

***The Belize Valley Archaeological  
Reconnaissance Project:  
A Report of the 2007 Field Season***

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Editorial Staff of *The Belize Valley Archaeological Reconnaissance Project*:

Editor: Christophe Helmke, Department of American Indian Languages & Cultures, Institute of Cross-cultural and Regional Studies, University of Copenhagen, Artillerivej 86, DK-2300 Copenhagen S, Denmark

Co-editor: Jaime J. Awe, Institute of Archaeology, Museum and Archaeological Research Center, Culvert Road, Belmopan, Belize (Central America).

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**Cover:** Carved, incised and inlaid shell disk, Actun Neko, Caves Branch Valley, Belize.  
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## THE 2007 SEASON OF INVESTIGATIONS

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Between June and August 2007 the Belize Valley Archaeological Reconnaissance (BVAR) Project conducted its twentieth field season under the direction of Dr. Jaime Awe. During the season the bulk of the work was focused on sites in the Caves Branch Valley and at Baking Pot in the Belize Valley (see map overleaf).

Dr. Gabriel Wrobel continued work at the Caves Branch Rockshelter, whereas Jillian Jordan completed the survey of the site of Baatelek and begun excavations in collaboration with Rafael Guerra. Shawn Morton also initiated a detailed program of cave reconnaissance in the Caves Branch Valley.

At Baking Pot excavations of the monumental architecture were re-initiated by Christophe Helmke (in Group B, formerly known as Group II) (see also Piehl, this volume). An ambitious settlement survey project was also launched by Julie Hoggarth and Eva Jobbová. This portion of the project has expanded the foregoing William Bullard and James Conlon surveys and aims to result in full coverage of a nine-square kilometer area centered on the monumental architecture. Eventually transects will be conducted to render this survey area contiguous with that of Barton Ramie to the east.

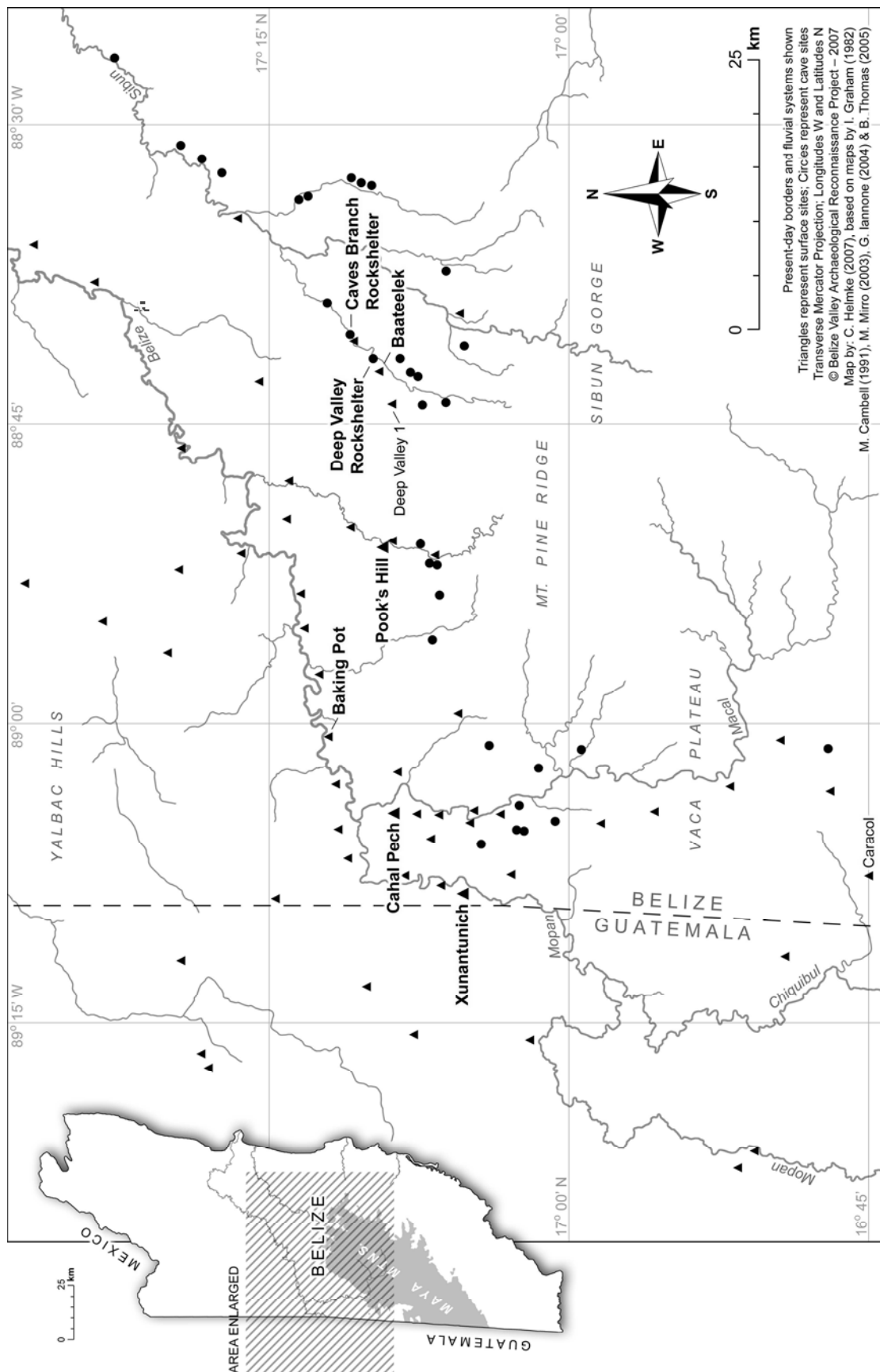
The success of the 2007 season relied on the efforts and collaboration of many. On behalf of the project we would like to thank the Institute of Archaeology and the National Institute of Culture and History for granting us a permit to conduct the research described in this volume. The staff of the Institute of Archaeology has been exceedingly helpful and we extend our appreciation for all their continued assistance along the way.

At the University of Mississippi we had the support and technical assistance of the Office of Research and Sponsored Programs. We owe a special thank you to the proprietors and staff of the Cahal Pech Village and the Caves Branch Adventure Lodge. We value their help, appreciate their patience, and thank them for giving us a home.

Despite the challenges of the field season, every member of the BVAR staff was exceptional in their professionalism, and never lacking in their dedication. Indeed, none of the work described herein could ever have been accomplished without their devotion and perseverance. For all these qualities and their ability to laugh at adversity, we would like to thank Muggs Alexander, Chris Awe, Andrew Bevan, Cameron Griffith, Jessica Hardy, Julie Hoggarth, Angelo Hultquist, Antonio Itzá, Eva Jobbová, Jillian Jordan, Rafael Luna, Amelia McCullough, Shawn Morton, Julie Nehammer Knub, José “Jim” Puc, Jim Puc Jr., Nazario Puc, Gilberto Puc Jr., Rafael Guerra, Lenna Nash, Gwendolen Raley, Jennifer Piehl, Myka Schwanke, José Uck and René Uck.

Christophe Helmke – Copenhagen, Denmark

Jaime Awe – San Ignacio, Belize



# **REPORT ON THE CAVES BRANCH ROCKSHELTER EXCAVATIONS: 2006 AND 2007 FIELD SEASONS**

**Gabriel D. Wrobel**  
University of Mississippi

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## **INTRODUCTION**

The Caves Branch Rockshelter (CBR) in western Belize is perhaps best known for its intensive use as a pre-Hispanic Maya cemetery. Juan Luis Bonor's excavations in 1994 and 1995 exposed an immense amount of scattered bone and the remains of 31 primary burials, most of which were at least partially disturbed by intrusive burials or by recent looting (Glassman & Bonor 2005). Based on the density of human remains from the excavated portions of the rockshelter, Bonor estimated that the site contained at least 150 individuals. This estimate was later doubled based on data from subsequent excavations conducted by the Belize Valley Archaeological Reconnaissance (BVAR) Project in 2005 (Wrobel et al. 2006; Wrobel & Tyler 2006). While the 2005 investigations at CBR showed more diversity in burial practices at the site than previously noted, the material culture still supported the previous interpretation of the site as being a mortuary ritual location used by a rural village population (Bonor 2002).

The consistently Late Preclassic dates of the diagnostic vessels interred as grave goods and the relatively modest material culture assemblage from the rockshelter strongly suggested that the skeletal population was both temporally and socially restricted. The sex and age distribution of the skeletal population, which consists of a large number of infants and both male and female adults, also supported the idea that the site was used by everyone in a small local community. Such a large and discrete biological sample would have been unique, representing an incredibly valuable reference sample for comparison to other Maya skeletal collections. This report on the subsequent excavations and analysis of the CBR conducted in 2006 and 2007 reveals that the mortuary use of the rockshelter was at least more temporally broad than previously believed, and that the relative lack of diagnostic grave goods from later time periods likely reflects subtle changes in the rituals conducted at the site, as well as broader sociopolitical changes occurring in the region.

## **EXCAVATIONS**

Figure 1 shows the excavations placed within the CBR during the 2005-2007 field seasons. The excavations in 2006 expanded upon Operations 1A and 1B, which were begun in 2005 (see Wrobel and Tyler 2006, Wrobel et al 2006). Operation 1C, in the southern portion of the rockshelter, was discontinued in 2006 because of the relative lack of material culture found there the previous year. Operation 1D was a new excavation begun in 2006 to explore the dark zone of the small cave emanating from the center of the

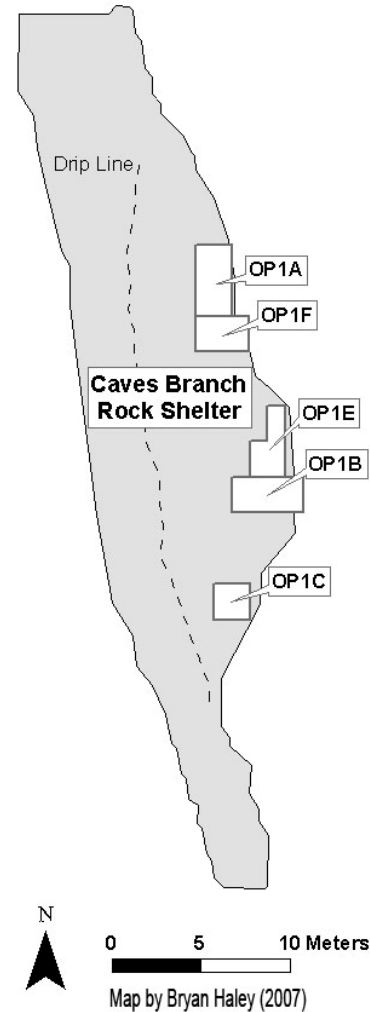
rockshelter. In 2007, two new operations, Op. 1E and 1F, were initiated near the central portion of the rockshelter in an effort to expose more burials, thus increasing the size of the skeletal sample.

The methodology used to record and document the excavations changed slightly at the beginning of the 2006 season; we abandoned our efforts to identify vertical levels after it became apparent that virtually none of the site's natural stratigraphy was left *in situ* by the dense and overlapping graves. The soil covering the site is grave fill, and is generally relatively homogenous within each operation. Thus, vertical control was maintained using arbitrary 20 cm levels, measured from each operation's datum rather than the ground surface. This was done to maintain consistency, since the ground surface changed as a result of the constant erosion and movement of the soft, powdery soil. This lack of noticeable stratigraphy is often typical of rockshelters, and as a result, others have also had to utilize arbitrary levels in their excavations (Lee & Hayden 1988: 19; Prufer 2002).

### Operation 1A

During the 2005 field season, Op. 1A was begun and excavations revealed two primary burials and several clusters of disarticulated bone (Wrobel & Tyler 2006; Wrobel et al. 2006). The excavations in 2006 continued where the 2005 excavations concluded in Excavation Units 12F, 12G, 13F, and 13G. In addition, Op. 1A was extended north (into Excavation Units 10F, 10G, 11F, and 11G) in an unsuccessful effort to locate the limits of the cemetery. Burials continued to extend into the northern baulk. In addition, the upper levels of the excavations revealed dense amounts of scattered bone, which likely washed in from burials eroded out of the sloping northern section of the rockshelter. The 2006 excavations in Op. 1A revealed 19 additional primary interments, most of which were partially disturbed, as well as Burial 42, which was initially discovered in 2005.

Burial 42 (EU 13G, Lot 79) was identified at the end of the 2005 field season, but left *in situ* since only the articulated feet had been exposed. Excavations resumed in 2006 during which time the rest of the body was excavated. The upper body was initially identified as part of the multiple interments associated with Burial 46, and was originally labeled Burial 46C (Indv. 3). Further excavation uncovered the associated postcranial bones connecting the skull to the feet. Burial 42 was loosely flexed on the left side, heading north. A section of the upper torso between the first few cervical vertebrae and



**Figure 1:** Map of Caves Branch Rockshelter excavations 2005-07. Courtesy of Bryan Haley.



the mid-shaft of the humerus was missing, as if a narrow trench was dug through the body. However, no evidence of an intrusive burial was found in the disturbed context, suggesting some other form of bioturbation. The rest of the body is articulated. The size of the long bones clearly show that the individual is an adult male, though no more specific age can be assigned.

Burial 45 (EU 12F, Lot 93) is a disturbed burial consisting of a skull and right arm of an adult. These articulated elements are surrounded by dense scattered human bone pieces, likely from this and other disturbed burials. Sex of the individual was indeterminate. Vessel 6 is an intact ceramic vessel that lies among the scattered bone in close proximity to Bu. 45 (Figure 2). This is also directly beneath Bu. 36 and matches another vessel associated with Bu. 36 excavated in 2005. The scattered bone around Bu. 45 is likely related to the intrusion of Bu. 36. The original association of Vessel 6 is unknown since it lies in a disturbed context. The vessel is grayish brown and has appliques in the form of a sine wave with small “buttons,” and matches Cocay Appliqued described by Reents (1980: 168-176).



**Figure 2:** Vessel 6. Cocay Appliqued globular jar.

Burial 46 (EU 12G, Lot 72) was initially identified as a row of several skulls. Further excavation showed that each of the skulls was associated with postcranial elements, and none have evidence of any sort of perimortem defleshing or trauma. The 5 individuals were labeled A-E, though Individual 46C was later connected to the feet identified in 2006 as Burial 42 and reassigned. Individuals A and B were adult males, Individual D was an adult of indeterminate sex, and Individual E appears to have been a sub-adult, but was too fragmentary to determine a more specific age. Each individual showed different amounts of disturbance, suggesting that they were interred separately.

However, the consistency with which the bodies were placed in the same area, all heading north, certainly allows the possibility that this positioning together was purposeful. Grave goods included a small piece of carved jade, found by the scapula of Burial 46E, and a broken obsidian blade, found in an area with mixed remains. An AMS date taken from this burial gave a 2-sigma range of AD 90-320, placing it within the Protoclassic period. Vessel 7 (Figure 3) was found just east of the individuals comprising Bu. 46, so may be associated with them. However, the vessel is located next to the baulk, so also may be related to unexcavated burials. Terry Powis (pers. comm. 2008) points out that the decoration possibly is an effigy modeled to represent a bird; the design consists of four small flanges (wings?) separated by four small nubbins (feet?). Two of the small flanges are broken off.



**Figure 3:** Vessel 7. Possible effigy vessel.

Burial 47 (EU 11G, Lot 101) is an articulated burial tightly flexed on the left side facing east and heading north. No grave goods were present. Though the burial was undisturbed, preservation was moderately poor, likely as a result of it being relatively shallow (approximately 25 cm beneath the surface). The individual is an adult, based on the size, though sex was indeterminate.

Burial 49 (EU 13G, Lot 102) is a partial burial consisting of a skull and mandible, with a fragmentary but articulated left arm, consisting of a scapula, humerus, radius and ulna. The rest of the body appears to have been disturbed. A lack of dental attrition suggests that this individual was a young adult, and sex was indeterminate. The undisturbed portions of Bu. 49's upper body lay directly on the ribs of Bu. 58.

Burial 52 (EU 11G, Lot 110) was associated with Vessel 9, a Petroglyph Red-rimmed jar that was placed by the feet. The individual was placed extended with head to the south. An AMS on Bu. 52 gave a 2-sigma date of AD 140-390. The extreme wear on the central incisor, which is the only tooth recovered, indicates a middle-age to older adult. Indicators of sex were indeterminate.

Burial 53 (EU 10F/11F, Lot 111) was placed partially prone, favoring the left side, heading east. The right arm is under the body and extended so the right hand is by the innominate. The left arm is flexed, so that the left hand is beneath the left shoulder. The skull was poorly preserved, though the mandible was present and appears to face down. The legs are missing below the knees. The relatively moderate wear on the teeth suggests an age of young to middle adult, and the extremely gracile long bones are clearly consistent with a sex estimate of female.

Burial 55 (EU 12G, Lot 90) is a neonate and appears to have been partially disturbed, perhaps by the intrusion of Burial 59; the left arm and leg were missing and some of the infant's bones were disarticulated and mixed with adult rib bones in the general context surrounding the portions of the body left undisturbed. The head of Bu. 55 was placed to the south.

Burial 56 (EU 12F, Lot 114) is a cluster of the disturbed remains of several poorly preserved primary burials labeled Individuals B, C, and D. Originally, a fourth individual (Indv. A) was identified, though this was later found to be the torso of Indv. B. The main individual in the cluster is Bu. 56B, who was a small adult, likely a female, tightly flexed on the left side. Preservation was very poor, likely as a result of subsequent disturbance. However, elements of the arms, torso, pelvis, legs and feet were still in articulation. The upper torso and head were missing. Burial 56D was the articulated leg of an infant, placed on the arm of Bu. 56B. It was difficult to determine whether these two individuals were contemporaneous, or whether Bu. 56D was intrusive. Burial 56C is a cluster of infant remains, which seem to be partially articulated based on the ribs. Other elements were loose and fragmentary, making burial position and the amount of disturbance difficult to determine. The burial is in the general area of the hands of Bu. 56B, though again, the poor preservation and bioturbation of the area make it difficult to determine whether the individuals were interred simultaneously.

Burial 57 (EU 10G, Lot 117) is composed only of a torso and pelvis, placed in a supine position, heading north. The disturbance likely resulted from the intrusion of one or more of the many burials found in this general area. The individual is an adult, though no sex or more specific age could be determined.

Burial 58 (EU 13G, Lot 118) consists of the skull and humerus of a child, with head to the north. The position of the skull was on its base, facing south, suggesting that the individual was likely placed in a supine position. The dental eruption is consistent with an individual approximately 12 to 18 months of age. Most of the body was not excavated immediately since it extended south into Excavation Unit 14G. Excavations in the 2007 field season did not locate the rest of the burial, and it seems likely that it was destroyed by the intrusion of a later burial. By the head of Bu. B58 was found a carved bone pectoral with a woven mat motif (Figure 4). Woven mats are known in several Lowland Maya languages as *pop*, a reading that is in keeping with glyphic renditions of such matted elements in Classic period writing. The presence of this mat motif on an item of regalia is consistent with an *ah hol pop* (Barrera Vásquez 1980: 666), lit. 'head of the mat', an occupation known from colonial documents of Yucatan (Christophe Helmke pers. comm. 2006). This person was in charge of community houses known as *popol nah* 'mat house', where the community would gather discuss matters of politics, as well as to meet for feasts and dances (Barrera Vásquez 1980: 666; see also Fash et al. 1992).

The inclusion of such an item with an infant seems to indicate a connection between the infant and *ah hol pop*, perhaps a close relative or someone involved in the funerary rituals, and furthermore hints at the presence of social stratification within the community.



**Figure 4:** Carved faunal pectoral found with Burial 58.

Burial 59 (EU 11F/11G, Lot 120) is female, based on the extremely gracile long bones and small mastoid. Two premolars were recovered and show relatively extreme attrition, suggesting that Bu. 59 is middle- to old-aged. The individual was placed in a loosely flexed position on the left side, though slightly supine. The left arm is flexed, and right arm is straight. Vessel 10 was found directly beneath the head. It is a tetrapodal bowl with nubbin supports, which has a red slip with post-slipped striations (Figure 5). The general form is also common during the Late Preclassic within the Belize Valley and includes examples such as Aguacate Orange and Savanna Bank Usulután. The slip, however, is particularly similar to Sierra Red forms (Lisa LeCount pers. comm. 2007), and the incisions identify it as a Laguna Verde Incised specimen (Christophe Helmke pers. comm. 2008). However, the vessel is likely to have belonged to an earlier burial, since an AMS on Bu. 59 gave a 2-sigma date of AD 690-950. A cluster of disarticulated human bone placed over the left knee and may consist of elements from a burial disturbed during the digging of Bu. 59's grave.

Burial 63 (EU 10G, Lot 134) consists of a skull, mandible, fragmentary ribs, and part of a humerus found to the west of Bu. 57. The individual appears to have been placed on the right side, so likely was flexed, though no elements of the lower body were found. Burial 63 was almost completely edentulous, suggesting an old adult. A very gracile humerus and a pointed chin indicate that Bu. 63 was female.

Burial 68 (EU 10G, Lot 141) consists of the fragmentary remains of a skull of an adult of unknown age and sex, which appears to have been disturbed and not in



articulation. The skull was located near a small jade bead, though the relationship between the bones and the bead are unknown.

Burial 69 (EU 10G, Lot 143) is a neonate located near Burial 68, heading southeast in a prone position facing down. The burial was disturbed and only a portion of the body was recovered.



**Figure 5:** Vessel 10. Sierra Red form, probably Laguna Verde Incised.

Burial 70 (EU 11F/11G/12F/12G, Lot 80) was a disarticulated scatter of bones found in the center of Op 1A. The cluster likely contains several different individuals, though a full lab analysis to confirm this hypothesis is pending. The bones mostly appear to belong to adults, though a few sub-adult remains are present.

Burial 72 (EU 12G, Lot 159) is a very fragmentary neonate that appears to have been disturbed by later intrusive burials. Articulation and burial position could not be determined.

### **Operation 1B**

Op. 1B was begun in 2005 in an effort to locate the limits of Bonor's original excavations. Located in the central portion of the rockshelter in front of the entrance of a small cave passage, this was the focus of looting activity, which was the cause of Bonor's

salvage excavations. This area had been so badly disturbed by looters that the depth of the original ground surface was impossible to judge. After removing the backfill from Bonor's excavations in 2005, we continued excavating within Excavation Units 23I, 23J, 24I, 24J and expanding into 24H and part of 23H discovering the remains of 9 primary burials, most of which were partially disturbed (Wrobel & Tyler 2006; Wrobel et al. 2006). In 2006, we reopened this operation in an effort to determine the depth of the burials and to possibly locate any preserved Pre-ceramic cultural levels. Since many of the burials extended beyond the confines of the original four excavation units, Op. 1B was expanded into Excavation Units 22K and 23K. The deepest cultural level contained intrusive burials, and we continued a (50 x 50 cm) test pit to a depth of 1 m below the level of the deepest burial in order to confirm that sterile soil had been reached. The 2006 excavations in Op. 1B produced an additional 14 primary burials, as well as the scattered remains of dozens of more individuals.

Burial 48 (EU 24J, Lot 98) consists of leg bones originally discovered in 1995 by Juan Luis Bonor, who covered them with foil and left them in situ. The body is flexed on the right side and heading east. After uncovering the excavated portion and beginning to focus on retrieving the rest of the body, looters destroyed the context and mixed the bones with others that were also uncovered or near the surface.

Burial 50 (EU 23I, Lot 104) is a neonate, placed prone and extended, heading north.

Burial 51 (EU 24H, Lot 109) was placed in a supine position, heading south and facing up, with the legs flexed and positioned over the chest. The arms appear extended. The relatively moderate dental attrition suggests an age of young to middle-aged adult, and the relatively gracile long bones likely indicate that the individual was female.

Burial 54 (EU 24H, Lot 113) was an undisturbed interment, tightly flexed on the left side and headed south. The right arm was between the legs while the left arm was flexed so that the hand rested under the head. Antemortem tooth loss and relatively heavy dental attrition denotes that Bu. 54 is an older adult, and the relatively gracile long bones suggest a female.

Burial 60 (EU 23H, Lot 121) was tightly flexed on the right side, headed south. The cranium of this individual was missing, possibly as a result of the intrusion of Bu. 54. The size of the long bones clearly indicates that the individual is an adult, and the relatively gracile humerus likely indicates a female.

Burial 61 (EU 24I, Lot 124) consists of the skull of an adult facing up, in no clear association with other skeletal elements. Based on the position of the skull, the individual was heading north, and likely supine. If this is the case, the postcranium is located in Excavation Unit 25I, and remains unexcavated.

Burial 62 (EU 23H, Lot 126) was located directly beneath Bu. 60 and Bu. 65. The skull is missing due to the intrusion of Bu. 66. However, the rest of the body is very well preserved, including the pelvis, which shows a wide sciatic notch, clearly female. The individual is an adult, but the lack of teeth and pubis makes further age estimation difficult. The body was placed heading north and supine, with hips loosely flexed to the right. The left arm was flexed so the hand was resting on the chest, while the right arm was only slightly flexed, so the hand rested on the pelvis. The individual was flexed on the right side heading north. The body also appears to be beneath Bu. 65.

Burial 64 (EU 23H, Lot 129) consists of articulated legs located west of Bu. 60 and Bu. 62. The individual was tightly flexed on right side heading west. The feet of Bu. 64 were missing as a result of the intrusion of Bu. 66. The size of the femur and humerus indicates that the individual is an adult male.

Burial 65 (EU 23H, Lot 130) consists of articulated legs of an individual placed supine with body heading south. The remains of this individual were found in the general area disturbed by looters. The size of the bones suggests that the individual was adult, though the fragmentary nature of the remains prevents an assessment of robusticity, making the sex of Bu. 65 indeterminate.

Burial 66 (EU 22H/23H, Lot 131) is a relatively gracile adult that was flexed on the right side, heading north. The grave of Bu. 66 was dug through the feet of Bu. 64 and through the head of Bu. 62. There were several burials in this general area, though Bu. 66 was most likely the one associated with Vessel 8, an orange-red vase with a constricted neck, which appears to be a variation within the Sierra Red group. This vessel is similar to one reported by Bonor (2002: Transparency 19) with Burial 20. An AMS date taken from the bones of Bu. 66 returned a 2-sigma range dating to AD 80-250, further supporting a Late Formative or Protoclassic designation for the vessel. This individual was also found in close association with a Lowe point (Figure 6), a type dated to the Late Archaic (2500-1900 BC) period (Lohse et al. 2006). We can speculate that the individual had found this lost or discarded point and kept it for use as a tool. Another possibility is that this represents a case of curation of discarded objects, perhaps for use as divination tool or personal *sacra*, as discussed by Brown (2000) for both ancient and modern Maya ritual practitioners.

Burial 67 (EU 23K, Lot 140) was an infant placed next to the rockshelter wall. The torso and both arms were *in situ*, but the head and lower body were missing completely. The body was supine, with the left arm extended and right arm across body. The missing portions of this burial may be a result of nearby intrusive burials, though this grave abutted Bonor's earlier excavations, which may have removed part of the individual.

Burial 71 (EU 22K, Lot 157) is a disturbed primary burial of an individual aged approximately 4 years old. The body position appears to be flexed on the left side, though the amount of disturbance made this impossible to confirm.

Burial 73 (EU 22K, Lot 160) was an articulated innominate and leg, as well as a forearm, associated with Bu. 71. The size of the individual is clearly consistent with an adult, though relative robusticity is intermediate making a sex estimate difficult.

Burial 74 (EU 23K, Lot 161) was composed of most of the appendicular skeleton of an individual encountered under Bu. 67. Burial 74 is clearly an adult, though a more



**Figure 6:** Archaic Lowe point found with Burial 63.

specific age could not be assessed. The relative robusticity of the long bones was intermediate, thus sex is indeterminate.

### **Operation 1D**

A small cave passage is located at the center of the CBR. The cave passage is approximately 1.5 meters in diameter and 5 meters deep; the surface was littered with ceramic sherds, many of which were large and unweathered, as well as charcoal and charred wood fragments, perhaps fragments from torches. The burials within the rockshelter are particularly dense in front of the cave and many appear to be oriented so that their heads point towards the cave entrance. Given the importance of dark zone caves in Maya ritual, investigation of the CBR cave passage was aimed at determining the significance of this obviously important and central area. Operation 1D was begun as a single 1 x 1 m unit, and eventually expanded into a 1 x 3 m.

No human remains were located within the passage. Jessica Hardy (pers. comm. 2007) reports a total of 1664 sherds within the first 20 cm. Most were undiagnostic body sherds from utilitarian wares, though diagnostic sherds were present and spanned the Late Preclassic through Terminal Classic periods. The concentration of ceramics dropped dramatically as the unit continued down to its termination at a depth of 140 cm. Relatively few other artifacts were found, but these included quartz, obsidian, and chert flakes, as well as faunal remains and *jute* shells.

### **Operation 1E**

In the 2007 field season, new excavation operations were opened adjacent to the previous operations. Operation 1E was placed north of Operation 1B. It was begun as a 2 x 2 m excavation, incorporating Excavation Units 21I, 21J, 22I, and 22J, though was later expanded north following burials extending into Excavation Units 20J and 19J. This area is still directly in front of the small cave, though does not seem to have been as disturbed by the looters.

Burial 75 (EU 21J, Lot 515) was represented only by the thoracic region and a right arm. The body was placed supine (flexed or extended leg position is unknown) and heading east-southeast, aligned towards the cave mouth. The right arm of Bu. 75 directly overlies the pelvis and feet of Bu. 80, and also partially covers Bu. 82. The individual is a child, approximately 10-15 years old based on general size, and open growth plates.

Burial 78 (EU 21I/21J, Lot 533) was flexed on the right side heading north, with the lower body completely missing. Arms were tightly flexed as well, and left ribs had collapsed outwardly. A large piece of the right ilium was still *in situ* and slightly overlay the left toes of Bu. 81, suggesting that Bu. 81 predated Bu. 78. The legs of Bu. 87 were also beneath the head of Bu. 78. General robusticity and the mastoid process indicate a male. While no teeth were recovered, obliteration of cranial sutures suggests an age range of middle to old adult.

Burial 80 (EU 20J/21J, Lot 525) was placed supine and heading north, with the legs fully flexed so that the knees would have been on the chest. Arm and hand fragments suggest that the arms were semi-flexed and folded over the stomach. The feet of Bu. 80 were disturbed by the intrusion of Bu. 75, and the upper body was highly



disturbed, though no other nearby intrusive burial was located. The pelvis of this individual was well preserved and the pubis and sciatic notch morphology clearly show Bu. 80 to be female. Though the skull was missing, lipping on the vertebral bodies suggests a middle-old adult. Several *pomacea* shells were also included with this interment. One shell was by the left elbow, and another was under the sacrum. Several others were found in the general vicinity. AMS dated the bones to a 2-sigma range of AD 650-780, placing the interment firmly within the Late Classic period.

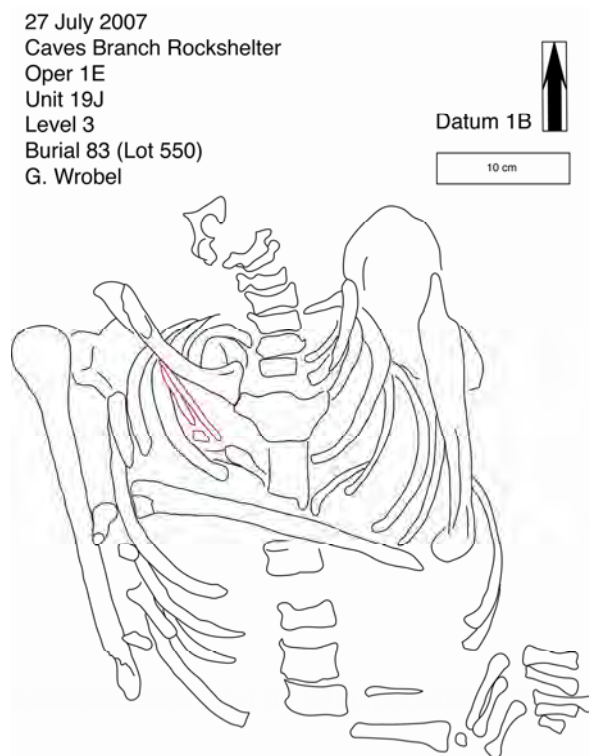
Burial 81 (EU 22I, Lot 541) consisted of a pair of legs, part of a pelvis, and a right wrist of an adult. The individual was flexed on the left side heading south, with at least the right arm extended. The left arm was missing. A *pomacea* shell was placed between the feet. Burial 81 intruded upon Bu. 87, causing the removal of the right foot and the left toes. Missing elements of Bu. 81's feet can be explained by the intrusion of Bu. 78. Burial 81 also seems to have slightly disturbed Bu. 82. Sex could not be determined.

Burial 82 (EU 21I/22I, Lot 542) is a child aged 5-10 years old, placed supine with legs flexed to the left. The head and right arm are missing, likely as a result of the disturbance by the grave of Bu. 81.

Burial 83 (EU 19J/20J, Lot 550) was discovered in Excavation Unit 20J, which had been opened to recover the upper body of Bu. 80 (Figure 7). It was located in the northern section of the unit and extended into Excavation Unit 19J. This individual was placed supine, heading north. The arms were flexed so that the left hand lay over the right humerus, while the right hand was by the left hip. The cranium is completely missing, though the articulated vertebrae are well preserved. The lower body is missing

below the lumbar vertebrae. The missing lower body of Bu. 83 and the missing upper body of Bu. 80 points to a disturbance in the middle of Excavation Unit 20J. A likely explanation of the missing elements in this area is that there exists a deeper intrusive burial, which the excavations never reached. Slight lipping on the lumbar vertebrae suggests the individual was middle- to old-aged. Sex is indeterminate. Grave goods included two pins made of polished faunal bone, and an obsidian blade. The blade measured approximately 6.3 cm in length and showed almost no evidence of use wear. AMS dates this individual to a 2-sigma range of AD 430-640, securely within the Early Classic period.

Burial 84 (EU 21J, Lot 536) is a poorly preserved infant, heading east. Body position is



**Figure 7:** Plan of Burial 83.

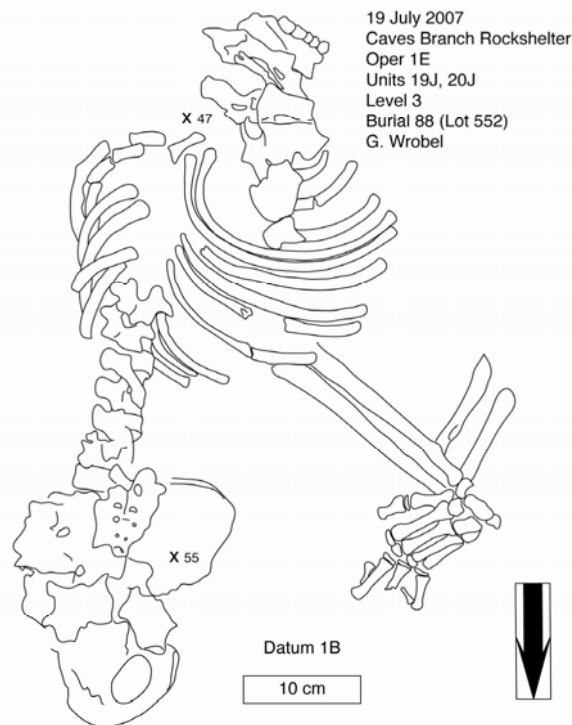
unknown because the postcranium was too poorly preserved. The infant is likely a neonate, based on size and a lack of preserved teeth. There was one *pomacea* shell in direct association with the cranium, and another located approximately 10 cm east of the cranium.

Burial 85 (EU 22J, Lot 539) was only partially excavated and consists of articulated leg and arm elements. Most of the burial was in Excavation Unit 22K and was left in the ground. The size of the long bones indicates that Bu. 85 was an adult, though sex was indeterminate. A fragment of mandible found near Bu. 85 has evidence of periodontal disease and antemortem tooth loss. If this does belong to Bu. 85, then it suggests an age range of middle to old adult.

Burial 87 (EU 21I, Lot 548) was an extended supine individual. Only the legs were excavated, since the body extended into Excavation Unit 20I. The right foot and many of the left toes were missing, as a result of the intrusion by Bu. 81. The relative robusticity of the legs was intermediate, so sex was not able to be determined. The size of the legs, however, indicated that Bu. 87 was an adult.

Burial 88 (EU 19J/20J, Lot 552) was a disturbed, partial burial, placed prone and heading south, directly beneath Bu. 83 (Figure 8). Many of the elements of Bu. 83 rested directly on top of the bones of Bu. 88. Though the lower body of Bu. 88 was totally missing, the spinal column and pelvis were slightly twisted in a way that suggests that the legs were flexed to the right side. The wrists are crossed and to the right of the body. The odd position of the arms, in fact, could certainly be interpreted as a result of being bound. The left arm is straight, running beneath the chest, and the right arm was flexed with the elbow near the head and the palm up. The left wrist covered the right wrist. The rather unnatural angle of the right arm seems to be the result of accommodation for the position of the left arm, with wrists bound. Unfortunately, the disturbance of the burial removed many of the elements, precluding a thorough investigation of the remains for signs of trauma. AMS dated the individual to the AD 80-250, within the Protoclassic period. The third molars were not erupted, indicating an age range of approximately 15 to 20 years, making sex indeterminate.

Burial 91 (EU 22J, Lot 559) was highly disturbed but appears to have been placed in a supine position. While the arms were



**Figure 8:** Plan of Burial 88.

missing, the hands were recovered near the head, suggesting that the arms were fully flexed, but not crossed. The roots of the second molars were not quite complete, suggesting an age of approximately 12 years.

Burial 95 (EU 19J/20J, Lot 575) was partially excavated but was not removed due to time constraints. The lower body was uncovered, showing a burial position that was supine, with legs loosely flexed to the left. Preservation was excellent, likely as a result of the individual being next to the wall in one of the deepest area of the rockshelter. The size of the individual indicates that Bu. 95 was an adult, though a specific age and sex could not be ascertained.

### **Operation 1F**

Operation 1F was placed south of Operation 1A at the beginning of the 2007 field season, and was begun as a 2 x 2 m excavation, incorporating Excavation Units 14F, 14G, 15F, 15G. Later, the excavations were expanded into Excavation Units 14H and 15H, which abutted the cave wall.

Burial 76 (EU 15F, Lot 527) was placed in a tightly flexed position on the left side, heading north. The individual appears to be male based on both cranial and pelvic morphology (mastoid process and sciatic notch) and the light-moderate attrition on the teeth suggests an age of in the range of a young adult. The burial was undisturbed.

Burial 77 (EU 14F, Lot 528) was extended and prone, with head pointing west. The left arm was under the body with the hand by the right hip. The individual appears to be male based on the morphology of a well-preserved sciatic notch and the light attrition on the teeth suggests an age in the range of a young adult.

Burial 79 (EU 14G/15G, Lot 532) was also undisturbed. The body was placed flexed on the left side, heading east. The light dental attrition suggests a young adult, and the mastoid process and general robusticity is consistent with the morphology of a male. The burial was undisturbed and by the head was Vessel 12, a small bowl with a raised decorative band around the body. A large amount of disarticulated bone was piled by the head, and likely represents elements from a disturbed earlier burial, perhaps belonging to the partially articulated legs directly beneath Bu. 79. Vessels 16 and 11 were also possibly related to Bu. 79, though were found between the bodies of Bu. 77 and Bu. 79, making their association indeterminate. Vessel 16 is a small Uaxactun Unslipped ware bowl with an appliqué boss and vertical incised lines. Vessel 11 is a crude gray bowl with a notched rim, appliqué, and an impressed sine wave decoration (Figure 9). While the general attributes are similar to the other Late Preclassic vessels found at the CBR, this vessel does not exactly match the Cocay Appliqued vessel discussed above (see Reents 1980: 168-176).

Burial 86 (EU 14F/15F, Lot 549) was placed supine and heading north. The lower body is missing, likely as a result of the intrusion of the individual located beneath Bu. 79. This collection of bones (Lot 538) was poorly preserved and in very loose matrix, so was difficult to leave *in situ* during excavation. Several elements appear to have been articulated, while most were obviously not in articulation. Some of these elements sat directly on the forearm of Bu. 86, giving a clear burial order. Because many of the bones from Lot 538 were from upper body and arms, it was clearly not simply the disturbed lower body of Bu. 86, though certainly some of the disarticulated elements

were from the missing lower body of Bu. 86. Robusticity is intermediate, though the cranial morphology appears male. The relatively heavy dental attrition indicates a middle- to old-adult.



**Figure 9:** Vessel 11.

Burial 89 (EU 15G, Lot 554) was a disturbed and poorly preserved individual placed tightly flexed on the right side, heading east. The head and upper body were intruded upon by Burials 97 and 90. Burial 92 was also in the area, though it was even more disturbed and likely preceded Bu. 89. The epiphyses are fused, indicating that Bu. 89 is an adult, and the small size is suggestive of female.

Burial 90 (EU 14G/15G, Lot 555) was placed tightly flexed on the right side, and was placed in a pit that intruded through the tightly flexed body of Bu. 97. An AMS date taken on this individual gave a 2-sigma range of AD 540-650, clearly within the Early Classic Period. Vessel 14 is a small Flor Cream jar found near the knees (Figure 10). Vessel 15 is a miniature pot with a single handle that was found by on the ribs by the left shoulder. The head of Bu. 90 was missing, perhaps as a result of later intrusive burials. Alternatively, the body seems to have been placed in a sloping pit, so that the head was much closer to the surface than the rest of the body, thus may have been displaced by erosion. Level 1 in Excavation Units 14H and 15H, located next to the cave wall, shows scattered artifacts and bones clearly washed in from the sloping northern portion of the rockshelter. The long bones are fully grown, thus adult, and are relatively gracile, which is consistent with female morphology.

Burial 92 (EU 14G, Lot 562) is another primary burial, though fragmentary as a result of the many intrusive burials nearby. The humerus is very gracile humerus, indicative of an adult female.

Burial 93 (EU 14H, Lot 570) is an infant approximately 6 to 9 months old, placed prone, but slightly flexed to the right. The orientation of the burial is not in one of the cardinal directions, but instead seems to be aligned so the head points toward a small niche in the rockshelter wall. The head of the infant was resting on Vessel 13, which

appears to be displaced based on the fact that it was on its side. Likely this vessel was washed in earlier, or was slightly displaced and originally was associated with another nearby interment, like Bu. 90. Vessel 13 is a crude plain bowl and was left *in situ* due to lack of time.

Burial 94 (EU 15H, Lot 572) is an infant placed tightly flexed to the right, headed northeast. Like Bu. 93, the infant was aligned towards the small niche in the cave wall. A *pomacea* shell was placed by the chest. No teeth were recovered, though size suggests an age of less than a year.

Burial 96 (EU 15H/16H, Lot 589) is an infant, approximately 6 months of age, placed heading south.

Burial 97 (EU 14G/15G, Lot 561). The knee of Bu. 97 was resting directly on the shoulder of Bu. 89, suggesting Bu. 89 preceded Bu. 97. The cranial morphology of Bu. 97 is very clearly male. The relatively moderate attrition on the teeth is indicative of a young to middle adult.



**Figure 10:** Vessel 14. Flor Cream jar.



## DISCUSSION & CONCLUSIONS

The three seasons of excavations by BVAR have helped further define and elucidate the nature of ritual performed at the Caves Branch Rockshelter by expanding the burial sample, further documenting the diversity of material culture, and acquiring dates from ceramics and AMS. The 66 burials discovered during the last three years significantly improve our ability to document the diversity of mortuary ritual performed at the CBR by bringing the burial sample size to over 100 individuals. The excavations within the rockshelter were planned to test for differential uses within the site, and each sub-operation was large enough to provide adequate sampling of features located within the area. We found that all identifiable features within the light zone of the rockshelter were burials, suggesting that the site's use was very specific to funerary ritual. The excavations within the cave, however, did not contain human remains and instead boasted the densest concentrations of ceramic sherds found at the site. This discrepancy between the cave context and the rest of the site would appear to be a clear indication that the light and dark zones were used differently, possibly as a result of the cramped conditions of the cave passage, though also likely related to the ideological discrepancy between caves

and rockshelters. Conversely, the material culture found dispersed in the general matrix of the rockshelter included the same items found concentrated in the cave, including faunal bones, chert, freshwater snails, carbon remains, and large amounts of ceramic sherds. This may suggest that the same sorts of surface offerings preserved *in situ* in the cave were also left in the rockshelter, but were later disturbed and spread throughout the matrix by constant bioturbation and grave digging. The artifact assemblage documented at CBR is very typical of those often documented in other caves and rockshelters within the Maya region, even those without human remains (Ferguson 2000, 2001; Griffith 1999; Mirro et al. 1999; Moyes 2006; Peterson 2006; Prufer 2002).

The dates of the ceramics in the cave and rockshelter are identical, spanning the Late Preclassic through Terminal Classic periods. There appear to be at least two types of ritual activity at the site related to small offerings and burials. AMS dates taken from bone samples and the range of dates based on the ceramic chronology show that both types of activities were consistently practiced for the entirety of the site's use. It remains to be determined whether the two activities are part of the same ritual. However, it seems likely that the caching rituals performed within the cave (and probably the rockshelter too) are related to the burials and perhaps were practiced by relatives of the deceased, who themselves could have been later placed within the cemetery.

Osteological analysis of the CBR skeletal assemblage is ongoing. The sex and age distribution of the sample is consistent with a typical mortality profile from a preindustrial population (Table 1). There are a relatively high number of infants and small children, suggesting that rural populations had similar stresses as urban populations. The current demographic profile of CBR is preliminary, and later analyses will focus on refining the age and sex estimates of the skeletal remains, and on analyzing the immense amount of scattered remains in an effort to determine a minimum number of individuals.

	< 1	1-5	6-10	11-15	15-20	Young adult	Old adult	Unknown adult	Total
Male						4	2	4	10
Female						2	4	8	14
Indeterminate	10	3	1	2	1	1	2	12	32
<b>Total</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>7</b>	<b>8</b>	<b>24</b>	<b>56</b>

**Table 1:** Age and sex distribution of the burials recovered from Cave Branch Rockshelter during the 2006-2007 field seasons.

The CBR is obviously an important site because of the relatively unique window it provides into the lives of the ancient Maya. The importance of documenting variation in cave sites has been stressed by Awe (1998), and the current study complements the previous work by BVAR and others projects focused on caves by extensively documenting an important mortuary context of a type that is often overlooked in Maya

archaeology. Many scholars have pointed out the lack of distinct cemeteries at even the most intensively excavated prehistoric sites and have marveled over the overwhelming under-representation of skeletons from the millions of prehispanic individuals that inhabited the Maya region over several millennia (Becker 1992). Increasing numbers of investigations at cave sites have shown that they commonly served as repositories for human remains (Scott & Brady 2005). However, I would argue that few if any of the reported cases of dark zone caves containing human remains represent formal cemeteries, in the sense that they are not the default location for the majority of individuals within a community or household. Data from rockshelters, like the CBR, appear to be more consistent with cemetery behavior. The extent of this type of mortuary context within the Maya region is unknown at present, since few of these sites have been reported and the others have not been extensively investigated (Ferguson & Gibbs 1999; Lee & Hayden 1988; Saul et al. 2005).

The planned 2008 season will be spent in the lab focusing on analyses of the human remains, as well as of the material culture. The ceramic sequence is currently being analyzed by Jessica Hardy, as part of her Masters research, and the lithics are being analyzed by W. James Stemp. One of the main focuses of these analyses will be to link the observed variation in mortuary practices to temporal trends in the site's use over time. The AMS dates on the bone were surprising, since they clearly showed a longer period of mortuary use than previously assumed based on the relative lack of Late Classic whole vessels (though see Bonor 2002: Fig. 23). The whole vessels resemble types described by Reents-Budet and Gifford that date to the Late Preclassic to Early Classic transition period and include Uaxactun Unslipped ware (Gifford 1976: 63-4), Cocay Appliqued (Reents 1980: 168-76), Fowler Orange-Red (Gifford 1976: 155-6), and Flor Cream (Gifford 1976: 93-4). Bonor's (2002: Fig. 23) report to the FAMSI shows a partial Late Classic Frenchman's Composite type vase (Gifford 1976: 266-267), which appears to from his excavations near the cave passage entrance. It is unclear whether the fragments were found in situ, though likely they were not since they are not mentioned as being associated with any of the burials. Thus, rather than a grave good, this seems to represent the remains of a vessel that was brought to the cave whole and subsequently smashed, an interpretation based on similar ceramic deposits found in caves in the neighboring Roaring Creek Valley (Christophe Helmke, pers. comm. 2008).

The few other grave goods appear to come from Protoclassic and Early Classic contexts, as well. Other grave goods include a pair of bone pins with Burial 83, which dated to the Early Classic period. Burial 58 had a carved bone with the woven mat motif, but this too is early since it was intruded upon by a Protoclassic burial with a diagnostic vessel. One possible explanation for the lack of grave goods with the later burials is that this trend represents a change in ritual behavior. This shift, along with other contemporaneous archaeological signatures, may be related to the rise of social complexity in the Caves Branch River Valley during the Late Classic period as a result of increased interaction within regional political and economic spheres.



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# **ARCHAEOLOGICAL INVESTIGATIONS AT BAATEELEK, CAVES BRANCH RIVER VALLEY, CAYO DISTRICT, BELIZE**

**Jillian M. Jordan**  
University of Mississippi

**Rafael A. Guerra**  
Belize Institute of Archaeology

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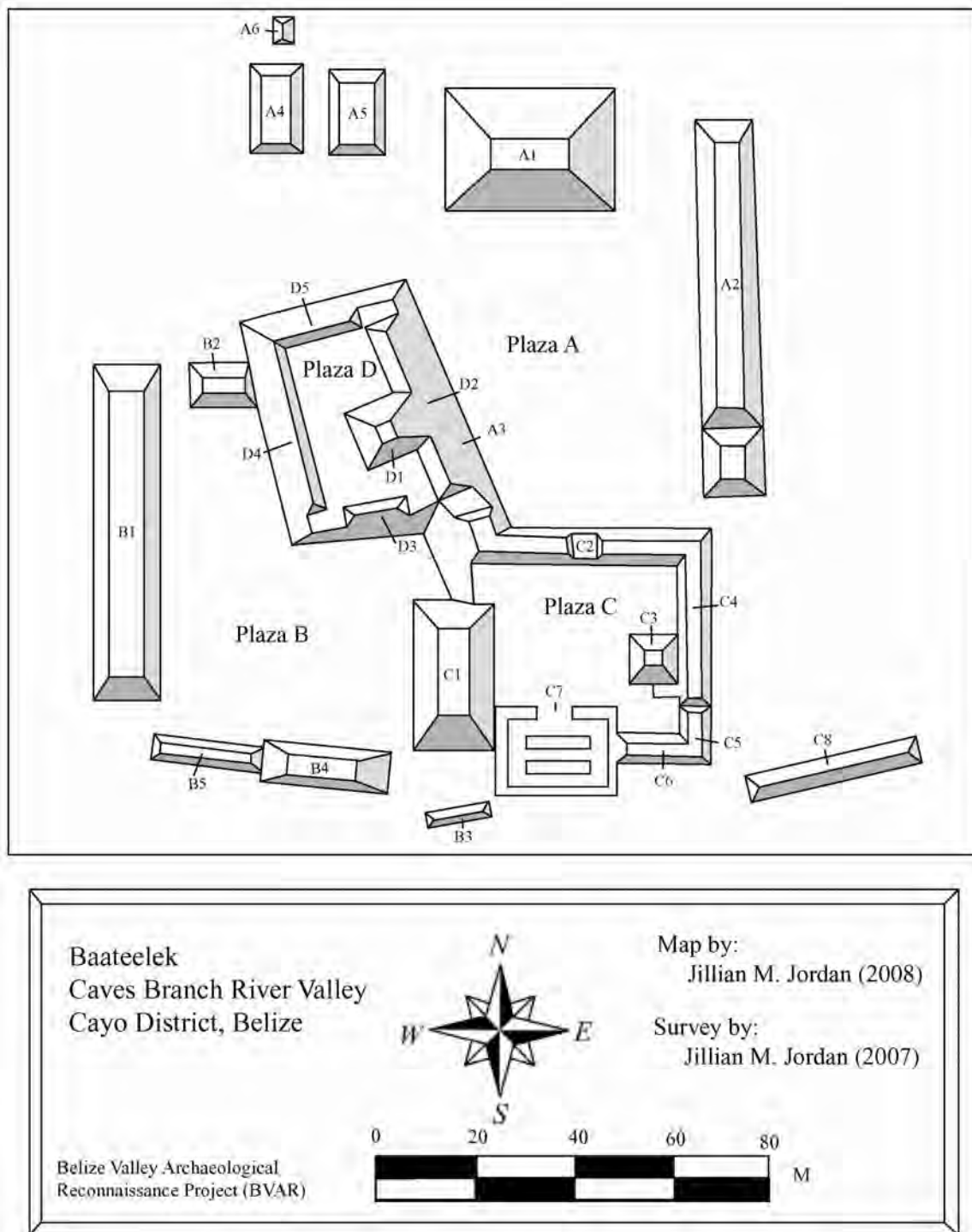
## **INTRODUCTION**

The Caves Branch River Valley has been a focus of cave studies since the Petroglyph Cave Archaeological Project in 1978 (Reents 1980). Since that time, many caves and rockshelters, including Footprint Cave (Graham et al. 1980) and Caves Branch Rockshelter (Bonor 2002; Wrobel et al. 2006), have been investigated though little knowledge concerning settlement in the valley is known. The only major work on surface sites has been the excavations conducted by Davis (1980) at a small housemound known as Deep Valley Lookout and survey of the Deep Valley site as well as those conducted by BVAR (Goldstein n.d.) at Plazuela Xubzulima. This paper is a report on the 2007 field season at Baatelek in the Caves Branch River Valley. Baatelek is the first ceremonial center to be extensively surveyed and excavated in the region. The following report includes a description of the site of Baatelek, details on each excavation unit, a description of the ceramic assemblage used to date the site and a discussion of the role of Baatelek in regional interactions.

## **SITE CORE SURVEY AND A DESCRIPTION OF BAATEELEK**

Baatelek is a medium-sized ceremonial center that encompasses approximately 2.56 hectares and consists of at least 24 structures surrounding 4 nucleated plazas (Figure 1). The site is located atop a hill approximately 250 m to the south of the Hummingbird Highway near the modern settlement known as Armenia. The spatial configuration of the site core is consistent with many Lowland Maya centers, but particularly so with central Belizean sites (Christophe Helmke, pers. comm. 2007). All mounds, regardless of size, within the site core were identified based on the criteria outlined by Tourtellot (1983) at Seibal: elevation, material, arrangement of stone, shape and association. The site core was mapped using a Leica TCR 307 total station and the entirety of the site core was mapped during the 2007 field season.

Two permanent and intervisible concrete datums were placed 40 m apart, on an approximate north/south (magnetic) axis, in the largest plaza and given arbitrary point designations. Universal Transverse Mercator coordinates of the permanent datums could



**Figure 1:** Baatelek Isometric Map.

not be secured with the aid of a GPS receiver due to the dense canopy cover, though coordinates were taken at other locations within the site core and were used to georeference the site. Approximately 4,200 topographic points were taken using the two permanent datums and many temporary datums located throughout the site core. The temporary datums were not placed in specific locations but rather placed to allow maximum visibility from multiple loci throughout the site.

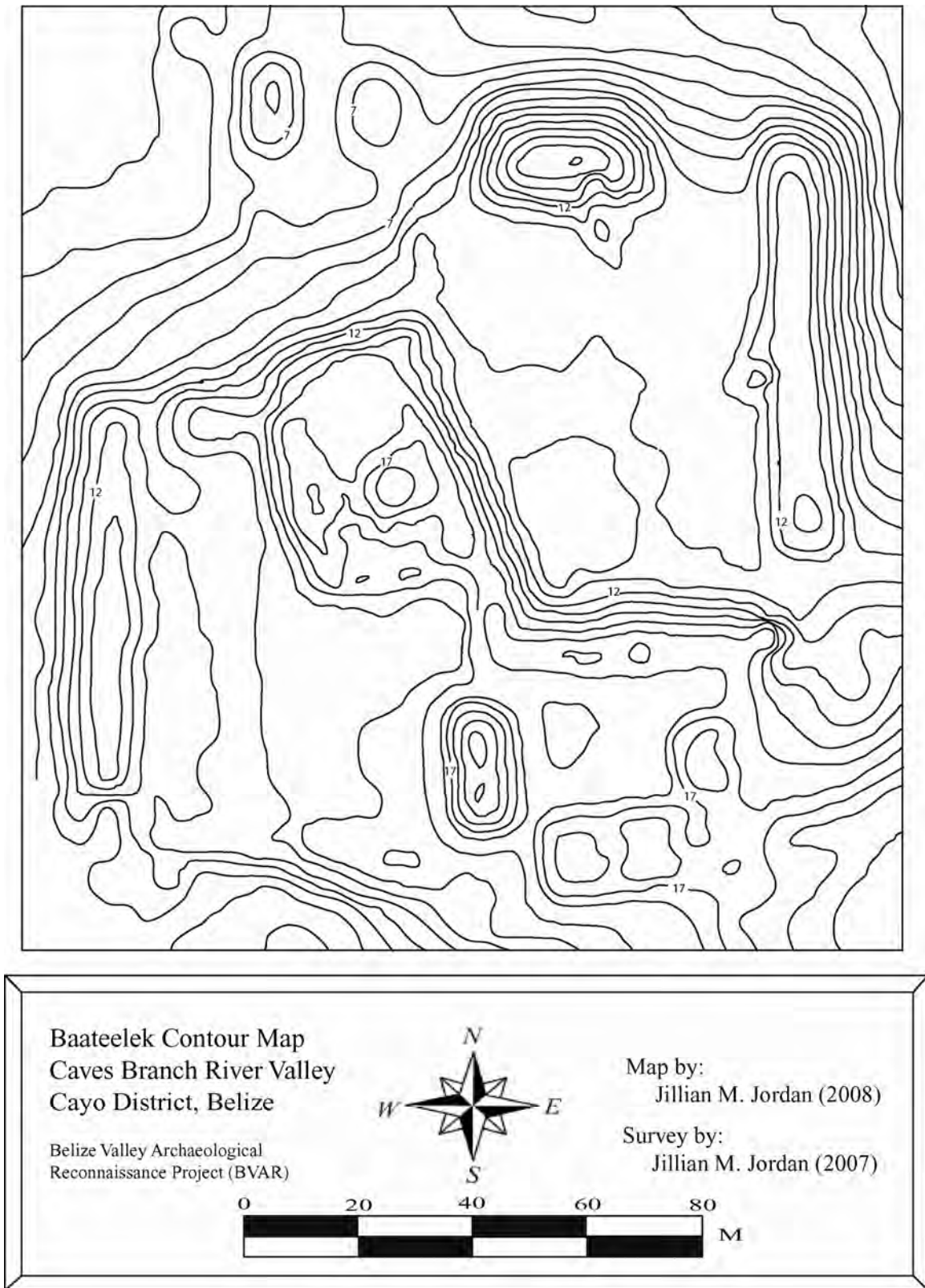
All mounds within the site core were mapped with a fair degree of detail with the purpose of identifying small topographic changes that may reflect the nature of the collapsed architecture, such as vaulted architecture or outset stairs. In general, the individual holding the stadia rod traversed the mounds a number of times (the number of times varied based on the size of the mound) from the summit to plaza level. In the case of distinct features, such as looters trenches or possible vaulted architecture, more points were taken in order to clearly render the feature on the topographic map. The topographic map (Figure 2) was used to create the isometric map to ensure accuracy.

Because no work had been conducted at Baateelek prior to 2006, it was the responsibility of the senior author to assign structure designations to each of the 24 structures within the site core. Following standards employed by the Belize Valley Archaeological Reconnaissance Project (Christophe Helmke, pers. comm. 2007), each plaza was assigned a letter and each structure was assigned a number and letter, with the letter designation based on the plaza on which it borders. The largest plaza, which includes the tallest structures and all of the slate monuments, was designated Plaza A. The next largest plaza was given the designation Plaza B. The two smaller plazas were given the designations Plaza C and Plaza D, with Plaza C being at a lower elevation than Plaza D and thus designated as such. The tallest structure in each plaza was given the designation 1 (i.e. A1 or B1) and the rest of the structures were numbered in sequential order clockwise from the tallest structure. Because the ballcourt is not associated with any plaza, but does border the Plaza A platform, the structures were designated A4 and A5.

## **Plaza A**

Plaza A is the largest plaza and contains all of the slate monuments identified at Baateelek. It measures c. 60 m north-south and c. 50 m on its northern border and c. 40 m on its southern border. The irregular dimensions of Plaza A are probably due to the natural landscape upon which Baateelek was constructed. The 10-m discrepancy between the northern and southern borders suggests that the placement of the structures was dictated by the natural topography. Limestone bedrock protrudes from the surface of Plaza B, located at a higher elevation than Plaza A, indicating that the hilltop rises in elevation from east to west before falling again past the western border of the site core (Structure B1). Excavation data from Plazas A and B (see below), in addition to the topographic data, confirms this hypothesis. Thus, the diagonal placement of Structure A3 and the higher elevation of Plaza B is the result of constructing Baateelek according to the natural slope of the hilltop with little to no modification.

Plaza A is bordered by 4 structures. The northern structure (Structure A1) is the only true pyramidal structure in the plaza. It is terraced and has a superstructure atop it



**Figure 2:** Baatelek Contour Map.

similar to some of the pyramidal structures at Pacbitun and Cahal Uitz Na (Christophe Helmke, pers. comm. 2007). Structure A1 contains a large looters trench penetrating its frontal primary axis that measures approximately 3.5 x 7.0 m (east-west and north-south, respectively). Inspection of the looters trench revealed that Structure A1 was constructed of dry-laid limestone core and faced with cut limestone blocks. Although the looters trench was not cleared, only one construction phase was visible in the exposed section. A slate slab (Figure 3a) was found lying on the western edge of the looters trench. The slab measures approximately 150 cm in length and approximately 24 cm in width. The slab varies in thickness from 10 cm at one end to 12 cm at the center to 4 cm as it tapers off at the opposite end. The slab does not appear weathered, perhaps suggesting that it was removed from the structure during looting activity. The function of the slab is not clear though it may have been the capstone to a tomb, similar to those used in elite tombs at Pacbitun, located 33 km to the west (Healy et al. 1995). Clearing of the looters trench and possible excavation of Structure A1 is necessary to determine the function of the slab, but this objective remains beyond the scope of the current project.



**Figure 3:** a) Slate Slab found at the foot of Str. A1 (left) and b) Monument 1 of Plaza A (right). Photographs by Gabriel Wrobel.

Another slate slab, designated Monument 1 (Figure 3b), was identified in Plaza A. Monument 1 is 1.79 m long and varies in width from 9 cm at the top to 17 cm at the base. It has been shaped, and resembles the five slate slabs documented at the site of Cahal Uitz Na in the Roaring Creek River Valley (Awe & Helmke 1998: 215, 217-218). Slate

monoliths have also been identified in cave contexts at Actun Tunichil Mucnal and Laberinto de las Tarantulas, also in the Roaring Creek River Valley (Awe et al. 2005). “The relatively high frequency with which stela-like monuments made of slate occur in the Roaring Creek valley suggests that slate was the preferred raw material for monuments typically associated with the elite” (Helmke et al. 1999: 80). A slate stela was identified in the royal residential courtyard at Minanha (Iannone 2006: 151) as were two carved stelae at Caracol (Stelae 15 and 21) (Awe & Helmke 1998: 211). Graham (1985) identified a number of slate artifacts at many sites in the Stann Creek District, an area accessible to Baatelek by way of the Hummingbird Gap, including slate needles at Kendal (Graham 1985: 227) and a slate stela at Mayflower (Graham 1985: 224) that was likely erected in the Terminal Classic.

We were unable to locate the butt of Monument 1 though it may be in the ground beneath the looters’ spoil heap in the front of Structure A1. Monument 1 has been designated as a monument, and not a stela, because it is sufficiently different in size and physical configuration from the traditional limestone stelae known in the Central Lowlands (Christophe Helmke, pers. comm. 2007). Monument 1 is undoubtedly in secondary context due to the extensive looting of the site. Seventeen more slate fragments (one of which measures 71 x 47 cm) were strewn about the northern portion of Plaza A. It is unknown how many monuments once existed at Baatelek.

The eastern portion of Plaza A is bordered by an exceptionally long range-type structure similar to those at the site of Cahal Uitz Na (Conlon & Ehret 1999). Visible cut stone suggests that this structure was terraced. The topographic map suggests that this structure probably had at least two superstructures and the superstructure on the southern portion is conical in shape. Though this structure rises only c. 4 m above plaza level it drops off c. 14 m on the northern portion of the backside of the structure due to the natural topography. There is large looters trench located slightly off the primary axis of Structure A2. The trench measures approximately 6 x 3 m and exposed a room at plaza level that had been filled in with core in antiquity.

The southern (C3) and western (A3) mounds articulate at the southwestern corner of Plaza A. The southern mound has one large dip at its center and two smaller ones located equidistant from the center dip to the east and west. These dips are generally interpreted as the spine walls between rooms that once exhibited vaulted architecture. The southern structure probably served as an *audiencia* structure facilitating passage from the public Plaza A to the residential Plaza C similar to structure A2 at Cahal Pech (Awe et al. 1991). The mound was given the designation C2 as an *audiencia* structure is a necessary component of a residential unit but not of a main plaza, although by definition, an *audiencia* structure faces onto both a main plaza and a courtyard. The western structure is a range-type structure with a small pyramidal structure atop it that divides Plaza D. This structure will be discussed in reference to Plaza D.

### **The Ballcourt**

The ballcourt is located in the northwest portion of the site and consists of two parallel structures arranged on a north-south axis, a similar alignment to many of the ballcourts at Lowland Maya sites (Ferguson 1999: 12). Indeed, all of the ballcourts in the Belize River Valley, with the exception of one of the three ballcourts at Baking Pot, are



oriented on a north-south axis (Ferguson 1999: 12). The structures measure approximately 18 x 10 m and are comparable in size to the ballcourts in the Belize Valley (Ferguson 1999: 69-70). By the Late Classic, nearly all major sites (Ferguson 1999: 12) as well as many minor sites in the Belize River Valley, such as Ontario (Driver & Garber 2004: 301-302) and Chaac Mool Ha (Helmke 2006: 42), had ballcourts. Driver and Garber (2004: 302) state that “the ballgame and associated rituals are often affiliated with prestige, alliance maintenance, and warfare and would have provided the appropriate social contexts for marking the proposed district boundaries”. Thus, the presence of a ballcourt at Baatelek is not necessarily indicative of a major center but it is undoubtedly an important ritual component of the site.

Ferguson (1999: 7-8) identifies five ballcourt typologies but warns of the extreme variability and the difficulty of assigning ballcourts to one of the five typologies. However, based on the mounded structures, the ballcourt at Baatelek appears to be an *open-ended court*, the most common type of ballcourt in the Maya Lowlands (Ferguson 1999: 52). “This court comprises two parallel structures and a central playing alley. There are no constructions at either end of the court demarcating the end zone. However, structures sometimes flank the open end of the playing alley” (Ferguson 1999: 8). Structure A6, a small structure measuring approximately 0.5 m high, is located on the northwestern edge of the ballcourt and could have functioned to define the northern end zone. Also, a large piece of bedrock juts approximately 2 m above the ground near the southern edge of Structure A4. If the bedrock was plastered it could have functioned as part of the I-shaped playing alley. Excavation of the ballcourt is necessary to determine if Structure A6 and the bedrock functioned to delineate the end zones.

### **Plaza B**

Plaza B is an “L-shaped” plaza that encompasses approximately 2,700 m<sup>2</sup>. The western edge of the site core is delimited by Structure B1, a long range-type structure measuring approximately 70 m long. Structure B1 has an outset stair at its center and was probably terraced and topped with a pole and thatch structure. Bedrock protrudes from the surface of Plaza B at many locations throughout the plaza, once again suggesting little modification. The plaza is marked by an elevation change at the juncture between structures B4 and B5, two very low range-type structures that delimit the southwestern border of the site core. A portion of a granite metate was the only artifact recovered from the surface of the plaza. Plaza B, like Plaza A, is open and is accessible from three corners of the plaza, suggesting it may have served as a more public space (Awe et al. 1991). Also of note is the close proximity of Plaza B to the ballcourt. The change of elevation requires one to walk down from Plaza B to the ballcourt though this portion of the site was likely terraced, facilitating movement.

### **Plaza C**

Plaza C is a small plaza measuring approximately 30 x 40 m (north-south and east-west, respectively). This plaza was most likely a private, residential plaza occupied by the elite living at Baatelek. The only entrance is a small passage in the northwestern corner of the plaza between Structures C1 and C2. Plaza C is bordered on the eastern and

western sides by two pyramidal structures. Structure C3 has been extensively looted and was built in no more than two construction stages of dry-laid boulder core. Structure C1 is the most imposing structure in the plaza and has not been looted.

Exposed architecture on Structure C7 has allowed for hypotheses concerning its function. There is a doorway facing Plaza C and two, meter-high walls running east-west. The collapsed architecture is minimal and, thus, not enough debris for the structure to have been vaulted. Additionally, no capstones were identified. Structure C7 was most likely a three-roomed structure comprised of 1-m high limestone architecture covered by a pole and thatch roof. It could have served the function of living quarters for the elite of Baatelek. Structures C5 and C6 were poorly preserved but may have also served a similar purpose. The private nature of Plaza C in combination with the architecture of Structure C7 indicates that this plaza was probably utilized residentially by the elite inhabitants of Baatelek.

### **Plaza D**

Plaza D is also a small, but raised, plaza which occupies the highest elevation at Baatelek. Plaza D cannot be seen from the main plaza though Structure D1 is partially visible from Plaza A. Plaza D is bordered by 4 low range-type structures with a pyramidal structure (D1) at its center. Structure D1 was the focus of excavations though no information concerning the function of the plaza was ascertained during excavations. The private, hidden nature of the plaza and its restricted nature suggest that the plaza was not accessible to the public though its function cannot be determined at this time. It could have been utilized as a residential courtyard, similar to Plaza C. Christophe Helmke (pers. comm. 2007) suggests that Plaza D served comparable functions to Plaza A at Cahal Pech, or Plaza B at Baking Pot (Helmke, this volume).

## **EXCAVATION RESULTS**

The second half of the 2007 field season was devoted to excavations. Due to the limited time frame in which to complete the excavations, extensive excavations were not possible. Instead, excavation strategies focused on three main objectives:

1. Establishing a temporal framework through test pit excavations in the two main plazas (A and B) with the purpose of recovering diagnostic ceramic material and identifying construction phases.
2. Understanding construction processes by clearing and extensive mapping of two of the looters trenches in order to provide meaningful information without conducting time-consuming excavations.
3. Determining the function of Structure D1 as a means of testing hypotheses concerning the function of pyramidal structures at Baatelek.

## **Operation 1, Excavation Unit 1**

As discussed above, we decided to clear two large looters trenches and map them in order to gain an understanding of the construction and use of the structures without conducting time-consuming excavations. The first to be cleared was a large looters trench (Figure 4), measuring approximately 3 x 6 m, located near the center of Structure A2. Initial inspection of the trench revealed many courses of cut stone that appeared to form a small room (Room 1) at the center of the structure. The location of the structure on the eastern side of Plaza A, as well as the location of the looters trench at the center of the structure, suggests that the looters were likely searching for a tomb as they are generally located within eastern shrine structures. Unfortunately for the looters, Structure A2 is a long range-type structure approximately 80 m long and probably did not function as an eastern shrine structure. However, the looting activity proved useful for archaeological inquiry as it uncovered a room that would have not been detected otherwise.

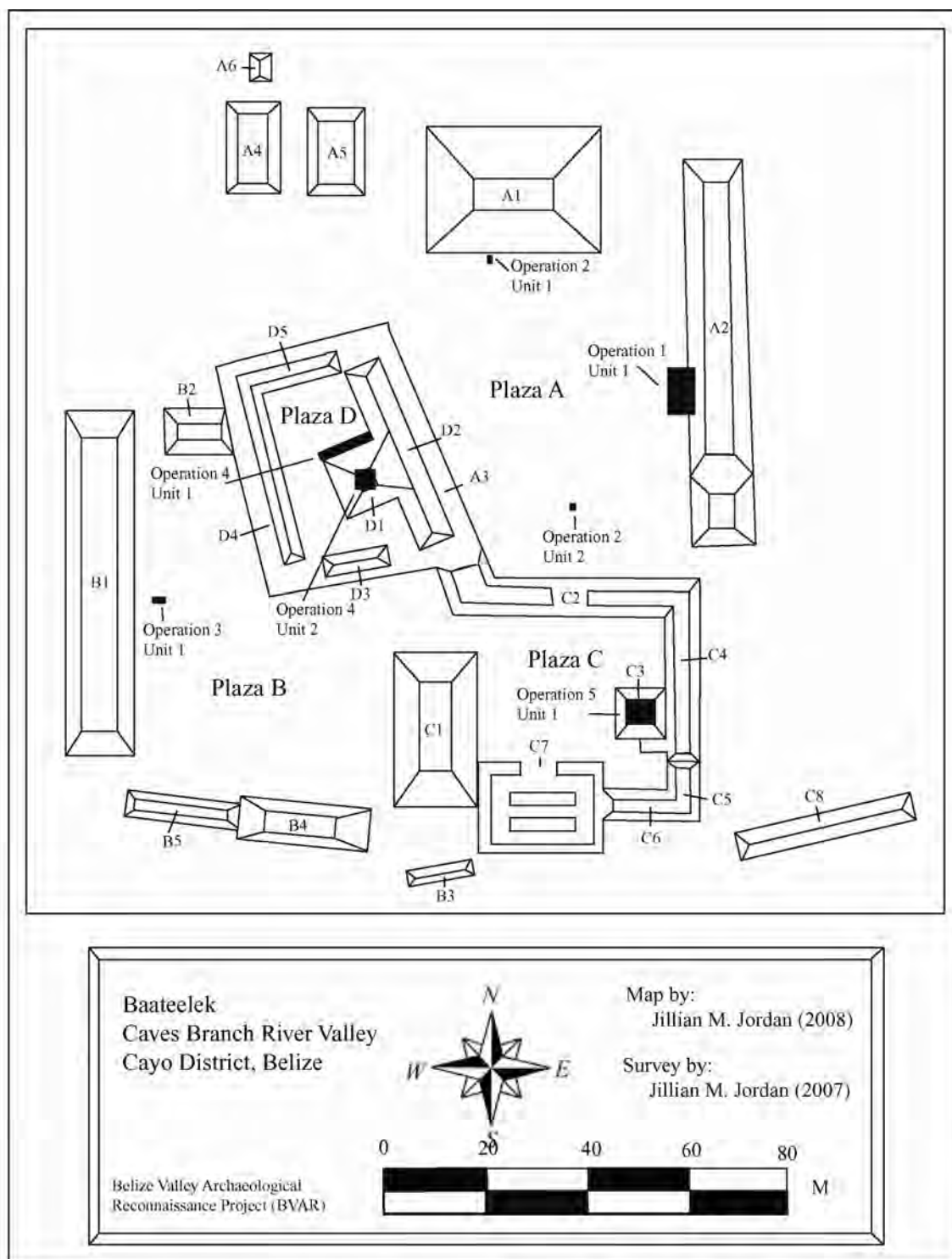
Room 1 measures approximately 4.0 x 1.7 m (north-south by east-west, respectively) (Figures 5 & 6). The room opens up at plaza level and there was no evidence of a bench though it could have been destroyed by the looting activity. Many large boulders, similar to those used as core in Structures A1, C3, D1 and to level the plazas (see below) were removed from the trench. The building core of Structure A2 is similar to that of Hershey in the Upper Sibun River Valley (Harrison-Buck 2007: 44), Xunantunich in the Belize River Valley (LeCount et al. 2002), and that of Pacbitun and Cahal Uitz Na. It appears as though Room 1 was filled in with large boulders in antiquity. All artifacts from Room 1, which consisted mainly of ceramics and a few chert lithic fragments, were placed into a single lot and level as the contents were disturbed by the previous looting activity.

## **Operation 2, Excavation Unit 1**

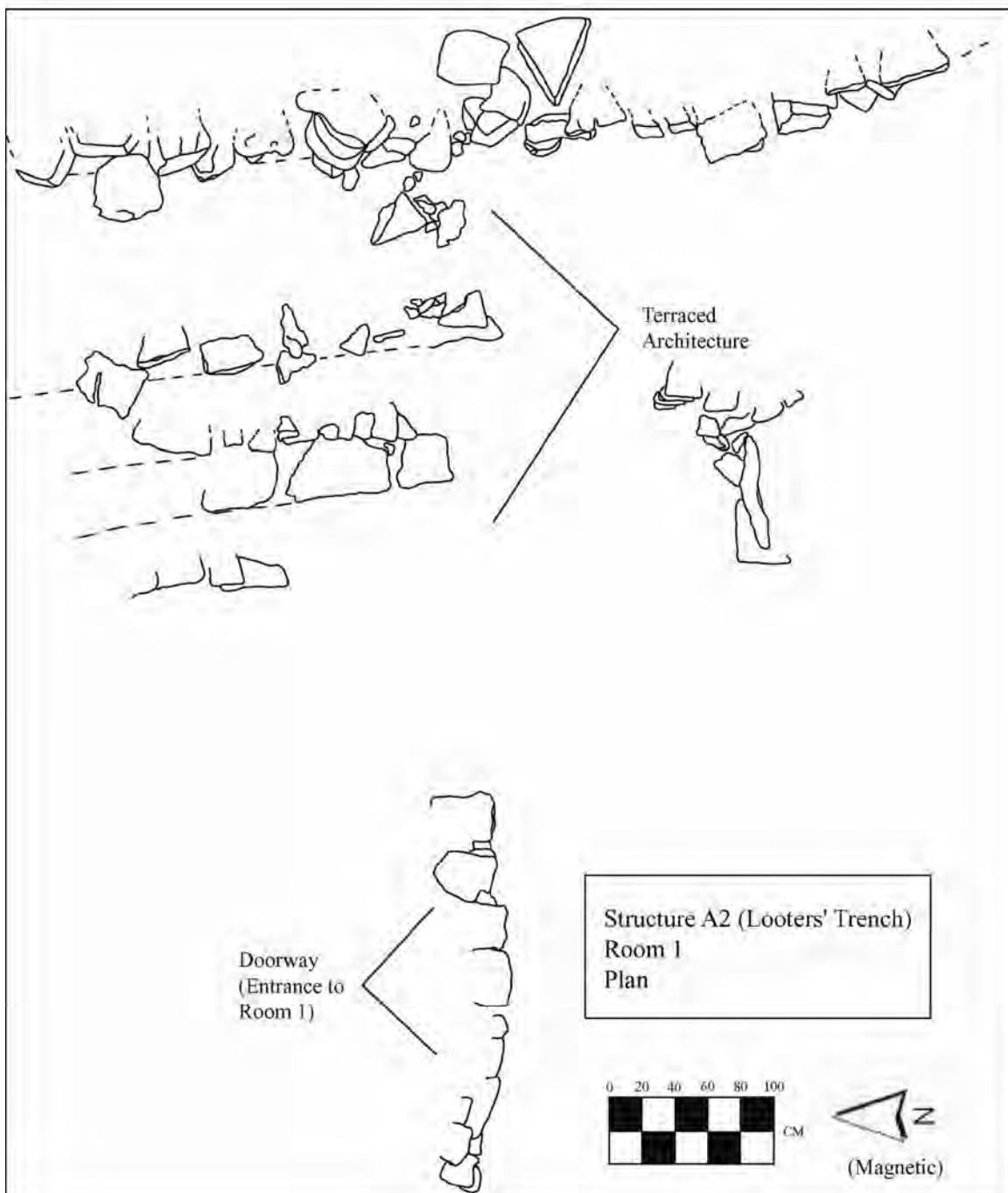
A 1 x 1 m excavation unit, aligned on a north/south (magnetic) axis, was placed beneath the collapse of Structure A1 with the goal of locating plazas floors in order to begin to understand the site formation processes at Baatelek and also to uncover diagnostic ceramics that could be used to date the different construction stages.

### *Level 1, Lot 11*

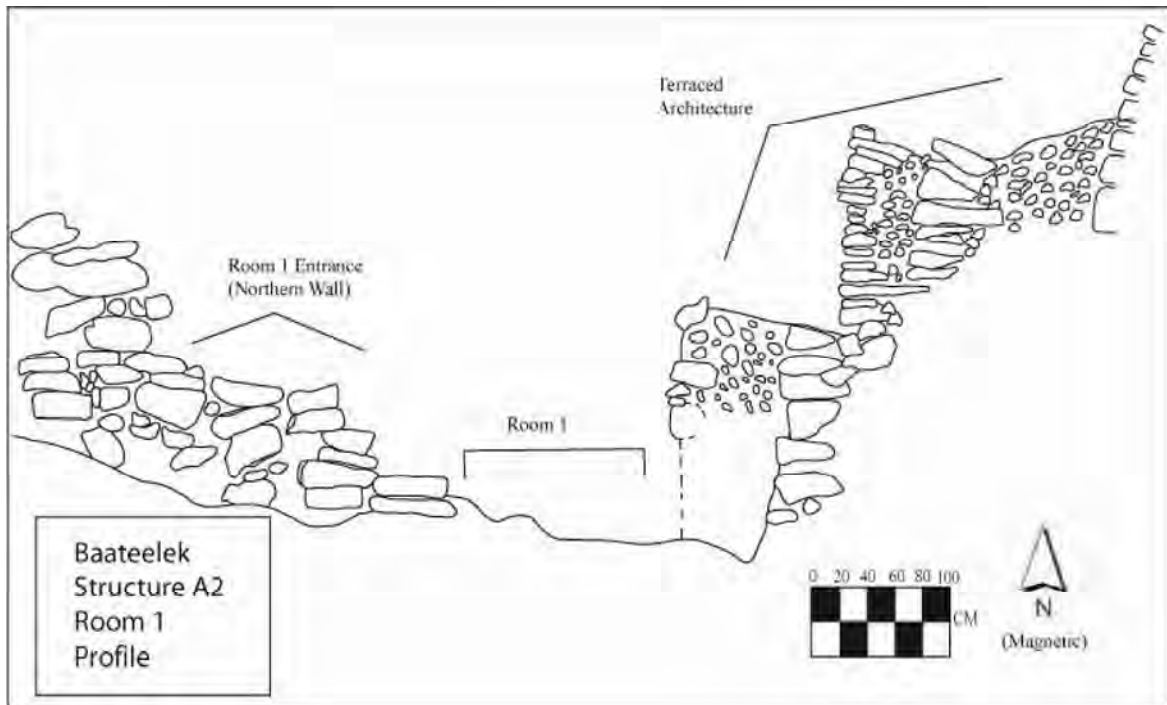
Level 1 was characterized by humic material (including rocks, roots and pebbles) and collapsed material. This level produced two extremely eroded ceramic body sherds and one eroded rim sherd. Just below the surface, the first terrace of Structure A1 was encountered and consisted of three cut stones in the northern portion of the excavation unit. Because the purpose of the excavation unit was to locate floors and diagnostic ceramics in order to date Plaza A, and not the interior of the structure, the excavation unit was extended 1 m to the south of the exposed terrace making the excavation unit 1.0 x 1.4 m (east-west by north-south). Level 1 was concluded when the first floor was encountered.



**Figure 4:** Location of Excavation Units at Baatelek.



**Figure 5:** Plan of Room 1 (Operation 1, Excavation Unit 1).



**Figure 6:** Profile of Room 1 (Operation 1, Excavation Unit 1).

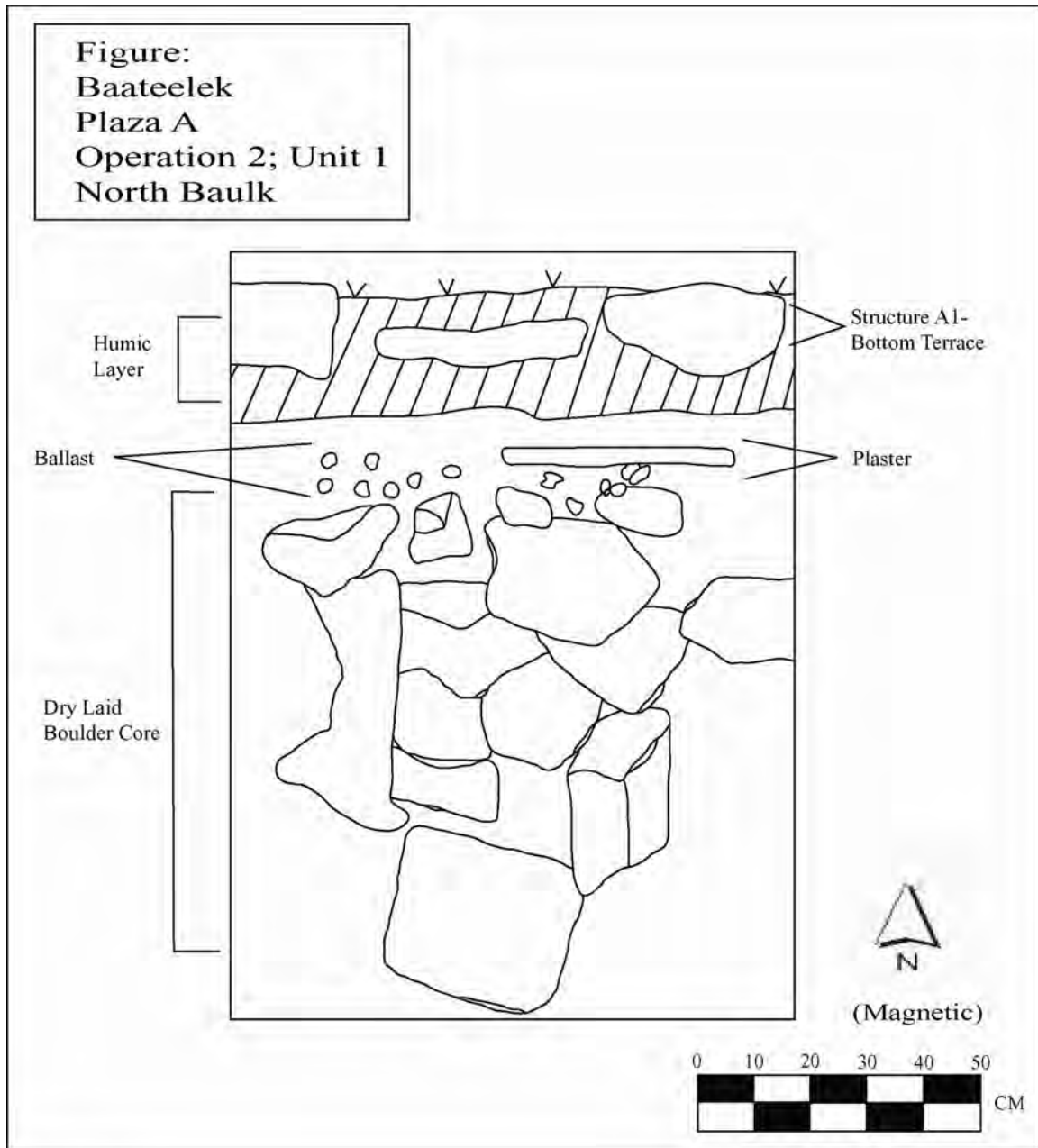
### *Level 2, Lot 12*

Just below the terrace, Floor 1 (Figure 7) was located and can only be described as very poorly preserved and consisted of fist-sized rocks which formed the ballast. No preserved plaster was detected. A second floor was located directly below the first and consisted of fist-sized rock ballast, though was better preserved than Floor 1. Level 2 was concluded when we located this penultimate floor. Artifacts from this level consisted of eleven eroded non-diagnostic ceramic sherds including two eroded rim sherds and one base sherd.

### *Level 3, Lot 13*

The penultimate floor was well preserved in the northern and southern portions of the excavation unit and consisted of fist-sized and smaller rocks, similar to the composition of the terminal floor, though with better preservation. A portion of plaster preserved in the northern end of the excavation unit and is visible in the profile. Just below the second floor were medium to large sized limestone boulders with an average circumference of 67.7 cm. It appeared as though the small, fist-sized rocks had been tamped down to create a stable surface above the large boulder core used to level the plaza. The core was dry-laid with little to no soil between the large boulders. Twelve eroded ceramic sherds were recovered from this level including 1 rim sherd and 1 base sherd. The excavation unit was not taken to bedrock due to time constraints as the removal of more large boulders would have required extending the excavation unit. The

lowest recorded elevation was 1.3 m below the surface (approximately 1 m below the penultimate floor).



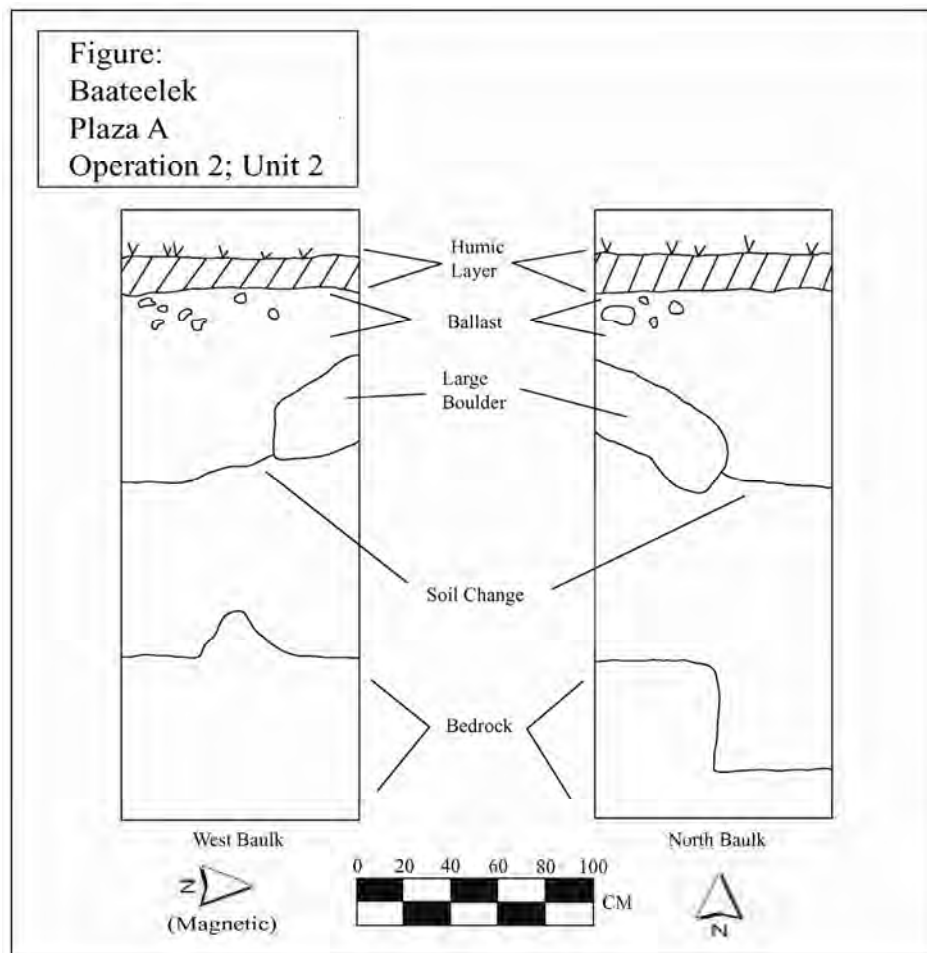
**Figure 7:** Profile of Operation 2, Excavation Unit 1.

## Operation 2, Excavation Unit 2

Excavation Unit 2 was placed in the southern end of Plaza A to determine if the same construction stages (i.e. terminal floor, penultimate floor, dry-laid core) were present throughout the plaza. Quite unexpectedly, Excavation Unit 2 turned out to be strikingly different from Excavation Unit 1. Very few boulders were removed from Excavation Unit 2, like those used as dry-laid core in Excavation Unit 1. Rather, there was only soil, with very few rocks, from the surface until bedrock was reached at approximately 1.7 m below the surface of Plaza A.

### *Level 1, Lot 21*

Level 1 consisted of the humic layer. The ballast of a floor was encountered at approximately 20-30 cm below the surface and is visible in the profile (Figure 8). The ballast of the floor identified in the profile is most likely the penultimate floor as Excavation Unit 2 was not placed under the collapse of Structure C2, leaving the terminal floor exposed to the elements and thus lessening the likelihood that it would survive in the archaeological record. No artifacts were recovered from this level.



**Figure 8:** Profile of Operation 2, Excavation Unit 2.



### *Level 2, Lot 22*

Below the floor identified in Level 1, very few rocks were removed from the level and no artifacts were recovered. A soil change occurred at approximately 1 m in the vicinity of a large boulder, possibly bedrock, visible in the baulk.

### *Level 3, Lot 23*

Level 3 was initiated after the soil changed in color though the composition remained the same. Similarly, no artifacts were recovered and the level was concluded when bedrock was reached at 170 cm below the surface of Plaza A. After much confusion, a look at the topographic map of Baatelek provided an explanation for the differences between the two excavation units. The natural topography slopes downward from south to north. Therefore, in order to create a level surface for Plaza A, it was necessary to build up the northern end of the plaza with dry-laid core while the southern end could simply be covered with ballast and plaster. After clearing out the looters trench in Structure C3, we noticed that bedrock was not cleared of groundcover prior to construction (see Figure 10). It is likely that the same construction technique was used in Plaza A and is consistent with a rapidly constructed site.

## **Operation 3, Excavation Unit 1**

A 1 x 2 m (north-south by east-west) excavation unit was placed at the center of the outset stair located on the primary axis of Structure B1 for the purposes of identifying construction stages and locating possible dedicatory/termination cache(s) that are often located on the central axis of stairs (Loten & Pendergast 1984). Bedrock could be seen protruding above the surface of Plaza B suggesting little modification to the natural topography and thus, few construction stages were expected.

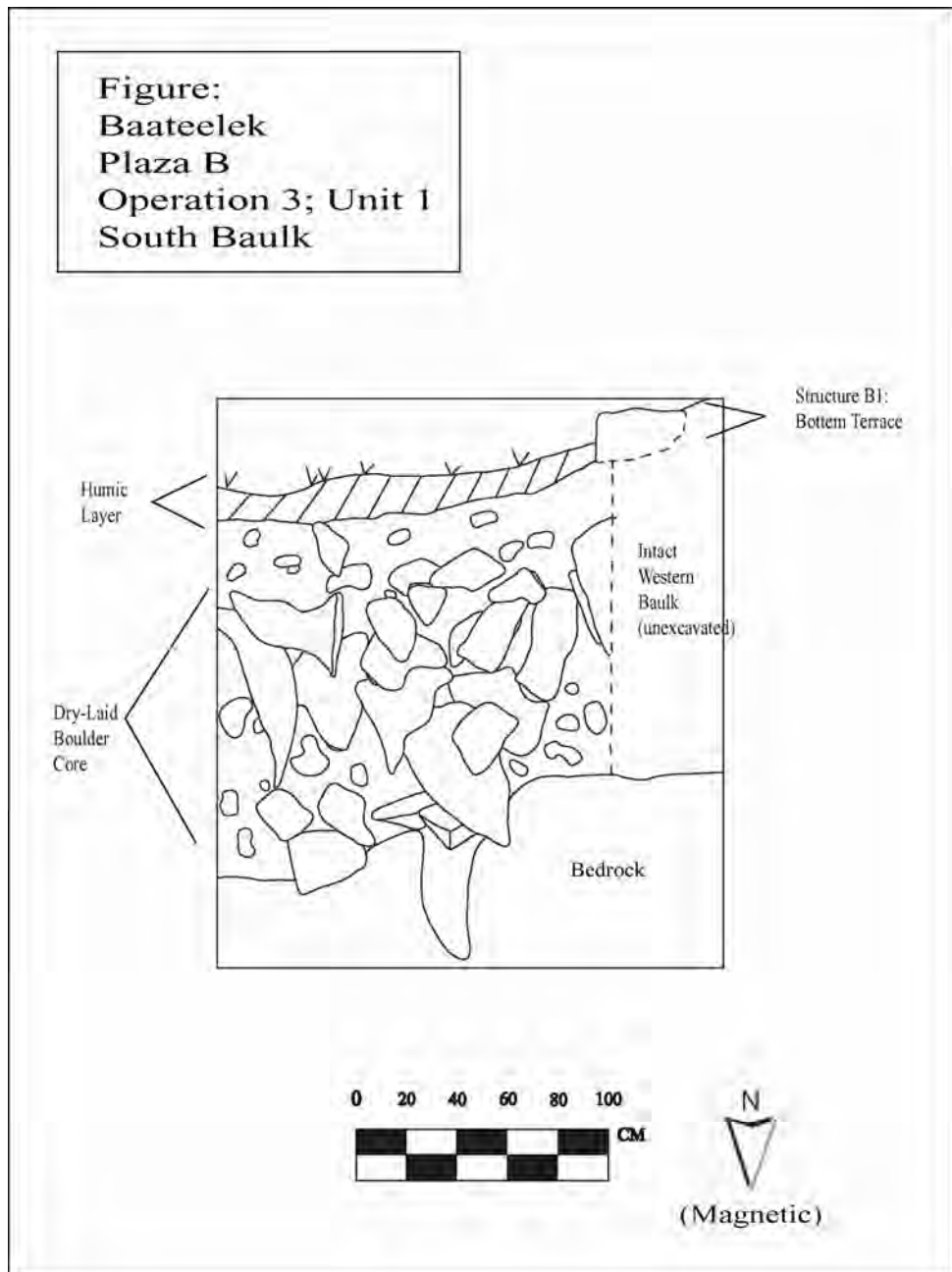
### *Level 1, Lot 31*

Level 1 consisted of collapsed material from Structure B1 and the underlying humic layer. The bottom stair was located just below the surface. Immediately below the stair were the remains of a poorly preserved floor (only visible in the eastern portion of the excavation unit) that consisted of fist-sized ballast, similar to the ballast used in Plaza A, with no evidence of plaster (Figure 9). The ballast comprised the terminal floor in Plaza B, indeed the only floor in Plaza B. Plaza B exhibited a greater density of artifacts, than did Plaza A, just below the surface that consisted of nine extremely eroded ceramic body sherds, 1 eroded ceramic rim sherd and a granite mano fragment.

### *Level 2, Lot 32*

The boulder core was encountered just below the terminal floor (approximately 40 cm below the surface) and consisted of medium-sized boulders with an average circumference of 48 cm. The boulders became progressively larger (with an average circumference of 85 cm) as the excavation unit neared bedrock which was encountered at

a depth of 130 cm in the western side of the unit and at 190 cm in the eastern side of the excavation unit. The boulder core used to construct Plaza B was different from that of Plaza A in that there was a fair amount of soil between the large boulders as well as artifactual remains including an obsidian bladelet fragment, carbon and 18 ceramic body sherds, 3 slipped ceramic body sherds and 1 ceramic rim sherd. The artifacts recovered from Operation 2 do not appear to be any sort of cache but rather are typical artifacts scattered in construction core.



**Figure 9:** Profile of Operation 3, Excavation Unit 2.

## **Operation 4, Excavation Unit 1**

### *Level 1, Lot 41*

An excavation unit was placed at the base of Structure D1 in order to determine the orientation of the structure. Initially, Structure D1 was identified as a possible eastern shrine structure though upon further inspection of the collapsed architecture the junior author noticed that the stairs could have been located on the northern side of the structure making Structure D1 a southern structure. Unfortunately, due to a lack of time, the orientation of the structure was never determined. However, a midden was identified at the juncture of Structure D1 and Structure D2; the midden is densest at the juncture of the two structures and tapers off toward the western edge of Structure D2. This context yielded a total of 2102 ceramic sherds, 335 *jute* shells (most of which were spire-lopped), 13 white chert flakes, 2 slate fragment, 2 obsidian fragments, parrotfish fragments and 2 pieces of daub. Special finds identified in the midden include: 2 chert biface fragments, 1 ceramic disk, 2 ocarina fragments and a possible ceramic pipe fragment. Spire-lopped *jute* shells are those with ends that have been removed in order to retrieve the meat for consumption (Halperin et al. 2003: 208).

## **Operation 4, Excavation Unit 2**

A 2 x 2 m excavation unit, oriented north/south (magnetic), was placed at the summit of Structure D1 in order to determine if this structure functioned as an eastern shrine structure. Excavations conducted at the base of Structure D1 failed to solve the issue of building orientation but the fact that the structure was only one of four pyramidal structures (two of which had been extensively looted) and was possibly located on the eastern side of the Plaza compelled us to continue with excavations without knowing the orientation of the structure.

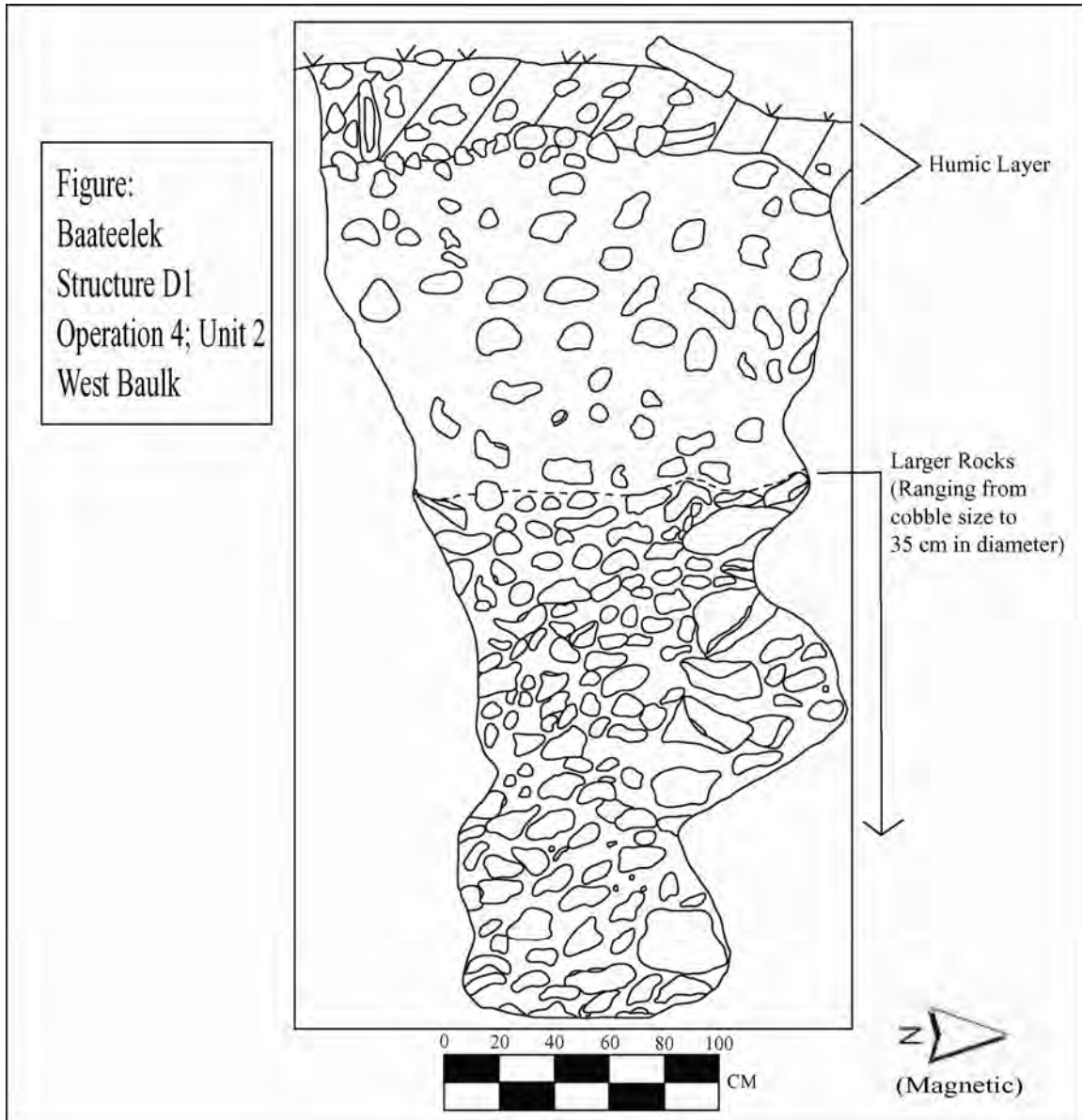
### *Level 1, Lot 42*

Level 1 consisted of the humic layer which was dark brown with many inclusions including roots, small rocks and an abundance of land snails. No visible *in situ* terminal architecture was visible after the humic layer was cleared. Twenty-six ceramic body sherds were removed from this level.

### *Level 2, Lot 43*

After clearing more soil from the excavation unit, a pile of cut-stones (both inside and out of the excavation unit) was identified on the western edge of the excavation unit. At first it appeared to be *in situ* architecture and thus was mapped, though after its removal it was determined to be the result of collapse. The large boulder core was encountered just below the layer of cut stones (Figure 10). Near the surface the core consisted of medium-sized boulders and a large amount of soft, tan dirt that was very easy to screen. The boulders became larger (up to 35 cm in diameter) and the soil more scarce at approximately 160 cm below the surface. Small rocks were also used as core

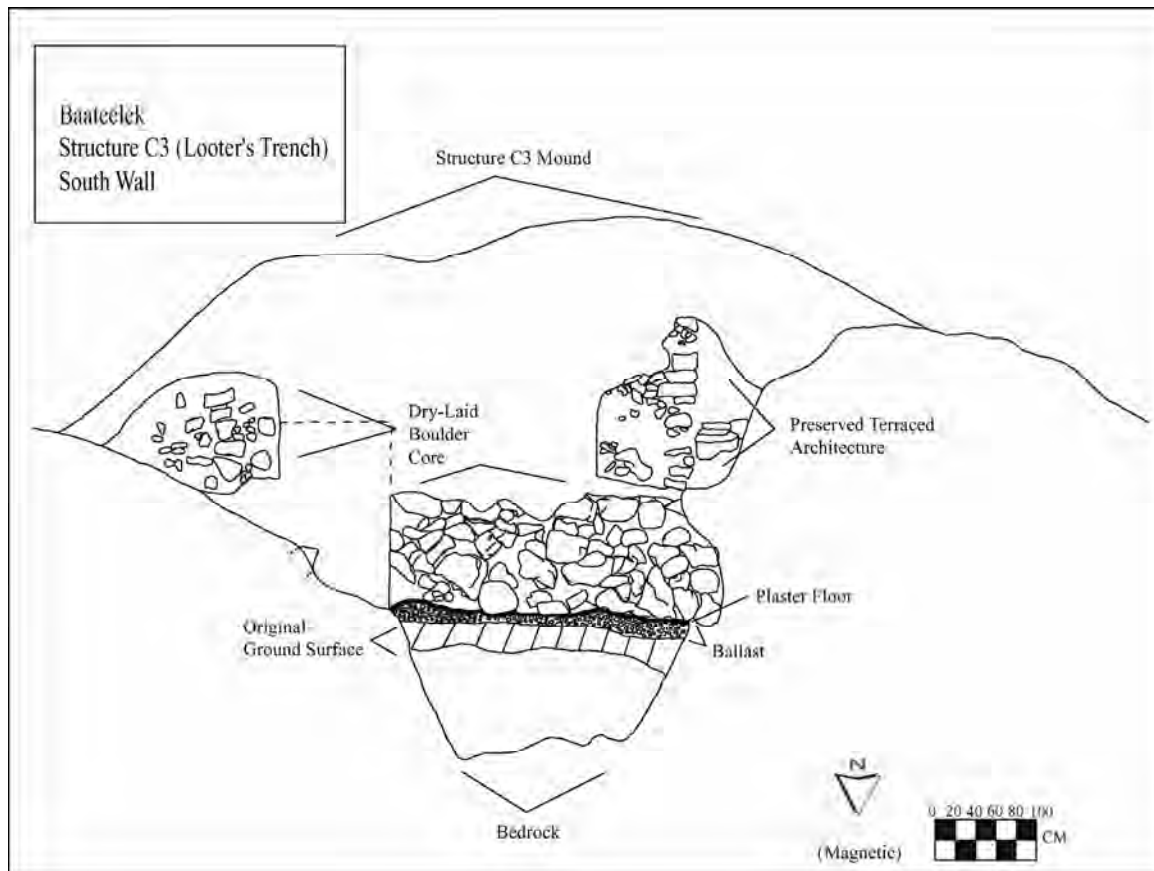
from the summit until the bottom of the excavation unit. Unfortunately, the excavation unit could not be taken to plaza level due to time constraints, though the depth reached approximately 350 cm and the structure rises only 4 m above plaza level. Though the excavation unit could not be taken to plaza level it is likely that this structure did not serve the purpose of an eastern shrine structure. It is unlikely that there was an internment in the remaining 50 cm as it appeared that the boulder level continued, probably below Plaza level as Plaza D was likely constructed in a similar manner as Plazas A and B.



**Figure 10:** Profile of Operation 4, Excavation Unit 2.

## Operation 5, Excavation Unit 1

Looters tunneled into Structure C3 creating a large trench from the summit of the structure through bedrock 4.2 m below. Structure C3 is a pyramidal structure located on the eastern side of Plaza C. As with Structure A2, it is likely that the looters targeted this structure in the hopes of locating a tomb. After clearing and mapping the looters trench it became clear that a tomb was likely never located within this structure. Structure C3 was constructed of dry-laid core directly on top of the ground surface. The looters dug through the ground surface and 1 m into marly bedrock. The profile of the looters trench (Figure 11) provides details on the construction of the structure and confirms our initial hypothesis that Baatelek was constructed quickly and in few construction stages, similar to Structures A1 and D1, both pyramidal structures. We did not assign a lot number to Operation 5, Excavation Unit 1 as no artifacts were recovered from the trench. However, local guides from the nearby village of Armenia reported that the looters found a piece of carved jade (Gabriel Wrobel, pers. comm. 2007).



**Figure 11:** Profile of the looters trench penetrating Str. C3.

## **Summary**

Though plaza excavations produced few artifacts they provided useful information concerning the construction processes at Baatelek. The entire site was built up and leveled using large boulders. Small, fist-sized rocks were tamped down atop the boulders in order to provide an appropriate surface for plastering episodes. The plaster floors were very eroded, or nonexistent in some cases, suggesting that the floors were thin and poorly constructed. Thinner plaster floors are a construction technique consistent with Late/Terminal Classic construction (Littmann 1967).

The structures of Baatelek were also constructed in minimal construction stages and consist of large boulders with a cut limestone face. This construction technique is similar to the Late Classic II construction of sites like Hershey in the upper Sibun River Valley (Harrison-Buck 2007: 44), Cahal Uitz Na and Pook's Hill (Helmke 2006) in the Roaring Creek River Valley as well as Xunantunich (LeCount et al. 2002) and X-Ual-Canil (Iannone 2003) in the Belize River Valley. This construction technique has been attributed to the waning economy during the latter stages of ancient Maya civilization and was a means of constructing imposing ceremonial centers with less labor investment. Structure D1 was constructed of both boulders and soil. This mixed medium could suggest a difference in either functionality or temporality.

Overall, the excavations at Baatelek demonstrate that the site core was built in one to two construction stages using large limestone boulders as both plaza fill and structure core. Few artifacts were recovered suggesting that the site was occupied for only a short period of time. The following chapter provides information on the chronology of settlement through ceramic analysis.

## **CERAMICS**

### **Methodology**

The purpose of the ceramic analysis presented in this report is to date the occupation of Baatelek and by extension to aid in the development a local chronology for the Caves Branch River Valley. The study employs the type-variety system of ceramic analysis. This method of ceramic analysis is extremely useful in determining chronology (Gifford 1976; Sabloff 1975), particularly at "a previously unstudied site" (Sabloff 1975: 3), like that of Baatelek. Though the sample size is extremely small in comparison to that of other sites, it is adequate for determining the general time frame for occupation at Baatelek. Additionally, comparison of the ceramic assemblage from Baatelek to other sites permitted some inference concerning the cultural relationship between Baatelek and sites in the surrounding regions. The results are based on a comparison of the ceramic assemblage at Baatelek to Deep Valley Lookout (Davis 1980), the Xubzulima plazuela (Goldstein n.d.) and Petroglyph Cave (Reents 1980) in the Caves Branch River Valley and sites in the surrounding Belize, Sibun and Roaring Creek River Valleys.

In an effort to minimize the quantity of non-diagnostic sherds, only those larger than a thumbnail were kept and processed in the lab. Unfortunately, the majority of the

ceramic sherds were eroded body sherds which proved to be undiagnostic. Of the 2,487 collected sherds, only 22 were diagnostic. Sherds deemed diagnostic were those with visible surface treatment (i.e. slip, incising or appliqué) or distinctive forms/characteristics (i.e. flanges and ring-bases) and rim sherds. Sherd identification was based on two main identifying attributes: ware and form. If possible, the ceramic sherds were further defined by type and variety.

## **Results**

All of the diagnostic ceramic sherds from Baatelek fall within the Spanish Lookout Complex defined by Gifford (1976) which dates to AD 670-900. Gifford divides the complex into early (c. AD 670-830) and late (c. AD 830-900) facets equivalent to Late Classic II and III (i.e. Terminal Classic) (Harrison-Buck 2007: 228). Only three wares were identified in the sample: Pine Ridge Carbonate, British Honduras Volcanic Ash and Uaxactun Unslipped. Davis (1980: 112) identified Pine Ridge Carbonate and British Honduras Volcanic Ash at Deep Valley Lookout as well as Peten Gloss. Similarly, Reents (1980) identified British Honduras Volcanic Ash, Pine Ridge Carbonate and Uaxactun Unslipped in Petroglyph Cave in addition to Vinaceous Tawny.

The Spanish Lookout Sphere, defined at Barton Ramie, includes sites in the Belize River Valley such as Baking Pot, Tipu (Aimers 2002), Xunantunich, and San Lorenzo (LeCount et al. 2002). The sites of Hershey and Pakal Na in the upper Sibun River Valley are also members of the Spanish Lookout Sphere and they “retain an affiliation with the Belize Valley and Peten Region to the west during the Terminal Classic period” (Harrison-Buck and McAnany 2007: 120). The lower reaches of the valley become involved in spheres stemming from Yucatan during the Terminal Classic (Harrison-Buck 2007: 89-90). Awe and Helmke (2007: 37) note that ceramics from sites in the Roaring Creek River Valley “fit perfectly within the local Belize Valley Spanish Lookout and New Town complexes plus several others types of foreign origin or inspiration” such as Tohil Plumbate or Cabrito Cream Polychrome. No ceramic evidence for foreign types currently exists for Baatelek.

Although a larger sample size is necessary to better understand Baatelek, the ceramic data compiled herein suggests that Baatelek was constructed during the Spanish Lookout Phase which is consistent with the date of construction of Deep Valley Lookout and the Xubzulima plazuela. Nearly all of the dateable ceramics came from the midden context which was likely a late deposit as it was uncovered just below the surface. However, the few construction stages suggest a brief occupation, and thus, it is unlikely that the structures date much earlier than the midden.

## **DISCUSSION**

Baatelek is composed of at least 24 structures surrounding 4 nucleated plazas and covers approximately 2.56 hectares. The site core configuration and size are consistent with major sites in the Belize Valley, like Cahal Pech (Awe et al. 1991), though much smaller than major sites in the Peten (Bullard 1960). The openness of Plazas A and B suggest that they were used publicly and were able to facilitate a large

number of people. Plazas C and D, on the other hand, are small with few access points suggesting that they were private and likely served as a place of residence or ritual, or both, for the elite living at Baatelek (Awe et al. 1991). Of course, excavation of these plazas and the structures surrounding them are necessary to determine their function.

The test-pit excavations provided information concerning how Baatelek constructed. Baatelek was essentially built on a vacant landscape and does not exhibit historical accretion (Webster 1998) like sites that had been utilized over long periods of time. Data from excavations and looters trenches suggest that both the plazas and structures at Baatelek were constructed with large limestone boulders, a construction technique similar to the sites of Xunantunich (LeCount et al. 2002), Hershey (Harrison-Buck 2007) and Cahal Uitz Na (Conlon & Ehret 1999). This technique is a means of construction that allows the builders to construct imposing sites with less labor investment as monumental architecture was not only an arena for ritual or place for administration and residence, but it also functioned as a reminder of the power of the elite (Ashmore 1992). Excavations in Plazas A and B and the clearing of two looters trenches (in Structures A2 and C3) revealed that Baatelek was likely constructed in only a few construction stages suggesting that the site was occupied for only a short amount of time. Also suggestive of a short occupation is the paucity of artifacts.

Though only a few ceramics could be positively identified, all dated to the Spanish Lookout phase (AD 670-900) (Gifford 1976). Though the majority of the dateable ceramics were from the midden feature at the juncture of Structures D1 and D2, it is unlikely that the structures date much before that time period as the excavations suggest quick construction and a brief occupation. The assemblage as a whole suggests that Baatelek was a full member of the Spanish Lookout Sphere of the Belize Valley. The Late to Terminal Classic date for construction of Baatelek is consistent with the date of other surface sites in the Caves Branch River Valley, Deep Valley Lookout (Davis 1980) and the Xubzulima plazuela (Goldstein n.d.).

Interestingly, three of the four pyramidal structures at Baatelek have been either looted or excavated and none of them exhibit evidence of a tomb or burial of any kind, in fact, no human bone fragments were recovered any of the excavations conducted at Baatelek which is atypical for ancient Maya ceremonial centers. The slate slab found on the edge of the looters trench, which resembles those found in elite tombs at Pacbitun (Healy et al. 1995), is indirect evidence of the inclusion of a tomb in Structure A1 though inspection of the trench revealed that this structure was likely constructed in a single construction episode and exhibited no evidence of a tomb.

Though more work is necessary to determine the nature of mortuary practices at Baatelek, a few hypotheses concerning the lack of human remains are presented below. The first is that the remains may not have been located. We only conducted a few test-pit excavations and cleared two looters trenches leaving a large amount of space, both in plazas and structures, where tombs could be located. The second is that the quick construction and short occupation could have prevented the elites at Baatelek from burying their ancestors at the site. Though plausible, it is my belief that the importance of ancestors to the ancient Maya as a means of validating political power suggests that ancestors, and by extension validation, would be extremely important to the elites of Baatelek who built their center on an essentially vacant landscape. The third hypothesis



not only provides a locale for the ancestors but provides the elites of Baatelek with a means of validation, providing them with the authority to settle there.

Though settlement (in the form of masonry architecture) in the Caves Branch River Valley did not begin until the Late to Terminal Classic, caves had been utilized since the Middle Preclassic (see Wrobel, this volume). Of the many caves in the region, two are major burial caves, Midnight Terror (Gabriel Wrobel, pers. comm. 2007) and Je'reftheel (Christophe Helmke, pers. comm. 2007). Also, the Caves Branch Rockshelter is a mortuary rockshelter likely containing over 100 burials (Gabriel Wrobel, this volume). Keith Prufer (2002) documented a similar lack of human remains at sites in the Ek Xux Valley in southern Belize and states, "we do not know where the elite members of the community were interred" (Prufer 2002: 634) though suggests that they may have been buried in rockshelters or caves in the vicinity of the surface sites as "it has been proposed that tombs were metaphorical caves, designed to spatially replicate the underworld" (Prufer 2002: 267). Mayahak Cab Peck, one of the mortuary rockshelters, was used as a burial location for the inhabitants of the Ek Xux Valley, "but appears to have been used well before the area was settled" (Prufer 2002: 389), similar to the early use of the Caves Branch Rockshelter; use of the both Mayahak Cab Peck and Caves Branch Rockshelters predates known habitation in their respective regions.

## CONCLUSION

Demarest et al. (2004: 549) assert that in order to understand the Classic to Postclassic transition in the Maya Lowlands, "we must systematically compare and link site sequences to understand sub-regional processes and variability, compare these adjacent zones to reconstruct regional patterns, and then compare regions to begin reconstructing pan-lowland histories and correlating these to other zones in Mesoamerica". Work in the Caves Branch River Valley is currently in the process of building a local chronology though information ascertained from survey and excavations at Baatelek have aided in illuminating this understudied region.

Currently, research suggests that Baatelek functioned as a regional ceremonial center and was likely both a ritual and administrative center. Baatelek is the largest site identified thus far in the Caves Branch River Valley. The architecture suggests that Baatelek functioned as a "full service" site (Leventhal & Ashmore 2004: 171) and was a place for elite residence, ritual (both public and private), and administration. As such, Baatelek likely functioned as a regional political center, similar to the site of Hershey in the Sibun River Valley (Harrison Buck 2007: 38) and Cahal Uitz Na in the Roaring Creek River Valley (Awe & Helmke 2007). Additionally, Baatelek's location near Deep Valley (390 m) suggests that Deep Valley was either another component of the same site or a satellite of Baatelek.

Ceramic evidence suggests that the site was not constructed until the Spanish Lookout Phase at a time when many Lowland Maya centers were in decline. The rise of secondary centers in peripheral zones has been attributed to regional balkanization (Culbert 1991; Dunham et al. 1989; Iannone 2006; LeCount et al. 2002). No evidence, such as stylistic similarities in stelae as at Xunantunich (LeCount 2002: 43), or emulation as at Minanha (Iannone 2006: 157), currently exists to suggest that Baatelek was

founded by a particular group of “subordinate lords” (Iannone 2006: 157) or “minor nobles” (Culbert 1991: 326), though the timing of construction is consistent with this phenomenon. However, the similarities in site configuration between Baatelek and sites in the Belize Valley combined with theories of emulation (see Ashmore & Sabloff 2002), suggest that the inhabitants of Baatelek remained within the Peten sphere of influence and were probably affiliated with the Belize Valley.

More work in this area is necessary to determine how this region came to be settled and why stone-masonry architecture only occurs during the Late-Terminal Classic Period. Additionally, locating and excavating the two other sites reportedly in the Caves Branch River Valley should aid in understanding settlement patterns and timing of construction. Future research in the Caves Branch River Valley should improve our understanding of this understudied area and aid in elucidating Baatelek’s role in Late to Terminal regional interaction as well as further understanding of the relationship between cave sites and surface sites in the Maya Lowlands.

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# **PRELIMINARY RECONNAISSANCE OF THREE CAVES IN THE CAVES BRANCH RIVER VALLEY, CAYO DISTRICT, BELIZE**

**Shawn G. Morton**

FMA Heritage Resources Consultants Inc.

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## **INTRODUCTION**

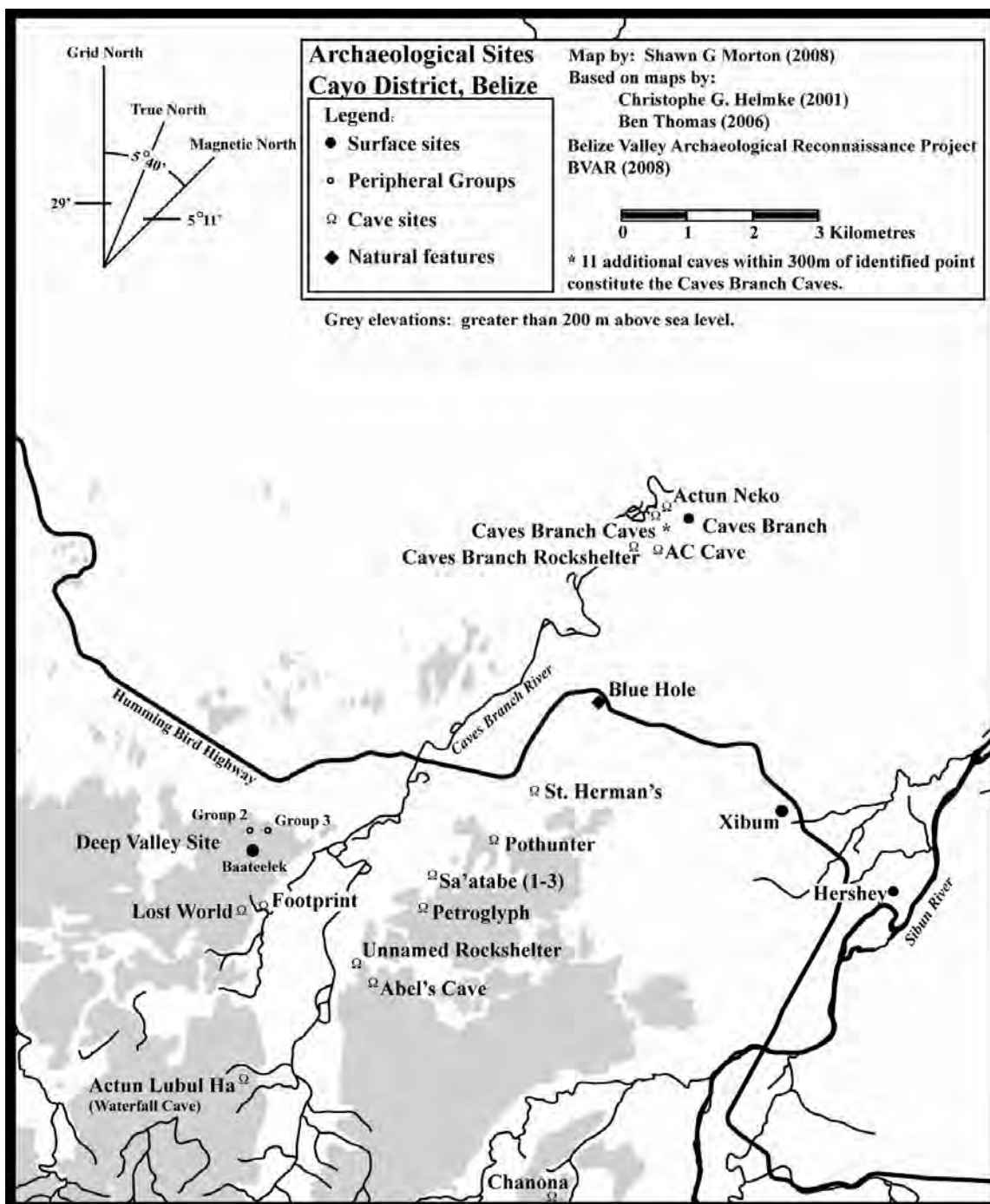
This report presents preliminary observations made on three recently reconnoitred archaeological sites named the Caves Branch Rockshelter Cave (MF07-1), Actun Neko (MF07-2), and AC Cave (MF07-3). As these sites had not been registered with the Belize Institute of Archaeology prior to the visit of the author, this report serves to set their existence in the government records as well as in the archaeological literature. This report presents a general description of objectives, the locations of the sites and the general method used in their investigation. This is followed by a basic morphological description of each of the caves individually, as well as a preliminary description of artefact deposits contained therein.

## **PURPOSE & OBJECTIVES**

The reconnaissance was conducted during the 2007 field season (July 11-31) of the Belize Valley Archaeological Reconnaissance (BVAR) project by a crew including students associated with a BVAR field school, directed by Dr. Gabriel Wrobel, at the nearby Caves Branch Rockshelter (CBR). The reconnaissance team was led by the author. The purpose of this season's activities was two-fold. First, as the sites had not been registered with the Belize Institute of Archaeology, the reconnaissance served to document their existence and locations in the government records. Second, the archaeological potential of the caves was assessed as prospective sites for future archaeological investigation. In keeping with the latter, the reconnaissance expedition objectives included: 1) exhaustive exploration of the sites; 2) preliminary survey; and 3) preliminary collection, photography and description of the artefact assemblages and cultural features contained therein.

## **SETTING & LOCATION**

The sites reconnoitered during the 2007 field season are located in close proximity to the Caves Branch Rockshelter (CBR) in the Caves Branch River Valley, Belize (Figure 1). This area is already known for a number of important cave sites including Petroglyph Cave (Reents 1980, 1981; Reents-Budet & MacLeod 1986), and Footprint Cave (Graham et al. 1980).



**Figure 1:** Map of the Caves Branch River Valley indicating the location of sites reconnoitered in 2007.  
Map by Shawn Morton.



## **METHODOLOGY**

Reconnaissance of the cave sites consisted of two phases and employed up to three personnel. The first phase entailed a thorough and exhaustive speleological exploration of the site. The second phase of the reconnaissance consisted of the implementation of survey procedures followed by inventorying of cultural assemblages and features.

### **Exploration**

The exploration was conducted in order to assess the size and morphology of the site for descriptive purposes. Exploration also allowed superficial evaluation of the frequency and spatial distribution of archaeological assemblages and features and aided in scheduling time available for the operations to follow.

### **Survey**

At a scale of 1:100, the features of the caves were recorded in plan and profile views punctuated by appropriate cross-sections. Baselines were oriented, as practicality allowed, with the long dimension of each chamber. These baselines were not level, and their inclination and azimuths were recorded using a Brunton compass. Using, variously, a fibre-glass tape or a Leica Disto, measurements were then taken to the left and right (perpendicularly), as well as above and below the baseline (in plumb) at one meter intervals. This data was recorded in tabular form and plotted to graph paper within the cave to ensure accurate plots and to identify errors at once. Details of the cave environment were recorded on the plan view at this time. The locations of features of archaeological significance were secured by *ad hoc* intervals projected perpendicularly along the baselines. No permanent datums were established for the survey. Errors introduced into the survey by inclined baselines were corrected digitally and the scale was adjusted to the BVAR standard of 1:50. The maps presented in this report were generated from these larger versions.

### **Inventory of Archaeological Assemblages and Features**

The inventory entailed the identification and definition of spatially discrete 'areas,' exhibiting concentrations of material culture. In all of the caves encountered in the 2007 season, these areas primarily consisted of concentrated surface scatters of ceramic materials and isolated ceramic finds. Their locations were recorded in plan view during the survey phase. Scatters and isolated finds were designated numerically as they were encountered during the survey; in general, beginning at the entrance and increasing numerically as the survey progressed toward the back of the cave. Following the survey, selected diagnostic materials were collected from each of the ceramic scatters and were subsequently described and photographed in a laboratory setting. These samples await identification. Photographs of ceramic scatters in context were also secured.

## **SITE DESCRIPTION**

Three caves were investigated in 2007. This section deals with each cave separately. The geomorphology of each cave is described from the entrance to the rear, according to discrete spaces. All chambers were numbered from the entrance inward and this sequence is utilized as the structure of the following site descriptions.

### **CAVES BRANCH ROCKSHELTER CAVE (MF07-1)**

Caves Branch Rockshelter Cave (Figure 2) is so named by its close proximity to the Caves Branch Rockshelter (the entrance is in an exposed cliff face on the talus slope above CBR). The cave was investigated during the height of the rainy season and aside from a number of recently active flowstone formations is generally dry with floors exhibiting concentrations of alluvial matrices, decayed limestone, and dry guano. The cave is short at a maximum length of approximately 19 m, and a general upward grade produces an elevation gain of approximately 9 m toward the back of the cave.

#### **Geomorphology**

##### *Entrance, Chamber 1 and Breakdown 1*

The entrance to the cave is horizontal, partially blocked with rockfall and recently active speleothems. This entrance measures approximately 2.5 m wide by 1.5 m high, recessed approximately 2 m inwards from the drip line. The entrance faces southwest and does not exhibit signs of cultural modification.

From the entrance the floor rises slightly (an approximate inclination of 14°). Three meters past the entrance, in Chamber 1, the ceiling height rises to approximately 2 m. Toward the back of the chamber the floor steps up over an accumulation of breakdown talus (Breakdown 1). The chamber is approximately 11 m long and at its widest point measures approximately 7 m. Chamber 1 projects somewhat southwest back toward the entrance.

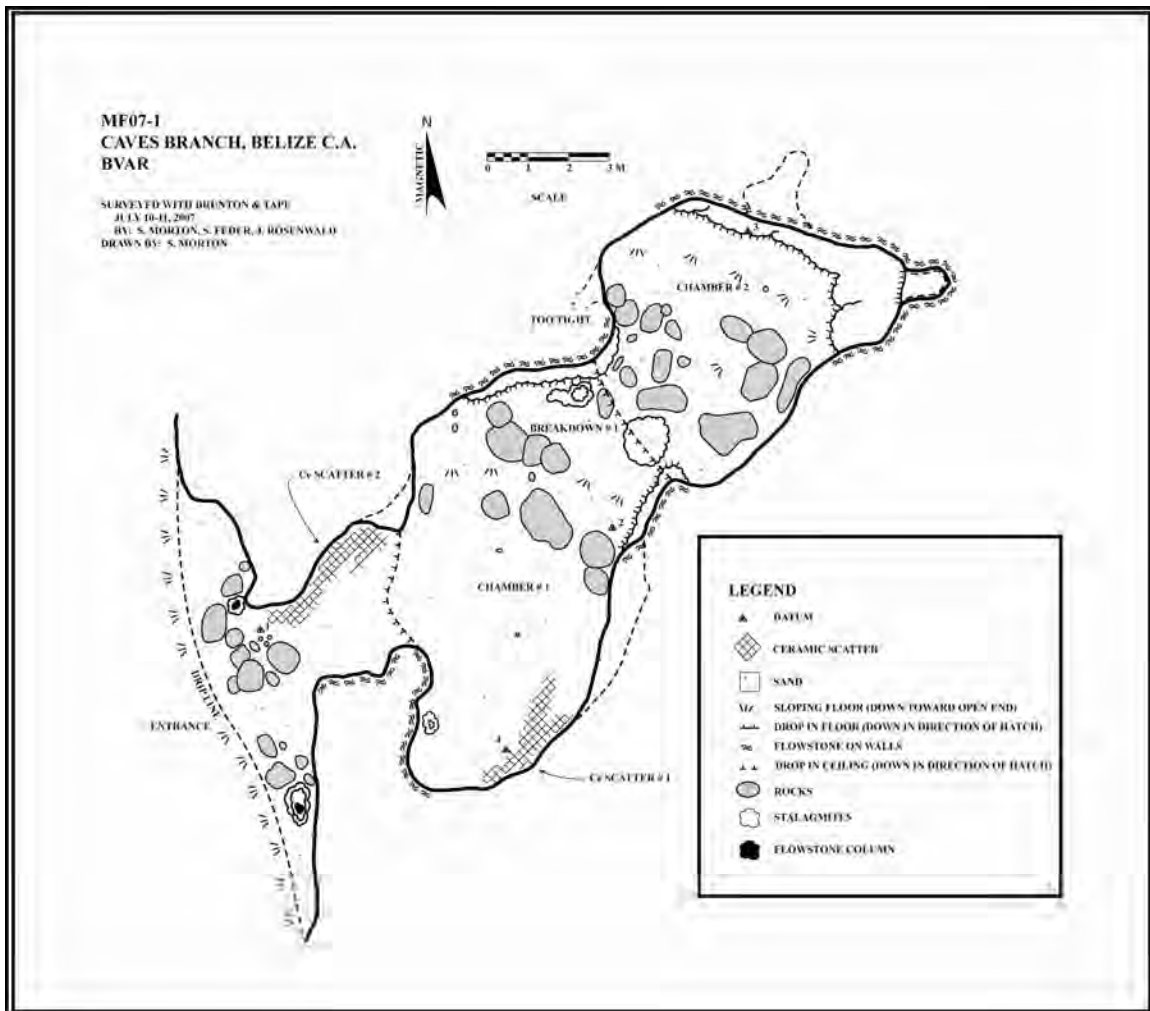
##### *Chamber 2*

Chamber 2 may be more properly thought of as the continuation of Chamber 1, but is here separated and defined by an increase in ceiling height (estimated at up to 9 m in places), and an increased steepness in grade (upward incline of approximately 23°). Breakdown 1 also serves to mark the boundary between chambers. At its widest, Chamber 2 is approximately 6 m wide, and is approximately 8 m long. Recently active flowstone is evident on both the walls and floors of this chamber.

#### **Archaeological Areas**

Preliminary, summary descriptions of areas of artefactual materials are presented in this section. 'Areas' of archaeological significance were designated numerically in the

order in which they were identified; in this case they consisted entirely of concentrations of ceramic sherds. Identification of diagnostic materials collected from these areas remains to be completed. The site had been previously surveyed and artefact samples were collected by Juan Luis Bonor, including a small 'pinch pot' found outside the cave entrance (Cameron Griffith, pers. comm. 2007). The findings of Bonor's investigation have yet to be reported.



**Figure 2:** Plan of Caves Branch Rockshelter Cave (MF07-1). Plan by Shawn Morton.

### *Ceramic Scatter 1*

Two scatters of Precolumbian ceramic sherds were identified within the cave. Both scatters likely represent secondary deposition along the cave walls and the ceramics that define them are heavily fragmented. Ceramic Scatter 1 consists of a thin surface scatter of ceramic remains measuring approximately 1.5 x 3 m (northwest-southeast and

northeast-southeast, respectively), lying adjacent to the southern wall of Chamber 1. Three rim sherds were collected from this scatter.

#### *Ceramic Scatter 2*

Ceramic Scatter 2 consists of a thin surface scatter of ceramic remains measuring approximately 1 x 3 m (northwest-southeast and northeast-southeast, respectively), lying adjacent to the northern wall of Chamber 1, just inside the entrance. Sherds in this assemblage were heavily fragmented. Only one rim sherd was collected from this scatter.

### **ACTUN NEKO (MF07-2)**

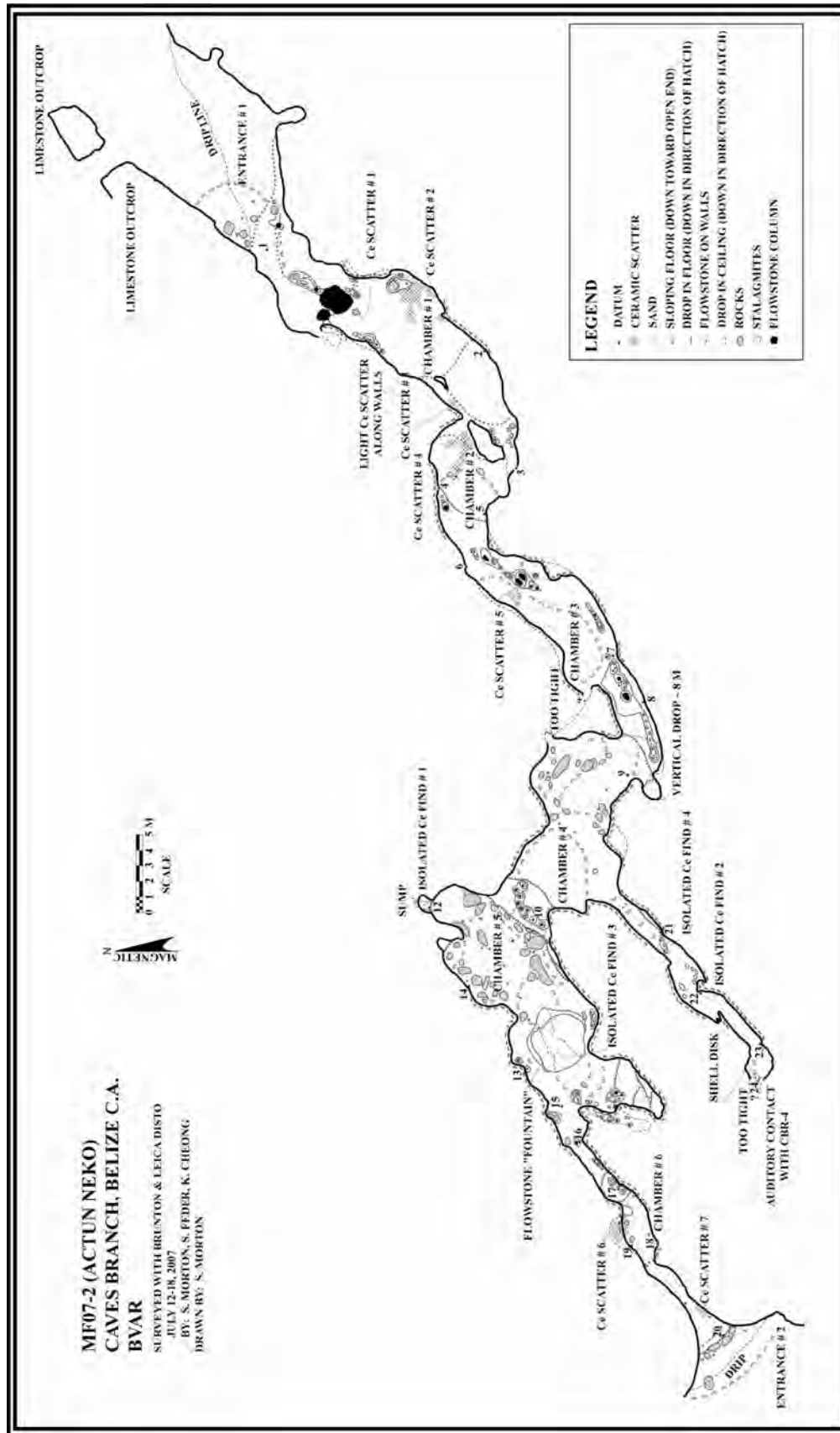
Actun Neko (Figure 3) was brought to the attention of senior members of the Belize Valley Archaeological Reconnaissance Project early in the season. During initial reconnaissance by Cameron Griffith and guides from the nearby 'Ian Anderson's Caves Branch Adventure Co. & Jungle Lodge,' an inlaid shell disc was found (the artefact is discussed in the following report; Helmke, this volume). The discovery of the disc was the catalyst for further work in the cave by the author later in the season. The cave was investigated during the height of the rainy season and contains numerous active flowstone formations. The floors are generally wet and consist largely of concentrations of alluvial matrices, decayed limestone, and guano. The cave has two entrances, connected by approximately 95 m of passage. The disc was found in a side passage extending approximately 19 m southwest, roughly halfway between the two entrances.

#### **Geomorphology**

##### *Entrance 1 and Chamber 1*

Entrance 1 is horizontal, partially blocked with rockfall, eroded sediment, and active speleothems. This entrance measures approximately 4.0 m wide by 1.5 m high. The entrance faces northeast into a partially enclosed area defined by a large overhanging ridge to the south and a tall limestone outcrop to the west and north. The area provides a natural shelter and while it does not exhibit signs of ancient cultural modification, there are a number of handprints painted on the wall inside the dripline that have been interpreted by the Caves Branch guides as being the work of modern hunters.

At approximately 5 m into the cave, the passage 'chokes,' narrowing to approximately 90 cm between a large flowstone column and the cave wall. Past this point, Chamber 1 opens as a space oriented SW-NE, approximately 16 m long by 5.5 m at its widest point. The ceiling height rises to approximately 4 m. The floor of the chamber consists of a hard, densely packed and nearly level surface of sedimentary deposits. Flowstone is evident on the walls of the chamber and at various places on the floor in the form of small stalagmites. Rodent activity is evidenced by small digs in the floor surface and the remains of an armadillo can be found near the centre of the chamber. The chamber ends in another small choke.



**Figure 3:** Plan of Actun Neko (MF07-2). Plan by Shawn Morton.

### *Chamber 2*

At the southwest end of Chamber 1, the passage chokes down to two small openings. Each is approximately 80 cm wide and 70 cm tall, and both lead into Chamber 2. Chamber 2 is defined by a sharp drop in the floor (by approximately 1 m) and a corresponding rise in the ceiling height to approximately 4 m. The chamber measures approximately 5 x 5 m. The walls are awash in flowstone and the floor is muddy and wet. The floor rises again and the passage (approximately 2 m wide at this point) continues to the west.

### *Chamber 3*

From Chamber 2 to Entrance 2 (and with the exception of Chamber 5), the character of the cave in general is that of a phreatic passage. For the purposes of facilitating descriptions of archaeological 'areas' in the following section of the report, this passage is here broken up into various 'chambers,' usually based on changes in passage bearing or grade.

Approximately 6 m from Chamber 2, in Chamber 3, the floor again dips approximately 1.5 m (at its highest, the ceiling is approximately 5.5 m high; at the lowest point, the largely flowstone covered floor is again muddy. On particularly rainy days this lowest area fills partially with water. Both walls (approximately 4 m apart at the widest) exhibit some flowstone; active formations dominate the southeastern side of the chamber. Chamber 3 is approximately 9 m long, and terminates as the floor again rises accompanied by a concentration of speleothems.

### *Chamber 4, Breakdown 1 and the Southwest Passage*

A sharp drop of approximately 1 m marks the southeast corner of Chamber 4. The chamber is approximately 11 m long by 6 m wide, separated into two distinct, low bowl-like areas. The ceiling reaches a maximum height of approximately 6 m. The floor consists of soft, damp, sediments and eroded limestone, the walls largely covered in active flowstone. Immediately to the left upon entering the chamber is a vertical drop of approximately 8 m. While this drop was not investigated by the reconnaissance team, a number of Caves Branch guides indicated that it ends in a sump just out of sight from the top. The northeast corner of the chamber is dominated by Breakdown 1; thick depositions of sediment on these stones suggest that the collapse event was not recent.

At the western end of Chamber 4, the passage splits. A wall of speleothems restricts access to Chamber 5 to the northwest. A narrow (1 m wide) passage extends to the southwest at an initially steep positive inclination of 16° before levelling. The ceiling is rarely more than 1 m high. This passage extends approximately 14 m, finally choking off in a hosepipe that is too tight to navigate. The floor in the passage is similar to that of Chamber 4, damp, soft sediment. However, at the limit of the explored passage the floor turns dry and loose; a dig at this end suggests recent rodent activity. From this location auditory contact was made with the nearby Caves Branch Rockshelter 4 (CBR4).

### *Chamber 5 and Breakdown 2*

Chamber 5 is large at approximately 20 m long with a maximum width of approximately 8 m, oriented northeast-southwest. From Chamber 4, the floor (which consists of wet sedimentary material and guano) drops sharply (approximately 1.5 m), and is negatively graded to the west at approximately 15°. The maximum ceiling height in the chamber is approximately 4.5 m. The north half of the chamber is littered with large breakdown (Breakdown 2). A tight opening in the north wall descends a short distance to a sump. A large flowstone ‘fountain formation,’ consisting of one large rimstone dam above another, dominates the centre of the chamber and was active during the time of the survey. This formation restricts passage through the chamber and effectively isolates the northern half from the southern half. The southern half, most easily accessed by passing directly under the fountain is completely encrusted in active flowstone. A tight passage, approximately 1 m wide extends to the southwest from the southern half of Chamber 5.

### *Chamber 6 and Entrance 2*

From Chamber 5, a narrow passage approximately 1 m wide with a 2.5 m high ceiling extends approximately 4 m to the southwest into a small sandy chamber (Chamber 6). Chamber 6 is approximately 2 m wide by 3 m long, with a ceiling height of approximately 2 m. A low alcove extends a further meter to the north.

A very low opening, approximately 25 cm high by 50 cm wide allows admittance to a narrow, low, passage that extends approximately 6 m to the opening of Entrance 2. The entrance itself is approximately 3 m wide by 1 m high and extends horizontally into the base of the same ridge line as Entrance 1, only a dozen or so meters from CBR4.

## **Archaeological Areas**

Preliminary, summary descriptions of areas of artefactual materials are presented in this section. During the initial reconnaissance it was noted that artefact scatters were concentrated near the two entrances with little material being found between. As in the Caves Branch Rockshelter Cave, ‘areas’ of archaeological significance were designated numerically in the order in which they were recorded, in general beginning at Entrance 1. Areas in Actun Neko predominantly consisted of concentrations of ceramic sherds. Identification of diagnostic materials collected from these areas remains to be completed.

### *Ceramic Scatter 1*

Two ancient rim fragments, from two different vessels, were found sitting on a rock just inside Chamber 1 (east end of chamber). The Caves Branch guides occasionally take visitors to the cave. Based on their unusual placement these fragments likely represent secondary deposition occasioned by touristic activities.

### *Ceramic Scatter 2*

Two additional scatters of Precolumbian ceramic sherds were identified within Chamber 1. Both scatters likely represent secondary deposition along the cave walls and the ceramics that define them are heavily fragmented. Ceramic Scatter 2 consists of a thin surface scatter of ceramic remains measuring approximately 3 x 3 m (NW-SE and NE-SW), lying adjacent to the south-eastern wall of Chamber 1 close to the entrance. Fifty two sherds were collected from this scatter.

### *Ceramic Scatter 3*

Ceramic Scatter 3 consists of a thin surface scatter of ceramic remains measuring approximately 0.5 x 1 m (NW-SE and NE-SW), lying adjacent to the north-western wall of Chamber 1 close to the entrance to Chamber 2. Fourteen sherds were collected from this scatter.

### *Ceramic Scatter 4*

Ceramic Scatter 4 again consists of a thin surface scatter of ceramic remains measuring approximately 2 x 3 m (N-S and E-W). Most of the scatter is located on top of a small ledge just inside the northern entrance to Chamber 2 though some has apparently slid to the bottom. Again, based on the unusual clustering of dissimilar sherds it would appear that this scatter has been disturbed. Sixty eight sherds were collected from this scatter.

### *Ceramic Scatter 5*

Ceramic Scatter 5 was located in a floor depression at the northern end of Chamber 3. Eleven sherds were collected from a scatter less than 1 x 1 m. While the sherds were loose, an accumulation of calcium carbonate, likely from the nearby active formations suggests that they have been resting in place for some time.

### *Ceramic Scatter 6*

Ceramic Scatter 6 was located in Chamber 6. A small excavation was conducted within this chamber and will be discussed in the following section.

### *Ceramic Scatter 7*

Ceramic Scatter 7 was found along the southern wall of the narrow passage between Chamber 6 and Entrance 2. The sherds were heavily fragmented suggesting damage due to travel through the passage. The scatter measured approximately 1.0 x 0.5 m (E-W and N-S). A total of 60 sherds were collected and await identification.



### *Isolated Ceramic Finds 1-4*

A number of singular ceramic sherds were found in isolated contexts within the cave. These fragments do not appear to be part of larger scatters within the cave. It was not certain whether these fragments were put in place in antiquity or in modern times or whether their presence is a result of human agency, or natural phenomena such as flooding. These fragments may be the surface representation of buried deposits.

Isolated Ceramic Find 1 was found covered in wet sediment in a short descending passage at the north end of Chamber 5. The passage chokes out and likely ends as a sump. Isolated Ceramic Find 2 was found at approximately the midway point, next to the southern wall, of the southwest passage (which extends off Chamber 4). Isolated Ceramic Find 4 was found a short distance (approximately 4 m) closer to Chamber 4. Finally, Isolated Ceramic Find 3, a rim sherd, was found in the small tunnel which passes below the 'fountain' formation in Chamber 5.

### *Shell Disc*

As mentioned earlier, an inlaid shell disc was found in Actun Neko (the disc is discussed by Helmke in the ensuing report, this volume). The disc was found in a rodent dig at the furthest extent of exploration in the southwest passage. It may be noted that, aside from Isolated Ceramic Finds 2 and 4, very few artefacts were found toward the centre of the cave and as had been mentioned above, in the southwest passage, auditory contact is made with CBR4.

### **Excavation in Actun Neko**

Ceramic Scatter 6 was located in Chamber 6 (Figure 4). The scatter covered an area of approximately 1.5 x 1.5 m on the north end of the chamber. Surface inspection suggested that the scatter may extend below surface. The dry matrix of eroded limestone and sandy sediment as well as the chamber's proximity to Entrance 2 made excavation conditions favourable. It was therefore decided to place a 3 x 3 m excavation (a size that ensured total coverage of the chamber) within the chamber to test deposition depth and to recover a larger sample of ceramic materials. Excavated material was placed in bags and screened through ¼ inch mesh outside Entrance 2.

Excavations were carried out by Sam Feder, Kyle Forte, and Jennifer Reinbold, returning students to BVAR over the course of three days. The excavation was tied to Datum 19, and after initial levelling of the floor, was to be excavated in arbitrary 10-cm levels. The western end of the excavation was defined by the tight squeeze into Entrance 2.

### *Surface Collection*

Artefacts were first collected from the surface of the excavation area, the greatest concentration being found below the low overhang at the north end of the chamber. A total of 115 ceramic sherds were collected. The soft floor of the cave was heavily disturbed by recent rodent activity, the passage of people, and roots extending from

Entrance 2. The overhang seems to have protected the artefacts from visitors to the cave; while most were fragmentary, there were a large number of large fragments and intact rims.



**Figure 4:** Ceramic Scatter 6, Actun Neko (MF07-2), prior to excavation. Photograph by Shawn Morton.

### *Level 1*

At its maximum, Level 1 was excavated to a depth of 32 cm below Datum 19 (at a maximum level thickness of 22 cm, an average depth of 12 cm). The soft dry sediment yielded a total of 619 ceramic fragments. These have yet to be identified.

### *Level 2*

Level 2, originally intended to be excavated as a 10-cm level was only excavated to 35 cm below datum (a 3-cm thick level) before the excavation was abandoned due to time constraints. A total of 294 ceramic fragments were recovered from this level and the excavation was subsequently backfilled.

## **AC CAVE (MF07-3)**

AC Cave (Figure 5), so named because of the cool draft felt at the entrance (Entrance 1), is merely an upper entrance to part of a larger network of caves through which passes a branch of the Caves Branch River. Guides often take tourists rafting through the lower reaches of the cave. Initial reconnaissance of the cave proved that it was very large indeed. Due to time constraints, only the upper section of the cave containing evidence of ancient activity was surveyed. The floors are generally wet and active flowstone covers much of the cave. The presence of large logs relatively high above the current water level suggests that the cave is prone to flooding.

From the upper entrance the cave slopes dramatically down to the river approximately 25-35 m below. The surveyed area with its associated artefacts is found on a relatively level area approximately 8 m below the entrance. Chambers are numbered in the order in which they were surveyed.

### **Geomorphology**

#### *Entrance 1, Breakdown 1 and Chamber 1*

Entrance 1, located at the base of a low cliff, is entered at a steep 34° downward grade largely consisting of breakdown talus (Breakdown 1) filled in with humus from above. The entrance is approximately 2.5 m wide and 4 m high at the break in grade. A small, low, opening extends to the north halfway down the entrance slope. Chamber 1, approximately 8 m below the entrance, is approximately 4 x 4 m, with a maximum ceiling height of approximately 3 m. The floor is composed of wet sediment and broken down limestone, and is graded slightly to the east toward a vertical opening granting access to the river below. A climb over breakdown to the south (an additional 9 m length) yields access to a steep slope to the river below.

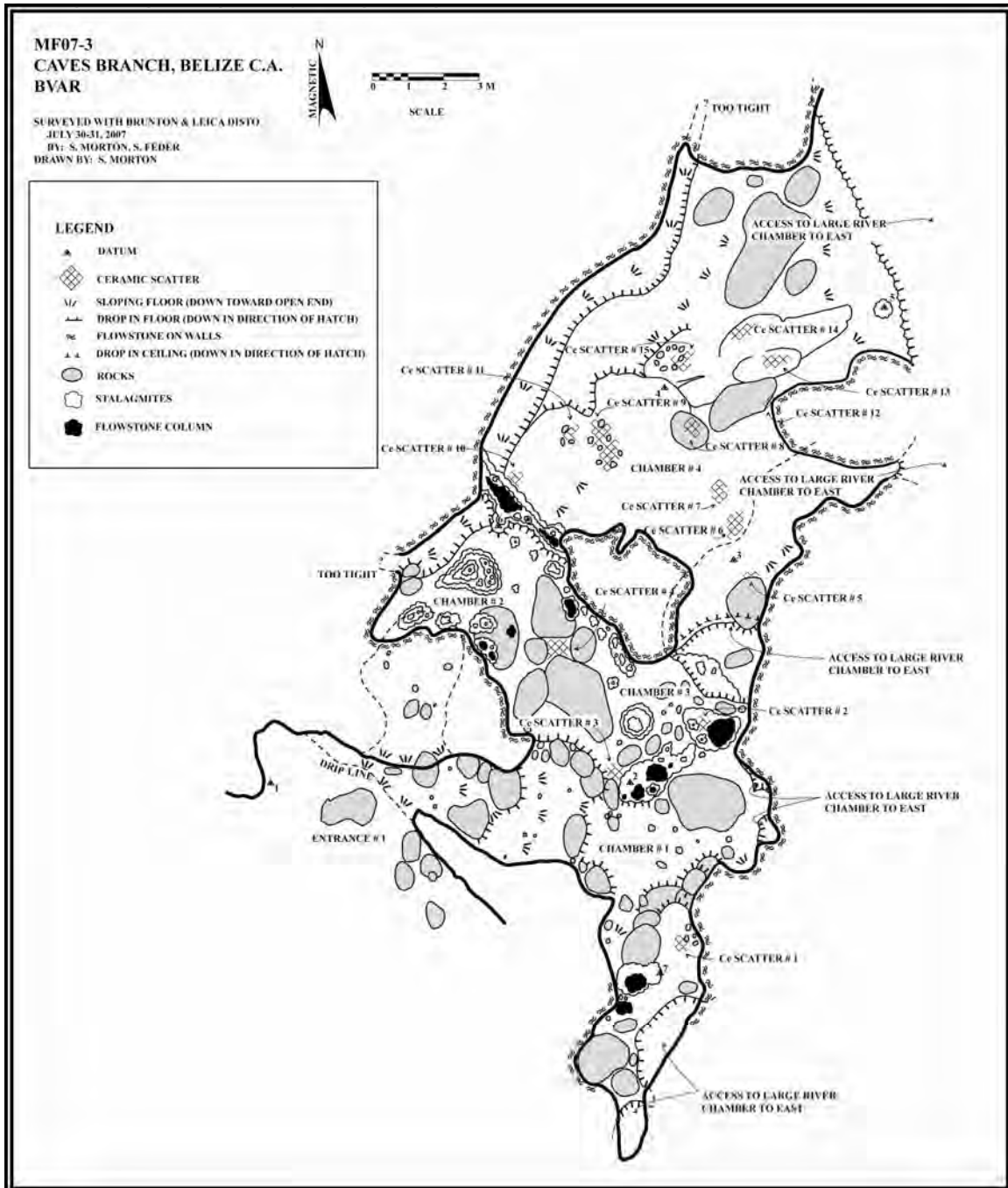
#### *Chamber 3*

While out of numerical order, Chamber 3 serves as a link between Chamber 1 and Chambers 2 and 4. Chamber 3 is simply an extension of Chamber 1, defined by a slightly higher floor height (approximately 50 cm) and separated from Chamber 1 by several flowstone pillars. The chamber is directly accessible from Entrance 1 and measures approximately 7 x 2 m (E-W by N-S). The ceiling is approximately 2.5 m high and the floor is composed of wet sediment, eroded limestone, large breakdown, and guano.

#### *Chamber 2*

Chamber 2 extends to the northwest off Chamber 3 and is defined by a notable increase in speleothems, including large stalagmites, curtain formations and a series of columns which separate this chamber from Chamber 4. The chamber itself measures approximately 7 x 7 m with a ceiling height of approximately 2.5 m. A 1 m wide fissure separates the floor from the wall at the northern end of the chamber. This fissure extends northeast along the wall and across the north end of Chamber 4 as well. Elaborate

flowstone formations and large limestone boulders cover much of the floor; the same wet sediment as in Chamber 3 is also in Chamber 2.



**Figure 5:** Plan of AC Cave (MF07-3). Plan by Shawn Morton.

#### *Chamber 4*

A 2-m drop in the floor, which yields access to the river to the east, separates Chambers 3 and 4. Chamber 4 is essentially a large flowstone shelf with a hard-packed floor of wet sediment and calcium carbonate. The chamber is approximately 12 x 9 m (N-S by E-W), bound to the north by the previously mentioned fissure, to the west by a series of flowstone columns, and to the northeast by a 5-m drop yielding access to a steep slope to the river below. The ceiling is low here, rarely stretching above 1.2 m high and glistens with moisture. Soda straws have formed in many places on the ceiling.

#### **Archaeological Areas**

Preliminary, summary descriptions of areas of artefactual materials are presented in this section. During the initial reconnaissance it was noted that material deposits within the upper reaches of AC Cave were strongly clustered, and generally consisted of a number of large sherds from one or two vessels each. Again, 'areas' of archaeological significance were designated numerically in the order in which they were recorded, in general beginning in Chamber 1. Identification of diagnostic materials collected from these areas remains to be completed.

#### *Ceramic Scatter 1*

Ceramic Scatter 1 was identified on the high floor of the southern extension of Chamber 1. This 'scatter,' in actuality an isolated rim sherd, was collected and awaits identification.

#### *Ceramic Scatter 2*

Ceramic Scatter 2 was identified on the west end of Chamber 3, resting on a flowstone formation next to the drop that separates Chambers 3 and 4. The 'scatter' consists of two large rim sherds which were collected and have yet to be identified.

#### *Ceramic Scatter 3*

Ceramic Scatter 3 was found at the base of a flowstone formation near Datum 2, in Chamber 3. The scatter consists of several small sherds, none of which were collected.

#### *Ceramic Scatter 4*

Ceramic Scatter 4 was nested on the muddy floor between four large rocks in Chamber 2. The scatter measures approximately 75 x 75 cm and consists of half a dozen highly fragmented ceramic sherds. No samples were collected from this scatter.

### *Ceramic Scatter 5*

Ceramic Scatter 5 is the first of the scatters that will be discussed in Chamber 4. The scatters in this chamber are notable for being composed of relatively few, if large, ceramic sherds, many scatters in fact demonstrably consisting of the remains of only one or two vessels. Scatter 5 was found tucked up against the north side of a large rock immediately upon entering the chamber from Chamber 3. The 'scatter' in this case is an isolated rim fragment from an undecorated jar. The sherd was collected and awaits more detailed identification.

### *Ceramic Scatters 6 and 7*

Ceramic Scatter 6 is located approximately 3 m north into Chamber 4. Eight sherds were collected from a scatter approximately 1.0 x 0.5 m (N-S by E-W). These have yet to be identified. Ceramic Scatter 7 is located approximately 1 m to the northwest of Scatter 6. The scatter was similar in spread to Scatter 6 but the sherds were much more fragmentary. No diagnostic sherds were found for recovery.

### *Ceramic Scatter 8*

Ceramic Scatter 8 was again highly fragmented. Located on a large rock near the centre of Chamber 4, the scatter covered a 50 x 50 cm area. No artefacts were collected from this scatter.

### *Ceramic Scatters 9 and 11*

Ceramic Scatter 9 is the largest of the scatters found in Chamber 4. Covering an area of approximately 1 x 2 m, the scatter is spread among a dozen or so loose, fist-sized cobbles of limestone. Less than 1 m adjacent to Ceramic Scatter 9 is Ceramic Scatter 11. Smaller than Scatter 9, Scatter 11 is similarly highly fragmented and interspersed with fist-sized limestone cobbles. It is unclear whether the ceramics and limestone cobbles are contemporaneous. Two rim sherds were collected for identification from Scatter 9.

### *Ceramic Scatter 10*

Ceramic Scatter 10, composed of half a dozen large ceramic sherds (mostly undecorated body sherds), was found against the western wall of Chamber 4, adjacent to the 'pillared' curtain wall separating Chamber 4 from Chamber 2. Only one sherd was collected from this scatter which is tightly clustered at approximately 40 x 40 cm (N-S and E-W).

### *Ceramic Scatter 12*

Ceramic Scatter 12 was found wedged between a large rock and the flowstone covered wall on the eastern side of Chamber 4. Two large rim sherds were collected.

### *Ceramic Scatters 13 and 14*

Ceramic Scatters 13 and 14 were found within one meter of each other toward the northeast corner of Chamber 4. Both scatters are spread over an area approximately 70 x 50 cm (E-W by N-S). However, while Scatter 13 is highly fragmented, Scatter 14 is composed of a number of large fragments, many of which can be conjoined, and from a cursory examination appears to be the remains of at least three vessels. One vessel, preliminarily identified as a Daylight Orange: Darknight Variety (Gifford 1976: 301-303) serving dish covered in a thick layer of calcium carbonate, shows a clearly-defined kill hole (Figure 6). Forty-four sherds were collected from Scatter 14.



**Figure 6:** Ceramic Scatter 14. Photograph by Shawn Morton.

### *Ceramic Scatter 15*

The context of Ceramic Scatter 15 is somewhat unique in AC Cave. Located in Chamber 4, approximately 2 m west of Ceramic Scatters 13 and 14, the highly fragmented Ceramic Scatter 15 is spread around and within a circular collection of fist-sized limestone cobbles (Figure 7). There were no obvious signs of burning on either the

cobbles or ceramics to suggest the circle's use as a hearth. Because of the highly fragmented nature of the ceramics, none were collected for identification.



**Figure 7:** The ring of limestone blocks associated to Ceramic Scatter 15. Photograph by Shawn Morton.

## **SUMMARY & CONCLUSIONS**

The readily accessible material content in many caves allows for a contextual study of ancient activities envied in most other archaeological settings. This accessibility also makes such studies particularly vulnerable to the effects of secondary intrusion on cave materials. Any archaeological assessment of a cave that shows signs of modern intrusion should therefore be treated with caution. All of the caves looked at (albeit briefly) in this study show signs of modern intrusion, whether in the form of an undocumented archaeological investigation as in the Caves Branch Rockshelter Cave, or as the result of modern recreational use such as in Actun Neko and AC Cave.

Although only a preliminary study, the objectives of this season's activities in the Caves Branch River valley, as outlined at the outset of this report, were successfully met. It is expected that future work in this region by the author will include revisits to these caves and identification of archaeological materials found this season will help fill in our knowledge of the activities carried out therein.



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# COMMENTS ON A CARVED SHELL DISC FROM ACTUN NEKO, BELIZE

**Christophe Helmke**  
University of Copenhagen

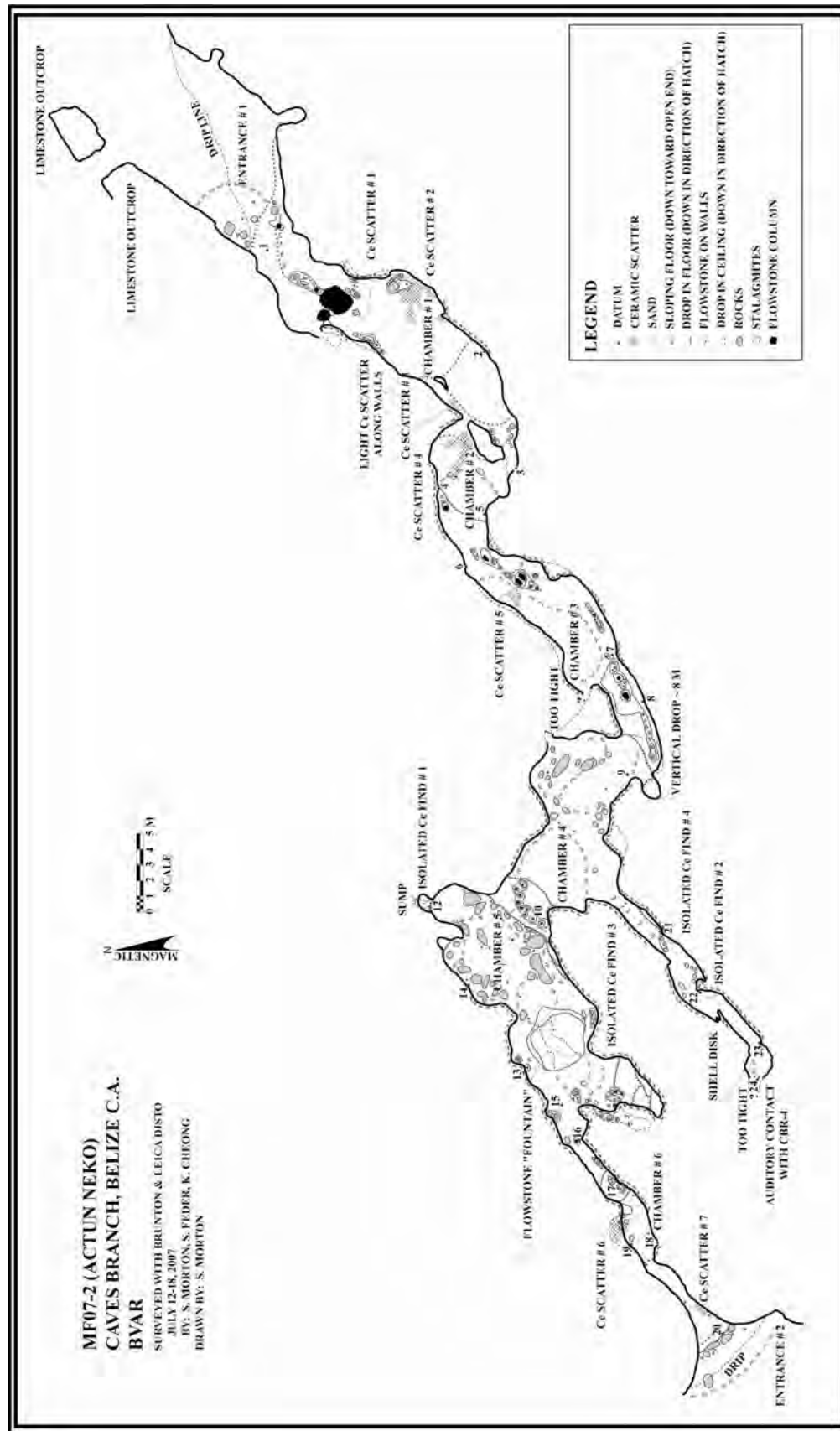
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## INTRODUCTION

A carved, incised and inlaid shell disc was discovered in Actun Neko during the 2007 field season (Figure 1). Actun Neko is a medium-sized cave site located in the Caves Branch Valley of central Belize. The circumstances of discovery and context of the find are related in the foregoing report (Morton, this volume). The disc was exposed by rodent burrowing, which might account, in part, for some the missing inlays. However, considering that artefacts deposited in caves are frequently terminated, it also seems probable that inlays were purposefully removed by the ancient Maya, as a means of ritual breakage, prior to deposition. The present report provides a description of the shell disc, comments on the iconography, as well as a preliminary assessment of its date of manufacture.

## DESCRIPTION

The disc is made of unidentified, white marine shell, and measures on average 5.7 cm in diameter. Its decorated surface has been flattened and polished by grinding. The obverse is convex and exhibits two drilled holes for suspension or fastening. One perforation has penetrated from the obverse to the frontal (decorated) surface. Decorations are twofold, including fine incising as well as deeper gouging and graving, to create sockets for inlays that were in turn incised with additional details (Figure 2). Only two inlays were recovered with the shell disc, one of greenstone (presumably jadeite), the other of red shell (*Spondylus* sp.). The majority of inlays are clearly missing considering the many sockets visible on decorated surface of the disc. Although the matrices around the find spot were sieved for additional inlays, none were recovered (Shawn Morton, pers. comm. 2007), suggesting that these were removed from the disc prior to deposition. Owing to its circular design the decorations presented on the shell disc conform to this shape and are accentuated by an incised circular frame. Since all incised details run straight up to the edge of the frame it is clear that the frame was executed first. It also seems likely that the iconography was first executed by incising the shell disc, and it was only subsequently that certain areas were selected to receive inlays. Minor chipping is evident along the left circular edge of the disc, which is suggestive of use wear. Otherwise the disc was recovered in a very good state of preservation and was clearly executed by a skilled craftsman.





**Figure 2:** The Actun Neko shell disc (mean dia. 5.7 cm), showing incisions, the extant inlays as well as the carved sockets for additional, now missing, inlays. Photograph and drawing by Christophe Helmke.

## ICONOGRAPHY

### Main Figure

The iconography represents an anthropomorphic figure (presumably a human male) seated cross-legged, and facing to the viewers left. The toes of the right foot are visible below the left thigh. The kilt of this figure was originally rendered by a series of inlays, as was his necklace and tubular pectoral. Only the greenstone bracelet of the left arm remains, which was apparently fashioned by three strands of beads as suggested by the two parallel and vertical incisions of the inlay. With the exception of the tip of the nose, the lips and the extremities of the headdress, the entirety of the head and headdress of the human figure were also executed by a series of inlays. Differing outlines and depth of inlay sockets give the impression of a somewhat corpulent figure with a heavy jaw and bulbous cheeks. Extending from the tip of the nose is an ovoid shape with a small notch at the end, which undoubtedly signals two nose beads. The left hand is rendered as a quadrangular form, with fingers marked by a series of three parallel lines and fingernails indicated by a transversal incision. The nose beads and the execution of the hand are temporally diagnostic and these will be accounted for in the dating section, below.

The little that remains of the headdress suggests that it was made of cloth, or some other pliable material, with a pointed edge over the face. The headdress was apparently fastened by a big knot, indicated by the large circular inlay socket at the back of the head, from which extends a fringed sash-like element. This type of headdress is seen in the iconography of several sites in the central Lowlands, but particularly close examples are found at Uaxactun (Figure 3) and Río Azul (Stuart 2005: Fig. 109a). The same headdress is also worn by an avian figure as a logogram (nick-named the ‘Banded Bird’), in the writing system of the ancient Maya, referring a particular title and office (see Stuart 2005: 132-135). Yuriy Polyukhovich (pers. comm. July, 2008) and the author (May, 2008) have independently suggested the tentative reading **NA’AT**, lit. ‘thinker, knower, wiseman’ for the ‘Banded Bird’ logogram based on phonetic complementation **-ta** and **-ti** and eastern Ch’olan sources (Morán 1695: 164; Wisdom 1950: 539). As a result it would seem that the individual depicted on the shell disc from Actun Neko is an individual that held the office and title associated with this particular type of headdress.

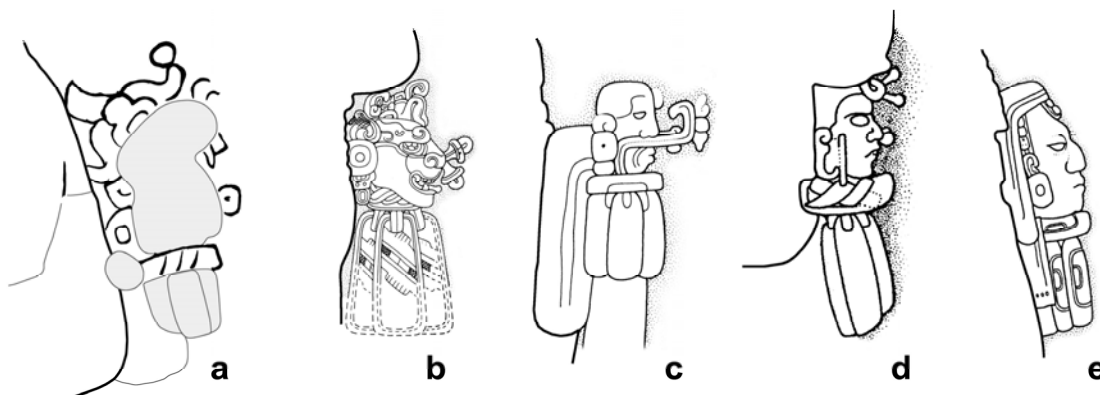
### Masquette

Another key element of the iconography is the diminutive figure attached to the back of belt assemblage of the seated figure. Undoubtedly this represents a small masquette, worn at the small of the back, as is seen in other examples (Figure 4). Below such masquettes is a band of plaited cloth—or a mirror sign—and a group of three hanging celts; a standard of belt assemblages. Here the band of plaited cloth, or mirror element, below the masquette is rendered as a rectangular form with three diagonal incisions. Below is a socket that would have held a greenstone inlay representing the three celts that are normally rendered in this position (Figure 4) (see Stuart 2004a for the incised and inlayed shell from Dzibanche where this inlay is preserved). Much like the principal figure, the masquette also appears to be adorned with a nose bead, a feature that



**Figure 3:** Details of the mural of Str. B-XIII at Uaxactun (adapted from Sharer 1994: Fig. 4.29). Note the similarities between the headdresses worn in the mural and that depicted on the Actun Neko shell. The vertical column of glyphs between the two facing figures also appears to make mention to the ‘Banded Bird’ logogram.

is seen on other masquettes as well (see Figure 4b & d). The earflare of the masquette is composed of three elements: the central element is the earflare proper; the upper element, rendered with incising, is a scroll of cloth (which served to fasten the earflare assemblage); the lower element is now missing and is indicated by a circular inlay socket. Typically this lower earflare element represents a type of bead, serving as a counterweight, sometimes rendered floridly, other times more abstractedly as a glyphic element (i.e. T534; see Thompson 1962: 149-152, 452).



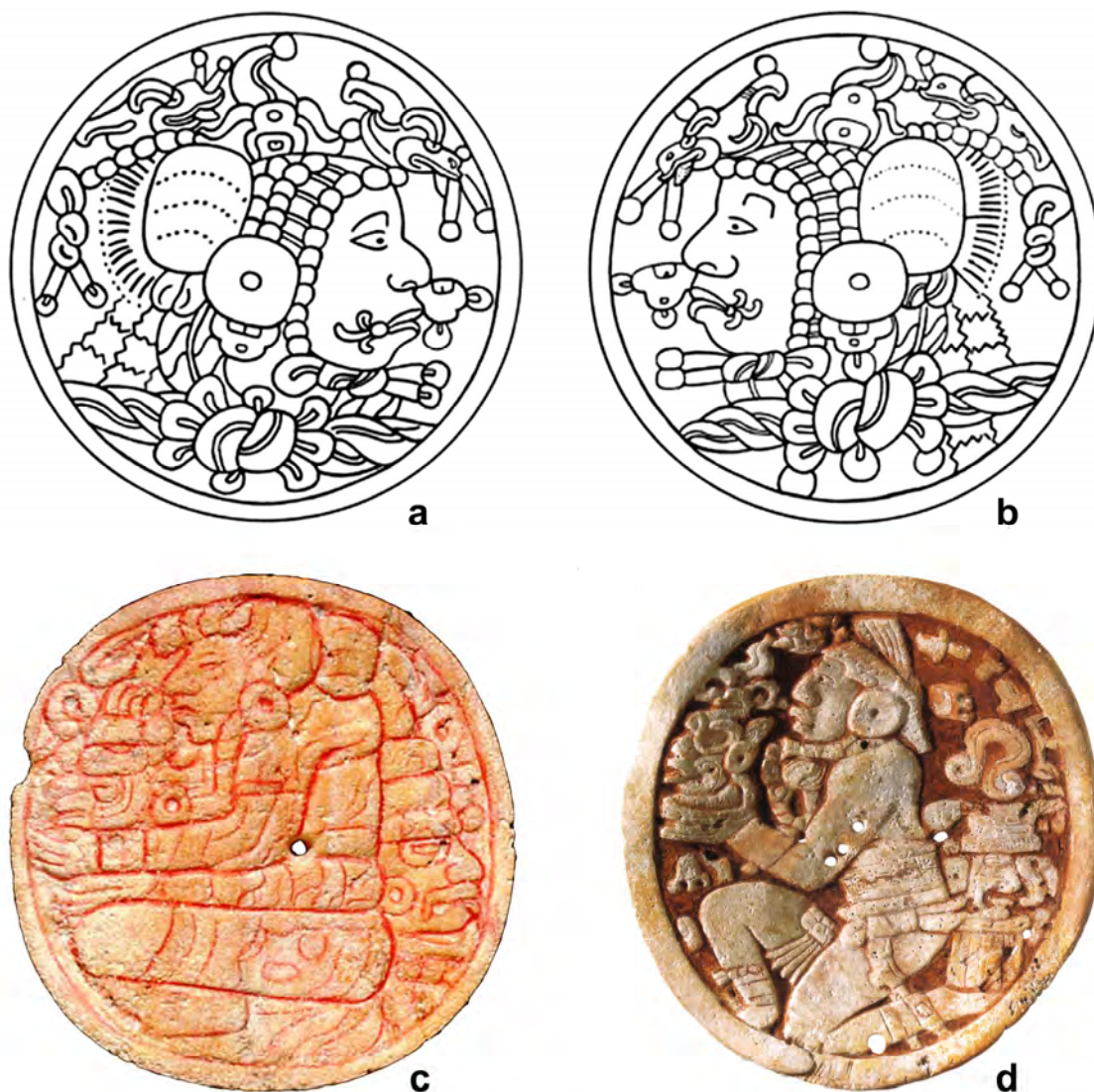
**Figure 4:** Examples of masquettes worn at the small of the back. **a)** Actun Neko shell; **b)** Tikal, St. 31, front; **c)** Naranjo, St. 41; **d)** Tikal, St. 18, front; **e)** El Cayo, Altar 4. Drawings by: Christophe Helmke, William R. Coe, Ian Graham and Peter Mathews.

The identity of the figure that the masquette depicted is now lost, since it was rendered on a missing inlay. Frequently such masquettes—and headdresses in general—depict either supernatural entities or serve to spell out the name of a king, or deified ancestor (Schele & Miller 1986: 71; Grube & Martin 2000: II-30, 34, 37; Martin & Grube 2000: 34, 77; Stuart & Stuart 2008: 111). The masquette is shown wearing a particular type of headdress, here composed of a small and simplified *ajaw* glyph as its central element surrounded by three leafy projections. The leafy elements of the headdress indicate that it is a so-called ‘Jester God’ or ‘Hunal’ type headdress (see Schele & Miller 1986: 53, 68; Freidel & Schele 1988: 552-555), the mark of a regal headband or diadem (Taube 2006). In the Classic period, this type of headdress appears to have been referred to as an *ux-yop-hu’n*, lit. ‘three-leaf-headdress’, as indicated by complete spellings in the Palace Tablet at Palenque (see Stuart 2004a: 135; Stuart & Stuart 2008: 216). In the texts of Copan and Pusilha there are references to mythico-historical individuals whose names are rendered glyphically by the same combination of ‘Jester God’ headdress and *ajaw* sign (see Stuart 2004a: Fig. 7). Very little is known about these individuals, who have been nicknamed ‘Foliated Ajaw’, or ‘Three Leaves Ajaw’, except for a period-ending celebration that is credited to the earlier figure in AD 159 (8.6.0.0.0), and another such commemoration connected to the latter, dated to AD 376 (8.17.0.0.0) (Schele & Looper 1996: 94-95; Martin & Grube 2000: 193; Grube & Martin 2001: II-9-11; Stuart 2004a: 136-137, Fig. 7; 2004b: 223). There is too little information at present to determine whether such a ‘Foliated Ajaw’ was referred to by the headdress of the masquette. Nonetheless, it has been suggested that the so-called ‘**chi**-Bent Kawak’ toponym that is associated with ‘Foliated Ajaw’, is a locality in the Central Lowlands (Stuart 2004a: 136, Fig. 7; 2004b: 221), making an apt (if highly tentative) connection to the Actun Neko shell disc. Alternatively, it is also plausible, that the combination of ‘Jester God’ and *ajaw* sign are here used to indicate that the figure that was originally depicted was that of an ancestral king. The use of a similar headdress as a marker of royalty, can be found in several other examples, including the shell earflare insets from Holmul (Figure 5a-b), the carved jade boulder from Tomb B-4/7 at Altun Ha (Pendergast 1982: Fig. 33, 57-59), and the so-called Po Panel from the Bonampak area (see Stuart 2004a: Fig. 6). Consequently, I take the example from Actun Neko to duplicate these patterns and to represent a regal crown to an ancestral figure.

### Offering

Held in the extended left hand of the seated figure is another figurative element. Much like the foregoing masquette it was rendered predominantly with a series of inlays and therefore remains indistinct. Nonetheless, based on the outline of the various inlays and the overall shape it appears to have represented a head of some sort. Analogous examples suggest that this was the head of a supernatural entity, since in one example the head of God K (*k’awiil*) (Figure 5c) and in the other the head of ‘Jaguar God of the Underworld’ (*chuwaaq?*) (Figure 5d) are held in outstretched hands.

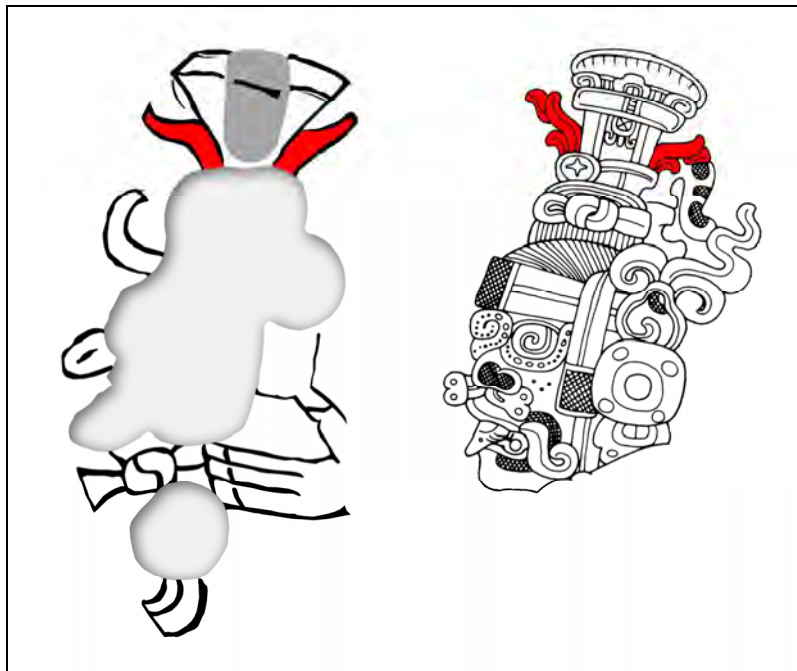




**Figure 5:** **a)** & **b)** The shell earflare plugs found in Grp. II, Str. B, Rm. 2 at Holmul (drawing courtesy of the Peabody Museum, Cat. nos.: 11-6-20/C5619 & 11-6-20/C5620). Note how each of the figures are depicted surmounted by small 'Foliated Ajaw' headdresses. **c)** & **d)** Examples of earflare insets showing similar iconographic programs to that depicted on the Actun Neko shell disc. **c)** K6031b, dia. 5.7 cm (photograph by Justin Kerr); **d)** Fine Arts Museum of San Francisco, mean dia. 9.9 cm (Cat. no.: 2002.84.1.20; Fields & Reents-Budet 2005: 184, no. 81).

The nose of the head also appears to be embellished by nose beads, as in all the other instances on the disc. The top of the head is adorned by a pair of pointed elements, possibly stylised flames, which frame a series of three wedged-shaped items, the central one of which is represented by a red *Spondylus* sp. inlay. Similar stylised flames frame a diminutive shrine that together serve as a headdress to a feline head on Stela 31 at Tikal (Figure 6). Below the head on the Actun Neko disc is a knot that resembles the logogram **HUN** for *hu'n* 'paper, headdress' (T60, see Thompson 1962: 46, 446). A bead was presumably rendered by the circular inlay socket below the knotted sign. Three parallel

lines extend out from the circular socket and connect to the scene's frame. In addition to the comparisons made with the other shell discs (Figure 5), the iconography of the Actun Neko shell disc is also strongly reminiscent in form and composition to that rendered on the magnificently preserved Altar 4 of El Cayo (Figure 7). Here we see *Ajchak Wayaab' K'utiim*, the *sajal* of El Cayo (see Zender 2002), holding a pouch and scattering pellets of incense onto an altar that supports an unlit censer (see Martin & Grube 2000: 150). The face of a skeletal supernatural entity is modelled onto the censer with a spotted feline ear. Since similar censers—of the Pedregal Modelled type-variety—frequently depict the Jaguar God of the Underworld (see Sabloff 1975: 114-116; Rice 1999), the composition is quite comparable to that rendered in Figure 6b. These points of analogy lead me to speculate that the Jaguar God of the Underworld was also depicted on the disc from Actun Neko.

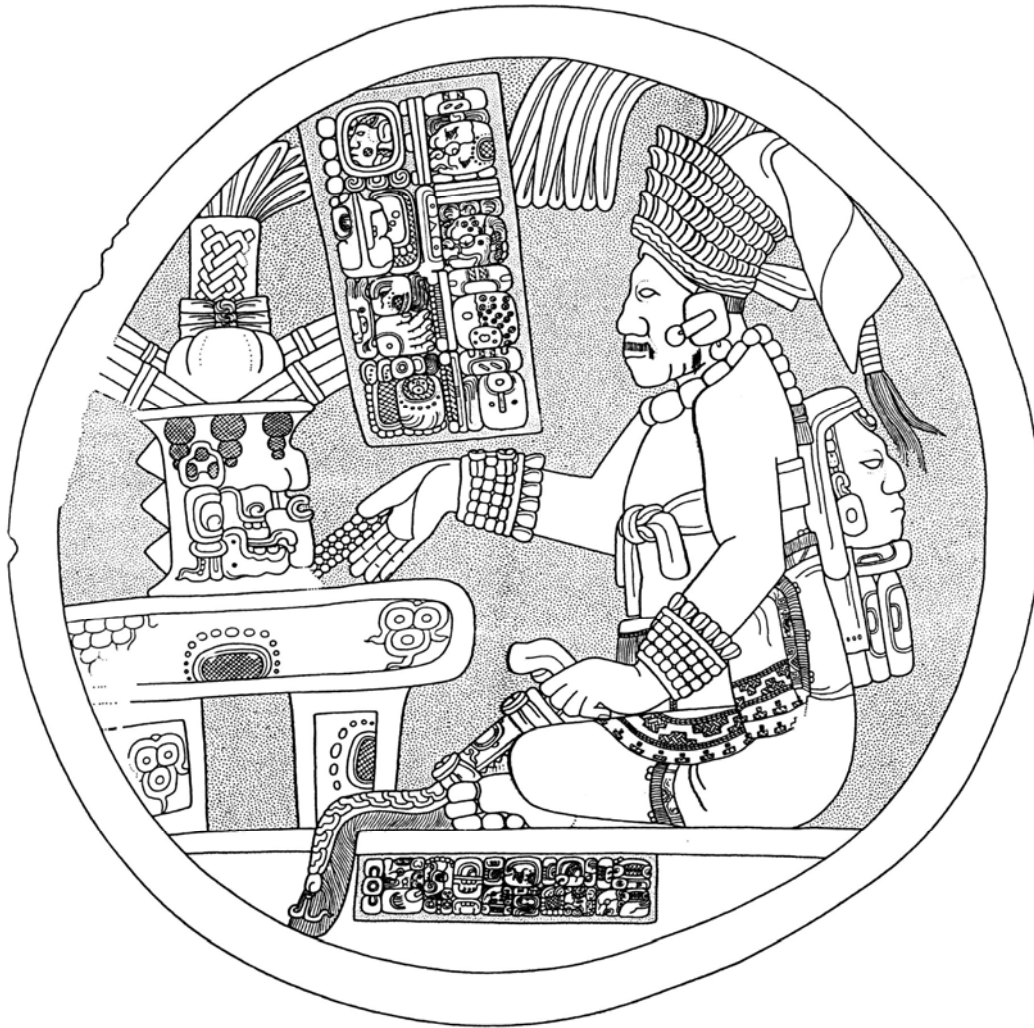


**Figure 6:** Comparison between the ‘offering’ that is held by the principal figure on the Actun Neko shell disc (left) and the trophy head depicted on Tikal St. 31 (right). The stylised flames are emphasized. Drawings by Christophe Helmke and William R. Coe.

## DATING

A preliminary dating for the Actun Neko shell disc is based on the presence of certain temporally diagnostic iconographic elements, as well as the stylistic execution of other features. Ceramic dating will not be employed, since the shell disc was not found in a sealed context and was not directly associated with any ceramic remains, which could otherwise make such an exercise a useful application. Furthermore, the chronological spectrum covered by the ceramics found within Actun Neko remains to be determined, since the analyses are still on-going.

Most salient among the temporally diagnostic iconographic elements are the nose beads that adorn the central seated figure, the masquette and the head that is held in outstretched hands. Such nose beads are a characteristic feature of Early Classic art, where these occurs in high frequencies, and are typically absent in the Late Classic (Kettunen 2005: 59, 179, 192-193, 197-201). Based on the presence of this iconographic feature alone, it is clear that the shell disc can be dated to the Early Classic.



**Figure 7:** El Cayo Altar 4 (drawing by Peter Mathews).

This conclusion is further supported by the execution of the hand of the principal figure, which is rendered with squared outlines. The rendition of hands with squared features in both iconography and glyphs is another typical feature of the Early Classic, since Late Classic examples represent fingers with more rounded tips and ovoid fingernails. Without conducting an extensive paleographic analysis of the hand signs

involved it is unclear at present to which portion of the Early Classic such squared hands belong.

The scalloped, or trilobate, outline of the *ajaw* sign in the headdress to the masquette has, however, already succumbed to paleographic analyses by Alfonso Lacadena García-Gallo (1995). As part of his work, he has found that this type of *ajaw* sign predominates between c. 8.18.0.0.0 and 9.11.0.0.0, which is to say between AD 396 and 652 (Lacadena García-Gallo 1995: 297). As a result of these parameters it seems safe to assign the shell disc to an interval between AD 400 and 650, which also accords well with a similar specimen found at Blue Creek, dated to a comparable time period on the basis of associated ceramics (Thomas Guderjan, pers. comm. July, 2007). This dating also finds support from the carved and inlaid shell from Dzibanche. On the basis of stylistic attributes the similar shell from Dzibanche has been dated to c. AD 450-550 (Stuart 2004a: 140). Finally, two fragmentary specimens that are very similar in size, style and execution to the Actun Neko disc have been found in general excavations and in Problematic Deposit 275 at Tikal (Moholy-Nagy & Coe 2008: 30, Fig. 181f-h). These are dated to between the Early Classic (AD 250-554) and Late Early Classic (AD 554-692) (Moholy-Nagy & Coe 2008: see Table 3.46-3.50). For the Tikal examples the inlay sockets appear to have been misidentified as a means of termination described as ‘obliterations by shallow drilled depressions’ (*ibid.*). In sum, on the basis of available data, the shell disc of Actun Neko can be dated to between 5<sup>th</sup> and 7<sup>th</sup> centuries, and proves to be an important addition to the corpus of Maya iconography.

## Acknowledgements:

Many thanks to Shawn Morton for bringing this find to my attention and for giving me the opportunity to study it in person and to write this note on the piece. In addition, I warmly thank the constructive comments of Erik Boot and Alfonso Lacadena on earlier versions of this report.

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# **NEW SITE DESCRIPTION AND STRUCTURE DESIGNATIONS OF BAKING POT, BELIZE**

**Christophe Helmke**  
University of Copenhagen

**Jaime Awe**  
Institute of Archaeology, Belize

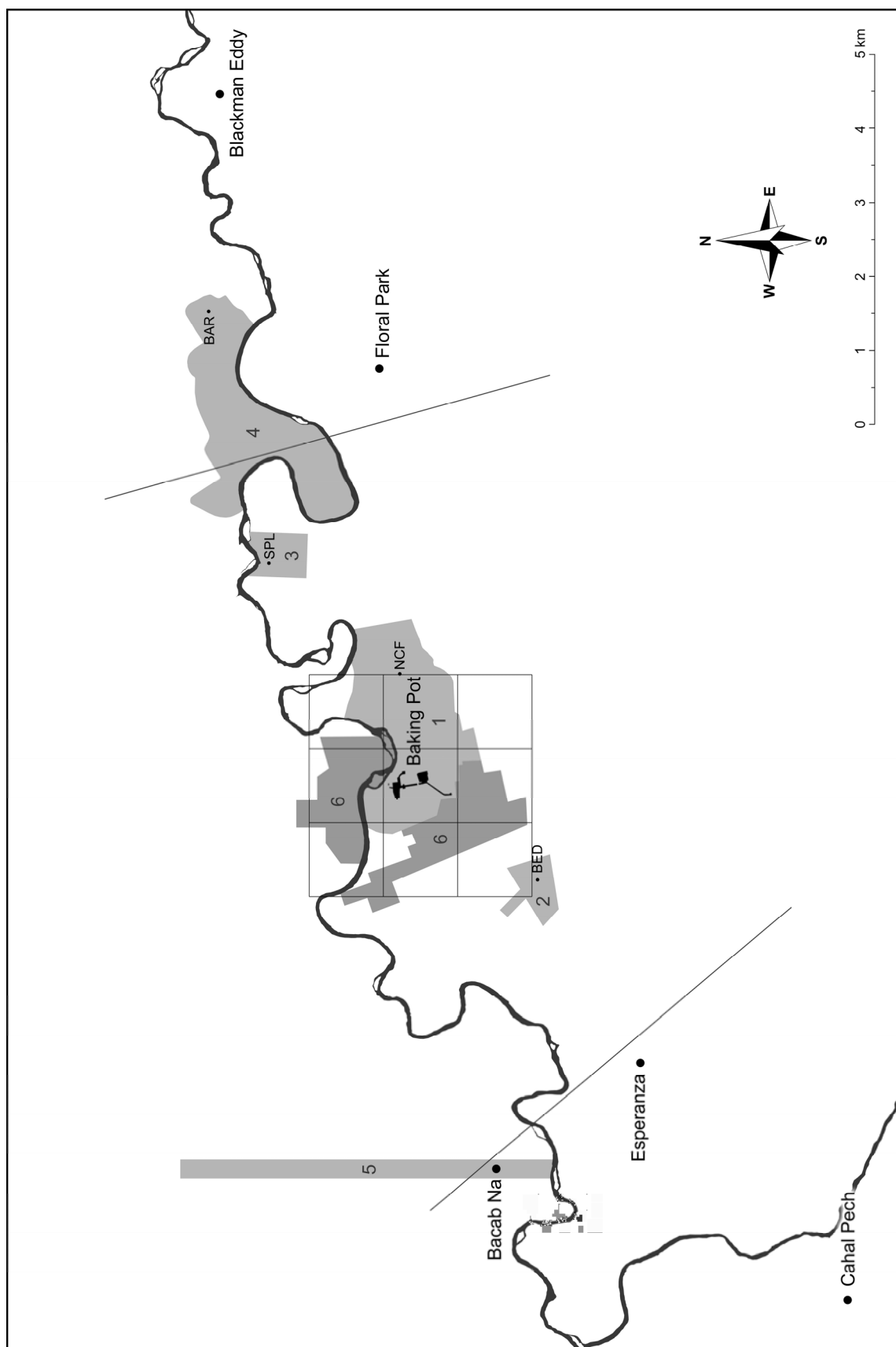
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## **INTRODUCTION**

The purpose of this report is to provide an introduction to the renewed program of archaeological investigations at Baking Pot, started in the 2007 field season. Below, new descriptions of the site's setting and location are presented, as are descriptions of the two groups of monumental architecture and monuments, and a brief summary of the archaeological research conducted to date. A comprehensive site bibliography is included as an appendix to this report. The principal research objectives of this new program of research are presented in the following reports within this volume (Helmke 2008; Hoggarth et al. 2008; Hoggarth 2008). Since BVAR began excavations of the monumental architecture (Cheetham 1995; Conlon 1996; Aimers 1997), it was found that the alphabetic labels attributed to structures by foregoing investigators (see Ricketson 1929; Willey et al. 1965; Bullard & Bullard 1965) were inadequate. One of the first items addressed by the new program of investigations were re-designations of all the structures and monuments of the epicentre, in preparation for future excavations. It is hoped that this serves as an apt introduction to this new program of investigations and the new designations of Baking Pot.

## **SITE LOCATION & SETTING**

The major centre of Baking Pot is situated on the southern bank of the Belize River, c. 9.4 km downriver of San Ignacio and 26.1 km upriver of Belmopan (linear distances). In the records of the Institute of Archaeology the site has been catalogued as 28/190-001. The site is located on fertile alluvial land held and managed by Central Farm Research Station, Ministry of Agriculture, Government of Belize. At its nearest the Belize River today courses 105 m from the ancient site, and average elevations of the site fluctuate between c. 10 and 15 m above the mean elevation of the river (or between c. 90 and 105 m above mean sea level). The approximate geographic coordinates for the geometric centroid of the monumental architecture are 17° 11' 55" N and 89° 00' 32" W (based on Google Earth<sup>TM</sup>). Most of the monumental architecture is covered by tall trees and secondary growth, with the majority of the surrounding terrain being cleared grassland, used as pasture for cattle.



**Figure 1:** Location of Baking Pot in relation to nearby archaeological sites and settlement areas. The monumental epicentre of Baking Pot is rendered in black to scale. All squares of the grid are measure 1 km on a side. **1:** Baking Pot settlement area as mapped by Conlon and Bullard (1954-2000). **2:** Bedran settlement area as mapped by Willey (1992-1995). **3:** Spanish Lookout settlement area as mapped by Willey (1954-1956). **4:** Barton Ramie settlement area as mapped by Willey (1954-1956). **5:** Bacab Na transect mapped by BRASS. **6:** Extent of the 2007 field season BVAR survey. Map by Christophe Helmke (2008).



In relation to ancient Maya sites, Baking Pot lies 10.2 km northeast of Cahal Pech and 11.0 km west of Blackman Eddy, the two nearest major centres (Figure 1). To the south is the major centre of Pacbitun, which is roughly 12.0 km distant (see Helmke & Awe 2008a: 77-78). No major centre has as yet been identified to the north, within comparable radii. In fact no substantial site of any size has been discovered over a distance of 17 km to the north (the northern extremity of the modern Spanish Lookout settlement). Intermediate minor centres include Floral Park, 6.4 km to the east, the site of Esperanza, 5.4 km to the southwest (see Driver & Garber 2004), and Bacab Na, 6.0 km to the west (see Ford & Fedick 1992: Fig. 2, 38, 43-44). Smaller peripheral sites of note include the *plazuela* of Bedran (2.3 km to the SW), the North Caracol Farm group (1.7 km to the E), the Spanish Lookout *plazuela* (4.1 km to the NE) and the Barton Ramie settlement area (over 4.3 km to the E). Approximately 3.0 km to the south are the rolling limestone hills that define the southern perimeter of the alluvial valley bottom. These hills are also the closest source of limestone for the ancient inhabitants of Baking Pot. Although reconnaissance of these hills has not been conducted to date, it seems likely that ancient quarries will be discovered within this area.

## **SITE DESCRIPTION**

The monumental architecture of the site covers approximately 5.6 hectares. Of this c. 74.5 % is taken up by monumental structures, plazas and courtyards, while intrasite causeways represent 25.5 % of the total surface area. As such, the total surface area of the site makes it the sixth largest known site in central Belize (after El Pilar, Buenavista del Cayo, Actuncan, Pacbitun and Xunantunich; in decreasing order) (see Helmke & Awe 2008a: 69, Fig. 4).

The site is composed of two principal groups of monumental architecture (Figure 2). The northern group was originally designated Group I and the southern group as Group II. The original structure and group designations are incompatible with standard practices of Maya archaeology, since groups were designated numerically and structures alphabetically (i.e. the opposite of standard nomenclature). In addition, in this old scheme most individual structures of the monumental epicentre were not recognised or attributed discrete designations, thereby causing irreconcilable complications for continued investigations. Consequently, the epicentral groups and their constituent structures are herewith re-designated. As part of the new scheme, the former Group I is re-designated as Group A, while Group II is now equivalent to Group B. A summary and cross-index of old and revised designations for Group B is provided in Table 2, to be used in conjunction with revised maps included herein (Figures 2-4). The designations attributed for structures of Group B have been verified in the field, whereas the Group A designations (Table 1) are to be considered provisional until a new map of this portion of the site has been produced.

## Causeways

The two groups are connected by a causeway that measures 306 m in length and which is between 15 and 22 m in width (Causeway 1) (Figure 2). The northern end of this causeway is flanked by Strs. 89 and 209 that appear to have served ritual functions (see Audet & Awe 2003a; Audet 2007: 222-252). Structure 209 is associated with the monolithic limestone Altars 1 and 2 and the fragmentary remains of the plain limestone Stela 3 (see Audet & Awe 2003a; Audet 2007: 228-229). At the southern end of Causeway 1 immediately before it reaches Group B a notable gap is found that coincides with the course of a small stream. Based on extant remains in this area it seems likely that this portion of the causeway spanned over a now-perished bridge. It is an exciting prospect to initiate excavations of this area in search of architectural details that could corroborate this hypothetical bridge and that would shed light on the original form of this construction as little is known about ancient Maya bridges.<sup>1</sup>

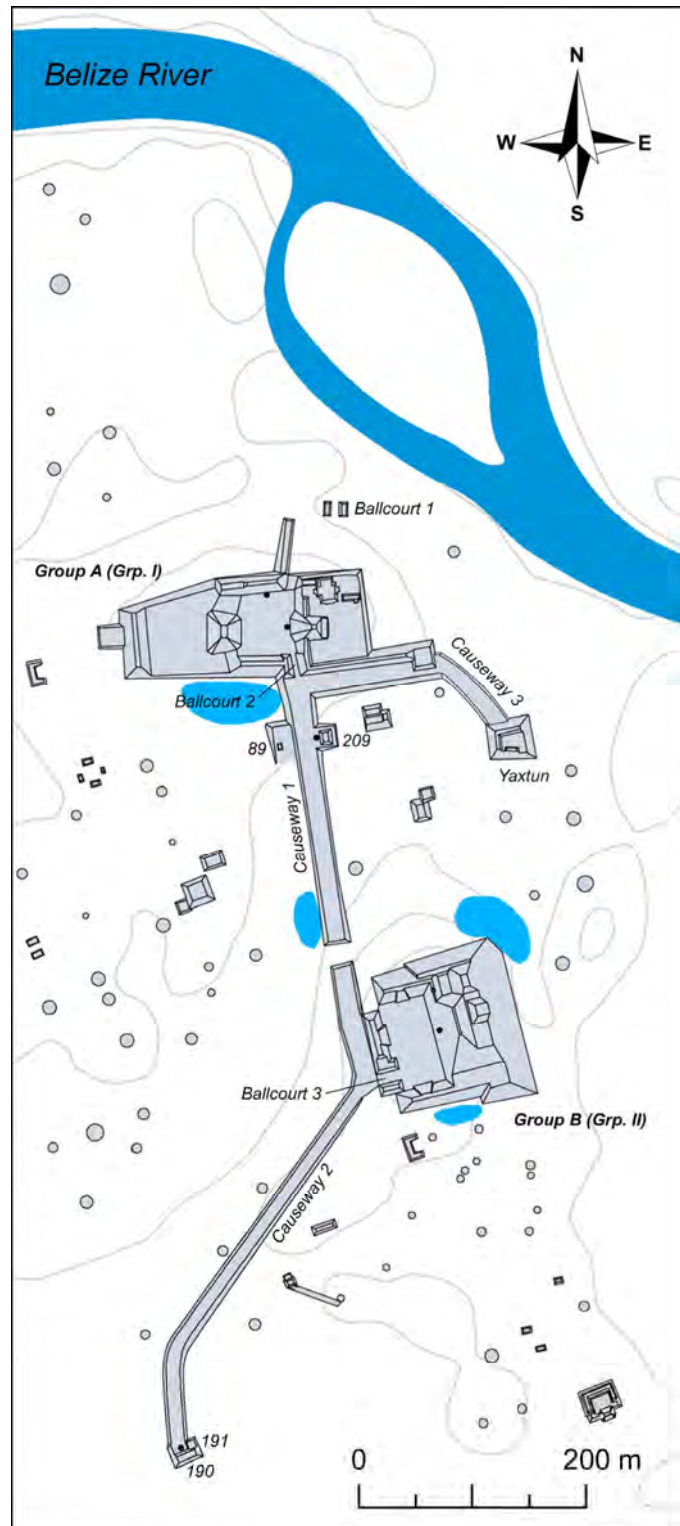
To the southwest, another causeway runs for 377 m from Group B to the causeway terminus that comprises Strs. 190 & 191 (Causeway 2) (see Audet 2004, 2007: 252-271) (Figure 2). This causeway terminus is associated with the plain limestone Stelae 4 and 5 as well as the masonry Altar 3 found buried by later architecture (Audet 2004, 2007: 257, 259, 262).

Another intrasite causeway was initially identified during the mapping of the epicentral settlement in the early 1990s and plotted as such on the maps. This causeway (Causeway 3), runs along the southern edge of Group A and connected the so-called Yaxtun *plazuela* (formed by Strs. BKP M-198, M-199 and M-200) (see Audet 2000, 2002; Audet & Awe 2000). In all, the causeway would have measured c. 177 m in length. During subsequent surveys it was found that Causeway 3 had become invisible, undoubtedly due to the hydrological saturation of alluvial matrices that bloat and displace certain pedological contexts (James Conlon, pers. comm. 2007). Doubts were thus raised about the existence of Causeway 3 and extensive mechanical grading of the area in 1998 directly affected this architectural feature. During survey of the area in 2007, it was found that sufficient topographic indicators persisted to leave Causeway 3 back on the site map.

Further afield in the eastern perimeter of the site is yet another causeway that appears to run from Group B towards the principal structure (NCF-M1) of the peripheral settlement group of North Caracol Farm (Causeway 4) (see Golden & Conlon 1996). This causeway exhibits raised parapets over 255 m of its length defining its c. 9-m wide paved flooring and incorporates a series of three small structures (BKP M-149, M-154 & M-158). If this latter causeway had been continuous from Group B to North Caracol Farm (as is suspected) it would have measured over 1.3 km in length.

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<sup>1</sup> The probable Baking Pot bridge would be one of a select few examples known from the ancient Maya world. Investigations at Pusilha (Gruning 1930), Aguateca (pers. observation 1992) and Palenque (Barnhard 2001: 13, 58) have revealed the existence of such features and undoubtedly the longest ancient Maya bridge was built at Yaxchilan to span the course of the Usumacinta (National Geographic Magazine 1995).



**Figure 2:** Map of epicentral Baking Pot showing the layout and configuration of Groups A and B, Causeways 1 and 2 and associated ritual structures and causeway termini, as well as Ballcourts 1 through 3. Areas with monolithic monuments are marked by black dots. Note the four reservoirs in proximity to the epicentral monumental architecture. Map by Christophe Helmke and Andrew Bevan (2007) based on maps and surveys by James Conlon (1992-2000). Map aligned to UTM grid north.

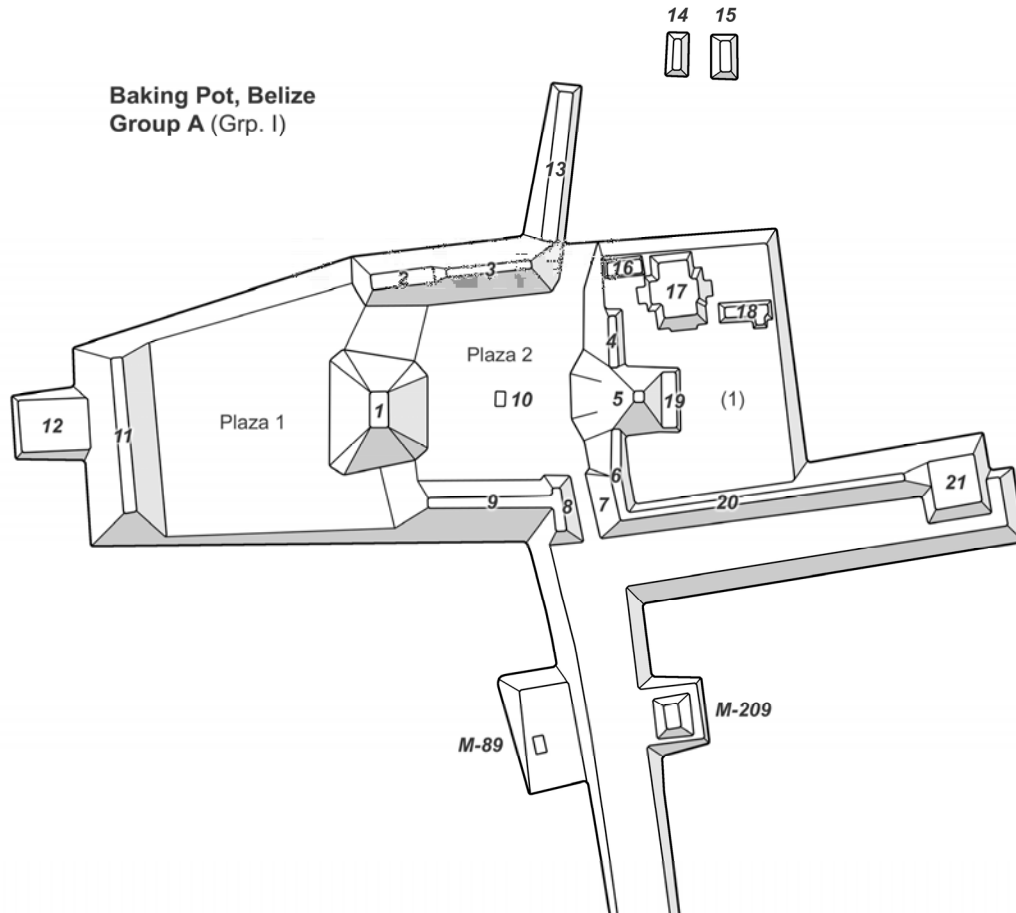
## Group A (Group I)

The largest structures at the site are the pyramidal structures of the northern Group A (13 m, height above modern plaza level) and the southern Group B (17 m, height above modern plaza level) (Ricketson 1929: 3-4; Bullard & Bullard 1965: 11). Group A is composed of at least 19 distinct structures, arranged around two plazas and one elevated court (Court 1) (Figure 3). The western plaza (Plaza 1) is framed by the range Structure A11 (formerly Str. A) at the west and by the pyramidal Str. A1 (Str. B) at the east. No structures have been found defining the northern or southern limits of the partially raised plaza. The main plaza of Group A (Plaza 2) is the one defined by Strs. A1 at the west and Str. A5 (Str. E) at the east. This plaza is delineated by range Structures A2, A3 (Str. C) and A9 (Str. F) to the north and south respectively. The eastern buildings of the plaza (Strs. A4 through A6) appear to form an E-Group complex in concert with Str. A1, but testing has revealed that this morphological similarity is deceiving (Aimers 1997, Aimers & Rice 2006: 81-90 *passim*). Testing the summits of Strs. A1 and A5 revealed these to contain important caches and wealthy tombs, whose occupants were undoubtedly royal elites in life (Audet & Awe 2003b; Audet 2007: 175-214). Architectural clearing of the base of Str. A5 (Str. E) indicated that it faced onto Plaza 2 and included a raised room athwart the principal stair (Aimers 1997). The primary axis was marked by the plain limestone Stela 2 (*ibid.*). At the base of Str. A3 (Str. C) are limestone fragments of what may be another plain stela (James Conlon pers. comm. 1996), although this remains to be verified by excavations. Near the middle of the Plaza 2 is a low square mound Str. A10 (Str. N) that may have served ritual functions (see Aimers 1998). Excavations of this platform were attempted, but it had been adversely affected by tree growth (Aimers 1998). In recent research, David Stuart (2006) suggests that comparable plaza-central platforms at Palenque's Cross Group may have served as the foundation to large wooden columns employed as part of *voladores* rituals and associated period-ending observances. Verification of this hypothesis could be made if the platform was relocated and a large and deep post-mould found in its centre.

Access to the principal plaza of Group A (Plaza 2) was gained from the north via the playing alley of the site's Ballcourt 1 formed by Strs. A14 and A15 (Strs. K & L). The symbolism of ballcourts as entryways is strongly imbedded in ancient Maya thought and aptly emphasized in Classic iconography (see Freidel et al. 1993: 350-355, 362-364, 372, 384, 386; Stone 1995: 36-37, 148-153; Ferguson 1999: 79). Similarly, access to the plaza from the south was also gained via Ballcourt 2. Testing of Ballcourt 2 suggests that it is a secondary addition (Aimers 1997). I have suggested that it may have only been a symbolic and non-functional ballcourt (see Ferguson 1998: 20; 1999: 89), but additional clearing of the ballcourt should be undertaken to assess this claim. Structures A16 through A20 (Strs. H, J, G, M & the rear of Str. E) define the perimeter of the raised Court 1. The most distinctive edifice of Court 1 is Str. A17 (Str. G) that based on its architectural configuration and the high incidence of human inhumations, undoubtedly served as a private ancestor shrine (see Ricketson 1929).

Area	Description	New designation	Old designation
Plaza 2	Pyramidal str.	Str. A1	Str. B
Plaza 2	Range structure	Str. A2	---
Plaza 2	Range structure	Str. A3	Str. C
Plaza 2 / Court 1	Range structure	Str. A4	Str. E (North)
Plaza 2	Pyramidal str.	Str. A5	Str. E (Central)
Plaza 2 / Court 1	Range structure	Str. A6	Str. E (South)
Plaza 2	Ballcourt	Str. A7	---
Plaza 2	Ballcourt	Str. A8	---
Plaza 2	Range structure	Str. A9	Str. F
Plaza 2	Platform	Str. A10	Str. N
Plaza 1	Range structure	Str. A11	Str. A
Plaza 1	Unknown	Str. A12	---
North	Range structure	Str. A13	Str. D
North	Ballcourt	Str. A14	Str. K
North	Ballcourt	Str. A15	Str. L
Court 1	Palace structure	Str. A16	Str. M
Court 1	Ancestor shrine	Str. A17	Str. G
Court 1	Palace structure	Str. A18	Str. J
Court 1	Unknown	Str. A19	---
Court 1	Range structure	Str. A20	Str. H
Court 1	Unknown	Str. A21	Str. I

**Table 1:** Index of outdated and revised structure designations for Group A (formerly Group I) of the monumental epicentre of Baking Pot.



**Figure 3:** Plan of the monumental architecture of Group A showing new structure designations. Plan by Christophe Helmke (2007) based on plan and surveys by James Conlon (1992-2000). Plan aligned to UTM grid North.

### Group B (Group II)

Group B is more compact and nucleated than Group A. The main plaza of this group (Plaza 1) is defined by Strs. B1 through B6 (Strs. A, C, D & E). Structure B1 (Str. A), the principal pyramidal structure of the group, is associated with the fragmentary and plain limestone Stela 1 at its base, in alignment with the primary axis and two rooms set in alignment to the principal stair (Bullard & Bullard 1965: 16, Figs. 3-5). The lower Room 1 is raised only slightly above the plaza, while Room 2 is a secondary addition that is set over the principal stair at c. 4 m above the plaza (*ibid.*). It is possible that Room 1 was built first and once terminated, Room 2 was constructed, with Room 1 dismantled and a new flight of stairs built over and engulfing Room 1. Little of this terminal stair subsists, however, as it was adversely affected by modern quarrying (see Bullard & Bullard 1965: 16). The summit of Str. B1 (Str. A) was trenched and partly exposed architectural remains that were cleared during the 2007 season (see Helmke 2008). The principal access to the plaza of Group B appears to have been the southwestern entrance from Causeway 2 via the site's Ballcourt 3, formed by Strs. B3

Area	Description	New designation	Old designation
Plaza B	Pyramidal str.	Str. B1	Str. A
Plaza B	Range structure	Str. B2	---
Plaza B	Ballcourt	Str. B3	Str. D
Plaza B	Ballcourt	Str. B4	---
Plaza B	Range structure	Str. B5	Str. C
Plaza B	Range structure	Str. B6	Str. E
Plaza B / Court 1	Audiencia str.	Str. B7	---
Court 1	Palace structure	Str. B8	Str. G
Court 1	Palace structure	Str. B9	Str. B
Court 1	Unknown	Str. B10	---
Court 1	Unknown	Str. B11	---
Court 2	Range structure	Str. B12	---
Court 2	Range structure	Str. B13	---
Court 2-3	Unknown	Str. B14	---
Court 4	Range structure	Str. B15	---
Court 4	Range structure	Str. B16	---
Court 4	Range structure	Str. B17	---
Court 5	Unknown	Str. B18	---
Court 5	Range structure	Str. B19	Str. F
Court 5	Range structure	Str. B20	Str. F
Court 5	Range structure	Str. B21	Str. F

**Table 2:** Index of outdated and revised structure designations for Group B (formerly Group II) of the monumental epicentre of Baking Pot.

and B4 (Strs. C & D). An additional entry may have existed to the northeast, but excavations will need to test this hypothesis. Excavations of this ballcourt indicate that it too may be a secondary addition (Bullard & Bullard 1965: 20). To the north, south and east of Str. B1 is a series of five elevated courts (designated numerically from north to south). These courtyards and the surrounding structures appear to have served as the principal palatial complex of Baking Pot. Most of the structures are low platforms suggesting that these may have served as the sub-structural platforms for perishable superstructures. The structures of Court 1, however, are larger and more imposing. The pyramidal-shaped Str. B9 (Str. B) proved to be another palatial structure, despite its shape (Audet 2005: 1-7; 2007: 271-282). Based on its shaped and placement at the eastern side of Court 1, it seems possible that Str. B9 may have originally functioned as a private ancestor shrine after which time it was superimposed by a residential-administrative superstructure. Consequently deep testing of this structure by excavations should be undertaken to comprehensively track the evolution and function(s) of Str. B9. The northern Str. B8 (Str. G) was partly exposed and found to be composed of a series of rooms with benches (Audet 2005: 7-10, 2007: 282-290), again suggesting residential-administrative functions. Structure B7 was tested in 2007 and proved to be an *audiencia*-type structure, forming the principal entrance into the palatial complex (see Helmke 2008).

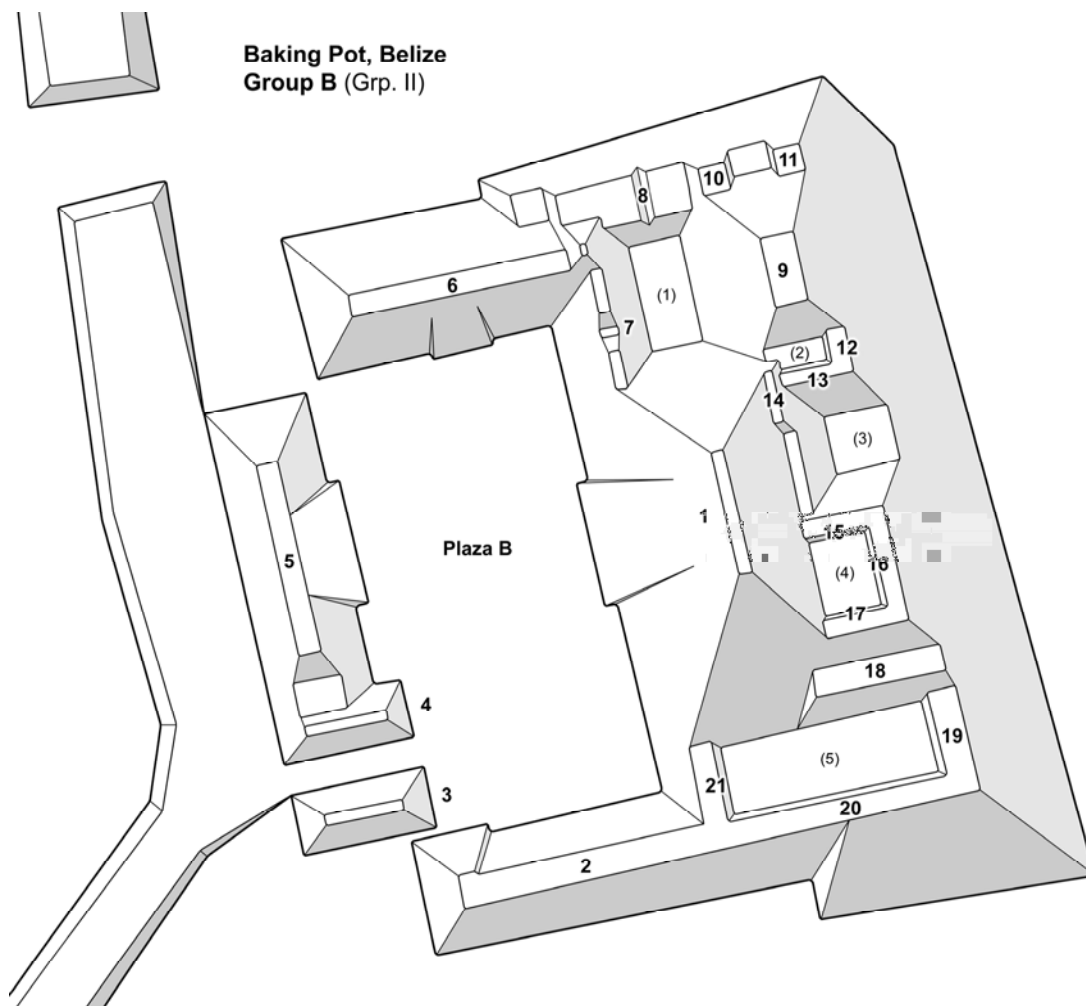
## Monuments

Previous research at the site has brought to light a series of monuments within the epicentre of Baking Pot. All of these are plain and no evidence for carved monuments has been discovered to date. In all, 5 monolithic limestone stelae have been found as well as 2 monolithic and circular limestone altars. In addition, a circular masonry altar (Altar 3) was discovered buried by later construction in Str. 190 at the southern terminus to Causeway 2. The depression left by a central ballcourt marker was also discovered in Ballcourt 1, although the marker had been displaced and broken in antiquity. The data in Table 3 provides a summary overview of these monuments.

Monument	Association	Reference
Stela 1	Str. B1	Bullard & Bullard 1965: 16
Stela 2	Str. A5	Aimers 1997
Stela 3	Str. 209	Audet 2003a, 2007: 228
Stela 4	Str. 190	Audet 2004, 2007: 257, 259, 262
Stela 5	Str. 190	Audet 2004, 2007: 257, 259, 262
Stela 6 (?)	Str. A3	James Conlon, pers. comm. 1996
Monument 1	Str. B1, Room 2	Bullard & Bullard 1965: 17
Altar 1	Str. 209	Audet 2003a, 2007: 228-229
Altar 2	Str. 209	Audet 2003a, 2007: 229
Altar 3	Str. 190	Audet 2004, 2007: 262-263, Fig. 5.50
Ballcourt Marker 1	Strs. A14 & A15	Ferguson 1998, 1999: 95-96, Fig. 3.9b

**Table 3:** Summary of the designations and associations of monuments found at Baking Pot.





**Figure 4:** Plan of the monumental architecture of Group B showing new structure designations. Plan by Christophe Helmke (2007) based on preliminary survey by Christophe Helmke (2004) as well as plans and surveys by James Conlon (1992-2000). Plan aligned to UTM grid north.

### Modern Disturbances

Immediately to the south and south-west of Group B are the modern installations of Central Farm. These constructions have undermined the medial portion of Causeway 2; three-fourths of the *plazuela* group defined by Str. BKP M-75a have been completely dismantled; structure BKP M-76 has been affected by the construction of a small building at its summit; the western extent of Ballcourt 3 of Group B has been partly destroyed by the construction of a cement pen; and several smaller mounds have also been adversely affected by Central Farm installations (BKP M-77, M-78, M-79, M-82, M-83, M-85 & M-86). Several mounds have also been partly destroyed by the modern road that runs from the Western Highway to the ferry to Spanish Lookout at Listowell (BKP M-13; M-63; M-74; M-88). In addition, the base of Str. B1 has been extensively quarried in 1949 as part of road construction in the area (see Bullard & Bullard 1965: 11; Willey et al. 1965: 304). In the interim between the 1997 and 1998 seasons the Maya Papaya

company leased land from Central Farm and in preparation for papaya plantations passed a grater over many housemounds to the southeast and northwest of Group A as well as Causeway 3, which spanned from Group A to the Yaxun *plazuela*. Jaime Awe promptly intervened and launched negotiations to establish the Baking Pot, which led to the cessation of grating and plantation development. Despite these efforts, the damage inflicted by the Maya Papaya company had been done and were irreversible. Despite the effect of these many modern incursions, the site has the distinction of being virtually unlooted.

## PREVIOUS INVESTIGATIONS

### 1924-1961: Early Investigations

Baking Pot has been researched by five major archaeological projects. The first was of short duration (March – May 1924), headed by Oliver Ricketson Jr. and focused on Group A and the human interments of Str. A19 (Str. G) in particular (Ricketson 1929; Willey et al. 1965: 303-304).

After such an early start excavations of the site did not resume until 1941, at which point Str. B1 (Str. A) was carelessly quarried for limestone by Public Works as part of highway construction in the vicinity (Bullard & Bullard 1965: 11; Willey et al. 1965: 304). A. H. Anderson, as Archaeological Commissioner, promptly responded by stopping the quarrying and initiated salvage operations focused on Str. B1. As part of this salvage the area affected by quarrying was cleared and intervening architecture exposed and partly tested (*ibid.*).

Thereafter, as part of Gordon Willey's pioneering settlement survey in the Belize Valley, Baking Pot received attention once more. Between 1954 and 1956 the monumental epicentre and a 48.5 ha portion of the adjoining settlement was mapped by William R. Bullard Jr. (Willey et al. 1965: 301, 305; Bullard & Bullard 1965: 7). The settlement survey recorded a total of 89 mounds (excluding monumental architecture) within the mapped areas (Willey et al. 1965: 301) of the site, resulting in a density of 183 mounds per square kilometre (1.83 mounds per hectare). In addition, between late February and early March 1956 four test excavations were conducted by Willey's team (Willey et al. 1965: 305-309, Fig. 177).

Seven years afterwards, in 1961 the site was investigated by Bullard and his spouse who focused their efforts on Str. B1 (Str. A) by documenting the architecture exposed by Anderson, trenching the summit and continuing testing of exposed architecture (Bullard & Bullard 1965; Willey et al. 1965: 304-305). In addition, the eastern half of Ballcourt 3 was exposed and the alleyway partially cleared. These investigations were again of short duration spanning only from mid-August to the end of September (Bullard & Bullard 1965: 5). Thus by the end of the fourth research project a total of approximately six months of investigations had been completed at the site, resulting in a complete map of the site epicentre, partial exposure and testing to select structures within the monumental epicentre, and testing of four housemounds in the vicinity.

## **1992-2000: BVAR – Phase 1**

The fifth and most recent archaeological project to focus on the site of Baking Pot is the Belize Valley Archaeological Reconnaissance (BVAR) project, under the direction of Jaime J. Awe. BVAR Research at Baking Pot has spanned over two major phases. The first was initiated in 1992 and lasted until 2000 and was focused on the survey and excavation of peripheral settlement. The settlement survey under James M. Conlon was initially focused on excavations of the Bedran *plazuela* group (1992-1994) in the western periphery (Conlon 1993a, Conlon & Moore 1998, 2003; Conlon & Powis 2004; Conlon, Powis & Hohmann 1994; Iannone 1993; Powis 1993; Song 1996). Upon completion of the Bedran excavations attention shifted to the comprehensive mapping of Baking Pot's eastern settlement continuum (1995-1997 & 1999-2000). This thorough survey resulted in the identification of a total of 335 housemounds, thereby almost quadrupling the number of known structures for the site (Conlon 1993b, 1995, 1997; Conlon & Awe 1995a, 1995b; Conlon & Ehret 2000, 2001; Ehret & Conlon 2000, 2001 Golden & Conlon 1996). The total area covered by the combined Willey/Bullard and BVAR settlement survey approximates 8.7 km<sup>2</sup>, resulting in an average mound density of 38.5 mounds per square kilometre (0.38 mounds per hectare). As part of the BVAR settlement survey a sample of 16 % of all mounds were extensively surface-collected in the eastern periphery and within the North Caracol Farm group (Colon & Ehret 2000, 2001; Ehret & Conlon 2000, 2001). In addition, exhaustive excavations of the Atalaya *plazuela* (M-161 through M-164) were undertaken by Allan Moore (Moore 1997, 1998, 1999; Conlon & Moore 1998a, 1998b, 2003) and Jennifer Piehl extensively excavated a series of smaller housemounds (M-102, M-129, M-131, M-193 & M-194) (Piehl 1998, 1999, 2006). Thereafter, Carolyn Audet initiated excavations of the Yaxtun *plazuela* (M-198 through M-200) (Audet 2000; Audet & Awe 2000).

Concurrent to this settlement research a variety of excavations were conducted in and around the northern Group A of Baking Pot. These excavations were initiated by testing of Causeway 1 (Cheetham 1995). Subsequently, the playing alley of Ballcourt 2 was first tested in search of ballcourt markers and associated special deposits (Conlon 1996). Structures A5 (Str. E), A9 (Str. F), A10 (Str. N) and the sloping benches of Ballcourt 2 were partly exposed and tested by excavations under Jim Aimers (Aimers 1997). Ballcourt 1 was tested by axial excavations by Josalyn Ferguson (Ferguson 1998, 1999).

## **2001-2004: BVAR – Phase 2**

With the completion of Jim Conlon's settlement survey and the doctoral researches of Allan Moore, Jim Aimers and Jennifer Piehl, the second phase of BVAR investigations began in 2001 and lasted until 2004. As part of this second phase Carolyn Audet completed the thorough excavations of the Yaxtun *plazuela* (Audet 2002) and a variety of housemounds of the site's core settlement were partly exposed and tested by excavations (M-51, M-188, M-197, M-203) (Dixon 2005; Dixon & Hoggarth 2004; McRae 2003, 2004; Weller 2002). With Yaxtun completed Audet went to expose and trench the important ritual structures associated with Causeways 1 and 2 (M-190 & M-209) (Audet 2003, 2004, 2007: 221-271). The summits of Strs. A1 (Str. B) and A5 (Str.

E) of Group A were also investigated in search of tombs and special deposits which yielded surprising finds (Audet 2007: 175-214; Awe & Audet 2003b, 2005). The last year of phase two was focused on Strs. B8 & B9 (Strs. B & G), two palatial structures of Group B (Audet 2005, 2007: 271-290) and the testing of the plazas of Groups A and B (Swain 2005) and Court 1 of Group A (Hoggarth 2005) to refine our understanding of the dating of epicentral constructions. As part of Phase 2 investigations an electromagnetic survey was also conducted by Tracy Sweely in search of buried “hidden mounds” (Sweely & Trainor 2005). To follow-up on results of this survey limited test excavations were conducted (Hoggarth & Swain 2005; Sweely 2007).

### **2007-onwards: BVAR – Phase 3**

With the investigations launched in the 2007 field season the third phase of BVAR investigations has been initiated. As part of this phase continued excavations of the monumental epicentre are planned as in an ambitious program of settlement survey and excavations within the 9 km<sup>2</sup> centred on the epicentre of Baking Pot. The settlement survey program is headed by Julie Hoggarth (University of Pittsburgh) and Eva Jobbová (University College London), under the direction of Jaime Awe. The following reports in this volume present the results of this 2007 season of investigations.

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# **SURVEY OF THE MONUMENTAL EPICENTRE OF BAKING POT, BELIZE**

**Christophe Helmke**  
University of Copenhagen

**Jillian M. Jordan**  
University of Mississippi

**James C. Pritchard**  
American Foreign Academic Research

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## **INTRODUCTION**

During the course of the 2007 field season surveying of the monumental epicenter of Baking Pot was resumed. Most survey efforts were focused on the on-going archaeological investigations of Group B (formerly Grp. II). In particular, a detailed topographic survey of Str. B1 (formerly Str. II-A) was undertaken in concert with the mapping of archaeological features and ancient architecture exposed as part of the excavations of Strs. B1 and B7 (see Helmke, this volume). As part of these surveys three sets of permanent and intervisible datums were established to assist in future survey efforts.

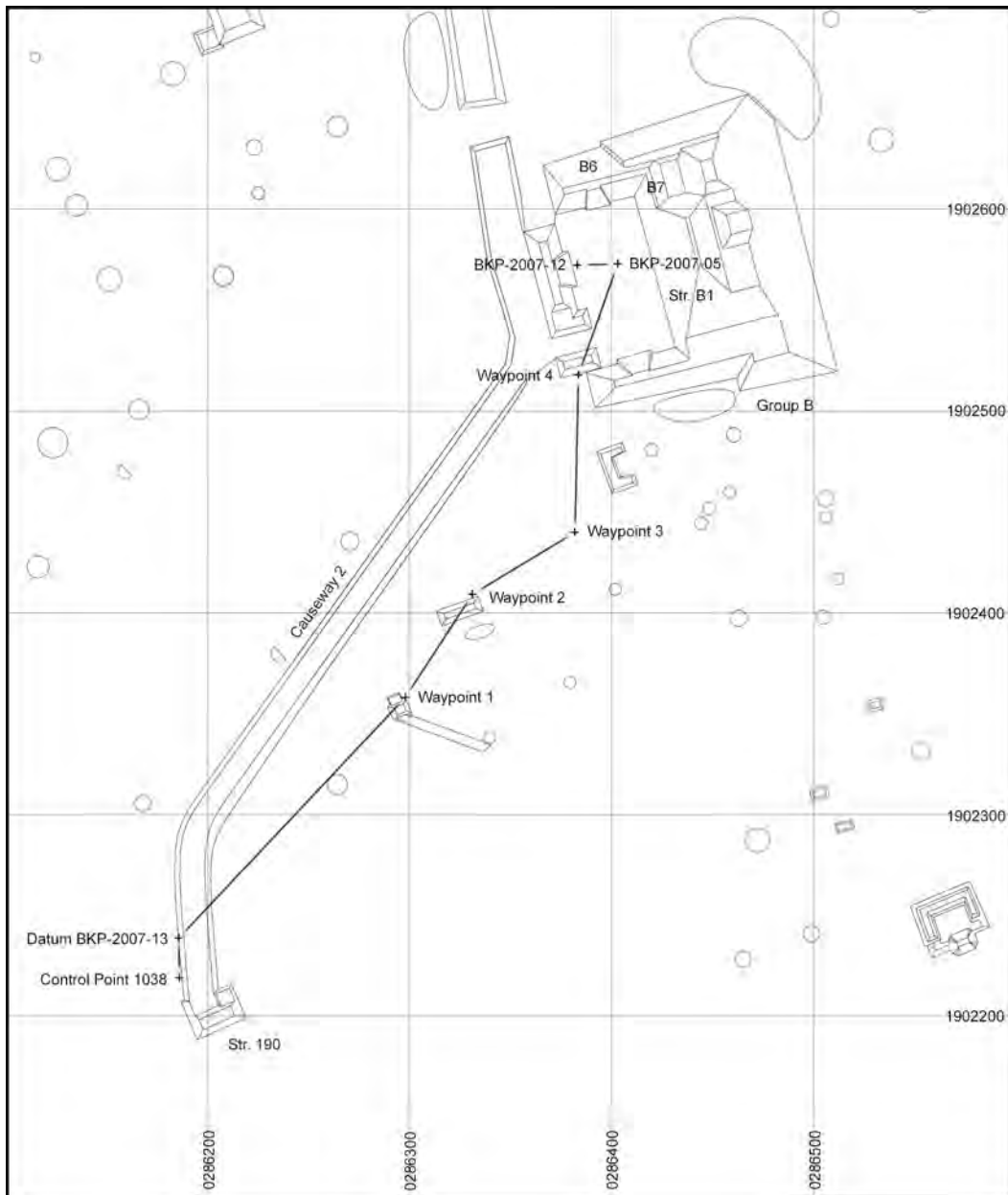
## **INTERVISIBLE DATUMS**

Three sets of permanent and intervisible datums were established at Baking Pot during the 2007 season. All were established within the monumental epicentre of the archaeological site. The datums were set to serve as a basis for the continued mapping of archaeological features and ancient architecture, as well as to serve as essential control points for future high-precision mapping.

### **Str. 190 Causeway Terminus Area**

Of the three sets, one incorporated a permanent datum established and mapped by William Poe in 2003 that he designated as Control Point 1038. The permanent datum in question is a buried column of concrete with a rebar core, 60 cm in length, set c. 16 m NNW of Structure 190, the principal terminus structure at the end of Causeway 2, to the SW of Group B (formerly Grp. II). This datum was the focus of added survey in 2007 since it represented the closest permanent datum with established UTM coordinates to the on-going Grp. B investigations (Figure 1). However, Control Point 1038 was conspicuously unaccompanied by an intervisible backsighting datum and it was thus decided to establish one for future surveys. Consequently, another permanent datum was set 20.09 m due magnetic north of Control Point 1038 to serve as a backsight datum. The

latter was designated as datum BKP-2007-13 and similarly is a buried concrete datum with rebar core of 60 cm in length. The backsight datum BKP-2007-13 was established on the 1<sup>st</sup> of August 2007 and thus the declination of this line of sight corresponds to 1° 18' East, with an annual projected declination of 0° 6' W (data provided by the National Geophysical Center of the U.S. National Oceanic and Atmospheric Administration, using the International Geomagnetic Reference Field).



**Figure 1:** Map of epicentral Baking Pot showing the course of the traverse survey run during the 2007 field season. The traverse connects Control Point 1038 and the permanent datum points BKP-2007-05, 12 and 13. Map by Christophe Helmke, based on maps and surveys by James Conlon, William Poe and James Pritchard. Graticule grids measure 100 m on a side. Map aligned to grid north, UTM Zone 16N.

The x, y, z data provided for Control Point 1038 as established by high-precision D-GPS survey are presented below (see Poe 2004: 3) as are the data for the associated backsighting datum (elevations are provided as height above ellipsoid, HAE):

<i>Control Point 1038 (Station)</i>		<i>Datum BKP-2007-13 (BS)</i>	
Datum:	WGS84, UTM Grid 16N	Datum:	WGS84, UTM Grid 16N
Easting:	0286186.815	Easting:	0286186.359
Northing:	1902219.129	Northing:	1902239.216
HAE:	49.196 m	HAE:	49.133 m

### **Group B Plaza and Str. B1 Area**

The second set is a pair of concrete and rebar core permanent datums that were established in the plaza of Group B. The principal datum was designated as BKP-2007-05 and was set at the foot of Str. B1 (formerly A-II, or Str. A of Grp. II). The datum in question was set in alignment to the primary axis of the terminal phase architecture of Str. B1. To establish this datum the relative orientations of the external SW and NW corners of Room 1 of Str. B1 were sighted with a theodolite. The distance of 8.41 m separating the two exterior corners of Room 1 was halved and the instrument set at this median (Datum BKP-2007-04). This median temporary datum was thus set at the geometric middle of the axial door of Room 1. Backsighting to both exterior corners of Room 1 and determining the mean azimuths a perpendicular to the exterior face of Room 1 was sighted to the west to establish datum BKP-2007-05. Datum BKP-2007-05 was set 8.59 m to the west of datum BKP-2007-04 so as to provide clear sight of the entire frontal (west) face of Str. B1 all the way to the summit. From BKP-2007-05 the terminal phase primary axis was set with three temporary datums across the frontal face of Str. B1, with datums BKP-2007-06, 07 and 08. The permanent backsight datum for BKP-2007-05 was designated as BKP-2007-12 and set 20.04 m due magnetic west of the former. Since the backsight datum BKP-2007-12 was established on the 1<sup>st</sup> of August 2007 the declination of this line of sight also corresponds to 1° 18' E, with an annual projected declination of 0° 6' W (data provided by the National Geophysical Center of the U.S. National Oceanic and Atmospheric Administration, using the International Geomagnetic Reference Field).

The x, y, z data for datum BKP-2007-05 were determined via two closed-traverse surveys conducted with a total station from Control Point 1038. The mean data for BKP-2007-05 are presented below, though future surveys will have to be undertaken to refine the elevation of this datum as well as its UTM grid coordinates. The matching data for the respective backsighting datum are also presented.

<i>Datum BKP-2007-05 (Station)</i>	<i>Datum BKP-2007-12 (BS)</i>
Datum: WGS84, UTM Grid 16N	Datum: WGS84, UTM Grid 16N
Easting: 0286404.049	Easting: 0286384.014
Northing: 1902573.125	Northing: 1902572.670
HAE: 50.171 m	HAE: 50.108 m

The third set of datums was established right at the start of the season to provide the baseline alignment for the topographic survey of Str. B1. Since the closed-traverse surveys had not been conducted at the time the datums were attributed arbitrary coordinates to be updated by actual coordinates later in the season. The principal datum utilised as part of this set was designated as BKP-2007-01 and is the pointiest tip of the butt of the broken Stela 1 at the foot of Str. B1 in the plaza. The matching backsight datum was named BKP-2007-02 and was set 12.0 m due magnetic north of BKP-2007-01. Since the butt of Stela 1 showed no signs of having shifted since its original exposure datum BKP-2007-01 has been deemed a permanent datum. Datum BKP-2007-02 was marked by a wooden stake and is therefore temporary. This pair of datums were set on the 6<sup>th</sup> of June 2007 and the declination of the associated sight line corresponds to 1° 17' E, with an annual projected declination of 0° 6' W (data provided by the National Geophysical Center of the U.S. National Oceanic and Atmospheric Administration, using the International Geomagnetic Reference Field). The data for this set of datums are presented below:

<i>Datum BKP-2007-01 (Station)</i>	<i>Datum BKP-2007-02 (BS)</i>
Datum: WGS84, UTM Grid 16N	Datum: WGS84, UTM Grid 16N
Easting: 0286410.379	Easting: 0286410.105
Northing: 1902575.117	Northing: 1902587.114
HAE: 50.574 m	HAE: ---

## ELEVATION DATUMS

A series of semi-permanent, but temporary, datums were established in connection with on-going excavations with the purpose of serving as elevation datums. It is from these datum points that elevations of archaeological features and levels were secured. These datum points were tied into UTM coordinates and absolute HAE elevations at the close of the season. With completion of the traverse survey the relative elevations secured from these datum points during the course of the season could be converted to absolute HAE elevations. The elevation datums utilize as their reference point the Control Point 1038 established to the north of the causeway terminus at the end of Causeway 2. Thus the UTM coordinates and the HAE of Control Point 1038 have been projected by means of a traverse survey to the elevation datum points established within the site epicentre. It will be useful in the future to run another D-GPS survey on the permanent datum points within the site core (datums BKP-2007-01, 05 and 12), to



ensure that the elevations that are provided here are correct. We suspect that additional future surveys will help to refine the accuracy of the data, but that the values presented here are, however, sufficiently precise to stand without additional surveys. Three principal elevation datums were established as controls for the excavations. These are:

<i>Datum BKP-2007-09 (Elevation)</i>	
Datum:	WGS84, UTM Grid 16N
Easting:	0286422.597
Northing:	1902578.866
HAE:	55.903 m
<i>Datum BKP-2007-10 (Elevation)</i>	
Datum:	WGS84, UTM Grid 16N
Easting:	0286431.764
Northing:	1902581.510
HAE:	64.960 m
<i>Datum BKP-2007-11 (Elevation)</i>	
Datum:	WGS84, UTM Grid 16N
Easting:	0286414.617
Northing:	1902614.096
HAE:	56.297 m

Datum BKP-2007-09 is a four inch nail hammered into the terminal plaster floor of Room 2, forming the NE corner of EU B1-5. As such datum BKP-2007-09 served as the elevation control for Operation 1C. For Operation 1B (at the summit of Str. B1) datum BKP-2007-10 served as the elevation control of EU B1-6. Datum BKP-2007-10 is a two inch nail hammered into a limestone block forming part of the wall of a construction pen. This datum was established near the NE corner of EU B1-6. Datum BKP-2007-11 is a two inch nail hammered into a tree stump close to the NE corner of EU B7-1, and as such served as the elevation datum for Op. 2A at the summit of Str. B7. For the excavations in and around Room 1 of Str. B1, datum points BKP-2007-01 (Stela 1) and BKP-2007-05 (permanent concrete datum) served as the elevation control points for Operation 1A.

## TOPOGRAPHIC SURVEY

In all 858 topographic shots were surveyed across the front of Str. B1, and up to the summit, along its crest and the entirety of the Bullard trench at the summit. The topography of Str. B1 was surveyed from two principal datums, namely one at the base of the structure, and another set on the summit of Str. B6 (consisting of a nail set in the roots

of a tree; located 41.786 m N and 34.672 m W of Stela 1, at the base of Str. B1). The datum at the summit of Str. B6 was established to sight topographic points at the summit of Str. B1 and within the Bullard trench splitting the latter that were not visible from the foot of Str. B1. The topographic survey consisted of running parallel swathes across the entire front of Str. B1 with the mean horizontal distance separating points ranging between 0.9 and 1.1 m, to ensure comprehensive coverage and a detailed topographic coverage. The topographic survey provides a good basis for assessing the degree of deterioration that Str. B1 has undergone since the extensive stripping of the mound undertaken in the late 1940s and early 1960s. In addition, it provides a three-dimensional model that assists the reconstruction of building's architectural appearance in antiquity over the various phases of construction and refurbishment.

# EXCAVATIONS OF STRUCTURES B1 AND B7 AT BAKING POT, BELIZE

**Christophe Helmke**  
University of Copenhagen

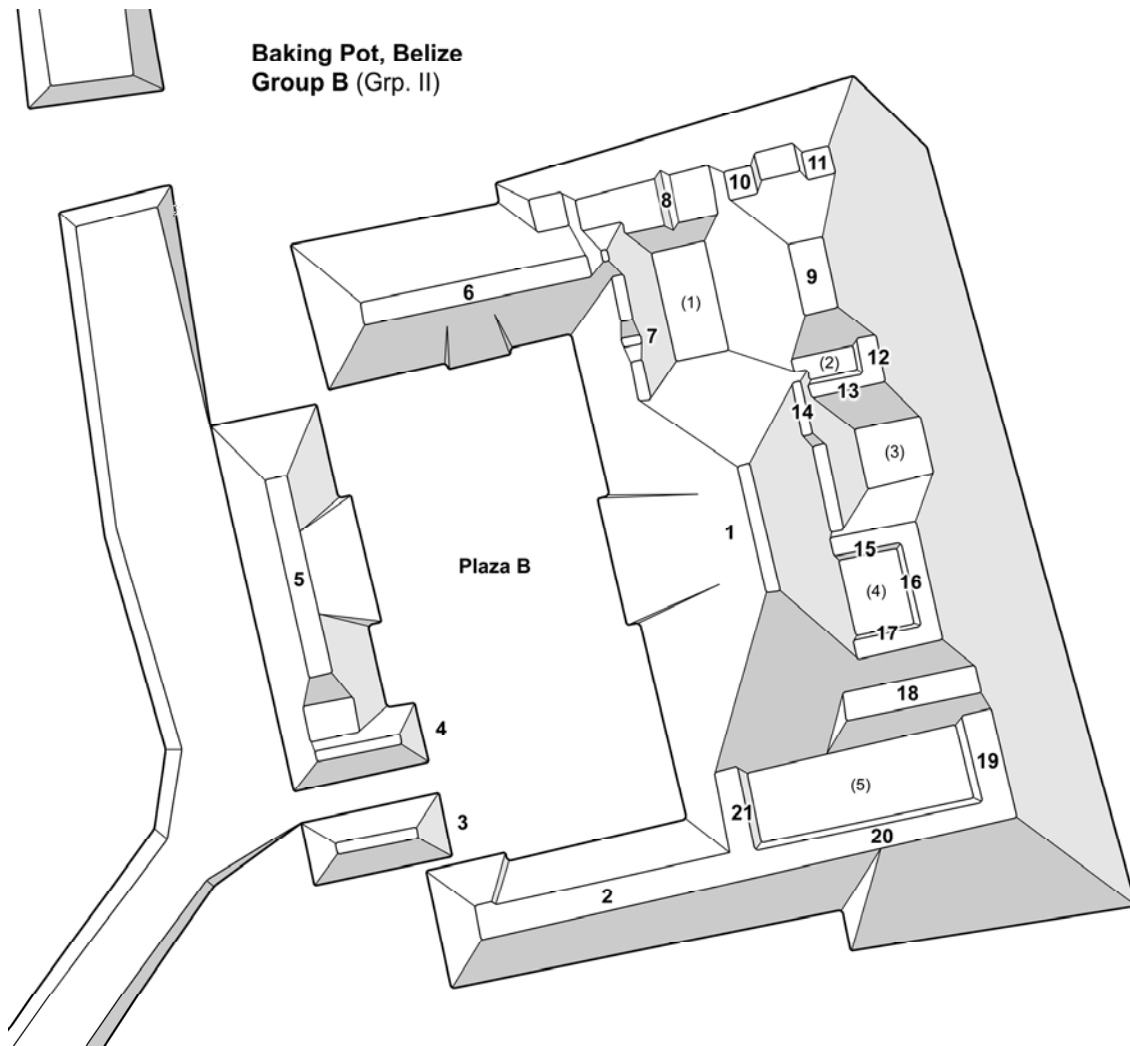
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## INTRODUCTION

During the 2007 field season excavations of the monumental architecture of Baking Pot were resumed. Structures B1 (formerly Grp. II, Str. A) and B7 were the foci investigations (see also Helmke & Awe, this volume) (Figure 1). A large part the 2007 investigations followed up on the initial excavations of Str. B1 conducted by William R. Bullard Jr. and Mary Ricketson Bullard in the summer of 1961 (Bullard & Bullard 1965). In contrast, Str. B7 had not been tested prior to our field season. The excavations had as their objective the exposure and testing of architectural remains to predispose the site for tourism development and eventual consolidation to be conducted in the future. Clearing excavations helped to clarify the investigations conducted 46 years before and test excavations helped to clarify the construction sequence and dating of Str. B1. Structure B7 was subjected to test excavations exposing the terminal phase architecture in order to elucidate its configuration and assess whether it conformed to the layout of an *audiencia* structure. Syntheses of the salient findings are provided in the present report for each structure's principal operation. In the process several special deposits were encountered and these are described in detail at the end of the report.

## STRUCTURE B1

Structure B1 is a pyramidal structure built along the eastern perimeter of Plaza B. This structure is the tallest building within the group and its architectural form suggests that it served principally as a ritual edifice. As such Str. B1 appears to readily conform to the layout and function of eastern ancestor shrines, not the least since foregoing excavations revealed a rich series of votive interments and caches (see Bullard & Bullard 1965). Further investigations of Str. B1 during the 2007 field season corroborate the predominant ritual function of this building, which is best classed as a pyramidal temple. Structure B1 measures c. 16.5 m above the modern plaza level and was extensively exposed in 1961 (Figure 2a & b). During the earlier excavations two rooms were also exposed along the primary axis, with Room 1 at the base and Room 2 near the middle of the structure. At the summit, the Bullards ran a c. 4-m wide and 5-m deep trench into the core, in search of special deposits and concealed architecture from earlier construction phases. Operation 1A was defined to encompass Room 1 and a significant portion of the adjoining plaza; Operation 1B comprised the entirety of the summit; and Operation 1C incorporated excavations in and around Room 2.



**Figure 1:** Plan of the monumental architecture of Group B showing structure designations. Note the location and size of Structure B1 and B7. Plan by Christophe Helmke (2007) based on preliminary survey by Christophe Helmke (2004) as well as plans and surveys by James Conlon (1992-2000). Plan aligned to UTM grid north.



**Figure 2:** a) Str. B1 as seen from the plaza, looking northeast (above). The photograph was taken with the clearing of Room 1 completed, but prior to the excavation of Room 2 and the summit trench. Photograph courtesy of the Peabody Museum of Archaeology and Ethnology © Harvard University. b) Str. B1 from the summit of Str. B5, looking east (below). This photograph shows the structure after the completion of the summit trench, but before clearing of Room 2 (after Bullard & Bullard 1965: Plate 1, 63).

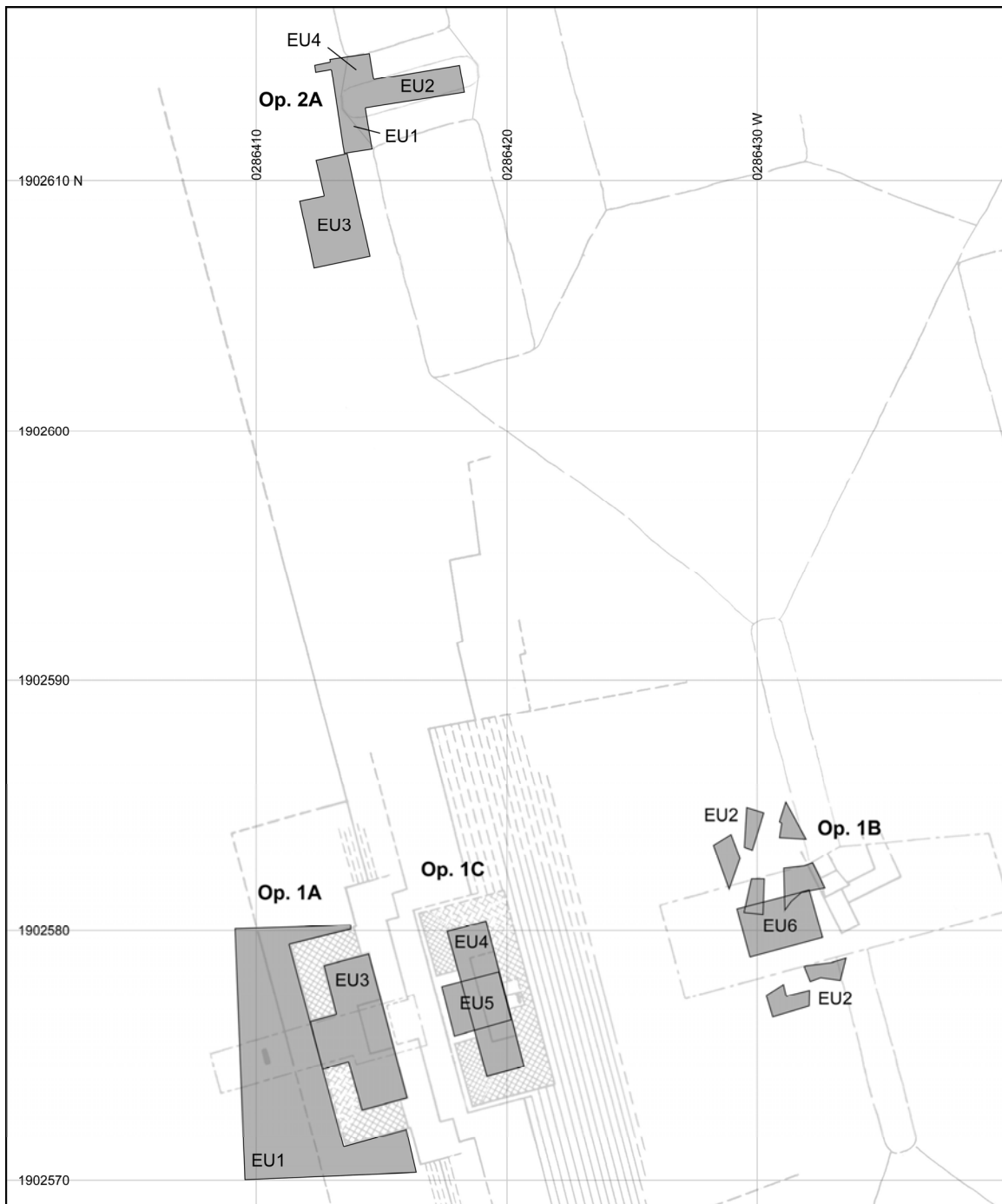
## Operation 1A

### *Excavation Unit B1-1*

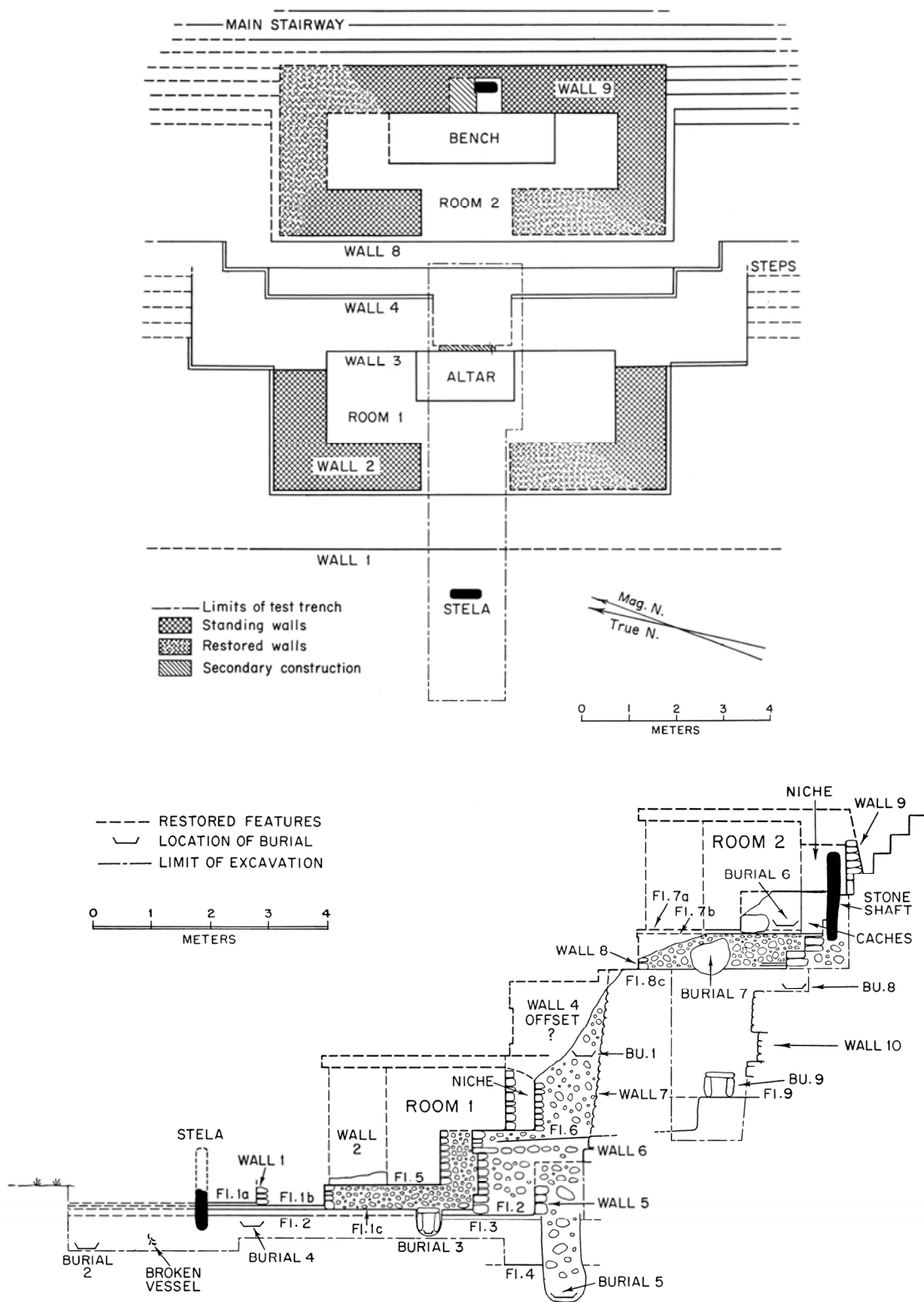
Operation 1A incorporated Excavation Units 1 and 3 (Figure 3). Excavation Unit 1 is defined by the external perimeter of Room 1 and parts of the adjoining Terrace 1 against which this room was constructed. Excavation Unit 1 was aligned to magnetic cardinal directions and encompassed the plaza area, measuring 10 m north-south and variably between 5 m east-west (along the northern baulk) and c. 7.5 m east-west (along the southern baulk). Clearing away humus, overburden and recent collapse as a single level (Lot 1001) revealed the poorly preserved remains of plaza Floors 1a and 1b, a well-preserved portion of Wall 1 (Figure 4), the butt of Stela 1 (aligned to the primary axis of Str. B1), and the limits of the axial trench that the Bullards ran through the plaza floors. The width of the axial trench was found to be variable, ranging from 2.1 m at the entrance to Room 1, and tapering to 1.3 m at the western baulk of EU1. In keeping with foregoing excavations, Floor 1a was found to lip up to the so-called Wall 1, whereas the underlying Floor 1b lipped up to Wall 2 of Room 1 (see Bullard & Bullard 1965: 15, 16). In clearing EU 1, a separate and well-preserved alignment of facing stones was found, running parallel between Walls 1 and 2. Wall 1 was originally identified as the remains of the lowest step of the terminal axial outset stair that entirely engulfed Room 1 (Bullard & Bullard 1965: 12, 16, 18). This interpretation is supported by perpendicular alignments of facing stones that partly cover Terrace 2, c. 2 m to the north of Room 1. These stone alignments appear to represent the remains of the northern stair side of the terminal axial outset stair. The discovery of another parallel alignment of facings between Wall 1 and Wall 2 (i.e. Room 1) indicates that this alignment represents the remains of a penultimate axial outset stair, which heretofore had gone undiscovered. The remaining core of the terminal outset stair (Lot 1002) was segregated from that of the penultimate stair (Lot 1007) and both were excavated down to the surface of Floor 1b, upon which both stairs were built. Although Lot 1001 was relatively shallow across EU1 it yielded a total of 384 ceramic sherds (including a partial red-slipped ash ware ceramic vessel, found resting atop Floor 1a in the north-western corner of EU1), 219 pieces of chert debitage, 26 pieces of quartzite and 21 limestone artefacts, 20 grams of carbon, 12 pieces of daub, and 2 freshwater *jute* shells. In addition, notable artefactual finds include a fragmentary grooved granite sphere, a fragmentary human incisor, a fragment of a ceramic cylinder bearing a crocodilian effigy (possibly part of a flute-like wind instrument) (Figure 5), and a possible speleothem fragment.

### *Excavation Unit B1-3*

Excavation Unit 3 was defined to encompass the interior of Room 1, down to terminal phase architecture. As such EU3 measured 1.99 m east-west and 6.34 m north-south and was set to architectural alignments. The excavations consisted of clearing out collapse and overburden as a single level (Lot 1003) down to the level of Floor 5 (Bullard & Bullard 1965: 15) in the northern half of the room and to the level of Floor 1c (Bullard & Bullard 1965: 14, 15) in the southern half of the room. The architecture of the northern

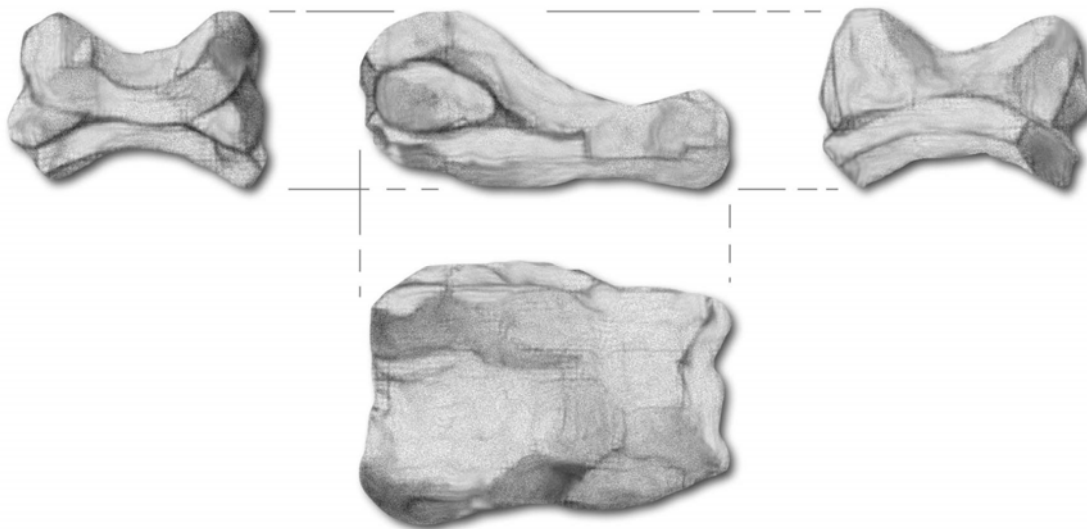


**Figure 3:** Plan of Strs. B1 and B7, showing the distribution of operations and excavation units undertaken during the course of the 2007 field season. Operation 1 pertains to Str. B1, whereas Operation 2 targets Str. B7. Map by Christophe Helmke, based on maps and surveys by William Bullard, Jillian Jordan, Christophe Helmke and James Pritchard. Graticule grids measure 10 m on a side. Map aligned to grid north, UTM Zone 16N.



**Figure 4:** Plan (above) and section (below) of Rooms 1 and 2 of Str. B1. Figures based on Bullard & Bullard (1965: Fig. 4a & Fig. 5) with amendments and additions by Christophe Helmke.





**Figure 5:** Crocodilian effigy, adorning a fragmentary ceramic cylinder (possibly a wind instrument). Baking Pot, Op. 1A, EU B1-1, Lot 1001. Upper left: back; upper right: front; upper middle: side; lower middle: top. Scale: natural size (1:1). Drawing by Angelo Hulquist & Christophe Helmke.

portion of Room 1 was found to be well-built and in a good state of preservation, in contrast to the southern portion that is now extensively slumped and appears to have been undermined by the quarrying of 1941. The edges of the axial Bullard trench were defined and it is clear that it ran straight up to the northern jamb of the doorway and measured between 1.9 and 2.1 m in width (north-south). The excavations revealed that the entirety of the bench and niche of Room 1 had been dismantled as part of the 1961 excavations and that Floor 5 had been removed down to the surface of Floor 1c in the southern portion of the room. Were consolidation efforts to take place in the future, Floor 5 would have to be reinstated and restoration of the bench would have to be based on extant plans, elevations and photographs since no trace of it remains. One interesting feature, concerns the external segments of the well-built Wall 2 (to the north, south and on either side of the door). Each was found to exhibit an inset panel, recessed between 10 and 18 cm from the foot of Wall 2, with the insets offset anywhere between 21 and 38 cm from the external corners of Room 1. In addition, the lowest course of facings, of a terrace was also identified, running, just below floor level, along the eastern part of Room 1. The remains of this terrace align perfectly to Terrace 1 and the southern and northern walls of Room 1 abut directly onto the face of the outset 'pillars' of Terrace 1 (Bullard & Bullard 1965: 14). Taken together this indicates that a portion of Terrace 1 may have been partly, to accommodate the construction of Room 1. Before the construction of Room 1, the central portion of Terrace 1 was outset by approximately 10 cm, over a length of 4 m, in alignment to the primary axis. Aside from 252 ceramic sherds, and 64 pieces of chert (including a chipped chert cobble), artefactual finds of Lot 1003 included 15 limestone items, 5 pieces of daub, 2 fragments of prismatic obsidian blades, 2 marine shell fragments, 1 freshwater *jute* shell, 56 g of carbon found as flecks and nodules atop the terminal floor, 3 pieces of red-painted plaster and 1 possible speleothem fragment.

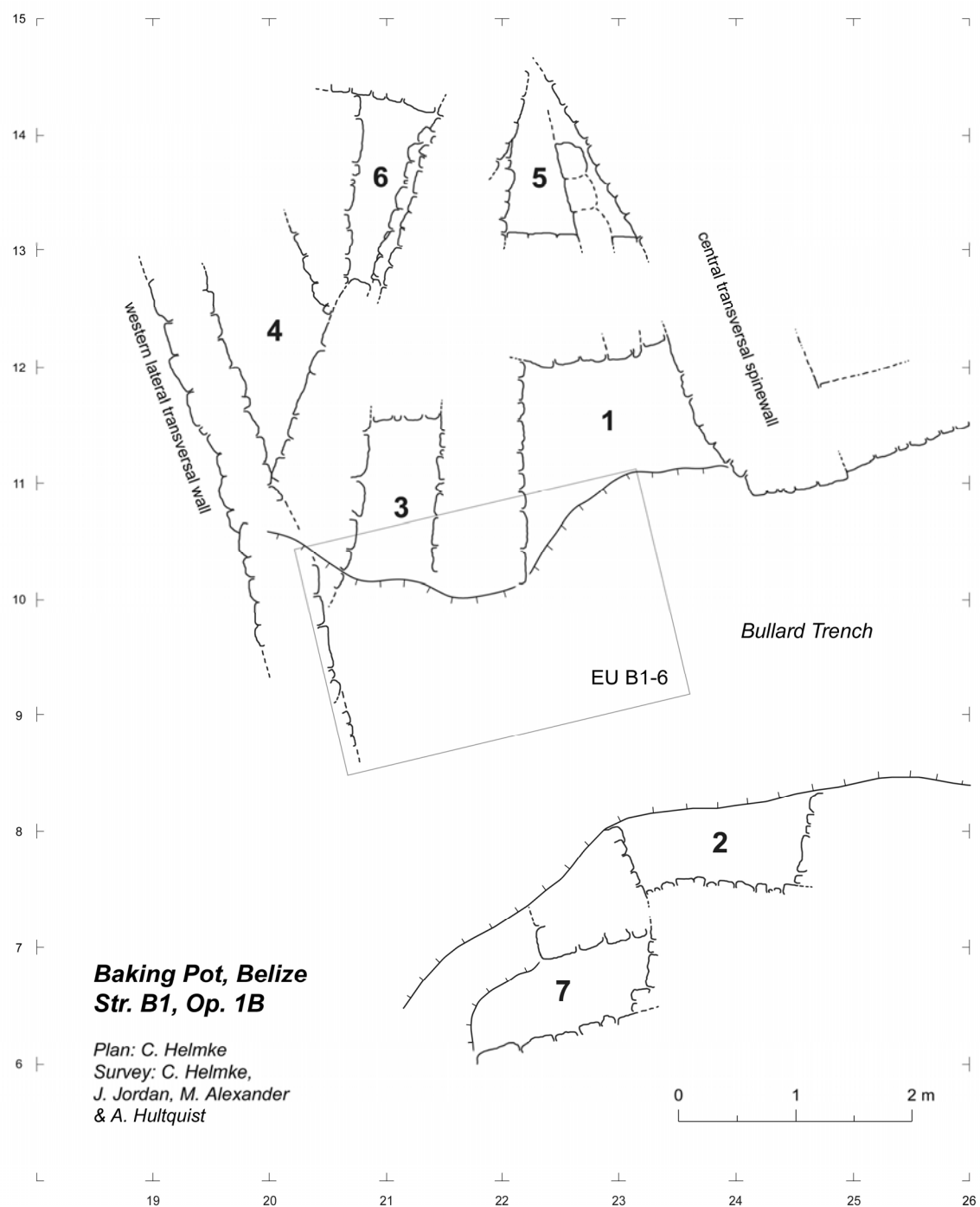
## Operation 1B

The investigations conducted at the summit of Str. B1 were designed to follow up on the Bullard excavations conducted at the summit. The impressive trench that had been run through the summit, in alignment to the structure's primary axis was never backfilled and thus its location and extent were readily apparent. The excavations of the 2007 season had as their objective continued testing of the core of Str. B7, essentially continuing where the Bullards had left off, clarifying the construction sequences and their respective dating; this objective was realised by Excavation Unit 6. The other principal objective was to determine the architectural configuration of the summit area by means of lateral excavations, following architectural features visible in the sections exposed by the original trench. This latter objective was achieved by Excavation Unit 2, which consisted of clearing out construction pens, the only remaining architectural elements found at the summit.

### *Excavation Unit B1-2*

Excavation Unit 2 was loosely defined to encompass all seven construction pens cleared across the summit of Str. B1 (Figure 6). The construction pens were cleared to both the south and north of the Bullard trench cutting through the summit. The fill of each construction pen was excavated as a single level down to mortar lenses defining a stratigraphic juncture. To the north the construction pens were excavated over a roughly quadrangular area measuring approximately 4 x 4 m, whereas to the south the area covered by excavations corresponded roughly to 1.5 x 3.5 m. As such EU2 covered an area measuring approximately 17 m<sup>2</sup>, in which each construction pen served to segregate lots spatially and contextually.

Based on the findings of EU2 it is clear that the summit has suffered from extensive collapse and thus none of the original architectural features pertaining to the original summit of Str. B1 remain. However, based on analogy to Str. A1 at Cahal Pech and Str. B4 at Altun Ha, both of which bear architectural correspondences to Str. B1 at Baking Pot, it is surmised that the summit of Str. B1 was originally flat-topped and devoid of a superstructure, or shrine room (Jaime Awe pers. comm. 2007) thereby implying that relatively little of the structure's original configuration has been lost. The construction pens were built of limestone and mortar walls, with each pen being filled in near-exclusivity by what appears to be a dry-laid mixture of ground marl and/or lime. In a few instances the fill was complemented by limestone gravel and the occasional discarded limestone facing. Throughout, the facing stones consisted of undressed, sub-rectangular, soft and powdery limestone slabs. The walls of the construction pens can be termed as fill retaining walls and exhibit great irregularities in coursing, alignment and thickness suggesting that these were built quickly and expediently. Most construction pen walls can be described as being informally battered, in which the basal courses are set more broadly apart than the superior courses, apparently to promote stability. Despite the irregularity and expediency with which the construction pens were built, their constituent elements, namely the type, shape and average size of facing stones as well as the marl and/or lime fill was of consistent quality throughout. Since Baking Pot is



**Figure 6:** Plan of the construction pens excavated as part of Excavation Unit 2, Op. 1B, Str. B1. Graticules are expressed in meters and tied to a local permanent datum at plaza level.

situated in the middle of an alluvial plain where limestone is not autochthonous, it seems likely that these construction materials were mass-produced near quarries, located at least 3 km from the site within the rolling limestone hills to the south. Although only the western half of the summit was cleared, it seems probable that the construction of the pens entailed three principal transversal walls, set c. 3.6 m apart (east-west) and running parallel to each other (north-south), in alignment to the structure's transversal axis. The thickness of the central transversal spinewall was found to measure c. 1 m, whereas the western lateral transversal wall (and presumably the matching eastern lateral transversal wall) measured c. 0.5 m. In between these principal transversal walls an irregular lattice of diagonal walls was built to define the outlines of quadrangular and triangular construction pens (Figure 6). An interesting feature were the relatively thick lenses of mortar (c. 5 to 15 cm thick), which were set horizontally across the powdered marl or lime fill of individual construction pens. These lenses have been interpreted as "pause lines" (Loten & Pendergast 1984: 6), probably representing the completion of a particular construction phase. I surmise that upon the completion of a discrete fill dumping episode (probably corresponding to a day's work for a small team of masons), the remaining mortar was dumped upon the fill, thereby forming the lenses found. As stratigraphic interstices, these mortar lenses were used to define the end of an excavation level and thus served to define the spatial and contextual parameters of discrete lots.

What characterized the fill of the construction pens artefactually was the dearth of materials recovered. Earlier remarks made on the artefactual constituent of the construction pens are in keeping with the more recent findings: "The fill of some cells contained virtually no refuse, but others had considerable quantities of sherds and other refuse material which probably had been obtained from older ruined buildings. On the whole, the yield of sherds and other artifacts was small in comparison with the amount of fill excavated" (Bullard & Bullard 1965: 19). In fact in the c. 10.6 m<sup>3</sup> of fill cleared out of the seven construction pens yielded only 139 ceramic sherds, 51 pieces of chert debitage, 13 limestone items (including half of a spherical and polished burnishing implement), 2 freshwater shells, 1 marine shell fragment, 1 faunal bone, 1 slate piece, 1 quartzite fragment, and less than 3 g of carbon.

#### *Excavation Unit B1-6*

Excavation Unit 6 served as a test excavation into the structure's core, measuring 2 x 3 m, aligned symmetrically to the primary axis of Str. B1, and extended to an average depth of 4 m below the lowest reaches of the Bullard trench. Since EU6 was begun nearly 3.5 m below the highest preserved portion of Str. B1 (i.e. the central transversal spinewall) it ended at an elevation of c. 9 m above the modern elevation of the plaza. Thus between the Bullard trench and our extension, represented by EU6, as much as 7.5 m of the structure's 16.5 m height have been tested by excavations and documented in section. Remarkably throughout the summit excavations only construction pens were uncovered indicating that the bulk of Str. B1 was built up during a substantial construction episode to which all the pens belong. As part of EU6 an additional six construction pens were identified (i.e. Construction Pens 8 through 13). Excavation Unit 6 was excavated as a series of seven levels, with transition between levels being dictated by the size and configuration of construction pens, which were evidently built in a series

of horizontal tiers (see Bullard & Bullard 1965: 19). The excavation process consisted of first defining the outlines of distinct construction pens, then once identified, the fill of each pen was attributed a separate lot designation. Thereafter the fill of each pen was excavated out and carried to a mortar lens or tier. Once all the pens had been emptied and an underlying tier identified (or alternatively once the maximum viable depth of excavation was reached), the level was closed and a plan of the construction pens produced. Thereafter all the retaining walls of the construction pens were dismantled and brought down to the level of the underlying tier at which point the process was repeated. The motivation for segregating the fill of individual pens stems from the findings made by Lisa LeCount in her analyses of the ceramic materials recovered from construction pens of Str. A1 at Xunantunich (LeCount 1996). LeCount found that the ceramics deposited within different construction pens formed discrete groupings of types and forms and might have stemmed from different households, with each household possibly contributing their labour and their inorganic refuse to construct Str. A1. As such, building a temple such as Str. A1 might represent a community-wide construction in which the *corvée* was split evenly between all members of the polity, with each household being accountable for a separate construction pen (*ibid.*). In addition, the Bullards remarked that whereas certain construction pens exhibited ‘virtually no refuse, [...] others had considerable quantities of sherds’. This distinction suggested that perhaps at Baking Pot, just as with Xunantunich, construction pens might have the potential to shed light on the size and configuration of discrete teams of masons, which would assist in many ways the reconstruction of the building process, down to individual task units. Despite the segregation of the artefactual materials from the pens, it was found that the vast majority contained few if any artefacts, again resonating with rapid and expedient construction. The only high density of artefactual materials was found as a dense scatter of sherds aligned to the primary axis of Structure B1, which was designated as Cache B1-6 (see the ‘special deposits’ section, below). The majority of diagnostic ceramic materials from Cache B1-6 to well-known Late Classic 1, Tiger Run Complex types, including Saxche Orange-polychrome and Saturday Creek polychrome (Gifford 1976). This suggests that the ambitious phase of construction represented by the pens dates to sometime in the Late Classic 1 phase, a date which accords well with the findings made by the Bullards, based on the incidence of types belonging to the Tiger Run Complex in analogous contexts at the summit.

The total volume excavated by EU6 corresponds to c. 21.7 m<sup>3</sup> and despite this volume, the artefactual yield was relatively poor: 656 ceramic sherds, 173 pieces of chert debitage, 37 limestone items, 7 possible speleothem fragments, 4 granite artefacts (including 3 fragmentary *manos*), 3 *jute* shells, less than 3 g of carbon, 2 faunal bones, 2 pieces of quartzite, 1 slate piece, 1 ball of possible wax, 1 fragment of daub, and 1 fragment of red and black-painted plaster. Comparing the frequencies of particular artefact classes between EU2 and EU6 helps to gauge the degree of similarity or difference between these contexts and to assess whether the artefactual inclusions on the fill of the construction pens was relatively homogeneous throughout (Table 1). The artefact frequencies have been related to the volume excavated and have been tabulated below, to obtain the factor of artefacts per cubic meter. Linear correlation coefficients have been computed between the two arrays of factors, which yielded a correlation coefficient of 0.995, indicating that the artefact density and distribution by class remained

extremely homogeneous throughout all contexts excavated at the summit of Str. B1. Consequently the bulk of the core of Str. B1 can be surmised to contain similar distributions and densities of artefacts throughout.

	<b>EU B1-2</b>	<b>[10.6 m<sup>3</sup>]</b>	<b>EU B1-6</b>	<b>[21.7 m<sup>3</sup>]</b>
	<b>absolute freq.</b>	<b>rel. freq. by m<sup>3</sup></b>	<b>absolute freq.</b>	<b>rel. freq. by m<sup>3</sup></b>
Ceramic sherds	139	13.11	656	30.23
Chert debitage pieces	51	4.81	173	7.97
Limestone pieces	13	1.23	37	1.71
Shells	3	0.28	3	0.14
Faunal bones	1	0.09	2	0.09
Quartzite pieces	1	0.09	2	0.09
Slate pieces	1	0.09	1	0.05
Carbon (in grams)	3	0.28	3	0.14

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Linear Correlation Coefficient: 0.995

**Table 1:** Absolute artefact frequencies by class and by context, coupled with the factor of artefact incidence per cubic meter. Despite numeric differences between the two assemblages, the frequencies remain proportionately distributed, yielding a nearly perfect linear correlation.

## Operation 1C

### *Excavation Unit B1-4*

Operation 1C consisted of Excavation Units 4 and 5. Both excavation units were focused on exposing Room 2, clarifying the architectural features of the room, as well as assessing the quality and preservation of the architecture in anticipation of future consolidation efforts. Testing the core below Room 2 was designed to document and date the construction sequence at this locus. Prior to 2007 the Bullards had previously cleared Room 2 and had run a c. 2-m wide axial trench through the middle of this room in search of buried special deposits. They found two special deposits, namely Burial B1-6 (within the masonry bench built onto the eastern wall of the room) and Burial B1-7 (an interment placed within a large ceramic olla, whose neck had been removed, the whole deposited within the core of Floor 7, and partly penetrating into the ballast of Floor 8) (Bullard & Bullard 1965: 18). Excavation Unit 4 was defined to encompass all the overburden and collapse within Room 2 (Lot 1014), down to well-preserved architecture. As such EU 4 was aligned to architecture and measured 1.7 m (east-west) by 6.3 m (north-south). During the clearing of the room it was found that the northern portion of Room 2 had never been excavated. Consequently the architecture in the northern half of Room 2 (including the remains of the masonry bench) were found to be in a good state of preservation vis-à-vis the southern portion, which obviously had suffered continued slumping and collapse since the initial excavations had never been backfilled. Since

matrices filling the northern end of the room had not been excavated heretofore, these yielded a significant collection of ceramic artefacts, including 349 ceramic sherds, 4 bichrome and polychrome sherds, a partial spindle whorl, the handle of a censer, a fragment of a spike appliqué censer, and ash ware cup, and 16 g of carbon, undoubtedly the by-products of censer usage. In addition, 32 pieces of chert debitage, 1 chert biface, 1 granite fragment, 1 limestone item, and 1 *Pomacea* sp. shell were also recovered. The presence of censers in Room 2 suggests that it was used for ritual purposes, and is in keeping with the presumed function of Str. B1 as a funerary temple. Once the entirety of Room 2 had been exposed, the outline of the Bullards trench was identified. The limestone monolith, which had been erected in the niche of Room 2, was found to have collapsed forward from its masonry cribbing, presumably due to undermining brought about by the 1961 excavations. In order to ensure preservation of this monument, it was laboriously hauled and re-erected into its niche. During the clearing of Room 2, the lowest course of Wall 8 (the substructural platform to Room 2, which forms a unit with Floor 7) was also discovered to the north of the doorway. Portions of Floor 7a appear to have been found running below the masonry bench, urging a revision of this detail in the section presented by the Bullards (Figure 4b). Finally, in clearing the masonry bench it was found that Bu. B1-6 (Lot 1017) had not been cleared in its entirety (see the 'special deposits' section below).

#### *Excavation Unit B1-5*

Excavation Unit 5 had at its aim to continue testing the underlying core, below Room 2, which to date had not been excavated, essentially continuing on where the Bullard had left off. With the entirety of Room 2 cleared and the monolith re-erected, we set to the task of establishing EU5. Excavation Unit 5 was aligned symmetrically to the primary axis of Str. B1 and measured 2.00 m (north-south) x 2.43 m (east-west). The length of EU5 was conditioned by the size of Room 2 and by the desire to leave a well-preserved portion of Floor 8, which had been encountered in the western portion of the excavation unit. Excavation Unit 5 was excavated in a series of five levels (Level 1 corresponding to Lot 1014, see above).

Level 2 (Lot 1016) consisted of secondary collapse and humic infill inside the Bullard trench, running axially east-west through Room 2 partly into the niche. The mean depth of Bullard trench was found to be c. 70 cm below the elevation of Floor 7a, which corresponds roughly to the level of Floor 8. The horizontal limits of Lot 1016 were represented by the cuts made by the Bullard trench into the ballast and core of Floors 7a and 7b. Level 2 thus corresponds to the architectural unit formed by Wall 8 and Floor 7, which together form the substructure of Room 2. Artefactual finds made for Level 2 include 145 ceramic sherds, 6 bichrome sherds, 2 conjoining polychrome dish sherds (Figure 7), 1 ocarina fragment, 22 pieces of chert debitage, 4 pieces of daub, 8 faunal bones, 7 limestone items, 2 *Pomacea* sp. shells, 1 speleothem, and c. 56 g of carbon.

Level 3 (Lot 1023) corresponds to the core of the architectural unit formed by Wall 7 and Floor 8. This architectural unit corresponds to the principal outset terrace component of Str. B1 at the juncture between Terraces 2 and 3. Three superimposed

plaster flooring episodes were documented and designated as Floor 8a (uppermost), Floor 8b and Floor 8c (lowermost). The central portions of Floor 8 appear to have been undermined by the Bullard excavation during the recovery of Burial B1-7, which penetrated partly into the ballast of Floor 8c. The core of the Wall 7-Floor 8 architectural unit is composed of limestone and marl rocks (measuring between 5 and 20 cm in dia.) set as a wet mass of mortar aggregate. Lot 1023 was excavated to a depth of 1.65 m below Floor 8c (corresponding to c. 2.3 m above the elevation of Floor 1a). In excavating the core a secondary bundle burial (Bu. B1-8, Lot 1025) was found in perfect alignment to the primary axis of Str. B1, beneath the niche into which the limestone monolith was erected. A votive cache (Ca. B1-5, Lot 1144) was also discovered, although slightly offset from the primary axis. Both special deposits appear to be inclusive into the core of the Wall 7-Floor 8 architectural unit. In excavating the core, a well-preserved terrace component (undoubtedly the precursor to the Wall 7-Floor 8 architectural unit) was exposed along the eastern baulk of EU5. This earlier terrace component is – for the sake of consistency and continuity – best designated as Wall 10, forming part of a structure that at present is tentatively designated as Str. B1-4<sup>th</sup>. The terrace exhibits a classical apron with a curving batter; an inset sub-apron, and a basal moulding configuration (see Loten & Pendergast 1984: 3, 4, Fig. 5) (Figure 8). Level 3 was ended and Lot 1023 closed when the capstones to a funerary crypt (Bu. B1-9, Lot 1145) were found. Artefacts recovered from the core of the Wall 7-Floor 8 architectural unit include 138 ceramic sherds, 58 pieces of chert debitage, 11 limestone items (including 1 plaster burnishing implement), 7 possible speleothems, 1 piece of daub, 1 granite *mano* fragment, 1 fragment of a prismatic obsidian blade, 1 *jute* shell, 1 fragment of a perforated and spalled slate disk (originally forming part of a mirror backing) (Figure 9), 7 g of a substance that appears to be wax, and 48 g of carbon.

With the discovery of Bu. B1-9 at a depth c. 1.76 m below Floor 8c, Level 4 was initiated and defined by Lots 1143 and 1145. Lot 1143 encompassed the core removed during the clearing of the crypt's capstones as well as core around crypt. Lot 1145 was designated to account for all the human remains and associated grave goods of Bu. B1-9 (see the 'special deposit' section below). Level 4 was thus defined by the capstones above the burial and by the grey plaster flooring that was laid down, below the burial (average depth of 2.2 m below Floor 8c). This plaster flooring was termed Floor 9 and



**Figure 7:** Two conjoining sherds of a polychrome dish showing a portion of a *muwaan* feather headdress. Lot 1016, Excavation Unit B1-5, Op. 1C. Photograph by Christophe Helmke.

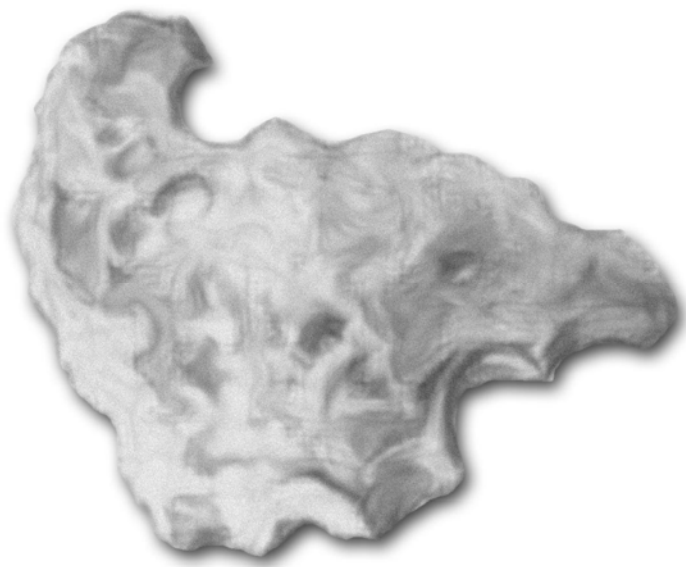


appears to have been set specifically as preparation for the ensuing funerary activities. Floor 9 does not appear to have ever dried thoroughly, perhaps suggesting that the interment of Bu. B1-9 was a hasty affair, thereby preserving the impression of perishable bowl (presumably wooden) that had been deposited upside-down at the northern end of the interment. The exposed section clearly showed the delineations of the intrusive pit that had been dug into the core of the Wall 7-Floor 8 architectural unit to accommodate the deposition of Bu. B1-9. Unfortunately, due the disturbances brought about by the Bullard trench it was not possible to determine the relationship of the intrusive pit with the Floor 7 and Floor 8 sequences above it. Since the diagnostic ceramic materials from Bu. B1-9 postdate the Late Classic 1, Tiger Run dishes that have found within the niche of Room 2 (Bullard & Bullard 1965: 17-18, Fig. 10a & g, Plate VI), it seems most probable that the intrusive cut was made at some point after the construction of Room 2. Lot 1143 contained 46 ceramic sherds, 37 pieces of chert debitage, 2 *Pomacea* sp. shells, and less than 4 g of carbon.



**Figure 8:** Wall 10 of the tentatively designated Str. B1-4<sup>th</sup>, looking east. Photograph by Christophe Helmke.

Level 5 consists of the core below Floor 9 and was excavated to a depth of c. 2.95 m below the level of Floor 8c. For the most part, the core of Floor 9 (Lot 1146) consists of brown (10YR 4/3) lightly clayey alluvium, which is the autochthonous core material for Baking Pot. The same type of core material was found as core below Floor 2 of Str. B1 (Bullard & Bullard 1965: 13), as well as within a buried structure exposed within test excavations in Court 1 of Grp. B (see Audet 2005). Along the western baulk of EU 5 a band of limestone and marl core was exposed. On segregating it (Lot 1161)



**Figure 9:** Fragment of a spalled slate disk with two circular perforations. The artefact originally formed part of a mirror backing. Lot 1023, EU B1-5, Op. 1C. Scale: natural size (1:1). Drawing by Angelo Hultquist and Christophe Helmke.

and excavating it, it was found to represent core from a later architectural feature, overlying the older and original clayey core. One Lot 1161 had been completely removed it became clear that the core of Floor 1 formed a c. 0.5 m step at the western end, with the lower segment aligning to the level of Floor 6. In addition, the core associated with Str. B1-4<sup>th</sup> appears to be the same clayey alluvium. As a result Floors 6 and 9 appear to be two parts of the same floor (and possibly contemporaneous to Str. B1-4<sup>th</sup>), but occurring at differing elevations and exhibiting a

step, thereby accounting for the difference in elevation. The limestone and marl core (Lot 1161) was practically devoid of artefacts (4 ceramic sherds, 5 pieces of chert and less than 1 g of carbon, in contrast to the relatively artefact rich clayey core (Lot 1146), which included 161 ceramic sherds (including 2 polychrome sherds), 126 pieces of chert debitage, 17 pieces of daub, 14 quartzite fragments, 6 *jute* shells, 3 limestone items (inc. what may be an adze), and less than 3 g of carbon. Once the excavations reached a depth of 3.6 m below the elevation of Floor 8c the lot, the level and the operation were terminated due to lack of time in the field season.

Based on the architectural data documented by Bullard & Bullard it is clear that the lowest Terrace 1 of Str. B1 has been extensively compromised by the quarrying of the building in 1941. Traces of Terraces 2 and 3 were documented by Bullard to the south of the principal stair. Additional evidence for Terrace 2 was found symmetrically to the north of the principal stair during the 2007 survey. Assuming that these terraces were battered and had the same inclination as Terrace 1 (Wall 7) it is reasonable to assume that the principal stair—prior to the construction of Room 2—as discrete segments of seven steps each, with the nose of the terrace serving as an intervening eighth step. By projecting the size and configuration of the terraces the original summit of Str. B1 can be hypothetically reconstructed. Assuming that the size and configuration of the terraces was regular, then the frontal face Str. B1 would have been constructed as a series of six terraces (in which Terraces 2 through 6 each were 2.5 m high). Including the lowest flight of stairs (of 13 steps) spanning from the plaza to the top of Terrace 1 (4.1 m high), and five separate seven-step stairs (of Terraces 2 through 6) then Str. B1 might have exhibited a total of 53 steps (assuming a mean riser height of 31 cm) leading from plaza

Floor 2 to the summit. Using these same parameters the total height of Str. B1 can be reconstructed at c. 16.9 m above the elevation of Floor 2 at plaza level. Based on these hypothetical projections it is interesting to note that the wall defining the western edge of Construction Pens 4 and 7 has the same orientation as Rooms 1 and 2 as well the well-preserved steps associated to Terraces 2 and 3. Furthermore the foot of hypothetically reconstructed Terrace 5 would have occurred at precisely the same location as the outermost (or westernmost) wall of the construction pens. Consequently, this exterior of this construction pen wall appears to have served as the core face for the backing masonry and facing of Terrace 5.

## **STRUCTURE B7 (OP. 2A)**

### **Operation 2A**

#### *Excavation Units B7-1, B7-2, B7-3, B7-3 ext. & B7-4*

Operation 2A was defined to encompass four excavation units and an extension. Operation 2A was focused on the central “saddle” of Str. B7, which based on inspections of mounded surface features was surmised to represent a collapsed passageway. If the existence of the passageway could be confirmed by means of excavations then the principal access into the palatial complex of Grp. B would have been identified. It would seem that an alternate and apparently secondary point of access into the palace is found at Court 5, via Str. B21. In keeping with patterns seen at several sites in the region, principal access points into palatial compounds are gained via audiencia structures, as is the case at Caracol, Cahal Pech, Xunantunich, and Las Ruinas de Arenal, to name a few. Consequently, the excavations of Op. 2A were designed to test to what extent Str. B7 conformed to the layout and configuration of an audiencia building. Excavation Unit 1 measured 1 x 3 m, oriented to magnetic cardinal directions, running lengthwise north-south, and was designed to catch the southern jamb of the spinewall that was presumed to exist at this location as well as the plaster floor of the building’s interior. The excavations confirmed the existence of the spinewall and excavations in EU1 ceased once all terminal phase architecture had been exposed. Using the orientation of the spinewall as a guide, Excavation Unit 2 was established, measuring 1 m in width and running c. 3 m eastwards, away from EU1. Excavation Unit 2 was carried to the well-preserved terminal plaster floor throughout and revealed the southern jamb of the interior wall (the wall that faces onto Court 1), as well as the uppermost step of the stair that leads to Court 1. Thereafter Excavation Unit 3 was established to the south-west of EU1 as a means of exposing the western face of the spine wall. Excavation Unit 3, measured 1 x 3 m, running lengthwise north-south, and was aligned to architecture. The excavations of EU3 led to the discovery of Room 1, and subsequently the excavations were extended to the west and south, thereby exposing parts of two masonry benches and the west-facing doorway of Room 1. The small Excavation Unit 4 was established as a northern continuation to EU1 in order to find the matching jamb of the northern spinewall. With this completed, the width of the passageway leading into Court 1 from Plaza B had been discovered and all the major objectives for Op. 2A had been achieved. For all

excavations of Op. 2A the contexts were excavated in two levels, the first corresponding to the relatively thin humus stratum (c. 15-20 cm), the second to the much more substantial layer of collapse debris, down to terminal phase architecture. Consequently in all excavations units two lots were defined to segregate between artefacts stemming from humus versus those recovered from collapse.

In comparing the physical characteristics of Str. B7-1<sup>st</sup> to other known *audiencia* structures at nearby sites (Table 2) an interesting pattern emerged. Computing linear correlation coefficients against the different arrays provides a basis of comparison between the different structures. A high positive correlation coefficient of 0.93 was obtained by comparing the Baking Pot metrics to those of Str. A2 at Cahal Pech, and a similar coefficient of 0.92 resulted from contrasting Str. B7-1<sup>st</sup> to Str. A13 at Xunantunich (see Yaeger 2005). In contrast, an evaluation contrasting Str. B7-1<sup>st</sup> against Str. A32 at Xunantunich yielded a low positive correlation of c. 0.63. This implies that Baking Pot Str. B7-1<sup>st</sup> is most alike to the *audiencia* structure at Cahal Pech and also compares favourably with Str. A13-1<sup>st</sup> at Xunantunich. It remains to be demonstrated that the similarity in physical characteristics is a product of the time period during which these were constructed, or is the result of another set of variables.

	BKP, Str. B7	CHP, Str. A2	XUN, Str. A13	XUN, Str. A32
Spinewall jamb width	133	152	150	195
Width of corridor	189	245	212	c. 250
Ext. / Int. Room width	203	208	184	169
Ext. / Int. wall jamb width	102	80	105	113

**Table 2:** Physical characteristics of Str. B7 as compared to *audiencia* structures from Cahal Pech and Xunantunich. All measurements are in centimetres. If there is a difference between corresponding to exterior and interior measurements then the mean figure is provided. Survey by Christophe Helmke and M. Alexander.

Based on an examination of the mounded surface features, it seems plausible that the square mound at the northern extent of Str. B7 represents the standing remains of the double end-vault units across a well-preserved portion of the spinewall (see Loten & Pendergast 1984: 13, 15, Fig. 7 & 12). The northern extent of Str. B7 is well worth excavating in the future, since it would greatly clarify the architectural configuration of Str. B7 and would be liable to consolidation, forming an attractive and instructive architectural element, without having to resort to reconstructions. Based on extant plans, the northern end of Str. B7 is anywhere between 18.2 and 18.5 m north of the primary axis, as measured from the middle of the saddle to the point of juncture with Str. B8. If Str. B7 was symmetrical on either side of the central transversal passageway, then its total length (north-south) may be approximated to between 36.4 and 37 m, indicating that a substantial portion of the southern half of the structure is entirely concealed—and therefore undoubtedly well-preserved—beneath a considerable accumulation of collapse

debris from Str. B1. Assuming that the structure was symmetrical and that the frontal face of the building was pierced by evenly-spaced doorways, then Str. B7 could have exhibited 7 or 9 doorways, with 3 or 4 doorways laterally to either side of the central doorway, in keeping with the layout and configuration of an *audiencia* structure, as defined by Jaime Awe (pers. comm. 2005).

The artefactual materials recovered in association with Str. B7-1<sup>st</sup> were remarkable for their diversity and abundance (Table 3), relative to all the other contexts investigated in 2007. Ceramic artefacts: 2098 ceramic sherds (including 15 polychrome sherds, 1 *molcajete* bowl sherd [Figure 10a], and a possible plumbate sherd), 2 ceramic figurine fragments, one with remains of Maya blue pigmentation (Figure 10b), 4 or 5 ceramic flute fragments, and 3 ocarina fragments (2 mouth pieces, 1 avian effigy). All diagnostic ceramic sherds conformed squarely to known Late Classic 2 and Terminal Classic types. Non-ceramic artefacts were represented by 306 pieces of chert debitage and 2 chert cores, 22 g of carbon, 20 pieces of daub, 20 faunal bones (some exhibiting charring), 14 quartzite pieces, 13 granite artefacts, 12 limestone items, 9 fragments of prismatic obsidian blades, 4 hematite nodules, 2 shells, 2 speleothems, and 1 carved jadeite pendant. The artefactual deposits recovered from Str. B7-1<sup>st</sup> thus conform to typical ‘terminal occupation debris’ documented at other contemporary sites within the Belize Valley and beyond (see Helmke 2006: 182-183).

Contexts	Ceramic	Chert	Daub	Faunal	Quartzite	Granite	Limestone	Obsidian	Hematite	Shell	Speleothem	Jadeite	Carbon (g)
EU B7-1, Lot 1026	20	20	---	---	---	---	---	---	---	---	---	---	---
EU B7-1, Lot 1141	213	36	9	8	6	---	4	---	4	---	---	---	4
EU B7-2, Lot 1148	62	14	1	---	1	4	2	---	---	---	---	---	---
EU B7-2, Lot 1149	1204	156	---	4	4	7	3	8	---	1	---	---	4
EU B7-3, Lot 1164	34	8	---	---	---	---	---	---	---	---	---	---	---
EU B7-3, Lot 1165	196	48	6	8	3	2	3	1	---	1	2	1	14
EU B7-3 ext., Lot 1166	311	20	3	---	---	---	---	---	---	---	---	---	---
EU B7-4, Lot 1160	68	6	1	---	---	---	---	---	---	---	---	---	---
<b>Totals:</b>	<b>2108</b>	<b>308</b>	<b>20</b>	<b>20</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>9</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>22</b>

**Table 3:** Absolute frequency distribution of artefactual materials recovered from Op. 2A in associated with Str. B7-1<sup>st</sup>. Note how the frequency of materials differs from that presented in Table 1 (Op. 1B of Str. B1).



**Figure 10:** Terminal Classic artefacts recovered from Str. B7-1<sup>st</sup>. **a)** Grater bowl (*molcajete*) sherd (left); **b)** figurine fragment exhibiting patches of Maya blue pigmentation across the headdress. Photographs by Christophe Helmke.

## SPECIAL DEPOSITS

Five special deposits were exposed in association with Str. B1 during the 2007 season. These include two votive offerings, Cache B1-5 (Lot 1144) and Cache B1-6 (Lot 1162), as well as three interments: Burials B1-6 (Lot 1017), B1-8 (Lot 1025) and B1-9 (Lot 1145). All were found along the primary axis of the structure and were uncovered as part of Ops. 1B and 1C. These finds are described in some detail below. Four of the special deposits were newly discovered during the 2007 season, whereas Bu. B1-6 had been previously excavated by the Bullards in 1961 (Bullard & Bullard 1965: 18, 36, 66). Our re-excavations of Bu. B1-6 revealed that the interment had been partially excavated in 1961, leaving one funerary item to be recovered in 2007. Syntheses of the osteological data are based on the analyses of Jennifer Piehl (JCP) (this volume). The exhumations were assisted by Gabriel Wrobel (GDW) who also provided preliminary assessments of the osteological materials.

### Cache B1-5 (Lot 1144)

This votive offering was found in EU B1-5 (Op. 1C) at an elevation of c. 2.70 m above the level of plaza Floor 1a and 1.88 m below the level of Floor 7b. The centre of the special deposit was found displaced by as much as 12 cm north off the primary axis of



Str. B1. The cache represents the remains a partial ceramic vessel measuring c. 20 cm in diameter in situ. The vessel was recovered as 36 conjoining sherds, and was found to be associated with 1 piece of chert debitage and as much 161 g of carbon. The high incidence of carbon suggests that the partial vessel was used as an expedient recipient for burning an organic substance (see Brady 1989: 211-214). Cache B1-5 was deposited directly into the core of Wall 7-Floor 8c of Str. B1 and as such can be classed as a dedicatory deposit.

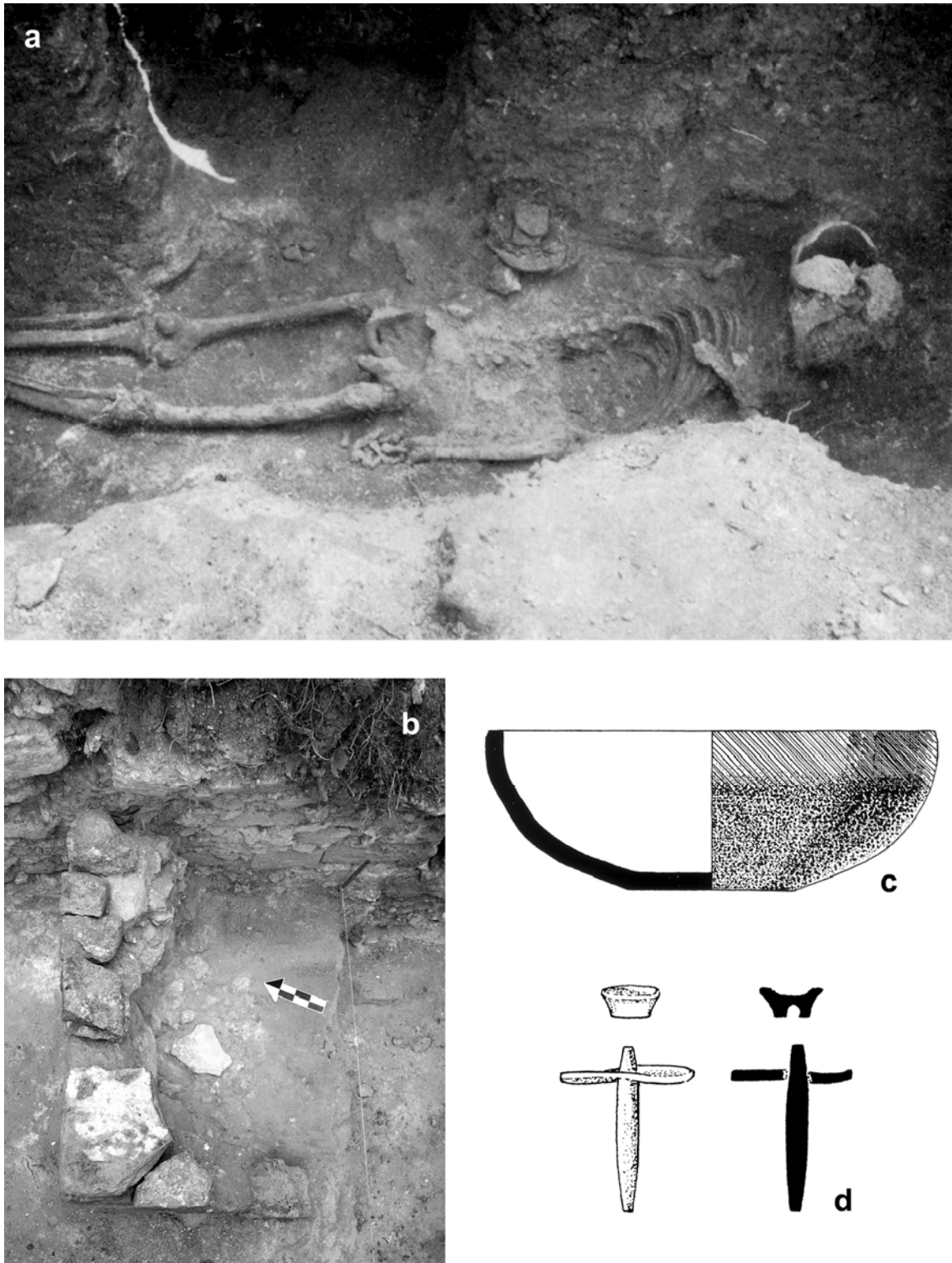
#### **Cache B1-6 (Lot 1162)**

This special deposit was found in EU B1-6 (Op. 1B) as a lens, at an approximate elevation of 13.6 m above the level of plaza Floor 1a, aligned to the primary axis of Str. B1. The irregularly-shaped lens measured c. 80 cm in diameter and although of variable thickness it measured as much as 10 cm thick. The lens consisted predominantly of a dense scatter of ceramic sherds (351 sherds and 4 bichrome and polychrome sherds) and chert debitage (33 pieces). During the clearing of Cache B1-6, but before it was identified as such, some artefacts were inadvertently mixed in with materials the overlying fill (Lot 1147). Artefacts from this mixed lot, but which most probably originally formed part of Cache B1-6, were subsumed under the heading of Lot 1147 & 1162. This mixed lot accounts for 26 ceramic sherds, 10 pieces of chert debitage, as well as 1 granite fragment and 1 limestone item. Cache B1-6 was deposit along the stratigraphic boundary of a construction tier, apparently commemorating the then on-going building efforts.

#### **Burial B1-6 (Lot 1017)**

The majority of this burial was excavated by the Bullards in 1961. Consequently, the data presented here are based in large measure on those reported earlier (Bullard & Bullard 1965: 9, 18, 22, 35, 36, 66, Figs. 9b, 15n & Plate VII).

<i>Provenience:</i>	The entirety of the burial was recovered in EU 5, Level 2 (Figure 11a)
<i>Grave type:</i>	The burial had been deposited within the core of the bench built along the eastern wall of Room 2. Although the Bullards suggest that the burial was deposited inclusively during the construction of the bench (Bullard & Bullard 1965: 18), it seems more likely that the burial was intrusive into the bench (see also Aimers 1997: 34). A thin layer of ash covered the entirety of the burial.
<i>Grave dimensions:</i>	Grave (internal dimensions): total length: c. 175 cm N-S (measured from <i>olla</i> found at the feet of the skeletal individual) to the original position of the cranium; maximum width: c. 75 cm E-W (from elbow to elbow). Bench (external dimensions of grave): total length: 3.58 m N-S; max. width: 0.98 m E-W.
<i>Burial type:</i>	Primary.
<i>Orientation:</i>	Head to the south, facing west.



**Figure 11:** Burial B1-6, Op. 1C, Room 2, Str. B1. **a)** Photograph of the skeletal remains when first exposed in 1961 (Bullard & Bullard 1965: Plate VII); **b)** the portion of Bu. B1-6 that was excavated in 2007 (photograph by Christophe Helmke); **c)** small hemispherical bowl (rendered at 1:2 scale) (Bullard & Bullard 1965: Fig. 9b); **d)** pair of composite earflare assemblage (rendered at natural size, 1:1 scale) (Bullard & Bullard 1965: Fig. 15n).



*Position:* Extended, prone. Right arm extended along side of body, left arm partly flexed with hand at the pelvis. Feet set closely side by side as if bound or tied at time of burial.

*Condition:* n.d.

*Individual:* n.d.

*Cultural modification:* Dental inlays of iron pyrites were drilled into the mandibular canines and the first pre-molars (4), as well as into maxillary canines and the lateral incisors (4).

*Associated material:* **1017/1** [#33-1 / ROM: 962.66.10] Small hemispherical redware bowl (Figure 11c). Specimen identified as Belize Red: Variety Unspecified (Bullard & Bullard 1965: 22). Max. dia.: 16.1 cm; max. height: 5.7 cm. Material: ceramic. Found fragmented atop the left elbow of the skeleton, along the eastern wall of Room 2.

**1017/2** [#33-2 / British Honduras] A pair of composite earflare assemblages (Figure 11d). Originally these artefacts were interpreted as “ornamental pins ... attached to the *maxtli*, or loin-cloth, of the deceased” (Bullard & Bullard 1965: 18, 35). Each earflare is composed of a centrally perforated disk (max. dia.: 2.2 cm), a tapered pin (max. lengths: 2.9 and 3.0 cm; max. dia.: 0.4 cm) and flaring stopper that mounts into the front end of the pin (max. dia.: 1.1 cm). Material: unidentified shell. Found between the knees.

**1017/3** [#33-3 / ROM: 962.66.86-89] Dental inlays. Small polished circular inlays and chips. Material: iron pyrite (or marcasite). Five of the eight original inlays were still adhering to the teeth when found.

**1017/4** [1] Partial redware jar (*olla*) (Figure 11b). Specimen found as four conjoining sherds and provisionally identified as Tinaja Red: Var. Unspec. (Sabloff 1975: 158-160). Material: ceramic. Found at the northern extremity of the burial, at the feet of the skeletal individual.

*Relationship to adjacent stratigraphy:* Based on the associated ceramics the interment can be assigned to the Spanish Lookout complex (Gifford 1976: 225-227), corresponding to the Late Classic 2 to 3 periods (c. AD 700-900). No Terminal Classic (i.e. Late Classic 3) indicators are present to suggest narrowing the dating of the interment to Late Classic 3. Since the burial appears to be intrusive into the bench that would indicate that the bench and Room 2 were completed during the Late Classic or earlier. The bench was built atop Floor 7b and abutting the eastern wall of Room 2 and thus the bench postdates these other architectural features. Floor 7a lips up to the bench and thus postdates it. The burial thus postdates the construction of the bench, Floor 7b and Room 2 as a whole, but without a clear seal the dating cannot be narrowed down further.

### Burial B1-8 (Lot 1025)

<i>Provenience:</i>	Burial B1-8 was exposed in EU 5, Level 3 (Figures 12 & 13).
<i>Grave type:</i>	The burial was found inclusively within the core of Floor 8c of Wall 7, in alignment to primary axis of Str. B1 and the monolith erected in the niche of Room 2. The grave is a bundle burial that was deposited in construction core of Floor 8c, whilst building works were still ongoing. The concave impression of the bundle was still partly visible in the mortar at the time of excavation, indicating that the bundle had been deposited while the mortar was still wet. A small cavity around the human remains indicates that the bundle was sealed in wet-laid mortar soon after deposition.
<i>Grave dimensions:</i>	Maximum width: 40 cm (N-S) by 34 cm (E-W); max. thickness of deposit: c. 7 cm.
<i>Burial type:</i>	Secondary.
<i>Orientation:</i>	n.a.
<i>Position:</i>	n.a.
<i>Condition:</i>	Despite some root etching, cracking, and cortical erosion, the skeletal materials are otherwise well-preserved. The representation of particular elements is, however, strongly biased by cultural factors. Elements that are salient for their absence include the cranium, dentition, cervical vertebrae, and pelvis. Taphonomy cannot account for the absence of these elements. This indicates that certain elements were deliberately collected for re-interment, leaving the small skeletal elements at the locus of initial interment, with the cranium probably transferred to a third location.
<i>Individual:</i>	<b>Field determination:</b> Probable male (GDW). <b>Laboratory determination:</b> Probable male, based on overall robusticity and estimations of stature (JCP). Age determination of middle to old adult age based on extent of arthritic degeneration.
<i>Cultural modification:</i>	None observed.
<i>Associated material:</i>	Apparently unintentional artifactual inclusions in the burial consist of 1 carbon nodule, 1 piece of chert and 11 ceramic sherds, including one base sherd of a cylindrical Gallinero Fluted: Gallinero Var. vase (Gifford 1976: 262).
<i>Relationship to adjacent stratigraphy:</i>	The bundle burial was deposited inclusively in the core of Floor 8c of Wall 7. Since Wall 7 and its original Floor 8c predate Str. B1-1 <sup>st</sup> (the construction of Room 2) and Str. B1-2 <sup>nd</sup> (the construction of Room 1), it has been designated as Str. B1-3 <sup>rd</sup> . Although the relationship between Walls 5, 6 and 10 has not satisfactorily been determined at present, these appear to represent architectural units of the same construction phase, Str. B1-4 <sup>th</sup> . Since Burial B1-8 was deposited at the juncture between Wall 10 of Str. B1-4 <sup>th</sup> and Floor 8c of B1-3 <sup>rd</sup> , suggesting that the deposition of the burial may have been dedicatory to the construction of the latter.



**Figure 12:** Burial B1-8, Excavation Unit B1-5, Op. 1C. Note the position of the bundle burial below the re-erected limestone monolith. Photograph by Christophe Helmke.





**Figure 13:** Close-up of Burial B1-8, Excavation Unit B1-5, Op. 1C. The nail marks the position of the primary axis of Str. B1. Photograph by Christophe Helmke.

### Burial B1-9 (Lot 1145)

<i>Provenience:</i>	The burial was discovered within EU B1-5, Level 4 (Figure 14).
<i>Grave type:</i>	Crude masonry crypt. The crypt is intrusive as evidenced by the cuts through Floors 8a, 8b and 8c, as well as based on the well-preserved profile of the northern baulk, where the intrusive pit and its fill are readily distinguished from the original core of Wall 7 (Str. B1-3 <sup>rd</sup> ). The crypt exhibits a brittle plaster floor (Floor 9) that was set before the hasty construction of its walls. The walls of the crypt are formed by large limestone blocks extracted from the core, whereas irregular slabs, bound by wet-laid masonry, formed the capstones.
<i>Grave dimensions:</i>	The crypt measured as much as 275 cm long (N-S) and 76 cm wide (E-W). The skeletal remains measure 157 cm (N-S) by 49 cm <i>in situ</i> .
<i>Burial type:</i>	Primary.
<i>Orientation:</i>	Head to the south.
<i>Position:</i>	Extended prone. The right arm is partly flexed with hand below the pelvis, whereas the left arm is extended with hand on the upper thigh. The legs are fully extended with feet side by side.
<i>Condition:</i>	All elements have suffered heavily from taphonomic deterioration (especially water-seepage and percolation) and exhibit severe cortical erosion and cracking, in addition to pervasive fragmentation of the remains. The upper thorax, pelvis and right forearm suffered most from <i>in situ</i> deterioration and leaching.
<i>Individual:</i>	<b>Field determination:</b> Possible female based on <i>in situ</i> stature (c. 157 cm) (CH). <b>Laboratory determination:</b> Probable female based on overall gracility. Old adult age determination based on patterns of degenerative joint disease (JCP).
<i>Cultural modification:</i>	Dental inlays of iron pyrites or hematite were drilled into the maxillary canines with the right canine retaining its inlay.
<i>Associated material:</i>	<b>1145/1</b> [1] Complete prismatic blade. Max. length: 8.5 cm; max. width: 0.7 cm. Material: black obsidian. Found at the northern end of crypt within the southwestern quarter of the circular impression, directly above and parallel to 1145/17, adjacent to 1145/2. <b>1145/2</b> [2] Roller stamp with scroll motif (Figure 15a). The stamp is embellished with a design on its exterior that was carved and excised in high relief. The decoration represents a pair of scrolls accentuated by central incisions and surrounded by a deeply-recessed background. All surfaces are unslipped, but exterior is well-burnished. Max. height: 9.2 cm; max. dia.: 5.6 cm; max. dia. of central perforation: 3.3 cm; max. relief of carving: 0.6 cm; min. relief of carving: 0.3 cm. Material: unfired(?) clay covered in variegated black and red pigment. Found complete, but affected by





**Figure 14:** Composite photo-mosaic of Burial B1-9 as cleared, looking south. Photographs by Christophe Helmke.



**Figure 15:** The three ceramic roller stamps recovered from Bu. B1-9. **a)** Roller stamp with scroll motif (left); **b)** roller stamp with handprint motif; **c)** roller stamp with personified vegetal motif. Photographs by Lauren Heeden.

extensive and deep hairline fractures, within the south-eastern quarter of the circular impression adjacent to 1145/1, 1145/3 and 1145/4.

**1145/3** [3] Roller stamp with handprint motif (Figure 15b). The stamp also exhibits a design on its exterior that was carved and excised in high relief. The decoration represents an excised handprint-shaped outline and a pair of vertical bands embellished with four triangular protrusions, though one of these bands is now eroded. The portion that was resting directly atop the plastered floor of the interment is the one that is now eroded. Max. height: 8.4 cm; max. dia.: 6.3 cm; max. dia. of central perforation: 4.1 cm; max. relief of carving: 0.5 cm; min. relief of carving: 0.1 cm. Material: unfired(?) clay with traces of hematite pigment in the carved background. Found complete, but affected by extensive erosion and hairline fractures, within the south-eastern quarter of the circular impression adjacent to 1145/2 and 1145/4.

**1145/4** [4] Roller stamp with personified vegetal motif (Figure 15c). The design on its exterior was carved and excised in high relief. The decoration represents an anthropomorphic figure (resembling the maize god) with a vegetal body and appendages in the shape of a fleur-de-lys, surrounded by a deeply-recessed background. The iconography is delineated by a pair of vertical bands embellished with four triangular protrusions. The portion that was resting directly atop the plastered floor of the crypt has suffered most breakage and erosion. All surfaces are unslipped, but exterior well-burnished. Max. height: 10.4 cm; max. dia.: 6.6 cm; max. dia. of central perforation: 3.9 cm; max. relief of carving:

0.5 cm; min. relief of carving: 0.1 cm. Material: unfired(?) clay evenly coated in red specular hematite pigment (apparently that used to transfer the design to other media). Found as 21 articulated and conjoining fragments within the south-eastern quarter of the circular impression adjacent to 1145/2 and 1145/3.

**1145/5** [5] Unslipped spike appliqué censer (Figure 16b). The completely unslipped vessel is a bowl-shaped censer, with flat base and straight-everted sides. Its exterior is embellished by two parallel rows of appliquéd spikes below the exterior rim. Specimen identified as *Miseria Appliqué*: Var. Unspec. (Sabloff 1975: 174-177), but related to *Alexanders Unslipped*: Beaverdam Var. (Gifford 1976: 284-286). Max. height: 7.5 cm; max. rim dia.: 19.6 cm; max. base dia.: 11.6 cm. Material: ceramic. Found as 8 conjoining sherds above the right tibia [20] and fibula [19] of the skeletal individual. Of the 48 spikes that would have adorned the censer, 23 were broken off before deposition and were not recovered in the burial, suggesting that these may have broken off during usage, or were deliberately removed during termination. Traces of a carbonized and resinous substance (possibly pine resin or *copal*) was found along the interior rim of the censer (Figure 16a) and was sampled for analyses [Ca 40].



**Figure 16:** The spike appliqué censer from Bu. B1-9.

**a)** Carbonized resinous substance found adhering to the inner rim of the censer (photograph by C. Helmke);

**b)** lateral view of the censer (photograph by Lauren Heeden).



**1145/6** [6] Incised redware tripod dish. The dish has a sub-hemispherical base and everted rim, with pronounced basal break on the interior. The vessel is unevenly-made and exhibits variegated brown to gray fire-clouding across half of its interior and exterior surface. The interior is entirely slipped; the exterior is slipped to the basal break (accentuated by a single post-slip, pre-firing, incised line), the base being left unslipped. Faint curvilinear incisions are present near the middle of the interior of the vessel. Tripod supports are tau-shaped and only one is moderately preserved, the other two reduced to stubs. The dish can be identified as Platon Punctated-incised: Platon Var. (Gifford 1976: 257, 259). Max. height: 6.7 cm; max. height (excl. supports): 5.5 cm; max. rim dia.: 28.6 cm; max. width of tripod supports: 4.9 cm. Material: ceramic. Recovered as 22 conjoining fragments as the left hip of the skeleton, besides 1145/7.

**1145/7** [7] Redware vase. The vase is cylindrical with a flat base, but is slightly barrel-shaped and exhibits a slightly rounded rim. Interior unslipped except for a 4-cm strip below the rim that is slipped red. Exterior is uniformly slipped red. The base is extensively fire-clouded and may have been left unslipped. Based on similarities of slip, paste and fire-clouding 1145/6 and 1145/7 clearly stem from the same set and were undoubtedly produced at the same workshop. Vase has been identified as Belize Red: Belize Var. (Gifford 1976: 255-257). Max. height: 20.0 cm; max. body dia.: 10.1 cm; max. base dia.: 9.4 cm; max. rim dia.: 9.7 cm. Material: ceramic. Found fragmented into 34 conjoining sherds, set besides 1145/6 at the left hip of the skeleton.

**1145/8** [8] Fragment of a prismatic blade. Max. length: 3.0 cm; max. width: 1.0 cm. Material: black obsidian. Found at the southern end of the grave, near the left elbow.

**1145/9** [10] Shell valve (Figure 17). The shell is extensively weathered with spines on the exterior surface evenly ground down, pitting and bore holes riddling all surfaces. The shell exhibits three perforations along the shoulder, suitable for suspension, but these are apparently natural, brought about by mollusc predation. These attributes suggests that the shell was collected from the shallows along the coast rather than purposefully harvested from the deep seas. Max. length: 12.4 cm; max. width: 13.30 cm; max. depth: 5.05 cm; mean thickness: c.0.60 cm. Material: *Spondylus* sp. Association of the shell with the right shoulder suggests that it was originally sewn onto the collar of a cape or robe, as is seen in contemporaneous Maya iconography.

**1145/10 & 11** [11 & 12] Right earflare assemblage (Figure 17). Complete earflare and matching bead. The earflare is square and the exterior is embellished by a crossed-band motif and square



**Figure 17:** The Spondylous shell and the right jadeite earflare assemblage as found in situ, within Bu. B1-9. Photograph by Christophe Helmke.

frame. Each of the corners and the biconically-perforated centre are decorated with circular motifs. Dimensions: 3.05 x 3.10 cm; mean thickness: 0.35 cm; perforation dia.: 0.30 cm. Material: jadeite. Found with 1145/11 within 1145/9 to the right of the cranium [29].

The bead is in the shape of a rounded triangle, with a raised circular element in the centre. The bead is biconically-perforated for suspension. Dimensions: 1.45 x 1.50 cm; max. thickness: 0.45 cm; max. perforation dia.: 0.40-0.85 cm. Material: jadeite. Found besides 1145/10 within 1145/9 to the right of the cranium [29].

**1145/12** [26] Pin. Although the pin is extensively weathered, it is clear that it was originally highly polished. At its head is a notched groove, from which issue two decorative lines. Max. length: 15.8 cm; max. dia. 0.6 cm. Material: unidentified mammal bone. Found articulated as 6 conjoining fragments below the pelvic bones [23 & 32].

**1145/13 & 14** [30 & 31]. Left earflare assemblage. Complete earflare and matching bead. The earflare is square in shape and the exterior is embellished by a crossed-band motif and square frame. Each of the corners and the biconically-perforated centre are decorated with circular motifs. Dimensions: 2.95 x 3.10 cm; mean thickness: 0.33 cm; perforation dia.: 0.30 cm.

Bead is ovoid-shaped, with a raised circular element in the centre. The bead is only partly perforated. Dimensions: 1.25 x 1.45 cm; max. thickness: 0.65 cm; perforation dia.: 0.25 cm.

**1145/15** [9] Body sherd. Material: ceramic. Found c. 10 cm to the south of the cranium.

**1145/16** [13] Partially chipped core. Average dia.: 9.7 cm. Material: river cobble chert, with red cortex. The core was recovered besides 1145/7, the redware vase found near the left hip of the skeletal individual.

**1145/17** [36] Fragmentary of a prismatic blade. Max. length: 7.3 cm; max. width: 1.3 cm. Material: black obsidian. Found at the northern end of crypt within the southwestern quarter of the circular impression, directly below and parallel to 1145/1, adjacent to 1145/2.

**1145/18** [37] Partially chipped core. Average dia.: 12.5 cm. Material: honey-brown chert. The core was located at the northern extent of the crypt, c. 18 cm northeast of the 1145/3 roller stamp.

**1145/19** [38] Tau-shaped dish sherd. Material: ceramic. The sherd was found amidst the fragmented spike appliqué censer 1145/5.

*Relationship to adjacent stratigraphy:* Based on the ceramic finds associated to Bu. B1-9 the interment can be dated to the Late Classic. The intrusive cut visible in the stratigraphic profile of EU B1-5 reveals that Bu. B1-9 is intrusive into the Wall 7-Floor 8 architectural unit. It remains

unclear at present how this intrusive pit is related to the sequences of Floors 7 and 8, although it seems probable that Floor 7 was punctured to deposit the burial. Bu. B1-9 is set atop Floor 9 and thus postdates it, as well as the early Wall 10 of the tentatively designated Str. B1-4<sup>th</sup>. Finally, since the diagnostic ceramic materials from Bu. B1-9 postdate the Late Classic 1, Tiger Run ceramics found within the niche of Room 2 (Bullard & Bullard 1965: 17-18, Fig. 10a & g, Plate VI), it seems highly probable that the intrusive cut was made at some point after the construction of Room 2.

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# OSTEOLOGICAL ANALYSIS OF BAKING POT BURIALS B1-8 AND B1-9

**Jennifer Piehl**  
Sul Ross State University

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## INTRODUCTION

This report presents the results of osteological analysis of Baking Pot Burials B1-8 and B1-9, conducted by the author in 2007. The remains of the two individuals interred in these burials were catalogued by means of a system based on the recommended standards for osteological data collection (Buikstra & Ubelaker 1994), expanded or revised where appropriate. This includes an inventory of portions of skeletal elements present, observations of taphonomic changes, skeletal and dental pathology, age and sex indicators, and cultural modifications. Metric and nonmetric data for skeletal elements and dentition were also recorded.

## BURIAL B1-8 (Lot 1025)

This burial contained the remains of a single adult individual of probable male sex. The interment, placed inclusively into the core below Room 2 of Structure B1, is a secondary bundled interment (Figures 1 & 2) (Helmke, this volume). Table 1 presents a skeletal inventory for this individual. Multiple skeletal elements are absent, including the cranium and dentition, upper cervical vertebrae, right clavicle, right patella, pelvis, and foot phalanges. It is likely that these elements were not included in the secondary burial, suggesting that the remains were gathered from another interment or processing location. The absence of the cranium further suggests that it may have been curated in another location as part of ancestor veneration. Those elements that are present are generally well represented, with the exception of the fragile scapulae.

Severe cortical erosion and longitudinal cracking have affected the long bone diaphyses of the arms and legs, metacarpals of the right hand, and the left clavicle. Root etching is also apparent on the diaphyses of the left arm bones. This taphonomic destruction of cortical surfaces has prevented observation of these skeletal elements for pathological conditions such as infectious disease or metabolic disturbances.

Given the absence of the cranium and pelvis, the sex of this individual cannot be determined with certainty. Metric data and the author's observations, however, indicate that this individual was of greater than average robusticity and stature among ancient inhabitants of the Belize Valley, and thus was likely male. Age estimation for this individual relies exclusively on the extent of arthritic deterioration (discussed below), an imperfect factor at best, and suggests that the individual was of middle to old adult age at time of death.

Pathological changes observed on this individual's remains include infection on the right ribs and extensive arthritic joint degeneration throughout the skeleton. The



**Figure 1:** Burial B1-8, Excavation Unit B1-5, Op. 1C. Note the position of the bundle burial below the re-erected limestone monolith. Photograph by Christophe Helmke.





**Figure 2:** Close-up of Burial B1-8, Excavation Unit B1-5, Op. 1C. The nail marks the position of the primary axis of Str. B1. Photograph by Christophe Helmke.

Element	Side	Completeness
Cranium	L, R	---
Clavicle	L	95 %
	R	---
Scapula	L	25 %
	R	30 %
Sternum		75 %
Patella	L	50 %
	R	---
Sacrum		---
Os Coxae	L	---
	R	---
Coccyx		100 %
Cervical Vertebrae		35 %
Thoracic Vertebrae		95 %
Lumbar Vertebrae		95 %
Ribs	L	45 %
	R	55 %
	Unsided	55 %
Humerus	L	90 %
	R	55 %
Radius	L	60 %
	R	55 %
Ulna	L	40 %
	R	65 %
Carpals	L	50 %
	R	25 %
Metacarpals	L	90 %
	R	45 %
Hand Phalanges	L, R	45 %
Femur	L	45 %
	R	85 %
Tibia	L	70 %
	R	90 %
Fibula	L	80 %
	R	60 %
Tarsals	L	60 %
	R	40 %
Metatarsals	L	45 %
	R	45 %
Foot Phalanges	L, R	---

**Table 1:** Skeletal Inventory of Burial B1-8, Baking Pot.

infection appears on three adjacent right rib shafts, encompassing the tubercles and shaft surfaces lateral to the tubercles. The heads of these ribs are unaffected. The infection is characterized by moderate to severe spiculing of the shafts and lipping at the tubercle margins, accompanied by porosity of the shaft surfaces. While both interior and exterior shaft surfaces are affected, healing is evident on the exterior surfaces. No evidence of fracture or other trauma accompanies the infection. The left ribs are unaffected, indicating that this is a localized infection, rather than evidence of a systemic pathology.

Degenerative joint disease (DJD) is present at nearly every observable location (Table 2). Most joints of the appendicular and axial skeleton have been affected to some extent. Degenerative changes are absent at the left shoulder (L glenoid) and both feet (metatarsals). Additionally, only some facets and bodies of the cervical and thoracic vertebrae are affected. DJD is characterized in most locations by slight lipping of joint margins, accompanied by additional changes such as articular surface porosity or osteophytic activity in about half of the observable instances. Moderate marginal lipping is present at the right shoulder joint. The left leg exhibits more severe degeneration, with moderate marginal lipping at the femur head and severe degeneration at the distal femur. The left proximal tibia exhibits severe degeneration similar to that at the distal femur. In addition, while slight marginal lipping characterizes the left tarsal articulations, DJD is more common on the left tarsals than on the right. These data indicate that DJD is most pronounced on the left leg and foot, affecting primarily the left knee joint and secondarily the left hip and ankle. The relationship of degenerative joint disease to chronic occupational stress or specific activities has not been consistently demonstrated (Jurmain 1977, 1991), and therefore the DJD observed on this individual is interpreted as primarily related to the aging process of a physically active individual.

Other pathologies, both nonspecific and specific, could not be evaluated on most skeletal elements due to severe cortical erosion. Pathology is clearly absent on several skeletal elements, including the diaphyses of the left arm and right fibula, all foot bones, and the bodies of the sternum, scapulae, and coccyx. Pathological changes are also absent on all rib shafts not affected by the above-described infection. While these data rule out a severe systemic pathology, our knowledge of this individual's health remains incomplete. The tibiae, fibulae, cranium and humeri are the most common sites of nonspecific infection (Ortner & Putschar 1981), frequently observed on Classic Maya remains. These skeletal elements are also common sites for the manifestation of specific disorders. Many of these elements cannot be observed for this individual, limiting interpretation of the individual's health status.

In sum, Burial B1-8 is the bundled secondary interment of an adult individual, probably male. Extensively distributed DJD is manifested throughout the skeleton, and suggests advanced age. A nonspecific infection affects three right ribs, and was healing at time of death. The absence of the cranium suggests it may have been curated as part of an ancestor bundle.

<b>Skeletal Element</b>	<b>Side</b>	<b>Articular Surface</b>	<b>Surface Erosion or Porosity</b>	<b>Marginal Lipping or Spicules</b>	<b>Osteophytes</b>
Humerus	L	distal		X	
Radius	L	proximal	X		X
Radius	L	distal		X	
Ulna	L, R	proximal	X	X	X
Carpals	L, R			X	
Metacarpals & Phalanges	L, R	proximal and distal		X	
Scapula	R	glenoid	X	X	
Clavicle	L	medial		X	
Sternum	L	manubrium		X	
Cervical Vertebrae		bodies		X	X
Thoracic Vertebrae		facets		X	
Lumbar Vertebrae		bodies		X	X
Lumbar Vertebrae		facets		X	
Femur	L, R	proximal	X	X	
Femur	L	distal	X	X	X
Tibia	L, R	proximal	X	X	
Tibia	L, R	distal	X	X	
Fibula	L	distal	X		
Tarsals	L, R			X	

**Table 2:** Degenerative Joint Changes on Burial B1-8 Skeletal Elements.

## **BURIAL B1-9 (Lot 1145)**

Burial B1-9 is the primary interment of an adult individual in a crypt located intrusively within the core of Structure B1, below Room 2 (Figure 3). The individual was interred in an extended prone position with the head to the south, and was accompanied by numerous artifacts (Helmke, this volume). The individual was interred complete, but taphonomic processes have resulted in the deterioration of many skeletal elements (Table 3). The upper thorax, pelvis, and right forearm are particularly poorly represented. Severe cortical erosion and occasional longitudinal cracking have affected the bones of the legs, and axial elements such as the left scapula, ribs, cranium and mandible; the surfaces of these skeletal elements could not be observed for skeletal markers of age and sex, nor for pathological changes.

Cranial and pelvic indicators of sex and age are absent, preventing a secure determination of these attributes. Overall gracility, however, suggests that the individual was female. The pattern of degenerative joint disease (discussed below), especially in the vertebrae, strongly suggests that the individual was of old adult age. Thus, the individual was probably a female of old adult age.

Pathological changes observed on the remains are limited to evidence of joint degeneration. The diaphyses of most leg bones, the cranium and the mandible are too eroded to be observed for pathologies. This limits assessment of health insults experienced by the individual in both childhood and adulthood, as nonspecific and specific pathologies, including nutritional deficiencies and infections, most commonly manifest on these skeletal elements. Pathological changes are clearly absent on the diaphyses of the arm bones and left fibula, the hands and feet, the sternum and the coccyx.

Degenerative joint disease is apparent on the bones of the wrists and hands, ankles and feet, and the vertebral bodies (Table 4). Most other joint surfaces were too deteriorated to evaluate, although joint degeneration is clearly absent on the left patella, left distal tibia, and some joints of the ankles and feet. Most degenerative changes are characterized by slight to moderate lipping of joint margins. Degeneration is more advanced in the thoracic and lumbar vertebrae, with moderate marginal lipping of vertebral bodies accompanied by erosion and osteophytic activity on body surfaces. While erosion prevents evaluation of the extent of joint degeneration for this individual, the changes observed in the hands, feet and vertebrae fit the pattern of age-related degeneration independent of habitual physical activity.

Eighteen teeth and four eroded tooth roots belonging to this individual were recovered (Table 5). Dental attrition is moderate to severe, and carious lesions are absent. Alveolar processes of the mandible and maxilla were too deteriorated to evaluate whether missing dentition is due to antemortem loss or taphonomic deterioration. Dental enamel defects, including hypoplasias and hypocalcifications, are absent on all observable dentition. Most anterior teeth, however, are obscured by severe calculus deposits, and thus the most frequent sites of enamel defects have not been observed. The maxillary canines are drilled for inlays, and the right canine retains a hematite inlay. Severe calculus deposits encase the maxillary incisors, preventing examination for dental modification of these teeth.





**Figure 3:** Composite photo-mosaic of Burial B1-9 as cleared, looking south. Photographs by Christophe Helmke.

Element	Side	Completeness
Cranium		45 %
Mandible		55 %
Clavicle	L	---
	R	---
Scapula	L	5 %
	R	---
Sternum		10 %
Patella	L	20 %
	R	---
Sacrum		---
Os Coxae	L	---
	R	5 %
Coccyx		55 %
Cervical Vertebrae		5 %
Thoracic Vertebrae		10 %
Lumbar Vertebrae		10 %
Ribs	L	5 %
	R	5 %
Humerus	L	35 %
	R	55 %
Radius	L	30 %
	R	---
Ulna	L	30 %
	R	---
Carpals	L	60 %
	R	90 %
Metacarpals	L	40 %
	R	65 %
Hand Phalanges	L	55 %
	R	65 %
	Unsided	30 %
Femur	L	50 %
	R	5 %
Tibia	L	70 %
	R	50 %
Fibula	L	25 %
	R	25 %
Tarsals	L	70 %
	R	85 %
Metatarsals	L	65 %
	R	75 %
Foot Phalanges	L	5 %
	R	35 %

**Table 3:** Skeletal Inventory of Burial B1-9, Baking Pot.

<b>Skeletal Element</b>	<b>Side</b>	<b>Articular Surface</b>	<b>Surface Erosion or Porosity</b>	<b>Marginal Lipping or Spicules</b>	<b>Osteophytes</b>
Carpals	L, R			X	
Metacarpals & Phalanges	L	proximal & distal		X	
Thoracic Vertebrae		bodies	X	X	X
Lumbar Vertebrae		bodies	X	X	X
Tarsals	L, R			X	

**Table 4:** Degenerative Joint Changes on Burial B1-9 Skeletal Elements.

	<b>Maxillary Dentition</b>	<b>Mandibular Dentition</b>
<b>RM3</b>	X	
<b>RM2</b>		X
<b>RM1</b>		X
<b>RP4</b>	X	X
<b>RP3</b>	X	X
<b>RC</b>	X	X
<b>RI2</b>		
<b>RI1</b>	X	
<b>LI1</b>	X	
<b>LI2</b>	X	
<b>LC</b>	X	
<b>LP3</b>		X
<b>LP4</b>	X	X
<b>LM1</b>	X	
<b>LM2</b>		X
<b>LM3</b>		
<b>Roots</b>	4	

**Table 5:** Dental Inventory of Burial B1-9.



This individual's dentition displays moderate to severe calculus on most dentition, with the exception of the maxillary right first premolar, and the mandibular left first premolar and left second molar. The calculus deposits are severe on the maxillary anterior dentition, covering all crown surfaces and reaching vertical lengths of 1.5-2 cm on the lingual surfaces of the incisors. The canines are less severely affected, with moderate deposits on labial and distal surfaces. Severe deposits cover the maxillary second premolar crowns, including the occlusal surfaces. Similarly, the mandibular canine, premolars and molars show severe deposits on the mesial and buccal surfaces, also covering the occlusal surface of the right first premolar and right first molar.

In sum, this crypt interment contained the deteriorated remains of an old adult individual, probably female. The only skeletal pathology observed was DJD, but its extent throughout the skeleton cannot be evaluated due to taphonomic destruction of most joint surfaces. The maxillary canines held hematite inlays. Severe dental calculus affects most of the individual's dentition.

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# SETTLEMENT SURVEY AT BAKING POT, BELIZE: RESULTS OF THE 2007 SEASON

**Julie A. Hoggarth**  
University of Pittsburgh

**Eva Jobbová**  
University College London

**Christophe Helmke**  
University of Copenhagen

**Andrew Bevan**  
University College London

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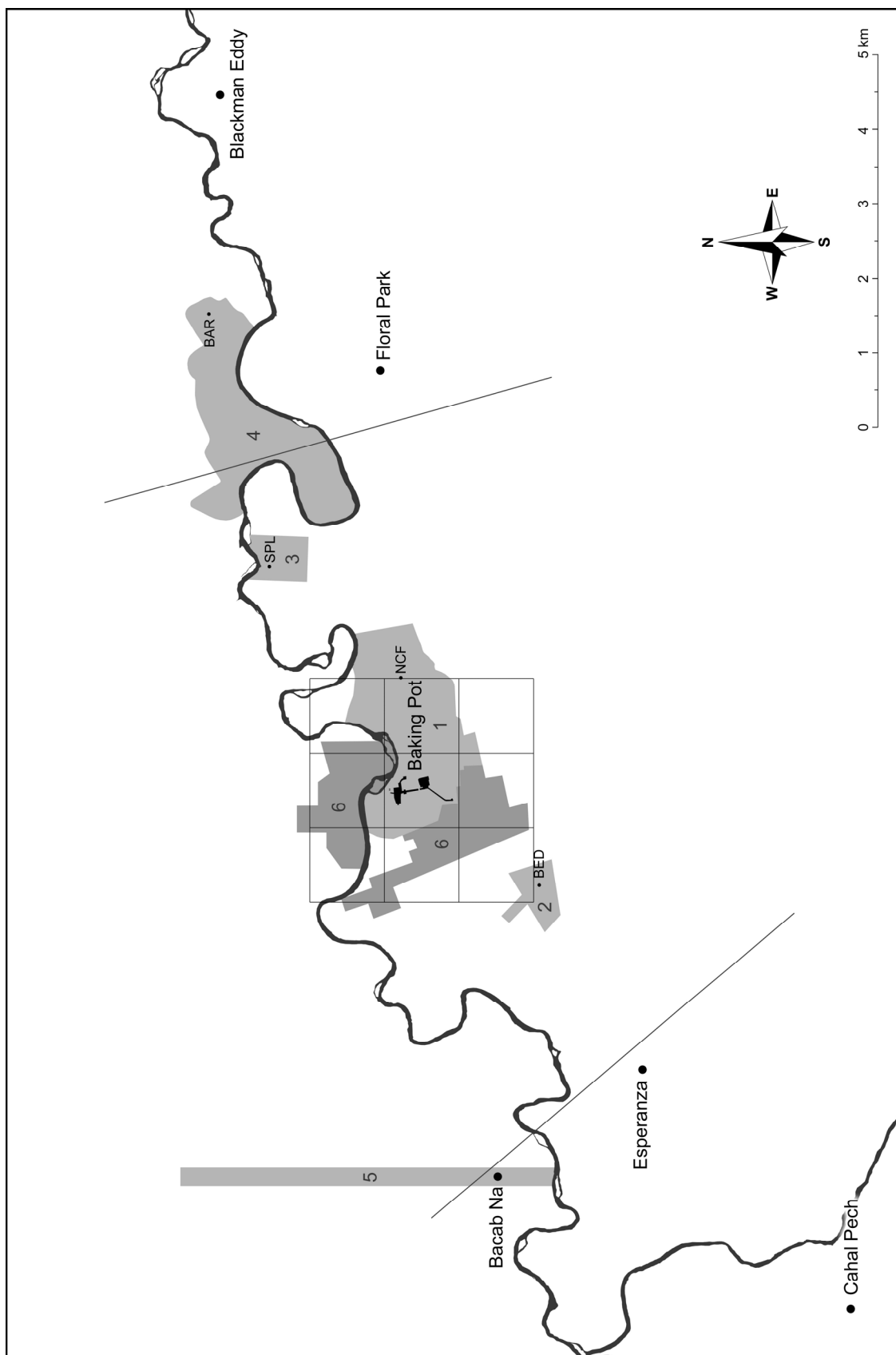
## INTRODUCTION

In the summer of 2007, the Belize Valley Archaeological Reconnaissance (BVAR) project recommenced the settlement survey at Baking Pot, which followed up the pioneering settlement survey undertaken by William Bullard as part of Gordon Willey's seminal settlement pattern project (Willey et al. 1965: 301-309; Bullard & Bullard 1965: 7, 9-10), and continued the BVAR survey conducted by James Conlon between the 1993 and 2000 field seasons (Conlon 1993, 1995, 1997; Conlon & Ehret 2000). Previous mapping was focused mostly on the epicentral settlement (see Bullard & Bullard 1965 7, 9-10; Willey et al. 1965: 301-305), as well as on areas to the east from the monumental epicenter of the site. Primary objectives of the 2007 field season were to extend the survey to the west and to complete a symmetrical survey area encompassing the central 9 km<sup>2</sup> centered on the monumental architecture of Baking Pot. Mapping of such large areas, especially around monumental centers such as Baking Pot, provides a better understanding of the relationship between monumental architecture and vernacular residential structures, exhibited as housemounds. In addition, the effect of a civic-ceremonial centre, such as Baking Pot, on the surrounding settlement is also one key feature worthy of documentation and analysis. We hope that the data gathered by the settlement survey will help to answer questions pertaining to the degree of dispersal and nucleation of settlement around monumental centers and to determine if definable boundaries in the settlement between core and periphery can be identified. Consequently, we can gain an appreciation for the spatial organization of ancient Maya 'urban' versus 'rural' settlement areas. Also the determination of the site limits of a major center is important for examinations of intrasite variability thereby enabling better understanding of rural complexity within the Belize River Valley.

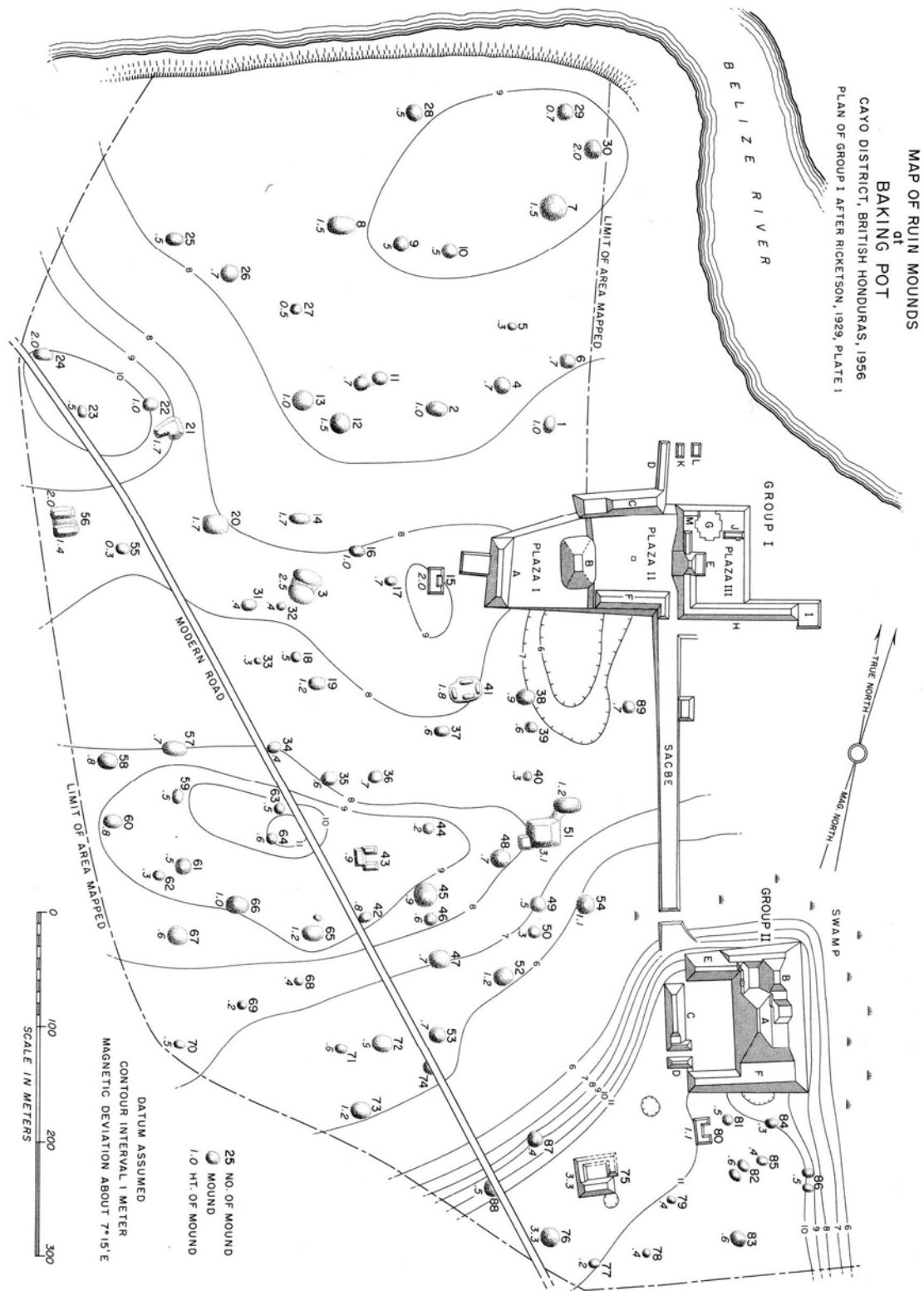
## BACKGROUND

The ancient Maya site of Baking Pot is located in the Cayo District of western Belize, on the southern bank of Belize River, positioned roughly equidistantly between Cahal Pech to the southwest and Blackman Eddy to the east. As one of the larger settlements in the Belize Valley (Willey et al. 1965: 301; Helmke & Awe 1998: 67-70), Baking Pot was occupied beginning in the Middle Preclassic period (c. 600-300 BC) into the Early Postclassic period (AD 1200), reaching its peak during the Late Classic period (AD 600-850) when it served as the capital to a small kingdom (AD 250-830). Settlement surveys by Willey and his colleagues (1965) estimated the Late Classic population at around 2000, supported by more recent surveys estimating the population at around 1680 (Conlon & Awe 1995). The first archaeological investigations at Baking Pot were conducted in 1924 by Oliver G. Ricketson, Jr. of the Carnegie Institution of Washington (Ricketson 1929). He was followed by A. Hamilton Anderson in 1949, by Willey's team in 1956 (Willey et al. 1965: 305-309) and by William R. Bullard in 1961 (Bullard 1963; Bullard & Bullard 1965; Willey et al. 1965: 304-305). These investigations were focused primarily on excavation of the monumental epicenter of the site, which consist of two large architectural complexes (Groups A and B) that are linked by the 250-m long Causeway 1 (see Helmke & Awe, this volume). The complexes are surrounded by hundreds of housemounds, several formal and informal *plazuela* groups, and a few non-domestic structures, extending out from the monumental epicenter. In 1956 William Bullard, as part of Gordon Willey's team, conducted first settlement survey and mapping of Baking Pot, and also made a series of test excavation of some of the housemounds, as part of his settlement pattern project of Belize River Valley (Willey et al. 1965). His work contributed to a better understanding of settlement and occupation in the area. Willey and several researchers conducted settlement research at several archaeological sites in the Belize Valley, including Barton Ramie, Baking Pot, Melhado and Spanish Lookout (Willey & Bullard 1956; Willey et al. 1955; Willey et al. 1965). Research at Barton Ramie established the chronological sequence for the Belize Valley, but more importantly, drew attention to settlement patterns, beginning with ordinary households and small settlements, rather than focusing on elite structures of monumental centers (see Chase & Garber 2004: 5-6). This work also provided the basis for reconstructions of both the social and the political processes in the Belize Valley.

Between 1992 and 2000, James Conlon of the Belize Valley Archaeological Reconnaissance (BVAR) Project continued settlement research at Baking Pot, expanding and updating the original map of Baking Pot produced by Bullard (Willey et al. 1965: Fig. 177; Bullard & Bullard 1965: 7, 9-10; Conlon 1995, 1997; Conlon & Ehret 2000, 2001). Most of the survey undertaken by BVAR extended the surveyed areas predominantly to the east and partly to south of the site (Figure 1). Initially, the Bullard survey covered a 48.5 ha area in which 89 mounds were identified (excluding monumental architecture in the counts or the surface area) (Figure 2). The foregoing BVAR surveys extended the initial survey to as much as 1.1 km to the south. To the east, the BVAR surveys stretched as much as 2.3 km from the monumental epicenter of Baking Pot. In total, the settlement area mapped as of 2004 by Bullard and Conlon encompasses approximately 3.87 km<sup>2</sup>, in which the remains of 328 housemounds have been identified.



**Figure 1:** Location of Baking Pot in relation to nearby archaeological sites and settlement areas. The monumental epicentre of Baking Pot is rendered in black to scale. All squares of the grid are measure 1 km on a side. **1:** Baking Pot settlement area as mapped by Conlon and Bullard (1954-2000). **2:** Bedran settlement area as mapped by Conlon (1992-1995). **3:** Spanish Lookout settlement area as mapped by Willey (1954-1956). **4:** Barton Ramie settlement area as mapped by Willey (1954-1956). **5:** Bacab Na transect mapped by BRASS. **6:** Extent of the 2007 field season BVAR survey. Map by Christophe Helmke (2008).



**Figure 2:** Map of Baking Pot and associated settlement as of 1965 (Willey et al. 1965: Fig. 177).

The primary objectives of settlement survey of the 2007 field season were to extend the survey to the west between 3.5 and 4 km to make it symmetrical with the survey boundaries as they have been established to the east. This area is a pasture, completely cleared of tropical vegetation (owned and managed by Central Farm, the Running W Ranch and Maya Papaya), thus providing good conditions for settlement survey (Figure 3a). Exceptions to this are small patches of overgrown orchards that prove resistant to penetration, even with the hardest *macheteros*, as well as the Belize Defense Force, Holdfast military base located to the SW of the site epicenter. To the north the site is separated by Belize River and on the northern shore the land is managed and cultivated by the modern Mennonite settlement known as Spanish Lookout. Due to the repeated bi-annual mechanical plowing of the area on the north bank of the river, it was expected that all traces of ancient Maya mounds would have been completely destroyed. Short reconnaissance conducted in the area beyond the river, however, proved our initial assumptions wrong (Figure 3b). An area in close vicinity of the north bank of Belize River was therefore also included as part of the settlement survey. In all it is an area encompassing approximately 9 km<sup>2</sup>, consists mostly of pastures, which is the primary target of the ongoing settlement survey (Figure 4).

The aims of this settlement survey are twofold. First, concerns the documentation of the number of mounds and respective mound density, in relation to distance from each other and to the monumental epicenter, since it can shed light on intrasite organization. For example, it attempts to answer if there is a distinct differentiation in spatial patterning that would indicate the division of space between what may be deemed 'urban' space versus what can be deemed 'rural' space. Also, were the density and spacing of the housemounds to follow two clear spatial trends, then where and how far from the monumental epicenter is the boundary between rural and urban space? Second, the settlement survey also plans to determine the limits of the site, which would help to ascertain site organization, its physical size in terms of surface area and population, but it would also provide a basis for regional studies by examining of relationship between Baking Pot and surrounding sites and its function in the settlement hierarchy of the Belize Valley.

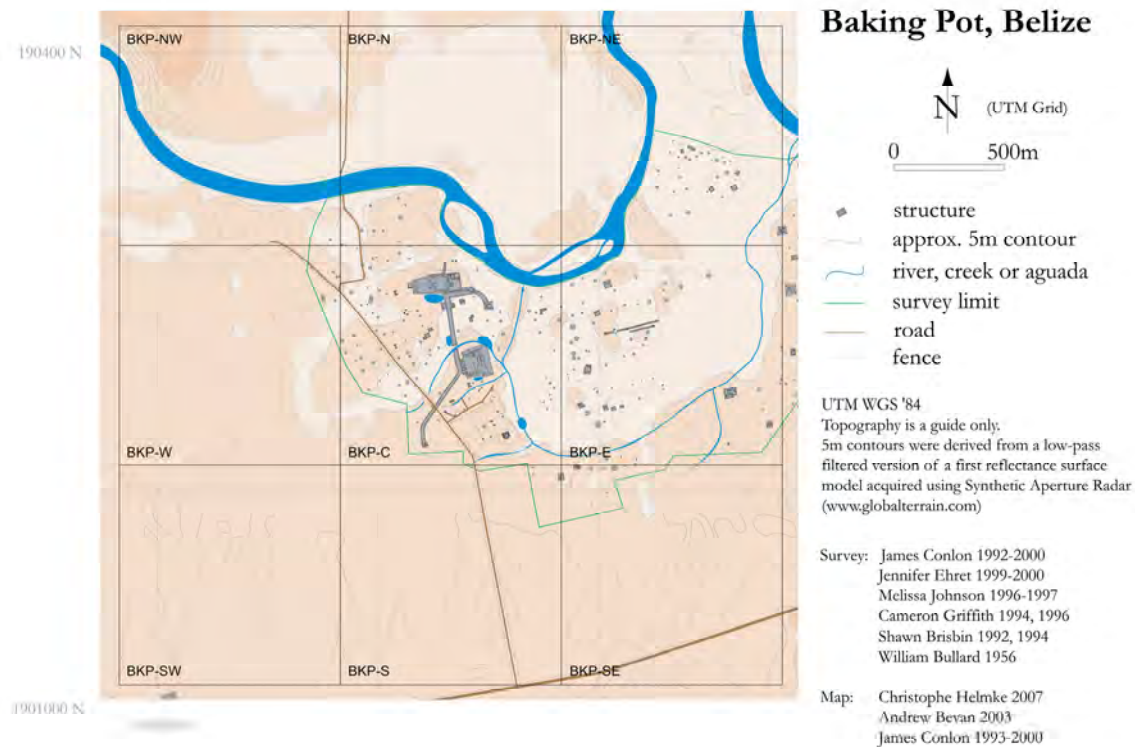
## PREVIOUS RESEARCH

After the initial settlement survey and a series of test excavation of several housemounds conducted by Gordon Willey in 1965, BVAR re-initiated the settlement survey of Baking pot in 1993 (Conlon 1995). This research was led by James Conlon over the period of seven seasons and sought to identify the settlement distributions at the site of Baking Pot, comparing settlement components in order to understand community structure (Conlon & Moore 2003). Most of the survey was oriented eastward from the monumental epicenter (represented by architectural complexes Groups A and B) in order to eventually include the previously surveyed settlement areas of Spanish Lookout and Barton Ramie. The total continuous area mapped by Willey and BVAR up to 2004 totals 3.87 km<sup>2</sup> and increased the number of mounds recorded at Baking Pot to 328, resulting in an overall mound density of 0.85 mounds per hectare and a population of 4.24 people per hectare (see also Conlon & Moore 2003: Table 6.1).



**Figure 3:** Typical conditions of the Baking Pot settlement survey. **a)** Field-walkers amidst fields cleared of vegetation and undergoing maize cultivation (top). **b)** A heavily truncated mound on the northern shore of the Belize River undergoing surface collection (bottom). Photographs by Julie Hoggarth.





**Figure 4:** The nine square kilometer grids that are the target of the renewed BVAR settlement survey program. The central square kilometer is centered on the monumental architecture of the epicenter. All other grids are designated according to cardinal directions. Map by Christophe Helmke.

The survey area was divided by Conlon into a number of zones designated A through F to help with identifying urban and rural areas, separated by the Belize River, creeks, ridges and also old (dry) canalization ditches (Conlon & Awe 1995; Conlon & Moore 2003: 60, 65-66). In an effort to understand intrasite variability and organization of the site, the number of mounds and mound density was calculated for each zone individually. Based on these previous analyses, Zones A and B, possessed a relatively high mound density (averaging 1.77 mounds/hectare). Zones A and B form a large contiguous settlement area and according to Conlon it suggests that this area forms urban settlement component at Baking Pot (Conlon & Awe 1995: 72). Zone C exhibited an average mound density of 1.12 mounds/hectare, approximating that of the whole surveyed area (i.e. 0.92 mounds/hectare), while mound density in the Zone D drops below average (0.78 mounds/hectare). According to Conlon, this represents the transitional area to a rural settlement component. In the farthest part of the survey, in Zones E and F, mound densities fall to approximately half that of the site average (Conlon & Awe 1995:72). Conlon and Moore stated that generally mound density follows a general pattern in which the number of mounds diminishes with increasing distance from the monumental epicenter, declining rapidly within the first 0.5 km from the epicenter and finally leveling out beyond 1.0 km (Conlon and Moore 2003:60). However, Conlon points out that settlement density is certainly not consistent throughout the valley. Settlement patterns fluctuate according to character of the landscape, as well

as with the distance from the monumental epicenter. For example, in regards to diminishing mound densities in Zone D, Conlon states that they may represent a drop in settlement relating more closely to increased distance from the Belize River rather than to increased distance from the site core itself. That means that there is a tendency for settlement to cluster more closely to the Belize River, rather than a diminishment of settlement density from the monumental epicenter of Baking Pot (Conlon 1997:11).

Furthermore, a comparison of the outlying Bedran *plazuela* with the apparently urban Atalaya *plazuela* indicates that stronger integrative strategies were present at the Bedran group due to its distance, possibly as a means of integration coordinated by the administrators at Baking Pot. Conlon and Powis (2004) suggest that agricultural production, evident through the presence of 1.3 km network of ditched fields, or canalization, documented around the Bedran group, may be one reason for the high status burials and architecture associated with the group, as it would have been directly integrated into the administration of the polity of Baking Pot via the collections and provisioning of agricultural surplus (Conlon & Awe 1995; Conlon & Powis 2004:81).

Conlon and Moore also suggested that based on reconnaissance beyond the present survey limits, this appears to be “as near a complete picture of Baking Pot proper as will likely prevail” (Conlon & Moore 2003: 60). The survey conducted in the 2007 field season, aimed to augment this picture by extending the survey boundaries to the northern, southern and western regions of Baking Pot, in an attempt to complete a symmetrical 9 km<sup>2</sup> survey area.

## METHODOLOGY

Prior to the survey, a site grid was created, based on the previous settlement distribution at Baking Pot, as well as the site distribution in the valley. Driver and Garber (2004) have proposed a linear pattern for the distribution of major settlements along the Belize Valley, at an equidistance of 9.9 km between major centers, with minor centers located at the boundaries of these districts or settlement territories. This model appears to fit the settlement pattern in and around Baking Pot, with the minor centers of Esperanza, Bacab Na, and Spanish Lookout located approximately 5 km from the monumental epicenter of Baking Pot (see Helmke & Awe 2008: 76-78). With this data, the site was divided into nine one-kilometer square grids, with the central square kilometer aligned to the geometric centroid of the monumental epicenter of the site core. These spatial grids will also be used for subsequent excavation programs in order to ensure that surface collections of plowed mounds and test excavations are statistically representative of different spatial and social settlement categories at Baking Pot.

The settlement survey was supervised by Julie Hoggarth and Eva Jobbová, using handheld GPS receivers to map features and the centroids of housemound architecture. One receiver was a Garmin<sup>TM</sup> 12-channel GPS III®, the other a Magellan<sup>TM</sup> 14-channel eXplorist XL®. In order to minimize the error brought about by daily drifting of UTM coordinates obtained by non D-GPS receivers, we established a fixed reference point at the gate of the headquarters of Central Farm. Each morning we took a fixed point at this location before the survey. This was repeated at lunchtime, as well as prior to leaving in the evening. By subtracting the start and end coordinates of this fixed reference point, for

each daily segment (or for the full day), the daily drift discrepancies could be determined for the northing and easting, respectively. These drift discrepancies were correlated to amount of time elapsed in the day's survey and correction factors were then applied to the individual survey points in function to the time at which it was surveyed. By taking note of the drift discrepancy and applying correction factors we were able to obtain more accurate UTM coordinates for each survey point. In addition, the EPE (estimated position error) for each survey point was also recorded. On average, the EPE ranged between two and four meters, a level of error that is easily cancelled out by plotting of housemounds on maps at a scale of 1:500 or larger (see Chase 1987: 69).

Data variables that were collected included field designation, date, time, UTM coordinates as easting and northing, estimated elevation above geoid model of the earth's surface (see Poe 2005), architectural dimensions (length and width, or diameter and height of mound), whether surface collection were undertaken, and additional notes as needed. Data was collected on housemounds, house groups, cultural and natural features, and geographic reference points. The actual survey was divided between two teams, consisting of one supervisor and three students, with field walkers generally at distances of 5 to 10 m apart, depending on surface visibility. The areas of the site that were surveyed have been used for pasture and maize agriculture by Central Farm for several decades. This modern activity allows for better surface visibility, without the impediment of sub-tropical vegetation that characterizes the setting of so many other sites in the region. The area of the site that has been used for maize agriculture had been plowed and planted a few weeks prior to survey, and these areas were mapped first to ensure visibility, while ensuring that plant damage was kept to a minimum during the survey. Surface visibility in these fields was excellent, with artifactual materials, including ceramics, lithics, groundstone, obsidian, shell, and other material visible on the surface. A representative sample of this material was collected from within artifact scatters, as well as "off-mound" materials up to 25 meters from the centroid of mounds. Artifacts and artifact scatters collected from the surface of each mound were segregated by individual lot designation to distinguish between spatial and chronological units. Further to the west and south the survey extended into pasture areas that were overgrown by tiger grass and acacia bushes, where it was more difficult to see the mounds and less surface material was present. In most of these instances, groundstone was often the only material that was visible on the surface. After these areas were completed, a brief reconnaissance trip to the area north of the Belize River confirmed that traces of ancient Maya settlement remain visible, so the survey shifted to that area.

## **THEORETICAL CONSIDERATIONS**

Settlement and community-based archaeology relies on the collection of data relating to domestic units across the landscape. In the Maya area, domestic units range in size and complexity, extending from individual structures, grouped domestic units, and neighborhoods, which ultimately make up the settlement of a polity (Ashmore 1981). It is the work of settlement archaeology to create bridging arguments in order to link archaeological materials with human behavior (de Montmollin 1989, 1995). Household archaeology complements settlement archaeology, as it seeks to understand social and

economic organization at the basic unit of analysis, focusing on aspects of production, distribution and consumption. Mound function is often only determinable by means of excavation, through the presence of functional implements and goods, activity areas, and other physical markers of ancient actions, but is often assumed on the basis of the size and location of mounds (Ashmore 1981). The size and number of grouped structures is often used to address differences in status (Netting 1982; Wilk 1991, 1983), the developmental cycle of the household (Fortes 1958; Goody 1958; Haviland 1988; Tourtellot 1988), the household as an economic unit (Wilk & Netting 1984), reinforcing shared identity (Wilk 1991), as well as the duration of occupation and claims to land (McAnany 1995). Household groups can be determined based on the relationships between structures, including location (distance between structures, etc.), orientation, and shared architectural or spatial features (e.g. architectural features adjoining separate buildings, structures oriented around a shared patio) (Ashmore 1981: 47-51).

The settlement research conducted by the Belize Valley Archaeological Reconnaissance project in the 2007 season recorded data on domestic groups at Baking Pot, including the location, size and number of structures, orientation, and presence of surface materials in order to analyze these variables in relation to the broader theoretical topics linking the material remains that we encounter today and what they tell us about social processes and behaviors in the past.

Community-level archaeological approaches in the Maya area have received a significant amount of attention in recent years, particularly those focusing on smaller settlements (see Iannone & Connell 2003; Douglass 2002; Yaeger 2000). Settlement archaeology relies on the material remains of a site, a middle-scale level of inquiry between household and regional studies, in order to infer information about the processes and dynamics of communities as social units through time (Yaeger 2000: 27-28). The middle-level perspective of settlement archaeology allows for the investigation of top-down approaches to community, such as the integration of communities into social hierarchies and political systems, as well as the bottom-up approaches emphasizing the interaction of domestic level with political institutions (de Montmollin 1988; Marcus 1983). Settlement research at Baking Pot seeks to apply both of these perspectives, integrating research at the household level with broader community and regional patterns of social change.

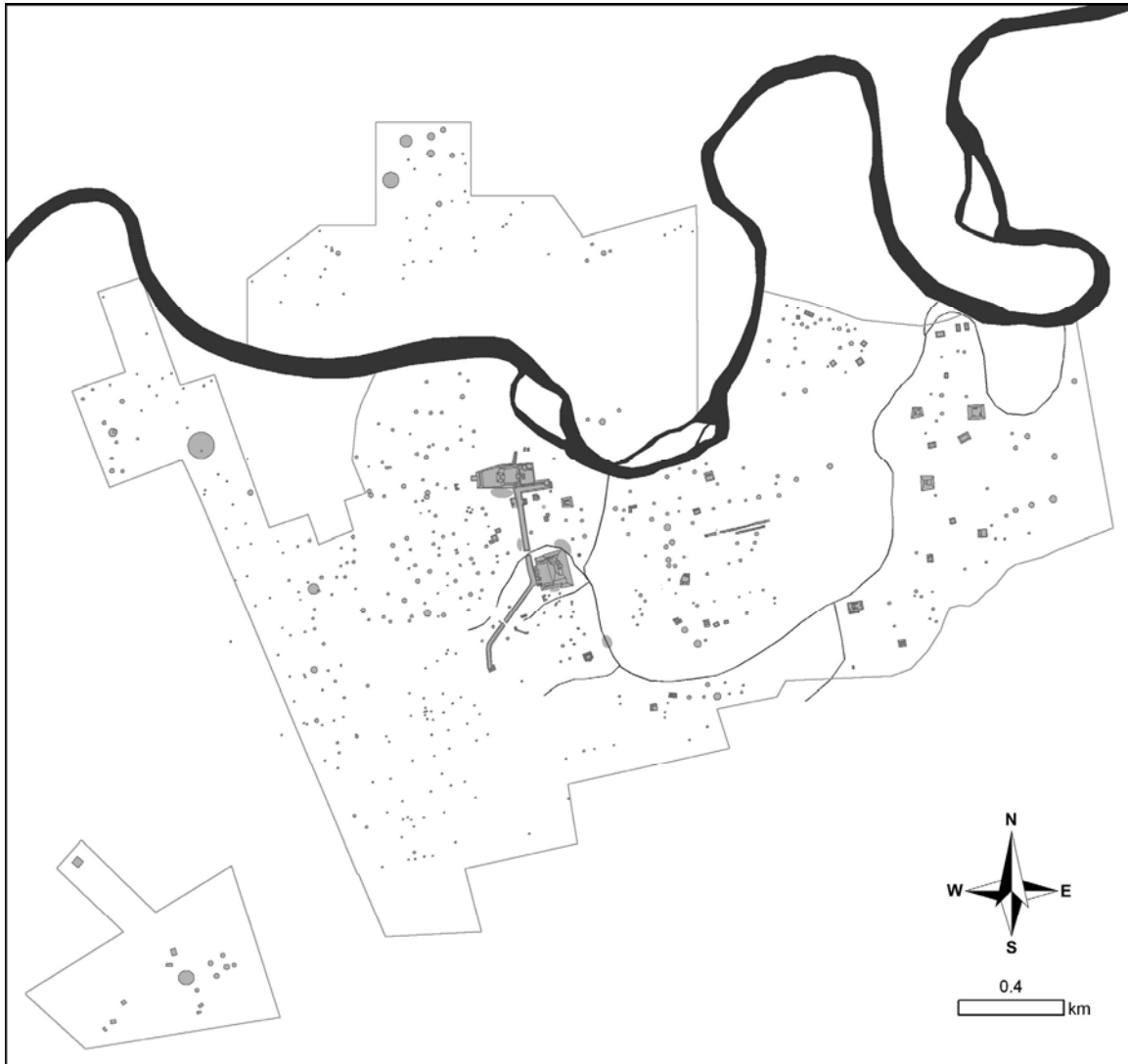
## **SETTLEMENT SURVEY RESULTS**

Results from Conlon's (Conlon & Moore 2003; Conlon & Powis 2004) settlement research groups the mounds located in the central and eastern portion of the site into six separate zones, or separate neighborhoods of the settlement. The 2007 settlement survey extended the survey boundaries over 1.0 km to north of Baking Pot, and more than 0.5 km to the west, extending from the western highway to the Belize River, an area covering 2.59 km<sup>2</sup>. The principal aim was to first complete the survey of the central square kilometer centered on the monumental architecture and to expand from the survey as possible. The survey area did not reach the western edge of the nine square kilometer area encompassing the territory of Baking Pot, which will be part of the settlement research that will be continued in the 2008 season.

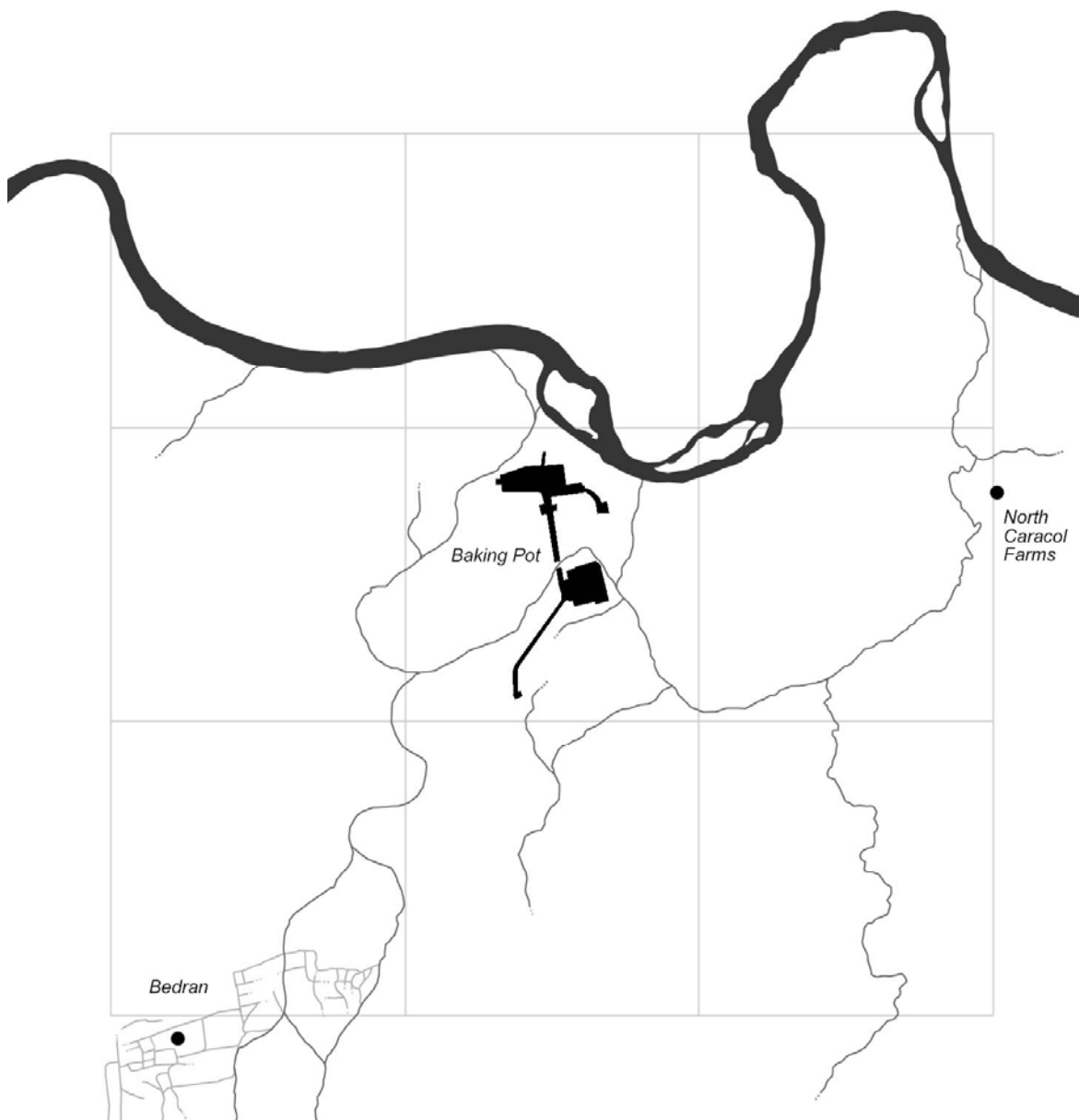
Within the central square kilometer the southwestern survey boundary at the start of the 2007 field season corresponded roughly with the course of Causeway 2, leading to the causeway terminus (BKP M-190 & M-191). Survey west of the causeway terminus extended from the fence line approximately 750 m to the west to another fence line in a field undergoing maize cultivation. Survey in drainage areas did not reveal any settlement, although mounds were often positioned on the upper ridge of these intermittent canals, waterways and old river beds. Survey points were also collected for these drainages. This suggests that the ancient Maya deliberately avoided areas that were below a certain elevation, in proximity to drainages that were liable to flooding (see Willey et al. 1965: 296). This interpretation aptly explains the absence of mounds along the margins of drainages. The same hypothesis applies to floodplain areas adjoining to the Belize River where no evidence of mounds was encountered. A good example of this is the area along the northern shore of the Belize River to the north of Baking Pot (Figure 5). This conclusion closely matches the findings made by the settlement survey program conducted in the Roaring Creek Valley (see Helmke et al. 2004: 11-12). Figure 6 shows the extent of the creeks, dry river beds that are liable to flooding, the intermittent drainages and the canalization ditches mapped as of 2007. A small *aguada* was located in the western square kilometer in association to a medium-sized mound (BKP M-331) oriented east to west on the southern side of the *aguada*. Approximately 188 m west of the *aguada* was a larger mound (BKP M-332), which appears to be non-residential structure approximately 2.5 m tall and 40 m in diameter. Housemounds are clustered in the area around this structure, with more in the area between this possible public structure and the *aguada*. There appears to be a buffer of about 128 m between this settlement area and the settlement associated with the epicenter of the site, suggesting it may represent a separate settlement area or neighborhood, similar to Conlon and Moore's descriptions of the North Caracol Farm settlement area in the eastern portion of the site. This buffer does not extend to the south, which has contiguous settlement between the two main drainages.

In the areas surveyed near the Belize Defense Force, Holdfast military base we encountered fewer mounds than further to the north, and most were found to be small in size (generally with heights not exceeding 0.2 m). As we surveyed southward, mound densities fell off significantly, although this may also be the result of modern development in this area related to the construction of the Western Highway and the airstrip.

In the northwest square kilometer the survey took place in proximity to the Cayo Deaf Institute (formerly the Listowell School), just to the south of the Belize River and to the west of the road leading to Spanish Lookout. This area was completely mapped and the survey revealed dispersed settlement, generally on raised ground above the floodplain of the river. In this area, a large structure, BKP M-254, approximately 100 m in diameter and 25 m in height overlooks the surrounding area and appears to form the nucleus around which adjoining settlement gravitated. This structure is clearly non-residential in function, and likely served as a public focal point for the surrounding households. Unlike M-332, which is smaller and located near the *aguada*, settlement is more dispersed around M-254. Another possible civic structure, M-352, was located northwest of M-254, appearing to be a civic structure with an attached platform (M-353). Settlement clustered to the north and east of this structure, less so to the south towards M-254.

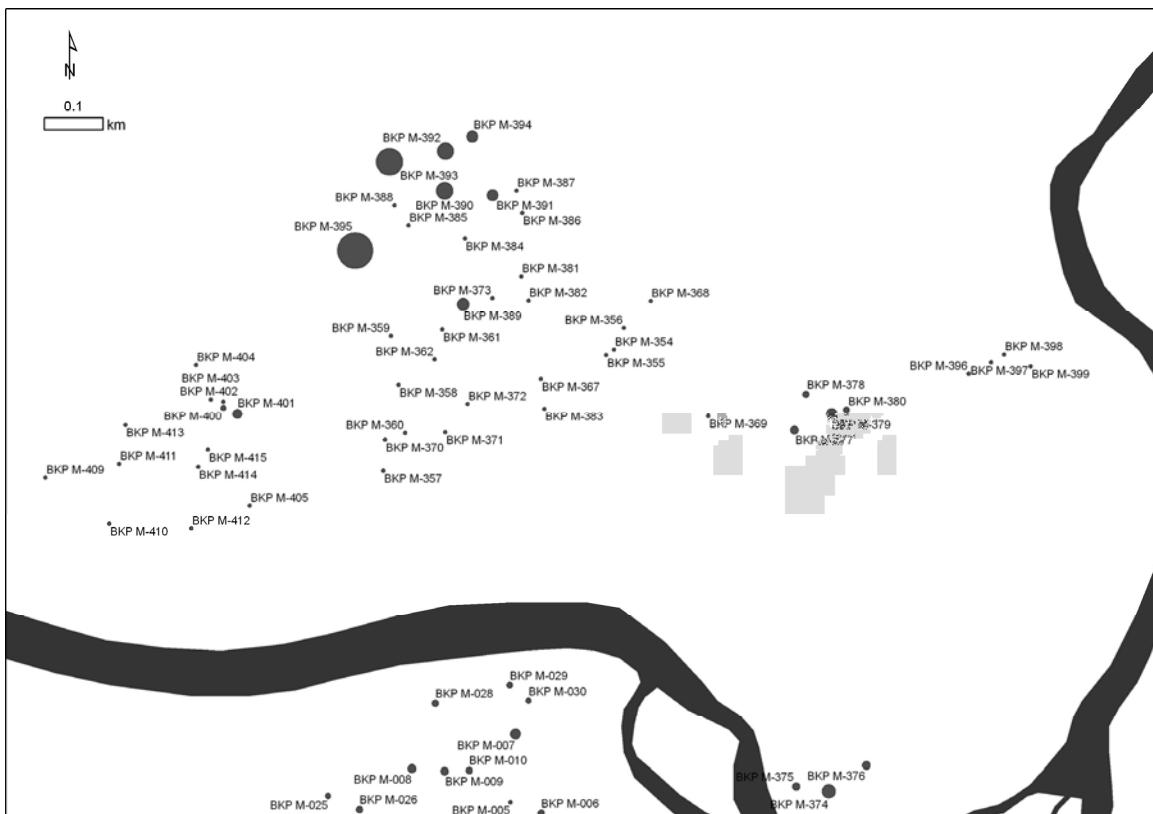


**Figure 5:** Map of Baking Pot and associated settlement at the close of the 2007 field season. Survey boundaries indicated. Data based on UTM coordinates gathered with GPS units during field-walking surveys in 2007, synthetic aperture ORI radar data tiles for the area and previous surveys by James Conlon (1992-2000). Map by Eva Jobbová, Andrew Bevan and Christophe Helmke.



**Figure 6:** The extent of the creeks, dry river beds that are liable to flooding, the intermittent drainages, and the canalization ditches mapped as of 2007. The nine square kilometer survey grids are indicated. Data based on UTM coordinates gathered with GPS units during field-walking surveys in 2007, synthetic aperture ORI radar data tiles for the area and previous surveys by James Conlon (1992-2000). Note the extensive system of canalization in the Bedran settlement area. Map by Christophe Helmke.

North of the Belize River, settlement was clearly more dispersed, with settlement clustered on slight rises above the flood plain (Figure 7). Again, in the floodplain few if any mounds were identified. It thus seems clear that the areas liable to flooding along the northern shore of the Belize River were not settled since no evidence for any mounds was found; despite intensive field walking in areas cleared of vegetation and recently tilled. Several large mounds were encountered near the modern road, with large amounts of surface materials, including high frequencies of ceramics, including polychrome types, faunal remains, lithics, and shell. In addition, two chert eccentrics (Figure 8) and a stemmed biface were found on the southern slope of M-357.

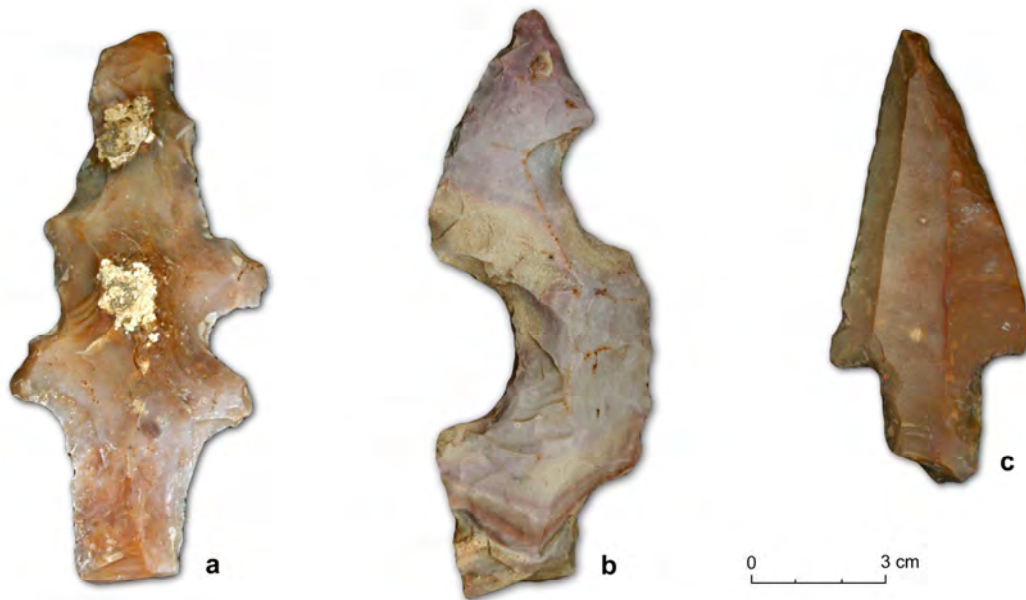


**Figure 7:** Map of the settlement in the Southern Spanish Lookout area surveyed during the 2007 season, on the north shore of the Belize River. Map by Eva Jobbová and Andrew Bevan.

Because one of the eccentrics and stemmed biface were found together and the other eccentric was found nearby (probably dragged down the side of the hill by the plowing from the same mound), there was a possibility that these originated from a ritual deposit such as a cache, since similar votive deposits have been found at Baking Pot and Barton Ramie (BAR M-001 & BAR M-096) during foregoing excavations (Willey et al. 1965: 82, 207, 208, 420, 421, 446-447; Iannone 1993). Three shovel tests were initiated in proximity to the find spot of the eccentrics. The aim of the shovel tests was to identify the location of the ritual activity associated with a possible cache, as well as to determine the condition of architectural remains of the mounds (and test whether the rise was



natural or at least partially constructed). Shovel tests were excavated to a depth of 60 cm and did not find any conclusive evidence for a cache, nor were any traces of architecture encountered. However, what was more surprising was that the tests revealed low frequencies of artifactual materials in stark contrast to the high frequencies associated to the nearby mound surface. In fact, for the most part, the shovel tests recovered only few and very small fragments of ceramics, chert flakes and a few pieces of obsidian. While this dearth of cultural material may have been caused by destruction from plowing, it is clear that future excavations are necessary to clarify and ascertain the architectural character and identity of these mounds.



**Figure 8:** Eccentric lithics and stemmed biface found in association with BKP M-357. Photographs by Lauren Heeden.

On the western side of the road, similar surface materials were documented in association to M-395. These materials included large amounts of ceramics and polychrome sherds, lithics, shell (including one perforated pendant) and faunal remains.

A fragmentary limestone mace (also referred to as ‘wrenches’ in the literature; see (Willey et al. 1965: 479, 482, Fig. 295 & 300; Pendergast 1990: 177, 180, Fig. 85; Grube 1994: Fig. 9.12; Willey et al. 1994: 258-259, Fig. 204; Healy et al. 1995: 341, Fig. 3; Taube & Zender 2005; Martin 2008: 1) with what may be the remains of a single glyph block was also recovered as part of surface collections at this location (Figure 9). This artifact is of interest since maces found in the Maya area are preferentially made of slate or shist (see Healy et al. 1995: 341, Fig. 3). The only other mace that we know of that is made of limestone was produced at the site of Naranjo (located 29 km to the south-southwest) (Helmke & Awe 2008: 83-84; Martin 2008). We suspect that the limestone mace found at BKP M-395 is indicative of the relationship that Baking Pot maintained with other kingdoms in the Maya mountains located in proximity to good sources of slate.

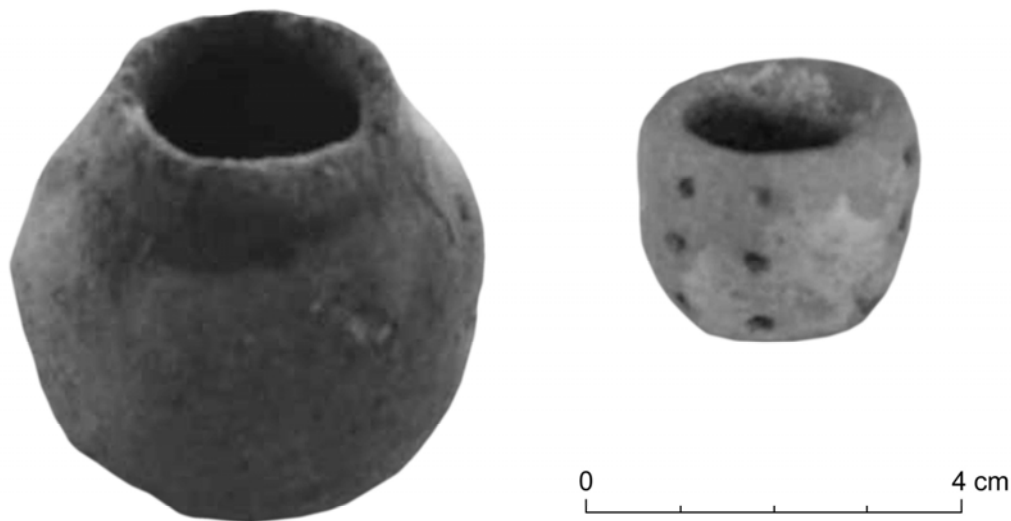
Due to the preference of slate for the production of maces, it stands to reason that these objects would have been produced from an available substitute, such as limestone, only if the preferred raw material was unavailable. Consequently, since slate procurement could have been conditioned by alliances to kingdoms with sources of slate, the presence of limestone maces at certain key points in the history of sites might serve as an indicator for the breakdown of alliances between kingdoms (see Helmke & Awe 2008: 83-84). The size and shape of the mound is still quite conspicuous and it does not appear to have suffered from extensive plowing. This conclusion is supported by conversations with the previous landowner who indicated that the mound had only been plowed twice before the 2007 field season.



**Figure 9:** Two views of the fragmentary limestone mace found in association with BKP M-395. The arrow points to the fragmentary glyphic collocation. Photographs by Christophe Helmke.

Further west, lesser amounts of surface materials were present, although several miniature *candelero* vessels (Figure 10) were found at M-400 and M-401. The majority of land adjacent to the river did not reveal significant levels of settlement, most likely due to potential flooding, and possibly due to differential preservation in these areas. In general, settlement north of the river is more dispersed, and tends to cluster around larger mounds, whose artifactual remains exhibit evidence of higher status than those encountered south of the river during the 2007 settlement survey. The amount of materials on the surface of these mounds, their size and the presence of high status goods such as the eccentrics and the mace, raise further questions: what kind of households were these, and why did they contain these prestigious goods, especially considering their distance from the monumental epicenter? It is significant that comparable high-status

mounds of similar size appear to form the nucleus of the North Caracol Farm and Bedran settlement areas. Another interesting point of correspondence is the fact that the larger mounds M-357 and M-395 are located c. 1.5 km north of Baking Pot, whereas the large mounds of North Caracol Farm and those of Bedran are located at a nearly equal distance from the epicenter (on average these are located 1.6 km to the east, and 2.0 km to the southwest, respectively). The distance separating the Southern Spanish Lookout, the North Caracol Farm and Bedran settlements from the epicenter, suggests that there is an element of the social structure that is reflected in the spatial patterning of settlement areas around the monumental epicenter.

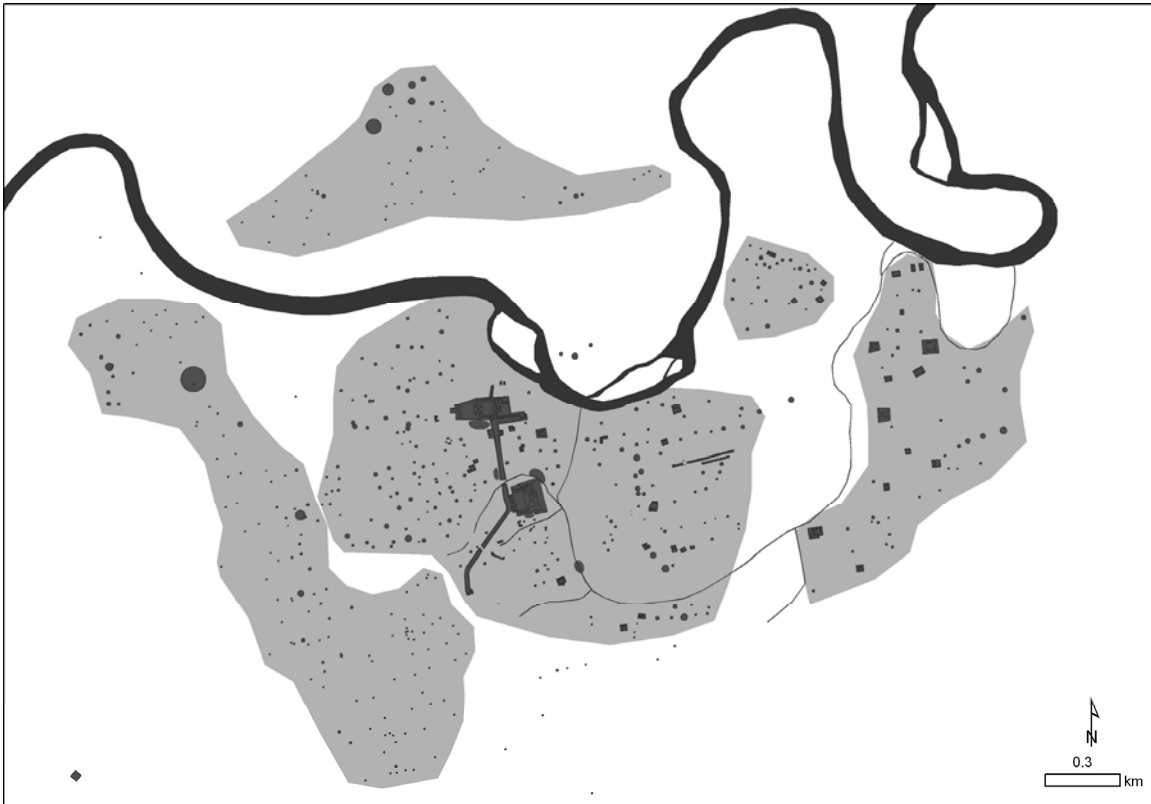


**Figure 10:** The miniature vessels found during surface collection of M-400 and M-401. Miniature *olla* (left) and *candelero* (right). Photographs by Julie Hogarth.

A total of 234 mounds were recorded during the 2007 season, increasing the total number of mounds at Baking Pot to 554. Previous population estimates were set to 1600, but with the additional data, the population estimate (calculated using an average of five individuals per structure) can be increased to c. 2770 people living at the site at its height in the Late Classic (AD 600-850).

The spatial distribution of housemounds, including the spatial patterning and density of the mounds across the site, has been also investigated by means of preliminary Geographic Information Systems (GIS) analyses. One question considers if there is a relationship between density of housemounds and the distance from the epicenter of Baking Pot. Another question is, whether the density and spacing of the housemounds follow two clear spatial trends, and if there is definable boundary between them. If so, how far from the epicenter of the site does such a boundary occur? The detailed analyses are still ongoing, and only preliminary comparisons of mound densities have been calculated between the different areas of the site. Overall, the revised site-wide mound density for the whole site is 0.79 mounds per hectare, which reduces the value presented

by Conlon and Moore's (2003: Table 6.1) original assessment. This is mostly due to the lower number of mounds recorded north of the river, especially the land adjacent to the river, which did not exhibit signs of settlement, most likely due to potential flooding, and possibly on account of differential preservation. In future analyses this bias will be accounted for by identifying the extent of areas liable to flooding and excluding these vacant areas from the computations, since they should not factor into assessments of mound densities and distributions (see Figure 11).



**Figure 11:** Broad settlement areas of Baking Pot. Areas defined for determining representative settlement densities while offsetting the effects of areas that are liable to flooding, which do not exhibit ancient structures. Map by Eva Jobbová and Andrew Bevan.

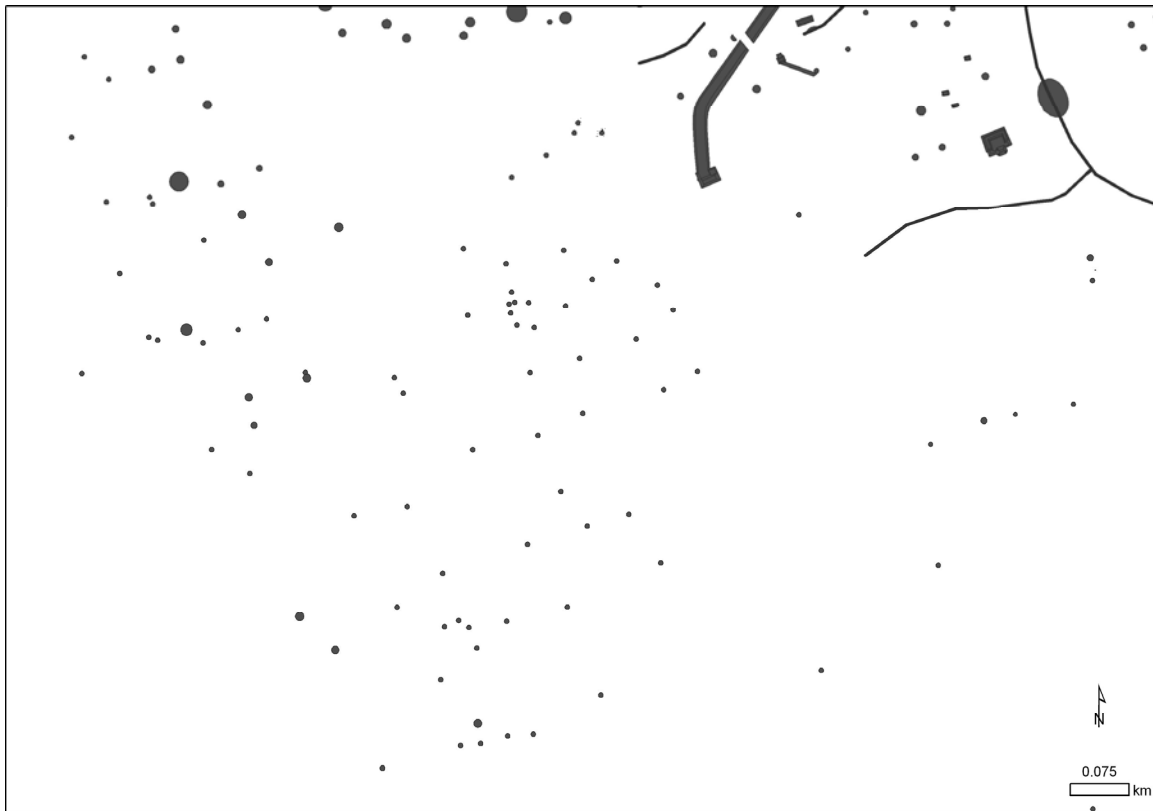
Although detailed analyses are still ongoing, the results of preliminary comparisons of mound densities between a few areas of the site are included for the 2007 survey in conjunction with previous data. We have found that the density of the area around the epicenter of Baking Pot is 1.62 mounds/hectare. In comparison, the density of the area furthest west from the core is 1.29 mounds/hectare, the density of the area to the north of Belize River (the Southern Spanish Lookout area) is 0.88 mounds/hectare and the density of the area to the east from the core (the North Caracol Farm area) is 0.82 mounds/hectare. While the density of the mounds clearly is diminishing with increasing distance from the monumental epicenter of the site, at this point it is difficult to point out a clear boundary which could serve to distinguish between 'urban' and 'rural'

pace. This might become clearer once the detailed analyses of the complete survey are undertaken. It is important to note that the differentiation between urban and rural space should not be taken in the sense that only elite, priests or specialists lived in urban areas, whereas peasants/agriculturalists lived in the rural space around Baking Pot. Instead, it is clear that commoners and elites occupied both the urban and rural zones of Baking Pot. In what Conlon defined as Zone F (based on distance from the core of the site) (Conlon & Moore 2003: 61, 63), there are several structures of greater size than most of the mounds in close proximity to the core. In comparison, at the large mounds in the Southern Spanish Lookout area to the north of the river, some yielded prestige goods such as high quantities of polychrome ceramics sherds, chert eccentrics and a mace. While all areas were regularly plowed for at least last decade, this cannot be explained by differential preservation or uneven sampling. Both of these areas are on slightly elevated terrain, which may be one of the reasons for building more elaborate structures in these areas, as it would have reduced the energetic and material costs of construction by utilizing the existing terrain. In addition, construction upon higher ground may also have been favored due to sanitary reasons, since raised terrain drains better and is therefore less prone to waterborne diseases (see Abrams 1994: 33-36). As a result the larger residential groups built on higher ground makes sense since more affluent segments of society would have preferred settling on more desirable terrain.

As part of our settlement research it was found that many of the mounds at Baking Pot are organized in a linear pattern, creating rectangular grids and perhaps delineated by roads or paths (Figure 12). The same type of patterning was commented upon by members of the Willey team on inspections of the map produced for the Spanish Lookout settlement area, located 4 km to the northeast of Baking Pot (Figure 13) (Willey et al. 1965: 296). This pattern not only continues to be prominent at Baking Pot with the addition of the 2007 data to the previous map, but in fact now needs to be addressed conclusively. We hope that future excavations will investigate space between two or more of these mounds to see if a path or roadway can be found, and whether other delineatory features could be uncovered (e.g. tree boles from a row of trees, post holes, small rock cairns at the corners, which could all serve to mark the boundaries of land plots) (see Becker 2001: 430-435). Whereas in Yucatan fences, low walls and hedges typically delimit household plots, these features are typically absent in the Central Lowlands (Becker 2001: 430-435). During reconnaissance in the Roaring Creek Valley small cairns of stones were found nearly equidistant from a *plazuela* group in the Savannah Bank settlement area, along the eastern margin of the valley. These cairns undoubtedly served as boundary markers and these are the kinds of features that could be uncovered by more extensive stripping excavations at Baking Pot. An expedient and revealing way to study these plots and their delineations would be by means of ground-penetrating radar and resistivity readings complemented by a series of test excavations (see Sweely & Trainor 2005; Sweely 2007), a program of research that we hope to integrate in the future.

Surface collections yielded over 5400 artifacts from the 2007 settlement survey. These finds have been washed and inventoried, and have undergone preliminary field analyses. For each mound the sample of artifacts was collected and stored separately, and the range of materials found at the mound was recorded. Besides diagnostic material such as ceramics, which will assist in dating the occupation of mounds, artifacts such as

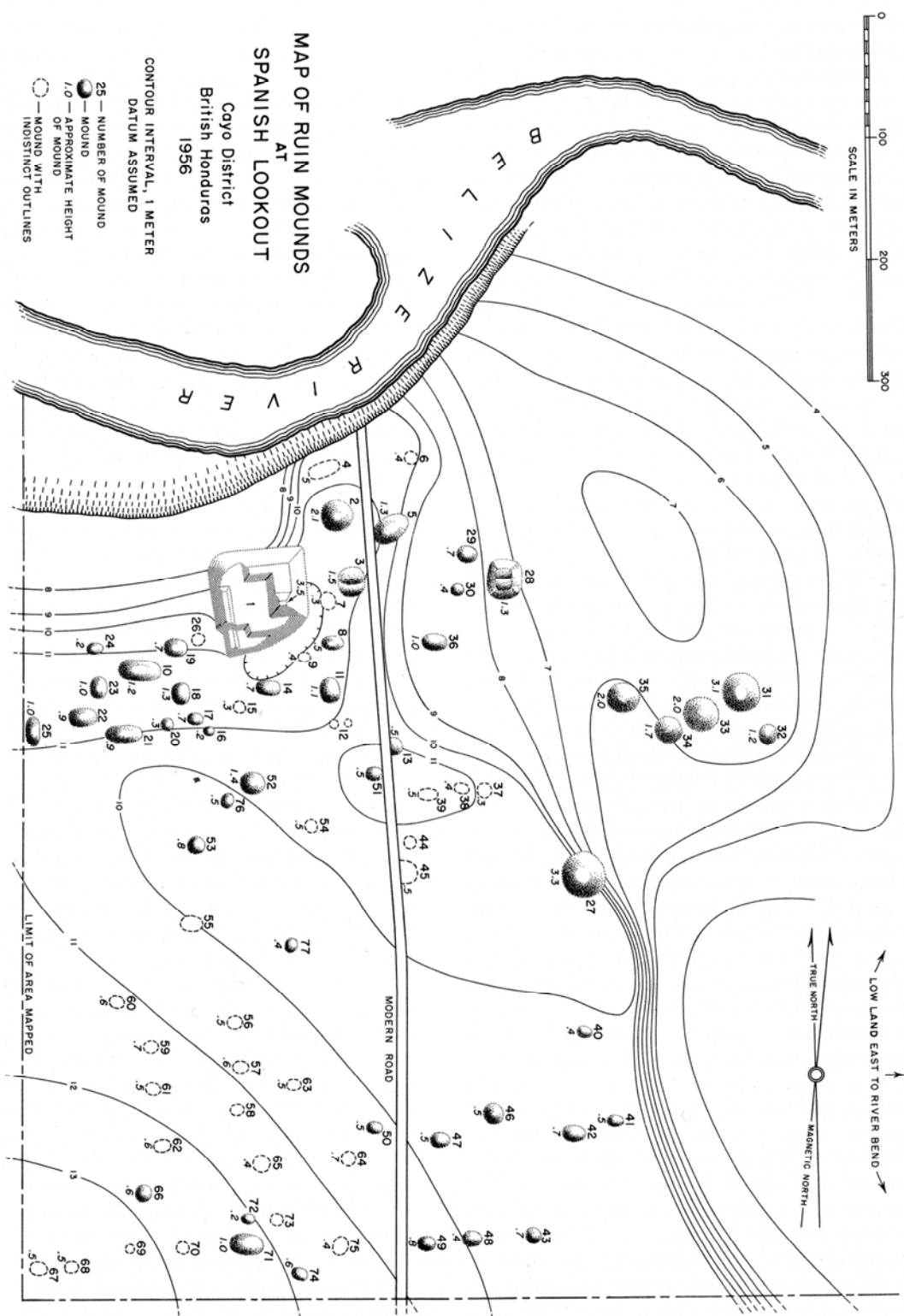
granite *manos*, *metates* as well as other stone tools (bifaces and obsidian blades) were recovered. These materials will aid in the identification of activities that took place at individual locations, such as food production, processing and consumption, ceramic production, and stone tool manufacture and to examine their spatial distribution over the landscape. Although materials from surface collections are less reliable indicators than artifacts recovered from excavations, these assemblages provide valuable information about households across the landscape, as only a representative sample of mounds will be excavated. Complete laboratory analyses of these materials is ongoing and will continue into the 2008 field season as part of Hoggarth's doctoral research.



**Figure 12:** Map of the south-western settlement area of Baking Pot surveyed during the 2007 season. Note the linear arrangement of housemounds, which suggests that structures were sited on square plots aligned to roads intersecting at right angles. Map by Eva Jobbová and Andrew Bevan.

## RECONNAISSANCE OF BACAB NA

As part of the settlement survey program of the 2007 field season a reconnaissance and survey of the Bacab Na settlement area was also undertaken. The Bacab Na settlement area is located 6.1 km west-southwest of Baking Pot (Figure 1) and was first documented and surveyed by the Belize River Archaeological Settlement Survey (BRASS) project nearly two decades ago (Ford 1987; 1992; Ford & Fedick



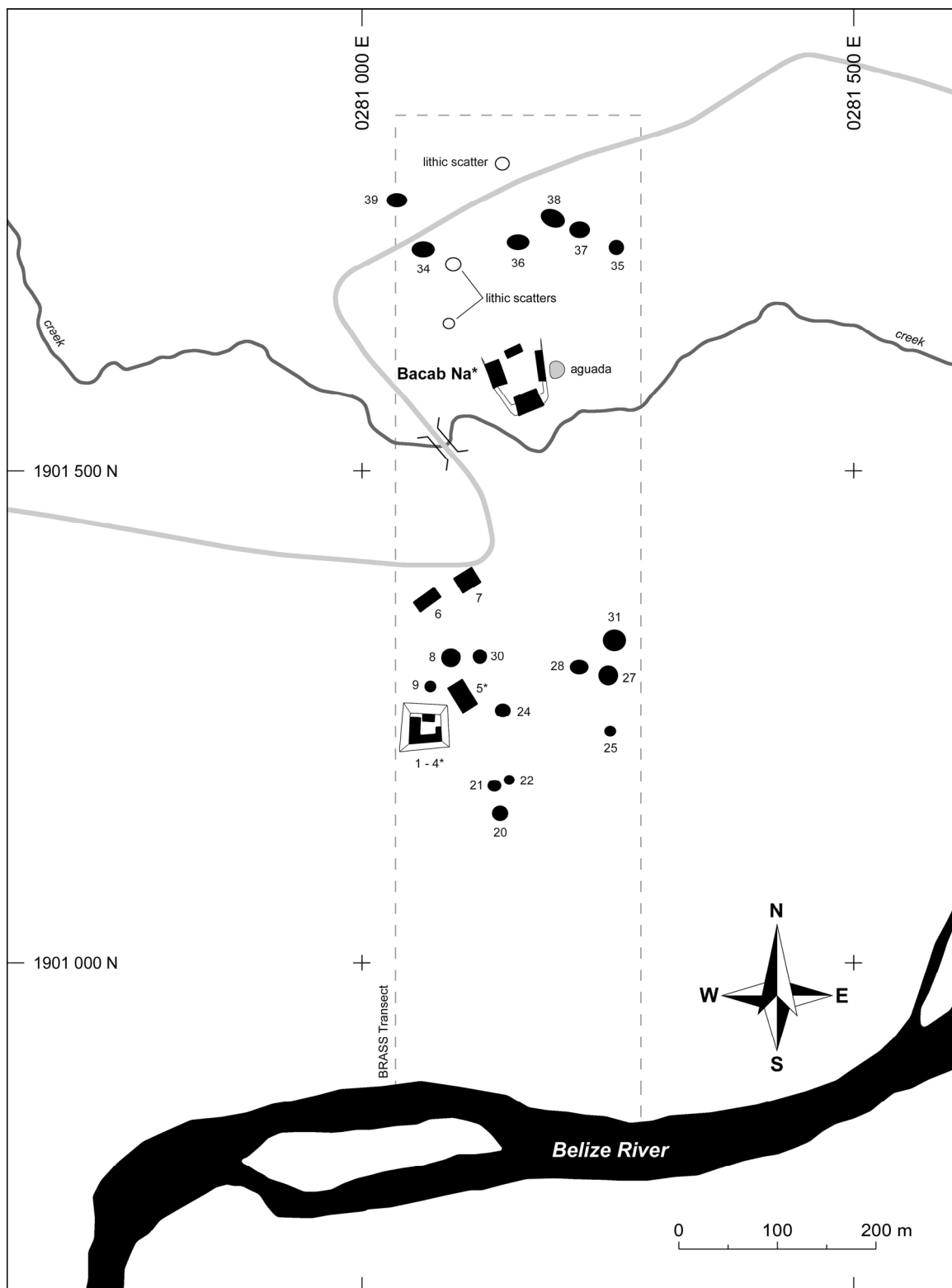
**Figure 13:** Map of the Spanish Lookout settlement area as of 1965 (Willey et al. 1965: Fig. 173).

1992). As part of BRASS investigations a 250-m wide and 5-km long settlement survey transect was run from the Belize River, through the middle of Bacab Na, running northwards into pine savannah (Ford 1987: 29, Fig. 14). The purpose of our reconnaissance was to assess the potential of the area for future BVAR settlement surveys and to determine if Bacab Na constitutes a minor center of sufficient importance to merit integration into the Baking Pot surveys. Bacab Na has been designated as a 'center' as part of the BRASS investigations (Ford 1987: 23, 26, 28; Ford & Fedick 1992: 38), which therefore implies that the site wielded some sort of socio-political influence in antiquity and that it should figure in the upper echelons of the documented settlement hierarchy.

In 2007 the Bacab Na settlement area was undergoing maize cultivation and most of the surrounding land was cleared for this purpose with the exception of Bacab Na itself. Bacab Na was extensively overgrown by dense *wamil* but we managed to cut a *brecha* through the middle of site running from north to south and conducted surface collections of artefactual materials encountered (Lot 1170, SC-103). In addition, we secured UTM coordinates for the circumference of the Bacab Na site. Based on these coordinates and visual inspection of the ORI satellite tiles covering the area in question we found that Bacab Na measured c. 68 m (N-S) by 58 m (E-W), and covered a total surface area of c. 3581 m<sup>2</sup> (0.36 ha). This finding indicates that the site is nearly half the size of that previously reported (see Ford 1987: 26, Fig. 12; 1992: Fig. 4). While the size of Bacab Na remains substantial and puts it on par with the largest *plazuelas* from the North Caracol Farm settlement area, it is probably best treated as a large and affluent, or high status, *plazuela*, rather than a sub-regional 'center'. This is further supported by the absence of specialized architecture and monuments at Bacab Na, such as ballcourts, *audiencia* buildings, stelae and altars, which might support its identification as a center (see Driver & Garber 2004).

We also relocated an important and sizeable *plazuela* located nearly 375 m to the south of Bacab Na, as well as large isolated mounds in the vicinity. Since the *plazuela* and the larger mounds were found to be relatively well-preserved, these were re-mapped and surface collections of four of the structures were conducted (Lots 1171-1174, SC 099-102), since these had recently been plowed. We were able to match up the re-mapped structures with those initially surveyed by the BRASS project and have been able to merge our survey with the findings of the BRASS transect (Figure 14). Mounds appearing on the map with designations below ten were re-mapped by BVAR in 2007 (corresponding to structures 23, 26, 29, 32 and 33 of the BRASS); all designations above ten are those of the original BRASS transect (see Ford 1992: Fig. 4). As such the southernmost kilometer of the BRASS Bacab Na transect has been verified, updated and tied to UTM coordinates. The area encompassed by this portion of the transect amounts to 25 ha in which 27 structures have been surveyed, 8 of which comprise the two *plazuelas* (including the site of Bacab Na). These figures tally to a mound density of 1.08 mounds/hectare, which is comparable to the density of Zone C at Baking Pot (1.12 mounds/hectare). Thus, despite the distance separating the Bacab Na settlement area from Baking Pot, this variable does not appear to influence the density of structures, nor their relative sizes. Quite possibly the Bacab Na settlement area is thus best viewed as a rural settlement area (on account of its distance from Baking Pot, or other major centers





**Figure 14:** Map of the Bacab Na settlement area. Map based on 2007 BVAR survey, BRASS transect data and synthetic aperture ORI radar data tiles. Map by Christophe Helmke.

such as Cahal Pech and El Pilar) that exhibits settlement densities comparable to those found in the central area of Baking Pot. Undoubtedly the settlement density exhibited at Bacab Na is therefore a function of terrain and proximity to the Belize River (see Ford 1992; Ford & Fedick 1992) rather than being influenced by distance from larger sites, under whose control this area fell.

## DOMESTIC ORGANIZATION

Although the settlement portion of this research did not conduct extensive excavations to provide information about households at Baking Pot (but see Hoggarth, this volume), physical attributes of residential structures can provide information about domestic organization at the site. Nevertheless, extensive surface collections were conducted as part of the settlement surveys, which will provide good comparative data for those recovered as part of excavations (see Hoggarth, this volume). Primarily, the sizes of domestic architecture can provide information about the size of the household group (Netting 1982), control over labor and resources (Abrams 1994), and initial assessments of socioeconomic differences between house groups. Smith (1987) argues that architecture is one of the best archaeological indicators for the assessment of socioeconomic status, as it is often archaeologically visible, as well as exhibits a great degree of differentiation.

The following statistical analyses are based exclusively on the 2007 field season data, to be expanded in the future on the data from previous seasons. The settlement research conducted in 2007 indicates that the mean area of domestic structures was 89 square meters. A stem and leaf plot of the data shows that structure areas exhibit a bimodal distribution, with areas below 187 m<sup>2</sup> representing smaller households, and those greater than 187 m<sup>2</sup> as a separate group. Structures with areas greater than approximately 380 m<sup>2</sup> fall outside of the normal values. This indicates that these domestic structures may represent higher status households, and do not reflect the overall patterns of structure area at Baking Pot. Since the distribution is bimodal, the sample must be analyzed separately, since they do not reflect the same social or statistical unit (Drennan 1996: 24). This distribution may indicate two different types of households, possibly one of higher status and the other for lower status domestic groups. In addition, residential structures with higher areas may represent household groups with more members, as they would require more space to house a greater number of individuals. Higher status households also have more capacity for more members, and thus, would require more space for the practice of economic, religious, and social activities conducted by the household.

In order to analyze these batches separately, the distribution was broken at the 187 m<sup>2</sup> junction, to separate small and large households in order to find the general patterns within each batch. Structures with less than 187 m<sup>2</sup> distribute into a single peaked, symmetrical pattern, which indicates that it is suitable for statistical analyses (Figure 15a). The median of the smaller house areas is 78.82 m<sup>2</sup>, with a mid-spread of 58.75 m<sup>2</sup> between the lower end of the interquartile range (7.48 m<sup>2</sup>) and the higher end (114.23 m<sup>2</sup>) (see Drennan 1996:28-29).

```

Stem and Leaf Plot of variable:      AREA1, N = 282
Minimum:      7.480
Lower hinge:  55.480
Median:       78.816
Upper hinge:  114.230
Maximum:      188.760

0  7
1
2  004455578
3  001122224555666666789
4  00000012233336688999999
5 H 00112244444444555566668999
6  000001222333344455555667788
7 M 000011222222234445556666677788999
8  0001111113444445677889
9  0000112344455566677778899
10 02445558888889
11 H 0011444445667889
12 000116888
13 00223346899
14 1334444
15 0033456666
16 2333689
17 122344889

```

**a**

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Stem and Leaf Plot of variable:      AREA2TRIM, N = 76
Minimum:      207.000
Lower hinge:  252.500
Median:       334.075
Upper hinge:  477.446
Maximum:      1230.000

2  0111222233344444444
2 H 55555566777
3 M 000011222444
3  5558899
4  00001334
4 H 789
5  0134
5  5559
6  2
6  699
7
7  7
8  0
* * * Outside Values * * *
8  8
10 2
12 3

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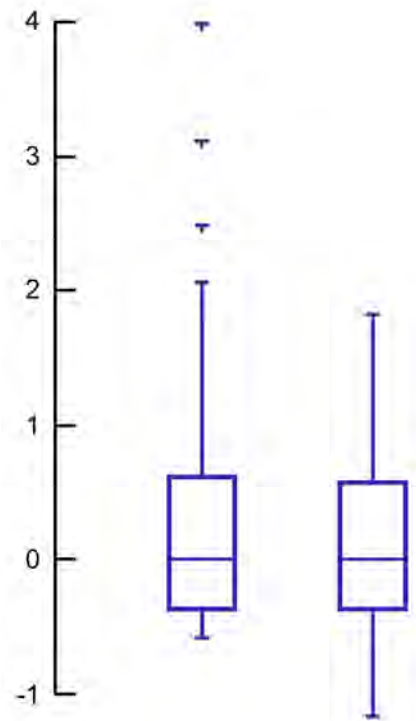
**b**

**Figure 15:** Stem and Leaf plots of structure areas. **a)** Structures with surface areas less than 187 m<sup>2</sup>. **b)** Structures with surface areas above 187 m<sup>2</sup>.

The median of the larger house areas is less symmetrical, exhibiting a greater amount of extreme outliers. Due to this distribution issue, a 10 % trimmed mean was used to eliminate statistical outliers, and focus on the general properties of the batch. This results in a more symmetrical batch, although outliers (any number that falls more than 1.5 mid-spreads outside either quartile) still persist in the data set (Figure 15b). The median of the larger household group is 334.08 m<sup>2</sup>, with a mid-spread of 224.95 m<sup>2</sup>. This shows a greater amount of variability in this group in comparison to smaller households, which may indicate that small households were restricted in their ability to construct larger houses (which is not surprising, due to the available labor pools and resources).

The numerical index of center and the spread of the batches revealed differences between the two separate groups in the 2007 data from Baking Pot. In addition, comparison of this data in the form of box-and-dot plots is useful in the comparison of unusualness. By removing the level and spread of each batch, the data sets are no longer compared in terms of square meters, but rather, in terms of unusualness, relating how each unit relates to the group as a whole, in a standardized scale showing how far each number departs from the median (Drennan 1996: 49). The box-and-dot plot (Figure 16) shows that the structure areas of smaller households are more spread out downwards from the median than larger households. In contrast, both small and large households exhibit a similar degree of variation in structure areas above the median, although there are several outliers in the spread of large houses. This pattern indicates that small households were the most variable, with large scale differences between the structure areas, with a balanced pattern of areas both above and below the “typical” size of a small household. In contrast, large households were less variable, and tended to be more upwardly skewed, with fewer large households having smaller structure areas than the “typical” size of a large household. This pattern reveals that larger house areas were restricted to a segment of the population in a highly controlled manner. It is clear that the area of a domestic structure often correlates with status or socioeconomic wealth, but from this data, the pattern of greater unusualness for areas above the median of large households, indicates that it probably reflects inherited status as opposed to variable socioeconomic wealth. The tendency for small households to have a great deal of variability, both above and below the median, indicates that the variation in small households may be the result of socio-economic status.

Overall, initial results from the settlement survey in 2007 reveals significant differences in domestic organization at Baking Pot. This indicates that there was a great deal of social variability between households at the site, some with more household members, capable of greater



**Figure 16:** Box and dot plot comparing unusualness of house areas in small and large households.

productive capability, and other house groups that may have displayed their higher status through the size of their domestic architecture. Statistical analyses of structure areas indicate that there was a different mechanism of control between the two areal groups. Although the present analyses only include the data from the 2007 season, in the future it will be combined with data from previous research to provide a comprehensive view of settlement at Baking Pot. In addition, future research will complete the survey of the 9 km<sup>2</sup> settlement area focused on Baking Pot.

## **FUTURE RESEARCH**

Future work will continue the settlement survey to encompass the 9 km<sup>2</sup> surrounding the epicenter of Baking Pot, in addition to the excavation of a systematic sample of housemounds in the urban and rural areas of the settlement. Once the western pasture area has been mapped to balance the extent of survey coverage from the eastern survey limit, it is hoped to extend the BVAR settlement survey to connect to Willey's survey of the Spanish Lookout settlement area, to the south of the River and to the west of the Barton Ramie settlement area. If we can merge the BVAR settlement survey with Willey's survey areas (Barton Ramie and Spanish Lookout), this will provide the largest continuous settlement survey area in Central Belize and among the largest anywhere in the Maya area. The total mapped area would encompass approximately 18.63 km<sup>2</sup> and would serve as a great database upon which to build analyses of ancient Maya settlement. The planned systematic excavations at Baking Pot would also provide important information about the occupation of the settlement outside of the monumental epicenter, and provide a better understanding of the changing domestic and community organization of Baking Pot in antiquity.

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# EXCAVATIONS OF EPICENTRAL SETTLEMENT AT BAKING POT, BELIZE

**Julie A. Hoggarth**  
University of Pittsburgh

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## INTRODUCTION

Excavations were commenced in the 2007 season seeking to understand the occupation and social changes associated with the settlement in and around the urban center of Baking Pot. Four one meter square units were excavated to sterile, and build upon previous excavations of housemounds at the site. These excavations are the beginning of a larger research project which will systematically sample housemounds at Baking Pot.

Baking Pot is located in the Cayo District of Belize, along the Belize River and across from the modern settlement of Spanish Lookout, and approximately 10 km from both Cahal Pech and Blackman Eddy. The monumental center of the settlement consists of two architectural groups connected by a causeway. Current data indicates that the site was occupied from the end of the Middle Preclassic period through the Middle Postclassic period (Audet 2007). Settlement extends beyond the urban center of the site, and is the focus of the ongoing survey in the 2007 and 2008 seasons.

## PREVIOUS RESEARCH

Ricketson's excavations were the earliest at the site, and focused on excavations in Group A (formerly Grp. I), encountering several burials some which identified as elite (Ricketson 1929). Excavations were continued in 1949, when Anderson stopped the quarrying of stone masonry from Group B (formerly Grp. II) as road fill. Gordon Willey started excavations in 1956, mapping and excavating housemounds around the monumental center of the site (Willey et al 1965). Bullard continued excavations at the site, particularly in Group B where he excavated Structures B1 (Str. A), B3, and B4 (Str. D) (Bullard and Bullard 1965).

In 1992 the Belize Valley Archaeological Reconnaissance (BVAR) project, directed by Jaime J. Awe, began research at Baking Pot. Whereas previous research had focused mainly on the elite sector of the site, BVAR research sought to integrate the previous research through an extensive survey of the residential settlement of Baking Pot. In 1994, James Conlon initiated the first of seven seasons of a settlement survey focusing on the residential areas to the east and south of the monumental epicenter (Conlon 1993a, 1993b, 1995, 1996, 1997; Conlon & Ehret 2001, 2000; Ehret & Conlon 2001, 2000). In 1994, Iguaz et al. (n.d.) shovel-tested several housemounds at the site. The excavations of Conlon, Powis and Moore at the Atalaya and Bedran groups provided a useful comparison of *plazuela* groups between the urban and rural areas of the site (Conlon &

Moore 1988, 2003; Moore 1997, 1998, 1999; Powis 1993). Also during this time, David Cheetham conducted excavations along Causeway 1 connecting Groups A and B (Cheetham 1995). From 1996 to 1997, James J. Aimers conducted excavations in Plaza 2 of Group A (Aimers 1998, 1997), and in 1997 Josalyn Ferguson conducted excavations in the northern ballcourt for her Master's thesis (Ferguson 1999, 1998).

Jennifer Piehl's dissertation work on the social differentiation, status, and health differences between households around Baking Pot (Piehl 2006, 1999, 1998, 1997) provided a detailed examination of the status differences and occupation of five non-elite house structures.

In 2000, Carolyn M. Audet began excavation of residential and monumental architecture in the monumental architecture of the site (as well as at Cahal Pech and Xunantunich), for her dissertation focusing on the political organization of the Belize Valley (Audet 2007). Excavations in 2000 focused on a horizontal excavation of the Yaxtun *plazuela*, and revealed significant Postclassic occupation (Audet 2000; Audet & Awe 2000). Excavations over the next four years included the excavation of several residential structures (Dixon 2005; Dixon & Hoggarth 2004; McRae & Audet 2004, 2003; Weller 2003), as well as in Group A (Audet & Awe 2003; Hoggarth 2005; Swain 2005), Group B (Audet 2005), and ritual structures associated with Causeways 1 and 2 (Audet 2004; Audet & Awe 2003). Also during this time, detailed survey and mapping continued (Poe 2005, 2004).

Archaeological investigations resumed in 2007, when Christophe Helmke began excavations in Group B (see Helmke, this volume). In conjunction with the investigation in the monumental epicenter, a new settlement survey project also began; working to extend the survey to the west, south, and north, encompassing a total of 9 km<sup>2</sup> (see Hoggarth et al., this volume). Finally, this research seeks to complement both of these projects, investigating household change and occupation through a systematic sampling program of housemounds in what may be deemed both urban and rural sectors of Baking Pot.

## **SETTLEMENT EXCAVATIONS OF THE 2007 SEASON**

Building on the excavation and shovel tests of housemounds of Baking Pot by BVAR and early research at Baking Pot, settlement excavations in 2007 seek to expand the sample of excavated housemounds in both the urban and rural areas of Baking Pot, in hopes of understanding the processes of social change and occupation at Baking Pot from the Late Classic to Early Postclassic periods. A database of previously recorded mounds was created by Christophe Helmke, including the 320 mounds (Conlon & Moore 2003) that had been mapped at the conclusion of Conlon's settlement survey. Settlement survey in June of 2007 increased the number of mounds at the site to 554 (Hoggarth et al., this volume). This number will increase when the survey continues in 2008, covering the rest of the 9 km<sup>2</sup>.

Settlement excavations at Baking Pot will excavate a 20 % sample of housemounds at the site, including the previous BVAR excavations. More than half of this sample will be selected randomly, based on location (within the 9 km<sup>2</sup> grid

encompassing urban and rural Baking Pot), and the remainder selected on the basis of previous excavations and differences in status between house groups.

Four mounds were excavated in the 2007 season, M-195, M-207, M-20, and M-66. M-20, M-195, and M-20 were randomly selected, while M-207 was chosen for its location close the ballcourt in Group A, as well as its distance to the Belize River. All excavation units measured 1 x 1 m, and were excavated using cultural and natural stratigraphic levels. An integrated lot system was established (using the same system as that employed in the excavations at Group B by Christophe Helmke), and matrix samples were systematically collected for each lot. All material was sieved through 2-cm screens and separated based on artifact class and lot. Excavations in 2007 yielded over 13,500 artifacts, and complete laboratory analyses are ongoing. Unfortunately, a thorough ceramic analysis has not yet been conducted, so chronological data from these excavations will have to be elaborated upon when analyses are complete.

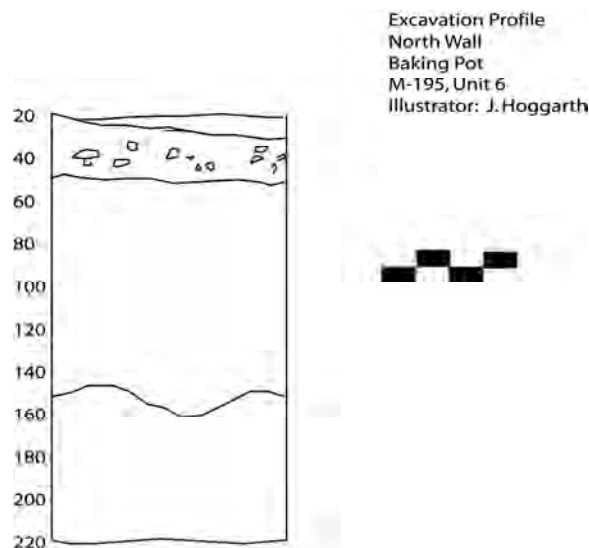
### **Structure M-195**

Structure M-195 is located nearby the monumental architecture of Group A, and was relocated using the known UTM coordinates for this structure. A 1 x 1 m excavation unit was placed in the estimated center of the mound. A mound profile was drawn, and a temporary datum established. It is recorded as Excavation Unit 6 in Operation SR-3 (Settlement Research-3). The first level (Lot 1133) commenced at approximately 30 cm below datum, consisted of a thick humus layer, characterized by grey-brown matrix mixed with plant roots. No ceramic material was present in the lot, and the only cultural material recovered being four obsidian fragments. The level was ended at approximately 40 cm, when a one-course limestone wall was encountered in the northern end of the unit, with a deteriorated plaster floor visible in the northern baulk. Level 2 (Lot 1135) was commenced at approximately 40 cm below datum, characterized by heterogeneous grey brown matrix, and cultural materials including ceramic, lithics, and shell. At approximately 50 cm below the datum, a partial floor was found in the southwest corner of the unit. This floor did not extend throughout the entire unit; rather, it ends approximately 25 centimeters from the southern end. It appears that it is the actual end of the floor rather than being disturbed. Cultural material above the floor included shell, ceramics, and chert. The lot was ended and closed at this level.

Level 3 (Lot 1138) began at approximately 50 cm below datum, and was characterized by a dark grey brown, loose core. This level saw an increase in the amount of ceramics, while other cultural material, such as chert and obsidian were also encountered. At 65 cm below the datum, a line of limestone blocks was encountered, which lined up with the extent of the floor. This one-course wall only contained one limestone block, while the other two “stones” appeared to be made from plaster, and is approximately 10 cm below the previous floor, so it is likely that the two are part of the same construction phase. This may be due to a shortage or inability to obtain limestone for the construction of this phase of architecture. This lot was closed at this level, and Level 4 (Lot 1150) was started at this point. At approximately 80 cm below datum, a concentration of ceramics was encountered in the southern portion of the unit. In addition to the ceramics, a large amount of chert and shell was also encountered. This concentration did not appear to be an ordered deposit; rather, it appears that this was

probably the result of midden materials being used for construction fill rather than a ritual deposit. One ceramic fragment appears to have been a polychrome ceramic vase with possibly glyphs on it, although the fragment was so deteriorated that it was not documentable or otherwise legible (Christophe Helmke, pers. comm. 2007). The whole deposit was uncovered, and the level was closed at this point.

Level 5 (Lot 1152) was opened at the level of the ceramic deposit and only extended approximately 5 cm below, just below the ceramic deposit at approximately 85 cm. The matrix in the level continued to be a dark grey-brown color with rocks and cultural material intermixed. Level 6 (Lot 1153) was started below the level of the ceramic deposit, with dark grey-brown matrix with small rocks, ceramics, and shell interspersed. After further excavation, it was determined that Levels 5 and 6 were actually part of the same cultural deposit and should be combined to account for the ceramic deposit. At approximately 98 cm below datum, the level was closed when further excavations revealed a plaster floor. Level 7 (Lot 1155) was opened at the level of the plaster floor, and mainly consisted of plaster and ballast of the floor, with small rocks, ceramics, lithics, and carbon included. This level only extended approximately 10 cm before it was closed. The next level (Level 8, Lot 1158) revealed a one-course stone wall in the southern portion of the excavation unit. Much like the previous wall, this wall was oriented east to west, and at this level the core materials subsided, replaced by loose alluvium with cultural material. Below this level, there were no major cultural deposits, and the level was closed after about 30 cm of sterile soil. The final level, Level 9 (Lot 1175) was started in order to ensure that we had reached a level devoid of cultural materials. Excavation in this level started at 148 cm below datum and extended to 190 cm below datum without encountering any cultural materials. In addition, at approximately 180 cm below datum, a stratigraphically distinct level consisting of sandy yellow-brown matrix was encountered. This geological level is often located at approximately 2 m below the surface, and is interpreted as a sterile level, especially in the absence of cultural materials for the previous 50 cm. A profile of the southern wall was drawn (Figure 1) and the unit was closed at this point



**Figure 1:** Stratigraphic profile of the north baulk of Excavation Unit 6, Str. M-195.

## Structure M-207

Structure M-207 was located nearby the monumental architecture of Group A, along the Belize River and a 1 x 1 m excavation unit was placed at the center of the mound. A mound profile was drawn, and a datum established. It is recorded as Excavation Unit 7 in Operation SR-3 (Settlement Research-3). Level 1 (Lot 1134) was started at approximately 5 cm below datum, and was characterized by dark brown humus with vegetation and small roots in the upper strata, and included ceramics and lithics. No cultural deposits were immediately encountered at this location, and excavations reached a depth of approximately 35 cm below datum when large limestone blocks were encountered with other cultural material. At this point, the material was cleared, mapped, and the level was ended, and a new level begun. Level 2 (Lot 1139) was begun at the beginning of the cultural deposit, which appeared to be several collapsed limestone blocks, ceramics, shell, and several complete and partial *manos* (Figure 2). The matrix of this level was a loose, dark yellow-brown color. One of the limestone blocks has a hole in the middle, which may indicate that it was used as a banner stone (Christophe Helmke, pers. comm. 2007). A concentration of *jute* was uncovered in the northeast corner of the excavation unit. This lot was ended once the whole deposit was removed, to the lowest depth of the cultural deposit.



**Figure 2:** Cultural deposit of Level 2 (Lot 1139), Excavation Unit 7, Str. M-207.  
Photograph by Julie Hoggarth.

Level 3 (Lot 1151) was started at approximately 49 cm below the datum, and was the level below Feature 1. The loose dark yellow-brown matrix with daub, and chert

interspersed throughout. No plaster or tamped earthen floor was encountered below Feature 1, although a series of limestone blocks were found in the center of the unit, running north to south. This level was ended at this point, in order to keep this distinct cultural deposit separate. Level 4 (Lot 1154) was started at approximately 68 cm below the datum, and was characterized by yellowish-grey-brown matrix with carbon, ceramics, shell, lithics and faunal material included. As excavations continued, a concentration of large ceramic sherds and carbon was located in the southeast corner, along with bone fragments. The alignment of walls in a north-south direction, the spacing of approximately 40 cm between the walls, in addition to the bone fragments appeared to indicate that this deposit was a burial, so the unit was leveled to this point, in which a plaster floor was encountered in the eastern portion of the unit at approximately 84 cm below the datum. Level 5 (Lot 1156) was started at this point, with some roots and animal burrowing in the northeast corner of the unit indicating some degree of disturbance in this level. Below the floor, a dark grey brown matrix with rocks and ceramics interspersed. The level was excavated to a depth of approximately 113 cm below datum.

Due to the orientation of the walls in a north-south direction, as well as the spacing of the alignment of facing stones and the discovery of bone fragments, a new unit was opened to the south of Excavation Unit 7 (as an extension to EU 7), slightly offset to the east by approximately 25 cm. This unit is Excavation Unit 10 (also recorded at EU 7-ext) in Operation SR-3. Level 1 (Lot 1159) was the humus layer, characterized by dark grey-brown matrix with roots, small rocks, and ceramics interspersed. At approximately 30 cm below datum, the same cultural feature (Feature 1, Excavation Unit 7) was encountered. This feature was cleared and mapped. The level was closed, and Level 2 (Lot 1176) was started, including the ceramics from the deposit. The lot was closed when excavations revealed several large limestone blocks in the northern portion of the unit, at the same level as those at the beginning of Level 3 of Excavation Unit 7.

At approximately 50 cm below datum, Level 3 (Lot 1177) was started in Excavation Unit 10, characterized by compact grey-brown matrix along between the limestone walls below Feature 1. The limestone walls discovered in Excavation Unit 7 continued into this level in Excavation Unit 10, and the level was closed at the bottom of these walls, although a portion of these walls had collapsed inwards. At approximately 70 cm below the datum, Level 4 (Lot 1178) was started, with the western wall consisting of five courses of limestone blocks, and the eastern wall exhibiting only one course. The collapsed limestone blocks may have been from the eastern wall, although there were no other indications that it was more than one course of stones. This lot was closed at approximately 100 cm below datum.

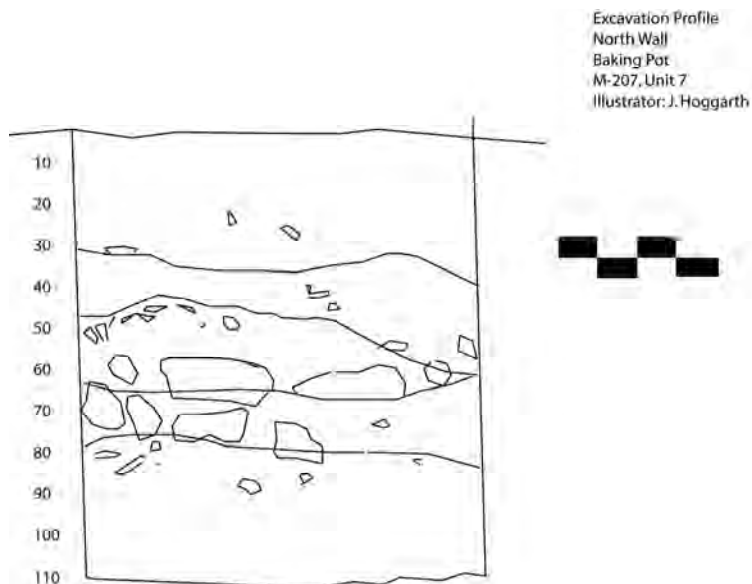
Level 5 (Lot 1179) correlates with the final level of Excavation Unit 7, and was opened to excavate between the two stone walls to determine if the feature in was indeed a burial. As excavation continued, no plaster floor was encountered, and the level was closed at the bottom of the western wall, and is at the end of Level 5 in Excavation Unit 7. The walls were mapped and photographed (Figure 3) and removed. No skeletal remains or other burial goods were located at this level; although several shell *adornos* and a shell pendant were associated with the fill of this level in Excavation Units 7 and 10. Cultural material ceased to be found immediately below the walls, which indicates that this was the earliest construction phase. Excavations continued below the walls to a



depth of approximately 135 cm below the datum, when the level and excavations in the unit were closed. Stratigraphic profiles were drawn of the western baulks of both Excavation Units 7 and 10 (Figure 4).



**Figure 3:** The walls exposed in Excavation Units 7 and 10, Str. M-207.

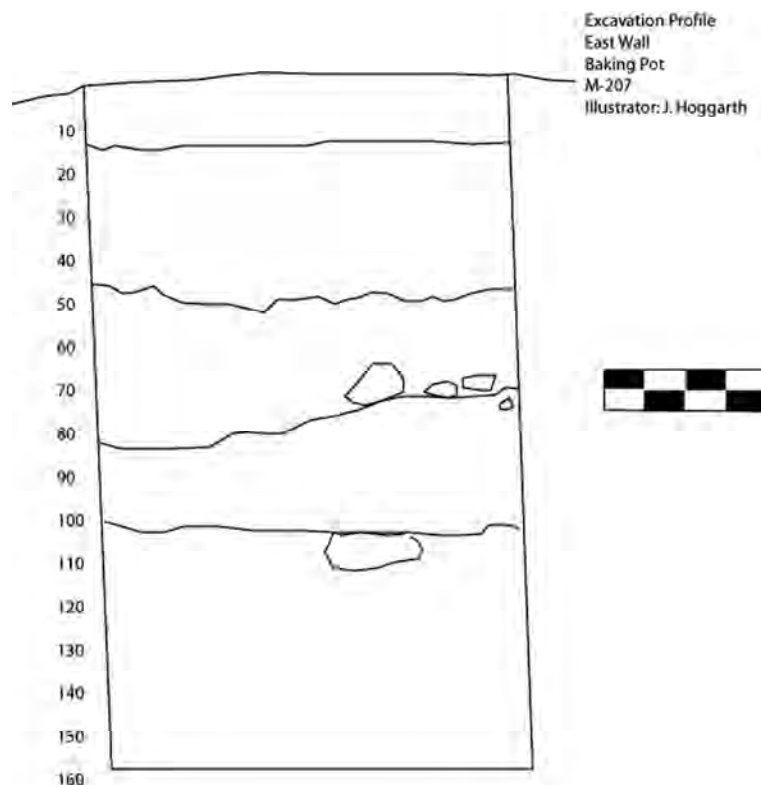


**Figure 4:** Stratigraphic profile of the western baulk of Excavation Unit 7, Str. M-207.  
Profile by Julie Hoggarth.

## Structure M-20

Structure M-20 was located near the modern road, and to the west of the monumental architecture of Group A, and a 1 x 1 m excavation unit was placed in the estimated center of the mound. A mound profile was drawn, and a datum established. It is recorded as Excavation Unit 8 in Operation SR-3 (Settlement Research-3). The first level (Lot 1136) was characterized by dark grey-brown humus, with small roots, ceramics and lithics interspersed. This level was started at approximately 18 cm below datum, and extended to approximately 47 cm below datum. There was no indication of any cultural deposit in this level, although the mixed nature of the lot indicates that it may have been disturbed. The level was closed at a stratigraphic change in soil. Level 2 (Lot 1140) was characterized by a dark yellow-brown soil, with small rocks, ceramics, and lithics included. Excavations in this level continued to a depth of approximately 82 cm below the datum, when a concentration of ceramic sherds was encountered. Level 3 (Lot 1157) included this deposit, yielding a large quantity of ceramic sherds that continued to a depth of 100 cm below datum.

Level 4 (Lot 1181) was started at the end of the previous level, below the ceramic concentration. There was a significant increase in the amount of carbon found in this level, as compared to previous levels, and excavations continued to a depth of 206 cm below the datum, in which the lower-most 50 cm yielded no cultural materials. The unit was closed at this level, and a profile was drawn of the northern baulk (Figure 5).



**Figure 5:** Stratigraphic profile of the northern baulk of Excavation Unit 8, Str. M-20. Profile by Julie Hoggarth.

## Structure M-66

Structure M-66 is located to the west of the modern road and was relocated using the known UTM coordinates, and a 1 x 1 m excavation unit was placed in the estimated center of the mound. In addition, large limestone blocks were also visible on the surface. A mound profile was drawn, and a datum established. It is recorded as Excavation Unit 9 in Operation SR-3. The first level (Lot 1137) was characterized by a dark brown humus layer, with small roots, rocks, and ceramics throughout. The level was started at 20 cm below the datum, and continued to a depth of 65 cm. The lack of intact cultural remains, as well as the limestone found on the surface, indicates that the uppermost level was disturbed. The level was closed upon the identification of a small circular feature consisting of small stones (chert) in the southwest corner of the unit. Ceramics, chert, obsidian and quartz were all present in this lot.

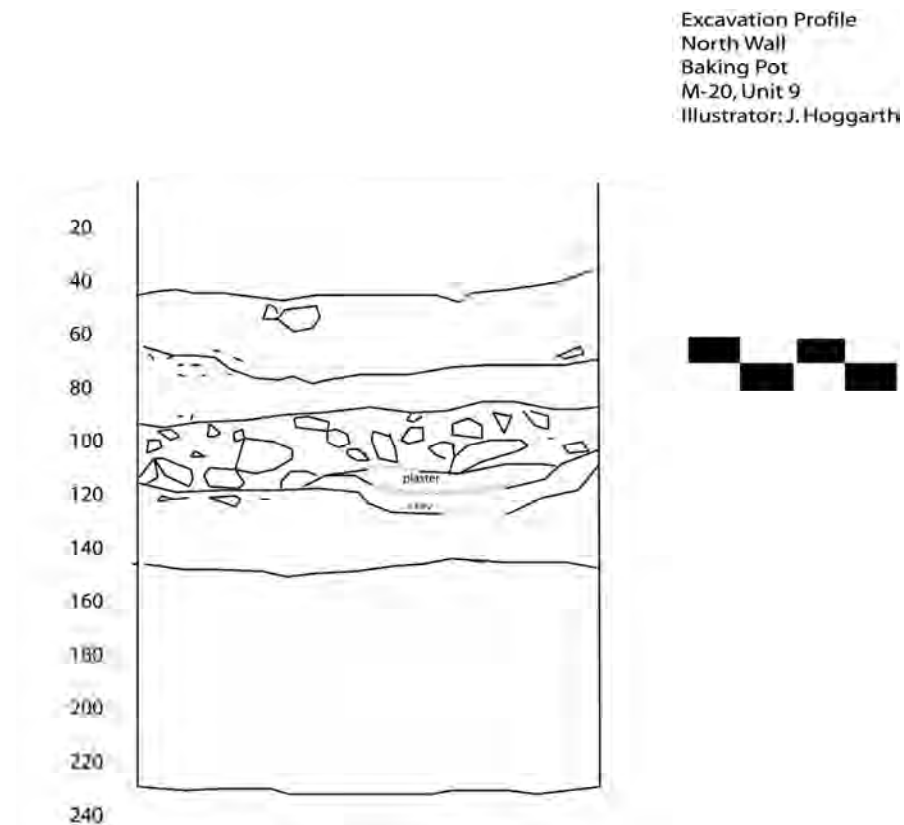
Level 2 (Lot 1180) was started at the level below this circular stone feature, and continued to a depth of 80 cm below the datum, when it was unintentionally closed. Level 3 (Lot 1182) was started at this point, and constitutes the same stratigraphic and cultural level as a continuation of Level 2. Excavations revealed a large clay feature in the northeast corner of the unit, with a concentration of cultural materials (ceramics, chert, daub, quartz, and carbon) directly associated to the north of this clay feature. Once this feature was uncovered, this lot was closed. The clay feature is circular in nature, and appears to be unfired wall melt. The concentration of artifacts directly north of this wall may be refuse associated with the abandonment of the structure.

Level 4 (Lot 1183) is the level of the cultural feature, and contained the unfired clay wall melt, and the associated artifacts. Further excavation revealed that these materials were sitting on a plaster floor, only present north of the clay wall melt. Excavations at this level to the south of the feature revealed two complete ceramic vessels at a level below that of the structure to the north, although there is no plaster floor in the southern portion of the unit. Excavation continued to the level of the vessels, ending at approximately 130 cm below the datum. These vessels were mapped and photographed (Figure 6) and removed. The larger vessel had small handles and a braided design on the outside, which may indicate that it is a Jocote Orange vessel.

Level 5 (Lot 1184) began at the level below the complete ceramic vessels, and continued to approximately 173 cm below the datum. There was a significant decrease in cultural materials in this level, with only a few ceramics, lithics, and shell found in the uppermost part of the level. The lot was closed upon the identification of a possible posthole in the western portion of the unit. Level 6 (Lot 1245) was opened to investigate whether this soil stain was a posthole or a natural feature. Excavation failed to yield any cultural materials, other than a few questionable lithics. Upon further investigation the stain was determined to be a natural feature. Excavation continued to a depth of 225 cm below the datum and was closed as no cultural material was encountered in the 50 cm of the level. A profile drawing was made of the north baulk and the unit was closed (Figure 7).



**Figure 6:** The cultural deposit of Level 4 (Lot 1183), Excavation Unit 9, Str. M-66.  
 Photograph by Julie Hoggarth.



**Figure 7:** Stratigraphic profile of the northern baulk of Excavation Unit 9, Str. M-66.  
 Profile by Julie Hoggarth.

## DISCUSSION AND RESULTS

Excavations of housemounds in 2007 offer several interesting questions. Primarily, excavations at M-66 appear to reveal the remains of a Preclassic apsidal structure. The larger of the two complete vessels outside of the structure appears to be Jocote Orange-Brown. Gifford (1976) describes this variety within the Jocote ceramic group, which is characterized by “full orange to brown surfaces on both jar and bowl forms...most vessels appear to have had a modeled or appliqué fillet on the exterior wall several cm below the rim” (Gifford 1976: 63). He also notes that they often have appendages that are “small, rather crudely modeled loop handles and larger, better-formed strap handles (attached to the shoulders of jar forms).” This type belongs to the Jenney Creek Ceramic Complex, spanning from 1000 to 300 BC, correlated with the Middle Preclassic period (Gifford 1976: 46, 61-63). Previous excavations at Baking Pot have noted occupation at Baking Pot from the late Middle Preclassic period onward (Audet 2007: 106), so a chronological assessment of this date is not impossible at the site. However, further analysis is needed in order to affirm this assessment. In addition, identification of the second complete vessel can help clarify the chronological context of this deposit.



**Figure 8:** The shell *adornos* and pendant recovered from Str. M-207. **a)** flower shape (left); **b)** goggle shape (center); **c)** shell pendant (right). Photographs by Julie Hogarth.

The shell *adornos* recovered in excavations at M-207 also present interesting questions for the settlement research at Baking Pot. Three shell ornaments were found, as well as a shell pendant. One of these shell *adornos* was a plain circle, while the other was carved into a flower (Figure 8a), and the other in the shape of goggle-eyes, or two connected circles (Figure 8b). The shell pendant is perforated at the top (Figure 8c). No other shell ornaments were found in excavations at housemounds at Baking Pot in the 2007 season. The presence of these items at M-207 may indicate either that this household was involved in the production of shell ornaments, or else is a high status household that was consuming such products. No manufacture products, or unfinished shell ornaments, were found, which probably means that these items were not being produced at this location. Hendon (1991) notes the presence of shell ornaments (“buttons”, ornaments, and pendants) showing the production and consumption of these items elite residences in the Copan Valley. She notes the high quantity and context of shell ornaments in patio areas and middens as evidence for production, while

consumption being noted by lower quantities of shell ornaments found within rooms. Using Hendon's interpretation of shell adornments at Copan, it may indicate that the residents of M-207 were the consumers of these shell ornaments rather than the producers, and the restricted nature of these items indicates the relatively high status of the ancient inhabitants of Str. M-207. The shell ornaments and large quantity of *manos* found at M-207 is also similar to those found at elite residential structures at Aguateca which were rapidly abandoned (Inomata et al. 2002). This brings the question of why the residents of M-207 at Baking Pot would have left such valuable items, whether it was due to rapid abandonment, or simply discard. Further ceramic analysis will work to clarify the chronological time frame of occupation for M-207 and will hopefully answer some of these questions.

Excavations in the 2008 season will continue to explore these questions, as well as adding to the sample of excavated households at Baking Pot. In the end, settlement excavations at Baking Pot will be used to compare with settlement from other medium settlements in the Belize Valley, as well as contribute to the growing literature on ancient Maya commoners.

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