The Belize Valley Archaeological Reconnaissance Project

A Report of the 2013 Field Season

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A Report of the 2013 Field Season

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Editors Note

Research in the 2013 season continued at the three major centers of Cahal Pech, Baking Pot, and Lower Dover, with specific aims to build on the project’s regional-scale view of the development and decline of sociopolitical organization in the Belize Valley through time.

Research at Cahal Pech was focused in the site core during the 2013 field season. Excavations in the southern part of the site focused at Structure G-1 (Griffith, Chapter 1) and Structure G-2 (Stanchly, Chapter 2). In Plaza B, Nancy Peniche May continued her exploration of the plaza in front from Structure B5, uncovering well-preserved Preclassic platforms similar to those identified by Awe (1992). Santasilia supervised Awe’s large-scale excavations and consolidation of the eastern triadic group (Structures B1, B2, and B3), and as excavations continued into Structure B1. An elaborate tomb was identified in the stair black of that structure, with Early Classic ceramic vessels suggesting that it is the tomb of one of the early rulers of the site (Santasilia, Chapter 4). This discovery adds to the substantial corpus on information that has been compiled on the dynastic sequence at Cahal Pech, and Zender’s epigraphic analysis of a carved bone ring in the tomb adds additional information on rulership at Cahal Pech (Chapter 5). Jim Conlon (Chapter 6) supervised excavations on the south side of Structure B-1, uncovering a stair that leads into Plaza C. Large-scale excavation was also conducted on Structures B6 and B7, with a team lead by AFAR uncovering the terminal architecture of the buildings (Lopez Johnson et al., Chapter 7). On the eastern side of the site core, John Douglas and Linda Brown continued excavations in Plaza H, expanding the excavation of the structures and building on our understanding of Terminal Classic activity in the plaza through a detailed analysis of the artifacts recovered in their excavations (Chapter 8). Alessandra Villareal conducted a lab analysis for 2012 excavations in the ballcourt of Plaza C for her honors thesis (Chapter 9).

Research at Baking Pot had two major research foci during the 2013 field season. The first concentrated on analyzing materials from previous excavations, including a detailed artifact analysis of materials Lubul Huh (M-410) group (DuMenil, Chapter 10), which supplements the excavation reports for the group by Zweig (2012, 2013), as well as an obsidian pXRF study by Richard George (Chapter 11) based on the materials from Hoggart’s 2007 to 2010 settlement survey and earlier excavations at the site. The second focus in 2013 was the initiation of excavations in the royal palace complex (Hoggart et al., Chapter 12), part of an on-going project focusing on refining our understanding on the timing and nature of political and demographic collapse at Baking Pot at the end of the Classic period. In addition, at the end of the season, we were informed about the construction of a tilapia farm in the settlement north of Group A, near the Spanish Lookout ferry. As the ponds for the farm were excavated, Angie Perrotti, Stephanie Orsini, and Julie Hoggart. (Chapter 13) collected materials and recorded any architecture exposed by the construction, which adds information to the previous settlement map and excavations.

Research at Lower Dover continued in Plaza F during 2013 (Guerra et al., Chapter 14). Excavations exposed a larger section of the terminal architecture, with diagnostic ceramics associated with the Late to Terminal Classic being recovered. In addition, the identification of Postclassic ceramics suggests that a low level of activity in the site core was renewed later...
in time. Survey in Lower Dover’s southern settlement continued, with Petrozza expanding the survey boundary southward to the Western Highway (Chapter 15). Future research will relate this newly mapped settlement to the excavations and survey of the Lower Dover site core and the settlement at Barton Ramie. Perkins (Chapter 16) excavated a chultun located in the southern settlement area as well. Finally, Sullivan and colleagues (Chapter 17) analyzed lithicdebitage and tools from the site core at Lower Dover, comparing their findings to the materials from 2013 excavations in the palace complex at Baking Pot. They note strong differences in the types of lithic production between the two sites.

The success of BVAR’s 2013 research season was the result of the help of a number of individuals and establishments. We would like to thank Hode’s Restaurant, Mana Kai Cabins, Pacz Inn, Western Guesthouse, Lower Dover Field Station, and Shell Gas station. 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 2013 field school students, staff, and local assistants. We also graciously thank Doug Tilden and family for supporting the Cahal Pech excavation and consolidation work. BVAR 2013 staff included: Dr. Jaime Awe, John Bowler, Dr. Linda Brown, Jim Conlon, Wendy Dorenbush, Dr. John Douglas, Leann DuMenil, Cameron Griffith, Rafael Guerra, Dr. Julie Hoggarth, Dr. Ashley McKeown, May Mzayek, Nancy Peniche May, Carrie Perkins, Angelina Perrotti, Michael Petrozza, Rebecca Pollett, Christy Pritchard, Jim Pritchard, Zoe Rawski, Catharina Santasilia, C. Mat Saunders, Myka Schwanke, Norbert Stanchly, Dr. Marc Zender, and Christina Zweig. We offer our thanks for the support of the Belize Institute of Archaeology.

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This volume is dedicated to the memory of Molly Hude, Ioanna Thomopoulou and Angela Bugeja. Your contributions to the project and to Belize’s cultural heritage will never be forgotten.
THE SOUTH SIDE OF TOWN: A PRELIMINARY REPORT ON ARCHAEOLOGICAL INVESTIGATIONS OF STRUCTURE G-1, CAHAL PECH

Cameron Griffith
Central Michigan University

INTRODUCTION

In February of 2013, Structure G-1 at Cahal Pech was the focus of excavations led by the author as part of the very first faculty-led semester study abroad for Central Michigan University, which included an archaeological field school component. In the previous month the author and Dr. Jaime Awe, director of the Belize Valley Archaeological Reconnaissance Project (BVAR), outlined a strategy for additional operations by BVAR in the G Plaza with a focus on the eastern edge of Structure G-1 and the northeastern interface of the structure and the courtyard. Excavations were planned to compliment previous work on the structure directed by Awe (Awe 1992:165-169), in hopes to shed further light on how the structure was used, who used it, and how it changed over time. This report provides a summary of the excavations and notable findings, and provides a preliminary assessment of some of the materials recovered.

Plaza G is one of the southernmost plazas at the site of Cahal Pech and is defined by Structure B-5 to the north, Structure G-2 to the east, Structure G-1 to the south, and structure F-2 to the west (Figure 1). The areal extent of the courtyard is approximately 40 square meters, making it one of the smaller plazas in the city center. Access to Plaza G is highly restricted, with the only clear entrance and egress via a 2-meter wide opening between the north wall of Structure F-2 and the south side of Structure B-5. Structure G-2 is a low-lying range structure, rising only about 1 meter above the current humic layer of the plaza floor, and measuring approximately 25 meters east-west, terminating into and abutting the eastern wall of structure F-2. The full spatial extent of the structure north to south is difficult to assess due to centuries of trees falling off the southern edge of the city center and dragging parts of Structure G-1 with them. At the time of the investigations presented here the maximum extent of the north-south axis of Structure G-1 was approximately 9-10 meters.

A total of five excavation units were placed on and around Structure G-1 (Figure 2), starting with Unit 2 and ending with Unit 6, as the very first archaeological excavation unit in Structure G-1 (Unit 1) had already been dug in 1989 (ibid). One of the ancillary
Figure 1. Plan of Cahal Pech site core.
goals of the investigations was to expose the preserved architecture in order to determine whether or not future consolidation efforts would be worthwhile based on the degree of preservation. Below are some of the significant results of the 2013 investigations of Structure G-1, as well as a summary and suggestions for possible work in the future.

INVESTIGATION RESULTS

Architecture

Generally speaking, the degree of preservation of the terminal phase architecture of Structure G-1 was fair to poor, with many cut-stones left in place, despite pervasive root systems present throughout the structure and the aforementioned tree pulls. However, there was a negligible amount of mortar remaining amongst the stones that comprised the terminal phase. The best preservation of the terminal phase architecture was found in Units 2, 3, 5 and 6 (Figures 3, 4, and 5) on the top and front (north side) of the edifice. The configuration and alignment of the preserved cut stones at the apex of the structure revealed in Units 2 and 3, in addition to the presence of daub nodules, indicate not only was there a perishable superstructure adorning the building, but that there were separate rooms, similar to the situation exhibited in Structure F-2 to the east (Figure 4; see also Audet 2001:271-276, Figs 2 & 4).
Figure 3: Unit 2, Structure G-1, facing south. Terminal phase architecture exposed.

Figure 4: Unit 3, terminal phase architecture, facing north. Note nicely squared cut stone block defining corner of upper wall, which not only likely supported a perishable superstructure on the building but also served as a partition to define separate rooms.
Figure 5: Differential preservation of terminal phase architecture (better preservation at lower depths below surface) shown in Unit 5 (center) with the northeast corner of Unit 2 in foreground and Unit 6 in background, facing east.
Units 3 and 4 were designed to investigate the core of the structure, with Unit 4 serving as the primary penetrating unit, reaching depths of nearly 2 meters within the building. Excavations in these units revealed numerous successive construction phases defined by plaster floors of earlier structures in varying degrees of preservation (Figures 6-10). At least seven, and possibly eight, separate floors were documented as a result of the excavations in Unit 4 (Figure 6). In the lower levels, the preservation of some of the plaster surfaces was excellent. In particular, the fantastic preservation of one of the floors in Unit 4, coupled with time constraints, ultimately led to the decision to cease further excavation within the unit in the event that this phase of construction might be deemed worthy of consolidation in the future (Figure 9). A similarly well-preserved floor was later encountered in Unit 3, which is likely a continuation of the same floor surface encountered in Unit 4. Consequently, we halted excavations at this point in Unit 3 as well (Figure 8).

In both Unit 3 and Unit 4 there are aspects of the earlier architectural phases that appear to be either rounded or evidence of large round structures. Unit 3 revealed the west wall of and earlier structure comprised of four courses of cut stones covered by a plaster surface (Figures 7 and 8). This cut-stone wall interfaces with another, lower plaster floor, the plaster of which lips up and over the lower course of stones, indicating a cohesive integration. The wall also appears to be curved or curving to the southeast. This indicates that this earlier phase of construction consisted of a platform atop a larger surface, with the plaster of the lower surface encompassing the wall and upper surface as one fluid construction phase. The platform may have been round or at least had rounded corners, but the limits of our excavation window make it difficult to assert this outright (Figure 7). Either way, this phase of construction of structure G-1 is arguably somewhat more elaborate architecturally than the terminal phase architecture, potentially suggesting a change in function of the structure over time and/or a change in who used the structure or resided within it.
Figure 7: Unit 3, possible round substructure. Cut stones of west wall visible through plaster surface. Note that curvature of wall to the southeast is possible, but not definitive.

Figure 8: Cross-section of Units 3 and 4 combined, facing north.
Figure 9: Early architectural construction phases in Unit 4, facing north. Well-preserved plaster floor surface lipping up and over cut-stone wall, starting just beyond tip of north arrow. Note similar cut-stone alignment in north baulk.

Figure 10: Cut-stone alignments in Structure G-1 separated by possible “drain” feature. Is it possible that wooden planks bridged these low-lying walls to facilitate both traffic flow and water runoff in Plaza G in the Early Classic period?
In conjunction with the best-preserved floor in the lowest levels of Unit 4, we encountered a puzzling architectural feature. The plaster floor lips up to cover or incorporate a cut-stone wall consisting of 2-3 courses of large hewn limestone blocks. This scenario alone would seemingly make sense, in that the line of cut stones could be simply interpreted as the northern edge of a low-lying early phase of Structure G-1. However, given that Unit 4 revealed another similar line of cut stones in the north baulk of the unit, separated from the cut-stone wall by a 60 cm wide gap, or “drain,” the situation becomes a bit more complex (Figures 9 and 10; see Figure 6 for profile). It would seem unlikely that two contemporaneous structures would be placed so close to one another. Thus, it may be that one of the structures represents a later addition and that there was never a functional “drain” between the cut-stone walls.

Alternatively, it could be that the gap between these walls was related to water management. As the walls seem to be at the same height, if a series of wooden planks or other sturdy perishable material were laid across these two low-lying walls, the resultant effect would be a covered drain, not unlike those seen today down the hill in San Ignacio Town. Unfortunately, once again the limited horizontal scope of our excavations makes it problematic to arrive at a definitive assessment of this intriguing archaeological context. It should also be noted that the northern line of cut stones appears to be slightly curved, which may simply be illusory due to our limited view, or indicative of an extremely large round structure dominating the area that is now Plaza G in the Early to Middle Classic period at Cahal Pech (see below for chronological information; cf. Awe 1992 on a round structure in Structure B-4 at Cahal Pech, and Powis 1994 & 1996 at the nearby peripheral site of Tolok).

Unit 6 was opened to continue following the architecture of the north face of Structure G-1 exposed in Unit 5, in order to determine the eastern extent of the building. As excavations progressed an unexpected architectural feature was revealed: a 70 cm wide cut-stone wall connected to the north side of Structure G-1, heading in a northerly direction, ostensibly to also connect with Structure G-2 (Figure 11). The architectural interface of this “connector” wall with Structural G-1 consisted of large, long cut limestone blocks overlying what appeared to be terracing demarking the eastern terminus of G-1. However, this supposition was not fully confirmed due to complications related to the placement of the excavation units, time constraints, and the discovery of a cache in association with the connector wall. Time constraints as well as our interest in keeping our focus on Structure G-1 prevented us from following this wall northward to ascertain the nature of its articulation (or lack thereof) with Structure G-2. Subsequent excavations led by Norbert Stanchley (this volume), undertaken a few months later, were designed to address this and further explore this interesting architectural component of Plaza G.
Figure 11: Wall “connector” between structures G-1 and G-2, Unit 6, facing west. This wall interfaces with and is overlying terraced or stepped terminal phase architecture of the east side of structure G-1. Note cache of ceramics and other materials.

Chronology, Caches, and Notable Special Finds

The ceramic assemblage from the excavations in 2013 has not yet been formally analyzed. However, during the course of the fieldwork students were trained in ceramic typing (using Gifford 1976), with Dr. Jaime Awe dropping by periodically to cross-check initial type:variety ID’s and to provide his own insight into the ceramics. The upper levels including the terminal phase architecture were predominantly associated with pottery from the Spanish Lookout ceramic complex (A.D. 700-900), with Alexanders Unslipped, Chunhuitz Orange, Cayo Unslipped, Belize Red, and Garbut Creek Red types represented. Lower levels included ceramics from the Tiger Run ceramic complex (A.D. 600-700) represented by Jones Camp, White Cliff (late), and Zibal ceramic types, and sherds from the Hermitage ceramic complex (A.D. 300-600), represented by the Eastern Branch and Minanha Red diagnostic types. The earlier materials mainly came from Units 3 and 4, as they were the only units that were excavated to substantial depths.

One of the ceramic sherds from Unit 4, level 8 was a special piece due to the fact that it bore painted hieroglyphic writing (Figures 12 and 13). The glyphs may be part of a Calendar Round date, with two stylized bars representing the number 10, followed by the Day Sign Muluk, translated as “water” or “jewel.” The form of the vessel appears to be a
Figure 12: Sherd fragment of painted ceramic vase from Unit 4, Level 8, with a segment of a hieroglyphic inscription, “10 Muluk.”

Figure 13: Illustration of painted ceramic sherd from Structure G-1, Unit 4, Level 8. Illustration by Sandy Tran.

Figure 14: Carved bone or shell hairpin from Structure G-1, Unit 4, Level 8.
vase, and the style of the glyphs falls between the end of Tepeu 1 and the start of Tepeu 2, placing it chronologically around 650-750 A.D., between the late Tiger Run and early facet Spanish Lookout phases (Christophe Helmke, Personal Communication, February 28, 2013).

In the same stratigraphic level as the painted sherd, and within 20cm horizontally in the level, another important special find was recovered from Unit 4. This was a small, carved bone (or shell) hairpin, measuring 6 cm long and 0.5 cm wide. The hairpin was encrusted with calcite and powdered marl, and was carved in such a way that it appeared to be spiraled, with an “eye of a needle” configuration on one end (Figures 14 and 15).

As mentioned above, excavations in Unit 6 revealed a connector wall between Structures G-1 and G-2. There was a cache in association with this connector wall, which consisted of a high concentration of ceramic sherds, a variety of lithic material, limited faunal remains of both turkey and deer, and 3 small worked shell beads and/or pendants (Figure 16). This cache appears to be the results of a termination ritual or perhaps was post-abandonment in nature. The discovery of small projectile points and scraping tools elsewhere in the humic layer of structure G-1 perhaps supports the supposition that there were myriad post-abandonment activities at the site (Figure 17).

DISCUSSION AND CONCLUDING REMARKS

The 2013 archaeological operations in Structure G-1 were both educational and informative. Although there has not been a formal analysis of the ceramic material nor radiocarbon dates performed, the preliminary informal evaluation of the pottery assemblage does provide a general chronology for the aspects of the structure exposed by these excavations. The terminal phase architecture of Structure G-1 appears to date to the Spanish Lookout phase, or between A.D. 700-900. However, it is likely that there was a
Figure 16: Shell beads or pendants from Unit 6 cache. Illustration by Sandy Tran.

Figure 17: Small projectile points and scraper from humic layer of Structure G-1.
variety of post-abandonment activity at the site, and perhaps termination rituals up against the architecture of the wall connecting the northeast corner of Structure G-1 with Structure G-2.

Ultimately, it appears that the connector wall between G-1 and G-2 served to further restrict access into (or out of) Plaza G in the latest construction episodes in this area of the site core. This begs the question, if the connector wall was designed to further block off an access point that was putatively already a fairly tight squeeze, leading to a potentially precipitous dropoff to the south, what was the nature of access to the south and east of G Plaza prior to this construction? To date, the intricacies of the architectural interface between the elevated site core of Cahal Pech and the low-lying area to the south (for Plazas C, G, and F) remain poorly understood.

Units 3 and 4 yielded earlier chronological information for the structure, demonstrating that there were successive construction episodes from A.D. 300-700, spanning the Hermitage and Tiger Run phases. These units did not penetrate below the earliest architecture, with excavations terminating at well-preserved floors that might be candidates for future consolidation efforts, so it is clear that the structure predates the earliest dates presented here. Both units revealed possible round structures, although additional investigations are warranted to confirm this suggestion. Unit 4 revealed what may be evidence of a complex drainage system for the site, but again, more investigation with wider horizontal exposure would help clarify the nature of this architectural configuration and provide greater insight into the changes in Structure G-1 over time.

ACKNOWLEDGEMENTS
I would like to thank Dr. Jaime Awe for bringing me back to the BVAR project, his continued friendship, his help in arranging the archaeological investigations of Structure G-1, and for his frequent visits to the site and lab as our work progressed. Antonio Itza deserves special mention for his excellent work and dedication as a co-supervisor of the excavations. I would also like to thank Lauren Miller Griffith, co-director of the Central Michigan University semester abroad in Belize program as well as the SASW department at CMU and the office of Study Abroad. The CMU students did a great job at the site and all of them deserve recognition for their efforts and enthusiasm: Nick Bacon, Liz Bonora, Sarah Faist, Keith Kremlick, Brittni Rohrer, Beth Sample, Sandy Tran, Adam Weidenfeller, and Nathan Welch. Jim Puc has my gratitude for continuing to be a welcoming presence at the site of Cahal Pech, and I would like to thank Gabriel Wrobel, Norbert Stanchley, and Christophe Helmke for their friendship and consultation from afar on materials from the excavations. Finally, I would like to thank Julie Hoggarth for her patience in working with all the authors of this progress report. I apologize if I have forgotten to thank anyone who contributed to the success of this work, and any errors, omissions, or problematic interpretations herein are solely my own.
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THE 2013 EXCAVATIONS OF STRUCTURE G-2, CAHAL PECH, BELIZE

Norbert Stanchly
AS&G Archaeological Consulting

INTRODUCTION

Structure G-2 is the eastern structure in Plaza G, a small plaza group located east of Plaza F with a courtyard measuring approximately 15 m². Structure G-2 borders the plaza on the east and is north of Structure G-1. The structure was previously investigated by Awe as part of his dissertation work (1992). It measures approximately 15 metres in length, is 10 metres wide, and approximately 2 metres in height (Awe 1992:170).

Excavations conducted on Structure G-2 in July 2013 were aimed at further defining the extent of a Terminal Classic midden deposit previously discovered during clearing of the north face of Structure G-1, investigating the final use of Plaza G, and clearing of the building’s terminal architecture for consolidation purposes. Three excavation units (Units 2, 3 and 4), of varying dimensions, were placed at the southern end of the structure in order to meet these objectives.

BACKGROUND

Previous investigation of the structure revealed that the building was first constructed during the Early Classic (ca. A.D. 300-500) and “consisted of a raised platform which probably supported a masonry building [with] at least one room” (Awe 1992:170). The building was modified twice and in its final construction (Str. G-2/3rd) it “consisted of a large building platform which was probably crowned with a perishable building” (Awe 1992:172). Pottery from core of G-2/3rd indicates that the building’s terminal architecture dates to the Late Classic, ca. A.D. 750-900.

Structure G-2 was originally chosen for investigation because of its location abutting Str. B-4, one of the earliest structures at Cahal Pech, and ‘it was assumed that G-2 contained evidence of Formative period occupation”. Although excavation within the medial and primary axis of the structure (designated Unit 1 by Awe) revealed the earliest construction to be Early Classic, investigation within the plaza at the base of Structure G-1 revealed Late Formative flooring of the plaza.
RESULTS OF EXCAVATION

Previous archaeological investigation in the area between Str. G-2 and G-1 revealed the presence of a fairly rich midden accumulation between the two structures containing a number of Terminal Classic ceramics, lithics and faunal remains (J. Awe, personal communication).

**Unit G2-2**

This unit is aligned parallel to visible terminal architecture of the west face (or front) of Str. G-2. The west face, which had a terrace corner visible on its southwest surface at the outset of excavations, is aligned approximately 340° E of north. Unit G2-2 measures 3 metres north-south by 1.5 metres east-west. It was originally planned to be a 3m x 2m unit, however the existence of a previous excavation unit to its southeast required that we modify its dimensions to ensure it did not overlap or fall immediately adjacent to this unit. The unit was placed also catch the visible terminal architecture of G-2 in its southwest corner where a few cut stones of a terrace corner was visible at surface level.

Level 1 is cultural level defined as surface to terminal architecture. Associated with Level 1 are Lots 1, 2, 4 and 5. Lot 1 is a surface/humus layer and consists of a medium to dark
brown loamy soil with primarily pebble inclusions, roots and some rubble. A few cut stones were noted within the lot and recovered artifacts include ceramics, freshwater shell and chert. The majority of the ceramics are undiagnostic sherds. Lot 1 is thicker at the north end of the unit, primarily adjacent to the south face of G-2 along the southwest terrace corner. The thickness of Lot 1 varies between 2 and 22 cm with an average thickness of 9cm. Lot 2 is collapse debris. Soils are light brownish grey due to marl inclusions from cut stones. The collapse debris includes cut stones and rubble with minor amounts of pebbles. Both the rubble and pebble inclusions represent collapsed backing masonry. Cut stones within the collapse debris average 20-25cm in length, 5-10cm in thickness, and were placed as stretchers on the building.

During the excavation of Lot 2, we discovered and exposed the south face of G-2. South of this, we identified a wall running northeast to southwest throughout much of Unit 2. This was likely placed to block access into Plaza G from between structures G-2 and G-1. The wall, designated as Architectural Unit 1 (AU-1) is ca. 65cm in maximum width (i.e. east-west) and at least five courses are visible on its west face. Lot 4 is a mix of collapse debris and refuse material. It is dark brown and loamy. This lot was assigned to materials from the south side AU-1. Lot 4 produced higher quantities of ceramics and larger vessel pieces including some Mount Maloney and Belize Red.

Level 2 is characterized by floor core associated with the terminal plaza floor (Floor 1) to the south of the south face of G-2 and west of AU-1. The core consists of ballast stone
inclusions and is yellowish-grey in colour. The terminal plaza floor is very poorly preserved with only a small remnant of plaster located in the northwest corner of the unit, adjacent to the south face of G-2. Much of the floor did not preserve and was only recognized due to the presence of its underlying ballast stones. Plaster thickness of the remnant floor (which measures ca. 35cm x 25cm) is approximately 3cm thick. Toward the south of the unit on the west side of AU-1 we encountered the face of a wall running east-west, likely part of the north face of Structure G-1. The terminal plaza floor was not preserved at all in this area and consisted of only ballast stones. Lot 5 was assigned to the excavation of Floor 1. Below Floor 1, just north of the G-1 face, we encountered four cut stones of an earlier structure running in a north-south alignment.

**Unit G2-3**

Unit G2-3 is a 1.5 metre by 1.5 metre unit placed immediately east of Unit G2-2. This unit is being excavated in order to expose the south face of G-2 east of Unit G2-2. Lot 3 has been assigned to Level 1 soils and is a mix of humus and collapse debris. These two layers were not separated due to the presence of a large tree just outside the northeast...
corner of the unit. The roots have penetrated the unit and mixed humus and collapse levels and it was deemed that no pertinent information would be lost if the two layers were combined as a single lot within Level 1. Level 1 is cultural and is defined as surface to terminal architecture. There are a large number of roots hugging the south face of G-2, and the upper courses of the south face appear to have been pushed out (i.e. south) as collapse. A large fire-cracked piece of chert was noted within Lot 3. Although not considered to be a cached item, it is interesting to note the intentional burning of the stone long enough to crack it into multiple fragments and thermally alter it.

Lot 6 is below Lot 3 and is characterized by the presence of a fairly thick marl layer with higher frequencies of ceramics lying above the terminal plaza floor (Floor 1) along the south face of G-2. This is not a particularly dense or rich ceramic deposit but there were enough being found within a compacted marl layer to designate a new lot. In addition to higher frequencies of ceramics, we also encountered chert, groundstone, and animal bone in Lot 6. Special finds associated with this deposit included a partial granite metate and an earplug, possibly manufactured from marine shell or limestone. A cursory examination of the ceramic types indicates the presence of a number of ashware sherds, possibly including Platon-Punctated Incised. This suggests that the refuse associated with Lot 6, which lies against the south face of G-2 immediately above Plaza Floor 1, is Late Classic in date.

Plaza Floor 1 in Unit G2-3 was poorly preserved but found fairly intact immediately adjacent to the south face of G-2. Excavations were halted at this level.

**Unit G2-4**

This unit was placed north of Unit G2-2 in order to expose the terminal architecture along the south face of Str. G-2. The unit is aligned 340° east of north and is a north expansion of Unit G2-2. Unit G2-4 is 4 metres long in length (north-south) and 2.5 metres in width (east-west). The unit width was determined to ensure that we also investigate a one metre area extending west of G-2 into the plaza area to see if there are any terminal or post-abandonment artifact deposits resting against the south face of G-2 and directly above the plaza floor. The width of the unit would also allow us to expose much of the two terraces noted on the structures west face. The length of the unit was determined in order to expose considerable amounts of west face of G-2 for consolidation purposes and also to ensure we could finish the work in the amount of time left for the field school.

Level 1 is a mix of humus and collapse debris and is a stratigraphic layer from surface to terminal architecture. Excavations revealed the continuation of an upper and lower terrace face running north. Both terraces (designated T.1 and T.2) consist of at least five courses of cut stone on average and in some areas, 6-7 courses. Recovered artifacts include mainly ceramics, fair amounts of freshwater shell (*jute*), slate, chert, and animal bone. The cut stones used for the terrace construction vary in size. Although most are set as stretchers (i.e. horizontally), there are two or three stones set as headers (i.e. vertical). The west face of G-2 is not flush and undulates, almost certainly due to tree root action displacing the original alignment of the face.
All of Unit G2-4 was excavated as a single level down to the terminal plaza floor (Floor 1). The terminal plaza floor was poorly preserved throughout the unit.

**ARCHITECTURE**

The limited excavations conducted during 2013 indicate that the terminal architecture of the southern portion of the west or front face of Structure G-2 consisted of two terraces each likely having 6-7 courses of cut stones originally. The lower terrace (T.1) consists of fairly uniformly sized cut stones tending to measure 15-20cm in length and 8-10cm in thickness. Chinking was noted between the cut stones. The upper terrace (T.2) consisted of more varying cut stones sizes. These were mainly stretchers measuring 20-30cm in length. Most, however, measured 20-25cm. Average thickness of the stones was 8-10cm. No plaster remnant was noted on any of the terrace stones. The treads of each terrace were approximately 70cm in width.

The south face of G-2 consisted of 10-12 courses of cut stone as revealed by the excavation of Unit G2-3. These were also of varying sizes but on average measured 20-25cm in length and 8-10cm in thickness and chinking was also noted.

The excavation of Unit G2-2 revealed the presence of Architectural Unit 1 (AU-1), a north-south running wall that postdates the construction of G-2/3rd. The purpose of the wall was to block access into Plaza G from between G-1 and G-2. The wall is faced on
both sides (hence its definition as a wall). The west face has a maximum of five courses of cut stone. The width of AU-1 is 50cm where it abuts the south face of Str. G-2 and it widens to maximum of 65cm as you go south toward the north face of G-1. The length of the wall is approximately 1.75 metres. The cut stones are of varying size and shape suggesting that they were robbed from different structures for its construction. Their thickness varies from as little as 5cm to 15cm. Widths range from 15-40cm and lengths from 10-40cm.

The south end of the wall abuts what appears to be a portion of the north face of the southeast corner of Str. G-1 or another as yet unidentified architectural unit. It appears to be stepped but limited excavation of the area suggests this may be misleading. Where AU-1 and this unit meet, is an opening at its base to function as a drain. Excavation within Unit G2-2 indicates that Plaza G slopes downward toward this area between G-2 and G-1. The drain feature makes sense to ensure water runoff is off the steeply sloped south side of Plaza G.

CONCLUSIONS

The 2013 excavation of Structure G-2 exposed part of the terminal architecture of its southern west face and south face. This indicated that at least in its latest phase of construction (i.e. Str. G-2/3<sup>rd</sup>) its front face consisted of at least two terraces. The excavations also indicated the presence of a refuse deposit, similar to that encountered in previous excavations of Str. G-1, resting against terminal architecture. Such refuse deposits are often interpreted as indications of post-abandonment activities. Although the ceramics await a full analysis, cursory examination indicates the presence of Late Classic and Terminal Classic types resting against the faces of Str. G-2. The presence of Terminal Classic materials may be suggestive of either post-abandonment activities or
refuse materials that were simply not cleaned up at the time of abandonment. This awaits further analysis.

The presence of the wall between Str. G-2 and G-1 indicates that access into Plaza G from this area was being purposely restricted. It is, at this point, also unclear when the wall was constructed and if it was constructed by those still occupying Plaza G or a construction associated with a re-occupation of Plaza G. This too awaits further detailed ceramic analysis and possibly additional excavations in order to clarify the stratigraphic events associated with its construction.

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INTRODUCTION

Cahal Pech is a medium-sized Maya center located in a strategic position approximately 2 km south of the convergence of the Macal and Mopan Rivers in the Upper Belize Valley. The site core includes an acropolis located in the crest of a steep hill and covers approximately one hectare (Healy et al. 2004). Of the seven plazas that constitute the acropolis, Plaza B represents the largest plaza (approximately 50x30m), which is bordered to the east by Structures B-1, B-2 and B-3, to the south by Structures B-4 and B-5, to the north by Structures B-6 and B-7 and to the west by Structure A-2 (Awe 1992).

Several projects have conducted research in Plaza B during the past three decades. Test pits placed across this plaza have revealed evidence that construction in Plaza B dates to the earliest occupation of the site during the Cunil phase (1200-900BC) (Cheetham 1996; Healy et al. 2004). The eight residential groups that have been identified as being associated with the Cunil village varied in their degree of elaboration and artifact content, but the lack of a sharp difference between these households suggests that this population was likely egalitarian, although some emergent social differentiation may have been present (Cheetham 1996, 1998). During the early facet of the Kanluk phase (900-600BC), public structures and formal plazas appeared (Awe 1992; Cheetham 1996, 1998; Garber and Awe 2008; Healy et al. 2004). Exotic goods and materials such as marine shell, volcanic ash, jadeite and obsidian were imported to the site (Healy et al. 2004). The late facet of the Kanluk phase (600-350BC) witnessed an increase in population and construction activity in the site core and periphery (Awe 1992; Cheetham 1996; Healy et al. 2004). These developments correlate with technological changes in the obsidian artifacts (Awe and Healy 1994), specialized production of shell beads (Hohman 2002) and an increased presence of hand-made figurines (Zweig 2010).

As Garber et al. (2005:10) has stated, these test pits in Plaza B have yielded valuable information on habitation and utilization of the natural hilltop but this strategy is not adequate to fully assess architectural features, activity areas, ritual activities and community organization. In an effort to help clarify this utilization and achieve a more
comprehensive view of the architectural variability, a north-south trench (52 x 1 m) was excavated over five field seasons from 2004 to 2009. Several extensions were placed east and west of the trench to explore some architectural features. Beneath several stucco plaza floors (Late Classic Floor 1, Protoclassic Floor 2, Late Preclassic Floors 3a and 3b, and Middle Preclassic Floors 4a and 4b), archaeologists uncovered an amazing sequence of Kanluk and Cunil architecture. Based on the descriptions presented by Garber et al. (2005, 2006, 2007, 2008, and 2009), the finds seem to divide Plaza B into a northern and a southern section since there is an approximately 15-meter space—perhaps the crest of a hill—in which no architectural features were reported.

Both the test pits and the trench excavations have permitted to collect compelling information about Middle Preclassic occupations at Cahal Pech, especially pertaining to the Cunil phase, while the Kanluk phase has been overlooked. In addition, neither the test pits nor the trench yielded representative data that comes from a large block excavation, which is necessary to fully assess architectural variability and compare social spaces. Thus, in order to obtain adequate data to evaluate Kanluk-phase architectural variability, during the summer of 2011 three exploratory test pits were placed on the eastern and southern sections of Plaza B with the goal of locating additional Kanluk-phase architecture. In addition to confirming the wider spatial extent of the Kanluk-phase architecture, we also identified previously unknown substructures dating to this period. To further explore these findings, in 2012 I excavated near the southeastern edge of Structure B-5 (on the southern side of Plaza B), exposing a total area of 88 m². As a result, we uncovered an architectural sequence that includes seventeen construction phases, extending from the Cunil (1200 – 900 BC) to the Tiger Run phases (AD 600 – AD 900) (Peniche May 2013). This excavation showed a more complex construction sequence than that established by Cheetham (1996), who explored this area in his Test Pit 10 (Cheetham 1996:15, Fig. a). During the 2013 field season, I continued exploring Plaza B, specifically its southwestern edge, although a test pit (EU CHP-PB-PU-27) was placed at the southeastern edge to further expose the Cunil context discovered during the 2012 field season.

METHODOLOGY

To further explore the area adjacent to Structure B-5, I excavated a total area of 98.5 m². This surface was divided into excavation units to facilitate spatial control during excavation (Figure 1). Excavations were conducted using both cultural and arbitrary levels. Context associations followed standards established by the BVAR project (BVAR Supervisor’s Manual nd.). Artifacts were collected and separated based on unit, level, lot and context. All matrices were screened through ¼-inch mesh. Collected artifacts are in the process of being analyzed and the results will be discussed in future reports.
Figure 1: (a) Map of the Cahal Pech acropolis showing the excavated area located at the southern edge of Plaza B, north of Structure B-5. (b) Location of the excavation units. EU CHP-PB-PU-15 – CHP-PB-PU-25 were excavated during the 2012 field season, while EU CHP-PB-PU-26 – CHP-PB-PU-40 were opened in 2013.
EXCAVATIONS AT THE SOUTHEASTERN EDGE OF PLAZA B

One of the goals of the 2013 field season was to further explore the Cunil context exposed during the 2012 excavations. We also intended to find the northwestern corner of Feature 11, the cobbled/flagstone platform. In order to accomplish these objectives, we placed excavation units CHP-PB-PU-27 (20 cm north of EU CHP-PB-PU-19), CHP-PB-PU-26 (immediately west of EU CHP-PB-PU-25) and CHP-PB-PU-30 (20 cm north of EU CHP-PB-PU-24). Like the 2012 excavation, we found evidence of occupation spanning from the Cunil- (1200-900BC) to the Tiger Run phase (AD600-900), represented mainly by surfaces. We still need to determine with precision how the 2013 construction sequence is related to the sequence established in 2012 (Peniche May 2013). Ceramic analysis has not been completed yet. Therefore, I used Cheetham’s (1996) architectural chronology in order to establish the phase of each construction stages. Cheetham (1996) determined the dating of each construction phase via ceramic association. Likewise, I used the preliminary analysis of the pottery associated with the exposed floors and constructions.

Cunil phase (1200-900 BC)

Construction phase 3: Feature 33

Cunil occupation was discovered in EU CHP-PB-PU-27. In this excavation unit we partially exposed the surface of the natural hilltop that functioned as the surface of a sub-structure (Feature 33). The slope of the natural hilltop was modified by constructing three steps. The two steps were carved into the bedrock and covered with plaster, while the third step was built adding a cut stone. This sub-structure had a patio at the bottom of the hilltop, which was achieved filling the previous Cunil platform with a mix of clay and decomposed limestone.

Construction phase 6: Floor 16

The next cultural level was represented at EU CHP-PB-PU-27. The Cunil sub-structure was filled with a mixture of white marl and brown / black sticky soil. A tamped marl floor (Floor 16) was built on top of this heterogeneous matrix. The ceramic analysis is still in process but according to the levels taken based on Datum 10, we could hypothesize that Floor 16 in EU CHP-PB-PU-27 is the same than Floor 17 in CHP-PB-PU-16 and Floor 15 in CHP-PB-PU-19. In these excavation units, this surface was made of small, yellow stones and tamped earth. Cheetham (1996) named this floor Floor 9 and stated that this surface was part of a patio surrounding Structure U10-2, a Cunil-phase sub-structural platform. This platform was made of cobble/flagstones and may have been apsidal or circular in form.
Kanluk phase (900-350 BC)

Construction phase 8: Floors 13, 14 and 15 associated with Feature 20

Later on, Floor 16 exposed in EU CHP-PB-PU-27 was covered by a plastered floor, named Floor 15, which was highly disturbed. In order to build Floor 15 and raise the surface level, brown clay loam was placed on top of Floor 16. This matrix was similar to the Kanluk matrix found in the excavation units explored during the 2012 field season. Floor 15 was resurfaced twice, first with a plaster/marl floor (Floor 14) and later with tamped earth with small limestone pebbles (Floor 13). These floors corresponded to Floor 14 uncovered in both CHP-PB-PU-16 and CHP-PB-PU-19, which may have been the patio associated with Feature 20, the first rectangular platform constructed in this area (Peniche May 2013).

Construction phase 9: Floor 12 associated with Feature 21

The next construction phase discovered during the 2013 field season was Floor 12, a surface made of tamped clay loam mixed with small limestone pebbles. Floor 12 was the floor associated with Feature 21, a rectangular platform with an exterior terrace exposed during the 2012 excavations (Peniche May 2013).

Construction phase 11: Feature 11 and its associated Floor 11

The next phase of construction corresponded to the cobbled platform (Feature 11) and its associated plastered patio surface. The cobbles were regular in their dimensions and were placed very close together. The total dimensions of the cobbled platform were not established. We did not find its northwestern corner because part of the platform lies beneath the Classic-period Structure B-5. Based on the data recovered in EU CHP-PB-PU-26, we can state that Feature 11’s patio surface was replastered at least once. Beneath this floor, we discovered sandy clay soil—dark gray in color—which was interpreted as a midden-like deposit because we found a large amount of materials, such as ceramic, fresh water shells, marine shells, figurine fragments, and a complete small figurine. The ceramic associated with this construction phase has been identified as late examples of the Savana and Jocote ceramic groups. Based on this data, Feature 11 and its associated stucco floor could have been built during the late facet of the Kanluk phase.

Barton Creek phase (350 BC-AD 300)

Construction phase 12: Floors 10 through 6

At some point during the Late Preclassic, the plastered floor associated with the cobbled platform was completely covered by successive plaster floors—Floors 6, 7, 8, 9 and 10. Stucco floors 10 through 6 may be considered as part of the same construction phase because minimal ballast deposit separated these floors and because in some areas it was not possible to differentiate among some floors.
Construction phase 14: Floors 5 and 4

Floor 4 and Floor 5 corresponded to the next stage of construction identified in this field season. Because minimal ballast deposit separated the two floors and both floors were not reported in some areas, we considered that Floor 4 and Floor 5 corresponded to the same construction phase and that they were the same surface. This surface consisted of a well smooth plastered floor.

Tiger Run and Spanish Lookout phases (AD 600-AD 900)

Construction phase 15: Floor 3 associated with Structure B-5/sub

This moment of construction was identified in EU CHP-PB-PU-26 and it was represented by the stucco surface named Floor 3. Based on 2012 data we know that this plastered floor connected the basal courses of Structure B-5/sub with the plaza floor (Peniche May 2013). The dimensions and formal characteristics of Structure B-5-sub are unknown because it was partially dismantled and reused in the following building, Structure B-5. Nevertheless, based on the remains of this building, we can deduce that this construction was at least seven courses high and rose at least 0.80 m above Floor 4. In other areas, only the foundation remained. We expected the building to have outsets and a staircase, which were reused as the foundation of the following building (Peniche May 2013).

Construction phase 16: Floor 2

The final construction phase exposed at the southeastern section of Plaza B corresponded to Construction phase 16 (Peniche May 2013), represented by Floor 2.
This floor was poorly preserved and it was only evidenced by its ballast. This surface functioned as a base in which Structure B-5's foundation was placed.

EXCAVATIONS AT THE SOUTHWESTERN EDGE OF PLAZA B

During the 2013 field season, we continue exploring Plaza B by placing a block excavation in the southwestern edge of Structure B-5. A total area of 98.5 m² was exposed. Like the southeastern edge, this excavation showed a complex construction sequence, although it was different from the one established at the eastern edge (Figure 2). Again, we still need to determine how the southwestern construction sequence relates to the sequence established in 2012. Therefore, we named the construction phases with alphabetic characters instead of numbers. These designations will be modified once the 2012 and 2013 construction sequences are correlated. Because of ceramic analysis have not been completed yet, I used Cheetham’s (1996) architectural chronology the preliminary assessments of the pottery uncovered to establish the phase of each construction phase.

Paleosol

In EU CHP-PB-PU-35, we conducted a test pit that reached a level that was sterile in terms of archaeological artifacts. The matrix of this level was heterogeneous. At the bottom of this level, matrix consisted of dark brown clay loam with high amount of yellow gravel. At some point the matrix color switched to black, had soft limestone inclusions and became stickier and more compact. At the top of this level, matrix was also black and included sand inclusions. We also exposed a group of stones at the southeastern corner of the excavation unit, which were associated with brown soil. This feature was at the edge of the unit. Therefore, we could not establish whether we had found the remains of a substructure.

In the test pit placed at EU CHP-PB-PU-32, we also exposed a layer of dark-brown clay loam with soft limestone inclusions, which was sterile in terms of archaeological artifacts. This layer was approximately 30 cm thick and was resting on flat bedrock.

Kanluk phase (900-350 BC)

Construction phase A: Feature 34

The first evidence of construction at this area consisted of a modified bedrock exposed at EU CHP-PB-PU-31. This feature was named Feature 34 (Figure 3). The bedrock was modified cutting a straight edge and adding a couple of roughly cut stones to define a step or limit. The bedrock was practically flat, which lead to suggest that it could have functioned as the surface of a perishable structure. It is difficult to establish when the bedrock was modified since it could have occurred either during the Cunil- or the Kanluk phase. On top of the bedrock we recovered sherds identified as Jocote and Savana ceramic groups, which may suggest that this surface was in used during the Kanluk phase (900-350BC).
Figure 3: Feature 34 or modified bedrock exposed in EU CHP-PB-PU-31.

Figure 4: Feature 27's corner and Feature 29.
At some moment during the Kanluk phase, the area was filled in order to raise its elevation. Gray/brown, clay loam was used to achieve this purpose. This fill was tamped to function as the patio of a rectangular sub-structural platform named Feature 27. We recovered a large amount and variety of materials mixed with this fill. The main type of material found was ceramic sherds. Through a preliminary analysis, we could establish that most of those sherds belong to the Savana and Jocote ceramic groups likely indicating a Kanluk date for Feature 27 and its patio. We also found a large amount of freshwater shells, such as *Pachychilus glaphyrus*, *Pachychilus indiorum* and *Nephronaias ortmanni*. Marine shells, shell beads and chert micro drills were also recovered, suggesting that shell beads were locally manufactured. Apparently, the ancient inhabitants of Feature 27 were also manufacturing bone beads since some of the fauna remains that we found were cut. In addition to the chert microdrills we recovered informal tools made of chert as well debitage. We discovered figurines and other ceramic artifacts. The amount and variety of materials as well as the dark color of the matrix, which suggest that it was mixed with organic material, leads us to propose that we discovered a midden.

A test pit conducted at the interior of Feature 27 showed that on top of a sterile layer of black clay loam mixed with soft limestone pebbles, there was another layer of dark-brown matrix, which was highly sticky and compact. Unlike the sterile matrix, the dark-brown soil was mixed with some Kanluk pottery. Later, large soft limestone stones (30-60 cm in length) were placed. Finally, gray/brown clay loam soil mixed with soft limestone pebbles was used and tamped to create a surface.

The total dimensions of Feature 27 are unknown because we only uncovered the northern section of the sub-structure (the sub-structure laid partially beneath Feature 25 and the retaining wall and its terrace, 90 cm east of the northwestern corner. This feature measured 1.00 m at its east-west, but it was partially exposed since it lay partially beneath Str. B-5. Because of that we could not determine its characteristics.

Approximately 3.00 m east of Feature 27 northeastern corner, we exposed a possible altar named Feature 28 (Figure 6). This feature was oval in shape and its dimensions were 1.65 (north-south) by 1.35 (east-west). Feature 28 was only one course high and it was built using roughly cut limestone blocks of diverse dimensions (ranging from 10 cm to 25 cm in length). These stones were partially covered by the patio of Feature 27, suggesting that both Feature 28 and Feature 27 were contemporaneous (Figure 7). The foundation stones were facing inwards towards a cobbled surface, which was only present at the interior of Feature 28. The cobbles used to make this surface were small and regular in their dimensions (less than 10 cm in length). On top of this cobbled surface we recovered some yellow clay, which could have functioned as a tamped-earthen floor but it is difficult to confirm it since it was highly disturbed. At some moment during the Kanluk phase, the southern section of the foundation was dismantled and the stones were placed in the middle of the feature, on top of the cobbled surface. In addition two manos made...
**Figure 5:** Feature 27's terrace and its modifications.

**Figure 6:** Possible altar or Feature 28.
Figure 7: Kanluk rectangular platform and oval altar.

Figure 8: Kanluk rectangular platform.
of limestone were placed on Feature 27's patio surface, just outside of Feature 28. The destruction of the clay floor, the wall dismantling and the offering suggest that Feature 28 was object of a termination ritual. The fact that the cobbled surface evidenced exposition to fire could reinforce the hypothesis of a termination ritual. However, the fire could have occurred during other ritual activities performed at this place.

We conducted a small test pit inside Feature 28, which provided quite interesting information since it was different from the fill exposed outside Features 27 and 28. Beneath the cobbled surface, we exposed another cobbled floor, which was made of limestone cobble-like stones. We also found two tamped marl surfaces, which were 18 cm and 28 cm below the second cobbled surface. We could not continue the excavation of this feature because of space and time constraints. During the excavation of this rest pit we uncovered ceramic belonging to the Savana and Jocote ceramic groups, suggesting that this feature was built during the Kanluk phase.

**Barton Creek phase (350 BC-AD 300)**

*Construction phases C and D: Floors 13 and 12*

The next two construction phases were represented by two sequential plastered floors—Floors 13 and 12. It is important to emphasize that these floors may not not related to those floors identified in the southeastern section since they were likely built during the Late Preclassic period (Ceramic recovered beneath this floors are types of Sierra and Sapote ceramic groups). Floor 13 was only identified at EU CHP-PB-PU-31, while Floor 12 extended throughout the entire excavated area. In some excavation units CHP-PB-PU-28, CHP-PU-38 and CHP-PB-PU-35 we exposed a cobbled feature (Feature 30) made of limestones and river cobbles. This surface was quite irregular and the cobbles were separated between 10 and 20 cm among each other. This may suggest that rather than being a cobbled/flagstone surface like Feature 11 and Feature 25, Feature 30 could have been the ballast of Floor 12.

*Construction phase E: Feature 25*

Above Floor 12, a cobbled/flagstone platform named Feature 25 was constructed (Figure 8). The total dimensions of Feature 25 are unknown. The formal characteristic of this platform and Feature 11 are quite similar. The cobbles were placed tightly together and had a plastered patio. In fact, when we exposed Feature 25 northwestern corner, we thought we had found Feature 11. However, the pottery beneath Feature 25 and the patio were types of Sierra and Sapote ceramic groups. Apparently, at some point during the Late Preclassic the Kanluk-phase cobbled platform was expanded westwards. This suggests that this architectural style, which was predominantly terminal Early Preclassic and Middle Preclassic periods, continued into the next period. The Barton
Figure 9: Feature 32 resting on Floor 6.

Figure 10: Structure B-5 southern wall and the outset exposed during 2013.
Ramie cobbled platform reported by Willey (1965) is another example of Late Preclassic cobbled platform.

**Construction phase F: Floors 10 through 6**

Later, Feature 25 and its associated patio was completely covered by successive plaster floors—Floors 6, 7, 8, 9 and 10. As mentioned above, stucco floors 10 through 6 were considered as part of the same construction phase during the 2012. In the southwestern section, however, these floors were separated by several centimeters, which made us think that the floors sloped eastwards (this is the reason some floors in the southeastern area could not be distinguished in some sections). This moment of construction is the same than Construction phase 12 of the 2012 construction sequence.

**Construction phase G: Feature 32**

During the excavation of EU CHP-PB-PU-37 we exposed a wall resting on top of Floor 6. This wall was named Feature 32 (Figure 9). We could not establish the formal characteristics of this wall since it was only exposed at this excavation unit, where it was two courses high (48cm). Nevertheless, we could observe that this wall was quite different from Str. B-5 and even Str. B-5/sub. The wall was made of well-cut rectangular limestone stones, ranging from 30 cm to 40 cm in length.

**Construction phase H: Floors 5 and 4**

Floor 4 and Floor 5 corresponded to the next construction phase identified in this field season (Construction phase 14 in the 2012 construction sequence). As mentioned earlier, minimal ballast deposit separated the two floors. In some areas, Floor 5 was not present. Floor 4 was a well smooth plastered floor. Structure B-5/sub was resting on this surface.

**Tiger Run and Spanish Lookout phases (AD 600-AD 900)**

**Construction phase I: Floor 2 and Str. B-5**

This construction phase corresponds to Floor 2. Unlike 2012 when we only exposed Floor 2 ballast, in the 2013 field season, we realized that this floor was a smooth plastered surface. On top of Floor 2, the Classic Str. B-5 was built (Construction phase 16 in the 2012 construction sequence). This new building was constructed with cut limestone blocks and a few wedges. Based on data recovered in 2012 we established that Str. B-5 consisted of a body and two terraces. The main body rose 1 m above Floor 2, while Terrace 1 and Terrace 2 elevated 0.64 m and 0.60 m, respectively. A staircase was attached to the main body, which was resting on Str. B-5/sub foundation. This staircase extended out 0.10 m in such a way that Str. B-5’s foundation appeared to be a molding. Floor 1, a plaster surface, was associated with this construction stage. It was also established that Str. B-5 had two modifications. The first modification consisted of adding an outset close to the staircase. Stones used to build this outset were smaller than
the rest of the building. Later, a step was attached to the first terrace as a continuation of the staircase. This step was resting on the stucco floor of the outset described previously.

In 2013, we established that Str. B-5 had a third modification. This modification consisted of attaching two walls at the eastern and western edges in order to increase the dimensions of the building in its east-west axis. This addition extended out 80 cm from Str. B-5's wall and, although we could not determine the length of this addition, we established that it was at least 8.15 m long in the west edge. We also discovered an outset (Figure 10). Nevertheless, because the structure could not be completely exposed, we could not establish whether this outset was the stair side outset or it was the outset of the southern wall.

CONCLUSIONS

Extensive excavations at Plaza B, coupled with the recovery of sealed stratigraphic deposits, have allowed researchers to develop a good understanding of the ceramic sequence and on the Preclassic activities of the early inhabitants of the site. In spite of these accomplishments, there is a need to better understand the evolution and variability of the architecture at Cahal Pech. In an effort to address this question, in 2012, I supervised the horizontal excavation of 88m² near the southeastern edge of Structure B-5. Based on the amount of architectural and artifactual data recovered during these excavations, we decided to continue the excavation of Plaza B in 2013 focusing on the southwestern edge of Str. B-5. In this 2013 field season the excavation amounted 98.5 m². Information recorded by these investigations has allowed us to reconstruct a very complex architectural sequence that spans 2000 years.

The earliest occupation, with ceramics associated with the Cunil and early Kanluk phases, were found at the southeastern section of the excavation (Peniche May 2013). Interestingly we did not find evidence of these early phases of occupation in the southwestern side. It is not until the late facet of Kanluk phase, when the rectangular platform or Feature 27 was built, that both areas were occupied. Although it still needs to be proven, Feature 27 could have been built roughly at the same moment that Feature 12, the round structure with a public function. Feature 27 could have replaced Feature 21, the domestic platform that was covered when the round platform was built.

Like the southeastern area, we also discovered a Kanluk-phase midden associated with the rectangular platform Feature 27. As I mentioned earlier, a large amount and variety of artifacts were recovered in this midden but the most interesting artifacts were the shell beads, marine shell debitage and chert micro drills. The presence of these three types of artifacts in the same context suggest that shell beads were being produced by the ancient inhabitants of Feature 27 during Kanluk times (Cochran 2010). Other sites with Middle Preclassic occupations, such as Blackman Eddy and Pacbitun, have also evidenced production of shell beads (Cochran 2010; Hohman 2002). Regarding the ceramics, we recovered a large amount of sherds that were classified as Savana Orange and Reforma Incised (Gifford 1976). Dishes with incised and grooved lips and bowls predominated in this assemblage. The rectangular platform could have been in use until the end of the late
Kanluk phase since we did not find Feature 11 at this southwestern section and because the next construction phases dates to the Late Preclassic period.

The construction activity increased during the Late Preclassic period—associated with Sierra and Sapote ceramic groups. The first Late Preclassic moment of construction was the construction of Feature 25, which had as goal to extend the Kanluk cobbled platform westwards. Nevertheless, we could be dealing with two completely different platforms. Unfortunately, the union or corner of Feature 11 and Feature 25 lay beneath the Classic Str. B-5. The discovery of Feature 25 was quite interesting as it was mentioned earlier because it shows that the cobbled platforms continued being constructed during the Late Preclassic period. Later on the Late Preclassic period, five consecutive plaza floors were built on top of Feature 11 and 25. Feature 32, the wall made of well-cut rectangular stones discovered in EU CHP-PB-PU-37, could have been also built at some point during the Late Preclassic period. Finally, Str. B-5/sub, Str. B-5 and the Terminal Classic modification were all built during the Classic period.

In brief, the architectural sequence discovered in the southern edge of Plaza B shows an increasing investment of labor throughout time. Formal architectural attributes, such as size, shape and materials of construction, all appear to have been architectural elements subject to manipulation by Cahal Pech social actors.

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INTRODUCTION

In June and July of 2013, BVAR continued excavating Structure B1 at Cahal Pech. Structure B1 is the middle structure of the eastern triadic group located on the eastern side of Plaza B (Figure 1). The previous excavations during the past two years have revealed no less than four tombs and one intrusive burial. Investigations of the structure revealed in the summer of 2013 yet another tomb designated Burial 12, located underneath the staircase on the western façade of Structure B1. Investigations were also conducted at the summit of Structure B1, continuing below the floor of Burial 7, excavated in 2011. As we continued below the floor of Burial 7, several levels of architecture (construction phases) were revealed, and what appeared to be a possible stair-block was reached at 575 cm below surface. The possible risk of collapse prevented us from continuing excavating further. Investigations will most likely continue in the 2014 season, where the suspected stair-block will be approached through a trench placed on the western façade.

BACKGROUND

Cahal Pech is a medium-sized ancient Maya center located on a hill-top, just on the outskirts of modern day city of San Ignacio. Several of the structures at Cahal Pech have the last couple of years gone through extensive restoration, to try to recreate ancient Cahal Pech to give the visitor an authentic insight to the life of the ancient Maya.

Excavations were conducted at Cahal Pech as early as in the 1950s (Satterthwaite 1951). In 1969 the first excavations at the summit of Structure B1, were conducted by Peter Schmidt, where he found two burials: Burial 1, an intrusive burial, dated to the Terminal Classic period, while Burial 2 was a Late Classic tomb. In the late 1980s Dr. Awe
the still ongoing project, preserving Cahal Pech with the initial objective of establishing the chronology of the site as well as conserving the site before it suffered from more looting, and established Cahal Pech as a National Park (Awe and Campbell 1988).

In the 1990s Joseph Ball and Jennifer Taschek investigated the western façade of the structure near the floor of Plaza B. Here four burials were identified in these excavations. In 2011, excavations were again initiated at the structure by BVAR, under supervision of the author. A Late Classic burial (Burial 7) was uncovered in 2011. In 2012 two Protoclassic burials (Burials 8 and 10) were found deep in the center of the structure, where the lowest burial, which was found inside a formally constructed tomb, was located approximately 7 meters below structure surface. 2012 furthermore revealed two burials: Burial 9, and intrusive burial close to the surface on the western side of the summit, as well as an Early Classic tomb located inside a stair-block located on the western staircase (Ishihara-Brito et al. 2013).

Figure 1: Cahal Pech site core (courtesy of J. Awe)
Figure 2: Plan-view of Structure B1 (the outline in black indicates this year’s investigation. The stippled line in black indicate presumed connection between architecture)

METHOD

The unit (B1-2West), located at the summit of Structure B1, was set up based on the outlines of the burial chamber excavated in 2011. The unit was extended eastward to make space, and the eastern part, which had been excavated in 2012 had to be stabilized in order to avoid collapse. All soil was screened through a ¼ inch mesh and all artifacts were collected for later analysis. The same datum as used in 2011 and 2012 was used for measuring elevation in 2013.

A unit (B1-5West) was defined on the third platform of the already restored staircase on the western façade of Structure B1, just below the stair-block excavated in 2012 (see Ishihara-Brito). The unit measured 175 cm (east-west) and 281 cm (north-south). In order to excavate further, it was necessary to remove several of the restored stones used for consolidation. Each stone was carefully mapped and numbered, as we wanted to make sure we use the same stones for re-restoration. The first layer excavated was considered as being level 2, since the unit was placed on the terminal architecture already previously excavated.
DISCUSSION

Unit B1-2West

Excavations continued at the summit of Structure B1 to investigate the earlier construction phases, focusing on the western area of the construction. In 2011 the western part of the summit was excavated which revealed the elaborate Late Classic Burial 7. In 2012, the eastern part of the summit was excavated in order to re-investigate the area where Peter Schmidt had uncovered Burial 1 (Terminal Classic) and Burial 2 (Late Classic) from his excavations. Below the ending level of Schmidt’s excavations, another burial chamber was uncovered. Whilst excavating the chamber in 2012, the western baulk had revealed a large amount of ceramic, which had been used as construction fill. This level was likewise reached from unit B1-2West in 2013, and a large amount of ceramic sherds were collected, approximately 500 cm below datum.

Several phases of construction were exposed in this work, and by the third construction phase, we deemed it necessary to investigate further west-ward and a test-vault was placed in the western baulk to reach the eastern side of the stair-, which located outside the structure. The test-vault would make space for us to continue downwards without inflicting too much damage to the already excavated chamber from 2012. Approximately 575 cm below datum, an alignment of rocks were uncovered against the western baulk. It is presumed to be a possible stair-block (see fig. 3), but even with uttermost care it was impossible to fully expose the plastered surface which was approximatley 15 cm from the western baulk. It was possible to excavate 86 cm down between the baulk and the presumed stair-block, But additional exposure of the architecture will have to be done from the exterior.
On the inside of the presumed stair-block several levels of possible architectural square-formations were reached. The architecture was recorded and photographed, but neither of the levels revealed anything which could be associated with any of the known phases of construction or caches. Eventually the unit had reached an elevation of 754 cm below structure surface, and the excavations were terminated (see Figure 2 for this year's investigation of the interior of Structure B1, marked in black).

**Unit B1-5West**

Excavation of unit B1-5West was initiated to investigate the platform below the stair-block\(^1\). Although the staircase had already been restored, it was deemed necessary to remove the consolidation, in order to collect more data prior to concealing the structure. After having excavated into the platform, large amounts of matrix and rocks were removed. After approximately 100 cm below the terrace-surface, a broken floor was uncovered and large boulders were exposed. A boulder was removed in the southern end, and what appeared to be a chamber was revealed, eventually designated to be Burial 12 (Figure 4).

After Burial 12 had been fully exposed and investigated, excavations continued, in order to expose more of the earlier phases of construction. Floor 4 was identified below the tomb, at approximately 250 cm below platform surface. It was another 100 cm before another floor, Floor 5, was reached, at approximately 360 cm below platform surface, with no architectural features in between the floors. Floor 5 was somewhat sloping downwards towards west, and a line of rocks was revealed in the south (Figure 5), which

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\(^1\) This stair-block is not to be confused with the stair-block uncovered in unit B1-2West, which is probably part of the fourth phase of construction, whereas the stair-block referred to here is part of the penultimate phase of construction, today exposed as part of the restoration project.
Figure 5: Unit B1-5West with the remaining stone wall of Burial 12, and the line of rocks continuing underneath the eastern baulk (photo C. Santasilia).

we believe could have a possible connection to the stair-block uncovered in unit B1-2West. As the excavation season of 2013 was coming to an end, we decided to not excavate any further, and to possibly return to the western façade of Structure B1 in the summer of 2014, and cut through the staircase to investigate the architectural phases of this incredible structure.

Burial 12

The tomb was a cut-stone masonry chamber covered with small capstones, of which only a few had collapsed into the tomb. The tomb contained a single individual: male, face down, and with head to the south. In the southern end, one collapsed cap-stone had crushed the skull of the individual. In the northern end of the tomb, a head of a peculiar peccary protruded up through the soil (Figure 6) this was the lid of the only vessel represented among the grave goods. The vessel was complete, apart from a tiny chip missing.

The southern end, a rather large and thick ceramic disk was identified above the skull, as well as a more elaborate ceramic disk, perforated at the center. As the human remains were exposed, a shell placed face down on the chest of the individual was uncovered, in addition to several small jade fragments. At this point, due to the excavation of the human remains, all matrix was screened through a 1/8 inch mesh, and when jade fragments appeared an even finer mesh was used. Utmost care was made to screen the matrix, especially the matrix around the chest area, where the shell had been found,
Figure 6: Burial 12 with the peccary head vessel to the north and the disks to the south (Photo by C. Santasilia)

Figure 7: a) polychrome vessel with peccary on lid, and anthropomorphic figure on both frieze of the vessel and on lid; b) jade bead and possible inlays for carved shell; and c) elaborate engraved shell (Photos: C. Santasilia)
unfortunately only a few more jade fragments were found. As the exposure of the human remains continued, several small grave goods appeared along the body of the interred.

Grave goods

Burial 12 contained more than twelve special finds, of which two were of particular interest (see Figures 7 and 8). Based on the ceramics, the tomb dates to the Early Classic period (AD 250-600), based on the vessel type (see below) and the engraved oyster shell, which shows resemblance to another shell dated to the Early Classic period, found at the site of Dzibanche in northern Yucatan (Finamore and Houston 2010:128-129). The shell was elaborately engraved and depicted a figure, which has been identified as the rain god Chaac by Marc Zender (personal communication, 2013). Michael Coe (personal communication, 2013) suggests that the individual could also be GI (Palenque Triad) as he has certain similar characteristics to which Coe adds that GI and Chaac are hard to distinguish and argues that GI usually has a spondylus shell over his ear whereas this individual has a jade ear-flare. The shell is assumed to have had inlays of jade in all of the small incisions, but only five small fragments were recovered.

The vessel was a basal flange polychrome with elaborate anthropomorphic figures decorating the sides of the vessel as well as the lid. Placed on top of the lid was the head of a peccary, presumably functioning as a handle, with two perforated nostrils providing
the possibility of smoke or steam to exit the vessel, should it have been used for something warm.

The depictions on the side of the vessel have been detected before on other vessels found at Cahal Pech, however, these vessels did not have a lid. Burial 7 (see Santasilia 2011) had a similar basal flange polychrome vessel with the same anthropomorphic figure on the side. Tomb 1 from Plaza H, excavated in 2006 by Jaime Awe and Myka Schwanke (Awe, personal communication, 2011), contained a large sherd with the same figure.

ACKNOWLEDGEMENTS

The excavations at Structure B1 keep revealing interesting finds and the structure seems to never cease to provide new remarkable evidence of the elite who lived at Cahal Pech more than a thousand years ago. I am grateful to Dr. Awe who has given me the possibility to excavate Structure B1 at Cahal Pech. Dr. Awe is responsible for the immense data collection now available on the site of Cahal Pech. The funding offered by Douglas Tilden and his wife Teresa Keller, ensures the further investigations of this intriguing structure. This year’s excavations would not have been possible without the incredible work of our devoted and local workers Eduardo Cunil, Jim Puc, Abraham Guerra, Jorge Can and many many more. I would like to thank Douglas Tilden for the cooperation as well as Marc Zender for always providing us with his expertise on so many things, such as drawing skills and iconographic interpretation. Finally, thank you to Drew Luckas and several of the other high school kids from AFAR, who always are giving a helping hand with various tasks.

To the families of the three girls who were tragically killed during the summer season: Molly Hude, Ioanna Thomopoulou and Angela Bugeja, I offer my heartfelt condolences.
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Introduction

During the past three field seasons (2011-2013), I have been privileged to be a part of the joint BVAR-AFAR excavations at the site of Cahal Pech, Belize. In addition to supervision of student excavations of Structures B1-3 and B6-7, I helped to record the excavations of four burials in Structure B1 in plans, measurements and drawings: Burial 7 (2011), Burials 8 and 10 (2012) and Burial 12 (2013). Given my epigraphic specialty, I was also responsible for the recording (in photographs and line drawings) and interpretation of the hieroglyphic inscriptions discovered in Burial 7, as well as in Burial 2 (which had been initially excavated by Peter Schmidt in 1969, but was reopened and completed in 2012).

All five of these burial contexts were excavated by Catharina E. Santasilia, with assistance from various excavators (Antonia Itza in 2011, Jim Puc in 2012, and Doug Tilden, Jim Puc and Eduardo Cunil in 2013) and various physical anthropologists (Anna Novotny in 2011, Caitlin Stewart in 2012, and Ashley McKeown and two of her students in 2012-2013), all under the general direction of Jaime Awe. My own contributions were therefore just as one member of a very large team.

This report focuses narrowly on the epigraphic contents of Burials 2 and 7 of Structure B1 recovered during the 2011-2012 field seasons. (Burials 8, 10 and 12 had no epigraphic contents.) These inscriptions are still very much under investigation (particularly the very fragmentary and partial remains of Burial 2), but enough can be discerned at present to make this initial report useful.

As there is no particular ordering principle at work in the inscriptions — that is, they are not part of a larger epigraphic program, none of them contain hieroglyphic dates, and there is no indication of topical overlap — I will present them, purely for convenience, in the numerical order of the burials from which they came.
The inscriptions to be presented in this report are as follows:

1. Incised turtle shell fragments (Burial 2, excavated 2012)
2. Incised bone rings (Burial 7, excavated 2011)
3. Incised bone needle fragment (Burial 7, excavated 2011)

I turn now to a discussion of these three contexts.

1. Incised Turtle Shell Fragments

As briefly noted above; Burial 2 of Str. B1 was initially excavated by Peter Schmidt in 1969. Although still unpublished, many of the materials recovered from this burial are still housed in the Institute of Archaeology, as are some of Schmidt's notes and a rough plan of the burial. These, coupled with the compact nature of the incised turtle shell fragments discovered in 2013 (see Figure 1), make it likely, but not certain, that no earlier fragments had come to light in 1969. If they did, then apparently they no longer survive.

According to Norbert Stanchly (personal communication 2012), the fragments are part of the upper (dorsal) carapace of an American Freshwater Turtle (or Slider). His ongoing investigation of the fragments should provide an independent check on whether the entirety of the shell is present, and whether or not we should consider that some earlier fragments may have been excavation by Schmidt. On present evidence, it seems that the
entirety of the dorsal carapace was once carved/incipised with a linear design, some of
which was apparently in-filled with hematite (iron oxide).

The remains are now too fragmentary to be certain as to what the design
represented. Additionally, six fragments contain traces of a hieroglyphic inscription
which once ran bilaterally across the ventral carapace. These do not form a complete text,
suggesting that a significant amount of the original object is missing.

The first large fragment (Figure 1) reveals the badly eroded verb pa-ta-ja, pahtaj
‘it was fashioned.’ This may have been the initial glyph of the inscription, but it is
impossible to discount the possibility of other introductory material, given parallel
constructions elsewhere.

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constructions elsewhere.

The five remaining fragments with hieroglyphic inscriptions can be seen in Figure
2, each of which bears partial remains of from 1-2 glyph blocks. Their order is for the
most part uncertain (though see below), but the individual hieroglyphs can be read as
follows:
1. a-ku AJ-..., Ahk Aj-..., ‘turtle, Aj...’
2. u-ju-..., uju..., ‘his/her ju...’
3. K’AN-na-*BAHLAM-...-wa, K’an Bahlam ...w, ‘Yellow/Tawny Jaguar ...’
4. yu
5. ?

The spelling a-ku for ahk ‘turtle’ is very common in Mayan hieroglyphic
inscriptions, often forming part of the names of kings and gods. Coupled with the
fragmentary nature of the inscription (much of the text is certainly missing) this explains
why I didn't at first connect the spelling to the object this text was incised on: namely, a
turtle shell. But given the fragmentary u-ju-... spelling, which could conceivably have
once recorded u-ju-chi(-li), ujuuch(il) ‘his/her/its shell’, a common collocation on other

Figure 2: Five turtle shell fragments with inscriptions (photographs by M. Zender)
carved shells, I would now speculate that these two fragments once provided the sequence **u-ju-chi(-li) a-ku AJ-...** for *ujuuch(il) ahk Aj...*, or ‘It is the turtle-shell of Aj ...’ (see Figure 3).

Equally intriguing is the third turtle shell fragment, which records a nominal (perhaps titular) element also known from the two incised bone rings, and which can be transcribed as **K\'AN-na-*BAHLAM-...-wa**. I will discuss this element in more detail below, but for now suffice it to say that it is a strong candidate for a traditional title for Cahal Pech nobility. It is presently known from nowhere else.

To summarize the foregoing, then, this object appears to have been an incised turtle carapace. What its use was can only be guessed. (Perhaps a drum like the musical instruments occasionally depicted in Maya art?) Whether it was interred whole or already in fragments can also only be guessed, and will have to await analysis by Norbert Stanchley to determine how much of the carapace itself is missing. Like many portable objects, it apparently included a brief dedicatory text describing its fashioning, a brief description, and the name (and possibly title) of its owner, only part of which survives.

2. Incised Bone Rings

Among other rich offerings of jade, shell and bone discovered in Burial 7 during the 2011 field season (excavated by Catharina E. Santasilia and Antonio Itza) two small incised bone rings are perhaps the most unique and distinctive (Figure 4). Both have suffered substantial erosion (mostly scratches and surface pitting), though the first ring remains intact and is substantially better preserved, whereas the second broke into four
large fragments before it was discovered and its inscription has suffered greatly as a result.

The rings are very small (less than two centimeters in diameter), very thin (2-3mm thick, on average), and very finely incised, with glyph blocks about 1.5cm square. Each ring bore four glyph blocks, and close analysis of the inscription reveals that the texts were perfectly parallel, the only textual variation coming from the well-attested glyph substitution in the third glyph block of the K'INICH logogram (on the more poorly-preserved ring) for the logographic-phonetic spelling K'IN-ni-chi (on the better-preserved ring). Otherwise, and despite the erosion, the two texts are completely identical.

I drew both inscriptions in the field, tracing over circumferential photographs, and then checked the drawings carefully against the original objects (Figure 5). Since practically all inscriptions on portable objects begin with a possessed ‘name tag’ (such as “his vase”, “his bone”, etc.), it was obvious that these two inscriptions had to begin with the yo?-bi collocation, as indicated in the drawings. Ever since David Stuart's (1987) publication detailing the decipherment of the syllable yo, it has been clear that this sign serves to record the third person possessive prefix y- on nouns beginning with the vowel o, and there is no other potential possessive marker in either of these two texts. Similarly, the syllable bi has been well-known since the 1950s, and has more recently been recognized as frequently providing the instrumental suffix -ib (or -Vb) on derived nouns (Houston et al. 2001).
The only mysterious element in this ‘name tag’ was the middle sign, often nicknamed ‘k’in-imix’, because it resembles the ‘sun’ sign (K’IN) infixed into T501 Imix. But the behavior of this sign in other contexts makes it clear that it represents a single CV syllable, not a compound. The sign is relatively rare, however, and has only been documented in the following different contexts:

- (AJ/-a-)#-ni (spelling a common, but poorly understood title)
- ya-ni (a unique possessed form of the title on K5070)
- ju- (CNC Panel 1, NTN drawing 82)
- ...su (‘Denver’ panel)
- ...sa (El Peru stelae)
- yo- bi (Cahal Pech)
The contexts are not numerous, and they are not such that a strong phonetic value can yet be proposed that makes sense of all of them. Nonetheless, the new Cahal Pech context is sufficiently probative that it can be used to propose a tentative phonetic reading of so, which will require testing as new contexts emerge. The rationale for this reading stems from the following forms in relevant Mayan languages:

Ch'ol  otz-an ‘insert something’
     < *och-es-an  (Aulie and Aulie 1998)
Chontal  os-en  ‘insert, place inside’
     < *och-es-Vn  (Keller and Luciano 1997)
Ch'orti'  os-e  ‘put inside, fit a thing in or on’
     < *och-es-e  (Hull 2005)
ose uor uk'ab makuiir e xoibir ‘fit one's finger into a ring’ (Wisdom 1950)

It's evident that Ch'olan languages have an intransitive verb root och ‘to enter’ that can be derived as a causative/transitive verb och-es ‘to insert (i.e., make something enter/go in)’. Over time, the vowel of the -es causativizer is syncopated and lost, probably due to the addition of still further suffixes and resultant stress shift, and this results in an impermissible chs consonant cluster. The modern languages handle this impermissible cluster in two different ways, either deleting the ch (Chontal and Ch'orti') or transforming chs to tz (Ch'ol). The language of Classic Mayan inscriptions is generally recognized to be closer to Eastern Ch'olan, of which Ch'orti' is the sole surviving member. For this reason, we might expect an Eastern Ch'olan word for ‘ring’ to have been something like osib, from *och-es-ib ‘thing for inserting (a finger into); a ring’. In possessed form, in Mayan glyphs, this would be written either yo-so-bi or yo-si-bi. Given that the ‘k'in-imix’ syllable never substitutes for the known si signs, so emerges as the best candidate for the moment.

Thankfully, the two glyph blocks following the possessed noun are much more transparent, and they provide the personal name K’awiil Chan K’inich. The name is a compound deity name common in Mayan inscriptions, meaning something like ‘the Sun God (K’inich) is like Lightning (K’awiil) in the Sky (Chan)’. And the name is already attested as that of a mid-8th century king of Dos Pilas, Guatemala, though here it must be that of a namesake. Whether it represents the name of one of the tomb's occupants or of the original owner or commissioner of the ring (if an heirloom) cannot yet be ascertained.

The final glyph block on the rings also includes an undeciphered sign: K'AN-na-BAHLAM-...-wa. The elements K’an Bahlam are clear enough and mean ‘Yellow (or Tawny) Jaguar’. The uncertain element is the sign T594a/b, which resembles a checkerboard and remains undeciphered. Despite being a well-known element in the hieroglyphic name of the Palenque patron god GIII, there simply aren't enough clues at present to propose a reading for this evident logogram. All that's clear at present is that the -wa syllable which follows the sign three times at Cahal Pech, in several contexts at Palenque, and in Naj Tunich Cave Drawing 29, is an optional phonetic complement, suggesting that the T594 ‘checkerboard’ sign registers a word ending in the sound w. That
Figure 6: The Cahal Pech bone needle (a), and a parallel text from Tikal (b).

is, it must be a logogram for a word of the shape CVW.

That said, the appearance of the K’AN-na-BAHLAM-...-wa collocation at the close of a nominal string on the rings (and on the incised turtle shell), suggests that it may have served as a title, perhaps a traditional title of nobility from Cahal Pech. Further speculation will have to await additional contexts, but it's worth noting that this title string does not presently appear anywhere else.

3. Incised Bone Needle Fragment

Centrally located in Burial 7, but not located until screening and post-excavation cleaning of the finds, was a small fragment of an incised bone needle (Figure 6a).

The fragmentary inscription is hardly dramatic, but enough survives to read it as ba-ki, baak, ‘bone’. Like most portable objects with inscriptions, there was probably a possessive marker u preceding this short text, thereby rendering u-ba-ki, ubaak, ‘his/her bone’. Several parallel inscriptions are known, most famously at Tikal (see Figure 6b). As with the parallel texts, the possessed noun would have been followed by the name of the needle's owner. Unfortunately this information has been lost to us.

CONCLUSION

Considering the dearth of inscribed architectural and monumental texts at Cahal Pech, the discovery of three (admittedly brief) texts in three years of excavations of burials within Structure B1 is highly significant. It suggests that the elites of Cahal Pech weren't so different after all from their contemporary elites at other sites in the central Peten, in that they at least manipulated inscription-bearing objects. And it also suggests that the burials and caches of Cahal Pech probably still contain additional important historical information.
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INTRODUCTION

It may seem odd to some, to be reading a report about a plaza excavation, arguably, as near small a plaza unit as one could devise. Especially so, since it is a plaza unit operation conducted at a site that has been the focus of investigations for over twenty five years. Let me allay any misgivings or reticence you may have, and give you reason to continue reading.

Indeed, over the years, there have been many investigations into Plaza C, and also the structures that bound it (e.g., Awe and Campbell 1988 and 1991, Awe and Schwanke 2006, Ferguson et al. 1996, Peniche May 2012, C. Pritchard 2013, J. Pritchard 2013 and J. Pritchard et al. 2011). So, why one more operation in Plaza C, one might ask? A brief background of previous operations in Plaza C is necessary to answer this question.

As part of the recent and ongoing consolidation project at Cahal Pech, horizontal excavation in the summer of 2012 was undertaken along the eastern base of Structures B1 and B2 (C. Pritchard 2013:29). These operations were meant to delineate the basal terminal architecture, in order to facilitate consolidation efforts of the eastern triadic group.

Fortuitously, during the excavations at the eastern base of Structure B1 in 2012, specifically in Unit C-12-3, there was revealed a set of stairs. Eventually, six steps were exposed on the “back side” (eastern base) of Structure B1 (C. Pritchard 2013:34). For those unfamiliar with eastern triadic groups the term “back side” might not be relevant. In as much as these groupings, initially referred to as E-Groups at Uaxactun by Smith (1950), were solar observatories, their main focus was westward. Thus, the eastern facade of these types of groupings were considered unlikely to be of importance in the functioning of these types of structures solar observations.

However, it has been demonstrated that eastern triadic groups of the Belize Valley did not function as precise solar observatories (see Aimers 1993). So why construct a pseudo-E-Group? It has been argued that these types of groups act as architectural communicative templates, in a broader symbolic realm, rather than functioning precisely
as solar observatories (Awe et al. 1995, Conlon 1993, Conlon and Powis 2003, Conlon et al. 1995). Their basic triadic grouping, and placement on the eastern edges of plazas, signifies membership in the upper echelons of ancient Maya society, and thus, were still an important focus of ancient Maya ritual activity.

With the discovery of the staircase on the “back side” of Structure B1, and the cognizance that Cahal Pech’s eastern triadic group was a non-functional solar observatory, the question then became, was this eastern locale a potential focus of ritual activity in a broader symbolic realm? At the behest of Jaime Awe, I was charged with conducting investigative operations in Plaza C in order to see if the question posed above had a definitive answer. What follows in this report is a summary of findings from the 2013 field season investigations.

INVESTIGATION RESULTS

The main focus of investigations in 2013 was to determine what, if any, ritual activity may have taken place with regards to Structure B-1, while still preserving the recently consolidated staircase. To preserve the staircase, a 2 meter by 2 meter unit was placed in Plaza C, abutting the basal step of Structure B-1 (Figure 1). Unit placement was further determined by locating the primary axis of Structure B-1, utilizing the midpoint of the basal step. There was also a need to determine a chronological history of any construction components, and thus, a cultural level technique was employed. Unit level matrices were sifted through ¼ inch screens to recover as much material remains as possible. The following is the level summary for the excavation of Unit 1.

Level 1

Opening Unit 1 entailed excavating through the modern surface with the removal of humus and dark brown soil, which was mixed with very small ballast type limestone inclusions. Level 1 concluded with the revealing of plaster Floor 1 (Figure 2). Floor 1 was whiteish, smooth and very hard, as well as relatively thick (roughly 10 centimeters).

Level 2

Level 2 operations penetrated Floor 1. As noted above, Floor 1 was well preserved and very hard, but did not have any underlayment of ballast, and was constructed directly on top of the homogeneous matrix of Level 2. The matrix was composed of light brown soil mixed with ballast sized stones, as well as some small core limestone fragments. Cache 1 was discovered directly under Floor 1, in the center of the western baulk of Unit 1, and abutting the terminal basal step of Structure B-1’s eastern façade. Cache 2 was discovered roughly in the middle of Level 2, halfway between Floors 1 and 2, and covered most of the horizontal extents of Unit 1. Cache 2 did include a central portion that began with the placement of an olla rim directly on Floor 2. Level 2 ended with the discovery of plaster Floor 2.
Plaza C, Structure B-1, Unit 1
Cahal Pech
Belize
2013

Figure 1: Location of Unit 1 in Plaza C.
Plaster Floor 2 was not as thick as Floor 1 (approximately 7-8 centimeters). It was softer and less well preserved than Floor 1, but still fairly compact and hard. It was also more grayish than Floor 1, and appeared “battered” (uneven surface pockets). It had an approximately 3 centimeter ballast underlayment, with a medium brown homogeneous matrix. There was a higher percentage of core type fill than Level 2, but this core fill had smaller fragments of limestone than Level 2, and was more compact than the matrix of Level 2. Level 3 concluded with the discovery of Floor 3.

Floor 3 was 4-5 centimeters thick, grayish, not particularly hard, powdery in spots, and battered. There was no ballast underlayment, only a homogeneous medium brown matrix with small limestone inclusions of ballast size. Level 4 ended with the discovery of Floor 4.

Floor 4 was 3-4 centimeters thick, grayish, not particularly hard, again powdery in spots, and battered. There was no ballast underlayment and the homogeneous medium brown matrix contained small limestone inclusions of ballast size. Level 5 ended with the discovery of Floor 5.
Floor 5 was 4-5 centimeters thick, grayish, medium hard and battered. There was a very small ballast underlayment of 1-2 centimeters on top of a homogeneous dark brown matrix, with a greater amount than Levels 4 or 5 of small limestone inclusions of ballast size. Level 6 ended with the discovery of Floor 6.
Level 7

Floor 6 was 4-5 centimeters thick, grayish, medium hard and battered. There was a small ballast underlayment of 2-3 centimeters on top of a homogeneous light brown matrix with small core limestone fragments similar to Level 2 matrix. Level 7 ended with the discovery of Floor 7.

Level 8

Floor 7 was 6-7 centimeters thick, grayish, medium hard and only slightly battered. There was a small ballast underlayment of 2-3 centimeters on top of a homogeneous medium brown matrix with small limestone inclusions of ballast size, and some small core limestone fragments, much like Level 3. Level 8 ended with the discovery of the ancient natural surface.

Level 9

This level was begun when the construction fill matrix of Level 8 markedly changed to an extremely hard matrix of yellowish marl and fist sized chert cobbles. This sterile level was excavated to a total depth of 20 centimeters to ensure no cultural material remains existed.

SUMMARY

This section of the report is meant to provide a summary of the previous section’s investigation results, including the general material remains inventory, and also some of the more important observations from the 2013 field season results.

The summary of the ceramic, lithic and freshwater shell finds shall follow. Please note that the humic layer, Level 1, was devoid of any material remains, and thus, is not represented in any of the three tables that follow in this section. Caches 1 and 2 (Level 2), and Special Find 6 (Level 8), are more fully detailed herein.

Ceramics

A total of 1,763 sherds were recovered from Levels 2 through 8 of Unit 1, 64.5 percent of which were able to be typed with certainty (Table 1). Sherd counts for the individual levels tend to be roughly proportional to each levels matrix volume. This tendency is slightly undermined by two levels of excavation. Specifically, Level 3 slightly exceeds, and Level 7 falls slightly under, this noted proportionality.
**Table 1:** Inventory of ceramics from Unit 1.

<table>
<thead>
<tr>
<th>Level</th>
<th>Diagnostic</th>
<th>Non-Diagnostic</th>
<th>Total</th>
<th>Percent Diagnostic</th>
<th>Construction Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>16</td>
<td>41</td>
<td>61.0</td>
<td>A.D. 750-850</td>
</tr>
<tr>
<td>2</td>
<td>450</td>
<td>337</td>
<td>787</td>
<td>57.2</td>
<td>A.D. 550-650</td>
</tr>
<tr>
<td>3</td>
<td>78</td>
<td>94</td>
<td>172</td>
<td>45.3</td>
<td>A.D. 200-400</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>6</td>
<td>31</td>
<td>80.7</td>
<td>50B.C. - A.D.50</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>10</td>
<td>32</td>
<td>68.8</td>
<td>400-300 B.C.</td>
</tr>
<tr>
<td>6</td>
<td>393</td>
<td>106</td>
<td>499</td>
<td>78.8</td>
<td>500-400 B.C.</td>
</tr>
<tr>
<td>7</td>
<td>144</td>
<td>57</td>
<td>201</td>
<td>71.6</td>
<td>600-500 B.C.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1137</strong></td>
<td><strong>626</strong></td>
<td><strong>1763</strong></td>
<td><strong>64.5</strong></td>
<td></td>
</tr>
</tbody>
</table>

Identified types include sherds from the Jenney Creek phase, and all other phases, right through to the Spanish Lookout phase (see Gifford 1976). However, the Early Preclassic Jenney Creek phase ceramics of Level 8 are mixed with those from the Barton Creek phase of the Middle Preclassic. Thus, evidence from Unit 1 suggests the earliest construction phase, Floor 7, was constructed sometime early in the Middle Preclassic period (ca. 600 B.C. - 500 B.C.).

**Lithics**

A total of 488 chert flakes and cores were recovered from Levels 2 through 8 (Table 2). Of significant note is the general trend of slightly more cores (percentage wise) recovered from Levels 2 through 5, than from Levels 6 through 8.

There were few other lithic finds, but these included: three obsidian blade fragments (Level 2), a chert “drill” fragment (see Sunahara and Awe 1994:201, and Lee and Awe 1995:112) and a burnishing stone (Level 6), and a quartz fragment and burnishing stone (Level 7).

**Shell**

A total of 349 freshwater shell, whole and fragmented, were recovered from all levels of Unit 1 (Table 3). Not shown in Table 3 are the only other shell remains recovered from Unit 1. Shell remains from Level 8 were of marine origin, and recorded as Special Find 6 (see below).
Table 2: Inventory of lithic artifacts.

<table>
<thead>
<tr>
<th>Level</th>
<th>Cores</th>
<th>Flakes</th>
<th>Total</th>
<th>Percent Cores</th>
<th>Percent Flakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>20</td>
<td>25</td>
<td>20.0</td>
<td>80.0</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>104</td>
<td>126</td>
<td>17.5</td>
<td>82.5</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>28</td>
<td>33</td>
<td>15.2</td>
<td>84.8</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>22.2</td>
<td>77.8</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>10</td>
<td>11</td>
<td>9.1</td>
<td>90.9</td>
</tr>
<tr>
<td>6</td>
<td>17</td>
<td>108</td>
<td>125</td>
<td>13.6</td>
<td>86.4</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>145</td>
<td>159</td>
<td>8.8</td>
<td>91.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
<td><strong>422</strong></td>
<td><strong>488</strong></td>
<td><strong>13.5</strong></td>
<td><strong>86.5</strong></td>
</tr>
</tbody>
</table>

Table 3: Inventory of freshwater shell.

<table>
<thead>
<tr>
<th>Level</th>
<th><em>Pachychilus glaphyrus</em></th>
<th><em>Pachychilus indiorum</em></th>
<th><em>Nephronaias ortmanni</em></th>
<th>Total</th>
<th>Percent <em>glaphyrus</em></th>
<th>Percent <em>indiorum</em></th>
<th>Percent <em>ortmanni</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>30</td>
<td>33.0</td>
<td>33.0</td>
<td>33.0</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>12</td>
<td>33.0</td>
<td>33.0</td>
<td>33.0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0.0</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>50.0</td>
<td>50.0</td>
<td>0.0</td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>34</td>
<td>11</td>
<td>164</td>
<td>72.6</td>
<td>20.7</td>
<td>6.7</td>
</tr>
<tr>
<td>7</td>
<td>71</td>
<td>46</td>
<td>18</td>
<td>135</td>
<td>52.6</td>
<td>34.1</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>206</strong></td>
<td><strong>100</strong></td>
<td><strong>43</strong></td>
<td><strong>349</strong></td>
<td><strong>59.0</strong></td>
<td><strong>28.7</strong></td>
<td><strong>12.3</strong></td>
</tr>
</tbody>
</table>

As evidenced in Table 3, *jute* was the predominate gastropod recovered from Levels 7 and 8. Bivalve mussels of the pelecypoda class recovered from Unit 1 operations include *Nephronaias ortmanni*, more commonly referred to as “freshwater clam”. Their overall occurrence represented a relatively small frequency (12.3 percent) in comparison to the univalve *jute* occurrence (87.7 percent).

*Jute*, specifically *Pachychilus glaphyrus*, was found in greater abundance than *Pachychilus indiorum*, in both Levels 7 and 8. By Level 6 (ca. 300 B.C.), the evidence for utilization of freshwater shell, specifically *jute*, is negligible. This is roughly comparable to the general trend at Barton Ramie of diminished freshwater snail utilization in the early part of the Classic period (see Willey et al. 1965:527). Also, the recovery of freshwater shell from Level 6, on up through to Level 2, suggest these resources were not an
important part of the Cahal Pech diet during these times (see Healy et al. 1990, and Stanchly 1995).

Special Find 6

Before I summarize more pertinent observations about Caches 1 and 2, I would like to continue with the shell section summary of this report. As noted above, Special Find 6 was not included in the fresh water shell frequency of Table 3. This is because Special find 6 comprised modified marine shell, the only marine shell recovered from Unit 1.

Special Find 6 was recovered above sterile Level 9, and consists of 4 conch shell disks, that were center drilled (Figure 4). These disks were recovered from a range of approximately 2-5 centimeters above the sterile surface, and in a relatively circumscribed
locale measuring roughly 15 centimeters in diameter, in the very extreme of the northeast quadrant of Unit 1 (see Figure 2). Owing to its apparent random, and “tossed in” appearance, no specific cache designation was accorded this finding.

Cache 1

Cache 1 was recovered from directly under Floor 1, and abutted the basal step of Structure B-1 (Figure 4). It consisted of an olla rim and a ground stone mace (Figure 5). Cache 1 was placed during the terminal phase of construction and is thus a dedicatory cache (see Coe 1959:78 and 118; see also Garber et al. 1992, Iannone 1992, and Lamoureux St-Hilaire 2011).

Cache 2

Cache 2 comprised most of the horizontal extents of Unit 1. It was a multi-component feature and formed a quincunx (see Foster 2005 and Miller and Taube 1993). In the center of Cache 2 was a cut limestone block, which overlay an intact olla rim that lay directly on Floor 2. This limestone block and olla rim were surrounded by four sherd clusters (see Conlon et al. 1994:240), each circularly delineated and placed at the intercardinal positions. Like Cache 1, Cache 2 was also a dedicatory offering. While both
Cache 1 and Cache 2 were dedicatory offerings of the same construction phase, the quincunx format of Cache 2, and their distinctly different positions within the construction of the terminal plaza floor, warranted separate cache designations for recording purposes.

DISCUSSION

The tables presented in the above summary section display some trends that deserve further discussion. Both Table 2 and Table 3 indicate a distinct change in both lithic and shell utilization from the Middle Preclassic to Late Preclassic. This transition is incongruent with the more widely recognized shift from the Preclassic period to Classic period in the Belize Valley, especially considering the evidence from Barton Ramie, of an increase in population in the Early Classic (Willey et al. 1965:350). It also does not conform to the overall picture we know of from Cahal Pech (see Awe and Helmke 2005:45). I am confident the ceramic analysis of Unit 1 is correct. So, what may account for this apparent incongruency of an earlier than usual transition evidenced by Unit 1 lithics and shell inventories?

The answer may relate to sample size problems. A 2 meter by 2 meter unit is comparatively small in relation to the size of Plaza C. Plaza C covers an area of roughly 1370 square meters (see also Awe et al. 1990:27, Table 1), not including the southern portion delineated by Structures C4 - C6. Thus, Unit 1 represents only a 0.29 percent sample of Plaza C. Also, the relatively small volume of the Late Preclassic construction phases represented by Levels 4 and 5, exacerbates inventory comparison between the various levels of Unit 1. These Late Preclassic plaza constructions simply were not large enough to make adequate comparisons between all levels of excavation. However, the main focus of excavations was not to investigate Plaza C itself, but to answer the question of whether there would be any evidence of ritual activity in this locale, as related to the primary axis of Structure B-1.

It is important to note here that plaza Floor 1 continues under the basal step of Structure B-1. Furthermore, the bottom three steps have a run of roughly 60 centimeters, and the top three steps have a run of near 30 centimeters. Hypothetically, the top three steps represent terminal phase architecture, and the bottom three steps are a later modification. Thus, while it is reported herein that Cache 1 abuts the basal stair, it is conceivable there is another 90 centimeters of the terminal plaza floor under the hypothesized basal stair modification, wherein may contain more ritual deposits.

CONCLUSION

The initial query regarding ritual that could be associated with Structure B-1 in Plaza C was confirmed, at least in the construction of the terminal plaza floor. Caches 1 and 2 were dedicatory offerings placed during the construction of this plaza ca. A.D. 800.
There is the possibility the center drilled conch shell disks were also an offering in the early Middle Preclassic (ca. 550 B.C.). However, it is unclear what, if any association, this deposit has with any architecture of that time period. Still, other rituals, those that left no physical evidence, may have occurred in this general locale, anywhere between 500 B.C. and A.D. 800. Plaza C, initially identified as a “public” plaza in the earliest investigations by the BVAR Project (Awe et al. 1991), would not rule out such ritual activity during this time span. The eastern façade of Structure B-1 is indeed, not the “back side” of the building, but the locale for performing ritual at various times that potentially occurred over a 1,300 year time span.

ACKNOWLEDGEMENTS

I would like to extend my gratefulness for the support of these investigations by Jaime Awe and Julie Hoggarth. I would also like to thank Jorge Can, mainly for leaving me alone. His apparent lack of concern about my supervisory skills instilled a certain confidence in myself that I was, indeed, performing my duties adroitly. While there was no formal work crew assigned to these operations, I did receive valuable assistance from the Cahal Pech work crew, especially at times when it looked like my head might be slipping under the waters surface. Several of the work crew deserve special mention here. The initial unit setup benefited from the efforts of Miguel “Swifty” Tzib. I must recognize Abraham “Money” Guerra, for running to my rescue every time the tarp wished it were a sail tied to the mast of a schooner. Abraham kept an eye out for us and made sure we remained shaded and dry at all times. Albert “Big Hammer” Bradley, helped in determining that the sterile level was truly sterile. Without his help, I might have spent another week trying to excavate through the hard matrix to a suitable depth to properly ascribe it as sterile. Ken “Muscles” Mendes’s efforts were instrumental in assisting with backfilling the unit. Left to our own devices, my student crew and I might have had to bring lanterns in to finish backfilling before the field season ended. I would like to thank those who spent the time to edit initial drafts of this report, including Olivia Karner, Norbert Stanchly, Judie Tremblett and the editors of this volume, as well as one anonymous editor. Ultimately, the success of this past seasons investigations benefited from the front line student field crew itself, including Priscilla Aguilera, Mechelle Frazier, Kelly Gisi, David Susko and Aley Villarreal. Finally, I would like to think I have recognized all those that helped in this seasons investigations. However, I am not infallible. To those of you that I may have omitted here, I apologize, it was unintentional. Any other errors, or omissions found herein, are completely the responsibility of the author.
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Ferguson, Josalyn, Tina Christensen and Sonja Schwake

Foster, Lynn V.

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Iannone, Gyles

Lamoureux St-Hilaire, Maxime

Lee, David and Jaime J. Awe

Miller, Mary and Karl Taube

Peniche May, Nancy

Pritchard, Christy W.

Pritchard, James C.


INTRODUCTION

Cahal Pech is located in the Cayo District of Western Belize and overlooks the town of San Ignacio. The site is surrounded by views of the Belize Valley, Maya Mountains, Macal and Mopan River, as well as other major sites between six and twelve kilometers away. Cahal Pech consists of thirty four large structures situated around seven plazas (Figure 1). The western half of the acropolis includes enclosed courtyards (Plazas A, D and E) with limited access to other plazas. The open courtyards (Plazas B, C, F and G) are less clustered but still limit access to the site core (Awe 1992:60).

In 1951, Linton Satterthwaite conducted preliminary mapping and excavations at Cahal Pech, discovering three plain stelae and an uncarved altar in Plaza B, a ballcourt and plain stelae in Plaza C, architectural evidence throughout the Classic Period and ceramic evidence of longer occupation (Awe 1992; Satterthwaite 1951). Cahal Pech was later classified as a major ceremonial center (Awe 1992:57, Willey et al. 1965:577-579). Cahal Pech was looted and vandalized in the 1970s and early 1980s. Jaime Awe directed archaeological investigations at Cahal Pech in 1988 and offered extensive data about the structures in the site core (Awe 1992).

In the summer of 2013, preliminary excavations were conducted on Structure B6/7 at Cahal Pech by the American Foreign Academic Research (AFAR) in conjunction with the Belize Valley Archaeological Reconnaissance (BVAR) project. Excavations
were focused at the base of Structure B6/7, to expose the plaza floor and Terminal phase architecture on the southern façade of the two Structures. Excavations were also focused on exposing the staircases and the architectural transition between Structure B6 and Structure B7.

BACKGROUND

Cahal Pech is a medium-size Maya center located in the Belize Valley region of western Belize. The site core sits on a steep hill overlooking San Ignacio Town, and the Macal branch of the Belize River. The name of the site is a combination of Yucatec and Mopan Maya meaning “Place (or City) of Ticks”; a name coined in the 1950’s when the land around the site was used for pasture (Awe et al. 1988).

The reasons for investigating Cahal Pech were, and are, developmental and research oriented. Research interests have been concerned with diachronic development plus a study of the architectural, artistic and socio-political relationship between Cahal Pech and sites in the Belize River Valley Region (Awe et al. 1988, etc.). Although several scholars (Satterthwaite 1951, Willey et. Al. 1965, Schmidt 1969-70, Ball and Taschel 1986) had previously visited and/or conducted limited and sporadic studies of Cahal Pech, the chronology of the site was still undetermined until the mid-1980s when several studies were accomplished in support of regional development in the Belize Valley (Ford 1985, Ball and Taschek 1986).

Thirty years ago, Hammond’s publication on the Maya Settlement Patterns noted that most research in Belize had concentrated “…on small sites, on residential as well as ceremonial structures, and on the relationships between settlement and environment (1981:162). Some emphasis on the architectural, artistic and intellectual superstructure of Classic civilization, the traditional focus of Maya archaeology, remains, however, and these objectives are still worthy of attention.” Since the 1988 BVAR season, research at Cahal Pech has been also an attempt to provide the type of information Hammond suggests is lacking, especially in the Belize Valley.

Research at Cahal Pech prior to BVAR

The exact date of Cahal Pech’s discovery is not known. The first archaeological investigations at the site date to Linton Satterthwaite’s 1950s work. Working under the auspices of the University Museum of Pennsylvania, Satterthwaite undertook preliminary mapping and excavation of the site center. Unfortunately, except for two paragraphs in a 1951 publication, Satterthwaite never published a report of the work he conducted (Awe et al. 1988).
During his 1953 to 1955 settlement study of the Belize Valley, Gordon Willey of Harvard University visited the site, though he carried out no investigations. Subsequently, Willey et al. (1965:313) wrote a very brief description of the site in their Belize Valley report.

A.H. Anderson, Belize’s first archaeological commissioner, visited the site on several occasions in the 1960s. Anderson recommended to the government that because of Cahal Pech’s easy access and ideal location, the site be left unaffected by private lands and that the center and its periphery be developed as a National park. Anderson’s recommendations, however, were not implemented.

After the death of Anderson in 1968, Peter Schmidt took over the post of Archaeological Commissioner. In 1969, Schmidt conducted a small salvage operation following his investigation of looting at the site. His work concentrated on an elite tomb within a large temple (Str. B-1) in the central plaza (Plaza B) (Awe et al. 1988). Like his predecessors, Schmidt never published a report of his work. Fortunately, however, some of his notes and the artifacts recovered from the tomb are available in the Belize Department of Archaeology.

Between 1970 and 1978 the site was pillaged on numerous occasions by looters (Awe et al. 1988). In 1978, several of these vandals were arrested by Dr. Jaime Awe of NICH and members of the local police force and were subsequently convicted under the Antiquities Legislation. Except for brief visits by J. Ball and J. Taschek in 1986 and 1987, no scientific investigations were conducted at the site until the initiation of the Cahal Pech Project, while at the same time the looting problem continued unabated. The destruction caused by these activities became a major concern to the San Ignacio Town Board and the Cayo Branch of the Belize Tourism and Industry Association who were interested in developing the site as a tourist attraction. After several requests for help from the latter group, Dr. Awe eventually organized the first major archaeological investigation of the site in the summer of 1988 and the Cahal Pech Project was born.

**BVAR at Cahal Pech**

The Cahal Pech Project, which subsequently evolved into the BVAR project in 1992, began its first season of investigations at Cahal Pech in the summer of 1988. During this initial season, the purpose of survey was twofold: a) to produce the first accurate and comprehensive map of the site core, and b) to survey and demarcate an area encompassing the central precinct for development as a national reserve (Awe and Campbell 1988; Awe, Bill and Campbell 1990).

Having completed the above objectives at the end of the first season, the survey shifted its attention to the immediate periphery of the site core in 1989. At this time
In 1990, the survey continued its salvage operations but added a new dimension to its overall objectives. For the first time considerable energy was directed towards the examination of settlement configuration, the distribution of settlements over the landscape, and the diachronic history of occupation in the sustaining area of the site. Before the end of the 1990 season, however, it was realized that although this objective was important to research interests, a comprehensive survey of the entire site could only be accomplished under ideal conditions. But conditions have never been ideal at Cahal Pech, and the location and continuous expansion of San Ignacio Town has made it impossible to conduct settlement research in the northern half of the site's sustaining area. Given this reality, it was decided in 1990 that the survey would concentrate its efforts in the area to the south of the site core.

The objective has therefore been to reconnoiter and map all settlements and cultural features in an area that is approximately 1 km in width, and which extends southwards for 2.5 km from the central precinct. In addition to plotting cultural features within this area, a concerted effort has been, and is being, made to investigate and test every mound within more than half of the settlement clusters within this large survey transect. Both the reasons and purpose of this strategy are explained in detail by Iannone's contribution to the Progress Report of the Sixth (1993) Field Season (Awe et. Al 1993). In brief, it was hoped that the intensive investigation of several middle-level settlements would provide the information necessary for determining diachronic changes in site function, intra-site social relationships, and socio-political organization of centers in the Belize Valley.

Early Survey Methods and Problems: Their Legacy

As previously indicated, during the first season of investigation the survey focused on the mapping of the central acropolis. After clearing the forest cover within the core area, several stations and permanent datums were established along an east/west baseline which cut across the entire long axis of the acropolis. All structures within the central precinct were then plotted from these datums, and a larger zone encompassing the site core was mapped and demarcated for reservation as a National park. The boundaries
of the reserve were "tied in" with permanent stations laid out by the Belize Survey Department. All measurements were conducted with a standard transit and stadia and topographic features and contours were taken at one meter intervals.

There were two unexpected problems that had to be dealt with during the site core survey. The first had to do with the determination of altitude above sea level. Prior to our investigation the Belize Survey Department had placed a permanent survey monument atop of Str. A-1. In the 1:50,000 scale maps of Belize this station is listed as DOS 69 and reported to be 184 meters A.S.L. During the first week of the survey Awe et al. (1993) were unable to locate this monument and only discovered it several days later amidst construction debris and looters backdirt at the northern base of the structure. The second problem had to do with vandalism that resulted in the disappearance of stations and datums along the east/west baseline.

The issues regarding both permanent and temporary site datums have variably continued to hamper mapping of operations and “tieing in” of excavations from season to season. Such is the case with AFAR’s operations from 2007 through 2010, excavated under the auspices of BVAR. Our 2007 work was completed in the B and F groups and a total station was used to map our excavations and to link them to datums at Str. B-1 and A-1, however the UTMs for these permanent datums was not, and has not been available, nor has the data collected been published except in Helmke 2008, where AFAR collected total station data at Baking Pot. In 2008, total station data was again collected during our work in the F group, but this data remains similarly not “tied in.” Our 2009 excavations followed this same trend until 2010, when BVAR student Wendy Dorenbusch was on site with a sub-meter GPS and was able to collect excavation points from a permanent datum in plaza B, near structure B4, using coordinates collected by Rafael Guerra for a previous BVAR project.

Previous AFAR excavations at Cahal Pech

The AFAR field school, operating within the general operations of the Belize Valley Archaeological Reconnaissance project, has conducted excavations at Cahal Pech every summer since 2007. The field school has completed plaza excavations and structural excavations in Plazas B, C, F, G, and H. Beginning in 2010, most AFAR excavations have resulted in the consolidation of portions of structures investigated by the field school. The primary driver for this work has been efforts to enhance the visitor experience at Cahal Pech by uncovering, delineating, and consolidating monumental architecture.
METHODOLOGY

The general approach to unit placement and excavation was coordinated with Dr. Jaime Awe, the director of BVAR, Mat Saunders, the director of AFAR, and Doug Tilden. Christy W. Pritchard supervised the excavation, with assistance from Dr. Marc Zender, Amber Lopez-Johnson, Jim Pritchard, Mat Saunders, Caitlin Steward, Thomas Venner, and Michael “Muggs” Alexander. Cahal Pech’s site foreman, Jorge Can, was present throughout the excavation and offered support when needed. AFAR students participated in the practical work as well as in note-taking every day in order to gain knowledge of the field research process and to complete their field school requirements. Current research on Structure B6/7 is centered on the form and function of the structures and the relationship between Structure B6/7 and the other Structures within Plaza B (B1, B2, B3, B4, B5, and A2). Several preliminary excavations occurred on Structure B6/7 in 1986 and 1987 by Joseph Ball and Jennifer Taschek, but the documented results of the excavations are minimal, and the subsequent consolidation is loosely understood.

Seven excavation units were set up on an east/west axis, units 1-6 measured 8 meters (east/west) and 5 meters (north/south), and unit 7 measured 4 meters (east/west) and 5 meters (north/south). In total, the excavation units were 52 meters in length by 5 meters in width. Four temporary datums were placed along the northern edge of the 52-meter long excavation. These datums were tied into permanent site datum suing a sub-meter GPS unit. All units were excavated using cultural levels, that is, from construction episode to underlying construction episode until final excavation for each lot was reached. All plaza floor and staircase matrix was sifted through 1/4 inch screens. All soils related to architectural collapse were screened every 3-4 buckets. All cultural material was collected and bagged according to class and unit. Laboratory analyses of all ceramics were undertaken by Amber López-Johnson. Analysis of other cultural materials collected is not available at this time and will be included in future publications.

EXCAVATIONS

Structure B6/7 is located in Plaza B, the largest courtyard at Cahal Pech and also provides the only access into the site core from the north. Structure B6/7 borders the northern side of Plaza B, with Structures B1, B2 and B3 to the east, B4 and B5 to the south, Structure A2 to the west, and abutting Structure B6. Two looters trenches were identified atop Structure B7, one on the southern façade of B7 and the other located on the western side of B7. The trenches were not cleared or measured since 2013 excavations were focused on exposing the plaza floor and Terminal Classic architecture on the southern façade of Structure B6/7.
Building on the previous excavations conducted in Plaza B and associated structures, by BVAR and early research at Cahal Pech, 2013 excavations at B6/7 seek to define intact penultimate architecture along the southern façade in hopes of preparing this portion of the structure for consolidation.

During the excavations, interpretations of B6/7 evolved daily. Upon completion of our 2013 work, the results were several phases of exposed architecture and features. Maintaining discrete units within the 52-meter long excavation allowed for control of the field school excavations. The discussions below, however, will address the excavations by structure (Structure B6 and Structure B7).

**Structure B6**

Structure B6 is a long, range type structure, with a flat summit which likely had a perishable superstructure in antiquity. It is visibly shorter than Structure B7. The structure is located in the north western corner of Plaza B, abutting Structure B7 to the east and structure A2 to the west (Figure 1). Its length and height permits access into Plaza B and provides a perimeter around the site core. Our objective was to expose the structure’s
Figure 2: Basal molding and side staircase in unit 1.

Figure 3: Eastern half of outset staircase on structure B6.
terminal architecture, particularly centered around the central stair. Bioturbation, in the form of tree roots, was noted throughout the excavation of Structure B6 units and showed clear evidence of displacement of the architecture.

The plaza floor was initially exposed in Unit 1, but the ballast floor was not well preserved. Twelve large facing stones (40-57 cm) were exposed in Unit 1, revealing the structure’s basal molding (Figure 2). The backing masonry was exposed above the basal molding, consisting of unaligned and uncut medium size limestone which were compacted with light greyish marl.

Evidence of the staircase was indicated by the presence of a large stucco feature abutting the basal molding in Unit 1. This stucco feature measures approximately 50 cm tall. The exposed staircase is 13.2 meters in length and we were able to identify 5 treads even though it was badly preserved and mostly collapsed (Figure 3). Two of the best preserved treads were assembled by two courses of facing stones ranging in various sizes (10 cm – 40 cm).

Artifacts

Artifacts (Figure 4) associated with Structure B6 (Unit 1, Unit 2, and Unit 3) included ceramic sherds, chert debitage, small fragments of obsidian, daub, freshwater shell, marine shell, groundstone and small pieces of slate. Based on preliminary ceramic analysis, most of the diagnostics were identified and categorized within the Spanish Lookout complex (Gifford 1976) and of the Late Classic period. Analysis on the rest of the artifact collection will be further investigated in future projects.

Structure B7

Situated on the northeastern side of Plaza B, Structure B7 is a range type structure, taller than Structure B6 with evidence that the structure may have had a corbel vault superstructure. Its height and length permits visibility outside of Plaza B, but offers accessibility into the open plaza from its eastern side. With the units in place, we hoped to expose the structure’s staircase and terminal architecture. Bioturbation, in the form of tree roots, was also noted throughout the Structure B7 units and showed clear evidence of disturbance.
Figure 4. Lithics and ceramics from Structure B6, Units 1-3.

Figure 5: Structure B7 course facing stones in Unit 7.
The plaza floor was uncovered in the southeastern side of Unit 7, approximately 47 cm below the surface level. The plaza floor was not well preserved and was mostly ballast with some dirt fill, small rocks and pebbles. With the plaza floor identified, excavations continued northward, following the plaza floor with the aim of locating the structure’s wall.

The wall was initially exposed in the northwest corner of Unit 7 (Figure 5). Excavations were continued eastward to the end of the unit. The exposed wall is visible from the plaza floor and consists of 3 courses of nicely cut facing stones (20cm -36cm). Once the wall was exposed in Unit 7, excavations were followed westward into Unit 6.

The structure’s backing masonry was exposed in the western side of Unit 5. The core wall was identified by the compact stones, which were not facing stones like the architectural wall in Unit 6 and Unit 7. However, three courses of nicely cut facing stones were exposed just south of the core wall (Figure 6). The lowest course sits on top of the plaza floor and appeared to be similar in size to the ones exposed in Unit 6 and Unit 7.

Since Unit 5 (which measures 8 meters by 5 meters) was a fairly large unit, there were large trees within the unit that could not be removed and the excavation was divided around the trees. In order to follow the architecture exposed in Unit 6 and Unit 7, and the three courses of architecture found in the western half of unit 5, a 60 cm trench was
placed in attempts to “connect” the architecture from both sides. The course stones continued on both sides but an evident break in the stones (1.30 meters wide) suggested the presence of an inset stair. The matrix was very light grey, fine grained sascab with small to medium rocks. Excavations were concentrated in the 1.30 meter wide gap and the stair was exposed consisting of 5 visible treads. This staircase was identified as an “interior side staircase” for its inset feature and its function in the western direction (Figure 7).

Artifacts

A large collection of artifacts from Structure B7 were recovered from Unit 4, Unit 5, Unit 6, and Unit 7. Artifacts such as ceramic sherds (Figure 8), chert debitage (Figure 9), freshwater shell, marine shell, pieces of quartz, and groundstone are comprised in the artifact assortment. Like structure B6, most of the ceramic diagnostics were identified as being associated with the Spanish Lookout complex (Gifford 1976). In unit 7, a chert biface (Figure 10) was collected close to the structural wall. Based on our inventory we can see that most of the artifacts collected were within a general area, Unit 4 and Unit 5, especially the freshwater shell, marine shell and groundstone.
Figure 8. Representative ceramics from Structure B7, Unit 6.

Figure 9. Sample of lithics from Structure B7, Unit 5.
Figure 10: Chert biface found in Unit 7.

Figure 11: Structure B6/B7 Structure profile.
Architectural Transition Between Structure B6 and B7

The wall between Structures B6 and B7 was exposed, supporting our hypothesis that the two structures were connected and shared a platform. The well-cut facing stones ranged in sizes between 20 to 60 cm and followed the continuous three courses to the east towards Structure B7. To the west towards Structure B6, the course stones abutted the corner of the eastern side of the outset staircase.

DISCUSSION

The data collected during this first year of excavation at B6 and B7 has presented some interesting information regarding both structures. Although the artifact analysis is not completed, some inferences can be made.

What remains of the terminal phase of architecture on Structures B6 and B7 show signs that the population of ancient Cahal Pech was repurposing a large amount of the facing stones for use in other areas of the site. Similar evidence of missing facing stones has been discovered in several structures in the C Plaza (Structures B1, B2, B3, and C6) (Pritchard, et. al 2012). Measurements found that the topmost courses of intact facing stones on Structure B6 were within a centimeter from being level with the basal feature found in the consolidated Structure A2. The similarity may be evidence that Structure A2, although conserved as one architectural phase, may actually represent a mixture of terminal phase architecture and penultimate phase architecture.

The presence of both an outset staircase and an inset staircase on Structure B6/B7 confirms that there were no less than two separate access points to the B6 and B7 superstructures. The dissimilar stair designs and the distance between stair sets lend itself to the idea that Structure B6 and Structure B7 had some functional separation. Further excavations atop Structures B6 and B7 will help us determine the degree of separation.

CONCLUSION

The main objective for the 2013 field season was to uncover the terminal architecture of Structures B6 and B7. We had hoped to find evidence that would provide information on the form and function of the buildings. Understanding their function would allow a complete assessment of Plaza B during the Late Classic and Terminal Classic periods to be considered. The results presented in this report, although preliminary, are a precursor to completing such an assessment of the public plaza.
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INTRODUCTION

This report summarizes the third season of excavations in Plaza H at Cahal Pech, Cayo District, Belize conducted by The University of Montana (UM), Missoula, Montana, U.S.A. under the auspices of the Belize Valley Archaeological Reconnaissance (BVAR) project. The 2013 fieldwork was conducted in two seasons; both seasons were collaborative efforts with BVAR director Jaime Awe, Ph.D.

Between January 5 and 18, twelve UM students worked on the project as part of a winter session course offered by UM and supervised and taught by John E. Douglas, Ph.D. and Linda J. Brown, M.A. The twelve students were: Ashley DeRamus, Andrew Early, Brittney Eubank, Amanda Gerber, Andrew Glascock, Jordan Griffin, Tanner Johnson, Dylan Kemp, Jamie Landis, Megan Richardson, Elizabeth Rush, Lee Tallier, and Kimberly Urenda. During this session, Antonio Itza served as the lead excavator, and was assisted by Alex Alvarez and Irving Martínez. In addition, Rafael Guerra, an archaeologist with BVAR, and a graduate student at the University of New Mexico, was responsible for instrument surveying and tying the excavation locations to the grid system at Cahal Pech (conducted on January 12). In all, nine field days were spent excavating and processing artifacts, with a few additional days spent backfilling.

Douglas and Brown returned in May, with the goals of organizing the collections, starting analysis on previously excavated ceramics, and continuing excavation in structure H-1. Laboratory work began on May 30. Between June 2 and 19, Douglas supervised three students from the BVAR summer field school: Alex Abbott, Stephanie Lepsik, and Valerie Magnusen. Jim Puc served as the lead excavator, and was assisted by Alex Alvarez and Alfred Puc. After we left the field, Awe supervised Merele Alfaro who excavated a unit and drafted a
comprehensive map of the recent excavations in H-1. Awe photographed the areas excavated from a tall ladder.

**RESEARCH QUESTIONS AND PREVIOUS WORK**

The research questions for Plaza H that we initially had in 2011 have not changed. They are:

What is the construction history and arrangement of platforms and rooms? What types of activities were occurring in the Terminal Classic? As with any scientific endeavor, the process of uncovering evidence and interpreting the data from each season has provided us with some answers, but also has provoked additional questions, which will be discussed later in the report.

Here we summarize our 2011 and 2012 field seasons.
Figure 2. Interior of the Plaza H tomb taken June, 2006.

Plaza H is an unassuming area of the Cahal Pech acropolis, unmarked on older maps. It lies at the northeast corner of the site core, to the immediate north of Plaza C and east of the north access to Plaza B (Figure 1). Although the modest plaza had been easy to overlook that changed in the summer of 2006, when a Terminal Classic high-status burial with 13 ceramic vessels and other exotic items was excavated within Structure H-1 (Figure 2). The subterranean crypt, constructed of massive limestone blocks, was located while trenching a wall that had been built during the Terminal Classic (Awe, personal communication). The discovery of a Terminal Classic tomb and remodeling of a platform wall raised questions about how people were using Plaza H at the end of the Cahal Pech’s occupational history. Although it became clear that Plaza H was used at least once as a burial place during the Terminal Classic, the question of how were people using this area during the final occupation became more relevant when Awe found platforms were being built around the same time. Were people living full-time in Plaza H during the Terminal Classic? Was there an overall shift about how people lived at Cahal Pech, with occupation shifting to the east portion of the site? Intriguingly, recent work by BVAR in the southeast portion of the site has also shown fairly widespread modifications and remodeling of structures attributable to the Terminal Classic (Awe, personal communication).
The synopsis below outlines what was learned in the 2011 and 2012 seasons (Douglas and Brown 2011, 2012a); however, Figure 3 illustrates the current structural understanding of the Terminal Classic in Plaza H and Figure 4 shows the location of all of our excavations. Because the plaza has not been completely excavated, the extent of the structures is inferred from the topography and our excavations. Plaza H is within the Cahal Pech grounds that are maintained for visitors, making the ground surface easily observed. But, the Terminal Classic walls stand only approximately 30 cm high, making structural boundaries difficult to infer accurately from topography alone—insuring that future research will likely lead to a more accurate map.

During the 2011 season, units were place to partially uncover and described the northwest (H-3) and southwest (C-3) structures of Plaza H. Unit 3, the farthest northwest unit, bisected the southern platform wall of structure H-3. From this unit, we recovered a large quantity of bifacial thinning flakes close to the surface of the structure and in the southern portion of the unit that intruded into the plaza. Given the amount of flakes, we suggest that people, presumably during the Terminal Classic, were routinely flint knapping on this platform. On the southern edge of the plaza, two parallel 1 by 3 meter units (4-5) were placed to crosscut structure C-3 and Plaza H. The excavators uncovered a series of four well-plastered plaza floors, but only Unit 4 located an obvious east-west platform wall, although we had expected to see a wall running across both of
Figure 4. Locations of UM/BVAR excavations in Plaza H, 2011-13. Shaded unit excavated by Awe, July 2013.

these closely spaced units. Unit 5, one meter farther east, showed only plaster floors until the fourth floor, when a pile of rocks was found in the southwestern corner of the unit, disturbing the floor level and distinctly lower than the platform wall in Unit 4. Unit 6, placed just south of Units 4 and 5 on what was believed to be the interior of the platform, revealed a north-south wall on the eastern side at the same level as the Unit 4 platform wall.

In 2012, we wanted to further explore the features in Units 4-6 and the eastern edge of the plaza. The subsequent work around Unit 5 demonstrated that the “rock pile” found in C-3 was the northeast corner of a lower Terminal Classic style building foundation, which showed evidence of later remodeling and rebuilding represented by the near-surface platform wall located the previous year in Unit 4; the corner of that later wall, found between the two units (Unit 5A), appears to connect with the perpendicular wall in Unit 6.

In brief, we found that the Terminal Classic platform C-3 did not extend as far to the east as the ground surface had led us to believe, and there appeared to be two phases of construction. With the northeast corner of platform C-3 defined, attention was turned to the east edge of the plaza.
In 2012, two units were excavated along the eastern side of Plaza H—one in H-2 and the other in H-1. Unit 7 in H-2, which is in the southeast corner, was excavated to see if there was stonework that aligned or was connected to the structures exposed in Plaza C. However, no connection was found with the Plaza C buildings, and it was clear that H-2, like H-3 and C-3, was surrounded by a series of plaza floors. Unit 8 was part of this effort to understand the east edge of the plaza in 2012. The 2m (E-W) by 3m (N-S) unit was placed with the intention of crosscutting the northeastern platform, H-1, and part of the plaza, at a location just north and a few meters west and south of the tomb, which was incorporated into this platform.

The excavation of Unit 8 located two thick, surprisingly well-preserved plaster floors, and two N-S “walls,” shown in Figure 5. One “wall” consisted of stacked blocks along the eastern edge of the unit, which initially was thought to indicate one phase of the construction of H-1, and a crude wall of upright boulders. Although the stacked stones along the eastern edge of the unit appeared to be a wall, the interpretation was uncertain, and its proximity to the tomb found in 2006 suggested several alternatives that were discussed in 2012: it might be stone fill related to the excavated tomb, or even a second tomb. The upright stone wall incorporated part of the lower plaza floor in its interior, and appeared to have been built to extend H-1 about a meter west, possibly part of a remodeling event that included the reconstruction of the plaza floor.

What emerged from the excavations in 2011-2012 is a picture of relatively small, crudely constructed, Terminal Classic structures, surrounded by carefully finished, multiple, plaza floors.

Figure 5. H-1 tomb staircase stone fill as seen in eastern sidewall and part of the upright stone wall (foreground) in Units 8 B and D; upper plaza floor (foreground) and lower plaza floor (background).
Two locations, C-3 (Units 5 and 5A), and Unit 8 showed evidence of two phases of Terminal Classic platform construction. It appeared likely that some of the plaza floors had stood above other, contemporary plaza floors in Plaza H, indicating that the eastern part of the plaza might have been terraced. For example, when the plaza floor near Structure H-2 is compared with H-3, the floors could be contemporaneous only if the plaza near H-2 was elevated compared with the plaza floor near H-3. Finally, Unit 8 had uncovered evidence of an unusual and puzzling upright stone wall segment, and a stacked stone feature that was thought to be either part of a tomb—possibly, but not necessarily, the same tomb that had been excavated in 2006—or an earlier Terminal Classic wall.

**RESEARCH DIRECTIONS FOR 2013**

The 2012 excavations had provided information about the northeast corner of Structure C-3 and provided a look at a small portion of the platform wall for Structure H-2. However, our understanding of the features in Unit 8 in H-1 was less satisfactory. Understanding how the wall features in Unit 8 related to the construction of H-1 and the tomb seemed crucial for answering the first of the project questions: “What is the construction history and arrangement of platforms and rooms?” Thus, Unit 8 became the starting point of the 2013 excavations, and as the work proceeded, new questions on the construction of H-1 emerged. In the end, all 2013 excavations were conducted within or near Structure H-1.

Ultimately, we attempted to understand the entire terminal phase construction history of Structure H-1, which included efforts to locate the western, eastern, and southern walls of the structure. We also reexamined the construction history of the tomb found in 2006, as well as finding new details of its construction. Our focus remained, of course, on the Terminal Classic period, but a small portion of our excavation efforts, combined with what was learned in the 2006 excavations, provides new clues to the long-term construction history of the platform mound, stretching back to at least the Late Classic Period. The details of these efforts are provided below, beginning with a brief discussion of field and initial laboratory methods.

**METHODS**

Units were placed in locations designed to expose various features and deposits based on expectations from surface indications and the previous excavations. The units were aligned to magnetic north. Excavation units on our project have been given a sequential number within the plaza (starting with number 3); extensions and subdivisions were given letter suffixes. We excavated most deposits with hand picks and buckets, and used trowels for finer work, such as identifying floors. Students worked closely with the experienced members of the crew in evaluating and identifying fill and features.
Vertical and horizontal control during the excavation emphasized natural stratigraphy and context. At the start of each level, a level form was begun, including measuring the depth of the unit’s corners with a line level from an arbitrary elevation point. Levels were halted when there was a significant change in the deposits, generally signifying architectural features: fill, walls, or floors and the level closed. The exception to natural levels was near the surface during the January excavations, where the change from the A horizon to lower levels tended to be gradual; first levels were ended around 10 cm. Once a level ended, closing elevations were noted on the level forms, artifact bags for the level closed up, final photographs of the level taken, and summary notes for the level were made on the level form. In the cases where horizontal differences were identified, units were subdivided using letter designations, with subsequent levels kept separately.

The excavation units, elevation stakes and nails, and some features (primarily walls), were tied into the site coordinate system by an instrument survey conducted by Guerra with a Topcon total station in January. Guerra provided UTM coordinates for northing, easting, and elevation for all surveyed points. Excavation units and the elevation points that were added in June were measured from these known points and integrated into a master map developed in the mapping program QGIS 2.0.

All deposits, minus larger rocks and ballast stones, were screened through ¼ inch screen. All cultural materials were collected, with the exception of undecorated ceramic body sherds smaller than 2.5 cm, and generally bagged by raw material type. Ecofacts were also collected, such as animal bones, freshwater and marine mollusks, and charcoal (small flecks or surface finds were not kept). The retained materials were bagged by unit, level, and material type, washed (when appropriate), dried, and then repackaged for later study.

Documentation is an important part of the project. Accurate and thorough record keeping was a priority; students were given written instructions on note keeping (Douglas and Brown 2012b) and provided regular feedback on their field notebooks. Douglas and the students kept notebooks with field observations. These notebooks, along with the level forms and profiles, were retained by BVAR as part of the primary record of the excavation; PDF copies have been kept by UM. Extensive digital photography, taken with a Canon EOS Digital Rebel XTi 10 megapixel camera, was also used to document the excavations. The mug board and north arrow placed in the photographs of the units provided information on the unit, level, date, scale, and cardinal direction. Multiple photographs were taken that bracketed the suggested exposure to insure proper exposure for all parts of the unit. The names of the photo jpg files were recorded in student notebooks and level forms to provide the full context of each photograph.

While excavating and identifying level changes, students were encouraged to tag floors and distinctive sediments observed in the sidewalls to improve the accuracy of the final profile for
Figure 6. Structure H-1 units and features. Unit completed by Awe in grey; Late Classic platform walls in black; Terminal Classic walls in gray; rocks from plaza subfloor open polygons. The first 3 tomb steps are shown in Unit 14-14B.

the units. In January, profiles were drawn of at least one wall for each unit on the last day; the nature of the deposits in June was such that except for the deep test conducted after the regular field work, profiles were not drawn. More information about field and laboratory procedures, including profiling, can be found in Douglas and Brown 2012b. None of the excavation units reached bedrock or sterile soil. Excavations were backfilled after excavation.

EXCAVATION UNITS AND FEATURES

The 2013 excavations intruded into a range of deposits. These included high-density sherd deposits that may represent secondary or ritual trash deposits, tomb entrance fill, well-compacted platform fill, hard plastered floors on ballast stone, and platform walls.
Figure 7. The contiguous excavation area of Structure H-1, looking east, at the end of summer 2013. Left (north) of the red line is the area excavated in 2006 and re-exposed, including both Late Classic (lower) and Terminal Classic (higher) platform walls.

When Unit 8 (as noted above, largely excavated in 2012) is included, about a 35 m² continuous area was excavated in structure H-1 and the adjacent plaza area by the UM/BVAR project.

Excavating most of this area, and two unconnected small units (12 and 19) in structure H-1, represent the entire excavation effort in 2013 (Figure 6). The depth and number of levels removed in the constituent units and subunits vary (see Appendix 1), but it is believed that all of the material that was excavated in the contiguous area relates to the Terminal Classic, and that Units 12 and 19, excavated to lower absolute depths, held materials that date to the Late Classic. This temporal identification of Terminal Classic is based on the very high percentage of the pottery that has ash temper and other diagnostic ceramic types; the use of undressed stone in the architecture, a typical feature of Terminal Classic structures at Cahal Pech; and the Terminal Classic artifact types found in the tomb (Burial H1-1; see Awe 2013:46-47).

In addition to this effort, the backfill from about 20 m² of the adjacent 2006 excavation area was removed (Figure 7), immediately north of the main 2013 excavation area. This exposed a deeper view of the H-1 structure, including two earlier phases, presumably from the Late Classic or earlier, of cut stone platform construction and a thick, underlying plaster floor, as well as the western edge of the Terminal Classic Tomb and the Terminal Classic platform construction.
Excavation Narrative

Before formally describing the architectural features and their interpretations from the year, it is helpful to understand how the excavations proceeded. This narrative is also intended to aid future use of the primary documents—level forms, notebooks, and photographs—by providing an overview of the excavation history.

During the 2012 excavation of Unit 8, had located stacked stone rubble from the tomb construction along the northeastern side, a short wall of upright stones in the middle, and two well-plastered plaza floors (Figure 5). The higher (more recent) floor was found only on the west side of the upright stones; the other had been broken through to set the upright stones, and could be found on both sides.

Although the upright stone wall appeared to end a meter short of the north sidewall of Unit 8, we were interested if additional traces of the wall might extend in the unexcavated areas north and the south, of this Unit. In January 2013, we excavated in these directions. We believed that there was about 2m of undisturbed deposits present north of Unit 8—although the boundary with the 2006 backfilled excavation was not precisely known. We therefore placed two E-W oriented 1 by 3 meter units to the north of Unit 8—labeled 9 and 10. On the southern end of Unit 8, the upright stone wall ran into the southern sidewall of Unit 8. Unit 11, which was 2m² in size and immediately south of Unit 8, was placed to trace the wall, including the possibility that the southwest corner of the H-1 would be found, an interpretation based on observing surface contours.

The results of the efforts to trace the wall in Unit 8 were somewhat surprising. The excavations found no more upright stones. To the north of Unit 8, we discovered that the disturbance of the 2006 excavation was closer than originally thought. It was only after the backfill from the 2006 excavation was discovered along the northern boundary with Unit 10 and along the eastern boundary of units 9 and 10, where the Terminal Classic structure had been trenched, that the precise boundary of the earlier project were discovered. With this knowledge, we decided to remove the backfill from the 10 m² of previous excavations to the north and west of Unit 10 to examine the relationship between the features uncovered during the two phases of excavation.

Units 9 and 10 revealed two well-defined floors, which corresponded to the ones in Unit 8. Below the upper floor were cobbles—a typical pattern of ballast stones underlying a plastered floor. But, more difficult to interpret were the larger stones aligned in this layer at non-cardinal angles. As we mapped these, one discovered that one of the two alignments ran southwest, extending outside of Units 9 and 10 into the western (or plaza) side. Because the surface of these units sloped away from H-1, the alignment on the western side was quite shallow. The alignment was therefore followed with a trench about 80 cm wide. The result was a clear line of rocks,
with occasional stacking, which extended in a straight line about 3 m, then turned roughly 90°
eastward as a broader scatter of rocks for about 3 m, followed by another narrow alignment,
paralleling the original one, extending northeast (see the mapped rocks in “9/10 Trench” in
Figure 6 and the wide-angle perspective in Figure 7). This U-shaped trench was excavated in
one level, with all materials screened, and collected in two segments: the first 3 m of the eastern
arm, and then the final 4 m.

Unit 11, south of Unit 8, had only one stone from the upright wall extend into it. However, there
were three larger flat-lying rocks in rough alignment with the upright stone wall: two possibly
upright stones that had collapsed, and a large boulder-shaped stone that seemed to mark the end
of the feature. Extensive tree root disturbance was present in Unit 11, but we could still trace the
same floors found in Unit 8 in some areas, suggesting that most of Unit 11 was in the plaza.

When excavations resumed in June, we wanted to continue working on our understanding of the
various rock alignments in Units 8, 9, 10, and the trench extension. The purpose and placement
in the building sequence of the rock alignments extending into the plaza was the puzzle we
considered most pressing as we started in June. We considered the possibility that they were
small, oddly-shaped platforms, but their extreme irregularity, even given the massive changes in
architecture found during the Terminal Classic, along with their presence under a floor were
troubling attributes for the platform interpretation. Alternatively, could we have simply created
them by selectively choosing some rocks to keep in situ out of subfloor rubble? These interests
in the plaza and mound construction led the excavations in June to focus on digging east into the
mound and west into the plaza, a different orientation than the January excavations, which had
extended the work in Unit 8 to the north and south, looking for features along the same axis as
the upright stone wall.

Although the stone alignments on the plaza side were viewed as critical puzzle to solve, we
began the June excavations by excavating eastward, presumably into H-1. Unit 13, an extension
of Unit 12 intended to see if we could find any evidence of architecture defining the southern
edge of H-1 ended up rather deep (88 cm) without finding any evidence of a platform wall. Unit
14, an eastward extension of Unit 8, proved more dramatic. Located just south of the apparent
“wall” on the eastern sidewall, as well as close to a mature gumbo limbo tree (Bursera simaruba)
to the north, we quickly located a good deal of stone in the northwest portion of the unit.
Ultimately, after mapping and moving these large stones, we found a row of four large cut stone
slabs along the northwest portion of the site. This obvious architectural feature caused us to
recognize that the rocky material to the north needed to be removed to understand this feature.
Out of necessity, removal began with cutting down the gumbo limbo tree and removing its stump
in a northern extension, Unit 14B. It was only after removing a good deal of rubble under the
tree that a five-step staircase was found, leading into the tomb excavated in 2006. In the process,
the “wall” found in the 2012 excavation of Unit 8 was revealed to be simply the stacked stone
that had been placed to cover the staircase. The details of this feature and its implications are presented below.

At the same time we conducted these excavations into H-1, we also explored the plaza stone alignments. By excavating within the alignments we had trenched in 2012 to the same depth, we showed that the alignments were “real” in the sense that there were no other stones that could be connected as linear features within the boundaries of the trenched area. We also excavated the area east of the alignment and west of Unit 8 as Unit 16, stopping after locating the first floor. The floor was hard and durable, in remarkable condition given its shallow burial.

Finally, we added extensions to Unit 14 to the east, in an attempt to locate the eastern edge of the H-1 structure. Surface rocks, as well as the contours of the ground, had suggested that we might be able to find an eastern plaza wall. These efforts—first, adding the 1.5m² Unit 17 and then the 1.0 by 1.5m Unit 18—failed in finding a platform wall.

A few noncontiguous, smaller, units were also excavated We started January 2013 season with excavating isolated Unit 12, 1.5m², was placed well inside of H-1, to provide a sample of the platform interior. Excavated within the oldest part of H-1, it produced evidence from the Late
Classic, or possibly earlier, deposits. In late June, Unit 19 was established at 75cm² in size, positioned to sample the fill from behind the exposed Late Classic platform wall found in the 2006 excavations and re-exposed in 2013. A second 1.5m² unit was placed by Awe in July, further north and west than Unit 12, on the northern edge of the northern block of 2006 excavations (not otherwise re-exposed) within Structure H.

Feature Descriptions

In this section, we explore the major findings of the 2013 season. We break the discussion into three sections: the tomb, especially the staircase; the northern and southern tests of structure H-1; and the plaza floor and subfloor. The map of the 2014 excavations should be consulted to understand the spatial arrangements of units and features.

Tomb stairs

In retrospect, it is perhaps not surprising that the tomb had a staircase at its southern end. Jim Puc, lead excavator in June, had worked on the original 2006 excavation, and remembered that the bottom step of the staircase had been visible inside the tomb. However, the tomb had been excavated from the north, not the south, and the gumbo limbo tree had grown precisely on top of the fill for the staircase, making it difficult to explore the southern end of the construction. The staircase is about 1.3 m wide, with relatively crude risers made of multiple stones and roughly finished treads (Figure 8). The height of each step is about 18 cm. Although the bottom tomb level was not measured because fill was not removed all the way to the floor of the tomb, it is estimated that it is about 90 cm from the top of the stairs to the floor of the tomb.

The density of artifacts in the fill and surrounding soil over the stairs was relatively low, but included some items that were likely related to the burial. Chief among them was a human bone, a fragment of an adult fibula, which was found among the rocks at the top of the stairs. Although a human tooth was found in an earlier season, this is the only human bone found in the three seasons of UM-BVAR excavation in Plaza H, and it seems unlikely that its discovery, positioned over the stairs of an elite tomb, represents a coincidental fragment transported with fill. Lower in the fill were several fragments of conch shell and two small slate ornaments. Finally, two broken bifaces were found. Each appeared to be roughly half of a large biface, similar in manufacture, but clearly not from the same biface.

Northern and southern tests of structure H-1

Unit 12, which was placed as a 1.5m² unit north of the tomb, provided a look at the interior of H-1. Excavated to a depth of 60cm in 8 levels, it was the only unit excavated in the regular season unconnected to any previous excavation unit. Evidence of floors, seven in all,
showed minimum subfloor preparation and traces of plaster. These features were all but invisible in profile. The sequence suggests regular filling and resurfacing over a period of centuries with a minimum of disturbance or break in activities. A larger excavation area would be helpful to better understand how this area was filled.

The sequence does suggest two larger events that punctuated deposition in this unit. A rocky level at the bottom of Level 2 and a sudden decrease in artifact density suggests that there was a clear boundary between final use materials near the surface and a fill layer underneath. In the final level, one large, neatly finished stone was found along the northern face of the unit. It does not appear as a wall in Figure 6, because it consists of a single stone. Yet its position and alignment suggests it could be a trace of an earlier wall for H-1, and it appears to parallel the presumably Late Classic E-W walls uncovered in the 2006 excavations to the south and west. Although conjectural, it is reasonable to suggest that a wall running through this stone at one time defined the northern platform, the original portion of H-1. The platform was later expanded southward by about 1.5 meters sometime later in the Late Classic Period, as indicated by the two walls to the south uncovered by the 2006 excavations. Finally, it is worth noting that a single piece of polychrome found in the final level—very rare in the deposits we excavated—suggests a Late Classic origin.

The 1.5m² unit farther north that was excavated under the direction of Jaime Awe provides some additional information, but the work is not fully integrated into this project. The unit partially cut into the 2006 excavation, but the northern portion cut into undisturbed deposits. A schematic profile integrated into a general site profile by Merele Alfaro shows three, distinct, thick and unmistakable floors from 1 to 1.6 m below surface. Although it is difficult to match precisely, one of these surely aligns with the thick floor visible in the 2006 excavations, about 3 m to the south (measured by Guerra at 164.76 m, true elevation), at a level below the Late Classic platform walls. This must be a plaza floor, and suggests that the original H-1 structure was farther west and south, as the probable platform wall in Unit 12 suggests.

The southern units—13, 14, 17, and 18—were in portions of H-1 and recovered Terminal Classic ceramics, in varying densities, over a floor at the same level as the lower floor found in units 8 and 11. Importantly, the tomb stairs are cut into this floor. The exception to the widespread plaza floor is from Unit 17, the eastern-most unit, which was excavated to a level coeval with that floor; however, no evidence of the floor was found. This might be important in defining the edges of this plaza floor, and another level would have been useful to confirm the lack of floor—perhaps simply the plaster was not well preserved—but was not possible: the last level in Unit 17 was finished on the last day. Only Unit 13A was dug slightly below the level of this floor, with a similar result as excavating below the floor in Units 8, 9, and 10: a rocky subfloor was found.
Perhaps the most enigmatic aspect of the excavations in 2013 is the lack of platform walls in the southern part of H-1, except for what had already been located in Unit 8 during the 2012 season. This issue is returned to in the conclusions.

*The plaza floor and subfloor*

Units 9, 10, and 11, like Unit 8, are on the western edge of H-1. All these units had a good deal of rock and ceramic-filled sediment near the surface, especially on their eastern boundaries, presumably eroded from the platform. Units 9 and 10 showed the final, well-built plaster floor that cross both units. This floor was also traced westward on to the open plaza in Unit 15, showing as a remarkably well preserved plaster floor averaging only 14 cm below the ground surface. In Unit 12, which included the very southern end of the upright stone wall, the subfloor ballast of this floor was found primarily on the northern end with little evidence of
plaster; likely, this is because Unit 12 seems to have suffered a fair amount of tree root damage. This higher floor was missing from the units discussed in the previous section, those within the H-1 structure, presumably because this plaza floor construction to the west and the extension of the H-1 structure seen in the units to the east occurred as a single event.

Unit 9 and 10, in this ballast level, also exhibited larger stones, with some stacking, that formed alignments at odd angles to the cardinal directions of the buildings. These alignments, often called “walls” in the notebooks and forms during the excavations, were ultimately traced out into the plaza in extension trenches, and the soil around these alignments removed. The final results are illustrated in Figure 9. It appears that these alignments served as construction pens to hold fill for the final subfloor. In Units 9 and 10, traces of the older floor was also found. Presumably, if we had tested deeper in the plaza where the stone alignments were traced to the west and south, this same floor would have been located. The lower floor appeared to be more extensive than the last floor, and had been covered by the building of the tomb and the extension of structure H-1. Just how far west both of these plaza floors extended is not certain. The elevations of the structures and the floors found across the three seasons suggest that the plaza is likely to have been terraced—the structures of H-3, just west of the northern portion of H-2, for example, is simply too low relative to the plaza floor mapped this season otherwise. The stone alignments or “construction pens” may have been a part of the effort to build a stable, terraced, plaza floor. However, extensive trenching in the plaza will be required to truly understand how these constructions align in three dimensions across the plaza.

RECOVERED ARTIFACTS AND ECOFACTS

Cultural materials recovered included ceramic sherds, which is the largest category by mass or count, chipped stone (including cores, debitage, and tools), ground stone food processing tools, and a few objects of personal adornment.

The recovered artifacts from the 2013 field seasons were initially washed (when appropriate) and sorted by provenience and material type (Table 1). More detailed examination of some of the artifacts—a portion of the ceramics, shell, ground stone, and obsidian—was initiated in the summer. This is part of an on-going effort to analyze the artifacts from the UM-BVAR project.

Ceramics

In June, a sample of the sherds from the excavations in 2013 was studied. We systematically examined the sherds under natural light and with a short list of essential tools: a 10X hand lens; acid squeeze bottle, digital calipers, digital scale, and pliers.
Table 1. Artifact/Ecofact categories from 2013 excavations.

<table>
<thead>
<tr>
<th>Material</th>
<th>Bag Count by Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charcoal</td>
<td>2</td>
</tr>
<tr>
<td>Ceramics</td>
<td>55</td>
</tr>
<tr>
<td>Chert/Chipped Stone</td>
<td>55</td>
</tr>
<tr>
<td>Faunal Bone</td>
<td>6</td>
</tr>
<tr>
<td>Shell (freshwater or marine)</td>
<td>41</td>
</tr>
<tr>
<td>Granite/Groundstone</td>
<td>10</td>
</tr>
<tr>
<td>Human Remains</td>
<td>1</td>
</tr>
<tr>
<td>Metal (modern disturbance)</td>
<td>1</td>
</tr>
<tr>
<td>Obsidian</td>
<td>24</td>
</tr>
<tr>
<td>Plaster</td>
<td>1</td>
</tr>
<tr>
<td>Special Finds</td>
<td>10</td>
</tr>
<tr>
<td>Slate</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>210</strong></td>
</tr>
</tbody>
</table>

In all, we examined roughly 2,000 sherds, weighing 22 kg, from the proveniences listed in . Most of these ceramics are highly eroded ash-tempered wares, consisting primarily of Belize Red and related types; undecorated calcite sherds make up the second largest type. Painted (polychrome) ceramics were almost nonexistent, and no examples of molded/carved ceramics were noted. More systemic studies of the ceramic variability are on-going; here, we consider ceramic density in three key excavation units (Units 12, 13 and 14) and a small number of notable or identified ceramics pieces.

**Structure H-1 ceramic density**

One approach to looking at the types of deposits across the site is to compare the density of ceramics by provenience. Density was computed by figuring the fraction of a square meter that was excavated for each level, computed by the unit size and the average beginning and ending elevation (the average of five elevations taken at the start and completion of each level) and dividing that figure into the corresponding total ceramic weight in kilograms. This computation of kilograms per cubic meter shows considerable variability for units 12, 13, and 14, when arranged from first to last level, as seen in Figure 10.
Table 2. By unit and level, the number and weight of sherds, and an average weight of sherd from the provenience. All from structure H-1.

<table>
<thead>
<tr>
<th>Provenience</th>
<th>Count</th>
<th>Weight (gm)</th>
<th>Mean Sherd WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 9 Level 2</td>
<td>302</td>
<td>1,768</td>
<td>5.9</td>
</tr>
<tr>
<td>Unit 9 Level 4</td>
<td>37</td>
<td>287</td>
<td>7.8</td>
</tr>
<tr>
<td>Unit 9 Level 5A</td>
<td>12</td>
<td>60</td>
<td>5.0</td>
</tr>
<tr>
<td>Unit 9 Level 5B</td>
<td>6</td>
<td>49</td>
<td>8.2</td>
</tr>
<tr>
<td>Unit 9_10 Trench Int2</td>
<td>92</td>
<td>1,238</td>
<td>13.5</td>
</tr>
<tr>
<td>Unit 12 Level 1</td>
<td>92</td>
<td>715</td>
<td>7.8</td>
</tr>
<tr>
<td>Unit 12 Level 2</td>
<td>110</td>
<td>1,140</td>
<td>10.4</td>
</tr>
<tr>
<td>Unit 12 Level 3</td>
<td>35</td>
<td>163</td>
<td>4.7</td>
</tr>
<tr>
<td>Unit 12 Level 4</td>
<td>63</td>
<td>176</td>
<td>2.8</td>
</tr>
<tr>
<td>Unit 12 Level 5</td>
<td>30</td>
<td>358</td>
<td>11.9</td>
</tr>
<tr>
<td>Unit 12 Level 6</td>
<td>56</td>
<td>408</td>
<td>7.3</td>
</tr>
<tr>
<td>Unit 12 Level 7</td>
<td>17</td>
<td>175</td>
<td>10.3</td>
</tr>
<tr>
<td>Unit 12 Level 8</td>
<td>51</td>
<td>449</td>
<td>8.8</td>
</tr>
<tr>
<td>Unit 13 Level 1</td>
<td>321</td>
<td>2,953</td>
<td>9.2</td>
</tr>
<tr>
<td>Unit 13 Level 2</td>
<td>602</td>
<td>6,981</td>
<td>11.6</td>
</tr>
<tr>
<td>Unit 13 Level 3</td>
<td>24</td>
<td>846</td>
<td>35.3</td>
</tr>
<tr>
<td>Unit 14 Level 1</td>
<td>193</td>
<td>2,605</td>
<td>13.5</td>
</tr>
<tr>
<td>Unit 14 Level 2</td>
<td>94</td>
<td>1,499</td>
<td>15.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,137</strong></td>
<td><strong>21,870</strong></td>
<td><strong>10.2</strong></td>
</tr>
</tbody>
</table>
Figure 10. Density of ceramics by level for selected units.

Figure 11. Mount Mahoney Black rim sherd from Unit 13, level 2 (max length ~6cm).
Although level depths are not uniform, the table makes clear that the densest deposits are generally closest to the surface. The northern unit, Unit 12, is lower density than the more southern units; further, the finer breakdown in levels in Unit 12 show two peaks of artifact density separated by two levels of remarkably low density. Units 13 and 14 show fundamentally different density patterns, even though both were dug to virtually the same first level depth (38 cm) and show similar densities in the first level. In the second level, Unit 13 has a heavy density of ceramics in the fill, twice any level from any other unit, while Unit 14, only a meter away, has a much lower density Level 2, roughly an eighth of Unit 13. One possible explanation is that the distribution reflects moving off the edge of the structure: the location of Unit 14 over the tomb entrance suggests that the matrix is structure fill, while the heavy artifact concentration in Level 2, Unit 13 might represent artifacts and debris that were slumped from the top or deposited along the edge of the structure. This interpretation is discussed further below; although this analysis makes sense of the artifact density, it is important to note that there is currently no architectural evidence to support this interpretation, an issue returned to in the conclusions.

Identified types and specific finds

A few specific finds and types should be considered. Mount Maloney Black is rare at Cahal Pech, but is present in small quantities in the deposits in Plaza H, including a vessel found in the tomb. In 2013 excavations, eleven sherds from four contexts were identified as having the characteristic flattened rim, calcite paste, and black slip (Figure 11). A type-variety oriented study would likely identify more sherds of Mount Maloney Black in the assemblage. Rim profiles of the Mount Maloney Black sherds appear to fall in the late (Terminal Classic) rather
Figure 13. Tau-foot sherd with drill hole, Unit 13, Level 1 (Max length ~7 cm).

than early (Late Classic) forms for this type (Thompson 1939, Figures 26 and 50; LeCount 1996). The presence of this type in the deposits excavated in 2013 tidily fits the Terminal Classic identification of these deposits.

Based on ceramics, most notable a Saturday Creek Polychrome, a type from the Tiger Run Complex (Figure 12; Gifford 1976:199), and a faced stone block, the lower levels of Unit 12 appear to be the only sample of Late Classic deposits found in the 2013 UM/BVAR excavations. The lower levels of Unit 12 included even earlier diagnostic artifacts, including a large Sierra Red sherd and a Preclassic figurine fragment.

Finally, two specific ceramic objects bear discussion. First, a single calcite tempered tau-foot (Figure 13) was found in the first level of Unit 13, a Late Classic indicator (Thompson 1939; LeCount 1996). The center of the foot had been drilled; the purpose is unknown, but it might have served to mimic the aperture on an oven foot, or to suspend the fragment as a pendant after the vessel was broken. Another unusual piece is a rod-shaped, slightly curved, calcite tempered ceramic object, broken at the base. The piece closely resembles Figure 55g in Thompson (1939) and, even more strongly, Figure E.4.b in LeCount (1996). LeCount (1996:377) credits Leventhal for identifying these objects as part of an incensario assemblage, noting that the bases are always found broken.

Ceramics: General thoughts

In a comprehensive view across the Maya area, Belize Valley Terminal Classic ceramics are seen as frustratingly difficult to separate from Late Classic (Demarest et al. 2004:550). It is therefore exciting to consider ceramic deposits stratigraphically overlying a tomb that includes clear-cut Terminal Classic markers, including a censer related to Miseria Appliquéd (Awe 2013).
Closer study of the ceramics recovered in this season should help define Terminal Classic ceramic assemblage at Cahal Pech.

The contexts of the analyzed ceramics vary considerably. Low density contexts, such as most of the lower levels of Unit 12, the second level of Unit 14, and the subfloor plaza levels, almost certainly represent construction fill. The higher density contexts, such as levels near the surface of units 12 and 13 and in level 2 and 3 of Unit 13 suggest other processes. These could include minor or ad hoc fill on the platform surface during the end of the occupation, but, most likely, are comprised mainly of primary and secondary refuse, derived from household, feasting, or ritual activities.

**Chipped Stone and Ground Stone**

The chipped stone chert artifacts (which in the field included a small percentage of quartzite flakes and cores) comprised the second largest number of artifacts in the season (after ceramics). Although ubiquitous, the frequency and weight is considerably less than the figures for ceramics. Past seasons in Plaza H have encountered areas of very dense bifacial flaking debris consisting almost exclusively of medium to very small flakes, but these appear localized along the northwest edge of Structure H-1 and the eastern portion of H-3 (Awe, personal communication, based on the 2006 excavations; Douglas and Brown 2011; Santasilia 2011). In these deposits, chert weight and count exceeds sherd weight and count by a magnitude or more. No similar deposits were located in the excavation in 2013.

Chert debitage, cores, and tools were not systematically studied, although an initial effort to count and weigh for the eight levels of Unit 12, designed to parallel the analysis of the sherds from this unit, provides a glimpse at this artifact category. The result was 228 chipped stone chert artifacts that weighed a total of 1.8 kg, consisting of 220 flakes, six cores, and two unifacially flaked scraper tools. The average flake weight was 5.9 grams. Because the ceramic data suggest that the deposits in Unit 12 span many centuries, this aggregated lithic collection is not a meaningful assemblage. However, the relatively small number of chert artifacts, at least compared with ceramics, hampers meaningful comparisons between the eight levels. Broadly, density mirrors the ceramic patterns discussed earlier, with flake density highest in the first level, and a secondary peak in levels 4-6, but, oddly, Level 2 has a low density of chipped stone and a high one of ceramics. Level 5 contains two simple unifacial tools. The higher densities of chipped stone and tools near the surface and in levels 4-6 might indicate that these deposits relate to activities on platform surfaces, not simply fill.

Looking beyond this initial assessment of Unit 12, special finds includes six chert biface fragments: two from back dirt removed at the start of the June session; two from the fill of the tomb staircase in Unit 14D; one from Level 5 of Unit 10, part of the subplaza fill; and one from Unit 11, Level 4. Further, 31 obsidian blades and flakes were recovered across the units without
obvious patterning. These are mainly blades and blade fragments, with a small percentage of non-blade flakes. Among the few blade platforms that were observed, both ground and unground surfaces were noted—significant because platform grinding is believed to be a Terminal Classic characteristic (Braswell et al. 2004:184).

Finally, 11 pieces of ground stone, all made of granite, were located in 2013, a relatively large number compared with previous seasons. Although some pieces were found in obvious fill contexts, more were found in upper levels on or near H-1: these include the upper levels of Unit 12 and 17, on the platform, and upper levels of Units 9 and 11, next to the platform. Together, these units and levels account for seven ground stone artifacts, and these tools are likely to relate to activities in the final use of H-1. Angie Perrotti, staff member of the BVAR project, took a sample wash for paleobotanical study she is conducting from one of these contextually late pieces of ground stone. Most of the ground stone pieces were metate or mano fragments; a single pestle is included in the inventory.

**Other Artifact Groups**

A few comments on some of the remaining categories found in Table 1 are needed. The plaster fragment that was saved included red paint. The human remains consisted of a single adult fibula midshaft section; the context was above the rock fill in the tomb stairway; as discussed in the features section, the location is suggestive of ritual placement. The slate listed in Table 1 consists of unmodified fragments; the finished slate objects were placed in special finds. The two finished slate objects are small, thin, objects, roughly quadrilateral in outline. They are similar in size and shape: $17.9 \times 13.9 \times 2.8$ mm and $22.5 \times 10.5 \times 2.4$ mm, but one was drilled (Figure 14) and the other undrilled. These possible ornaments or gaming pieces were found in

![Slate pendant from fill of the tomb stairs (Unit 14D Level 2; scale in CM).](image)
the rubble of the tomb staircase. Special finds also includes four figurines or *adornos* and an ocarina fragment; the ocarina and several of the figurines appear to be Preclassic in origin, presumably introduced into later deposits excavated as platform or subfloor fill.

**SUMMARY AND CONCLUSIONS**

Interest in Plaza H comes from its spatial and temporal place in the architectural history of Cahal Pech. Plaza H is linked intimately with the grand architecture of the major public and elite structures to the southwest through its close proximity and location on the acropolis. Yet, ambiguously, it also lies outside the major access points to the most sacred and elite structures and is built on a diminished scale. Today, it is easy to overlook during a walking tour of Cahal Pech. Plaza H never competed with the grandeur of the major plazas, temples, palaces on the acropolis; even east of the major constructions, the ballcourt in Plaza C commanded a more central ritual value. And yet, Plaza H must have had a role different from the communities and plaza groups that surrounded Cahal Pech, based on its relatively conspicuous location.

The Terminal Classic occupation in Plaza H is the central topic of the UM/BVAR project. Perhaps the very ambiguity of the location was of value at that time: by lying outside of the central buildings subject to “desecratory termination rituals” (Statton et al. 2008) as the Late Classic came to the end it was safe to occupy, while still claiming some of the “power of place” that surely Cahal Pech possessed.

By working on the construction history of Structure H-1, a structure transformed by the building of a substantial tomb during the Terminal Classic, the 2013 excavations directly examined the power and the aims of Terminal Classic elite living at Cahal Pech within the radically changed social, political, economic, and environmental circumstances of the Terminal Classic. The 2013 research provides a better understanding of the construction history of Structure H-1 and the surrounding plaza. Several important issues concerning the construction history in Plaza H were better understood at the end of the year’s work, although questions remain. What we know—and don’t know—is looked at chronologically in this conclusion.

**The Late Classic (and earlier) Structure H-1**

The earliest structures in H-1 could date earlier than the Late Classic, although there is no unambiguous evidence of this. The Late Classic history of the structure includes about 8m of a platform wall, 1-3 blocks high, wall that was exposed in the 2006 excavations and re-exposed in 2013. North of this structure wall about 40cm, within the structure, is a trace of an earlier wall. Farther north, a single cut block was found in the north wall of Unit 12; however, one stone does not make a platform wall, but this block about 1.5m farther north than the last Late Classic wall, is placed correctly in terms of elevation and alignment to be an even earlier structure platform. Speculatively, this wall could date earlier than the Late Classic.
Based on the deep sounding made in the unit excavated by Awe at the end of the season, at elevations lower than the bases of these walls is a series of three heavily-plastered floors. These are likely early plaza floors, suggesting that the original buildings were farther east, or north, of the current location. North would be problematic for research, since the edge of the hilltop is only a few meters north of the deep test conducted in July. If the original building lay in that direction, it eroded down the ridge many centuries ago.

Thus, we have good evidence of a Late Classic platform in this part of Plaza H that was incorporated into the Terminal Classic structure. Although study of the occupation of Plaza H before the Terminal Classic falls outside the immediate research questions for this project, there is strong evidence for evolving structures in the area that stood for some centuries. However, real chronological control, let alone any evidence of the roles and statuses of the individuals who presumably lived within this part of Cahal Pech in the Late Classic, is completely lacking at this time.

**Terminal Classic Occupation of the Site**

As discussed throughout this report, most of 2013 was spent uncovering two plaza floors and the fill surrounding Tomb 1 (Awe 2013) in Structure H-1. Understanding these deposits in the larger context of the Terminal Classic is central to the 2013 work.
We argue that both the lower and upper plaza floors uncovered in 2013 are Terminal Classic, suggesting two phases of construction during this period. The argument is based on two lines of evidence. The first, admittedly indirect, line of evidence is that a similar pattern of two Terminal Classic construction phases is found during the 2012 excavations in structure C-3, south across Plaza H (see Douglas and Brown 2012a). The second, and crucial, line of evidence is that the lower floor is higher than the partially deconstructed Late Classic walls. This can be deduced by looking at floor elevations in units 9 and 10, and is obvious when the pictures of the 2006 excavations show floor ballast overlying the Late Classic walls are viewed (Figure 12). Although the platform wall of H-1 for this earlier Terminal Classic construction is poorly defined, it appears to have been uncovered by the 2006 excavation (Figure 12).

The implications for these two floors make the Terminal Classic construction regime fairly clear. In the “early Terminal Classic” in Plaza H, the original H-1 structure was dismantled down to base of 1 to 3 blocks, the new structure was constructed over part of the old building, and the plaza floor was raised to cover some parts of the structure as well as the original plaza area. This fairly ambitious remodeling and rebuilding is obvious from the Late Classic walls standing south of the Terminal Classic platform walls in the 2006 excavations—within the redesigned plaza. Because this same plaza floor continues east of the upright stone wall in Unit 8, under the “late Terminal classic” platform fill in Units 14, 17, and 18, the early Terminal Classic plaza floor included the area that later became the location of the second phase of Terminal Classic platform construction, namely, the tomb and southern extension of H-1.

The elevations and interlocking constructions indicate that the tomb, the southern part of the Terminal Classic H-1, and the last plaza floor were built as a single episode. It would appear that the tomb was first cut into the early Terminal Classic plaza floor, removing matrix to the depth of the Late Classic wall alignment, and then the “late Terminal Classic” H-1 platform built around the tomb. The main evidence of this order is the Late Classic wall followed in 2006, which lies directly over the edge of the tomb, indicating the tomb could not have been intruded into an existing structure. Judging from the stairs, the tomb was excavated about a meter below the then-existing ground surface. Because the tomb construction and stair fill protrude above the lower Terminal Classic floor level, it seems unlikely that the tomb preceded the final construction of H-1 or merely happened to be incorporated into the structure.

Once the tomb was constructed, its occupant interred, the stairs blocked with stacked rock, the southern part of the structure was built. This produced the H-1 structure as it appears today, partially defined by an alignment of boulders, general single-course but occasionally two, which was followed in the 2006 excavations. Figure 6 shows the main alignment as a grayed-in rock alignment where they were mapped in detail, with a right-angle turn southward. Known continuations of the wall marked on the map as gray lines. The wall ends abruptly near the end
of the tomb; slightly to the west, the upright stone wall seems to create an apparent outset, with the top of these stones lower than the boulder wall running along the tomb.

The discovery of the upright stone wall in 2012 was central to the activities in 2013. It consists of seven carefully aligned stones over a north-south segment of slightly more than 2m. Two stones might have fallen from this alignment to the south, and the alignment seems to end in a sizable boulder on the south. Because of its spatial correlation with the Terminal Classic wall discussed in the paragraph above and its similar orientation, it spatially appears to be part of the construction of the H-1 structure in its final phase (Figure 6). Further supporting this connection is the plaza floor coverage; the upright wall segment was built into the first Terminal Classic plaza floor, filled in on the east side, with the second plaza abutting it on the west side. This suggests this wall section is contemporaneous and integral to the construction of the last plaza floor and the southern extension of H-1. The top of this upright stone wall segment is lower than the Terminal Classic wall discussed above, but perhaps this upright stone segment formed an outset step up to the H-1 platform (as suggested by Jim Puc in the field).

Although this interpretation of the upright stone wall as a step is sensible, the larger problem is that this wall or stair riser does not connect to the platform through walls to the south or east. Despite careful effort by excavators, no structural walls were found in units south or east of the northern half of Unit 11. The surface ground contours of the H-1 mound, and what is known about the location of the structure to the south, H-2 (Douglas and Brown 2012a; see also Figure 3), suggests that the southern wall of H-1 should be encountered in or near these units. The ceramic artifact density data also supports this idea: low ceramic density indicates that Unit 14 contains platform fill, while the high density of ceramics in the lower levels of Unit 13 suggests deposition related to the activities on or near the structure. More excavation and analysis will be needed to resolve whether the southern boundary of H-1 can be defined.

Finally, to return to what was found, rather than what was not found, the significance of the tomb stairs requires consideration. Among all the tombs discovered to date at Cahal Pech, the stairs and entrance found for this tomb is unique (Awe, personal communication). However, stairs for tombs is very common at the major center of Caracol (Awe, personal communication). Caracol, 43km to the south, was an active and important center well into the end of the Classic period. Chase and Chase (1995:63) state that “approximately 60 percent of Caracol tombs have formal entrances that would have facilitated multiple reentry;” most of these entrances were connected to stairs, as was the case of Tomb H1-1.

Chase and Chase (1995) see formal entryways at Caracol tombs as an architectural characteristic facilitating social and ceremonial life: the reopening of tombs for multiple occupants. In the case of the Plaza H tomb, there is no evidence of reuse or reopening of the tomb: it was used once, and that internment remained undisturbed until its archaeological discovery (Awe 2013).
However, because the tomb is related to the very final occupation of the site, and site abandonment might well have interrupted ongoing social cycles, it cannot be known if the builders anticipated reuse of the tomb or not. Finally, although Caracol could be the inspiration for a tomb with steps at Cahal Pech, Caracol is not the only Mayan site with tombs equipped with stairs, so it would be ill-advised to assume that this innovation is necessarily inspired by Caracol.

Final Thoughts

The 2013 winter field season for the UM/BVAR project, and its two week extension into the regular BVAR June field season, proved successful in identifying some of the dynamics of change in Plaza H, moving us closer to integrating the activities that occurred in this area with the rest of the ceremonial center. As this report makes clear, more work is needed to fully answer the questions that initially prompted this excavation project.

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APPENDIX 1: SUMMARY OF EXCAVATIONS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Month</th>
<th>Location</th>
<th>Size</th>
<th>Horizontal Divisions</th>
<th>Average Depth below surface</th>
<th>Levels</th>
<th>Comments</th>
<th>Excavators that kept notebooks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Jan</td>
<td>Center of eastern platform, south and west of Terminal Classic tomb</td>
<td>2 m by 3 m--divided into areas A-F</td>
<td>N-S wall divides unit; area in the SE corner of F. Material removed is from the late interior of the H-1 platform, presumably filled at one time</td>
<td>2013 ex. Removed 25 cm</td>
<td>3 Levels; Level 2 &amp; 3 removed 2013</td>
<td>In 2013, the 1*1 m Area F was excavated to the next floor to connect with work in Unit 11.</td>
<td>Tallier, Early</td>
</tr>
<tr>
<td>9</td>
<td>Jan</td>
<td>North of Unit 8</td>
<td>1 m by 3 m</td>
<td>Rock alignment at lower levels; level 5 excavated &quot;A&quot; &amp; &quot;B&quot;; Lev 6 north combined with Unit 10</td>
<td>50 cm</td>
<td>5 levels throughout; 6 levels north of stone level</td>
<td>Included two floors and rock alignments now thought to be floor ballast--A, B division is now believed to be contextually insignificant.</td>
<td>Glascock, Rush</td>
</tr>
<tr>
<td>10</td>
<td>Jan</td>
<td>Between Unit 9 and northern 2006 excavations.</td>
<td>1 m by 3 m</td>
<td>Some of unit intruded into back dirt.</td>
<td>61 cm</td>
<td>6 levels; last level combined with part of Unit 9</td>
<td>Included two floors and rock alignments now thought to be floor ballast. First level form not copied, possibly lost.</td>
<td>Gerber, Kemp</td>
</tr>
<tr>
<td>Unit</td>
<td>Month</td>
<td>Location</td>
<td>Size</td>
<td>Horizontal Divisions</td>
<td>Average Depth below surface</td>
<td>Levels</td>
<td>Comments</td>
<td>Excavators that kept notebooks</td>
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<td>--------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>9/10 Extension</td>
<td>Jan</td>
<td>Trench following rock alignment</td>
<td>0.76 by 4.1 m</td>
<td>None</td>
<td>Unk. ~20-30 cm below surface</td>
<td>1 Level</td>
<td>Excavated to follow stone alignment away from H-1 into the plaza</td>
<td>Eubank; Also see map by Itza</td>
</tr>
<tr>
<td>9/10 Extension E-W</td>
<td>Jan</td>
<td>The southern and western part of the trench following rock alignment</td>
<td>&quot;L&quot; shaped shallow trench approx. 80 cm wide; 2.6 m N-S, 1.8 m E-W</td>
<td>None</td>
<td>Not measured~20 cm below surface</td>
<td>1 Level</td>
<td>No level form completed</td>
<td>Eubank; Also see map by Itza</td>
</tr>
<tr>
<td>9/10 Trench interior</td>
<td>June</td>
<td>Within U-shaped trench that followed rock level</td>
<td>1.3 by 3.2 m polygon, about a 3.2² m area</td>
<td>None</td>
<td>21 cm</td>
<td>2 levels</td>
<td>exposed rocks within alignments that suggests these stones were part of the ballast in rebuilding plaza floor</td>
<td>Douglas</td>
</tr>
<tr>
<td>11</td>
<td>Jan</td>
<td>South of structure H-1 and Unit 8</td>
<td>2 m by 2 m</td>
<td>None</td>
<td>39 cm</td>
<td>6 levels</td>
<td>Disorganized stone pile may be southern corner of Unit 8 wall</td>
<td>Early, DeRamus, Eubank, Tallier</td>
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</tbody>
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124
<table>
<thead>
<tr>
<th>Unit</th>
<th>Month</th>
<th>Location</th>
<th>Size</th>
<th>Horizontal Divisions</th>
<th>Average Depth below surface</th>
<th>Levels</th>
<th>Comments</th>
<th>Excavators that kept notebooks</th>
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<tbody>
<tr>
<td>12</td>
<td>Jan</td>
<td>Interior of platform H-1, well north of the tomb</td>
<td>1.5 m by 1.5 m</td>
<td>None</td>
<td>60 cm</td>
<td>8 levels, 7 floors, most with minimum ballast stone and plaster, making them almost impossible to see in profile</td>
<td>Cut wall stone found on the north face of the unit in the last level, presumably an early construction of the south wall of H-1--the earliest wall of the structure uncovered?</td>
<td>Urenda, Landis, Griffin</td>
</tr>
<tr>
<td>13</td>
<td>June</td>
<td>Eastern extension from Unit 11</td>
<td>1 m by 2 m</td>
<td>Small cobble alignment crosscuts eastern side at bottom of level 4; eastern 50 cm of level 5 left unexcavated</td>
<td>65 cm; bottom 13A (west portion) 85 cm</td>
<td>5 levels</td>
<td>Looking for the southern boundary of H-1--no architectural evidence. Level 5 excavated as Unit 13A (1 * 1.6 m unit)</td>
<td>Abbot, Lepsik, Magnusen</td>
</tr>
<tr>
<td>Unit</td>
<td>Month</td>
<td>Location</td>
<td>Size</td>
<td>Horizontal Divisions</td>
<td>Average Depth below surface</td>
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<td>Comments</td>
<td>Excavators that kept notebooks</td>
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<tr>
<td>14</td>
<td>June</td>
<td>Eastern extension from Unit 8</td>
<td>1 m by 3 m</td>
<td>Western 2*1 m was incorporated into 14B for the lower levels</td>
<td>34 cm</td>
<td>3 Levels</td>
<td>Uncovered the top step of tomb in NW area. As the feature was defined, became part of Unit 14 B</td>
<td>Magnusen</td>
</tr>
<tr>
<td>14B</td>
<td>June</td>
<td>Northern extension of Unit 14</td>
<td>2 by 2 m</td>
<td>One feature, tomb stairway. Incorporates 14 west, 14a and c--this represents a single feature, the stairs.</td>
<td>88 cm below stone fill of tomb</td>
<td>2 levels (level 2 below level 3 of 14)</td>
<td>Uncovered the stairway for the Tomb. Under roots of a large gumbo limbo tree</td>
<td>Abbot, Lepsik, Magnusen</td>
</tr>
<tr>
<td>15</td>
<td>June</td>
<td>Western extension from Unit 8</td>
<td>Irregular polygon covering about 2.7 m²; covers area between Jan trench and Unit 8</td>
<td>None</td>
<td>14 cm</td>
<td>2 levels</td>
<td>Cleared area down to first floor. Floor is harder to follow as unit moves west (away from structure), but is remarkably well preserved given how close to the surface it is situated.</td>
<td>Abbot, Lepsik, Magnusen</td>
</tr>
<tr>
<td>16</td>
<td>June</td>
<td>West of Jan trench area</td>
<td>triangle, 0.77 by 3.9 m</td>
<td>None</td>
<td>20 cm</td>
<td>1 level</td>
<td>Served to square up the area and check for further rock alignments</td>
<td>Douglas</td>
</tr>
<tr>
<td>Unit</td>
<td>Month</td>
<td>Location</td>
<td>Size</td>
<td>Horizontal Divisions</td>
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<td>Comments</td>
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<tr>
<td>17</td>
<td>June</td>
<td>Eastern extension from Unit 14</td>
<td>1.5 m by 1.5 m</td>
<td>None</td>
<td>54 cm</td>
<td>2 levels</td>
<td>Hoped to find an east wall of structure; surface rocks suggestive. None found.</td>
<td>Abbot, Lepsik</td>
</tr>
<tr>
<td>18</td>
<td>June</td>
<td>Eastern extension from Unit 17</td>
<td>1.5 m by 1.0 m</td>
<td>None</td>
<td>48 cm</td>
<td>2 levels</td>
<td>Hoped to find an east wall of structure. None found.</td>
<td>Magnusen</td>
</tr>
<tr>
<td>19</td>
<td>June</td>
<td>Test of classic wall (within 2006 excavation area)</td>
<td>0.75 by 0.75</td>
<td>Platform wall stacked stone corner and interior</td>
<td>31 cm</td>
<td>2 levels</td>
<td>Tested for fill inside structure. Appears to be pre-Terminal Classic</td>
<td>Douglas</td>
</tr>
<tr>
<td>Auxiliary-no number</td>
<td>June</td>
<td>Partial re-excavation by J. Awe as part of season wrap-up</td>
<td>1.5 m by 1.5 m</td>
<td>Partially fill from 2006 excavation, partially new deposits</td>
<td>280 cm</td>
<td>Unk</td>
<td>Three well-defined floors were found between 1 m and 1.6 m below the surface</td>
<td>Awe</td>
</tr>
</tbody>
</table>
INTRODUCTION

In 2012, excavations at Cahal Pech continued under the supervision of the Belize Valley Archaeological Reconnaissance (BVAR) project. The excavation in the playing alley of the eastern ballcourt, located between Plaza C and Plaza H on the eastern portion of the site, was a goal for this field season. The entire ballcourt was excavated in 1995 by Josalyn Ferguson. In her excavations, multiple child burials were identified in the center of the playing alley and associated with the construction of the structures that remain above the surface today. Ferguson discovered that one of the burials disturbed a curved wall of another structure beneath the ballcourt but which she was unable to investigate further during that field season (Ferguson et al. 1996). In 2012, BVAR returned to the eastern ballcourt with the intention of finding the circular wall again and following it. There were theories that this was in fact a round structure, others of which have been found at Cahal Pech in the past (Aimers et al. 2000).

Excavation units were placed in the playing alley, avoiding the area that had already been excavated by Ferguson. Once the circular wall was uncovered, more units were placed following the trajectory of the wall. A full description of these units is found in Santasilia's 2012 field report (Santasilia 2013). The excavation was split between the units on the interior of the structure (eventually combined to form unit BC-12-4) and those exterior to the structure. Within the round structure, the excavation reached bedrock. However, in the exterior units (BC-12-1, BC-12-2, BC-12-3, and BC-12-5), the excavations did not reach bedrock due to flooding. In total, seven units were placed in the playing alley (Figure 1). The majority were concentrated near the eastern structure of the ballcourt where the round structure was located. Only the western most section of the round structure was accessible from the playing alley. We could not access the centerline and, therefore, were unable to determine an exact diameter for the structure, though Santasilia estimates that the radius of the structure was approximately 2.5m (Santasilia 2013). It is also unclear whether or not there are burials associated with this structure, as
is common for other round structures (Aimers et al. 2000).

My research during the 2013 field season was based on the artifacts found in the seven units with the goal of analyzing all the artifact classes in order to interpret the function of the round structure. Various theories exist in Maya scholarship on the original function of these types of buildings. Round structures are found at various sites in the Maya world, though at most sites there are two or three (Aimers et al. 2000). As of 2013, there are nine known round structure at Cahal Pech alone, in the site core and periphery sites. One of the theories presented by Hendon (2000: 300) claims that the round structures or platforms were included in house groups to distinguish one family group from another in a way of unique group identification, "providing a way for households to differentiate themselves, as a group, from other households". James Aimers and Jaime Awe have a different theory, suggesting that they are ritual platforms used in ceremonial performances (Aimers et al. 2000). My goal in the 2013 season was to analyze the different artifact classes from the 2012 excavation of the round structure and attempt to determine the use of this particular round structure and which established theory, if any, applies to it.

The artifacts found in the 2012 ballcourt excavations encompassed many classes including ceramic, freshwater, marine, and worked shell, faunal remains, chert, quartz, obsidian, serpentine, and charcoal (Figure 2). Ceramic was by far the most represented class, as is common with most archaeological excavations. Though chert is often the
second most represented artifact class, in these units, there were far more freshwater shells than chert.

Though I considered all artifacts in the excavation, I focused on those from within the round structures and the termination cache that was discovered just outside the North end of the structure.

The top of the cache was aligned with the top course of stones from the round structure and both were excavated from below the same layer of plaster flooring. This suggests that the cache and the structure were both involved in the same covering event. The structure of the cache itself is interesting and points to the ritual nature of the interment which was carried out to terminate the spirit of the building. Most of the cache consists

<table>
<thead>
<tr>
<th>Artifact Frequencies for 2012 Ballcourt Excavations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sherds: 4385</td>
</tr>
<tr>
<td>Total Diagnostic: 1855</td>
</tr>
<tr>
<td>Total Freshwater Shell 786</td>
</tr>
<tr>
<td>Total Marine Shell 12</td>
</tr>
<tr>
<td>Total Worked Shell 9</td>
</tr>
<tr>
<td>Total Faunal Remains 6</td>
</tr>
<tr>
<td>Total Obsidian 28</td>
</tr>
<tr>
<td>Special Finds 7*</td>
</tr>
<tr>
<td>*4 Ceramic</td>
</tr>
<tr>
<td>3 Pieces of Pipe Stem</td>
</tr>
<tr>
<td>Total Chert 585</td>
</tr>
<tr>
<td>Total Quartz 29</td>
</tr>
<tr>
<td>Total Granite 2</td>
</tr>
<tr>
<td>Total Slate 4</td>
</tr>
<tr>
<td>Total Jadeite 2</td>
</tr>
<tr>
<td>Total Serpentine 2</td>
</tr>
<tr>
<td>Total Daub 11</td>
</tr>
<tr>
<td><strong>Total Artifacts:</strong> 5741</td>
</tr>
</tbody>
</table>

**Figure 2:** Frequencies for all artifacts in 2012 ballcourt excavation.
(Figure by A. Villarreal 2013)
of ceramic sherds. However, in the middle of the cache was a faunal long bone resting on top of an obsidian prismatic blade. The ceramic sherds continued under these objects until the bottom of the cache. In later sections of this paper I will detail the components of the cache.

The following sections of the report include the methods used for analysis as well as a breakdown of each of the major artifact classes, including ceramic, shell, faunal remains, and chert. I report the interpretations that I was able to make from the analysis of each type. Finally, I discuss these interpretations and infer the original function of the round structure.

METHODS

All artifacts analyzed in 2013 were done so at the site of Cahal Pech utilizing various methods in the analysis of each class. The most comprehensive analysis was performed on the ceramics. This class of artifact was not only the most represented in the excavation but was also the class for which I had the most comparative data.

James Gifford's 1976 *Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley* allowed me to compare ceramics from Cahal Pech as the two sites are down the river from each other and would presumably have similar ceramic style and form. I compared the sherds from the ballcourt with those reported by Gifford, starting
are not found in the 1976 typology. For example, Cunil pottery (1100-900 BC) was prevalent in the earlier units under the ballcourt but was not described in the Gifford's descriptions of Middle Preclassic ceramics (Figure 3). In this instance other sources had to be consulted that were specific to Cahal Pech (Sullivan and Awe 2013).

Freshwater shell was the second most prevalent artifact in the assemblage. My goal was to count the shell as to reveal the habits of past Maya based on the size and number of shells present. The first step of this analysis was to create a more standardized way to differentiate the sizes of shells, used for the *Pachychilus* shells, commonly known as jute. Analysis was facilitated by the creation of sizing boxes to consistently categorize the shells. The box set consisted of three squares to differentiate between small (2cmx2cm), medium (4cmx4cm), and large (6cmx6cm) shells. Any shells that were too large to fit in the largest box were deemed extra-large.

The examples of worked shell from the excavation were counted, measured, and weighed in 2012 when they were first uncovered. Most of the examples of worked shell consisted of pierced shell pendants.

The site's faunal analyst, Norbert Stanchly, along with Stephanie Orsini, analyzed the long bone from the center of the termination cache (Figure 4). They referred to *Mammalian Osteology* (Gilbert 1990), for their analysis, although they found that the small faunal remains that were too fragmentary to yield a significant amount of information.

The obsidian was not washed in this case because there is a possibility that lab tests could determine what was cut with these prismatic blades (Figure 5). Washing the blades would erase any evidence of microscopic plant or animal fibers once cut by the Maya with the blades.

**Figure 4:** Long bone from termination cache, Lot BC-12-19.

**Figure 5:** Obsidian blades from Lot BC-12-4.
The other classes of artifacts including chert, marine shell, serpentine, jadeite, quartz, granite, slate, carbon, and daub were counted and recorded. The classes that could be washed were and those that couldn't, such as granite, carbon, and daub were simply recorded. Because of time restraints and the relatively low frequencies in comparison to classes such as ceramic and shell, no further study was deemed necessary.

**CERAMICS**

Most of the ceramics (4385 in total) recovered from the seven excavation units were construction fill. While diagnostic sherds found within construction fill may not be connected to a specific event, they are particularly helpful in determining the chronology of the excavated area, especially in and around the round structure. The ceramics in the interior levels of the structure (which we were able to determine based on the curvature of the wall) allowed me to determine the chronology of the structure's construction phases. Figure 6 shows the excavation levels of the round structure and the lots associated with the dating of these levels.

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**Figure 6:** Profile view of excavation levels, facing south. Excavation levels shown with associated lots. (Figure by A. Villarreal 2013).
Chronology of the Structure

The ceramics from each lot dated the level with which they are associated and thus gave us an understanding of when the activity around this area took place. The top of the round structure was located in Level 2 approximately 35 cm below surface level, providing a logical divide that excavators decided used to delineate the interior and exterior of the structure. As a result, there are layers may have and interior and exterior that are separate and date to different time periods.

Interior level 2

The interior Level 2 is, in actuality, associated with two lots, BC-12-4 and BC-12-8. However, the latter is unusable in terms of dating because it is the backfill from J. Ferguson's 1995 excavation (Santasilia 2013). The disruption from this backfill makes Level 2 more difficult to date. Lot BC-12-4, from unit BC-12-2, runs 4 meters East to West, with its eastern portion coinciding with the top of the round wall. While the context is not perfectly associated with the structure, it can at least give us an idea of the date above the round structure. Lot BC-12-4 contained a wide mix of sherds ranging from Gifford's Jenney Creek phase to the Tiger Run phase. Savana Orange, Sierra Red, Mountain Pine Red, Minanha Red with its characteristic flanges, and a variation of Balanza Black (which will be discussed in detail in future sections of this paper) are the types that appeared most often. Thus, this lot of sherds has a final phase of Tiger Run which would place it in the Early Late Classic Period (circa AD 600-700).

Exterior level 2

The exterior Level 2 found the round wall at 35 cm but continued down until a second floor was found approximately 65 cm below surface level in lot BC-12-15 from the second level of excavation unit BC-12-5, an extension unit created to follow the curvature of the wall. This lot yielded a wide range of sherds with multiple examples of Jenney Creek sherds, from Savana Orange to Jocote Orange-Brown as well as a number of Hermitage phase sherds including Minanha Red, Caldero Buff-polychrome and again, Balanza Black. The most diagnostic characteristics in this lot were the appendages on various sherds. There were labial, medial, and basal flanges as well as ring bases which are characteristic of the Classic period (Figure 7). This mix of sherds may be classified as Early classic if not for the three Belize Red or ash ware sherds present in the lot. Though three is a fairly low number, both J. Awe (through personal communication) and I believe that these sherds are indicative of a transitional period. Because they are not identical to fully fledged Spanish Lookout examples, their presence may suggest a Late Classic date for this level. The Late Classic dates for both the interior and exterior Level 2 is supported even more strongly when considering that the Late Classic ballcourt discussed by Ferguson (1996) was constructed almost directly above this level.
Figure 7: Characteristic Classic period flanges (Minanha Red).

Figure 8: Examples of Hillbank Red: Rockdondo Variety with distinctive rim shape
Interior level 3

At the bottom of the interior Level 2, as seen in Figure 6, a ballast floor, which covered the southern portion of the round structure, was excavated. This floor was uncovered at approximately the same depth as the wall of the structure, 35 cm. This suggests that it was either the final floor of the structure or that it was used in aiding the covering of the structure. The northern end of the structure did not appear to have this ballast floor but instead a "crude" plaster floor found approximately 50 cm deep. The original 2012 report considers the interior Level 3 to consist of the space between the ballast floor at 35 cm and a depth of 80 cm where a different plaster floor occurs. This level encompasses the "crude" plaster floor in the northern section. The lots in this level include BC-12-5 and BC-12-9. Lot BC-12-5 has sherds that range from Cunil and Jenney Creek to Mount Hope and Floral Park. Cunil and Jenney Creek were represented with only two sherds each. Mount Hope included one Old River Unslipped sherd while Floral Park had two sherds that were heavily eroded but determined to be two varieties of Aguacate Orange. Most of the sherds in this lot were Polvero Black from the Barton Creek phase. Because the lot ventured into the Mount Hope and Floral Park phases, however, I consider this lot to have a Protoclassic date (circa AD 0-300). Lot BC-12-9, also associated with the interior Level 3, was also heavily Barton Creek including nearly every variety of Sierra Red as well as Hillbank Red: Rockdondo Variety (determined by its very specific rim shape) (Figure 8). One sherd may have been Floral Park's Aguacate Orange with a characteristic ring base but it is unclear due to being heavily eroded. One of the bags from this lot (Bag 1/10 from 15 June, 2012) was ~73% Barton Creek. Such a heavy concentration signifies the Late Preclassic period (circa 200-100 BC), meaning the round structure was in use in the Late Preclassic at least.

Exterior level 3

The exterior Level 3 is important for understanding the initial construction of the round structure. According to the 2012 field report (Santasilia 2013), the floor at the bottom of this level corresponds with the base of the round structure, insinuating that the round structure had to have been constructed in the same period. Lot BC-12-18 is associated with the exterior Level 3. The sherds in this lot either belong to Cunil, Jenney Creek, or Barton Creek including Savana Orange, Sampoperro Red, Sayab Daub Striated, Chunhinta Black, Polvero Black, and Paila Unslipped. These types give the lot a clear Late Preclassic date, though the presence of far more Jenney Creek than Barton Creek examples leads me to believe it is an earlier phase of this period. Because the base of the round structure is associated with the floor at the bottom of this level, it appears that the structure was built in this earlier phase of the Late Preclassic (perhaps around 300-200 BC). Unfortunately, the depth of the exterior third floor was not reported. This piece of data is crucial in determining if, in fact, this is the absolute base of the building. If the exterior third floor occurred at 80 cm deep, it would indicate that the 80 cm deep floor on
the interior of the structure would run under the round wall, thus creating an uninterrupted plane and a more concrete date for the structure's construction. However, without the depth of the exterior third floor, it is impossible to speculate.

**Levels 4 and 5 (interior)**

Though this completes the chronology of the round structure, with a construction date of the Late Preclassic around perhaps 300 BC and discontinuation at least by the Early Late Classic (Tiger Run approx. AD 600-700), it might be pertinent to discuss the two remaining levels on the interior of the structure. Unfortunately, excavation on the exterior stopped at the base of the round structure due to heavy flooding. However, the excavators were able to reach bedrock on the interior of the curved wall. The fourth and fifth levels inside the wall are very interesting when trying to understand and determine the use of the area both before the building was constructed and as a whole. Level 4 was broken into a northern and southern section. The associated lots were BC-12-10 and BC-12-12 both, belonging to the fourth level of excavation unit BC-12-4. Lot BC-12-10 had both Jenney Creek and Barton Creek examples, including Savana Orange, Reforma Incised, Sierra Red and Polvero Black. However, I believe this is an earlier portion of the Barton Creek phase because the percentage of Jenney Creek to Barton Creek in both of the ceramic bags from this lot is heavily weighted toward Jenney Creek. For example, in bag 1/3 from 18 June 2012, about 81% of the 59 diagnostic sherds were from the Jenney Creek phase (Figure 9). However, in lot BC-12-12, the number of Sierra Red (from Barton Creek) far outweighs the numbers of any other type, representing about 72% of the total sherds for this lot. Taking both lots into account, I believe this level is the earlier stages of the Late Preclassic period (circa 300-200 BC).
The sherds in the fifth and final level before bedrock, Lot BC-12-13, belonged to the Cunil or Jenney Creek phase. This gives the level a solid Middle Preclassic designation (circa 600-300 BC). This was evidenced by the dense presence of the Savana Orange and Reforma Incised types. Of the 196 diagnostic sherds in this lot, 120 (about 61%) of them were some variety of Savana Orange or Reforma Incised, two of the most distinctive and indicative types of pottery in Middle Preclassic Cahal Pech. There were also 28 Cunil sherds which, though not included in Gifford's typology, are distinguished by the coloration, thickness, and ashy texture of the sherd. Half of the Cunil sherds had a gray paste with a dark core and the other half had a lighter slip with remnants of a characteristic red slip (Figure 3). Additionally, the types in this lot appear to encompass almost all of the sherds listed by Gifford in the Jenny Creek phase including the Savana Orange varieties, Reforma Incised, Jocote Orange-Brown, Sibun Punctated, Sampoperro Red, Joventud Red, Black Rock Red, Sayab Daub Striated varieties, Cooma Striated, Chunhinta Black, Deprecio Incised, and Pital Cream. The evidence and location of this lot just above bedrock puts first occupation of this area solidly in the Middle Preclassic (circa 600-300 BC).

**Lot BC-12-4 Ceramic Deposit**

There are three other contexts in which the ceramics played a major role. The first was a ceramic deposit found in the second level of excavation unit BC-12-2, Lot BC-12-4. Whether the deposit was meant as a ritual cache or served some other purpose was not further explored in the 2012 excavations. However, the sheer density of ceramics recovered appears to signify intentional deposition. There were five artifact bags of sherds excavated from the lot, three of which contained over 400 sherds. In total, 1579 sherds were found in this deposit, 463 diagnostic. Though not every single diagnostic sherd was matched to a description in Gifford's typology of Barton Ramie (1976), the latest phase which determines the earliest possible date of the deposit was Tiger Run, correlating to the Late Classic period (circa AD 600-700). The type that was key in this determination was Mountain Pine Red. The other phase most prevalent in the lot was Hermitage which, understandably, occurs immediately before Tiger Run and corresponds to the Early Classic (circa AD 300-600). Balanza Black and Minanha Red were two prevalent types which helped determine the Classic period date for the event that resulted in the dense collection of sherds. An unusual ceramic fragment (Figure 10), actually consisting of two separate pieces, appears to be a figurine leg, whose inclusion would most likely be ritualistic in nature and suggests the deposit had a significant role.
Figure 10: Figurine fragment excavated from the ceramic deposit in Lot BC-12-4

Figure 11: Examples of Balanza Black appendages from Termination Cache (Lot BC-12-19) with four distinct basal flanges.
**Termination Cache**

The second context in which ceramic played an important role was another cache, this time related directly to the round structure. The cache was determined to be a "termination cache" by the density and location of the ceramics directly outside the north end of the structure. The cache, located in excavation unit BC-12-5, level 3, lot BC-12-19, consisted of 414 sherds surrounding a faunal bone resting atop a small obsidian prismatic blade. 149 of the ceramics in the cache were diagnostic. The number of sherds in this cache is much lower than in the lot BC-12-4 deposit but its location suggests its importance. The top of this cache aligns with the top course of the round structure and is covered with a layer of plaster, suggesting that it was interred at an event that marked the official and ceremonial disuse of the structure. Though the deposit is considered a ritual termination cache, no whole vessels were excavated from it and none were reconstructed from the sherds in the lab. Most of the sherds in the cache were Polvero Black and Balanza Black. However, there were Tiger Run types present including Teakettle Black and Mountain Pine Red. Balanza Black, from the Hermitage phase, was by far the most prevalent type, with 83 sherds present (approximately 34% of the entire lot). These Balanza Black sherds varied from those reported by Gifford in his 1976 typology of Barton Ramie. In the typology, Balanza Black is described as having pastes of various colors that range from buff to dark gray or brown (Gifford 1976). However, Gifford never specifically mentions the distinctly red color that is present in the Balanza Black sherds from the beneath the ballcourt. The form of the diagnostic sherds did allow me to determine that the sherds were consistent with Balanza Black. The majority of diagnostic sherds belonged to basal flange dishes or was rim sherds that matched the line drawings from Gifford's typology. The basal flange is most indicative of the Early Classic Period. Based on the shape, placement, and thickness of these flanges, I was able to determine that there were at least four different vessels in this cache (Figure 11).

Many of the 83 were body sherds that fit in the black-with-red-paste category. Some body sherds were matched with the flanges to form partial vessels but most remained unmatched. Because this was a termination cache, by definition, it means the ceramics were intentionally placed in the location just outside the northern end of the round structure. Finds in other terminations caches suggest there should have been a higher number of vessels present in the cache (LeCount 2010). A few very large olla rims were present, as well as a number of medial and labial flanges of the Minanha Red variety, however, when considering this sherd representation along with the partial Balanza Black flange dishes it might suggest that the Maya who placed the cache were purposefully leaving out the entire vessel. Through personal communication with J. Awe, I believe
this is a result of a Maya tradition which involves the intentional separation of ceramics. It may explain why there were at least four different vessels of the same type present in the termination cache but none were actually whole. One of the partially restored dishes is shown in Figure 12.

**Ritually Significant Ceramics**

layer determined to be directly above bedrock. The ceramics from this lot would help me
The third context in which ceramics were key was in the deepest layer of excavation in the round structure. This consisted of lot BC-12-13 (detailed above), the determine when this section of the site was first occupied and utilized. The area that is now represented as Plaza B was one of the first areas to be inhabited and utilized in the entire site (Awe and Campbell 1989). Plaza B is located to the west of our excavation area, separated by the site's main Eastern Triadic Temple group. Based on its proximity to the earliest Plaza in the site, I expected the lowest level of the excavation to have a fairly early date. The ceramics from the Jenney Creek phase and the earlier Cahal Pech-specific Cunil type initially led me to believe this level dated to the Early Middle Preclassic. However, the latest sherds present in the lot, from the late facet of the Jenney Creek phase, determined that the first use of this area was in the Late Middle Preclassic (600-300 BC). In addition to the representation of very characteristically Middle Preclassic sherds (including Cunil and Savana Orange types), other ritualistic ceramics serve as evidence of a Middle Preclassic occupation in the area. The first of these special ceramics is a Savana Orange figurine fragment in the shape of a bird's head (Figure 13). The figurine head measures 3x2x2.5 cm and depicts a bird with an open beak whose features are incised and filled with white pigment. Figurine fragments are indicative of the Middle Preclassic in other areas of the site (Sullivan et al. 2009). Another clue to the Middle Preclassic occupation was a Savana Orange tubular spout (Figure 14). This spout was later determined, through personal communication with J. Awe, to have been part of a chocolate pot from which the Maya would have poured liquid chocolate or used in ritual performances. The spout and the figurine fragment not only indicates a Middle Preclassic time frame for the first occupation of this area of the site but also creates a foundation for ritual activity in the area.
The 2012 excavations uncovered freshwater, marine, and worked shell. Freshwater and worked shell were the most numerous and significant in the artifact assemblage of the ballcourt excavations. From the six lots that had marine shell, the one with largest count found merely five, consisting of two conch fragments and three clam fragments. Therefore, I will be focusing on the freshwater and worked shell which each had a higher quantity. Both of these classes were especially prevalent in the lots associated with the Preclassic period.

Freshwater shell was second in quantity only to ceramics. In total, there were 786 shells, 624 of which were from the same lot, BC-12-13. This lot correlated to the level inside the round structure just above bedrock and was associated with the Middle Preclassic period, as discussed above. It is well documented that freshwater shells, especially jute (Figure 15), are larger and more readily available in Preclassic periods. In this particular lot there were 189 *Pachychilus indiorum* (smooth jute) and 381 *Pachychilus glaphyrus* (spiny jute), the highest quantities located and heavy large and extra-large shells of each variety.

Worked shell in this excavation consisted entirely of perforated shell pendants. Eight of the nine examples were from BC-12-13, the interior Middle Preclassic lot just above bedrock (Figure 16) and one was from lot BC-12-2, the second level of unit BC-12-1. The perforated shells may be indicative of ritual activity in this time period. Seven of the shells were found together, six of which were smaller and one was larger, suggesting they may have been part of the same object, i.e. a necklace. The other
worked shell in the lot was a pierced conch shell with the exterior protrusions of the conch still present. This pendant was found in the Freshwater shell bag from the same lot, therefore it is unclear if it was found in context with other pierced shells or objects. In any case, these eight perforated shells give credence to the ritual nature of this level.

**FAUNAL REMAINS**

The bone found in the termination cache on the North end of the round structure is the most diagnostic bone found in the excavation. Other instances of bone were quite fragmentary and did not yield pertinent information to the study of ancient Maya behavior. The bone from the cache, shown in situ below (Figure 17), however, was a nearly complete long bone, broken in two in the middle of the shaft. The bone was lying in situ however as if it were whole, with no indication of whether it was broken before or after deposition. The bone was located below a layer of ceramic and directly above an obsidian prismatic blade as well as more ceramic. N. Stanchly and S. Orsini determined that the long bone was the right tibia of a white tailed deer. Its presence in the cache should be considered ritual because it was the entire hind haunch, considered a good source of food, and because deer legs are often seen used in ritual. The presence of this ritual bone gives the entire cache a ritual nature.
CHERT

The chert totaled 585 for all excavation units. Due to time constraints, full analysis of this class was not possible, however, it was noted that much of the chert consisted of small flakes with cortex still attached which doesn't really indicate any kind of production activity. Lot BC-12-4 produced the most chert, 106 pieces. In addition to the large ceramic deposit noted above, this lot also contained a line of stones that were not explored in favor of excavating the round structure. The mass amounts of ceramics, relatively high number of chert, and the line of stones make this lot one worth investigating in the future.

Many other classes of artifacts were located during the excavation but do not lend significance to the investigation and are not noted in this report. Their frequencies can be found above (Figure 2).

CONCLUSIONS

Through the study of various artifact classes found in the 2012 excavations of the ballcourt playing alley, I was able to determine a number of things about the round structure found below as well as the area as a whole. Though I observed all of the classes in my two months of study, my focus was on the collection of ceramics, allowing me to assess the chronology and possible function of the round structure and surrounding area.

Beginning with the structure itself, the study of ceramics within and around it allowed me to determine it was first constructed in the earlier phase of the Late Preclassic (perhaps around 300-200 BC). I believe that thereafter, the structure went through two changes, evidenced by floor changes at different levels. The first reconstruction is noted by the crude plaster floor on the interior of the structure at approximately 50 cm deep. This is at
least 15 cm deeper than the top of the structure and the ballast floor. The first reconstruction is associated with lot BC-12-5 and dates to the Late Preclassic or even Protoclassic (around 300 BC- AD 200). After this plaster floor, the round structure was filled again, this time creating a ballast floor. The fill, associated with BC-12-9, dates again to the Late Preclassic or Protoclassic based on a sherd that is possibly Floral Park. The ballast floor served as the final floor of the structure before it was covered as it aligns directly with the top course of the curved wall of the round structure. This amount of ballast raises the question of whether this floor was created in preparation for the covering event that would too cover the termination cache on the northern end of the structure. Based on the sherds in the termination cache, the covering event would have taken place in the Tiger Run phase of Gifford's typology, dating to the Early Late Classic around AD 600-700.

Excavations beneath the ballcourt revealed that the area East of Plaza B was inhabited for years before the round structure was built. The level just above bedrock reveals many distinctively Middle Preclassic qualities such as a large deposit of freshwater shell, jute (*Pachychilus glaphyrus* and *Pachychilus indiorum*). The sherds were limited to the Jenney Creek phase and Cunil type in this level of excavation, indicating that the occupation did not exceed the Middle Preclassic at 300 BC.

The contents of the termination cache may begin to point to the function of the round structure and the area in general. The cache, whose purpose was to terminate the spiritual essence held within a building, did not solely consist of ceramic. Within the ceramics found, in which a unique variety of Balanza Black played an important role, there were also faunal remains and obsidian. A white tailed deer long bone (specifically a tibia) lying in situ on top of an obsidian blade beneath a layer of the ceramics signifies a ritualistic nature of the structure perhaps as a ritual performance platform as outlined by Aimers et al. (2000). Ritual may also be seen within the cache through the intentional fragmenting of vessels placed within. At least four separate vessels were present in the cache based on flange position and size, however, none of them were complete even though there were a plethora of body sherds in the cache. A unique point to consider is that the fragmented vessels were all a variety of Balanza Black unique to Cahal Pech and not included in the descriptions made by Gifford. One can theorize that the Balanza Black, with the distinctly red paste, was significant to the Maya who intentionally fragmented multiple vessels before interring them in the ritual termination cache.

Ritual significance of the round structure may also be inferred from the area in which it is constructed. Based on the deepest level beneath the playing alley, lot BC-12-13, we know that the first occupations of this portion of the site had some ritualistic nature. The ceramic figurine fragment, chocolate spout, and eight perforated shell pendants found in this layer provide evidence. The concentration of ritually significant objects is only matched by the deer bone within the cache. The ballcourt, utilized during the Late
Classic period, on top of the round structure is also very important to Maya ritual. When the Maya built the round structure directly above an already ritually significant area, they were making a gesture that indicated that this structure too had ritual importance. In the same way, they verified its ritual nature by closing the structure with a termination cache and building an even larger ritualistic building (the ballcourt) directly above. The entire area seems to be ritually significant, even in its location directly east of the main temple group of the site.

The ritual nature of both the round structure and the surrounding area might be further elucidated with continued study and excavation of the area beneath the ball court. The entire round structure was not excavated, including the center line of the structure which may reveal evidence even more significant to the role of the building. Uncovering structures which may surround it will further determine the role that the structure played. For example, finding quadrilateral buildings around the round structure could point to an auxiliary building to support rituals being performed on the round platform or perhaps the round platform was the auxiliary structure. One option for extended study involves the straight wall of stones reported by C. Santasilia in 2013, running in a straight course from east to west on the southern edge of the excavations. The structure was not pursued and it remains unclear what the line of stones represented.

Though some excavation has been conducted in this area, it is clear that many unanswered questions remain. The contents of the round structure's centerline, if any exist, may ultimately define the structure's function. More pieces of the partially fragmented Balanza Black vessels may be located at other points within the structure. Just as the round structure was first identified in 1995 as a side mention to the main goal of the excavation, now the straight course of stones has been located and may spawn a whole new investigatory mission.

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INITIAL ANALYSIS OF ARTIFACTS FROM LUBUL HUH (M-410) BAKING POT, BELIZE

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INTRODUCTION

Baking Pot is an archaeological site located in the Cayo District of Belize, 9.4 kilometers northeast (downriver) of the modern town of San Ignacio and 26.1 kilometers upriver of Belmopan. The site consists of two monumental groups, Group A and Group B, and the surrounding settlement area (Figure 1). Baking Pot was occupied from the Middle Preclassic period (600-300 BC) until the Terminal Classic (AD 800-900) when population peaked, with reoccupation of the settlement during the Middle to Late Postclassic period (AD 1200-1450) (Hoggarth, this volume).

Previous investigations of Baking Pot include work in the monumental epicenter (Bullard 1963; Bullard and Bullard 1965; Ricketson 1929). Settlement research began when Gordon Willey included Baking Pot in his settlement survey of the area (Willey et al 1965). In 1992 the Belize Valley Archaeological Reconnaissance (BVAR) project began archaeological investigations of Baking Pot that have continued almost every season to the present. In 2007 Julie Hoggarth, through the BVAR project, continued settlement research at Baking Pot (Hoggarth 2012), expanding the survey coverage to encompass and area of 9 km². M-410 was located and surveyed during the 2007 survey (Hoggarth et al. 2008) and excavations in 2011 and 2012 were conducted as a continuation of her investigations.

Lubul Huh Investigations

M-410 was named Lubul Huh (Falling Iguana) during investigations by BVAR in the 2011 and 2012 field seasons (Zweig 2012, 2013). The group is located approximately 870m west of Group B and 830m south of the Belize River. The house group is built atop a natural slope that declines in elevation from west to east. Dimensions of the group are approximately 45m north-south and 62m east-west with a height of 1m-1.5m to 2m-
Figure 1: Lubul Huh (M-410) and the Baking Pot site core including Group A and B.

2.5m west-east. There is an aguada approximately 130m east of the mound (Zweig 2013). Lubul Huh is located in an actively farmed corn field and has been subject to modern disturbance. Although the mound is covered with trees and thick vegetation it is likely that the edges of the mound have been damaged by modern plowing.

Artifacts were recovered from surface collection and excavations. Excavated matrix was screened in ¼ inch mesh and artifacts collected were separated based on unit, level, lot, and, if appropriate, feature. Artifacts underwent basic lab procedures of BVAR including washing, counting, and cataloging. Beginning in 2011 until 2012, three test units were placed in M-410A, M-410B, and M-410P (patio). The three units were excavated for the purposes of chronological sequencing in vertical exposure. In 2012 investigations of the two structures on the site, M-410A and M-410B, were conducted to reveal a horizontal exposure of the terminal architecture. The excavations are detailed in previous reports (Zweig 2012, 2013).
Occupation Sequence

*M-410 1st*

Based on the initial finding from Zweig (2013), the elevations of the three test pit units can be aligned to match the floors found in each of the respective units. In unit 410A-1 the initial occupation at M-410A begins at the end of level 11. At approximately 340cm below surface, floor 6 can be seen archaeologically by a deteriorated plaster floor; there is a significant increase in daub and ceramic (Table 1). Level 12 has a decrease in artifacts, most significantly daub and ceramics as well as a trend towards fewer artifacts and almost no artifacts at the end of the excavation (Zweig 2013). There were no formal tools found and only 2 possible utilized flakes within the chert sampled (2 of the 4 bags collected) and only shatter within the quartzite. Layer 11 also includes the highest frequency of faunal material. Most of the faunal material appears to be from the same animal; a formal analysis was performed by N. Stanchly and will be included in a future publication.

At approximately 338cm below the surface in the excavation unit 410P-1 a cache was found below Feature 1 and Feature 2, which are dense concentrations of ceramics (Zweig 2013). Cache 1, which includes two vessels, lip to lip, was found within level 10. Level 11 to level 17 (the conclusion of the excavation unit) has fewer and fewer artifacts. The ceramics within these levels were not diagnostic with the exception of 1 Actuncan Orange-polychrome of the Hermitage ceramic phase (Early Classic), this sherd is of the same vessel as a sherd from level 6. The weathering is different on the surface of the two sherds and I suspect bioturbation churned this sherd lower within the matrix. Level 10, 136cm below surface, includes cache1, a ritual deposit associated with the first occupation level of the site. Vessel 1 and Vessel 2 appear to be of the Teakettle Bank variety of the Tiger Run ceramic complex. The matrix within these two vessels was an alluvial matrix, different from the clay fill surrounding the vessels; flotation was performed on the matrix and analysis will be included in future publications. Level 8 is approximately 124cm below surface has a significant increase in daub of 478 pieces, or 14,040.1g, indicated that there was a structure here. Level 7 contains special finds that are associated with Feature 1. Two bone needles and a shell ornament (SF# 410P-3, 410P-4, and 410P-5) were found as well as a general increase in most artifact classes with the exception of daub. Further analysis is needed, but there may have been a floor that would correspond with 410A-1 floor6 and 410B-1 floor5.

Floor 5 of excavation unit 410B-1 was highly deteriorated and so the artifacts are likely begin at the end of level 7, include level 8, and end at the beginning of level 9. After level 9 the number of artifacts from the unit declines; chert and quartz make up the majority of the artifacts at the lower levels; more analysis is needed, but I suspect that bioturbation within the unit moved the heavier artifacts stratigraphically lower. Level11 contained the same mud-clod formations as seen in level 11 of 410P-1.
As reflected in the profile sketch (Zweig 2012) M-410 2nd is at 410P-1 level 3. The artifact counts reflect this with a 47% increase in artifact totals (Table 1). A stone, possibly siltstone (SF#410P-9) has a broken hole that is similar to a jadeite pendant (SF#410P-1). Small shell beads (410P-2) were found within this feature that would have been strung together. Floor1 is directly above floor2 of 410P-1 and very near to the surface. During excavations levels1-3 were separated when able to, but also combined. Level 3 contains 47% more artifacts compared to levels1 and 2 likely due to bioturbation and fluvial processes that protect level3 better. The unknown artifacts that were collected from these levels include slate pieces collected from level 3. Due to their small size, little information other than material can be gathered from them. Three bifaces, 8 miscellaneous cores, and 1 discoidal core along with debitage and utilized flakes were among the chert. A 20% sample (one large bag) was randomly chosen to identify diagnostic ceramics for level 8 of 410A-1. All the diagnostic sherds (9 of 161) are of the Belize Red variety of the Spanish Lookout ceramic phase (Late Classic). This level also had a high quantity of daub, 495 pieces or 2178.6g.

M-410 3rd

The third construction built structure 410A to a higher elevation than structure 410B. Further investigations would be required to understand the final construction sequence of the terminal architecture. For unit 410A-1 level7 is the last level with large amounts of ceramics and daub and would be below floor4. One more jade piece is found within level 7, a small jade bead (SF#410A-4), a modified piece of quartz (SF# 410A-3) and two chert eccentrics (SF# 410A-1 and 410A-2) (Figure 4). Floor1, at level1 was only 3cm below the surface; the runoff from rains would cause artifacts to be moved more easily by fluvial processes causing a decrease in the number of artifacts present.

Structure 410B had a large amount of bioturbation from a very large tree as well as smaller trees that were present throughout the site. Levels 3 and 4 have a noticeably low amount of daub. The sharp increase in levels 1 and 2 corresponds to the presence of a plaster floor at these levels. There is a distinct lack of jade and very little obsidian found in the upper levels as opposed to the upper levels of 410A-1. More analysis will be done to try to understand the movement of artifacts within the levels of the final construction phases of structure.
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</table>

Termination deposits

Termination deposits were found associated with the abandonment of the site and were most dense along the central staircase and at the corners and confluence of Structures A and B (Table 2). Units 410A-2 and 410A-3 have a relatively low quantity of ceramics since this is the floor of the top of structure 410A. Units 410A-4, 410A-6, and 410A-7 are to the north of the staircase of structure 410A include termination deposits containing a high quantity of artifacts (Zweig 2013). The ceramics in the termination deposits are primarily Spanish Lookout ceramic phase and contain many figurines and molded ceramics (Figure 6). Also included in the deposit are 8 spindle whorls made of ceramic or limestone, a bird shaped ocarina (SF# 410A-37B), two sting ray spines (SF#410A-31, 410A-58), and several granite grooved stones (SF#410A-20,410A-26,410A-35). Three lithic cores were also found within the terminal deposits, a chert core likely from the site of Colha, Belize (Figure 8) (SF#410B-10) and two obsidian cores (SF#410A-43, 410A-57), one of which was made into an eccentric (Figure 7).

CONCLUSION

The artifact analysis is for Lubul Huh is ongoing. This report is a continuation of work from the BVAR field work of 2011 and 2012. The three test units of M-410A, M-410B, and M-410P align stratigraphically into different construction phases that begin with the first occupation of the mound. The initial analysis supports the trend of increasing wealth and volume into the Late Classic (Hoggarth 2012). Further analysis will include a status comparison of artifacts for architectural volume as compared to previous research at Baking Pot. Other ongoing analysis includes portable x-ray fluorescence (P-XRF) sourcing of obsidian, radio-carbon dating of charcoal samples, faunal analysis, and further ceramic research.
ACKNOWLEDGEMENTS

I would like to thank the Belize Institute of Archaeology for their support of the Belize Valley Archaeological Reconnaissance Project. I would also like to thank Jaime Awe, Project Director, Myka Schwanke, and Julie Hoggarth. Christina Zweig is owed much appreciation for her support and guidance at Lubul Huh. I also owe a special thank you to all of the BVAR staff and students during the 2011, 2012, and 2013 field seasons.

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GEOCHEMICAL ANALYSIS OF OBSIDIAN ARTIFACTS FROM BAKING POT

Richard George
The Pennsylvania State University

INTRODUCTION

This report details the results from the X-ray fluorescence (XRF) analysis of 383 obsidian artifacts recovered during multiple field seasons and in various contexts at Baking Pot, an archaeological site located in the Belize River Valley, Belize. Samples were analyzed using a Bruker Tracer III-V+ SD handheld XRF spectrometer equipped with a rhodium (Rh) X-ray tube at The Pennsylvania State University Ceramics Laboratory under the direction of Dr. Sarah McClure and under the supervision of Richard George and Julie Hoggarth. The instrument operated at 40 kV and 24.8 μA current with a 12 mil Al, 1 mil Ti, and 6 mil Cu filter inserted in the X-ray path. Samples were analyzed for 200 seconds to generate and measure peak intensities for the Kα peaks of manganese (Mn), iron (Fe), zinc (Zn), gallium (Ga), thorium (Th), rubidium (Rb), strontium (Sr), yttrium (Y), zirconium (Zr), and niobium (Nb). Peak intensities were calculated as ratios to the Compton peak of rhodium for each sample. Trace element intensities were converted to concentrations (ppm) using an obsidian calibration developed by Eric Dyrdahl following a protocol developed at MURR based on well characterized obsidian source samples (Glascock and Ferguson 2012; Speakman 2012). Group assignments for each unknown artifact concentration were compared to a database of known geological sources in Mesoamerica compiled by Michael Glascock at MURR.

RESULTS

A total of 383 obsidian artifacts were analyzed and assigned to distinct groups using GAUSS software (developed at MURR). Individual artifacts were reliably discriminated between natural geochemical obsidian sources and assigned to three groups using bivariate plots of elements and element ratios. Figure 1 represents the most accurate separation and differentiation between elemental concentrations using ratios of Mn/Fe and Rb/Sr and 90% confidence ellipses generated from geochemical source specimens. Obsidian samples from Baking Pot were compared to the geochemical sources and assigned to chemically consistent groups. Table 1 shows the concentration values in parts per million for obsidian artifact groups identified in this analysis.
Figure 1: Plot of Mn/Fe vs. Rb/Sr log10 transformed elemental concentrations for geochemical source samples (left) and for Baking Pot artifacts (right). The ellipses around each source group represent a 90% confidence level.

Table 1. Concentration of Elements (ppm) for Baking Pot Obsidian using PXRF

<table>
<thead>
<tr>
<th>Source</th>
<th>Mn</th>
<th>Fe</th>
<th>Zn</th>
<th>Ga</th>
<th>Th</th>
<th>Rb</th>
<th>Sr</th>
<th>Y</th>
<th>Zr</th>
<th>Nb</th>
</tr>
</thead>
<tbody>
<tr>
<td>El Chayal</td>
<td>mean</td>
<td>789</td>
<td>7798</td>
<td>53</td>
<td>18</td>
<td>11</td>
<td>158</td>
<td>154</td>
<td>22</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>std</td>
<td>84</td>
<td>1006</td>
<td>13</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>10</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>%rsd</td>
<td>10.6%</td>
<td>12.9%</td>
<td>24.2%</td>
<td>2.8%</td>
<td>15.3%</td>
<td>6.9%</td>
<td>6.3%</td>
<td>7.4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Ixtepeque</td>
<td>mean</td>
<td>535</td>
<td>11179</td>
<td>44</td>
<td>18</td>
<td>8</td>
<td>109</td>
<td>161</td>
<td>20</td>
<td>173</td>
</tr>
<tr>
<td></td>
<td>std</td>
<td>68</td>
<td>1169</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>10</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>%rsd</td>
<td>12.7%</td>
<td>10.5%</td>
<td>24.4%</td>
<td>2.2%</td>
<td>18.6%</td>
<td>6.6%</td>
<td>6.2%</td>
<td>7.1%</td>
<td>4.3%</td>
</tr>
<tr>
<td>San Martin Jilotepeque</td>
<td>mean</td>
<td>616</td>
<td>7930</td>
<td>49</td>
<td>18</td>
<td>9</td>
<td>122</td>
<td>196</td>
<td>18</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>std</td>
<td>72</td>
<td>527</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>%rsd</td>
<td>11.7%</td>
<td>6.6%</td>
<td>22.3%</td>
<td>2.2%</td>
<td>9.9%</td>
<td>2.8%</td>
<td>4.3%</td>
<td>5.0%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Total N=383
This report identifies the geochemical characteristics of obsidian artifacts from Baking Pot to provide a source profile of obsidian recovered in various contexts. The results indicate that obsidian artifacts from Baking Pot originated exclusively from three geochemical deposits located in Guatemala: El Chaya, Ixtepeque, and San Martin Jilotepeque. Most of the artifacts (n=289) grouped to El Chaya while the remaining artifacts grouped to Ixtepeque (n=85) and San Martin Jilotepeque (n=9). In Mesoamerican antiquity, these geochemical source deposits were utilized for the manufacture of obsidian tools and incorporated into exchange networks in the Maya region at different intensities during the Epiclassic, Classic, and Post-Classic periods (Braswell 2002; Golitko et al. 2012; Golitko and Feinman 2014). Future research will be necessary to determine diachronic and social patterns of obsidian acquisition and use at Baking Pot.

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INTRODUCTION

Archaeological investigations at Baking Pot initiated a new research program beginning in 2013 and expected to continue several years, focusing on assessing the nature and timing of the political and demographic collapse at the site at the end of the Classic period, as well as better defining the Postclassic occupation in its chronological and developmental setting. This research builds upon earlier excavations in the site core of Baking Pot’s ceremonial center (Ricketson 1931; Bullard and Bullard 1965; Audet 2006; Helmke and Awe 2008) and the extensive settlement survey (Conlon 1994; Conlon and Ehret 1999; Hoggarth et al. 2008; Hoggarth 2009) and excavations (Audet 2000; Hoggarth 2012).

BACKGROUND

Excavations were focused in the royal palace complex of Group B (Figure 1). Excavations in this southern ceremonial group have a long history at the site, beginning with the excavation of Str. B1 by archaeological commissioner A.H. Anderson in 1929, after learning that materials from the monumental structures were being used for the construction of the western highway. William and Mary Bullard (1965) put in large excavations in Str. B1, trenching the central axis of the structure, identifying a stela on the middle terrace of the structure and in the plaza, as well as exposing two rooms at the base of the stair. Carolyn Audet investigated the northern section of the palace complex, excavating Courtyard 1 and portions of Str. B-8 and B-9 (originally Structure B and G, see Audet 2005) where she identified low benches atop Structure B-8. In 2008, Christophe Helmke re-exposed a large portion of Str. B-1, identifying a royal tomb (Helmke 2009) and secondary burial (Helmke 2009, Piehl 2009) on the central terrace landing. In addition, the outside façade and interior doorway of the audiencia, the entrance into the palace complex was excavated.
Figure 1: Map of Baking Pot site core and settlement, showing locations of Group A and B. Map by Julie Hoggarth.

RESEARCH AIMS AND QUESTIONS

Excavations in Group B were re-initiated in 2013, led by Julie Hoggarth and focusing on the eastern portion of the royal palace complex. The aim of this research was three-fold:

1. To expose terminal deposits on the floors of the palace structures and courtyards to collect data on the types of activities towards the end of occupation in the palace
2. To conduct in-depth analysis of in-situ features, particularly any “problematic” or terminal deposits, to understand the types of activities that were occurring towards the end of occupation in the palace.
3. To obtain samples of charcoal and/or bone material to conduct AMS $^{14}\text{C}$ dating, to pinpoint the timing for the final use of the group.

As these aims suggest, our research questions are primarily focused on dating the collapse of political rulership at the site:

1. When did the royal court abandon the palace?
2. What types of activities were associated with terminal deposits and were these events associated with the terminal occupation of the palace or with post-abandonment rituals?
3. How does the timing of this abandonment correlate with construction in the ceremonial groups?
4. How does the timing of this abandonment correlate with the occupation and/or depopulation of the outlying settlement area?
With these aims and questions defined, excavations were initiated at Str. B17 and its intersection with the eastern façade of Str. B1, extending the excavations into Courtyard 4 of Group B.

METHODS

Developing a high-resolution chronology for the occupation and abandonment of Baking Por requires the use of radiocarbon dating, as timeframes for ceramic phases and complexes span hundreds of years. The excavations in the royal palace specifically address questions on the collapse of political rulership at the site during the Late to Terminal Classic period (AD 700-900), in contrast with additional research focused on understanding the demographic depopulation of the site.

Baking Pot has been noted as having a strong occupation late into the Classic, with evidence for continued renovation and construction in the monumental epicenter into the Terminal Classic period (Aimers 2004; Audet 2004; Helmke 2008). However, recent AMS ¹⁴C dates from burials in the site core and settlement of Baking Pot revealed surprising dates, with no dates falling into the traditional timeframe of the Terminal Classic period (AD 800-900, Aimers 2004: 89,113). In fact, one burial excavated by Audet (2006:212) and thought to date to the Terminal Classic due to the presence of a Daylight Orange: Darknight variety vessel with the burial dates between cal AD 660-700 (Hoggarth et al. 2014). Other Late Classic burials from Baking Pot all fall between cal AD 650-765, showing little evidence for interment during the Terminal Classic period. If these dates show the final period of Classic occupation at Baking Pot, this may bring the abandonment of the site by both the royal court and the outlying settlement in-line with Cahal Pech, around AD 750-850.

The program of radiocarbon dating will focus on two primary lines of evidence to narrow down the timing for the abandonment of the royal palace. The first will be to continue to date a larger sample of burials from Baking Pot’s site core, to reconstruct the history of elite and dynastic interment at the center. The second line of evidence will come from radiocarbon dates from charcoal and/or bone (faunal or human remains) from deposits left on the terminal floors in the palace complex. Extensive attention has been devoted towards the discussion of on-floor deposits often referred to as “problematic deposits”, “termination deposits”, and “defacto deposits”. While some scholars view these features as being associated with accumulated trash prior to abandonment, Awe suggests that these materials represent the remains of rituals from the time of abandonment (and sometimes post-abandonment), and notes the presence of complete tools and items as evidence against theories of these features as trash middens.

At Cahal Pech, terminal deposits were noted in the corners or courtyards, as well as in front of stairs. Using this information, we formulated a plan to excavate a portion of Courtyard 3, the most secluded courtyard of the palace which may have served as a primary domestic area for the royals of the site. Three large units were established, one at the top of Str. B15, one at the base of the same structure in Courtyard 3 (encompassing the corner where Str. B1 and B15 join), and one along the back of Str. B1 (Figure 2)
Figure 2: Location of excavations in palace complex (figure by C.M. Zweig and J.A. Hoggarth, modified from Helmke 2008).
**Figure 3:** Profile of Str. B15 (Drawing by C.M. Zweig, modified by J.A. Hoggarth).

**Figure 4:** Profile of outset stair, Str. B1 (Drawing by C.M. Zweig).
Two excavation units were set up on Structure B-15, E.U. B-15-1 and B-15-2. Both units measured 3m (N-S) by 9m (E-W). The first of the two unit covers the front face of B-15 in Courtyard 3. One additional unit was set up to extend exposure of the front of Structure B-1, with E.U. B1-100 set up running from the northwestern section of E.U. B15-1 to the north.

EXCAVATION RESULTS

Excavations exposed the upper portion of Str. B-15, revealing a 1-2 course wall that ran east-west across the width of the structure (Figure 3). Walls on top of the structure were likely primarily perishable, supported by the low limestone wall. Several domestic artifacts were identified on the structure, including ground stone and utilitarian ceramics, as well as a ceramic drum. The northern facing wall of B15 was constructed primarily of small to medium, well-cut limestone blocks.

Excavations in front of Str. B15 revealed a two-tiered floor for the courtyard, with the floor at the base of the structure dipping down to a lower level at approximately 27 cm to the north of the facing of the north wall of B15 (Figure 4). Excavations of the floor revealed an intrusion into the terminal floor in front of Str. B15, with Feature 4 consisting of a 49 cm long (north-south), 75 cm wide (east-west), and 11 cm deep hole through the terminal and penultimate floors of the courtyard. Unslipped (Cayo group) jar fragments and charcoal samples were noted in the deposit. The charcoal samples will be dated in the
Table 1: Proportions of vessel forms from a 25% sample of (unreconstructed) ceramics from Feature 1, with 80% confidence interval.

<table>
<thead>
<tr>
<th>Vessel Form</th>
<th>Frequency</th>
<th>Proportion</th>
<th>C.I. (80%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dish</td>
<td>25</td>
<td>13.2%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Bowl</td>
<td>68</td>
<td>36.0%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Plate</td>
<td>7</td>
<td>3.7%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Jar</td>
<td>58</td>
<td>30.7%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Vase</td>
<td>17</td>
<td>9.0%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Incensario</td>
<td>14</td>
<td>7.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Undiagnostic</td>
<td>77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

future to help date this feature. The ante-penultimate plaster floor was recorded at the bottom of the feature. Excavations in the southwest corner of Courtyard 4 noted a dense concentration of ceramics immediately below the collapse level, noted as Feature 1. The feature consisted in a large number of broken ceramics, some of which were polychromes, mixed with faunal remains, and a large number (over 20) of ocarinas in the shape of women, dogs, and other figures. As excavations continued down in this feature, the middle section of the feature included higher amounts of daub, along with burned limestone, which suggests a firing activity. Excavations in Feature 1 continued to the level of Floor 1. In all, Feature 1 measured over 1 meter in height and approximately 127 cm in diameter. This makes the feature one of the largest on-floor deposits discovered in the BVAR excavations of the site.

Although a complete analysis of the materials from Feature 1 is still in-progress, some preliminary findings may be explored. An examination of the vessel forms from a 25% sample of the (unreconstructed) ceramics from Feature 1 (Table 1) reveals some tentative information about the makeup of the ceramics in the deposit. Serving storage purposes, jars represent approximately 30% of the diagnostic sample. In contrast, serving vessels (dishes, bowls, and plates) make up a large amount (52%) of the remaining ceramics, with 13% dishes, 36% bowls, and 4% plates. Finally, more rare vessels, such as vases account for 9% of the sample, while ritual incensarios comprise over 7%.

Some caution must be exercised in the interpretation of this data. First, the 25% sample has a low total sample size (of 266 sherds, 189 of which have identifiable vessel forms). This is important, as the low sample size brings the confidence intervals of these proportions up, rendering the 95% and 99% confidence intervals too large to be useful. However, with the 80% intervals, we can be fairly confident of proportional differences measuring 7 percent or more. Future analysis will include all of the ceramics from the feature, increasing the sample size and likely bringing the span of the confidence intervals down.
Table 2: Proportions of temper types from a 25% sample of (unreconstructed) ceramics from Feature 1, distinguishing calcite tempered ceramics from slipped versus unslipped vessels. Error ranges, at the 80% confidence interval, are included.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Proportion</th>
<th>C.I. (80%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unslipped Calcite</td>
<td>81</td>
<td>30.5%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Slipped Calcite</td>
<td>46</td>
<td>17.3%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Ash</td>
<td>139</td>
<td>52.3%</td>
<td>5.5%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>266</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Proportions of temper types from a 25% sample of (unreconstructed) ceramics from Feature 1, showing the proportions of decorated sherds, further distinguished by decoration type (painted sherds vs. incised sherds). Error ranges, at the 80% confidence interval, are included.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Proportion</th>
<th>C.I. (80%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Painted</td>
<td>23</td>
<td>8.6%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Incised</td>
<td>12</td>
<td>4.5%</td>
<td>7.7%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>35</strong></td>
<td><strong>13.2%</strong></td>
<td><strong>7.4%</strong></td>
</tr>
</tbody>
</table>

Second, these proportions stem from un-reconstructed ceramics. After washing and inventorying the ceramics, we noted that many of the sherds to re-fit. Subsequent analyses and statistical comparisons will include ceramic counts from reconstructed vessels to eliminate any overlap caused by multiple sherds from a single vessel.

Table 2 shows the comparison of temper-types from the 25% sample of ceramics from Feature 1, with a nearly equal distribution of ash versus calcite temper. However, unslipped calcite temper sherds, which were dominated by unslipped jar sherds, accounted for two-thirds of the calcite temper ceramics.

Only approximately 13% of the sherds from the sample of ceramics from Feature 1 were decorated. The high error ranges in the 80% confidence interval shows a great deal of statistical overlap between painted and incised decoration types. However, preliminary results suggest that painting is the dominant form of decoration on ceramics in the deposit. A smaller sample of the decorated sherds includes hieroglyphic texts (and pseudo-glyphs) along the rim and body of several polychrome vases. One ash tempered vase (Figure 6) features a black background with a hieroglyphic text above with a calendar date that appears to include the glyphs for 8 Ahau. More detailed epigraphic analysis will be conducted in the future. In another scene (Figure 6a), a figure sits in
Figure 6: Polychrome ceramics from Feature 1, Courtyard 3 (Photos by J.A. Hoggarth).

profile with glyphs above. Figure 6 shows the variation in painting style, with pseudoglyphs noted in Figures 6d-f.

Although ceramic analysis is on-going, ceramic types identified from Feature 1 include Belize Red, Daylight Orange: Darknight variety, Cayo Unslipped (Various varieties, including pie-crust rim), Garbutt Creek red, Cabrito Cream polychrome, and molded incensario. While many of these types fall into the Spanish Lookout ceramic complex (Gifford 1976), the presence of several diagnostic Terminal Classic types (pie-crust Cayo Unslipped, Daylight Orange) may suggest that the deposit dates to the late facet of the complex (AD 800-900, although see Hoggarth et al. (2014) for a discussion on dates from burials with Daylight Orange and Belize Red, which pre-date the traditional timeframes for the initiation of the ceramic complexes in which they fall). We hope to date a number of the faunal remains from different depths in the deposit to provide dates associated with the activity of the deposit.
A large number of ceramic ocarinas were recovered from Feature 1, including both anthropomorphic and zoomorphic forms (Figure 7). Other notable special finds include ceramic drums, spindle whorls, bone needles, shell beads and ornaments, and chert tools (Figure 8a-q).

Excavations continued to the north of Feature 1, following the wall of Str. B1 and revealing an outset stair. A concentration of ceramics was noted in front of B1, although this deposit was not as extensive as Feature 1.

DISCUSSION

The 2013 excavations in the royal palace complex in Group B at Baking Pot are the first step in a broader research program directed as ascertaining the timing and nature of sociopolitical collapse at the site. The identification of a large terminal deposit in the southwestern corner of Courtyard 3 confirmed our assumptions about where these deposits would likely be identified spatially.

The elaborate polychrome ceramics largely suggest a Late Classic date (AD 700-800) for the activities associated with Feature 1, although some Terminal Classic diagnostic sherds may suggest activities as late as AD 900. However, we provide these timelines with caution, since the earlier radiocarbon dates were typically too early for the
established ceramic chronologies. Future radiocarbon dating of faunal remains from the feature will help to determine an absolute range of dates for the deposition of the remains. Preliminary evidence may help to provide clues about the types of activities that were associated with Feature 1 (and other terminal deposits). First, the deposit primarily consisted of ceramic vessels, along with faunal remains, and musical instruments. Vessel forms are widely represented, with over half of the ceramics representing serving vessels, and almost a third of the vessels being storage jars. The over-representation of serving vessels to jars is suggestive of activities associated with eating rather than general utilitarian activities. However, the sample of decorated vessels is relatively low at just over a tenth of the sample. However, those vessels that are decorated are highly elaborate, featuring hieroglyphic texts and fine-line painting styles. The inclusion of ritual paraphernalia, including incensarios and ocarinas, also suggests a ritual connotation to the activities associated with Feature 1.

Figure 8: Special finds from Feature 1, Courtyard 4 (Photos by J.A. Hoggarth).
CONCLUSIONS

The initiation of the new research program centered on ascertaining the timing and nature of collapse at Baking Pot was initiated in 2013. Excavations focused on the backside of Str. B1, Str. B15, and Courtyard 4 exposed a large deposit featuring ceramics, musical instruments, and faunal remains, likely representing activities associated with the final occupation of the royal palace complex. Future radiocarbon dating will focus on dating faunal remains from this deposit and comparing those to dates from samples from vertical stratigraphic excavation in the courtyard, to compare the dates from the feature to the construction dates. This will help to distinguish whether these deposits are associated with post-abandonment activity. Furthermore, the dates from the palace complex will be compared to a larger corpus of directly dated burials from the site core (and settlement) at Baking Pot to compare the history of elite interment with activity in the palace complex.

Together, this research will help to pinpoint the timing for the abandonment of Baking Pot by the royals. Once this can be narrowed down, we can compare these dates to those in the settlement, to gain a more thorough understanding of how the processes of political and demographic collapse may have articulated. This is just the first step in gaining a more thorough perspective on the ‘Classic Maya collapse’.

ACKNOWLEDGEMENTS

We want to thank the 2013 Baking Pot field school students who were a vital force in excavation and laboratory analysis. Antonio Itza was the foreman for the excavations, supervising the local assistants including Orvin Martinez, Edgar Puc, and Manuel Itza. We thank Javier Quiroz, who manages Central Farm for his assistance and coordination, as well as the men and women who work at the Livestock division for their help setting up the on-site lab.

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Piehl, J.C.

Ricketson, O G.
SALVAGE SURFACE COLLECTIONS FROM THE TILAPIA FARM CONSTRUCTION

Angelina Perrotti  
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Stephanie R. Orsini  
University of Illinois at Chicago

Julie A. Hoggarth  
The Pennsylvania State University

BACKGROUND

In July 2013, Central Farm began construction on a series of ponds to be used as a Tilapia hatchery center, north of the Baking Pot site core, in close proximity to the Belize River. There are two mounds in the proposed construction area that have been mapped by BVAR (Figure 1). Although the contractor planned to leave the mounds undamaged, BVAR continued to monitor the construction progress to ensure that damage to cultural remains remained minimal.

On the 16th of July, 2013, Angie Perrotti, Stephanie Orsini, and Julie Hoggarth set out to check on the progress of the construction work, and survey the two rectangular trenches that had just been bulldozed for the Tilapia hatchery project. The excavators walked the cuts and noted a minimal amount of broken ceramics. However, there were two areas that contained more cultural features than others. Both contained modern disturbances due to the construction of the tilapia hatchery.

The northern-most bulldozer cut uncovered what appeared to be a small ceramic deposit, TS1, that spanned both the excavation trench and the surface. A quick excavation around the deposit led to the discovery of many pieces of two vessels that may have been complete before bulldozing. Some of the ceramics had also been burned. The ceramics were collected in addition to any other diagnostic ceramics that were encountered. There was some worked chert among the ceramics. In addition, small fragments of faunal material were collected.

Next, the second cultural deposit, located in the southern bulldozer cut was excavated. It appeared that the bulldozer had cut through a low-lying house mound, TS2, that had gone unmapped during settlement surveys (an official mound number to be assigned upon the creation of the next Baking Pot map). A layer of cobble ballast and plaster remnants was visible within the baulk of the bulldozer cut. In addition, a vague alignment
Figure 1: Location of newly constructed tilapia farm near the Spanish Lookout ferry (image from Google Earth).

appeared to form the corner of a building. The construction workers used the backhoe to scrape off the top 20 centimeters from the corner to the interior of the structure at the level of the terminal floor, per the excavators request. This was to expose any ballast and collect any special finds or diagnostic ceramic pieces that may have been deposited on the floor. After the backhoe removed the bulk of the soil from the top of the structure, we quickly troweled the entire surface. We found chert and many ceramic pieces, but few diagnostics.

Rough measurements were taken to outline the structure and its orientation, and the area was photographed. Part of the building was disturbed by the bulldozed trench (Figure 2, 3). The house mound was mapped and was unknown previously, likely dating the Late-Terminal Classic period (AD 700-900). We can conclude that a lower status household likely occupied this house mound due to the poor quality of building materials and ceramics. Figure 2 shows the dimensions of the structure.
Figure 2: Plan Map of housemound in TS2 and bulldozed trenches (illustration by A. Perrotti, survey by A. Perrotti, S. Orsini, and J. Hoggarth.

Artifact Analysis:

*Faunal Remains*

Norbert Stanchly, project zooarchaeologist, classified the faunal remains as unidentifiable mammal longbone fragments. No further identification was possible.

*Ceramics*

Three diagnostic ceramic pieces were collected from the southern bulldozer cut, TS2, and twelve from the northern bulldozer cut, TS1. While it was our intention to only collect diagnostic sherds, some of the pieces appeared to fit together prior to washing. However, we discovered that three out of the twelve sherds that were collected were neither diagnostic, nor did they fit together. For this reason, they were not analyzed. Out
**Figure 3 (a):** Above: limit of artifact scatter on mound; (b): Center: photo showing the extent of the structure; (c): Below: photo showing ballast and artifacts associated with structure.
### Ceramic Analysis

<table>
<thead>
<tr>
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<th>Complex</th>
<th>Frequency</th>
<th>Notes</th>
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<td>Spanish Lookout</td>
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<td>Jar Radius: 15 cm.</td>
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<td>Floral Park</td>
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<td>Unidentifiable</td>
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**Figure 4:** Ceramic Analysis of lots TS-1 and TS-2 at the Tilapia Hatchery at Baking Pot

of the nine pieces, it appeared that six of them could be re-fit and are from the same unslipped jar. This jar is Cayo Unslipped, from the Spanish Lookout complex, which is Late to Terminal Classic. The jar had a radius of 15 centimeters. Three of the pieces collected from the northeast wall of the bulldozer cut appear to be from different vessels. All are diagnostic. One of the sherds was Aguacate Orange from the Floral Park complex. Given our limited time and experience, and the limited number of sherds, identification of the remaining two sherds was not possible, but that they were datable from Late to Terminal Classic period.

**ACKNOWLEDGEMENTS**

We would like to thank the Belize Department of Archaeology for their support of the Western Belize Regional Cave Project. We would also like to thank Dr. Jaime Awe, Project Director and Norbert Stanchly, the project zooarchaeologist.

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Gifford, James C.  
EXCAVATIONS AT LOWER DOVER PLAZA F:
RESULTS OF THE 2013 FIELD SEASON

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INTRODUCTION

In the summer of 2013, the Belize Valley Archaeological Reconnaissance (BVAR) project continued archeological investigations in Plaza F at the site of Lower Dover, Unitedville, Cayo District, Belize. Lower Dover is on the property of William and Madeline Reynolds in the Village of Unitedville, 7 miles east of San Ignacio. It 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 bordered on the north by the Belize River, on the east by Lower Barton Creek and on the west by the Upper Barton Creek (Guerra and Morton 2011; Guerra 2011). The ceremonial center consists of 9 formal and 2 informal plaza groups with 56 structures, including one ballcourt (Figure 1), and a possible aguada just north of Plaza A.

PREVIOUS RESEARCH

Archaeological investigations have been conducted at surrounding sites as far back as the 1920’s (Ricketson: 1929), including Floral Park (Willey et al. 1956), Blackman Eddy (Driver and Garber 2004), and Barton Ramie (Willey et al. 1956, Gifford et al. 1976), but it is unknown what connections and relationships these sites had with Lower Dover. In 2010 the Belize Valley Archaeological Reconnaissance Project initiated archaeological research at Lower Dover. The preliminary research focused on site mapping and developing site chronology. Previous research at Lower Dover identified two distinct phases of occupation dating to the latter part of the Late Classic period (A.D. 800 - 1000) at Plazas A and G (Guerra 2012; Arksey et al. 2011). Wolfel et al (2009) identified one scroll foot on the surface of Plaza F, indicating possible early post classic
The 2012 excavations in Plaza F also identified New Town complex scroll feet along the face of the southern structure mixed in the humus and collapse level. The location of the Early Postclassic material in this matrix indicates limited activity, very likely after the abandonment of the structures.

**METHODOLOGY**

Excavations at Plaza F were initiated in 2012, as a part of the continuing BVAR research at Lower Dover focused on determining site function, chronology and sociopolitical relationships in the Belize Valley. Covering an area of approximately 100 sq. meters, Plaza F is the southernmost plaza in the Acropolis complex. The plaza consists of three structures (F25, F26 and F27), attached to the southern end of structure E23 and E24 forming a formal courtyard (Figure 1). Working on the assumption that this area may represent the latest phase of occupation at the site, the 2012 excavations focused on collecting chronological and spatial data to define Plaza F both spatially and temporally.

The 2013 excavations focused in three main areas of the Plaza. In the southern portion of the plaza, the remains of a sheet deposit extending across the northern face of Structure F26, north into the plaza area and east to Structure F25 was identified in the 2012 excavations. A large portion of this deposit was recovered in Units F26-1 – F26-4 (Guerra et al. 2013). As a result of
this observation new units were started to the north of F26-1 – F26-4, into the plaza floor. These units included PF 6, 11, 16 and 21 and represent the southern plaza units. In order to recover the deposit to the east units F25-6, 7, 13 and 14 were opened along the base and on the basal terrace of structure F25 and represents the southeastern plaza corner units. In addition several units along the base of Structure F24 were reopened in order to complete the investigations started in 2012. These were PF 2, E24-1 and E24-2 (Fig 2) and represent the northern plaza units. Lastly, in order to recover stratified chronological material for construction episodes unit PF25-26 was initiated at the summit of structure F25.

All excavation units were confined to a 2m x 2m horizontal grid system (Figure 2) established in 2012. This configuration was kept unless conditions did not permit as such. Excavation levels
were designated by either by arbitrary, cultural or natural stratigraphic differentiation. Each level or features were assigned individual lot numbers (Table 1) in order to keep horizontal and vertical control. The data presented below are the results of the 2012 field season.

RESULTS FROM EXCAVATIONS

Northern Plaza Units

The northern plaza operations reopened three units from the 2012 excavations along the base of structure E24 in order to complete the data collection. Units E24-1, E24-2 and PF2 were initiated along the presumed south base of Structure E24 and into the plaza surface. Units E24-1 and 2, level 1 was excavated to an additional depth of 100 – 125 cm in the north and 53-70 cm on the southern end. This matrix was comprised of a mixed strata ranging form black loam to dark grey loam. The mixed stratum was heterogeneous and the two matrices could not be separated into distinct soil levels. The mixing of the two soil matrices indicate substantial bioturbation as a result of several cohune palms located to the immediate north of the units. In addition to the soil composition this level was comprised of interspersed cut lime stone blocks ranging from 20-40 cm in length, 5 cm in height and 10-18 cm in width. These blocks likely resulted from the collapse of the platform terrace of structure E24 to the north. Cultural materials recovered in this level were also mixed between the collapsed architecture. However the quantity and horizontal distribution of the ceramic indicated that artifacts were a part of a second sheet deposit across the front of the structure. Associated artifacts in this level included Ahk’utu Molded- Carved sherds, Belize Red wares, and unslipped jar forms, as well as numerous chert tools and debitage (Fig. 3). The composition of the ceramics component in this level indicates a Terminal Classic occupation consistent with the other deposit at the southern end of the plaza. At the bottom of this level, a distinct change in matrix composition was noted. This change included a light grey sandy loam matrix with large quantities of burnt clay material, including daub. Several large portions of daub were collected as they had distinctive interior markings from a wattle structure, indicating that the superstructure on structure E24 was likely made of perishable materials. Artifacts associated with this level included a uniform distribution of ceramics across the surface of the unit only 12 cm above the floor level identified in unit PF-7 in 2012. Within this layer a distinct absence of cut limestone blocks were notable, indicating that this layer was initially deposited before the collapse of the structure to the north. Artifacts associated with level 2 included Ahk’utu Molded- Carved, several Belize Red plate and bowl fragments, some chert and obsidian blade fragments. The Ahk’utu Molded- Carved fragment recovered from this level were fitted to other fragments recover from the same level in 2012 (Fig. 3) and other fragments recovered from the sheet deposit in front of structure F25 also in 2012. This suggested that the deposits at the north and south end of the plaza were both contemporaneous and non discrete. Artifacts collected immediately above the floor included
large Belize Red plates and bowls as well as Garbutt Creek Red bowls. In addition several fragments of ground stone and chert were recovered from this level. Unit PF-2 was removed as a single level of black loam to plaza floor at an additional 35 cm. There were no indications that the deposit exposed in the units to the north was continuous in this unit. Artifacts recovered from this unit included ceramics, such as Cayo Unslipped jar fragments and Belize Red wares. Addition material remains collected were chert flakes, ground stone fragments, jute shells and obsidian blade fragments.
**Southeastern Plaza corner**

The southeastern plaza corner operation included 4 units, F-25-6, F25-7, F25-13 and F25-14 which were initiated to define the western face of structures F25, the southeast plaza corner and the eastern basal platform for structure F26. Units F25-6 and F25-7 extended along the western base of structure F25 and F25-13 and F25-14 extended to the east at the summit of the basal platform for the structure.

Units F25-6 and F25-7 were consistent in matrix composition and included two distinct soil levels; an upper layer of 12 cm comprising of black loamy-clay soil that is likely a result of humic accumulation. Within layer 1, cultural material recovered, several scroll feet of the Augustine Red type variety, indicates Post Classic activity after abandonment of the structures. Level 2 consisted of a light beige sandy loam with interspersed cut limestone blocks that resulted from the collapse of the western platform wall of structure F25. These cut limestone blocks ranged from 15 to 25 cm in length and were modified on all six sides. Other artifacts collected from these layers included ceramics, chert, jute shells, and obsidian fragments.

In the layer below level 1 the artifacts resembled the sheet deposit recover in units to the west, dating to the Terminal Classic period based on the presence of Belize Red wares, *Ahk’utu* Molded- Carved fragments and several pedestal base fragments.. Since the sheet deposit appeared to be continuous along the base of structure 25, these artifacts were collected as a part of level two and associated with the earlier materials collected in 2012. Several fragments of ocarinas and spindle whorls comprised the special finds in this unit. Other ceramics recovered form this unit included fragments of Cayo unslipped jars and Belize Red plate and dishes (Gifford et al. 1976). In addition to the recovered ceramic material numerous chert fragments, including partial bifaces, ground stone fragments, faunal remains, jute shells and obsidian blade fragments were recovered. Along the southern edge of the unit F25-7 a 0.75 meter high, eight courses, cut limestone basal platform of structure F26 was exposed. However the SE corner of the plaza was not exposed in this unit.

Unit F25-13 and F25-14 were opened to the east in an effort to define the summit of the basal platform of the structure. No remains of any floor were identified indicating that the summit of the platform was badly deteriorated. Along the northern edge of the unit a 3 course high wall was uncovered, sitting on the plaza floor, oriented in an east-west direction starting at the western edge of the basal platform for structure F25. This wall extended approximately 122 cm from the edge of structure F25. No corner stones were identified at the western edge of the wall, suggesting an abrupt termination of the wall and possibly an unfinished phase of modification of the terminal architecture (Figure 4). The SE corner of the plaza was identified in unit F25-14 (Figure 4) and was preserved to 8 courses, approximately 80 cm in height. Along the western face of the basal platform the units were excavated to a depth of 65 cm to the plaza floor and to the east to a dept of 25 cm at the level of the highest preserved course terminating at the summit of the basal platforms. The western edge of the units was divided into two distinct levels, an upper level constituted of a black loamy-clay matrix and a lower level comprised of a dark beige sandy loam matrix with interspersed cut limestone blocks from the collapsed upper portion of the
Figure 4.0: Plan view of Structure F25.

Figure 5.0: Artifacts recovered from the SE corner Plaza F. a. Augustine Red scroll feet, b. ceramic spindle whorl, c. ceramic ocarina fragment, d. zoomorphic figurine head, e. ceramic flute fragment, f. chert biface
platform terraces. At 12 cm above the floor a small scatter of ceramics, chert, fire cracked chert, ground stone, obsidian, jute shells and faunal remains were recovered along the base of the platform (Figure 5). The material remains collected at the upper level included partial hollow oven feet, identified as Augustine Red Variety, Cayo (Gifford et al. 1976). Because preservation of the ceramics in the upper level was poor, few diagnostic sherds were identified.

**Southern Plaza Units**

Operations along the southern end of the plaza comprised of 4 units running from east to west. These units were initiated to collect the remaining porting of a sheet deposit identified, to the south, in the 2012 season. All units were in the plaza area and had similar matrix component. Level one of this unit included a black loam matrix of depth ranging from 8 cm in the north to 34 cm in the south, with few artifacts. At this point the units were subdivided along the north south axis and only the eastern portions of each unit was excavated to plaza floor in order to identify any stratification of the deposit in the western half of the unit. No stratification was evident and as such the remainders of the units were excavated as the same lot as the eastern half. Within this later, artifacts collected included chert flakes, ceramics including spindle whorl, figurine and ocarina fragments, ground stone, faunal remains, jute shells, jade bead and obsidian fragments (Fig. 6).

Along the NW edge of unit PF-21 three cut limestone blocks were observed in alignment running from the base of the terrace to the east for 80 cm, with a notable corner on the eastern side. This alignment is likely the base of a stair or an outset to a stair case. Roots from a nearby hogplum tree, (*Spondias mombin*), traversed the unit from the NW to the SE corner and likely caused damage to the existing architecture in this area. As a result only the basal courses of this alignment remains and no definite functional identification of the alignment can be made with out further excavations to the north of the unit.

The artifacts collected from this operation were consistent with the composition of the deposit collected in 2012. The diagnostic ceramics included spindle whorls, *Ahk’utu* Molded- Carved fragments, Belize Red wares and unslipped jar sherds of the Cayo unslipped and Alexander’s unslipped varieties.

**Unit F25-26**

Unit F25-26 was established for the purpose of assessing the construction phases of Structure F25. This level ended at the top of a burnt plaster floor at 45 cm in depth. Level one’s artifacts consisted of multiple ceramic and chert flakes. The matrix composition of this layer was a black loam soil with no variation.

Level 2 was commenced at the level of floor 1 and encompassed the ballast and fill of floor 1. The cultural materials consisted of daub, ceramics, and chert flakes. At this level a notable decrease of artifact frequency was noted. The matrix for this level was floor ballast and reddish brown clay. At 27 cm below the floor the cobbles from the floor ballast was no longer evident and a uniform clay layer was identified. Although this likely represents the lower fill for the floor a level change was initiated.
Level 3 was initiated when the uniform clay layer was identified. The matrix for this layer was a homogenous brown clay soil with some inclusions of small cobbles. This matrix was removed to a depth of 20 centimeters with a low frequency of artifacts. The major material remains in this level were chert flakes and a single ground stone fragment. At this depth a second floor (floor 2) was uncovered. The lot was ended and a new level was started.

Level 4 was commenced at the top of floor two and extended to a depth of varying depths, ranging from 4 to 12 cm, consisting of the floor ballast and a light grey sandy loam. The artifacts collected from this level included several ceramic sherds and faunal remains. Level four was ended at the top of a third floor (floor 3).

Level 5 was commenced as a result of the identification of floor 3. Similar to level 4 this level was shallow in depth ranging from 2 to 8 cm indicating a possible re-plastering event of a previous floor below. At this level the unit was bisected along a north south axis, creating two sub-units, one in the northern half and one in the southern half of the unit. The bisecting of the larger 2 x 2 m unit was initiated to preserve an alignment of cut lime stone blocks found in the southern portion of the unit. This alignment extended in an east west axis from the eastern edge of the unit and was assumed to be a possible earlier structure (F25 2nd). Cultural materials recovered form this level included ceramic body sherds, chert flakes, daub, and jute shells.

Level 6 commenced at the top of floor 3 and extended to a shallow between 4 and 8 cm also
indicating a possible re-plastering event. This level contained a low frequency of artifact content with few ceramic sherds and chert flakes. The level was ended at the top of another floor.

Level 7 was excavated to a maximum depth of 8.5 cm with variations from 2 cm in the NE corner. This level was ended at the top of a new floor plaster floor. The shallow depth between floors indicates a possible re-plastering event. Few artifacts were collected at this level and included only chert flakes. Due to the end of the season this unit was stopped at the end of level 7 without reaching cultural sterile soils. This unit will likely be reopened in the 2014 field season to finalize the data collection.

Very few diagnostic ceramics were identified during the excavations except in Level 4. In this level two polychrome sherds were identified (Fig. 7). These sherds are described as a black on red and a black on buff polychrome. The black on red polychrome sherd has what may be a partial face of a deer painted in black and the black on buff sherd appears to have a partial glyph block. They have both been tentatively placed in the Late Classic Period based on stylistic attributes. No defined architecture below the terminal construction phase was note and it appears that the structure may have been built in one construction phase with multiple refurbishing.

**DISCUSSION AND CONCLUSION**

The data presented above is as a result of continuing research to define the form, function and construction chronology of the southern most plaza of the acropolis complex, elite residential area, of Lower Dover. These excavations were able to define the southern structure of the plaza and collect additional materials, from within the plaza, associated with the terminal architecture.
of structure F26. In addition, vertical excavations at the summit of structure F25 complements the chronological data collected along northern edge of the plaza in the 2012 season. These two intrusive units indicate that both the plaza and structure F25 was remodeled several times with no apparent major construction phases. While it is important to note that the unit on structure F25 was not completed, it does indicated several re-plastering episodes as observed in the shallow depths between floors (see Unit 25-26 above).

The exposure along the eastern base of Structure F26 recovered the remains of a deposit that was left on the plaza floor and the stairs of the structure (Guerra Et Al. 2013). These types of deposits have often been discussed in relation to terminal occupation of a site and it has been suggested that they represent termination ritual or rapid abandonment activities (Chase and Chase 2003). No definite burn stains were identified in this year’s excavation and is consistent with the observations in 2012. The portion of the deposit this year will add data to fully analyze the composition of the deposit in order to identify possible spatial function of the plaza.

The northern deposit included specialized ceramics in the form of Ahk’utu Molded-Carved, ocarina fragments and spindle whorl fragments. While the remainder of the deposit has not been analyzed the initial observation indicated that the lower level deposit is comprised of mostly utilitarian wares that may be associated with cooking and/or serving, and appears to form a discrete deposit on the plaza floor level with a second activity above that.

The preliminary assessment of the recovered ceramics at Plaza F indicates a Terminal Classic occupation with an early facet Postclassic activity. Postclassic artifacts included mostly scroll feet of the Augustine Red ware and were found isolated to the southern edge of the plaza on Structure F26 and extending into the plaza area. These artifacts were found either in the to humus layer or mixed in with some collapse debris suggesting that these activities too place amidst the crumbling architecture. However, the excavations in the northern half of the unit indicates that some occupation in the terminal classic period was amidst collapsing architecture indicating that the plaza was abandoned and the reused as evidence by artifacts found within the collapse architecture covering an on floor deposit with no evidence of collapse materials.

The 2014 field season will be partially dedicated to the analyses of the materials collected in both deposits in order to answer questions on chronological and spatial occupation at Plaza F.
**Table 1.0**: Lot number for the 2012 excavation units.

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<td>Lower Dover</td>
<td>SR3</td>
<td>Plaza F</td>
<td>PF-21</td>
<td>1a</td>
<td>PF-52</td>
<td>On Floor Deposit</td>
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ACKNOWLEDGEMENTS

I would like to thank the Belize Institute of Archaeology for their support of the Belize Valley Archaeological Reconnaissance Project. I would also like to thank Dr. Jaime Awe, Project Director, Myka Schwanke and Julie Hoggarth for their guidance and support. I would like to thank the following students, Rebecca Pollett, Michael Petrozza, Zoe Rawski and Nick Jackson who provided much needed assistance in the field and assisted in the write up of this report. Lastly our gratitude goes out to the Reynolds family for allowing the continued research at Lower Dover during our field sessions.

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LOWER DOVER SETTLEMENT SURVEY 2013 FIELD SEASON

Michael Louis Petrozza
Texas State University – San Marcos

INTRODUCTION

In the summer of 2013, survey of the Lower Dover settlement began as part of the ongoing research conducted by the Belize Valley Archaeological Reconnaissance (BVAR) project at the site of Lower Dover located in Unitedville, Cayo District, Belize. Approximately eleven kilometers east of San Ignacio, Lower Dover is situated on the southern bank of the Belize River, which defines the northern boundary of the site. Directly across the Belize River lies the settlement of Barton Ramie. Flanking Lower Dover three kilometers west is Blackman Eddie and Baking Pot six kilometers to the east (Guerra and Morton 2011).

PREVIOUS RESEARCH

Neighboring settlements include Floral Park (Willey et al. 1956), Blackman Eddie (Driver and Garber 2004), and Barton Ramie (Willey et al. 1956; Gifford et al. 1976), have been researched intensively. Gordon Willey conducted the groundbreaking archaeological survey of the Barton Ramie site in 1956 and concluded that Barton Ramie was a settlement site which consisted of residential house mounds and was uncharacteristically devoid of a site core (Willey et al. 1956). Research at Lower Dover began in the summer of 2010. The focus of investigation included mapping the site core and establishing a site chronology. Research of the site thus far has identified two phases of occupation in the latter part of the Late Classic period (AD 800-900) (Guerra 2012), however diagnostic surface scatter in Plaza F has suggested that Postclassic occupation or temporary reoccupation is possible (Wolfel et al. 2009). As the ongoing archaeological investigation of Lower Dover has only recently begun, it is still unknown what relationship these sites had with each other.
METHODOLOGY

The 2013 survey began in Lower Dover’s settlement area. The site was divided into quadrants: northeast, southeast, southwest, and northwest. The center of the quadrants were based on the existing permanent datum (South Datum) established at the site core in Plaza B (Figure 1). This datum served as the originality point at the start and end of each survey. Within these quadrants transects were established running north and south using a survey transit. Distance between transects varied, increasing and decreasing based on visibility. Archaeological features were recorded using a Garmin handheld GPS unit with an accuracy of ±3m and input as waypoints. Features were identified as anomalies in the corresponding terrain, areas containing a high volume of surface scatter, or areas with clearly delineated architectural alignment. The height, length, and width of archaeological features were recorded using a temporary datum and measuring tape. As features were recorded a small sample of diagnostic surface artifacts were collected consisting of ceramics, lithics, and granite (Figure 2). The survey was demarcated by
Figure 2: Sample of surface collection in the Lower Dover settlement area; a) chert spear point, b) granite metate, c) ceramic flange, d) limestone bark beater

cultural and natural features. The Belize River served as the northern boundary, Lower Barton Creek to the east, Upper Barton Creek to the west and the Western Highway in the south (Figure 3).
RESULTS OF THE SURVEY

The survey of Lower Dover settlement yielded a plethora of archaeological data contributing to the understanding of the site. The survey located and recorded two chultunob (Figure 4), two caves, agricultural terracing, and seventy other archaeological features (Figure 5). As a result, excavation was conducted at one of the chultunob recorded (Perkins, this volume). Analysis of diagnostic surface scatter should provide a relative date of settlement occupation.

The southern and eastern boundaries were met in the pedestrian survey with the northeast and southeast quadrants surveyed. Western quadrants were initiated, however were not completed due to time constraints brought on by the dense tropical vegetation in those areas. Pedestrian survey will continue expanding into the western quadrants in the summer of 2014.
FIGURE 4: Chultun (LWDCH2) Prior to excavation and at time of recording.
Figure 5: Archaeological features mapped and recorded surrounding the site core and periphery.
DISCUSSION AND CONCLUSION

2013 was a productive year in surveying the Lower Dover Settlement area. At the onset of the survey it was postulated that given Lower Dover’s proximity to Barton Ramie and the latter sites absence of public architecture, Lower Dover might indeed be the ceremonial center of Barton Ramie. While it is too early to suggest whether that hypothesis can be backed by archaeological evidence, there is however a noticeable dearth of house group clusters in the settlement area thus far. Comparatively, neighboring sites have significantly more clustering.

Moreover, it should be noted that the majority of surface scatter in the Lower Dover settlement area lies in an area of heavy biological and cultural turbation. The entire southern boundary thus far is contained in a corn field and cattle pasture. Most intriguing is the tight cluster of mounds in the lower right hand corner of Figure 5. This cluster lies at the top of a steep hill. Surface collection consists of a high volume of tools used in agricultural production such as manos, metates, bark beaters. Terracing was recorded approximately 50 meters to the south, thus bolstering the possibility that the area was used primarily for agricultural purposes.

ACKNOWLEDGMENTS

I would like to thank the Belize Institute of Archaeology for their support of the Belize Valley Archaeological Reconnaissance Project. I would also like to thank Dr. Jaime Awe, Project Director, Myka Schwanke, Julie Hoggarth, and Rafael Guerra for their guidance and support. I would like to thank the land owners for their cooperation in this survey. Thanks to the Reynolds family for their support, and to the students of the 2013 field season.

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1965 Prehistoric Maya Settlements in the Belize Valley. Papers of the Peabody Museum of Archaeology and Ethnology, No. 54. Harvard University, Cambridge
EXCAVATIONS OF CHULTUN LWDCH2, LOWER DOVER, UNITEDVILLE, BELIZE

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Southern Methodist University

INTRODUCTION

Excavations of chultun LWDCH2 were conducted in the summer of 2013 as part of the ongoing research conducted by the Belize Valley Archaeological Reconnaissance (BVAR) project at the site of Lower Dover, 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 (Guerra and Morton 2012). LWDCH2 is one of the first chultunob to be discovered within the periphery of the site core of Lower Dover and the second to be excavated.

Chultunob are most accurately described as small subterranean chambers, which are ubiquitous throughout the Maya lowlands. Chultunob are found only where bedrock is relatively close to the surface, such as in the karst hills, and are not found on the alluvial plain. (Aylesworth 1993:81) While the presence of chultunob in the Maya world have been consistently documented in their relation to domestic settlement, the function and meaning of these features remain somewhat unclear. One foundation of chultun research is the notion of diachronic functional variation, which applies to chultunob on the individual level. Generally, it is believed that changes in function did not happen during the same time period. For example, a chultun originally excavated for water storage may have been used for human interment centuries later. This multi-functional, or at least bi-functional idea is commonly accepted. Undoubtedly the most common explanation for these underground caverns is the notion of water storage as a primary purpose, followed by food storage or refuse deposit when the chultun is no longer able to retain water. (Puleston 1965). Indeed this explanation is at least partially correct in many instances. “It has long been known that the large (ca. 6 m deep), plaster-lined and bottle-
shaped chultuns found in northern Yucatan, and occasionally further south such as Uaxactun were in fact cisterns” (Smith 1950:17). However, smaller chultunob and those devoid of any plaster coating, thus unable to hold water, such as ones discovered in Belize (Gray 2000:93), may warrant a more comprehensive analysis to fully explore their primary and secondary functions.

The excavation of LWDCH2 marks the fourth chultun to be excavated as part of a multi-year investigation, which began in 2011, intending to expand the overall understanding of chultunob function and meaning within the Belize River Valley through the use of mapping, excavation and the introduction of phosphate analysis. The following report should serve to summarize the findings on LWDCH2 as well as place it's discovery in the context of a wider pattern of chultun use across the Maya world.

BACKGROUND

The Belize River Valley is located in the Cayo district of Western Belize, encompassing several major archaeological sites including Cahal Pech, Lower Dover and Baking Pot. Previous investigations of chultunob specifically within the Belize River Valley have been sporadic in nature as their discovery and occasional excavation are often secondary to the primary goals of the investigator. However, the BVAR project has noted the presence of chultunob particularly within the site of Cahal Pech in various field reports (Awe & Campbell 1988, 1989, 1991, 1992), refuting the previous claims made by Willey et al. (1965) that chultunob do not occur in the Belize River Valley. Noted investigations of chultunob within the Cahal Pech periphery include the Tolok group (Powis 1991, 1992), the Hospital group (Awe 1992), the Zotz group (Awe, Aimers & Blanchard 1991), the Cas Pek group (Awe et al. 1992) and the Zubin group (Iannone 1993). Additionally, investigations were previously undertaken on four chultunob from the site of X-ual-canil located in the Cayo district (Gray 2000) as well as one chultun in the periphery of Baking Pot (Perkins 2012) and one chultun in the site core of Lower Dover (Perkins 2013).

Chultun LWDCH2 was initially discovered during survey conducted on the Southern Periphery of Lower Dover in June of 2013 (Petrozza 2014). The chultun is located in what is now a livestock pasture on private property.

METHODOLOGY

The chultun was prepared for excavation by clearing large vegetation and surface debris from the visible entrance. A 1x1 meter excavation unit was placed over the entrance with the purpose of exposing the capstone. In accordance with Iannone’s observation (1994:99) that a chultun constituted a “readily definable space”, the chamber itself served as the primary excavation unit. Within the chamber, vertical control was maintained by excavating in natural levels. Standard archaeological excavation procedures were used including troweling, brushing and screening through a ¼ inch mesh screen. All artifacts collected were bagged and labeled according to unit, level and artifact type each day.
Figure 1a (Left): View of LWDCH2 from location of house mound group, Figure 1b (Right): Southern mound at top of hill (Photos by C. Perkins)

EXCAVATIONS

Excavations of chultun LWDCH2 began on July 11th, 2013 as part of the 2013 BVAR field season. This chultun was initially discovered during survey of the southern periphery of the site of Lower Dover, conducted in June 2013 by M. Petrozza (Petrozza 2014). During this survey, it is important to note that a small house-mound group was discovered directly adjacent to the location of the chultun. The house mound group was located on the top of a hill, with the chultun located directly at the southern base. Figure 1a and 1b illustrates a southern view of LWDCH2 from the top of this house mound group. Surface finds in this house mound group included metate fragments, ceramic sherds and one bark beater (Petrozza 2014).

The chultun at the base of the hill was heavily obscured by grass and debris, with only a small gap at the entrance visible. Excavations began by placing a 1m x 1m excavation unit over this entrance with the goal of exposing either a capstone or artificially modified limestone to confirm the feature as man-made.

After the entrance was cleared, a completely intact capstone was found in place (Figure 2a), measuring 70cm by 64cm. Other artifacts found during this initial excavation of the entrance consisted of small non-diagnostic ceramic and lithic debitage. Once the capstone was removed, we were able to gain access to the primary entrance, which measured 64cm x 67cm (Figure 2b), and begin the task of removing enough debris to access the main chamber.

Upon gaining access to the main chamber, it became clear that this chultun had become the final resting place for a menagerie of small creatures over the years. In total, at the
end of excavations more than 250 individual faunal bones were recovered, none of which were determined to have any anthropogenic modification.

Figure 2a (Left): Capstone (LWDCH2). Figure 2b (Right): Chultun with capstone removed. Photos by C. Perkins

Figure 3: Test Unit to Bedrock (LWDCH2) Photo by C. Perkins

The interior of the chultun was un-plastered and contained a mix of deteriorated limestone and silty sand. I began investigations of the interior chamber by establishing a 50cm x 50cm test unit with the purpose of exposing bedrock and understanding the true dimensions of the original chamber.

Upon reaching bedrock in this test unit, the chultun’s dimensions were measured as:

Height: 143cm (from bedrock to ceiling)
Length: 258 cm (east to west)
Width: 118 cm (north to south)

Figure 4: Map of Chultun Dimensions (LWDCH2) *Photo & Drawing by C. Perkins*

Final excavations revealed the morphology to closely resemble that of a lateral (shoe-shaped) chultun (figure 10), first record by Puleston in 1971.
Excavations were concluded on LWDCH2 on July 29th, 2013. Other than exposing the original morphology of LWDCH2, there were no other substantial discoveries in the form of exceptional artifacts or other remains.

Figure 5: Profile of Lateral Chultun (Puleston 1971)
Figure 6: End of excavations- main chamber (LWDCH2) *Photo by C. Perkins*
ARTIFACT ANALYSIS

Throughout the course of excavations at LWDCH2, over 400 individual artifacts were recovered (Table 1). While the majority of these artifacts were items such as recent faunal remains, lithic debitage or non-diagnostic ceramic, a few notable items were uncovered as well. These include ceramic sherds appearing to come from three distinct diagnostic vessels (Figures 8a, 8b, 9). The sherds include a polychrome bowl, and 2 plates.

While the ceramics within the chultun, such as the Belize Red variety, were indicative of the Late Classic period (Aimers 2012:68), this does not provide conclusive evidence as to the exact date of the chultun. Due to the small exposed opening and location of the chultun at the base of a hill, it is possible several artifacts washed inside the chultun from the surrounding house mound groups above.
CONCLUSIONS

While excavations of chultun LWDCH2 added important data to the archaeological record such as specific morphology and artifact assemblage, questions concerning function remain. As others have suggested (Wyatt & Crenshaw 2013), chultuns found in domestic contexts may have served as a function of the mortuary
process. When reviewing the specific morphology and function, chultuns have been found to resemble tombs located in ceremonial centers throughout the lowlands, and may have functioned as burial chambers associated with households in residential areas.

“Although accepted wisdom considers them as storage chambers, the lack of evidence indicating storage, their similarity to burial chambers in other parts of Mesoamerica, their resemblance to both artificial caves and to elite tombs, and the human remains and artifacts found within undisturbed chultunes indicates that their use as tombs is much more likely.”
(Wyatt, 2010)

While the lack of human remains within LWDCH2 severely limits the ability to hypothesize about ritual or secondary function, its emptiness itself may provide a clue.

“A common practice in royal burials in the Maya area, as well as throughout the Americas, is to reenter tombs to inter more individuals, perform rituals, and remove individuals for curation elsewhere. Tombs, then, are not closed and sealed, but are open, sacred spaces where ritual can be performed. It is possible, therefore, that empty chultunes were tombs that have been reentered and had their interments removed. Once the chultun was emptied of it’s occupants, it may have been ritually resealed, or simply left open for later populations to throw refuse.”
(Wyatt, 2010)

Overall, the available evidence does not allow for straightforward interpretations. To provide more solid evidence for the intended function of chultunob within Lower Dover, more in situ artifacts and remains must be found through additional excavation.

ACKNOWLEDGEMENTS

I would like to acknowledge my appreciation to the owners of the Lower Dover Field Station, William and Madeline Reynolds for their hospitality and willingness to accommodate our excavations. I would also like to express my sincere thanks to the landowner, Sandra Wragg, Michael Petrozza for his initial discovery of LWDCH2, Norbert Stanchly for his faunal analysis, Rafael Guerra for his logistical support, and all the BVAR field school students who were able to participate in our 2013 field season.

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SITE CORE LITHIC ANALYSIS: A COMPARISON OF LITHICS FROM BAKING POT AND LOWER DOVER IN CAYO, BELIZE

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University of Oregon

Julie Hoggarth
The Pennsylvania State University

Rafael Guerra
University of New Mexico

INTRODUCTION

In the summer of 2013, the Belize Valley Archaeological Reconnaissance Project (BVAR) continued excavations at the sites of Baking Pot and Lower Dover in Cayo District, Belize. Baking Pot is located on governmental farm property at Central Farm. It is located approximately 10 km northeast of the modern town of San Ignacio, just south of the Belize River (Figure 1). This year, excavations at Baking Pot took place in the site core in Group B. Excavations took place at Structure B-17, the backside of structure B-1, and in the adjacent Courtyard 4 (Figure 2). This area is believed to be part of the royal residential complex. The objective was to note the chronology of construction phases and to identify the terminal occupation phase (see Hoggarth et al., this volume). Lower Dover is located in Unitedville, approximately 6 km east of Baking Pot (Figure 1). The site core is located on the private property of William and Madeline Reynolds. Excavations at Lower Dover took place in Plaza F, as a continuation of research from the 2011 and 2012 field seasons. Plaza F is the southernmost plaza, connected to Plaza E (Figure 3). Research focuses to define construction phases for the plaza and for the entire site core, as well as to establish function of the plaza (see Guerra et al., this volume).

These two plazas are similar in size, access and location within the site, and have similar periods of final occupation dating to the Terminal Classic period (AD 800-900), providing a good comparison for regional lithic industry and typology. They are both restricted-access plazas, connected to much larger structures of adjacent plazas. They consist of three smaller structures, which completely enclose the courtyards. They are both on the periphery of the site cores.

Chert recovered from both excavations was examined to determine if production of lithic tools was occurring, as well as to observe lithic technology and use. Chert is a sedimentary, cryptocrystalline rock, commonly used for lithic tool production throughout the world because of its predictability in fracturing. Chert is the most abundant lithic artifact class at both of these sites because it is widely available in the Belize River
Figure 1: Regional Site Map, Belize River Valley, Cayo, Belize
Map by J. Hoggarth, 2010.
Figure 2: Map of Group B, Baking Pot, Cayo, Belize.  
Map by C. Helmke and A. Bevan, 2008
Figure 3: Map of Lower Dover, Cayo, Belize.
Map by R. Guerra, S. Morton, J. Ramos
Valley and is efficient for formal and expedient tool production.

BACKGROUND

Baking Pot was a major center in the Belize Valley, occupied from the Middle Preclassic to the Late Postclassic periods (600 BC - AD 1300). The site reached its peak around the Late Classic period (AD 600-900). The monumental site core is comprised of two groups, Group A and Group B. Group B includes a royal residential complex, where excavations took place in the 2013 field season.

The long history of research at Baking Pot began in 1924, when excavations by Oliver G. Ricketson Jr. took place in Group A, on Structure A9. Subsequent excavations took place in 1949 by A. Hamilton Anderson, 1956 by Gordon Willey and in 1961 by William R. Billard (Hoggarth, 2010). Since 1992, BVAR has been excavating at various locations throughout the site. Laura Johnson examined lithic technology at Baking Pot for her 2010 Honor’s Thesis. She compared the lithics at the royal residential complex, in Group B, and the Yaxtun group, an elite house group near the site core.

Lower Dover’s occupation was much shorter, and significantly less is known about the development of the site core. Archaeological research has been conducted in the surrounding areas since the 1950s. Gordon Willey’s work at Floral Park and Barton Ramie in the 1950s and 1960s was the most notable. Research at the Lower Dover site core began in 2010, by BVAR. Excavations in Plaza F have been continuous since 2011, as researchers work to establish a construction and occupation chronology. Two phases of occupation have been established during the Late Classic period (AD 600-900) (Guerra, 2012). However, much more field research must be done in order to understand the true extent of construction and occupation phases at Lower Dover.

METHODOLOGY

The lithic material examined from Baking Pot was excavated in the 2013 field season. The material from Lower Dover was excavated in the 2012 and 2013 field seasons. All materials were recovered through screening dirt removed from units. The screens were 1/8-inch mesh.

The lithic analysis was conducted in the field lab. Although it is limited to basic macroscopic analysis, there is much to be learned from this type of analysis. In accord with Andrefsky’s categories, lithics were separated into classifications that reflect the stages of lithic production and use of lithic tools. The categories were debitage, cores, preforms, retouched flakes, utilized flakes, formal tools and un-diagnostic pieces. After the initial sort, debitage was further sorted by size class and percentage of cortex present. This method gives a general morphological guide of form, function and use, as well as aiding in the examination of production.
Undiagnostics are any lithic piece not definitively cultural. This includes natural cobbles, fire-cracked pieces (natural material that burst or broke apart due to uncontrolled heat exposure), as well as any cultural material affected by burning (where cultural markers are obscured) and any material that is non-discernible as cultural for any other reason. It is better to be conservative in labeling material culturally modified, especially because fire can create similar breakage patterns as percussion flaking, as observed in a survey of Lower Dover done by K. Sullivan.

Size of debitage shows in what stage of reduction the flake was removed during. Size class was determined by placing each piece of debitage in a series of sized squares to determine an approximate size. Size class correlates to the size of the core, as well as size of the objective piece. The percentage of cortex present on debitage directly correlates with the reduction stage. Cortex is the rind of a rock, caused by a mechanical or chemical process (Andrefsky, 1998). Debitage flakes with cortex present were removed at the beginning of the reduction stages. This will help determine if large-scale production was occurring, or if debitage is a result of retouch and maintenance.

RESULTS

Results were compared to results found by Whittaker et al. in a study of lithic production at El Pilar, a large Maya site on the Belize/Guatemala border. Production within the site core of El Pilar was established by the analysis of a significant amount of debitage. Debitage was found in a thick band at the site and macroscopic analysis, including size class and cortex percentage pointed to intensive production. This model gave a regional comparison for lithic production areas. In order to make more extensive and definite conclusions about the production and use of lithics at each site, additional research will be required and results remain preliminary.

Lithic artifacts at Baking Pot point to residential use and maintenance, as opposed to large-scale production. The small amount of lithic material in general, especially debitage, does not point to any type of extensive production. This would be expected considering the residential context, especially because its elite context (Parry and Kelly, 1987). Material for analysis from Baking Pot was limited in quantity, however there was enough to give a general sense of lithic type.

The lithics from Lower Dover were much more abundant, however nearly 75% of the material was un-diagnostic flakes. This made the diagnostic lithics fairly comparable in number between both sites. A majority of the material excavated from Plaza F at Lower Dover was affected by fire and therefore was categorized as un-diagnostic flakes. Unless the artifact is a formal tool, damage occurring from fire obscures many of the important diagnostic attributes.
When examining the diagnostic flakes alone, a clear pattern emerges in the amount of formal tools, expedient tools and debitage between the two sites. However, there are clear differences in the amount of chert recovered from both sites. It is not immediately clear what accounts for this difference. The possible reasons include: the amount of excavation done at the two sites, the amount of locally available material and the function of the two plazas. The presence of natural chert beds across the Belize River at the site of Barton Ramie may account for the high amount of chert recovered from Lower Dover (Jaime Awe, Personal Communication, 2014). Barton Ramie was likely a settlement area of Lower Dover. This could be an extraction area for chert for the site of Lower Dover.

Baking Pot is located further from the Belize River and no natural chert beds are present at the river, near the site core. The amount of locally available chert was limited, possibly accounting for the smaller amount of chert found at the Courtyard 4. The large amount of debitage recovered from Lower Dover, as well as over 3000 pieces of undiagnostic material, may suggest small-scale production.
Table 3: Debitage Size Class Analysis

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<th>Site</th>
<th>&lt;2 cm</th>
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<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
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Table 4: Types of debitage

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<td>Secondary Flake</td>
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Table 5: Distribution of chert sources

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Size class analysis yielded results that point to maintenance and some simple tool production. Objective pieces were not large in size, as the size of the objective piece can usually be observed in the size of debitage. There was quite a lot of debitage at Lower Dover, and could possibly be quite a bit more. The damage caused by modern burning makes many flakes un-diagnostic but they may have been part of the debitage assemblage.

Primary flakes would indicate the processing of raw materials. The processing of raw materials is related to the initial stages of production. Secondary and tertiary flakes are associated with production but more closely with the final stages of production, retouch and general maintenance (Andrefsky, 1998). Results show a much higher percentage of secondary and tertiary flakes at each of the sites. This is more likely the result of residential or small scale production, maintenance and use.

Chert and chalcedony are abundant at both Baking Pot and Lower Dover. The local chert ranges from high quality to low quality material. It comes in a wide range of colors. Non-local chert, sourced from Colha, in northern Belize, is much higher quality. Colha chert is found throughout the Belize River Valley, though it often makes up a low percentage of lithic assemblages. Colha chert ranges from a honey color to a light grey and is often translucent to opaque (Hester and Schafer, 1984). It is more homogenous than local chert, making it more suitable for tool production. Both sites have similar amounts of local and non-local chert.

CONCLUSIONS

The two sites show several similarities in terms of the lithic assemblage. Percentage of formal tools to expedient tools is consistent between the sites. Both sites have about 97 percent local chert, with 3 percent coming from Colha. The debitage of both sites is similar in both size class and cortex percentage.

General evidence at Lower Dover points to termination activities or ritual reuse of Plaza F (Guerra 2012). High quality lithic tools, as well as figurines, ocarinas and incense censers, found in deposits in front of structure F-26, are consistent with regional termination deposits (Chase and Chase 2003). Evidence at Baking Pot could also relate to termination activities, as there was a large ceramic cache also containing musical instruments and high status items (Hoggarth et al., this volume). No evidence at either site points to intensive lithic production, although the evidence does not rule out the possibility of limited production, maintenance and use at both sites.

The chert excavated from both sites was primarily from the surface to 1m below surface. These levels are easily affected by modern burning, which is common in the area surrounding Lower Dover especially. Fire can alter chert and mask attributes that are helpful in the analysis. The majority of flakes that were undiagnostic were those affected by heat or fire. Addition research would be beneficial to form a more comprehensive model for lithic production and typology at each site. With information on typical lithic
assemblages for residential plazas, it would be easier to identify true production areas versus individual, residential production, maintenance and use.

The wide range of artifacts recovered from Plaza F, as well as the character of the material, could point to multiple interpretations for the function of the plaza. These artifacts include high amounts of chert, in the form of debitage, tools and also raw material, as well as ceramic spindle whorls, and faunal material associated with production. However, there isn’t conclusive evidence of intensive lithic production. The other materials could be the result of general craft production or termination rituals (Guerra 2012). Artifacts recovered from Baking Pot reflect more of a residential context, including a full matate, manos and obsidian blades. The patterns reflected in the lithic record are consistent with other archaeological evidence for the function of each of the plazas. Though the percentages of tools and debitage are quite similar, Plaza F has almost twice as much chert present. This suggests that function, combined with accessibility, likely accounts for the difference in the amount of chert present between the two plazas. Further research at the two sites will illuminate the function of the plazas. Additional work in the region will serve in developing a better understanding of lithic material, sources and typology. All of this research will further the study of lithic production in the Belize River Valley.

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ADDITIONAL FIGURES:

Figure 4: Raw material, cracked by fire, at Lower Dover. (Photo by K. Sullivan)

Figure 5: Chert Bifacial Points from Lower Dover. (Photo by K. Sullivan)
Figure 6: Perforators from Baking Pot. (Photo by K. Sullivan)

Figure 7: Large Biface from Baking Pot. (Photo by K. Sullivan)