultural remains recovered in Lot PL-C-8 consisted of ceramic, chert, freshwater shell, fauna and charcoal. Ending elevations were 186.6 cm.

Level 8, Lot PL-C-9

This lot corresponded to the excavation below level 7, beneath the possible Floor 7. As mentioned above, it was possible to observe pieces of stucco or compact lime throughout the excavation unit. During the excavation, however, we could not determine whether those pieces represented a real stucco floor. The main reason is the matrix was too wet and the stucco/lime was easily breakable. Fortunately, during the process of drawing of the eastern baulk, we could observe that those pieces of lime that we reported were pieces of soft limestone stones that broke during the excavation. This determined that Floor 7 was not a real floor. Therefore, Lot PL-C-8 and Lot PL-C-9 were part of the same context.

The matrix of lot PL-C-9 was not homogeneous. It consisted of sandy-loam soil—light brown in color—with chunks of clay and black soil. In addition, in the southeastern section on the test pit, there was a layer of clay mixed lime. The different types of soils and clay were mixed with small stones (soft limestone). Materials recovered during the excavation of this lot included ceramic, chert, freshwater shell, charcoal, fauna, fragments of human remains, jadite, obsidian, as well as two special finds: a tejo (SF-PL-C-1) and a figurine fragment (SF-PL-C-2). The lot ended 260 cm below datum, when we reported another possible surface made of lime. This surface was named Floor 8 during the process of excavation.

Level 9, Lot PL-C-10

We decided to open this lot and closed Lot PL-C-9 because we reported stucco or lime pieces all over the surface of the excavation unit. These pieces suggested the possibility that we could be dealing with a floor (Floor 8). Some facts, however, permitted to suggest that this lime or stucco pieces were not part of a real floor. First, the pieces of lime or stucco were not scattered uniformly. Second, this surface was not leveled but presented a lot of irregularities. The facts are inconclusive. We could be dealing with a layer of lime used as part of the fill process or we could have an old lime surface that was disturbed during the process of building of the next stage of construction.

The matrix of this lot was not homogeneous. It consisted of black soil or paleosol mixed with lime and soft limestone stones. In addition, we identified chunks of clay in this level. We ended the lot when we reported another layer of lime, although this was not spread all over the excavation unit. Ending elevation was 269 cm below datum. Cultural remains reported included ceramic, chert, and freshwater shell.

Level 10, Lot PL-C-11

This level corresponded to the excavations below level 9 or beneath a possible surface that was named Floor 8 during the excavations. The matrix of this lot consisted of dark soil or paleosol mixed with soft-limestone stones on top of bedrock. Cultural remains included ceramic and chert in this lot. Ending elevations were 285 cm below the datum.

CONCLUSION

The single test pit conducted at Plaza C gave some lights about the construction process of this part of Cahal Pech. Based on data gathered during 2011 field season, we can suggest that there were, at least, six major stages of construction in this part of the Acropolis.

The first stage of construction would be represented by Floor 8, the surface made of lime placed on top of the paleosol or black soil. During the second phase of construction, the level of Plaza C was raised approximately 80 cm. This phase was represented by Floor 6. The third construction stage meant the building of a stucco floor, Floor 5, and the raising of the Plaza surface in 50 cm. Later on, another stucco floor, Floor 4, was built and the surface raised another 40 cm. Floor 3 may represent the fifth construction stage, as well as Floor 2 and 1, which could have been resurfaces of Floor 3. Finally, the last stage of construction that we could observe based on 2011 field season data is the represented by the Structure C6 itself.

In brief, EU PL-C-5 has provided data that permits to have a glimpse of the construction sequence of Plaza C. We can offer some suggestions regarding the dating of the construction stages. Based on the deepness of Floor 5 from surface, it could be the same floor reported by Awe (1992) that dated to the Early Classic period. Therefore, Floors 1, 2, 3 and 4, perhaps dated to the Late Classic period. Most importantly, however, if we are right in this statement, earlier phases of construction than Floor 5, could be dating to Preclassic times. Unfortunately, the analysis of archaeological materials recovered during this season is still in process so, we need to wait to assess this hypothesis.

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TERMINAL CLASSIC EVIDENCE AT PLAZA H, CAHAL PECH, SAN IGNACIO BELIZE

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University of Copenhagen**

INTRODUCTION

In the summer of 2011, excavations were conducted at the most northeastern corner of the site of Cahal Pech by BVAR (Belize Valley Archaeological Reconnaissance project) under supervision of Catharina Santasilia from the University of Copenhagen, Denmark. These excavations were undertaken to uncover more of the Terminal Classic activity which has taken place at Cahal Pech. Several other excavations the last couple of years, has made it clear that there was indeed still activity at Cahal Pech during the Terminal Classic period, which is important information concerning the sites popularity during that time span, and also in a greater context relating to the rest of the Belize River Valley. Therefore excavations were conducted in what is believed to be the corner of newly designated Plaza H. Unfortunately more than 20 years ago, when excavations of Cahal Pech first begun, a concrete pavilion had been constructed right in the middle of the not yet discovered plaza H, which resulted in excavations had to be defined around the pavilion.

BACKGROUND

Cahal Pech is located on the southern outskirts of modern day city, San Ignacio, in the Upper Belize Valley. Unfortunately most of the surrounding settlement of ancient Cahal Pech has been succumbed by the growing city. Cahal Pech is located on a hilltop on the west bank of the Macal River and is surrounded by the mountains to the south. Excavations at Cahal Pech is an ongoing project since 1988, that was started by the Belize Tourism Industry Association (B.T.I.A.) and UNESCO to preserve the history of the Maya by turning Cahal Pech into a national park, both in order to preserve the area as well as to gain more information about the site and its relation to other sites in the vicinity. Dr. Jaime Awe has been in charge of excavations that have been conducted at the site since 1988. Earlier excavations of the site have been conducted by Willey, Satterthwaite,



Figure 1: Ceramic net sinkers from EU H-1, Lot H-1

Ford, Ball & Taschek and Schmidt that have not to date been published. The aim of the excavations of Dr. J. Awe has been to produce a chronology of the site. Cahal Pech has so far established that the site has been populated as far back as 1200 BC and new evidence supports that the site was extendedly used during the Terminal Classic period.

METHODOLOGY

Units were defined to reveal the wall enclosing Plaza H. One unit (H-2) was intended to reach bedrock where as the rest of the units were to define the wall. As the corner of the plaza wall was excavated, interesting discoveries were made. A firehearth was uncovered, and above it a large amount of chipped chert. All walls, the firehearth and the possible stone floors were drawn. All soil was screened and all artifacts were registered. During the ongoing excavations, all artifacts were processed in lab work by BVAR students. Jim Aimers from State University of New York analyzed the ceramics. All pictures were taken by Catharina Santasilia.

EXCAVATION RESULTS

In order to define the outer wall of Plaza H, six units were strategically set up; first the units H-1, H-2 and H-3 were defined to the east of the modern pavilion that is situated in the plaza. A line of stones, partly exposed from natural causes and human activity, indicated the probability of a plaza wall. A unit was defined on each side of the wall; unit H-1 and unit H-2. Later an extension was made towards west from unit H-1; unit H-3. Among trees further east, other stones indicated a possible corner, and unit H-4 was defined there, however it had to be extended one more meter northeast, as that was where the corner of the plaza turned out to be. Units H-5 and H-6 was defined to trace the wall going westwards to the north of the pavilion.

EU H-1 (Lot H-1, lvl 1): a 1.5 by 1.5m unit. This unit was excavated with the purpose of finding the plaza floor which the wall supposedly should be resting on. Leveled stones located at the southern end indicated a possible floor, and an extension (unit H-1B) was defined the see if the stones would continue southwards. Approx. 10-20cm below plaza surface the lot and level was changed. The soil is very dark brown. Next level aimed to find the base of the stones. Artifacts recovered included ceramics, chert and 3 ceramic sinkers (Figure 1).



Figure 2: Arrowhead from E.U. H-2, Lot H-2

EU H-1 (Lot H-5, lvl 2) below the first leveled stones, excavations continued to locate the floor and the base of the wall. Another possible floor was uncovered, however not the earliest plaza floor. A drawing was made of the aligned stones which formed the wall, as well as a drawing of the leveled stones. Artifacts recovered included ceramics, chert, quartzite and freshwater shells.

EU H-1 (Lot H-9, lvl 3) at approx. 40cm, the aligned stones were left in situ, as they were not reaching the wall, and instead we focused on locating the base of the wall. A large root from the nearby tree had disturbed the architecture of the floors and the wall. Eventually the base of the wall was reached and unit H-1 was no further excavated. The wall was designated feature number: H-3 of Plaza H. Artifacts recovered included ceramics, chert, quartzite and a possible metate fragment.

EU H-1B (Lot H-3, lvl 1): a 0.5 by 1.5m unit, butting up to the southern end of unit H-1. This unit was defined to reach possible leveled stones as seen in H-1, lot H-9, lvl 3. However before reaching level 3 of unit H-1, another level of stones were found and the lot was closed. Artifacts recovered included some ceramic and chert and a few freshwater shells.

EU H-1B (Lot H-4, lvl 2): this lot was started, as we wanted the unit to reach the same level as unit H-1, lvl 3. The stones were removed, and excavations continued. Evidence of another floor appeared approx. 15cm below surface. Artifacts recovered included some ceramic and chert, a few freshwater shells and 2 pieces of obsidian.

EU H-1B (Lot H-11, lvl 3): this unit reached the level of the leveled stones as seen in unit H-1, and not excavated further. Artifacts recovered included only a few pieces of ceramic, chert, freshwater shell and quartzite.

EU H-1C (Lot H-8, lvl 1): this unit is an extension towards southeast from H-1B. It is a 75 by 75cm unit which is intended to confirm whether or not the leveled stones which were in units H-1 and H-1B continue southeast. Artifacts recovered included ceramics, chert, freshwater shells and one piece of obsidian.

EU H-1D (Lot H-10, lvl 1): This lot was not excavated.

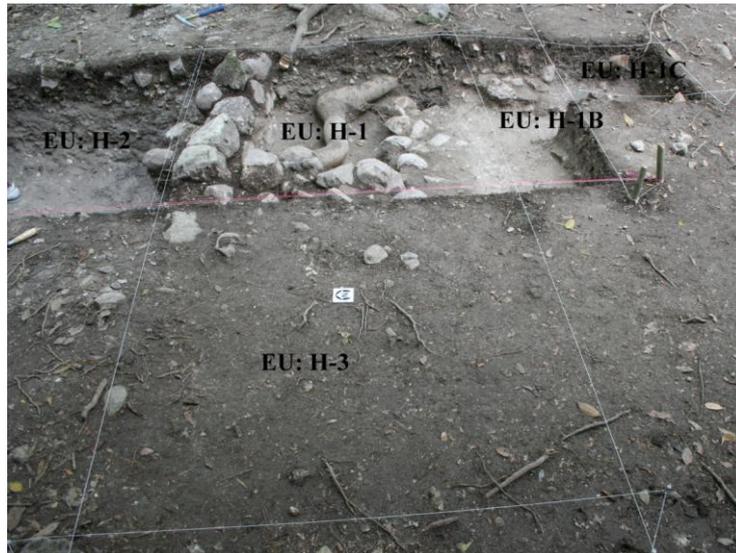


Figure 3: Excavation units: H1-H3

EU H-2 (Lot H-2, lvl 1): a 1.5 by 1.5m unit. This unit was defined butting up to unit H-1 aiming to reach bedrock, and to determine if there had been any house constructions outside the plaza wall. A floor was reached after approximately 10-20cm. Artifacts recovered included ceramics, chert, freshwater shell, obsidian, quartzite and a chert arrowhead (Figure 2).

EU H-2 (Lot H-6, lvl 2): Below first floor: another possible floor (floor 2) was reached at approximately 50cm below surface. Some charcoal was found and two samples were taken. Artifacts recovered included a large amount of ceramic, some chert and 2 pieces of obsidian as well as a few freshwater shells.

EU H-2 (Lot H-7, lvl 3): At approximately 80cm depth a possible floor (floor 3) was reached. The soil is brown-greyish and dry. Artifacts recovered included a lot of ceramic and chert, some freshwater shell and obsidian.

EU H-2 (Lot H-15, lvl 4): A possible floor (floor 4) was reached at approximately 115cm. Artifacts recovered included ceramics and chert, as well as a few pieces of obsidian and some freshwater shells.

EU H-2 (Lot H-22, lvl 5): This lot is below floor 4 and reached bedrock at approximately 130cm. Artifacts recovered included ceramics, chert, freshwater shell and quartzite.

EU H-3 (Lot H-12, lvl 1): A 1.5 by 1.5m unit butting up to H-1 located to the west (Figure 3). This unit is intended to expose more of the wall as well as trying to locate the leveled stones as seen in unit H-1's southern end. The same cluster of leveled stones as seen in unit H-1 was exposed, as well as more of the wall. Artifacts recovered included ceramics, chert, freshwater shells and obsidian.



Figure 4: Excavation units H-4; A, B & C, incl. future H-4D

EU H-3 (Lot H-18, lvl 2): The cluster of leveled stones was excavated to establish whether a possible burial would be underneath. Nothing was revealed and the unit was closed. Artifacts recovered included ceramics, chert, limestone, freshwater shells, obsidian and quartzite.

EU H-4 (Lot H-13, lvl 1) Approximately 15m eastwards of unit H-1, an L shaped unit was defined (see picture below), to locate the corner of Plaza H. The unit was 2 by 2m on the western and southern side, and 1 by 1m on eastern and northern side. Approximately 10cm of humus was removed. A large amount of chert was exposed. It became evident that the walls defining the corner of the plaza were more towards northeast and we extended the unit accordingly. Artifacts recovered included ceramics, a large amount of chert and 2 pieces of obsidian.

EU H-4 (Lot H-17, lvl 2) Excavations continued, and after another 10cm we decided to subdivide the unit into 3: A (northwest), B (southwest) and C (southeast). We continued to expose a large amount of chert. In the northwestern unit, a rounded burnt area appeared (Figure 4). We decided to excavate it separately as well as focusing on the eastern wall in the southeastern area. Artifacts recovered included ceramics and a significant amount of chert.

EU H-4A (Lot H-20, lvl 3) This lot encompasses the area inside the hearth. The hearth was smoothly rounded and inside was found a large amount of chert as well as a few pieces of ceramic. Soil samples were taken at the top, the approximate center and at the bottom of the hearth. Charcoal was identified and samples were taken inside the hearth.

EU H-4A (Lot H-23, lvl 4) After the excavation the hearth, the soil surrounding it was excavated. The level at the base of the hearth, turned out to be the base of the wall, at approx. 80cm. Here quite a few pieces of ceramic and a continuously large amount of chert were excavated as well as one piece of obsidian.



Figure 5: Hearth in EU: H-4A with the northern wall structure.

EU H-4B (Lot H-24, lvl 3) After the excavation of the firehearth this unit was excavated along with unit H-4A. This revealed an alignment of limestone forming a step running south to north (Figure 5). Eventually the base of the northern wall was established at approximately 115cm. A medium amount of ceramics and chert was found.

EU H-4C (Lot H-21, lvl 2/3) This unit continued to investigate the base of the eastern wall. Artifacts recovered included ceramics, a chert core and a quartzite core.

EU H-4D (Lot H-25, lvl 1) This unit revealed the corner of Plaza H. The soil was contaminated as we had had to cut down two trees to be able to excavate the unit. Artifacts recovered included ceramic and chert.

EU H-4D (Lot H-26, lvl 2) This level reached the same elevation as unit H-4C. As both units were intended to define the base of the eastern wall, the units were united. Artifacts recovered included ceramics and chert.

EU H-4CD (Lot H-27, lvl 3) This lot reached a limestone floor. The floor has a step down into the Plaza, and could provide some sort of platform. Excavations of H-4 did not continue. The base of the walls, the corner of the plaza and a possible platform was found. Ceramics and chert were found as well.



Figure 6: Excavation unit H-4 after end excavations, before backfill.

EU H-5 (Lot H-14, lvl 1) At approximately 10m westwards from unit H-3 unit H-5, a line of stones was visible on the surface. The stones were exposed and they seemed to be aligned, however it was evident that the wall was further towards south and another unit (H-6) was defined to expose the wall as seen in units H-1, H-2, H-3 and H-4. Artifacts recovered included ceramics, chert and quartzite.

EU H-5 (Lot H-16, lvl 2) Excavations of unit H-5 continued, to make sure whether it was part of the original wall or not. Artifacts recovered included ceramics, chert, quartzite, obsidian and plaster.

EU H-6 (Lot H-19, lvl 1) A 1 by 1m unit was defined slightly more to the south of unit H-5. Here the wall was exposed. After exposure of the wall, excavations were terminated. Artifacts recovered included ceramics, chert, quartzite and plaster.

DISCUSSION

The goal to locate the wall and the corner of the plaza was accomplished. Other interesting discoveries were uncovered, such as the hearth and a possible platform at the corner of the two walls surrounding the plaza towards east and north. The large amount of chert, as well as the hearth, found in the corner of the plaza, could indicate some sort of undefined production. The large amount of chert excavated in unit H-4 weighed 37.91kg.

The northern and eastern wall seemingly enclose Plaza H, but further excavations will have to be conducted to establish the structures surrounding the plaza. At this point of the excavation, evidence of several floors indicates extensive use of this plaza throughout time. Unit H-2 showed

extended use throughout the levels until it reached bedrock. This indicates that several phases of construction had been ongoing outside the plaza wall.

The ceramics from the excavations at Plaza H were analyzed by Jim Aimers, State University, New York, and were dated to be from the Late and Terminal Classic period. The ceramics were primarily: Belize Group, Peten Gloss ware, Garbutt Creek, and Cayo Unslipped (Aimers, personal communication 2011).

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2011 SURVEY AT LOWER DOVER, UNITEDVILLE, BELIZE

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INTRODUCTION

In the summer of 2011 the Belize Valley Archaeological Reconnaissance Project (BVAR) continued its investigations at Lower Dover in Unitedville, Belize. Lower Dover is located on the southern bank of the Belize River directly across from Barton Ramie, approximately 6 km east of Baking Pot and 3 km west of Blackman Eddy. The site is bounded on the north by the Belize River, on the east by Little Barton Creek and on the west by Barton Creek. The 2010 field season started the preliminary mapping of the site core covering approximately 60% of the site core. The 2011 survey served to continue mapping the site core as well as to train new personnel in monumental architecture mapping.

PREVIOUS RESEARCH

In 2010 BVAR began the first exploration of the area with excavations and mapping. The 2010 mapping efforts identified two major plazas, one acropolis complex (with 4 plaza groups), a ball court and several smaller plazuela groups (Figure 1).

2011 SURVEY

In the wake of a category one hurricane in October of 2010 many large trees were uprooted and broken at the Lower Dover Site, giving clearer access and greater visibility of structures within the site core. This allowed the survey team to assess the 2010 preliminary site map and make adjustments as needed. The initial assessment of the 2010 map indicated that plaza H, J and K would have to be remapped with additional structures and realignment

Lower Dover Site Core

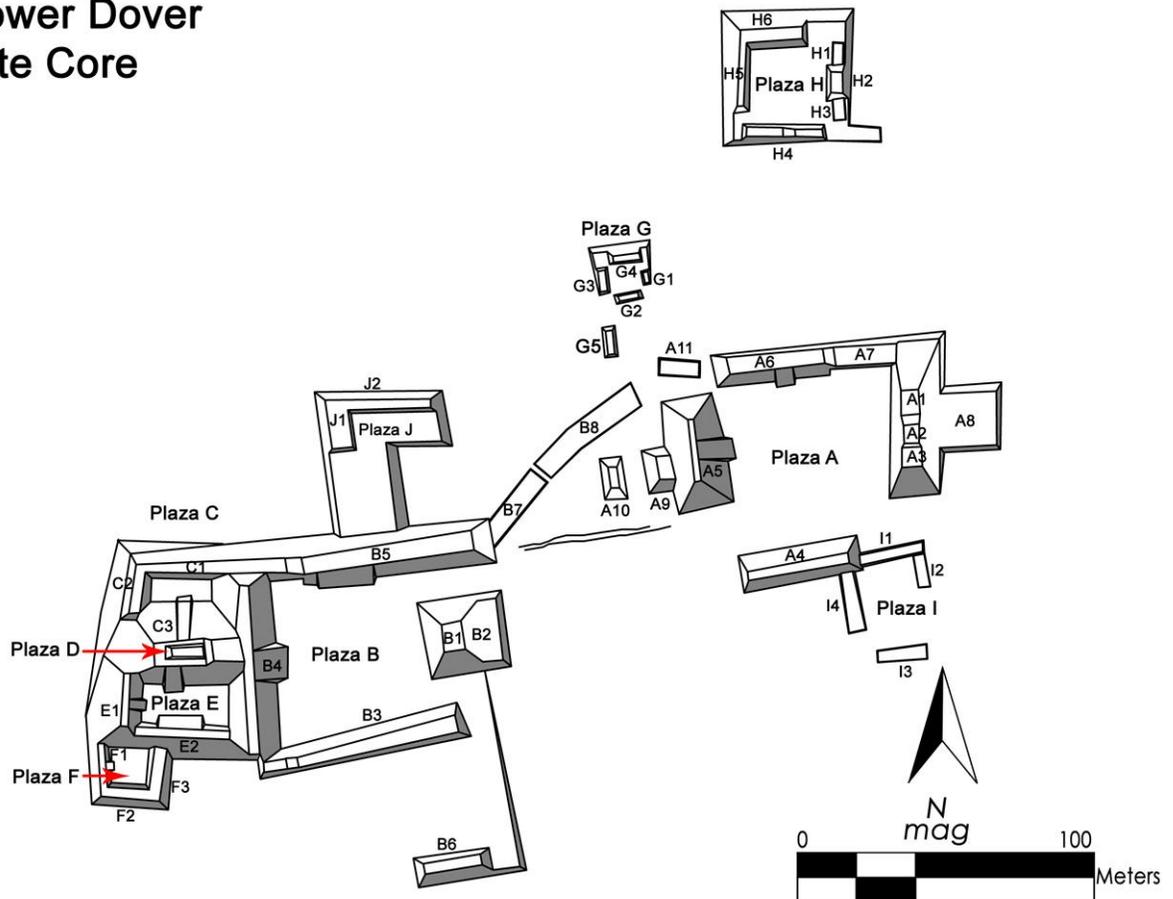


Figure 1: 2011 Site Core Map

of the platforms.

SURVEY RESULTS

The 2011 survey allowed for relabeling of the site core structures. In 2010 structures were labeled with plaza letter followed by a numerical sequence beginning at one (e.g. B1, B2, B3, etc.). The new designation retained the plaza letter assignment however the structures were labeled in numerical sequence continuing the string of numbers from one plaza to the other. This allows for a continuous string of structures numbers within the site core (e.g. A1 – A11, B12, B13, B14 etc.). The survey identified two additional buildings in Plaza J (J46 and J47) and one in Plaza H (H37). Two new plazas were added to the site core, Plaza K to the South of the B plaza and Plaza L to the south of the Acropolis complex

Lower Dover Unitedville Village Cayo District, Belize

Preliminary Site Plan

Plan by: R.Guerra 2011

Survey by R.Guerra 2010

S.Morton and J. Ramos 2011

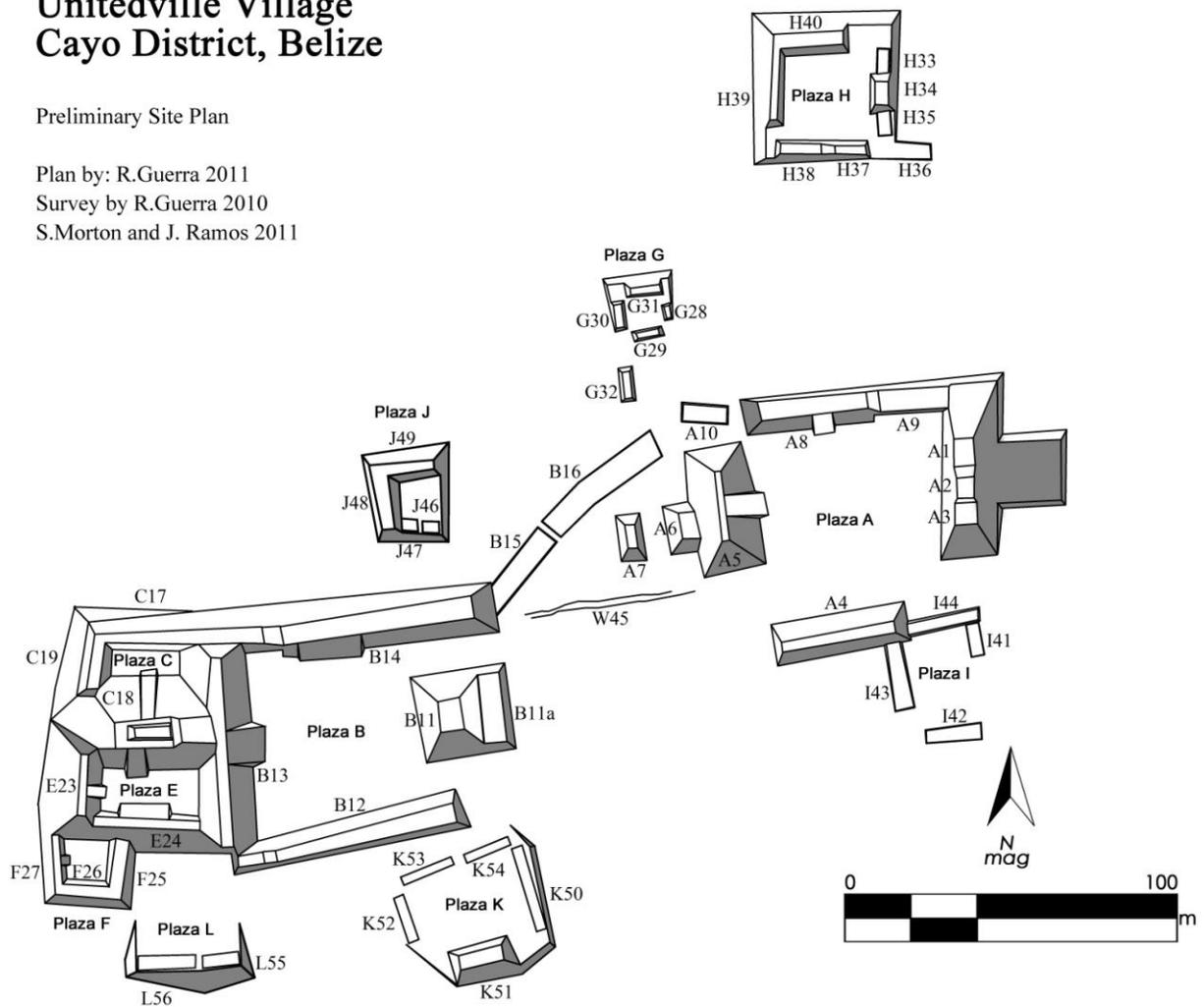


Figure 2: 2011 Site Core Map

(Figure 2). In addition to readjusting the site core map and adding new structures, this season served as training for Mr. Josue Ramos. This training involved the concepts of total station mapping as well as the use and analyses of total station survey.

2011 EXCAVATIONS AT THE MAJOR CENTER OF LOWER DOVER

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Marieka Arksey
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INTRODUCTION

In the summer of 2011 the Belize Valley Archaeological Reconnaissance Project (BVAR) continued its investigation of the site known as Lower Dover in Unitedville, Belize. Lower Dover is located on the southern bank of the Belize River directly across from Barton Ramie, approximately 5 km east of Baking Pot and 2.5 km west of Blackman Eddy. The site is bounded on the north by the Belize River, on the east by Little Barton Creek and on the west by Barton Creek. The purpose of these excavations was to determine construction sequences and occupational chronology of the site, a goal carried over from the 2010 field season.

PREVIOUS RESEARCH

In 2010 BVAR began the first exploration of the area, with preliminary excavations in the eastern triadic structure (A1-2) in Plaza A, the ballcourt, and in Plaza G to the north of Plaza A. This work, under the direction of Dr. Awe, was the only archaeological excavation ever done at the site.

EXCAVATIONS

The excavations in 2011 were conducted in Plaza G to the north of the Ballcourt and a wall feature (W45) to the south of the ball court. This report combines the 2010 and 2011 seasons for excavations in Plaza G and the 2011 season for excavation on the Wall

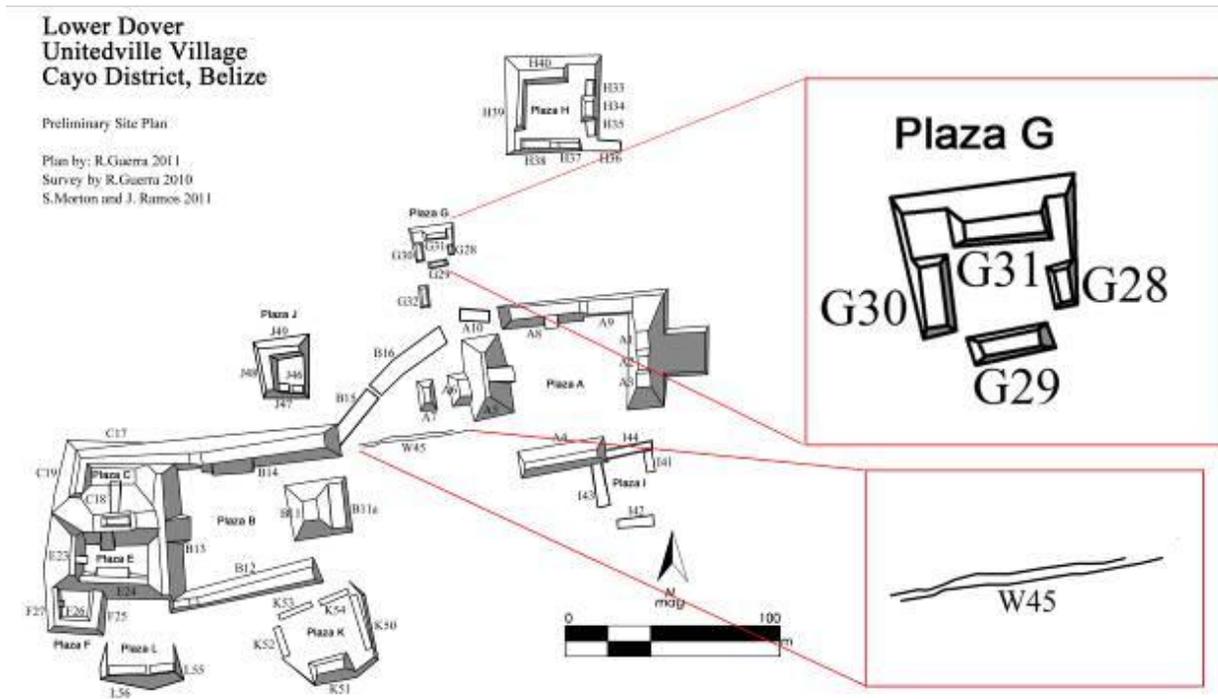


Figure 1: Map of Lower Dover showing Plaza G and Wall feature.

feature (Figure 1).

Plaza G

Plaza G is a small plaza located to the north of the ballcourt. The group consists of one formal plaza and a low-lying platform to the south west of the main plazuela (Figure 1).

Excavation in the 2010 field season was focused on the small low-lying square structure to the east of the main plazuela Structure G28. This excavation was initially set up as a 2 x 6 meter unit along the east west axis of the structure to encompass both the plaza area and the summit of structure G28. The unit was then divided into three 2 x 2 meter units labeled G28-1, G28-2 and G28-3, from the west to the east respectively. These units were used in an attempt to determine the construction sequence of both the plaza area and structure G28. In addition trenching of the eastern structure may reveal a burial or cache along the central axis.

Excavations in the 2011 field season were focused on completing Units G28-2 and 3 as well as commencing new unit on the western structure, G30 (Figures 5 and 6). Unit G30 -1 and 2 were laid out along the east west axis of the structure, as 2 x 2 meter unit, and served to uncover the terminal phase architecture. Unit G30-2 also served as a vertical test unit in order to determine the chronological sequences construction. Additional units were added as needed to expose terminal architecture of the structure. The results of these excavations are presented below.

Structure G28

G28-1

Unit G28-1 was laid out as a 2 x 2 meter unit from what was perceived to be the plaza area to the base of the structure to encompass the plaza area for chronological analyses. Level 1 of the unit went from the present ground surface to a depth of 15cm in the west and 25 cm in the east, where a poorly preserved plaster floor remains was uncovered. This plaster floor abutted a row of hard limestone rocks arranged in a linear alignment in a north south axis, along the eastern end of the unit. These rocks did not have an angular shape or any cut faces but their alignment suggests that these formed the base of the structure. This level consisted of a black organic matrix (Humus) and produced very few artifacts including, ceramics, chert and fresh water shell. Level 2 was initiated directly to the west of the rock alignment, uncovered in level 1, and was excavated to a depth of 75 cm to limestone bedrock. This level produced little to no artifacts and consisted of a light brown clayey loam matrix with large cobbles.

G28-2

Unit G28-2 was laid out as a 2 x 2 meter unit to the east of G28-1 from the base of the structure to the summit of the structure. Level 1 was excavated to a depth of 15 cm to a layer of small pebbles that extended uniformly across the unit. This layer was the remains of a poorly preserved plastered floor. The matrix of this level consisted of a dark humic layer with small cobble sized rocks and was highly affected by two large cohune trees growing along the central axis of the structure. Artifacts collected from this level included ceramics, chert, freshwater shell, obsidian and small fragments of human remains. Level 2 was excavated to a depth of 25 cm to a layer of reddish brown sandy clay throughout most of the unit. Several capstones were exposed along the eastern portion of the unit aligned in a north south axis extending from the northern baulk of the unit to approximately 1.0 meters south and into Unit G28-3. This level consisted of a light brown loam matrix with small cobble sized rock and produced relatively few artifacts including ceramics and chert. Due to time constraints, this unit was backfilled at the beginning of the sandy clay level in 2010. In 2011 this unit was reopened at the

beginning of level 2 as a 1x 2 meter unit along the east west axis of the original unit. This unit was excavated in two levels, Level 3 and Level 4 to limestone bedrock. Level 3 consisted of reddish brown sandy clay that was almost impossible to sift. This level was excavated to a depth of 30 cm to a layer of reddish brown clay. No artifacts were collected from this level. Level 4 consisted of a reddish brown clay layer that was excavated to a depth of 70 cm to the east and 5 cm to the west until bedrock was exposed (Fig. 004). No artifacts were present in this level.

G28-3

Unit G28-3 was laid out as a 2 x 2 meter to the east of G28-2 and encompassed the summit of the structure in order to collect stratigraphic data and possible construction layers for this structure. Level 1 was excavated to a depth of 5 cm at which point human remains were exposed along portions of the western half of the unit designated as Burial 001 (Figure 2). Level 1A was designated in order to collect the human remains exposed in the previous level. Artifacts from Level 1 included Ceramics, Chert, Daub, Obsidian and Human remains. Level 2 was excavated to a depth of 20 cm to a layer of reddish brown sandy clay, consistent with the one exposed in Unit G28-2. This level was of a light brown matrix with small cobble sized rocks and allowed the full exposure of the capstones to the west of the unit. The area with the capstones was excavated as a mixed unit G28-2 and G8 -3 and designated as Burial 002. Due to time constraints this unit was backfilled in the 2010 field season and reopened in the 2011 field season.

Burial 002

Burial 002 consisted of six fragmented capstones extending from the northern baulk of the unit to 1 meter in the center. Once the capstones were removed, the burial was excavated to 15cm and exposed a poorly preserved individual (Figure 3). This level consisted of a reddish brown sandy clay layer. Given the nature of the matrix this whole level was water screened in order to collect any artifacts from the burial. The burial included 1 small olla and a small cylindrical vase. The individual was laid out with the feet to the north and the head to the south. Several preserved teeth indicated that the individual had jade inlaid incisors. Additionally 25 shell beads were collected from the screening process and as such it is uncertain if they were from a necklace or bracelets.

Lower Dover
Structure G28
E.U. G28-3
Level 1b
Lot: 64
Burial 001
Survey By; J. Puc
Plan by; R. Guerra
2010

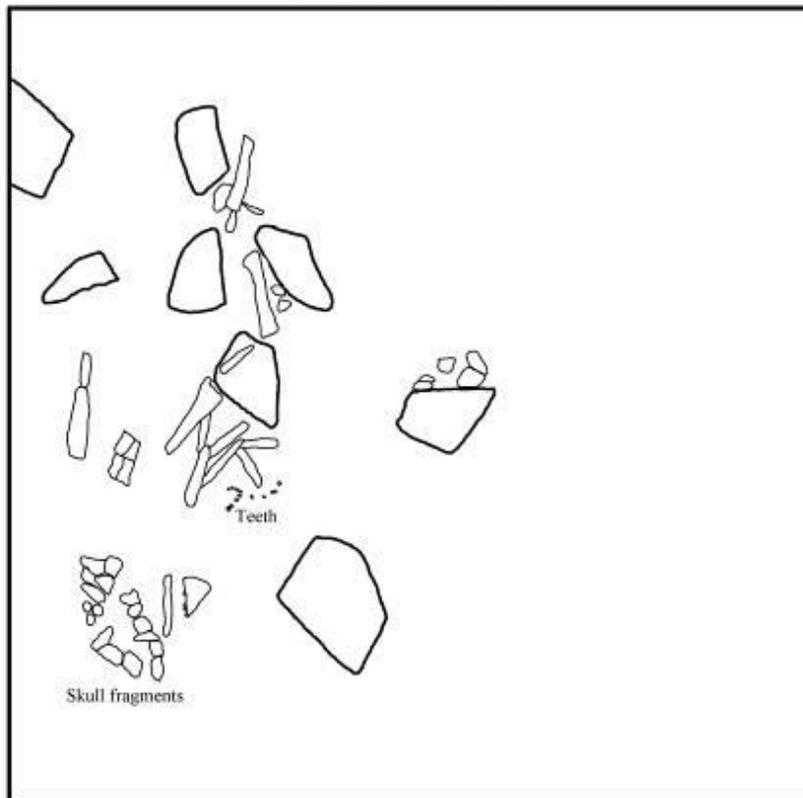


Figure 2: Plan drawing of Unit G28-3 Showing Burial 001

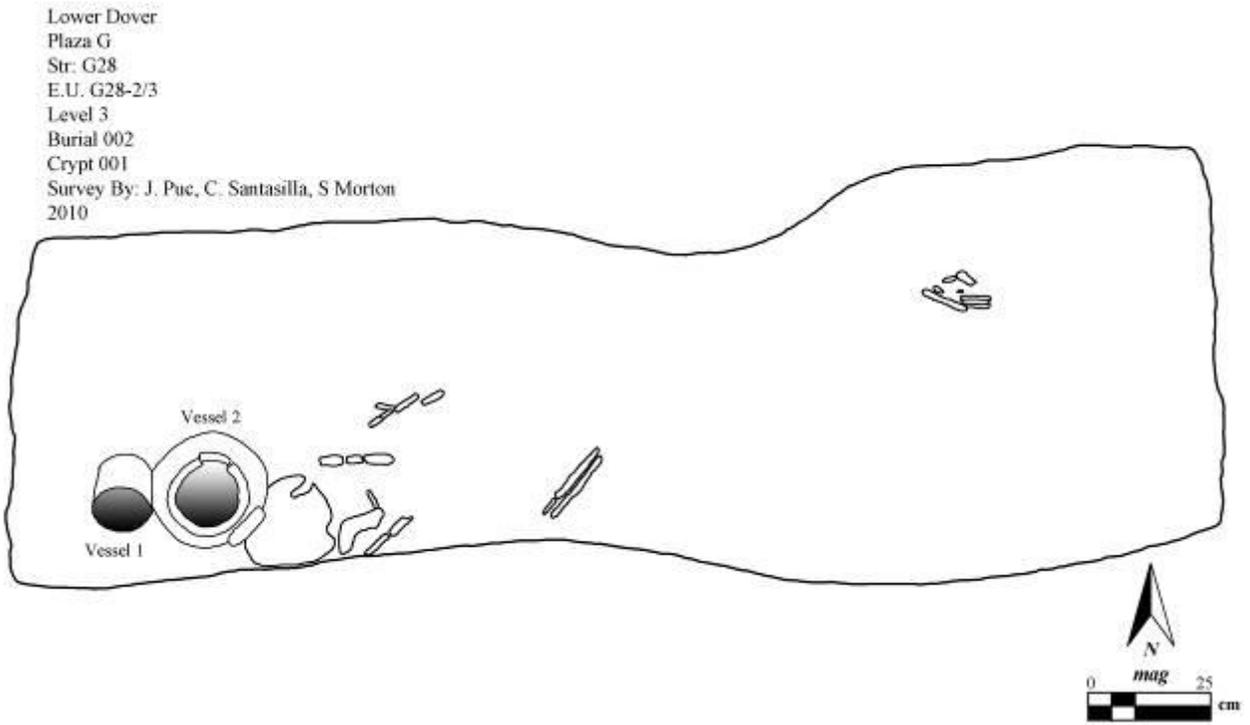


Figure 3: Plan drawing of Burial 002

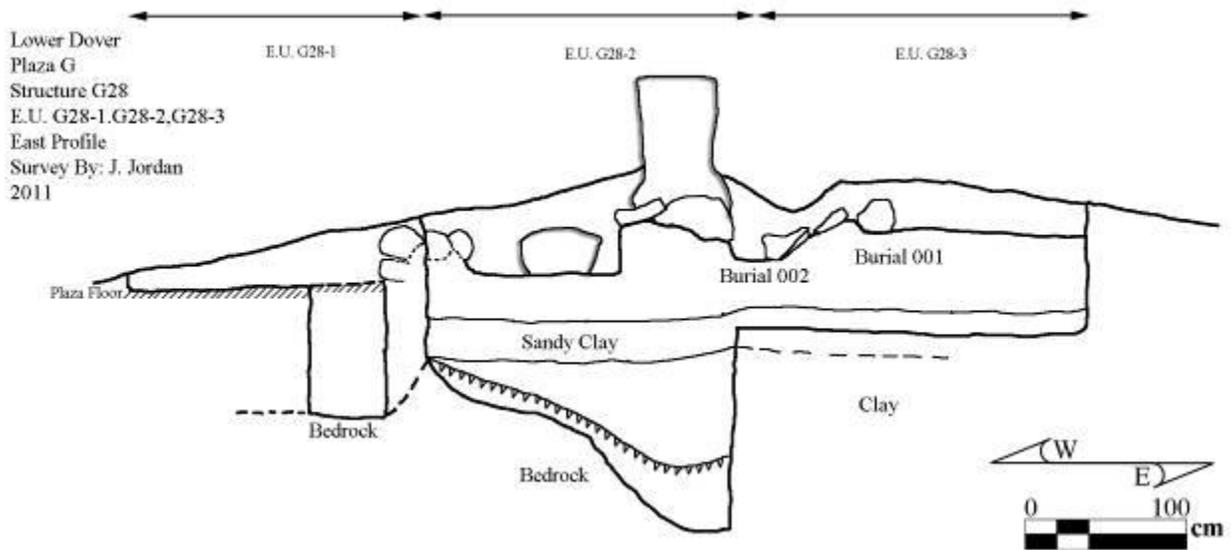


Figure 4: Profile of Structure G28

Structure G30

G30-1

Unit G30-1 was initiated as a 2x2 meter unit along the central axis of the structure to expose the terminal phase architecture of the building. This unit was excavated as a single level from the ground surface to the terminal architecture, to a depth of 12 cm along the west and 20 cm along the eastern edge of the unit respectively. This level exposed part of the terminal staircase as well as the northern edge of the penultimate staircase. Artifacts collected from this level included ceramics, chert, daub, freshwater shell and obsidian.

G30-2

Unit G30-2 was laid out as a 2 x 2 meter unit to the west of unit G30-1 in order to expose the terminal architecture at the summit of the building platform. In addition this unit served for vertical excavations to determine the chronological sequence of the building. Level 1 was excavated to an average depth of 35 cm where a nicely preserved plastered floor (Floor 1) was encountered. In the southern half of the unit a portion of a bench was exposed measuring 106 cm wide and extended to the south of the unit. Floor 1 abutted the bench and appears to be a part of the plastering that covered the bench at this level. In this level artifacts recovered included ceramics, chert and obsidian. Level 2 was excavated to a depth of 10 cm where a second plastered floor was uncovered just below the ballast of floor 1. The bench construction sits on floor 2 suggesting that this was the original floor on which the bench was built. The proximity of these floors suggests a remodeling episode of the terminal architecture. Cultural materials collected from this level include a few ceramic sherds and chert flakes. Level 3 was excavated to a depth of 24 cm to a preserved plastered floor (Floor 3). This level consisted of cobble sized ballast sized and produced very few artifacts and included mainly chert flakes. Level 4 was excavated to a depth of 3 cm to another floor (Floor 4). This level produced no artifacts and given that floor 3 was sitting almost directly on floor 4 it is likely that floor 3 was a re-plastering event of floor 4. Level 5 was excavated to a depth of 12 cm to a poorly preserved plastered floor (Floor 5). In this level mostly cobble ballast was removed with very little artifact material including a few ceramic sherds and chert flakes. Level 6 was excavated to a depth of 24 cm to a tamped marl floor (Floor 6). This level consisted of a mixture of light grey matrix and small cobbles. No artifacts were recovered during the excavation of this level. Level 7 was excavated to a depth of 10 cm in the eastern portion of the unit, 2 cm in the center of the unit and 8 cm in the western portion of the unit to limestone bedrock. From this level it is apparent that the bedrock was filled in to create a level surface (Floor 6). No artifacts were collected from this level.

G30-3

Unit G30-3 was initiated as a 1 x 2 meter extension to the east of Unit G30 -1 in order to capture the entirety of the terminal staircase as well as to serve as a test pit for stratigraphic data from the plaza in front of the building. Level 1 of this unit was excavated to 10 cm on the east and 30 cm on the west to a poorly preserved plaster floor (Plaza Floor 1). This level exposed part of a deposit that was scattered across the front of the terminal staircase and included ceramics, chert, daub, freshwater shell and obsidian. Level 2 of this unit was excavated for 5 cm to a second plastered floor (Plaza Floor 2). Given the closeness to Plaza Floor 1, it is likely that this is the original plaster floor and was re-plastered in antiquity. The materials collected in this level included ceramics and chert. Level 3 was excavated to 12 cm on the east and 32 cm to the west until bedrock was reached. The exposed bedrock in this level indicates that it slopes to the west and was filled in to create the plaza level of floor 2. Within this level cultural materials recovered included ceramics, chert and a granite adze.

G30-4

Unit G30-4 was initiated as to the south of Unit G30-2 in order to expose the terminal phase bench uncovered in G30-2. This unit was excavated to the level of Floor 1 in the building platform. All cultural materials were collected as one stratigraphic level and included ceramics, chert, freshwater shells, obsidian and a perforated limestone sphere fragment. This unit exposed the western and southern walls of the interior bench.

G30-5

Unit G30-5 extended to the north of Unit G3-1 in order to expose the terminal phase construction of the building. This unit was initiated to continue exposing the northern section of the terminal staircase that was exposed during excavations of Unit G30-1. All cultural material from this unit was collected as one stratigraphic level (Level 1) from the ground surface to plaza floor or from ground surface to steps. Very few materials were recovered from the staircase however; along the northern edge of the staircase and along the platform terrace a small deposit was uncovered just above the plaza floor, similar to units G30-3 and G30-6. Material collected from this deposit included; ceramics, chert, daub, freshwater shells, obsidian, a ceramic spindle whorl, a limestone bark beater fragment and a fragment of a greenstone miniature adze.

G30-6

Unit 30-6 extended to the south of Unit G30-1 in order to expose the southern portion of the terminal staircase as well as the building platform terrace. Due to a large cohune tree that was growing on the structure, the terminal phase staircase was completely dismantled by bioturbation however several blocks from the penultimate

staircase remained in situ and were used to project the dimension of the terminal staircase using the northern side of the staircase. Several cut stones remained along the base of the building terrace and allowed for a projection of the orientation of the terrace. Cultural materials collected from this level included ceramics, chert, daub, freshwater shells, obsidian, two partial perforated limestone spheres and a partial ceramic roller stamp.

G30-7

Unit G30-7 was initiated as a 1 x 1 meter test pit in the interior of the bench. This unit was initialized to look at the construction sequence of the bench and also to corroborate the stratigraphic sequence of Unit G30-2. Level 1 of the unit was excavated to a depth of 35 cm to (Floor 2) of the structure that extended below the lowest course of the bench indicating that the bench was built on floor 2 of the structure. Artifacts in this level included mainly ceramics in the upper level and chert nodules in the lower levels. Level 2 of this unit was excavated to a depth of 20cm to a second floor below the bench (Floor 3). Level 3 was excavated to a depth of 14 cm to a third floor below the bench (Floor 4) Mostly small un-diagnostic ceramic sherds and chert flakes were recovered from this level. Level 4 was excavated to a depth of 18 cm where an alignment of six (6) cut stones were uncovered. A small amount of diagnostic ceramic sherds and chert flakes were recovered from this level. This alignment spanned the unit from east to west with the cut facings, facing to the south. An additional 10 cm was excavated to the south of the facing stones where a tamped marl floor (Floor 5) was uncovered at the base of the alignment. Due to time constraints this unit was not carried out to limestone bedrock as unit G30-2. No additional features were uncovered during the excavation and the initial assessment of the ceramics recovered from level 4 indicate that the earlier construction phase is slightly earlier than the terminal phase bench above.

G30-8

Unit G30-8 was initiated as a 2 x 2 meter test unit in order to expose the terrace one of structure G30 to the north of Unit G3-5. This unit was uncovered as one level from ground surface to the plaza floor. A total of 28 cm in the east and 11 cm to the west of the unit were excavated. Within this unit it was noted that the terrace wall of structure G30 continued further to the north, needing an additional unit to expose the rest of the terrace and the corner of the structure. All the materials from this unit were collected as one single cultural level and included, ceramics, chert, daub, fresh water shells, obsidian, ceramic net sinker, perforated limestone sphere, ocarina fragment, perforated and carved river cobble.

G30-9

G30-9 was initiated as a 2 x 2 meter test unit to the north and west of Unit G30-8 in order to expose the remainder of the terrace one, northeast corner of the building and

Lower Dover
Plaza G
Structure G30
Plan View
Drawn by: R. Guerra 2011

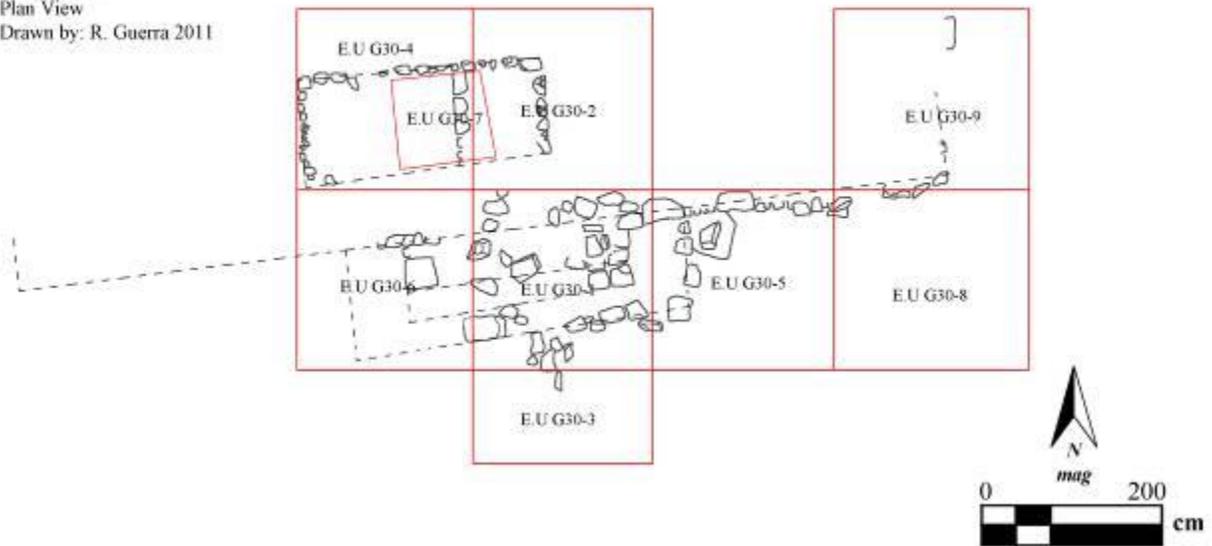


Figure 5: Plan view of structure G30 showing location of Units. Red lines represent the extent of each unit.

the northern terrace wall. As in Unit G30-8 this entire level was collected as one cultural level from ground surface to the plaza floor. This unit exposed the platform corner of the building however, the northern wall of the building platform was almost completely destroyed and only there basal facing stones were in their original location, indicating that the building didn't preserve well along the northern face. Materials collected from this unit included ceramics, chert, daub, freshwater shell and obsidian.

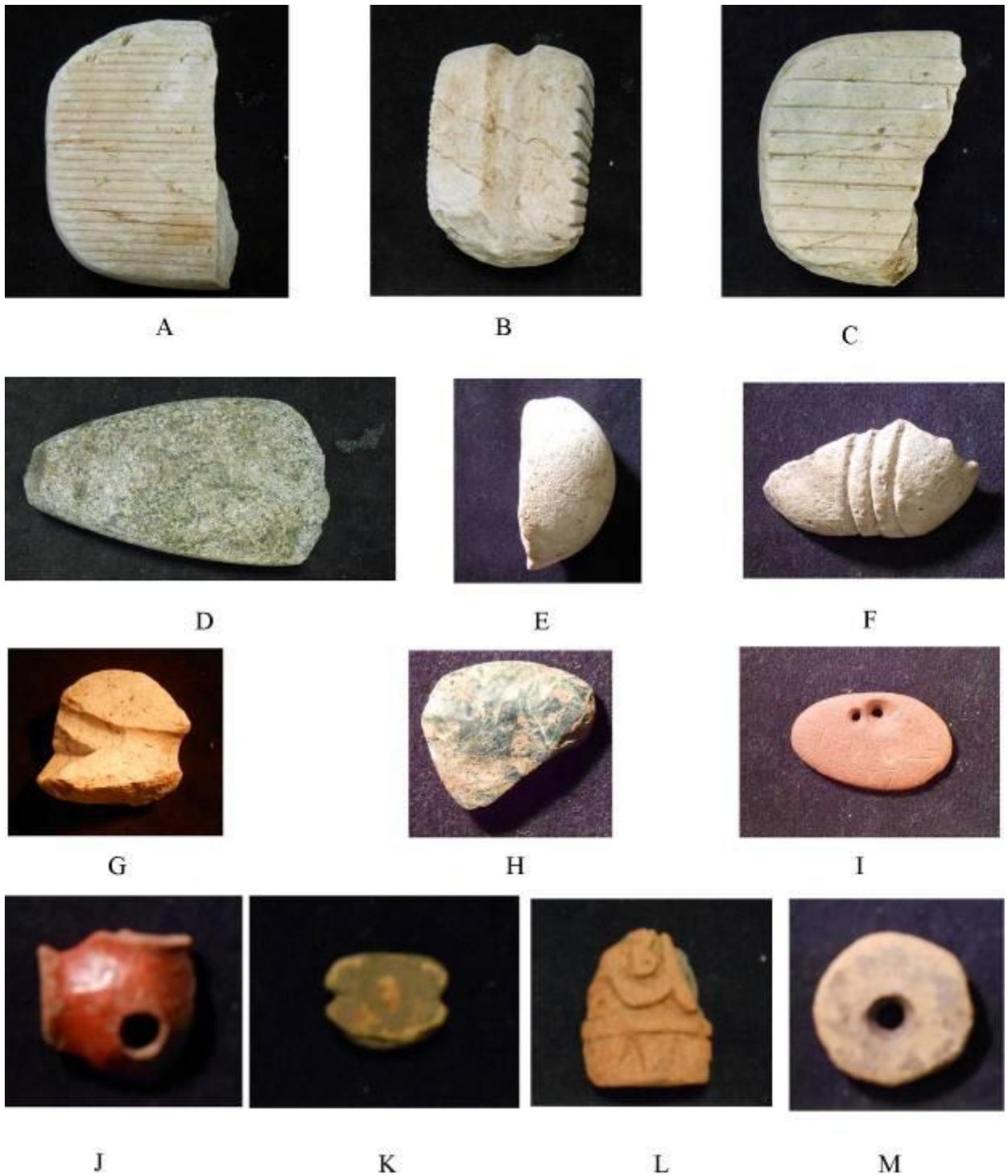


Figure 6: Selected artifacts from Plaza G. A-C- Limestone Bark Beater, D – Granite Adze, E-G – Perforated Limestone Sphere, H – Greenstone Adze, I – Perforated and Carved River Cobble, J – Ceramic Ocarina, K – Ceramic Net Weight, L – Ceramic Roller Stamp, M- Ceramic Spindle Whorl

Wall

Structure W45

Excavation began on a structure tentatively identified as a wall or sacbe that ran between Plaza “A” and Plaza “B” near the ballcourt. The structure was visible where the lined stones broke through the surface in many places, and it was decided to excavate a cross section of the “wall” to determine how it was constructed and what its purpose may have been. There was no evidence of archaeological excavation in the immediate area, and no signs of looter activity.

A 2m by 3m excavation unit (excavation unit W45-1) was laid out that covered the structure so that a cross section would be available. A datum was set up 18cm above the surface. The unit was laid out with the 3 meter side aligned north/south, as the structure ran roughly east/west. Level 1 removed the humus layer and exposed the exterior of the structure down to approximately 39 cmbd where a degraded plaster floor was found. It showed that the structure was composed of two rows of stones laid parallel about 120 cm apart, and then filled in between to form either a narrow raised pathway or the base of a wall. At this time, the soil between the stones was left in place. Ceramics, chert, quartzite and freshwater shell were recovered (Lot W45-1).

The excavation unit was condensed to a 1m by 3 meter unit that covered the western half of the original unit. Level 1 continued in this condensed unit, removing the row of stones and the fill between them down to the level of the rest of level one. It revealed that the floor found on the outsides of the wall in the previous lot extended under the structure. In this lot ceramics, chert, quartzite, freshwater shell and granite were recovered in this level (Lot W45-2).

Level 2 continued down over the newly condensed unit for roughly 15 cm until degraded plaster floor 2 was located. This floor also extended through the entirety of the unit, both under and to either side of the structure. Chert, ceramic, quartzite, freshwater shell obsidian, daub and granite were recovered in this level (Lot W45-3).

Level 3 descended until floor 3 was reached, which was a stone ballast floor. This floor was found approximately 25 cm below floor 2. Artifacts recovered in this lot included chert, ceramic, quartzite, obsidian, daub and freshwater shell (Lot W45-4).

Due to the rapidly approaching close to the excavation season, the unit was further condensed to a 1m by 1m square located under the northern rock wall. Level 4 continued in this smaller unit for roughly 10cm, until lighter colored sand was reached.

In this lot were found chert and quartzite (lot W45-6). Level 5 continued down another 5cm, and no artifacts were found. Excavation ended at this point due to a lack of time.

INTERPRETATION

Structure G28

Excavation data from this structure suggests that it was built directly on bedrock in one architectural phase with no modification. Burial 002 indicates that the plaza is closely tied to an elite family through the inlaid jade teeth.

Structure G30

Excavation at this structure suggests that the building consisted of two distinct architectural phases with several modifications, to both the terminal and penultimate phase architecture. Preliminary artifact analysis indicates that the building was built in the Late Classic phase and extended into the early part of the Terminal Classic period.

ACKNOWLEDGEMENTS

Our appreciation goes out to the owners of the Lower Dover Field Station, William and Madeline Reynolds for allowing us to stay and work on the property. We would also like to thank Jillian Jordan, Catharina Santasilla and Shawn Morton for their assistance during the 2010 and 2011 field season. Finally thanks to all the B.V.A.R. field school students who were able to participate in our research efforts at the Lower Dover site.