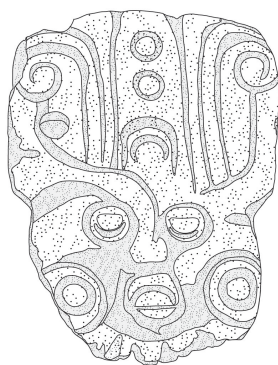


***Surveying the Crossroads in the Middle  
Belize Valley: A Report of the 2011 Belize  
River East Archaeology Project***



**Eleanor Harrison-Buck, Editor**

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**Department of Anthropology  
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## Preface and Acknowledgements

*Eleanor Harrison-Buck*

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This marks the first interim report for the Belize River East Archaeology (BREA) project and the first of what we hope will be many field seasons in this new and exciting research area. This report details our survey findings during a three and a half week season in January 2011 and a six-week season from May 23 to July 3, 2011. Despite the short field seasons, our work in the middle reaches of the Belize River valley was tremendously productive and surpassed all prior expectations, namely due to the tenacity of our small field crew.

I would like to acknowledge the four surveyors who made the January season so successful—a group who I accurately glossed the “Dream Team”: Brian Norris, Adam Keading, Satoru Murata, and David Buck. Highly motivated is an understatement with these guys and every day outdid the next. This group worked tirelessly and in the end we documented over 400 mounds and at least 25 different sites—more than one for every day we were in the field! Their survey skills, detailed sketch maps, and mastery of the Trimble GeoXH GPS unit allowed us to quickly and accurately map the locations of sites and point-plot thousands of artifacts noted on the surface of sites. Without their help, the BREA project would never have gotten off the ground...much less on the road. In addition to all his surveying, David fixed a series of flat tires that plagued the January season and kept the vehicles running smoothly. Along side his mastery of the Trimble GPS, Satoru’s incredible photography skills were put to good use documenting all of the surface finds that we collected. Both Satoru and Adam did a tremendous amount of post-processing and imported all the data into ArcGIS. They have produced beautiful maps, many of which are presented herein. I would like to thank the James W. Sewall Company for supporting the BREA project and kindly offering the *pro bono* assistance of Brian Norris, one of their top surveyors and leaders in their company. Brian worked on the BREA project during the January season and “tied in” all our data points by locating known survey points, ensuring the accuracy of our maps. His work was key in “getting the train out of the station”—developing a survey protocol for the BREA project that laid the foundations for all our future fieldwork.

During a six-week summer season, the BREA project shifted gears and focused not only on survey, but also mapping (with a Total Station) and excavation of select sites in the middle Belize Valley. Astrid Runggaldier joined the BREA team and offered indispensable help on the project as the Director of the Lab and also as an Operations Director. Satoru Murata served as Field Director and Adam Keading served as Survey Director. David Buck returned to help with a soil sampling project conducted at the Ma’xan site. Three undergraduate students from the University of New Hampshire (UNH)—John DeGennaro, Kerissa Paquette, and Samantha Woods—joined the project as part of a UNH field school and offered a great deal of valuable assistance to the field project. Each contributed a final report, published here as individual

chapters in the 2011 BREA Interim Report. Finally, Marieka Brouwer Burg was instrumental in the report production, creating and digitizing many of the maps and images presented herein.

The fieldwork in both January and the summer would not have been possible without the assistance of Sarah White who managed the “camp” and cared for the two youngest members of the BREA team—my daughters Eliza & Natalie. I am also grateful to my father and stepmother, Pic and Sarah, for coming down to Belize in January to watch the girls and for giving Sarah some well-deserved time off. I also wish to thank Jenna Altherr for her volunteer work and participation on the BREA project. Our work in Belize would not have gone so smoothly without the tireless efforts of our hosts at Banana Bank Lodge. The Carr Family and all their wonderful staff took great care of us throughout the January and summer field seasons, getting up at the crack of dawn each day to prepare us a pack breakfast and lunch. They kept us well fed and provided us with delicious meals...the fried chicken (Kaax Tsaabil) was a particular favorite! We are truly grateful for all their warm hospitality.

Our fieldwork was assisted by many local Belizeans, including Macario Pau (otherwise known as “Mr. Mac”)—a Maya from San Antonio village who now lives in the village of More Tomorrow with his family. He (and his young son) guided us to many of the archaeological sites in the vicinity of his village, including the sites of K’ak’nal and Hum Chaak and other nearby Maya and historic sites on the Penner property all the way to the confluence of the Belize River and Beaver Dam Creek. During the summer, Mr. Mac served as our foreman and arranged for several workmen from the village of More Tomorrow to help us in our excavations at Hum Chaak. We are grateful for all their hard work, rain or shine, during the summer field season. Mr. Mac also facilitated our visit to the site of More Tomorrow. We are particularly grateful to Mr. Mike, the Chairman of More Tomorrow for granting us access to this important site center. Likewise, we thank Mr. Rolland for allowing us to survey the part of the site that is on his farm. One Sunday afternoon at their home in Roaring Creek village, Mr. Rolland and his wife, Ms. Juanita Baiser Rolland, kindly shared their memories of all the small villages that once dotted the banks of Belize River forty years ago or more—Never Delay, Cotton Tree Bank, Meditation, Moreland, More Tomorrow, Castile, Married Woman Point, and Panama. Many are still noted on contemporary maps, but with the exception of More Tomorrow most of these communities on the river no longer exist or are only sparsely occupied today. Most have moved closer to the road after the Western Highway was paved and much of the younger generation has moved to the larger cities, such as Belmopan or Belize City. By sharing their recollections, the Rollands have helped to document an important part of the history of the eastern Belize River valley.

I also wish to thank Mr. Raymond Reneau, the Village Chairman in Rancho Dolores, a small community located on the Spanish Creek. Like the Rollands, Mr. Raymond offered critical information regarding the more recent (colonial) history in this part of Belize. Mr. Raymond offered field assistance and guided us to a number of ancient Maya sites in and around the community, including a large site in the town of Rancho Dolores, as well as a site located on the Spanish Creek Rainforest Reserve property (Yax Pak’ab Che’). He also facilitated archaeological reconnaissance in the remote parts of the Spanish Creek Wildlife Sanctuary where

he led us to sites, like Kahal tuucha'. He coordinated the hiring of several workmen from Rancho Dolores who camped out in the wildlife sanctuary and helped to clear paths and locate sites that were covered in tree fall from the recent hurricane.

We thank the many landowners who allowed us to investigate archaeological sites on their property, many of whom took time out of their busy schedules to personally show us around. In January, Mr. Jose Gallardo offered us a personal tour of the large site on his beautiful property overlooking Laguna Colorada, Mr. Jose Hernesto Giron showed us more of Kaax Tsaabil than we knew existed, and Mr. Sabi Tut kindly led us into the Big Falls Farm, braving the muddy roads. Also during January, Mr. Lloyd Castellanos kindly provided us with a personal tour of the eastern part of the Yalbac property and in the summer Mr. Hunter Jenkins granted us permission to formally survey this area for archaeological sites. Landowner Mr. Manuel Barrerra and his son Minor provided us with a tour of the Kuch site. Graham and Frankie Miller welcomed us onto their property and also directed us to sites on Bernard Penner's land. Landowners John Theiffen, Cornie Reimer, Issac Dueck, and Anton Dueck also kindly granted our team permission to access the sites of Mount Pleasant, Never Delay (Ma'xan), Saturday Creek, Ma'tunich, and Ma'kaax, respectively.

None of this research during 2011 would have been possible without the generous support of the Alphawood Foundation. In addition, the University of New Hampshire (UNH) sponsored the BREA archaeological field school, which provided additional support for the project. Many individuals from UNH deserve a large note of thanks for their help in facilitating the logistics and finances of this research project, namely Cindy Corriveau, Angele Cook, Kay Cichon, and many others in the Purchasing Department and Office of Financial Affairs at UNH. I wish to thank Dr. Lisa Lucero who encouraged me to start a project in this part of Belize and has offered me a great deal of support at each step of the way. Lisa provided me with access to her artifact collections from Saturday Creek and all of her site reports as I was developing the research project and, later, helped to facilitate my accommodations at Banana Bank and my work in the Yalbac property, which I greatly appreciate. I am especially grateful to Carolyn Stolzenburg who provided continuous administrative support before, during, and after the field seasons in 2011. I also wish to thank Dr. Joe Lugalla, Chair of the Anthropology Department at UNH who has been incredibly supportive of my research and has offered constant encouragement since I arrived at UNH. My permit for the BREA study area was granted by the Belizean Institute of Archaeology as part of the National Institute of Culture and History. I am grateful to the Institute staff, particularly the Director of the Institute, Dr. Jaime Awe, and the Director of Research and Education, Dr. John Morris, for all their support and guidance throughout this inaugural year of the BREA project.

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# The Belize River East Archaeology Project: A Report of the 2011 Field Season

Edited by Eleanor Harrison-Buck

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## Chapter 1

# Introduction to the BREA 2011 Season: Field Work in the Middle Reaches of the Watershed

*Eleanor Harrison-Buck*

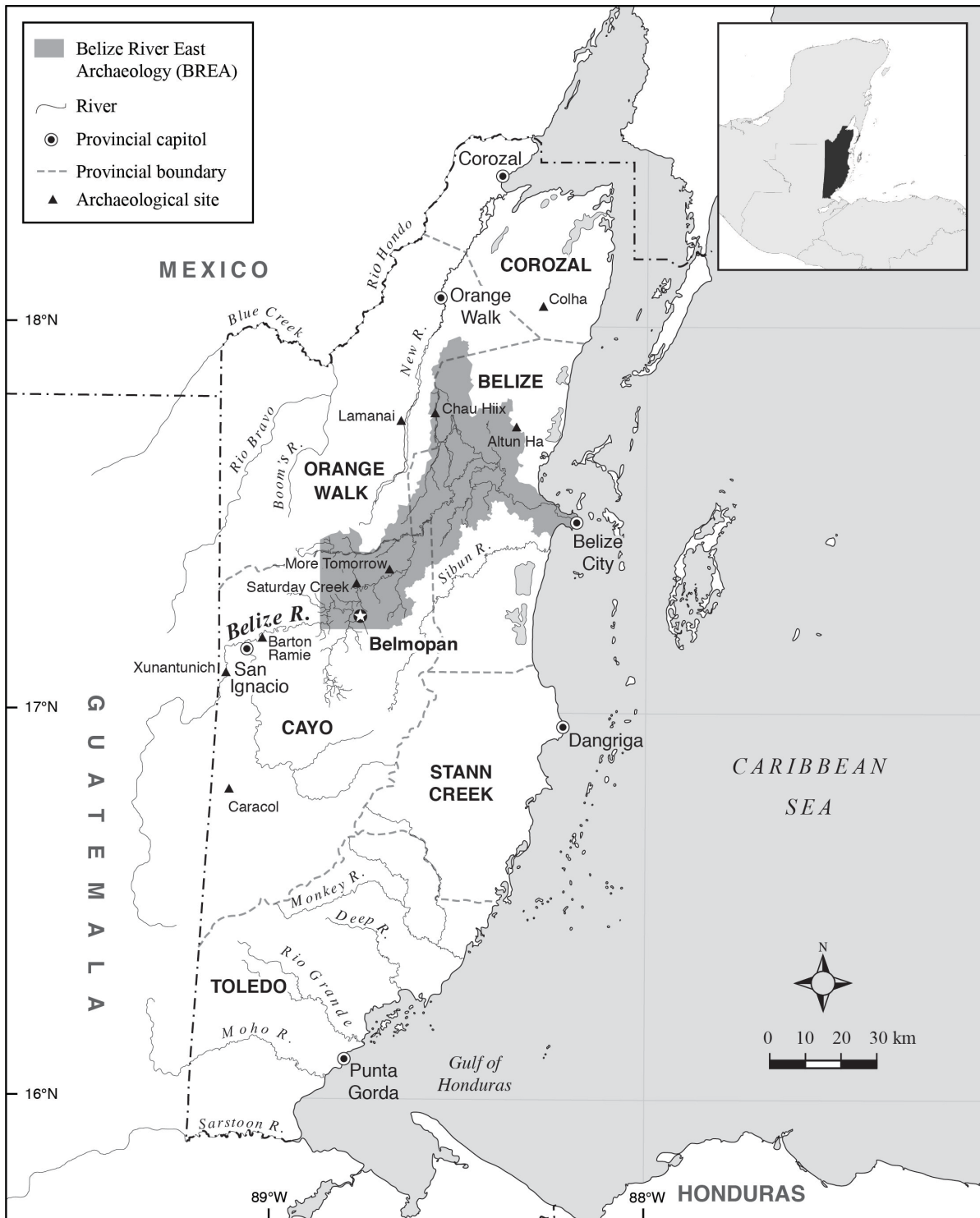
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The Belize River East Archaeology (BREA) project represents the first archaeological survey and excavation to be carried out east of Saturday Creek in the lower half of the Belize Watershed (**Figure 1.1**). The study area encompasses the watershed of the eastern Belize Valley, between Belmopan and Belize City, and represents an area measuring roughly 6,000 Km<sup>2</sup>. For the purposes of sampling such a large area, five transects were chosen for more intensive investigation. These boundaries ultimately became obsolete as our survey team quickly realized that ancient Maya settlement is virtually continuous along the banks of the Belize River.

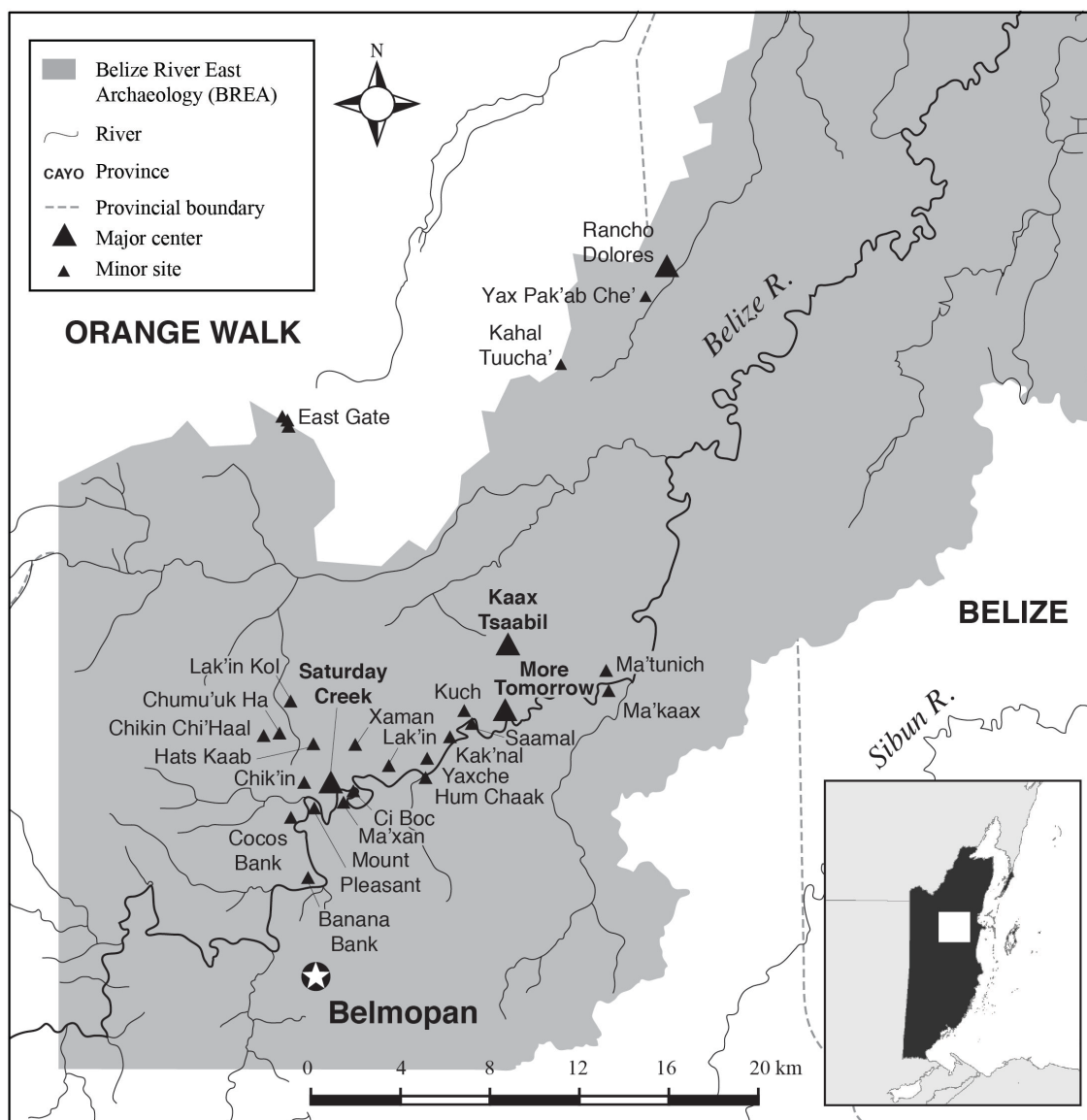
Our first field season for the BREA project took place in January 2011. The survey season extended from January 3-26. Fieldwork continued during a five-week summer season from May 23-June 28, 2011. While brief, both field seasons were incredibly productive. In this short amount of time, our team mapped over 400 mounds and identified 25 ancient Maya sites and several colonial period sites in the middle reaches of the Belize Watershed (**Figure 1.2**). In addition, we carried out six test excavations (Operations 1-6) at four of the sites (Ma'xan and Hum Chaak, and two historical sites—Barrera Historical and McRae-Stallworth [see **Fig. 15.4**]). This report details the results of our survey, mapping, excavations, archival research, and artifact analyses that were all undertaken during 2011.

## Background to the Research

The Belize River is a large and navigable waterway with its headwaters in Belize and Guatemala (**Figure 1.1**). The river flows 180 miles (290 km) across central Belize to where it drains into the Caribbean Sea and the entire watershed is around 11,000 km<sup>2</sup>. The mid-to-lower reaches of the Belize River valley are less hilly than the upper reaches and the terrain is a mix of pine-savannah, wetlands, riparian forest, and mangrove swamp along the coast. During ancient times, the Belize River served as a major transportation route, linking Tikal and other large Classic Maya centers of the inland Petén region of Guatemala with coastal trading networks of the Caribbean coast. Ancient Maya settlements along the Belize River valley were economically linked with the Petén region, as well as eastern coastal trade networks that led up the coast to important Late-to-Terminal Classic centers like Chichén Itzá in northern Yucatán.



**Figure 1.1 Map of Belize showing BREA study area (map prepared by M. Brouwer Burg).**



**Figure 1.2 The western half of the BREA study area showing sites in the middle reaches of the Belize Watershed (map prepared by M. Brouwer Burg).**

Within the BREA study area, only the large centers of Saturday Creek (Lucero 1999a, 1999b, 2002), Chau Hiix (Andres 2000, 2002, 2004, 2006; Andres and Pyburn 2004; Pyburn 1998, 2007), and Altun Ha (Pendergast 1979, 1982, 1990) have been previously investigated. Surprisingly, the area along the eastern arm of the Belize River remains largely unexplored despite the key role this section of the river valley played in the movement of coastal commodities and luxury goods, like cacao, in ancient and colonial times. More extensive archaeological investigations have been conducted in the upper reaches of the Belize River

valley around the archaeological sites of Xunantunich, Cahal Pech, Baking Pot, and Barton Ramie (see **Figure 1.1**). Sites here show strong connections with the Petén region to the west in both their architecture and ceramic styles.

Sites, such as Xunantunich, have yielded evidence of conflict and overthrow of the ruling elite at the end of the Late Classic period (Stanton et al. 2008:240; Yaeger 2010). A similar pattern of conflict and warfare at the end of the Late Classic period also has been found in the upper reaches of the Sibun Valley (Harrison-Buck et al. 2007). In contrast, sites in the lower parts of the Sibun Valley, closest to the coast, seem to flourish during the Late-to-Terminal Classic transition and show the introduction of northern Yucatec traits during the ninth century Terminal Classic period (Harrison-Buck 2007; Harrison-Buck and McAnany 2006). I propose that a similar pattern may exist in the Belize Valley. Whereas sites in the upper reaches more closely affiliated with the Classic Peten centers decline around the same time by the end of the Classic period, I suggest that sites in the mid-to-lower Belize Valley will show a similar late florescence during the Terminal Classic due to their close proximity to the coast and their allied relations with coastal trading partners, connecting them to prosperous networks in northern Yucatan. If so, I would expect to find an influx of northern Yucatec traits in the local architecture and ceramics, along with some northern imports at sites in the eastern half of the Belize Watershed. One of the primary goals of the BREA project is to test this hypothesis and further our understanding of the Late-to-Terminal Classic transition.

## **2011 Field Work**

### *Survey and Mapping*

During our first January season, the BREA team worked tirelessly to survey the area along the main trunk of the Belize River between the sites of Cocos Bank and Ma'kaax, bracketed by Saturday Creek and Beaver Dam Creek (**Figure 1.2**). One of our main challenges during the January survey season was navigating around a lot of fallen trees and other debris that been blown about by Hurricane Richard in October of 2010. For a Category 1 storm, the density of downed trees was incredible and the blanket of debris (palm fronds, etc) that carpeted the sites made the visibility very limited. The following May when we returned to the study area just prior to the onset of the rains, we were shocked to find that many wild fires had ripped through the study area and burned up the trees and dried debris, opening up many areas that were previously covered over. In other instances, further bulldozing and forest clearing (at the site of Ma'xan, for example) also opened up areas and revealed further settlement. While such clearing improved our visibility immensely, it also made these sites more vulnerable to destruction (see Chapter 4, for an example).

The BREA team surveyed as far north as Rancho Dolores, as far west as the East Gate of the Yalbac property, and as far to the east as the Beaver Dam Creek and parts of the Big Falls property. In this relatively small portion of the BREA study area, we identified 25 ancient Maya

sites and several colonial sites, primarily located along the main trunk of the Belize River, but some tributaries and lagoons also showed signs of ancient settlement. Sites were defined based on the distribution of discrete groups of mounds clustering within a given area. However, we found that in many cases separating the settlements along the main trunk of the Belize River posed some challenges. Ancient settlement appears to be virtually continuous along the portion of the Belize River where we focused our survey in January, between the Belize River confluences with Saturday Creek and Beaver Dam Creek.

Delineating where one site ends and another begins is not always straightforward and we realize that in some cases some of our site divisions may be arbitrary. Sites that are located directly across the river from one another, for instance, are also usually given separate site names, but may have been viewed as a single community in antiquity. The site of Ma'xan, for example, is located directly across the river from the large site of Saturday Creek. In this case, these two sites likely formed a single community in antiquity, but we use separate site names to aid in our discussion of the different settlement locations. The site of Ma'xan was surveyed during the January season and formally mapped with the Total Station during the summer of 2011 (Kaeding et al., Chapter 2).

The site core of Saturday Creek was mapped by Lisa Lucero and her team in 1999 (Lucero 1999b). However, hinterland settlement on the north side of the Belize River that surrounds the site core of Saturday Creek to the east, west, and north was not recorded. Therefore, our team surveyed and mapped these outlying areas with a GPS during January and the summer field season in 2011 (Murata et al., Chapter 5). We identified hundreds of small, ephemeral house mounds that suggest Saturday Creek was an enormous, sprawling community along the mid-section of the Belize River. As the site of Saturday Creek was already established in the literature and previously defined, we felt it was important to have a different site designation not only for Ma'xan on the south side of the river, but also the outlying “hinterland” settlement on the north side as well. We appropriately designated these settlements as Lak'in (east), Chik'in (west), and Xaman (north). As each of these individual sites are more thoroughly surveyed, mapped and explored in the future, we hope to gain more clarity regarding the inter-site relationships. Another nearby site that may also be associated with Saturday Creek is Hats Kaab. This group of mounds was identified in January of 2011 and the BREA team returned in the summer of 2011 to formally map the site with the Total Station (Murata, Chapter 8).

We found that ancient settlement tends to cluster along the northern and southern banks of the Belize River, with larger sites primarily located on the north side of the river. Larger sites include Saturday Creek and More Tomorrow, located across the river from the modern village of the same name. More Tomorrow has not been previously investigated and our team surveyed the ancient settlement and produced a preliminary map of the site core (Harrison-Buck and Murata, Chapter 3). Numerous other smaller sites—Ci Boc, Yaxche Nal, Hum Chaak, Ka'k'nal, Kuch, Sáamal, Ma'tunich, and Ma'kaax—were found between Saturday Creek and More Tomorrow and form nearly continuous settlement along the banks of the Belize River. The site of Hum Chaak was formally mapped with the Total Station during the summer season in 2011 (Murata,



Chapter 8) and the other seven sites were surveyed with GPS and sketch maps were produced (Harrison-Buck et al., Chapter 9).

In the course of our survey, we did identify some sites that were not right along the banks of the river, but found farther north usually associated with tributaries, lagoons, or other standing bodies of water. For instance, there appears to be quite a few sites situated along the Spanish Creek, a navigable drainage that runs roughly north-south and serves to connect the Belize River with the New River farther to the north (see **Figure 1.1**). Survey along the western side Spanish Creek (the east is apparently all swamp) revealed a sizeable site center in and around the modern village of Rancho Dolores where monumental architecture and a possible ballcourt were identified. Additionally, several sites were identified farther to the south along the western side of Spanish Creek, including Yax Pak'ab Che' and Kahal Tuucha'. All three of these sites were surveyed and sketch mapped in January 2011 (Harrison-Buck and Buck, Chapter 7). Several other sites were found north of Saturday Creek around Colorado Lagoon, including Chumu'uk Ha, Chikin Chi'Haal, and Hats Kaab. During the January and summer field seasons, these three sites were surveyed and sketch maps were produced (Kaeding and Murata, Chapter 6).

Additional survey and mapping along this north-south transect, between Saturday Creek and the East Gate of Yalbac is planned for the January 2012 season, as discussed in my concluding chapter of the report (Harrison-Buck, Chapter 17). We also plan to return to More Tomorrow in the January 2012 season to formally map this site with the Total Station, along with another center named Kaax Tsaabil, located due north of More Tomorrow. Like More Tomorrow, Kaax Tsaabil contains monumental architecture, including a pyramidal structure, and at least one ballcourt (Kaeding et al., Chapter 4).

Settlements surveyed in the middle reaches of the Belize Watershed range in size, some more nucleated and well defined than others. Several sites, including Cocos Bank, the site cores of Saturday Creek and More Tomorrow, Hum Chaak, and K'ak'nal, displayed a tightly organized, nucleated settlement pattern with well defined plaza groups, while other sites contained structures that were arranged in less formal plaza groups. Frequently, sites consist of isolated house mounds that are more dispersed across the landscape or, in some cases, showed a linear formation. Some of these mounds may have been constructed in such a way so as to line the higher floodplains along the banks of the river, but in other cases (such as at Ma'xan and Saamal) the linear arrangement may have more to do with production activities than an association with the riverfront. A closer examination of these settlement pattern discrepancies is a goal of the January 2012 field season when further survey and mapping is planned.

#### *Site Investigations: Excavation, Artifact Analysis, and Archival Work*

The size and function of structures varied considerably, from low house mounds measuring less than a meter in height to non-residential pyramidal structures measuring as high as 12 meters or more. Some special purpose buildings were identified in the January and summer 2011 field seasons. These include two possible ballcourt structures consisting of two parallel platforms found at both Rancho Dolores and Kaax Tsaabil, one possible E-Group that

was identified at Hats Kaab (Woods and Harrison-Buck, Chapter 10), and two all-stone masonry buildings that may represent circular shrine buildings that were found at K'ak'nal and Hum Chaak. At K'ak'nal, Late Postclassic smashed censer material was seen overlying the circular structure, pointing to a ceremonial function at least during its final use. The circular structure at Hum Chaak was excavated during the summer season and demonstrated that the building was not residential in nature (Harrison-Buck, Chapter 14).

Other evidence of ritual behavior was found in our excavations at Ma'xan that were carried out during the summer 2011 season. At Ma'xan, Operation 1, a 2 x 6 m excavation unit, was positioned on the southern side of a low structure located on a basal platform extending to the west of Structure 1, the largest architectural complex at the site (Runggaldier and Harrison-Buck, Chapter 11). On the front (southern) facing of this small structure, a “problematic deposit” was uncovered. This dense deposit of smashed and scattered artifacts may represent a ritual termination that occurred when the site was abandoned (Paquette, Chapter 12). Preliminary analysis of the diagnostic ceramics in this deposit suggest it dates to the Late-to-Terminal Classic transition.

Additional evidence of ritual activity was found in Operation 2, a small 2 x 2 m test unit placed on the summit of a low mound at Ma'xan where a portion of a child's burial was exposed that appears to date to the Late Preclassic (Murata, Chapter 13). Due to time constraints, the interment was reburied and not excavated during the 2011 season. Artifact finds from this structure suggest that it was occupied during the Late Preclassic, and then later re-occupied during the Late Postclassic. Hundreds of obsidian blades (including several large cores) were found on the surface of this mound associated with Late Postclassic diagnostic ceramics.

In addition to ancient Maya sites, we also investigated two colonial period sites during the summer season that were identified during the January 2011 survey season—Barrera and McRae-Stallworth. These two historical sites consisted of surface scatters of colonial period artifacts, excavations (Operations 5 and 6, respectively) revealed bottle glass, glazed ceramics, pipes, metal, and other historic material. The Barrera site is situated near More Tomorrow and McRae-Stallworth is located in the vicinity of the ancient site of Chik'in near the confluence of the Belize River and Saturday Creek (Kaeding and DeGennaro, Chapter 15). While no standing architecture, such as foundation walls, were exposed, excavations and surface collection at the McRae-Stallworth site revealed what may be bricks and suggest the site may contain the remains of a building foundation that has yet to be identified. Research in the Belize Archives in Belmopan conducted by Kaeding and DeGennaro indicates that the site was owned by Mr. Colin McRae, an ex-Confederate from the south who fled the United States following the Civil War in 1867. Based on an analysis of the artifacts, it is possible this area was the location of a mercantile business owned and operated by McRae on the Saturday Creek property (DeGennaro and Kaeding, Chapter 16).

## Conclusions

In my final chapter of the report, I discuss our future directions and goals of the BREA project, both long-term and immediate plans for the upcoming season, which will build upon our work from 2011. We plan to continue the survey, mapping, and excavation of select sites in the middle reaches of the Belize Watershed along the western half of the BREA study area during a month-long field season in January 2012. During this time, we will extend our reconnaissance along a projected north-south transect between the site of Saturday Creek and the east gate of Yalbac near the headwaters of the New River. Here, our goal is to search for a north-south overland route that the Spanish Conquistadors recorded (Jones 1998; Scholes and Thompson 1977). Based on shared ceramic assemblages, I suggest this overland route likely dates to Prehispanic times and served to connect the settlements in the middle Belize valley with those farther north, namely the site center of Lamanai on the New River (Harrison-Buck 2010 [see **Figure 1.1** above]). In addition to surveying this north-south transect, we plan to do some initial reconnaissance in the lower parts of the Belize River that we can follow up on during the summer 2012 season.

One of our long-term research objectives is to develop a more comprehensive settlement history for the eastern Belize Watershed and better understand its broader relationship with other parts of the Maya Lowlands, including the upper Belize Valley and Peten region to the west, as well as areas to the north and south. Our research is revealing a deep history of the eastern Belize Valley, which begins in the Preclassic and continues through Colonial times (Harrison-Buck et al. 2011; Kaeding et al. 2011). Given the continual occupation, this area offers an ideal context in which to review the changes taking place during periods of significant cultural transformation in Maya history—first during the Preclassic-Classical transition, then later during the so-called Classic Maya “collapse” period, and finally during the Spanish Conquest in the sixteenth and seventeenth centuries. Through our archaeological investigations in the eastern Belize Valley, we seek to understand the complexity of these profound changes and how they may have differentially impacted Maya groups with regard to their social, political, and economic organization.

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# **Section I**

## **Survey and Mapping**

## Chapter 2

### Ma'xan: Survey and Mapping the Site at Never Delay

*Adam Kaeding, Satoru Murata, David Buck, Brian Norris, and Eleanor Harrison-Buck*

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This chapter provides an overview of the survey and mapping of the site of Ma'xan in the middle Belize Valley (**Figure 1.2**). A detailed analysis of the archaeology at Ma'xan is provided elsewhere in this report (see Chapters 11, 12, and 13). Ma'xan was selected as a site for further investigation for a number of reasons, both academic and logistic. The site was intriguing academically due to its density of small mounds in association with a large central pyramid, as well as the artifacts available on the surface. In a practical sense, the site was equally attractive as it was cleared of bush and relatively easy to access and, due to the lamentably destructive agricultural activity noted throughout the survey area, the site was highly visible. Beyond the site itself, its location in relation to other prominent areas lends it further merit. Located at the top of a pronounced bend in the Belize River, Ma'xan dominates the southern bank across from the sprawling sites designated Saturday Creek and Ci Boc (**Figure 1.2**). It is possible these sites were viewed as a single community in the past. Likewise, on the same southern bank, Ma'xan may be difficult to distinguish from the site at Mount Pleasant to the west. Settlement along these banks seems so continuous that the BREA project will consistently face the challenge of determining the boundaries of any single site (see Harrison-Buck, Chapter 1). Nevertheless, Ma'xan certainly holds a position of prominence.

#### Objectives

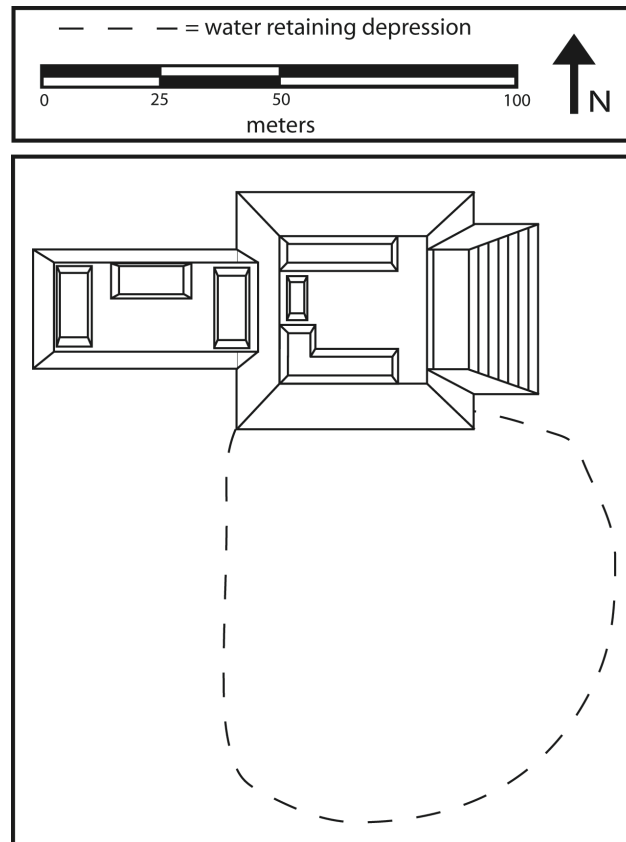
Ma'xan was selected for further investigation through both excavation and intensive mapping. The goals of the mapping component were to record the site in the state that it is currently encountered. Like so many sites in the area, Ma'xan is under mechanized cultivation. This means several passes each crop cycle of large tractors tilling, seeding, plowing, spraying, etc. Each pass has the potential to peel off another layer of archaeological history. To that end, almost all of the research we've conducted at Ma'xan and elsewhere carried a component of salvage and mitigation. Again, as elsewhere, the agricultural activities that threaten these sites are also the very means by which we gain access to them. The visibility of such a large area of settlement in association with the central structure is a rare academic opportunity. If we were to have encountered Ma'xan in a primary or secondary forest setting, the large central structure and its projecting platform would likely be identifiable but the dozens of small house platforms surrounding that structure and stretching right to the river banks in both directions would not



have been. In that sense, then, the detailed mapping of this site provides a chance to capture that otherwise elusive data and in doing so illustrates a settlement pattern that could be typical of the BREA project area and perhaps beyond.

## Site Description

The site of Ma'xan is dominated by a large central structure, about 50 meters square at its base (**Figure 2.1**). It is roughly pyramidal, but truncated at the top where it supports three small superstructures. The large pyramidal structure faces generally eastward and seems to have had a wide stairway leading down that face of the building. Its orientation is not exactly east. In fact, it seems that the structure itself is oriented to roughly 115 degrees and it is interesting to note that the bend in the river by which one would access the site from the coast approaches at exactly the



**Figure 2.1 Sketch map of Ma'xan central complex (drawing by A. Kaeding).**

same angle. Of course, these measurements are taken from collapsed construction material and wide-scale overview maps so the precision is certainly questionable. Nevertheless, the rough correlation is intriguing and the practicality of orienting the site towards the river seems probable. South of the central structure lies an interesting feature. It is a rather long, deep

depression that holds more moisture than the surrounding fields. For this reason, it has not been cleared for agriculture, which makes it stand out even more in contrast to its context. Neither the origin nor the function of this feature has been determined, though there have been several suggestions. For example, it seems that at some point in antiquity it may have served a role of water retention (though this doesn't seem particularly necessary at a site on the banks of a river), or as a small agricultural plot for crops that require more moisture. The landowner suggests that it is simply the remaining crater from which the building materials for the central structure were extracted. He also mentioned that he has known the river to crest its high bank on rare occasions in the past and that the depression will fill and hold water from some time indicating that it may be a natural feature.

Off the west, and presumably rear, of the central pyramid, extends a lower linear platform. There are three superstructures upon this platform. It has been interpreted as perhaps a service area for events and ceremonies that were conducted on the central structure itself. It is this platform that was the focus of the archaeological excavations of Operation 1 (Runggaldier and Harrison-Buck, Chapter 11). Beyond the central complex, the modern agricultural fields extend in every direction. These fields are packed with smaller house platforms either directly to the banks of the river or to the edges of what appear to be lower flood plains likely unoccupied due to a higher frequency of flooding. To the southwest of the central structure is a second large pyramidal mass. This feature has been heavily modified by recent activity, having been both cut and added to by bulldozer earthmoving practices. As a result, it is difficult to ascertain its form, but it is certainly in the midst of archaeological settlement including a very long low platform that has been similarly affected by recent land clearing. Furthest to the east within the main field, there seems to have been something of a break in the patterning of settlement. Based on surface collection and a complex of slightly larger house mounds, it seems as though it may represent a later phase of occupation.

## Methods

We approached our intended goal of capturing the different scales of settlement by creating a topographic map of the entire area of visibility. Using a Nikon NPL 352 total station, mapping teams established a survey loop of known and marked datum points around the central complex. This survey loop was closed to establish centimeter accuracy. Data points recorded from that loop then maintain accuracy to the millimeter. From those points the map was then extended in each direction to the extent of either occupation in the northern and southern directions, or visibility as we moved east and west. **Figure 2.2** is the result of this topographical mapping effort. As mentioned above, indications of settlement along the riverbanks are so ubiquitous that bounding sites east to west becomes a somewhat arbitrary process. We also recorded excavation units, some natural features, architectural features and any small finds collected from the surface. Due to the great expanse of land being mapped, it was important to

establish an appropriate distance between recorded points in order to strike a balance between the precision and the area covered. For this reason, we took data points less than a meter apart on mounds and in areas of denser architecture while in larger flat spaces between architecture, points were spaced over two meters apart.

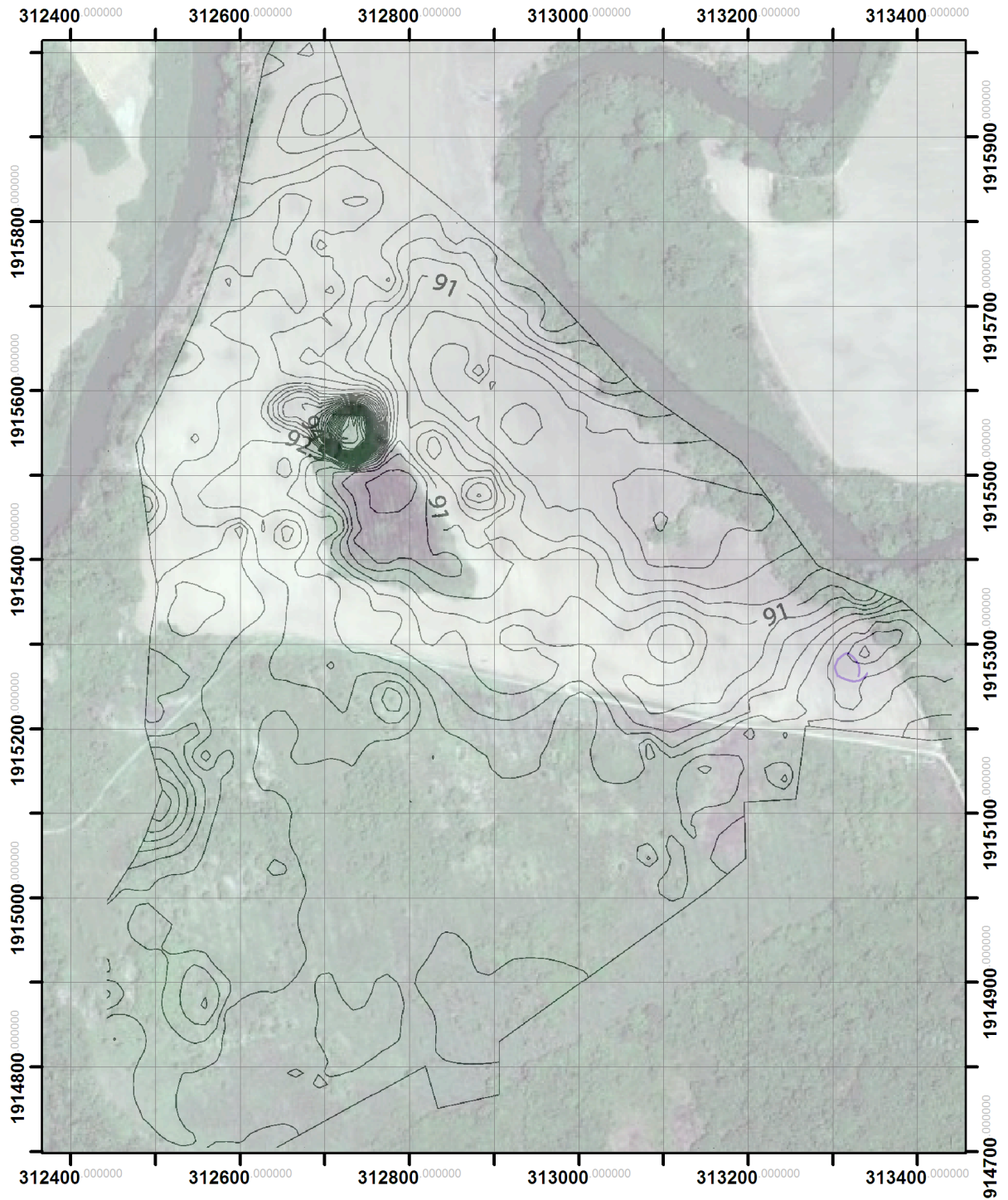


Figure 2.2 Ma'xan topographic map (prepared by A. Kaeding).

## **Interpretations**

With this intensive survey project we have effectively recorded the full extent of what seems to be a two-tier settlement pattern at Ma'xan. Instead of seeing a hierarchy of architecture, the pattern seems to indicate single isolated monumental complexes and an expanse of small house mounds. While drawing any such conclusions requires further research, it seems possible that this is a pattern that will hold out in the region at sites of a contemporary time period. Interestingly, however, it is not typical for the project area at large. The general pattern noted north and east on the other side of the river and farther north toward the limestone ridge includes, alongside these two categories of architecture, an intermediate level of larger plaza groups. This type of regional variation should prove to be of interest in our understanding of the history and politics of the lower Belize River valley as our survey continues. As for Ma'xan proper, artifacts recovered through surface survey as well as excavation indicate that it was likely a hub for specific late-stage production and trade. The density of occupation seems to indicate a prominence of craftsmen/merchants to the exclusion of agricultural pursuits suggesting a separate trade network for importation of staples. Location of the site in regards to the form of the Belize River seems to be posed specifically to take advantage of and exert control over a pinch point of commerce between the coast and the interior of the Peten.

## Chapter 3

### The Archaeological Site of More Tomorrow

*Eleanor Harrison-Buck and Satoru Murata*

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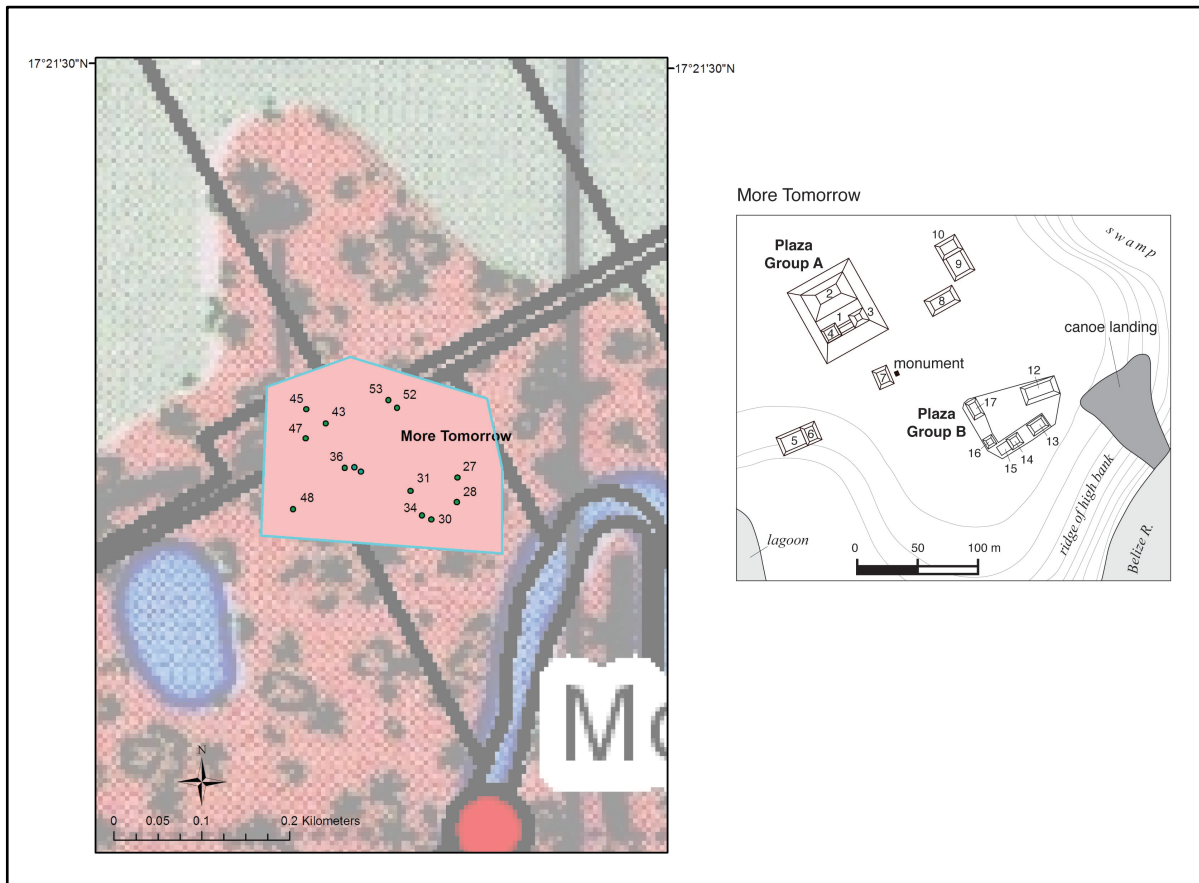
The site of More Tomorrow is located on the north side of the Belize River, directly across from the modern village of More Tomorrow (see **Figures 1.1** and **1.2**). The site consists of at least 13 discrete structures. Two large basal platforms, referred to as Groups A and B, support seven of the structures and the remaining six structures are simpler platforms dispersed throughout the site (**Figure 3.1**). Some modern buildings are located on and around the ancient structures, namely within Group B. Situated on the top of the highest mound in Group B is a small farmhouse belonging to Mr. Rowland, who has lived and farmed this land for many years. His wife, Juanita Baiser, grew up here when it was the village of Moreland, which her father (who was born in 1901) established sometime in the early-to-mid twentieth century<sup>1</sup>.

Although the ancient Maya site of More Tomorrow is located on a high bank of the Belize River, there is a sizeable, artificial cut in the northern bank that offers a broad landing, which today serves as a large canoe slip and provides access to the site (**Figure 3.2**). Mr. Rolland indicated that this cut in the river pre-dated their settlement on the north side of the river and it is possible that it is ancient, but he also acknowledged that he modified the cut with a bulldozer some years ago to make the river's edge more accessible to his cattle. Today, the landing could probably hold 25-50 dugout canoes or more at anyone time and, if ancient, probably would have easily accommodated the canoes needed for the total number of inhabitants that once occupied this site. Below we describe the different architectural complexes that were identified during survey of the site, all of which appear to share a similar layout that is not cardinal, but oriented just west of magnetic north.

#### Group A

Group A consists of a basal platform that represents the highest architectural complex at the site. This large basal platform (referred to as Structure 1) has at least three discrete buildings built on top, referred to as Structures 2, 3, and 4 (see **Figure 3.1**). Structure 2 is a central, pyramidal-like structure (with a large looter's pit on the top) that occupies the northern half of the basal platform. This structure marks the highest point at the site and was estimated to be about 12.5 m in height. The pyramidal structure has the look of a ceremonial building, rather than a residence, although excavation would be necessary to confirm this. Structure 3 occupies the southeastern corner of the basal platform and is significantly smaller in size. Tree fall limited

the visibility, but a slightly lower structure (Structure 4) was identified on the southwestern corner of the basal platform and a long, low mound may connect Structures 3 and 4.



**Figure 3.1 Sketch map of More Tomorrow (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**

## Group B

Group B is another substantial basal platform located southeast of Group A closer to the bank of the Belize River (**Figure 3.1**). When coming up from the canoe landing and entering the site, this substantial plaza group is the first thing one sees. As many as six structures are situated on top of Structure 11, a large basal platform, and the area may represent the elite residence. Structure 12 is the largest of the structures located on the northeastern side of Group B. The flat summit of the mound likely held a perishable building, but today holds Mr. Rolland's small farmhouse. His pigpens were located in the small space between Structures 12 and 13. Along the southern and western edges of the plaza group are a series of smaller stone structures (Structures 13-17) where in some cases walls could be discerned on the surface. A steep bank of the river is found the southern edge of the basal platform, but along the western side of the plaza there is a low floodplain terrace with a more gradual slope. A break between Structures 16 and

17 may have been one of two entrances to Group B, the other is to the north between Structures 17 and 12. In terms of aerial extent, Group B is about as large as Group A, but is probably no more than 5m in height at its highest point on Structure 12.



**Figure 3.2 Canoe slip at the site of More Tomorrow (photographed by E. Harrison-Buck).**

### **Other Structures at More Tomorrow**

Between Groups A and B lie at least four isolated mounds that are substantial in size, but do not appear to be in any kind of formal plaza configuration. Structure 5 is a sizeable platform located roughly 50 m to the southwest of Group A (**Figure 3.1**). The platform contains a high structure (Structure 6) perched on the eastern end of the Structure 5 platform. Areas to the south and west of this structure have spiny bamboo and there is a lagoon there, according to Mr. Mac who led us to the structure. Structure 9 is roughly 70 m east of Group A and has a similar configuration as Structure 5, although it is oriented roughly north-south rather than east-west. There is a small structure (Structure 10) perched on the north end of the Structure 9 platform. Structures 7 and 8 are simple platforms. Located to the east of Structure 7 is a broken stone monument and a line of stones visible on the surface. The monument resembles other repositioned stelae that date to the Postclassic period. The alignment of roughly hewn stone, which extends south from the broken monument, may represent a single course wall and is also

characteristic of the Postclassic period. The position of the monument suggests it may be associated with the front (eastern) side of Structure 7.

## **Concluding Thoughts**

No Postclassic sherds were readily identifiable on the surface here or much of anywhere at the site. However, this is not too surprising given the site has never been plowed and has been mostly used for cattle pasture. There were a few sherds noted in the backdirt of the looter's pit on the summit of Structure 2 that suggested an early date and as we were leaving the site, we crossed the river to a sandy bay on the southern side of the river and found a diagnostic flange of an Early Classic vessel lying on the surface of the beach. The range of architecture and the artifact evidence, albeit limited, hints at a long history for More Tomorrow. In the future, we would like to return to More Tomorrow and formally survey and map the archaeological site. We also would like to perform test excavations at the site to better understand the overall chronology and length of occupation and test whether the different parts of the site are coeval or represent different periods of occupation.

We were grateful to Mr. Marcario Pau, along with his son, for bringing us across to the site and showing us all the structures discussed herein. The village Chairman, Mr. Mike, kindly granted us permission to survey the site and allowed the authors of this chapter to access the site through his property in January 2011. Later in the January 2011 season, Harrison-Buck, Murata, and Kaeding returned to the site from the north side of the river and identified a small household mound located to the east of the site, just slightly downstream from the main civic-ceremonial center<sup>1</sup>. This outlying mound was cleared and planted with a small garden. The mound is somewhat smaller than the other mounds identified in the site center of More Tomorrow. However, the structure is larger than your average simple household platform. Although it is not included on our map here, the mound's location near the site center suggests some degree of affiliation and its size may point to an elite residence. We anticipate that further reconnaissance in 2012 will reveal additional mounds in the surrounding hinterlands, given the size of the civic-ceremonial center of More Tomorrow.

## **Notes**

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<sup>1</sup> Mr. Rolland is about 75 and was able to recall when the north side of the river was a village filled with Creole people and a large number of houses. Today, Mr. Rolland's house is all that remains. Once the Western Highway was paved, things began to change and the younger generation all moved into the cities and the elderly population ultimately died out and the village became abandoned.

<sup>2</sup> This mound is included in the total count of 13 structures identified at the site of More Tomorrow during the January 2011 season.



## Chapter 4

### The Site Center of Kaax Tsaabil

*Adam Kaeding, Satoru Murata, Brian Norris, Eleanor Harrison-Buck, and David Buck*

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Kaax Tsaabil is perhaps the largest single site in the survey region (**Figure 1.1**). Needless to say, we have yet to understand the internal complexity and size of the architecture in the center or the extent of surrounding settlement. What we can discuss, then, is the regional context of this site and its state of preservation. This preliminary report introduces the layout of the ceremonial center to the extent that it is currently understood. Further investigations, planned for the January 2012 season, will surely reveal more. We conclude with a discussion of some of the threats that currently face this important Maya center.

#### Site Context

The site center of Kaax Tsaabil is located squarely in the limestone ridge, a prominent feature that rises up in the landscape about three kilometers north of the Belize River (**Figure 1.2**). It is not adjacent to any body of water in particular but in a very general sense the site sits roughly equidistant from three separate waterways. As has been described for the sites in the vicinity of Colorado Lagoon (Chapter 6), the nearest water bodies seem likely to change considerably according to variation in rainfall by season. As proxy evidence to this effect, local informants showed us a small lagoon immediately to the north of the Kaax Tsaabil complex (reported to be surrounded with archaeological remains), which barely appears on regional maps. At the same time, though many of the sites that we were able to locate during our preliminary survey season are directly associated with water bodies, there is reason to believe that the location of Kaax Tsaabil was aimed at other resources. First, its location between three separate waterways may be indicative of a position of power. Whereas the largest site on any given water body may be interpreted as exerting a measure of control of that feature of the landscape, an even larger site at the intersection of those features may suggest an even higher position in a regional hierarchy. In addition, there is compelling circumstantial evidence suggesting that the site of Kaax Tsaabil may have been located specifically to control the market for limestone. While recognizing the biases of preservation, all of the pre-Columbian sites that we have located in the Belize River Valley were constructed of limestone building materials, but many of them are nowhere near a source for that material. The primary use of the land around Kaax Tsaabil today is the quarrying of limestone. In fact, the modern dirt roads that have provided us access to the

site were clearly constructed for this purpose alone. If a remote ridge has stone of a quality high enough to warrant the construction of a modern road network and establish an active quarry site today, it stands to reason that the stone would have been recognized for its value by the Maya in antiquity as well. Thus, we must consider that a large site in the same exact area may have targeted the same resource.

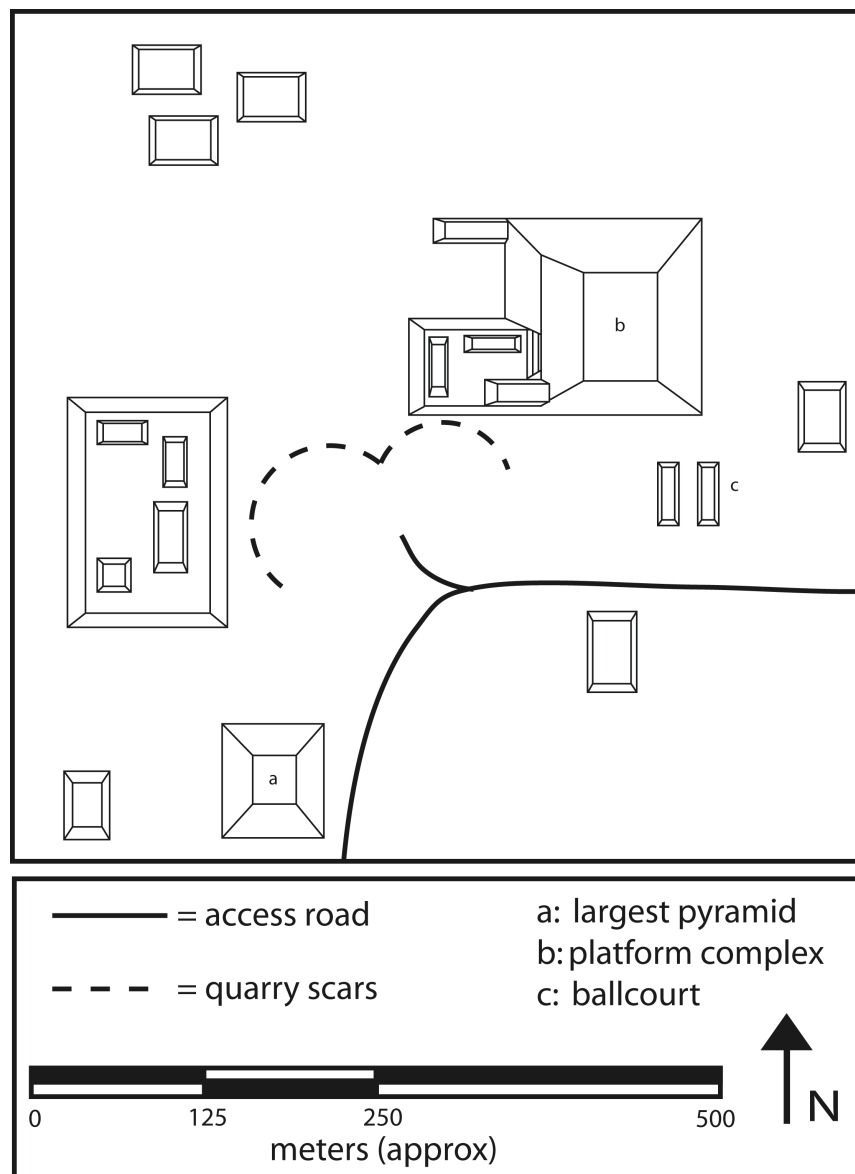
There is one further aspect of Kaax Tsaabil's surroundings that should be mentioned in reference to this preliminary introduction. This concerns the nature of the site as we encountered it first in January and then again in May. Specifically, as elsewhere throughout the survey region, Kaax Tsaabil suffered from the passage of Hurricane Richard in October of 2010. The extent of damage at Kaax Tsaabil is unsurpassed elsewhere in the project area. Some of the largest trees in the area of the site fell during this storm. Their roots often had ripped up sections of at least the latest and sometimes earlier construction phases. The maze of giant trees that covered the site heavily restricted our ability to investigate the area. Less physically harmful but even more archaeologically frustrating, the site was buried deep beneath layer upon layer of fallen palm fronds. The visibility of a site under these circumstances is far worse than any that stands in high canopy jungle or even low scrub forest. A visit to check the site in May showed a very different circumstance. The fallen foliage that had so obscured the site in January had in the intervening months dried up and caught fire. The blaze must have become pretty intense because not only was the storm damage burned off but all of the plants that had survived or grown back in the meantime also were cleared out. The result was incredibly good visibility and access. Our understanding of the site and its extent improved greatly, but because our time during the summer season was budgeted elsewhere many questions still remain.

### **Preliminary Architectural Survey of the Site Center**

On our first visit to the site of Kaax Tsaabil, in fact our first day of the survey season, we encountered what we believe to be the tallest pyramidal structure in the site center (**Figure 4.1**). This pyramid (Structure A), like the remainder of the site, is tucked into, carved out of, and built on top of the natural topography of the limestone ridge. So while this pyramidal structure occupies the southern side of a square sunken plaza, the eastern side appears to be a natural hill. In fact, because of visibility issues and the modified ridge upon which the site is constructed, we initially had our doubts about whether the pyramid was a cultural construction or a natural feature. Upon reaching its apex, however, and noticing the scatters of ceramic sherds that lined a looters' trench, those doubts were removed. What remains to be determined is what percentage of the site is constructed and how much of its mass is a natural rise. Upon closer inspection, we noted alignments of rough and cut stones that suggest there are some areas of fairly well preserved architecture. We also confirmed that the sunken plaza, lower levels and smaller structures that continue to the north and west of the pyramid are man-made constructions. We were able to determine this because the fallen trees that so obscure the area also lifted plaster

surfaces and exposed other ceramic scatters. Large architecture continues in every direction and includes very long low range structures, small pyramidal structures and large open plazas.

Later we found out that this pyramid lies directly north of an access road that turns off of the quarry roads mentioned above. The road continues to the southwest but is quickly impassible by vehicle due to fallen trees. Advancing on foot, we found that the site continues in this direction as well, with relatively large architectural complexes. To the southeast of the pyramid, the preliminary indications are that the density of architecture seems to decline rather dramatically but by no means does it end. In fact, we noted some rather large platforms in this area with ceramic sherds on them.



**Figure 4.1 Preliminary sketch of the site center at Kaax Tsaabil (drawing by A. Kaeding).**

In January, we were fortunate to encounter a local hunter with an intimate knowledge of the area. He offered to guide us to a site with an accessible subterranean chamber. Features like this are somewhat prominent in local understanding of the sites (see Chapter 6), but have yet to be located on the ground. The description provided of this underground chamber by our local guide made it sound like a potential *sascabera* – an ancient cavern created by the Maya to mine soft limestone powder for plaster production. In following our guide to where he thought he could locate the entrance to this underground feature, we found ourselves back at Kaax Tsaabil this time just to the northeast of the large pyramid. Again, massive trees and palm fronds covered the area to such an extent that our guide who had spent much of his life traversing and hunting in the region was unable to recognize his longstanding landmarks. Thus, we were unable to find any underground chambers. The larger architecture in this part of the site, on the other hand, was more distinguishable.

We were struck first by the size of the initial platform that we were surmounting in our search for the cavern. We found ourselves in the middle of very large plaza group with the four buildings on the cardinal sides reaching approximately a meter above the plaza surface which itself rose above the ground surface. We were further surprised to find that the northern building of the plaza group actually abutted another rise onto a sprawling plateau at height of another almost 50 cm or so above the superstructure. As with much of what we have seen at Kaax Tsaabil, this gigantic complex seems to be mainly natural topography modified by construction. The largest, highest platform is almost certainly a natural feature, while the plaza group below it certainly is not. On the other hand, even the highest plateau is very flat, is reported to be the location of the lost chambers, and is variously covered with sherd scatters and possible linear stone alignments so it is likely that it has also received cultural modifications. From atop this highest plateau one can look out above the tree line to great distances in every direction.

This large complex stands just northeast of the highest pyramid. Just south of the platform complex and, therefore east of the pyramid is another area featuring a number of large structures. Interesting among these is a linear arrangement of medium size stones linking some of the buildings together preliminarily looking somewhat like a path. This part of the site is also home to what seems to be one of two ballcourts tentatively identified at the site. **Figure 4.1** presents a preliminary sketch of some of the architectural features introduced above. Because of initial problems of visibility and the great scale of the architecture and its complexity it must be restated that our understanding of the site is in its infancy. This sketch map is reflects that circumstance: the scale is only approximated both in the relative sizes of architectural features and their relationships to each other upon the landscape. Furthermore, the map presents only a handful of examples from even the architecture that we have already visited. Beyond that, the site itself continues in every direction of this map. **Figure 4.1**, then, serves only to hint at the general characteristics of some of the key architectural features of what we believe to be the site center at Kaax Tsaabil. In January 2012, we will do a more systematic survey and map the site in its entirety with the Total Station.

## **Future of the Site**

This is clearly a site that needs to receive further archaeological attention that will start, in an upcoming season, with the creation of a detailed Total Station map. We believe that the site stood as a center of particular importance in the immediate area and likely participated to a high degree in regional trade networks; perhaps serving as a supplier of architectural building materials. Unfortunately, like the vast majority of the sites in the area, Kaax Tsaabil is at risk. First, there is the unavoidable damage that we witnessed as a result of Hurricane Richard. The most immediately frustrating aspect of this damage was the lack of visibility we encountered, but the felled trees also ripped up and effectively destroyed much of the surface layer of the site. Beyond that, the earlier strata that would have been protected by overburden, whether phases of occupation, cached materials, burials or simply internal fill, are now exposed to the elements. Again, such damage is unavoidable but does compel us to approach the site with a sense of urgency.

Far more compelling is the evidence of human activities on the site. Of least concern among these is the illegal logging. While investigating the site, we found several trees that were in the process of being carved on site into boards. It seems quite obvious that these were the actions of opportunistic loggers taking advantage of the trees that had already fallen in the storm. Just the same, it is clear evidence that people are actively using the area for profit. Further and far more damaging evidence leading to the same conclusion is the extensive evidence of looting that we immediately noticed in our brief visits to the site during the January and summer seasons. The highest pyramid at the site center is trenched with a looter's pit at the top along its axis. One plaza area lying between smaller buildings features an expertly square-cut excavation exposing multiple construction phases marked by stark white layers indicating re-plastering events. One building just to the east of this plaza has been even more heavily looted. It stands as a relatively high range structure and has been cut into on both ends. One of these is a trench cutting in perpendicular to the structure's access on its south side. The other likely started as its symmetrical counterpart on the northwest corner. This trench seems likely to have encountered a burial that inspired further tunneling into the center of the structure, which undermines its architectural integrity and promises to eventually collapse. These three incidents of looting are just a few examples of what we have encountered so far and represent only a small percentage of the overall damage at the site that such activities have wrought over the years.

The final and perhaps most pressing threat that currently faces Kaax Tsaabil involves the quarrying activity in and around the site, which is on-going. The site sits on a limestone ridge that was selected as the source for paving and building materials, presumably for the vast Mennonite agricultural activities immediately south of the site. There are two features to have developed from this investment. The quarrying activities have resulted in dry, flat, gravel roads that now run directly from major access roads along the Belize River to the core of Kaax Tsaabil. Assuming that the looting described above was carried out on a small scale some time ago when

access to the site was more difficult, the road networks that have improved accessibility to the site pose a renewed threat of looting in the future.

The second feature, which poses an immediate threat and is potentially far more significant, is the quarrying activity itself. Changes in the quarry were noticed by our team between January 2011 and the summer season and suggest that the quarrying activity is not a thing of the past, but is on going. There are two gigantic scars that have been cut the limestone ridge in half at the termini of the quarrying roads. These gapping holes directly abut the known architecture of the largest plaza complex described above. The cuts are just south of that complex and east of the area housing the ballcourt and ancient road-like feature. The quarry also abuts the western side of the complex that houses the tallest pyramid. It would be naively optimistic to hope that while tearing out stone with heavy machinery the operators carefully stopped the project at the very edge of pre-Columbian occupation on all sides. And according to one local informant from More Tomorrow, the wholesale destruction of entire pyramids took place here in the face of this particular industrial advance. Perhaps the reality lies somewhere between the two extremes, but there can be no doubt that a significant loss of cultural material and context has already occurred here. The most pressing threat that faces Kaax Tsaabil is that this quarrying activity seems to have been reinitiated and our greatest fear is that in a short period of time, this important could be completely stripped from the landscape, converted to road fill, and lost forever. Now that the substantial investment in clearing the hurricane damage has been taken care of by the fires, our plans are to survey and map the site in January 2012 and in the future, test the site with excavation to record what is left before further destruction occurs.

## Chapter 5

# Hinterland Settlement East, West, and North of Saturday Creek: Lak'in, Chik'in, and Xaman

*Satoru Murata, Adam Kaeding, and Eleanor Harrison-Buck*

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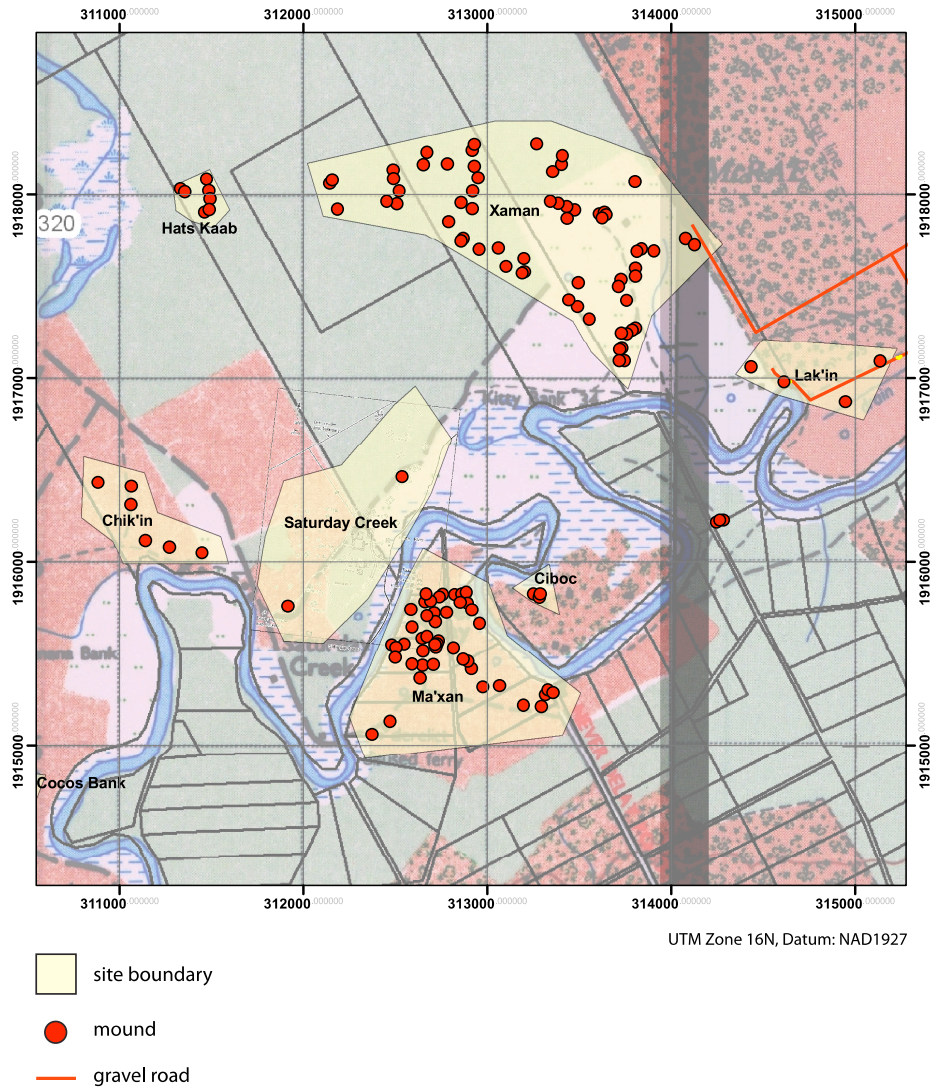
The site of Saturday Creek is located on the north side of the Belize River in the BREA study area (**Figure 1.2**), directly across the river from the site of Ma'xan (see Chapter 4). Saturday Creek was surveyed, mapped, and test excavated by the Valley of Peace Archaeology (VOPA) project between 1997 and 2001 (Lucero et al. 2004:91-95). During the two BREA survey seasons in 2011, we noted numerous mounds to the north, east, and west of Saturday Creek proper, likely made visible by continued clearing and plowing of the area by the Mennonite landowners. While our initial instinct was to treat them as extensions of Saturday Creek—which is what they likely are—we have decided to give them distinct site names so that what the BREA project defines is not confused with what was documented by the VOPA project, referred to in the literature as Saturday Creek. We report on the groups of mounds to the west (Chik'in) and east (Xaman) in this chapter. The group of mounds to the north (Hats Kaab) is discussed in Chapter 8 as well as Chapter 10. We also briefly describe another site further to the southeast of Xaman (Lak'in).

### Chik'in

Chik'in is a group of mounds directly to the west of Saturday Creek (**Figure 5.1**). The mounds were identified visually from the adjacent dirt road, and their locations subsequently recorded using a Trimble GeoXH handheld GPS unit while conducting non-systematic pedestrian survey. As of our initial survey (January 2011), it is separated from Saturday Creek proper by a gravel road and some fences marking a property boundary. A narrow strip of cow pasture exists along the property boundary, with some clearly visible mounds in it; these have not been recorded yet. There is no reason to believe there was a physical separation between Chik'in and Saturday Creek proper in antiquity.

We so far have recorded six mounds in Chik'in, all less than around 3 m in height, and all dispersed in a modern plowed field, without any forming a formal plaza group. The area currently bounded as the site of Chik'in in our map (see **Figure 5.1**) corresponds roughly to the area that we surveyed on foot; hence, the total number of mounds in this area should be equal to, or not many more than the current six we have on record. However, we have visually noted the presence of more mounds outside this area, especially to the south and to the west (i.e., along the northern bank of the Belize River). Crop marks visible in satellite/aerial photograph imagery

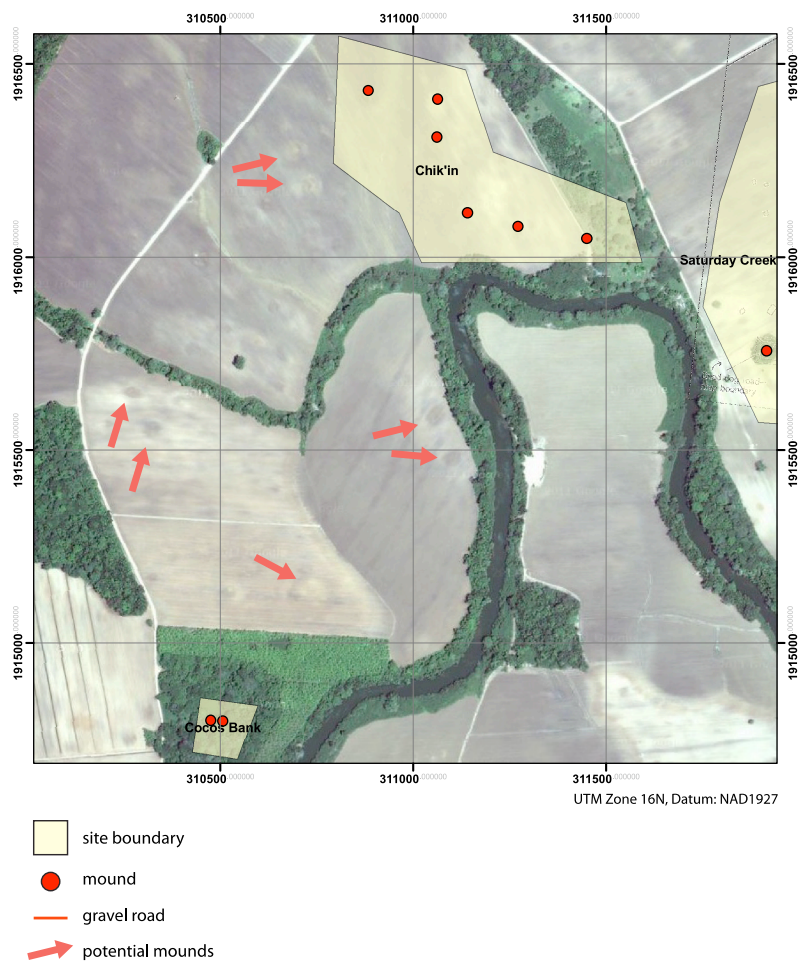
available on Google Maps (**Figure 5.2**) suggest that this series of mounds continues south mostly uninterrupted down to the site of Cocos Bank—what Lucero and others refer to as Three Sisters (Lucero et al. 2004:94). In the future, this area should be, at the very least, surveyed on foot and the obvious mounds therein be mapped with a GPS.



**Figure 5.1. Map showing the locations of Saturday Creek and the three sites mentioned in this chapter.**

While we conducted little in terms of surface collection, there were several notable characteristics regarding the surface artifact scatters. One of the mounds (tentatively numbered 11014A-21) displayed an abundance of lithics, especially obsidian blades and cores—one of several “obsidian mounds” as we referred to them that we came across in 2011. There is a good





**Figure 5.2. Crop marks seen in aerial imagery, marking the possible locations of mounds.**

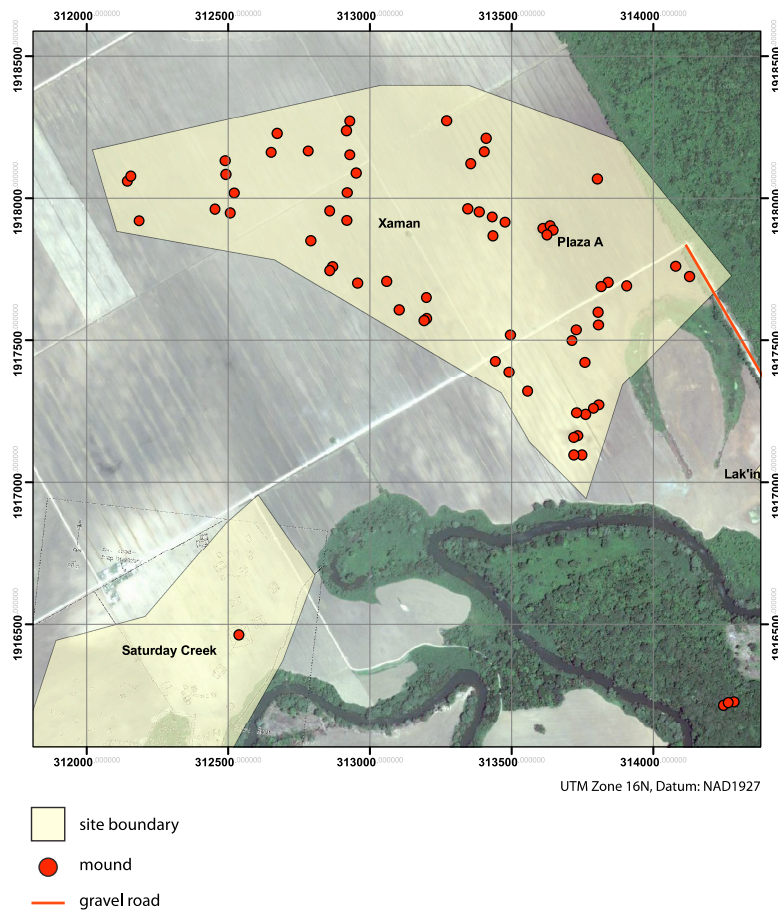
chance that the mound represents an obsidian (and other lithic) production locale; however, as we saw in Operation 2 at Ma’xan (see Chapter 13), it may be the case that all *in situ* traces of production activities have been destroyed by repeated plowing. Nevertheless, it may be worthwhile to collect some of the obsidian for sourcing in the future. Another noteworthy find at the site is the relatively dense clustering of historical period artifacts found at the current southern boundary of the site. This area has been given a separate name—Stallworth-McRae Site—the further investigations of which are reported in Chapter 16.

## Xaman

Xaman is an extensive cluster of numerous mounds located to the east of Saturday Creek, entirely within a modern plowed field (see **Figure 5.1**). After identifying a moderately sized formal plaza group around 300 m northwest of the gravel road (Plaza A), we conducted a non-

systematic pedestrian survey of the surrounding plowed field, and recorded the locations of further mounds using the Trimble GeoXH handheld GPS unit.

So far, we have identified and recorded over 60 mounds; however, many of the large gaps that can be seen between the mounds—and, consequently, some of the apparent linear alignments of the mounds—are likely due, in large part, to sampling bias. That is to say, a more thorough and systematic survey of this area probably will fill in many of the gaps, and reveal a denser concentration of mounds. At the same time, the western edge of the current boundary is definitely an artifact of our sampling; more mounds have been visually identified to the west, and there is little reason to believe that there will be an appreciable gap between Xaman and Saturday Creek proper (**Figure 5.3**). The northern and eastern boundary may be slightly more real, in that we did notice a drop in mound frequency in those directions; this, however, should be further ground-truthed.



**Figure 5.3. The site of Xaman.**

Within the current boundary of Xaman, Plaza A contains the largest mounds and the most well defined architectural configuration. The main reason behind this is because the current landowners have chosen not to plow over this plaza group, constructed on top of a slightly (< 1 m) raised platform, creating an “island” of trees and bush in the middle of the plowed field. Instead, the landowners chose to use the platform as a dumping ground for some of the larger limestone boulders that they churned up in the plowing of their fields; thus, there is a large pile of stones in the middle of the plaza as well as the northeast corner of the platform (**Figure 5.4**).

The platform is c. 70 m on a side with four range structures arranged more or less cardinally, perhaps oriented a few degrees west of north. The eastern structure seems to have an exterior staircase (**Figure 5.4**). We found some evidence of possible pottery vessel smashing event (termination?) on top of the southern range structure. One of the potsherds was an Indian Creek Polychrome (11020A-18), a clear Terminal Classic marker, at least in the lower reaches of the Sibun River valley (Harrison-Buck 2007). Being one of very few architectural remains in these cleared and plowed fields that have remained free of destruction by modern plowing, this plaza may be a good candidate for excavation in the future.

Most of the other mounds at Xaman are smaller, earthen/amorphous mounds, not exceeding 2 m in height, which are dispersed across the landscape without being arranged into formal plaza groups. There are several that have been marked as range structures and/or platforms, occurring in pairs of mounds separated by 20 – 30 meters, that seem to represent more formal architectural arrangements. However, structure orientation is extremely difficult to discern when they have been intensively and extensively plowed repeatedly over the years, as has been the case with these mounds around Saturday Creek.

## **Lak'in**

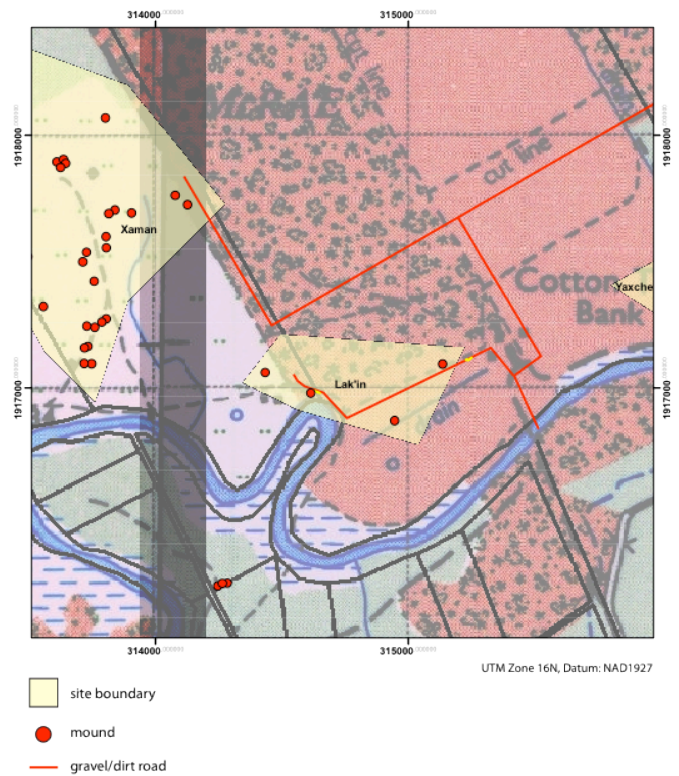
Lak'in is a loosely grouped set of mounds located to the southeast of Xaman and west of an area referred to in maps as Cotton Tree Bank (**Figure 5.5**). Access to the site is possible from the Mennonite gravel road to the north, via a road that heads southeast down to the Belize River, where there are multiple abandoned and/or partially constructed modern buildings, and a boat landing to cross the river to the Rock Dondo Road. We have recorded mounds both to the east and west of this access road. Those to the west are the site of Lak'in. The group of mounds east of this access road is called Yaxche Nal (see Chapter 9).

There is a path that follows what, according to one map, seems to be an old logging road, which extends to the southwest from Cotton Tree Bank. Along this path on the north side was a relatively large and tall (c. 40 m across, 5 m tall) platform (11019A-9) with a roughly NE-SW orientation (**Figure 5.6**). This platform has remnants of an abandoned modern cement structure on its summit. No artifacts were collected.

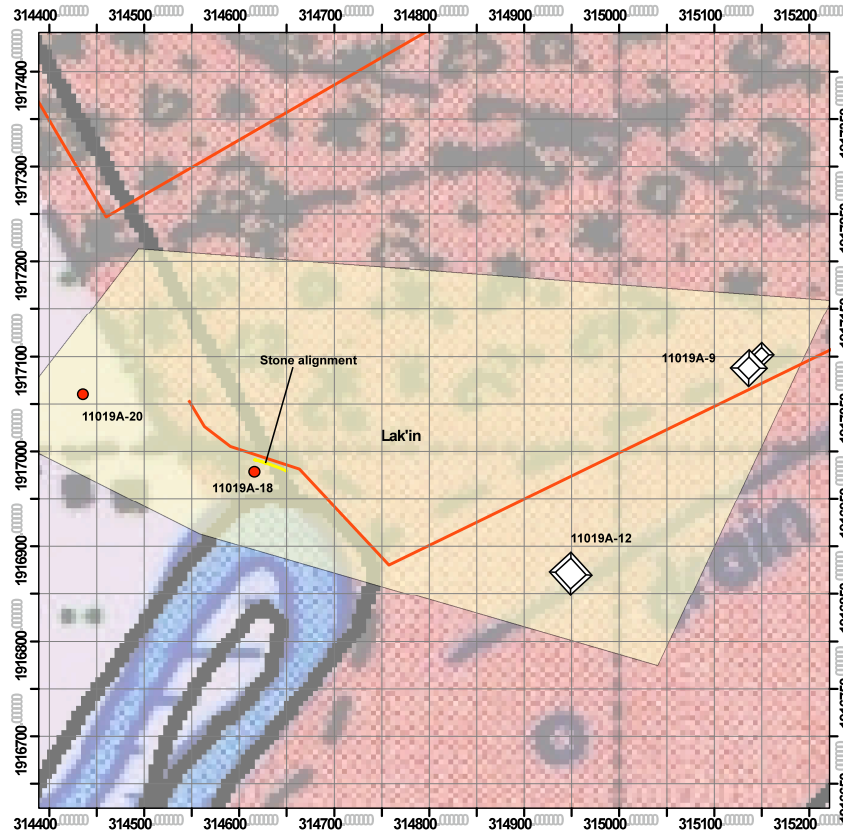
To the south of the path is an open pasture where dozens of cows are left to roam freely. In this pasture, around 300 m southwest of 11019A-9, is a low and wide platform, around 35 m on a side, lying in the middle of what appears to be an old orchard (11019A-12). We did not



**Figure 5.4. Xaman Plaza A (field drawing by E. Harrison-Buck; digitized by S. Murata.**



**Figure 5.5. Lak'in and its relation to Xaman; note that three of the mounds in the site are inside the bush (or semi-cleared pasture), the western-most mound is in the plowed field.**



**Figure 5.6. Close-up of Lak'in and its structures.**

locate any other mounds in the surrounding area, which may suggest that this platform is of a non-residential nature. Alternatively, smaller mounds may have been completely obscured by the furrowing activities in the past, related to the abandoned orchard.

We continued our pedestrian survey, walking along the gravel road following the bend in the Belize River. Several lines of large stones were noted along side sections of the gravel road. At the bend in the river, the line of stone was clear enough to map with the GPS (see yellow in **Figure 5.6**). These alignments of roughly hewn stone run along the northern side of another low platform mound (11019A-18) located right along the high banks of the Belize River where it makes a sharp bend. Some Postclassic sherds were noted around the surface of this mound. Similar lines of stone (in some instances, running parallel with one another about 5-10 m apart and sometimes but not always aligning with the modern gravel road) were noted in the vicinity of other sites in the BREA study area, including at More Tomorrow and Kaax Tsaabil. They resemble ancient roads or *sacbeob* found at the site of Caracol farther south in Belize (Arlen Chase, personal communication to Eleanor Harrison-Buck 2011). Therefore, it is possible these lines of stone represent the remains of ancient Maya roads. Alternatively, they could be historic logging roads, although these traditionally do not contain roughly hewn stone lining the edges, but contain large culverts on one side for drainage.

Two hundred meters northwest of 11019A-18, in the southeast corner of the Mennonite cornfield—the same one that includes Saturday Creek and Xaman—was another mound in the cleared field (11019A-20). Aerial imagery shows another “island” that the landowners have chosen not to plow in the gap between Lak’in and Xaman, perhaps suggesting the presence of more Maya structures to the northwest. We have yet to survey this area between 11019A-20 and the southern-most mounds of Xaman, so it would not be surprising to find in the future that these two sites are contiguous.

## Conclusions

Saturday Creek and its surrounding areas to the east, north, and west of the site, have been extensively cleared and plowed by modern landowners. The level of destruction is extremely high, with each pass of the plow—usually occurring multiple times a year—shaving off inches, if not feet, of material from the top and destroying the ancient archaeological remains in the process. This destruction, unfortunately, means that some data have been lost forever. In order to access pristine data, we would need to delve into the uncleared sections of jungle that are adjacent to areas with concentrations of known mounds, such as the area immediately to the west of Hats Kaab (**Figure 5.1**; see also **Figure 1.2**).

On the other hand, such an open and cleanly plowed environment offers a rare opportunity for one to identify and record extremely small structures at a near 100% visibility. A thorough, systematic pedestrian survey of this c. 13 km<sup>2</sup> cleared and plowed area offers invaluable insight into the density of settlement in this part of the middle reaches of the Belize River valley.

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## Chapter 6

# Sites Near Colorado Lagoon: Chumúuk Ha, Chikin Chi'Haal, and Hats Kaab

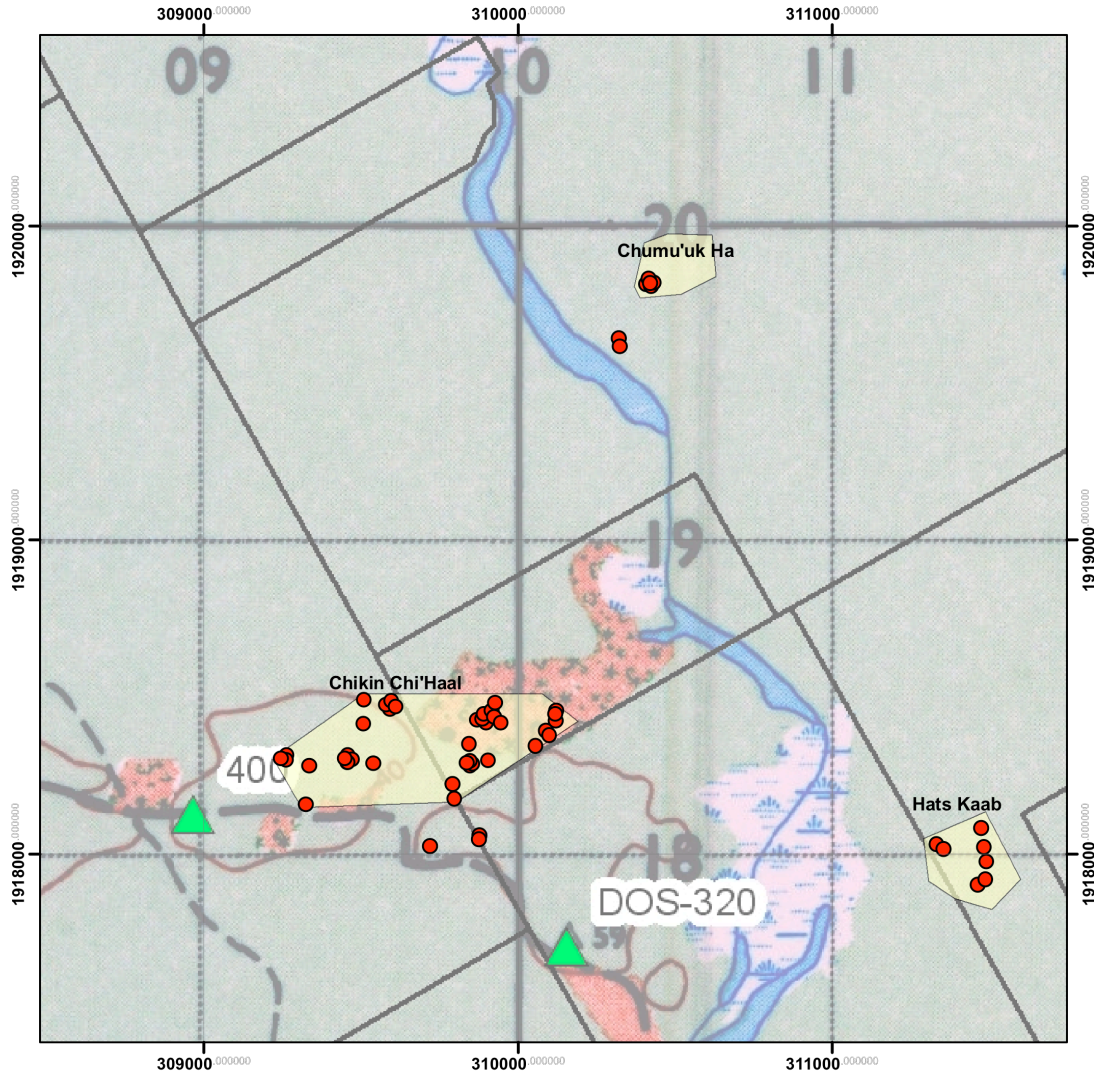
*Adam Kaeding and Satoru Murata*

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Roughly two kilometers north of the Belize River from where Saturday Creek enters, lies a north-south running sequence of three lakes. According to local informants, these three lakes are well connected and navigable during the rainy season and some of them have evidence of ancient Maya settlement (**Figure 6.1**). During the dry season, the lakes are separate bodies of water. Though it is not entirely clear, it seems as though the whole sequence of lakes is collectively referred to as Colorado Lagoon. The northernmost lake is the smallest and local informants did not report having ever encountered any archaeological remains in the vicinity of this lake. Although we heard reports of a small path leading to the northernmost lake, we found it generally inaccessible and were unable to survey this area during the 2011 season. The central and medium-sized lake is more accessible as it is the focus of what seems to be a fairly recent clearing operation. This effort allowed us to survey very nearly the entire perimeter of the lake through a walking survey in the exposed areas. Though there was good visibility to an average distance of roughly 400 meters from the lakeshore, we encountered only one complex of archaeological interest at the site of Chumúuk Ha (refer to **Figure 6.1**). In the southernmost lake, on the other hand, we found a great deal of evidence for a fairly dense and perhaps long-term occupation at the sites of Chikin Chi'Haal and Hats Kaab. All of the archaeological settlements identified in this area appear oriented to the series of lakes and, therefore, it is possible they formed some kind of network or inter-related in some way. Yet, they appear to be spatially discrete and preliminary impressions indicate that they may be temporally distinct as well. For that reason, the three discrete groups of mounds—referred to herein as Chumúuk Ha, Chikin Chi'Haal, and Hats Kaab—are discussed individually and defined below as individual settlement areas.

### Chumúuk Ha

First, we will briefly discuss the northern plaza group located west of the central lake of the Colorado Lagoon sequence. Because of its association with this central body of water, this site has been preliminarily assigned the name of Chumúuk Ha – or “Middle Lake/Water” in Yucatec. As mentioned above and depicted in **Figure 6.2**, this was a single plaza group at the edge of an area that had been cleared by recent agricultural activity. Relatively small work crews have made substantial headway in clearing plots of otherwise very dense vegetation. On the west side of the lake at the edge of a field that has been cut and burned we encountered a



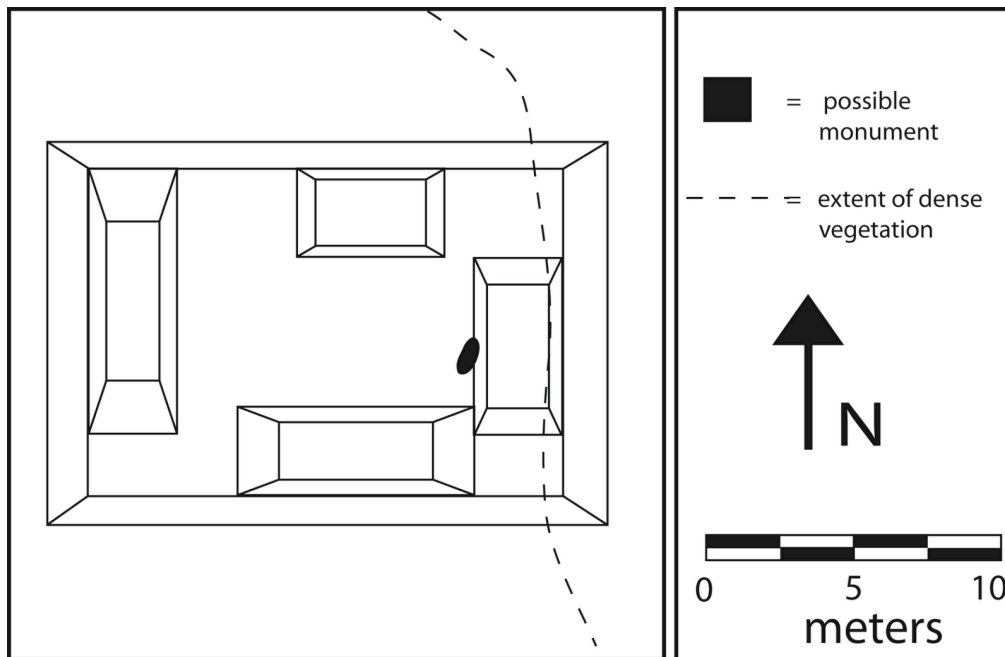
**Figure 6.1 Map of the Colorado Lagoon Complex (prepared by S. Murata).**

square plaza complex featuring four rectangular range structures on a square platform. The platform is about 25 meters by 15 meters with its long axis oriented toward the east. While most of the superstructures are the same height at 0.60 m above the platform, the western building is clearly the focus of the plaza rising to 1 meter. Near the southwest corner, there is a large stone lying on the plaza surface in most direct association with the eastern building. Though no evidence of carving is visible on the stone, it is much larger than the other stones in the complex and given its context, it may represent a stone monument, such as a stela. To the southwest of this plaza group we were able to locate a few small house mounds. These were typical of the small house mounds that we have seen elsewhere in the survey region – about 3 x 3 m and rising to about 0.5 m in height.

Following the wild fires during late spring 2011, we returned to check on the status of the site. With the increased visibility and accessibility, we pressed farther east into the un-cleared



forest. Architecture associated with this platform continues with larger platform buildings and range structures. Unfortunately, some of the buildings have suffered extensive looting. It is interesting to note that in the entire perimeter around the central lake, we did not locate any other cultural materials. While this may represent the actual settlement pattern, it is also quite possible that it is a product of survey bias. In our later survey of the southern lake of the Colorado Lagoon series, we were informed that the wet season can result in a very dramatic increase in the water level of the lakes. The owners of a ranch surrounding that southern lake indicated the general extent of that flooding and it seemed upon preliminary inspection to coordinate fairly well with the extent of ancient occupation. The plaza complex that we were able to locate nearest the central lake, the Chumuuk Ha West Plaza, is probably 500 meters from the current lakeshore and at the furthest extent of the cleared land. If this clearing is roughly equivalent to the flood zone, then evidence of occupation would only be expected farther away, rather than closer to the lakeshore. The density of vegetation is such that any architecture in this area, even immediately adjacent to the plaza group, would be obscured by the bush and would necessitate a more intensive clearing operation to be revealed.



**Figure 6.2 Chumuuk Ha West Plaza (drawing by A. Kaeding).**

## Chikin Chi'Haal

Perhaps the most substantial occupation in the area of Colorado Lagoon is centered on the western side of the southern lake. The largest portion of the settlement, referred to herein as the Center, is found just west of the shores of the lagoon, but there is substantial settlement to the south and further west that runs along an east-west ridge (Figure 6.3). This ridge feature is what gives the site its name – Chikin Chi'Haal, or West Rim. In direct contrast to the dense vegetation surrounding the central portion of Colorado Lagoon, the area around the southern lagoon is largely exposed through a combination of outcrops in the topography and open pasture for cattle farming. Again, the contrast between the dense cover elsewhere and the open visibility in this area may account for a degree of survey bias, but information gleaned from local informants suggest that our impressions are correct in terms of the general settlement pattern.

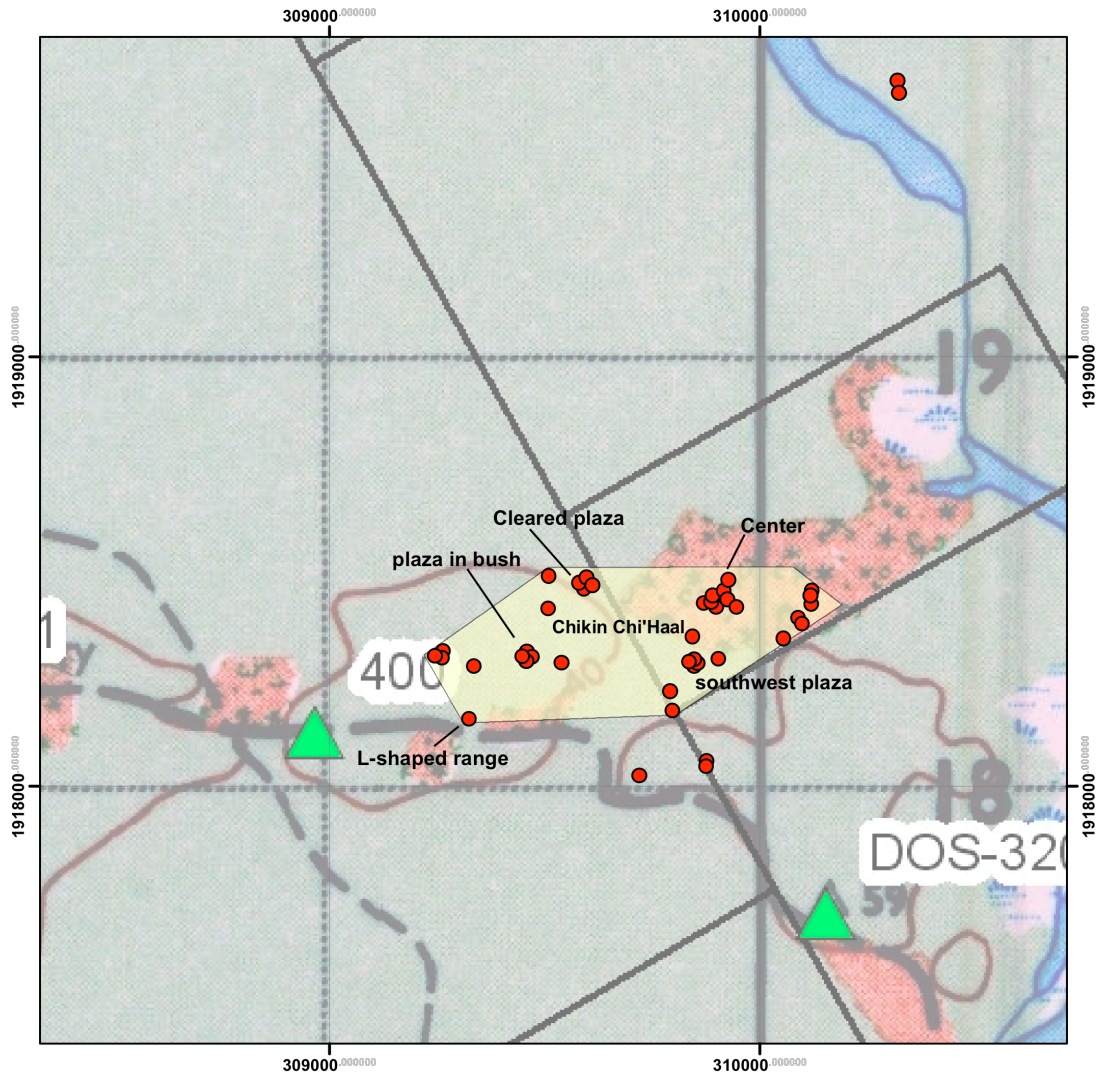
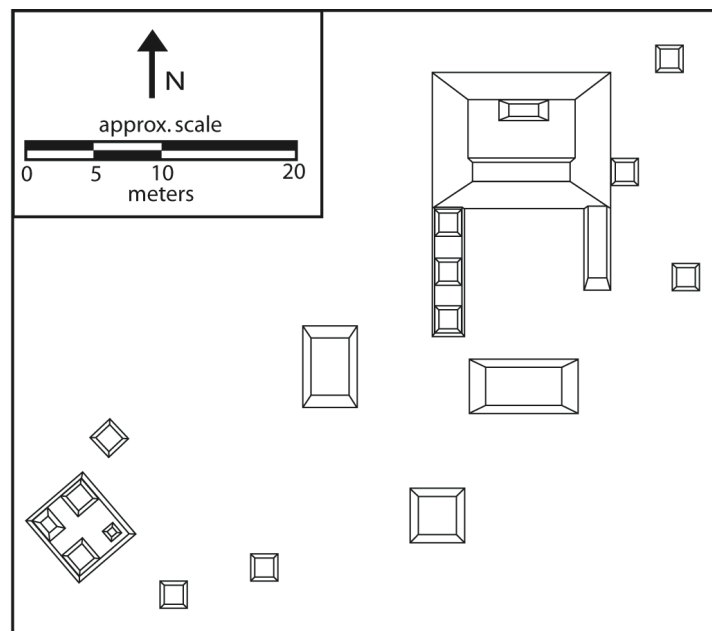


Figure 6.3 Chikin Chi'Haal, showing different areas of the site (prepared by S. Murata)

Extending west from the southern lakeshore is a long, high ridge that leads up into the hills of the Yalbac area. This entire ridge seems to have been a focus for ancient occupation and there is a linear stretch of fairly dense architecture running along it. Before discussing the specifics, it is important to note that restrictions on our time and the extent of our permit area have not allowed us to satisfactorily bound this site to the west. Instead, we believe we have identified the largest, most significant architecture and enough of the westward extension to get an idea of the relative density of occupation along this ridge. A more complete understanding must await further research.

Nearest the lake is a fairly large, privately owned plot in which the owner pursues several economic activities. Among these is the raising of a small herd of cattle. This circumstance is ideal in the region, in terms of site preservation. More often, we are faced with vegetation so dense that it entirely obscures any archaeological signature, or encounter agricultural clearing and plowing that is so aggressive the site has quite nearly been destroyed. Areas dedicated to livestock provide a happy medium of cleared visibility without too much site destruction. To that end, we have been able to document what we believe is the center of Chikin Chi'Haal (nearest to the Colorado Lagoon) with greater accuracy and detail. This area likely represents the elite center of the site. It is dominated by a large eight meter high platform structure with two lower (1.5 m high) range structures extending south from the east and west sides of the southern face of the platform (**Figure 6.4**). The western range structure appears to contain three small superstructures on top of an even lower rectangular platform. The eastern range structure appears to be a single building and does not, in fact, extend quite as far to the south as its western counterpart. South of these range structures is another mound, reaching roughly 2 m in height and parallel to the largest platform, effectively closing off the plaza group here at the base of the



**Figure 6.4 Chikin Chi'Haal Center (drawing by A. Kaeding).**

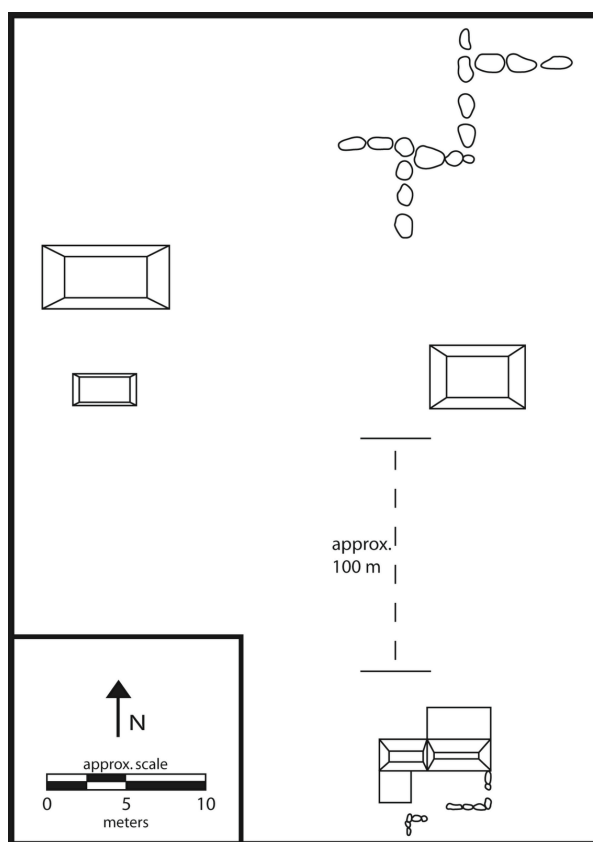
highest structure. On top of the highest platform is a separate small plaza group. The platform itself reaches a height of about eight meters but the entire southern edge houses a superstructure that stands another meter higher (reaching 9 m above the ground level). In the center of the northern edge stands a smaller but taller superstructure reaching a height of probably 10 m above the ground level. Thus, the large platform that forms the northern structure of a four-building plaza group is, in fact, a substructure housing a separate restricted access patio area.

Though this is the largest architectural complex in the area, and likely a significant center of occupation, there is also another smaller plaza group to the southwest (Southwest Plaza) and other smaller house mounds litter the area (see **Figure 6.3**). These smaller mounds measure roughly two meters square and at least three structures are about double that size, but all appear to be residential in nature. There is also one structure to the east of the East Plaza that is pyramidal in shape, measuring roughly 4 m tall with a 4 m<sup>2</sup> base, and could perhaps be interpreted as ceremonial in function (refer to **Figure 6.3**). This structure has been modified somewhat by modern irrigation activities. Some of the mounds mentioned earlier also have encountered some modern disturbance but, according to the landowner, destructive activity has been minimal. In a number of cases, rather than having been dug into, some of the mounds have had stones and debris pushed up against them from bulldozing activities in the pasture where they are located. To that end, excavation may reveal a layer of modern backdirt overlying the mounds, but the cultural deposits and associated architecture is likely intact.

Although smaller in scale than the site center, settlement continues westward with a relatively high degree of density. This series of house mounds and plaza groups west of the site center consist of a long, linear expanse of settlement along a ridgeline that runs east-west (see **Figure 6.3**). The majority of the cultural material seems to be the smaller, isolated house mounds that dominate elsewhere in the region though there are at least two more plaza complexes and isolated features. Of the more formal plaza complexes, one group along the ridge is well cleared, again, seemingly for livestock. Like the site center, nearest the lake, this cleared plaza complex to the west is very well preserved in comparison to those that have been cleared for planting. In addition, we encountered another plaza group in fairly dense scrub forest (refer to **Figure 6.3**). That forest is so dense that only after the careful GPS mapping of what we thought were disparate mounds did we realize that this was, in fact, a plaza group. Among the cultural remains in this low forest are a number of other mounds including one that is fairly tall and, according to our local informant, once housed a sort of tunnel that allowed access into the mound itself. No such access exists any longer so it is unclear if this was a feature of the pre-Columbian architecture or a later disturbance or perhaps a product of local collective imagination. Interestingly, at the massive site of Kaax Tsaabil far to the east, different local informants reported similar access points into the mounds. No such features were located at Kaax Tsaabil either.

In the next exposed field to the west, an intricate L-shaped range structure was found at the very edge of the road that passes along the ridge (**Figure 6.3**). Though this structure is not particularly large, it is very well preserved to the degree that specific stone alignments and

ceramic scatters are visible on the surface. Farther north in the so-called Western Group we encountered more mounds, many of which are the same size as the region's standard house mounds while others are a bit larger. One other set of features that stands out in this field are several alignments of very large boulders that appear to have been laid as a single course directly on the surface (**Figure 6.5**). These boulders are so large (relative to the construction materials associated with the mounds) that our initial impression was that they were natural outcrops of stone associated with the ridge. Upon further inspection, however, these massive stones run in straight lines and meet at right angles and, in some cases, are cardinally oriented (as shown in **Figure 6.5**). We do not yet know the specific purpose of this architectural feature. How far to the west this ridge settlement continues remains an open question. However, in the areas of thicker vegetation cover between the exposed fields, we have seen similar alignments.



**Figure 6.5 Chikin Chi'Haal Western Group (drawing by A. Kaeding).**

We were unable to continue our survey to the west due to time constraints, but there is no reason to believe that this settlement patterns stops anywhere near this field. To the contrary, every exposed field along the ridge has revealed a very nearly equal density of the same types of small house mounds and plaza groups. For this reason, the conservative prediction is that the same density exists throughout the western field and Colorado Lagoon.

## **Hats Kaab**

Across the lake from the center of the Chikin' Chi'Haal settlement there is another large architectural complex known as Hats Kaab. Unfortunately, this complex is located in an expansive field dedicated to intensive corn agriculture. For this reason, the structures of this site and the associated cultural materials are severely threatened. Like the settlement on the western side of the river, the site of Hats Kaab, is not at the edge of the lake in the dry season. Again, it is most likely that these sites are built near the furthest extent of water during high floods. Hats Kaab has been intensively mapped and is presented in Chapter 8. East of Hats Kaab, we encountered Xaman, a dense and sprawling distribution of small house mounds that likely is associated with the ceremonial center of Saturday Creek, located to the south in closer proximity to the Belize River (see **Figure 5.1**). We spent a day during the January field season attempting to assess the density and distribution of these house mounds extending west and north from the largest plaza group (Plaza A) at Xaman (see Murata et al., Chapter 5 and **Figure 5.3**).

Interestingly, we encountered a clear break between Xaman and Hats Kaab to the west in the distribution of house mounds associated with each area. Of course, further survey is necessary to understand the extent and relationship between both settlements but the pattern so far recorded strongly suggests that these are independent sites and may represent temporally discrete occupations. Incidentally, Hats Kaab is mentioned here due to its proximity to Colorado Lagoon and certainly that is not coincidental. However, based on our preliminary assessments, there is no overwhelming evidence at this point that associates it more with the other Colorado Lagoon sites, than those immediately to the east and south along the river itself.

## **Conclusions**

Our initial impressions indicate that the area around Colorado Lagoon and the extending limestone ridge provides a population nucleus distinct from the Belize River itself. Not only are they geographically distinct, but the initial impressions indicate that the architecture has significant differences as well. Among the Colorado sites, large restricted-access plaza groups predominate, while the same are rather proportionately underrepresented at sites along the Belize River, at sites like Saturday Creek and Ma'xan. Further research will be necessary to determine whether these are cultural, economic or temporal distinctions. Likewise, it would be beneficial in the future to examine the western reach of settlement along the limestone ridge. It could be that the sprawl along that ridge is rooted in the west, perhaps more in the area of Yalbac, which may be further indication of a political relationship between this area and the settlements of the upper Belize River and points farther west.

## Chapter 7

# Survey of the Spanish Creek Wildlife Sanctuary and in and around Rancho Dolores

*Eleanor Harrison-Buck and David Buck*

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During the January 2011 season, BREA project members surveyed some of the area around the Spanish Creek Wildlife Sanctuary and in and around the modern village of Rancho Dolores, located on the banks of the Spanish Creek (**Figure 1.1**). Rancho Dolores is a small, rural village and is bordered by large tracts of conservation land. The Spanish Creek Wildlife Sanctuary (SCWS), a 5985 acre Wildlife Sanctuary Declaration, is located to the south of the village along the east side of the Spanish Creek. Just to the west of SCWS is the Spanish Creek Rainforest Reserve, a privately-owned 1978-acre nature reserve just outside of Rancho Dolores with three miles of river frontage along the west side of the Spanish Creek. Additionally, outside of the BREA study area the vast Rio Bravo Conservation and Management Area is located to the northwest of the Spanish Creek Rainforest Reserve, and Programme for Belize lands are to the west. Many ancient Maya settlements exist in these forested areas, although dense bush makes these areas more difficult to access.

While in Rancho Dolores, we met with Mr. Raymond Reneau who offered a great deal of information about the locations of the ancient Maya sites in the area. Mr. Raymond offered field assistance and guided us to a number of ancient Maya sites in and around the community, including a site located in the town of Rancho Dolores itself, as well as the Yax Pak'ab Che' site, which is found at the nearby Spanish Creek Rainforest Reserve. He also facilitated archaeological reconnaissance in the remote parts of the Spanish Creek Wildlife Sanctuary, providing us with canoes and arranging workmen to help clear select areas.

The goals of our research in January 2011 were to conduct an initial reconnaissance in and around the village of Rancho Dolores and into parts of the Spanish Creek Wildlife Sanctuary to determine locations for future survey, mapping, and excavation. We identified a sizeable ancient Maya settlement in the village of Rancho Dolores (on record at the Institute of Archaeology in Belmopan) and several other smaller settlement areas along the banks of the Spanish Creek. Our hope is to return to this area in the summer of 2012 to continue investigations in this part of the BREA study area. Below, we provide a brief overview of our preliminary findings from our January 2011 survey.

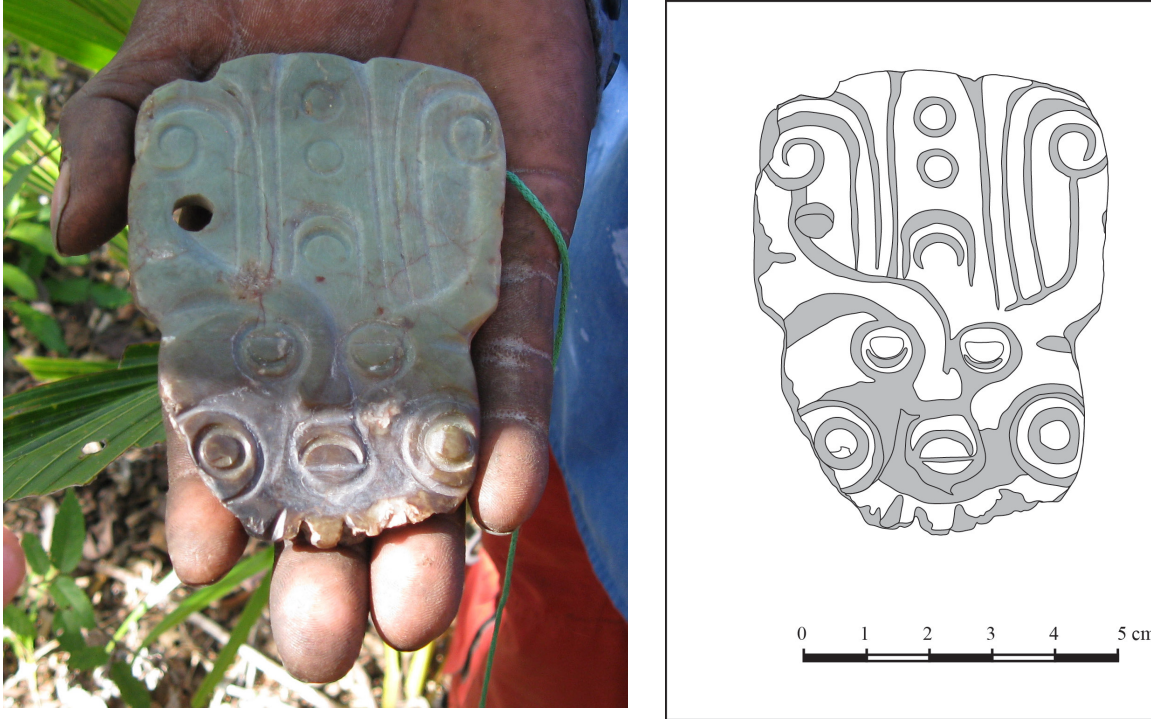
## Rancho Dolores

The archaeological site of Rancho Dolores that we surveyed in January 2011 was in the confines of the village of Rancho Dolores and appears to be situated along the western side of the Spanish Creek. We started our survey near the Community Center in Rancho Dolores, located just after the Spanish Creek bridge on the west side at the main junction with the road (going west to Hillbank and north to Limonal). We surveyed to the south and north of this main junction along the western side of the Spanish Creek. We did not survey the east side of the Spanish Creek in 2011, but Mr. Raymond indicated that this side of the lagoon is low and swampy and may not be well suited for settlement. We walked north along a dirt road that apparently leads all the way to Lecomal. About a hundred meters (or less) up the road we encountered a pair of mounds. These two substantial platform structures were found just to the west off the dirt road on Mr. Sutherland's property. The two mounds run parallel to one another and may represent a ballcourt. Part of this complex is in bush to the north, inhibiting the visibility, but there may be another large mound just to the north of the "ballcourt" complex. The mounds are not cardinally oriented, but appear to be oriented perhaps thirty degrees (or more) east of north.

A little farther up the road to the north we identified another mound that the road bisected. A line of stones running east-west could be seen on the surface of the dirt road and may represent the edge of a terraced platform structure. This structure appears to be cardinally oriented, unlike the nearby "ballcourt" complex. Forest on either side of the road limited the visibility and clearing of bush is necessary, but Mr. Raymond and others informed us that at least six more large mounds exist on either side of the dirt road in the bush. Local informants also told us that more mounds exist to the northwest and to the north on Violet Jeffer's property in Rancho Dolores. The "ballcourt" complex and series of mounds described by local informants suggest this area marks the ceremonial center of Rancho Dolores and that the site, if it stretches farther to the north, may represent a substantial center along the west side of Spanish Creek.

The site of Rancho Dolores appears to also extend south of the main junction along the west side of the Spanish Creek. At the junction, we drove west and then south to Mr. Raymond's house. Here, he told us about a small site (probably a continuation of the site to the north along the west side of Spanish Creek). He showed us a small mound that was located right next to his house and small shed. Here, he found an intact carved jade plaque (**Figure 7.1**), which he said was lying face down on the surface of what appears to be a small house mound, near the southwest corner of structure. Given our time constraints, we were unable to conduct a comprehensive survey of the Rancho Dolores site in 2011, but plan to return in 2012 to further investigate the area and hopefully map the entire site with a Total Station.

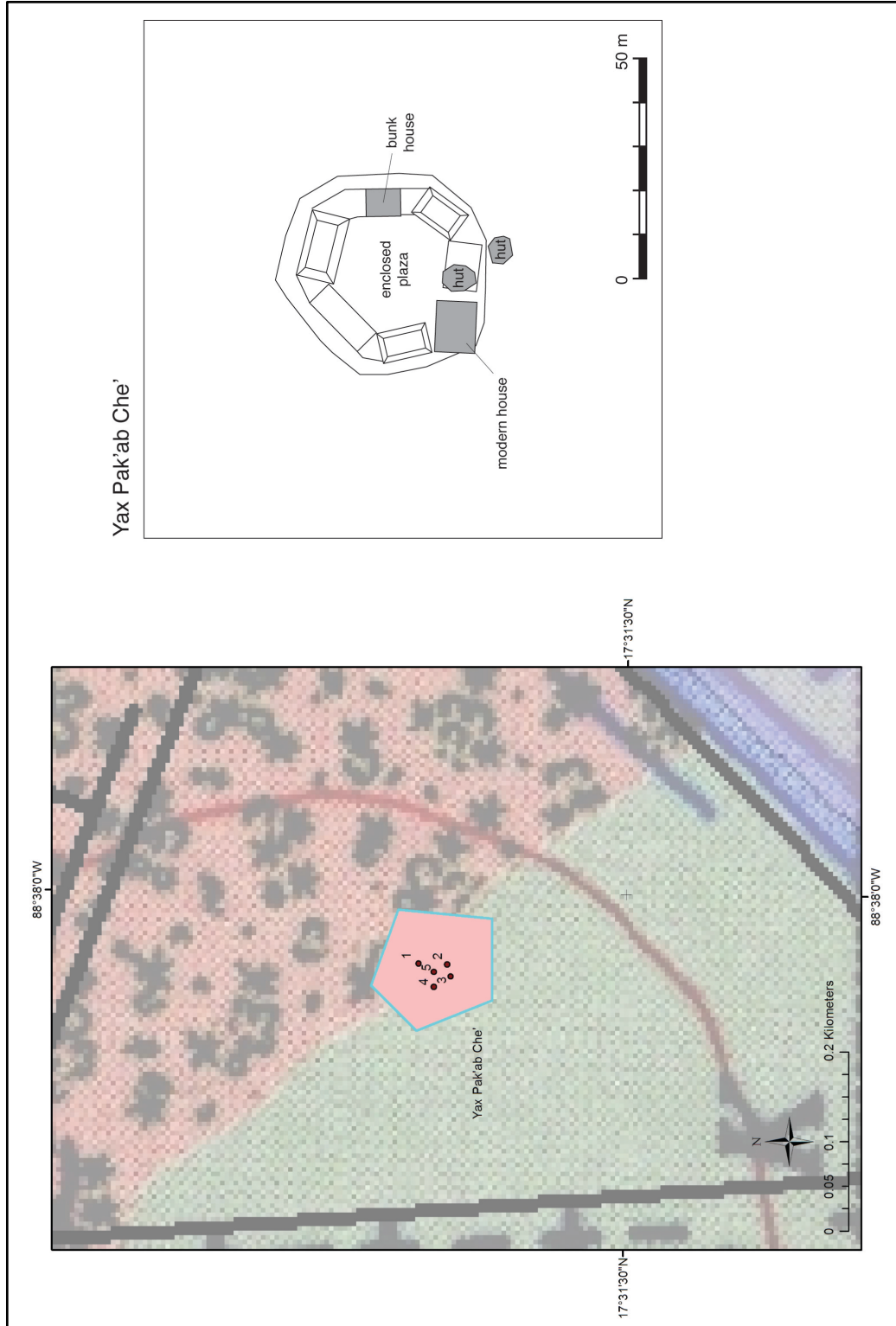




**Figure 7.1 Jade Plaque (photo by B. Norris; illustration by M. Brouwer Burg).**

### **Spanish Creek Rainforest Reserve: Yax Pak'ab Che'**

Mr. Raymond took us to another site farther south along the western side of the Spanish Creek. The site is located on the property of the Spanish Creek Rainforest Reserve, owned by Mr. Marc Ellenby, an American from Florida. The small site, which the BREA project named Yax Pak'ab Che', consists of an enclosed plaza group containing at least five mounds (**Figure 7.2**). Set on a low basal platform, the group of mounds includes a sizeable residential platform structure along the northern side of the plaza (**Figure 7.3**). Unfortunately, a field station, bunkhouse, and gazebo have been constructed directly over top of the mounds and the modern foundations have disturbed the ancient structures somewhat. Given the location of the modern buildings, excavation of these structures would be challenging, but there are at least two structures (including the largest residential platform along the northern side) that have not been disturbed by modern construction. Low grass covers the plaza and it is relatively open and clear of bush, but few artifacts were observed on the surface, although the owners apparently collected a bag of artifacts (mostly ceramics) when construction occurred at the site that should be examined in the future.



**Figure 7.2 Sketch map of Yax Pak'ab Che' (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**



**Figure 7.3 Photo of main mound at Yax Pak'ab Che' (photo by E. Harrison-Buck).**

### **Spanish Creek Wildlife Sanctuary: Kahal tuucha' ("Place of the Monkey")**

During the January season, our survey team surveyed on two separate days in the Spanish Creek Wildlife Sanctuary (SCWS). Both days involved trekking into the remote parts of the sanctuary where Mr. Raymond and other local villagers led us to several small sites located near the end of the Spanish Creek drainage (see **Figure 1.1**). These sites were accessed via boat and then on foot. We canoed about an hour or more south down the Spanish Creek to where the drainage (leading to the Belize River) became impassable due to rocks and rapids. There, we tied up the canoes and hiked another hour and a half into the forest. Here, we found a number of mounds, some as high as 4 meters, and several more substantial clusters of mounds, which we referred to as Kahal Tuucha'. Here, a formal plaza of at least five mounds was identified, which appears to be oriented east of north (**Figure 7.4**). Several artifacts were collected from areas disturbed by tree fall. Surprisingly, the site showed no evidence of looting. In the formal plaza group on the top surface of the northernmost platform structure, a tree hole had exposed a

portion of a burial. Fragments of human bone were noted and a small jade bead and some associated ceramics were collected and GPS points were taken as reference points.

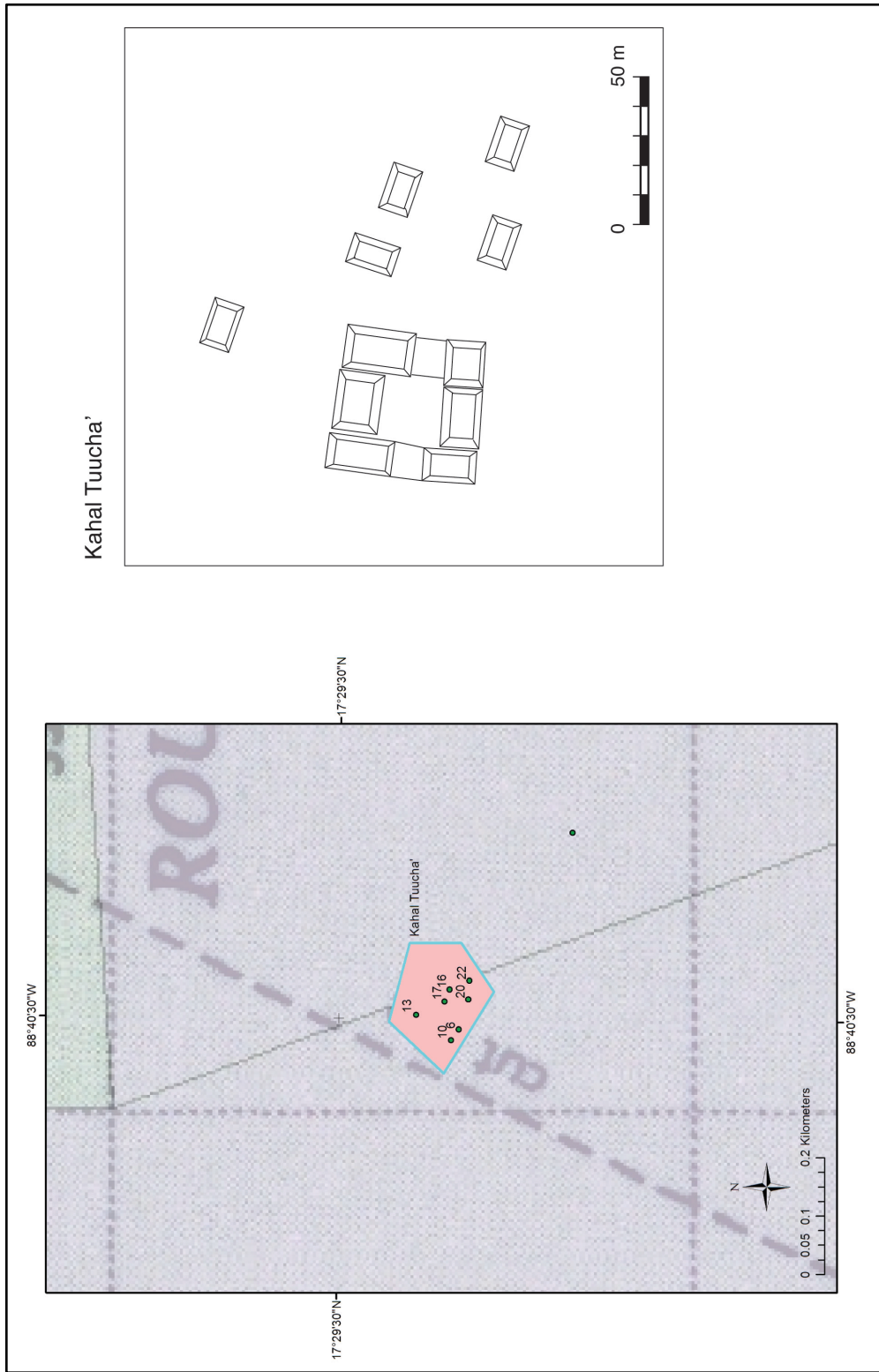


Figure 7.4 Sketch map of Kahal Tuucha' (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).

According to Mr. Raymond, more sites exist in the SCWS. However, due to the extensive tree fall caused by Hurricane Richard in October of 2010, many sites have been difficult for them to re-locate (even for park rangers, like Mr. Albert Gill and Mr. George Albert Tucker, who assisted us in our survey work and know the sanctuary well). One site Mr. Raymond described may be a large pyramidal structure. He described it as a “temple” flanked on either side by two smaller structures. He recalled that in front of this “temple” was a raised platform and a road (or ramp?) lined with low walls that led up to the central building. He believes this site is located closer to the headwaters of Ram Goat Creek on the far west side of the SCWS or possibly just outside of the sanctuary on private land. Our hope is to be able to re-locate this and other sites in and around the sanctuary and map them in the future.

### **Local Oral Histories**

In addition to helping us locate archaeological sites in the vicinity of Spanish Creek, Mr. Raymond offered us valuable oral histories concerning more recent (colonial) history in this part of Belize. Although he is only 45, Mr. Raymond recalled to us some important oral histories passed down from his grandfather about the use of the Spanish Creek as a main route of passage from the New River and areas north. This passage is also documented in ethnohistoric literature as one of two north-south routes used by the Spanish Conquistadors in their efforts to subjugate the southern Lowland Maya during the sixteenth and seventeenth centuries (Jones 1989; Scholes and Thompson 1977). Mr. Raymond’s grandfather mentioned that his ancestors experienced frequent raids by “foreigners” coming from the north, which may refer to the northern Maya raids during the Caste War between 1847–1901. During this time, conflict occurred on and off in this area and although there was less violence after 1868, some raids and rebel factions still occurred. In the future, we will continue to document such valuable oral histories with local villagers in the eastern Belize Watershed, along side the archaeological remains.

### **References Cited**

Jones, Grant D.

1989        *Maya Resistance to Spanish Rule: Time and History on a Colonial Frontier*.  
University of New Mexico Press, Albuquerque.

Scholes, France V. and Sir Eric Thompson

1977        The Francisco Pérez Probanza of 1654-1656 and the Matrícula of Tipu (Belize). In  
*Anthropology and History in Yucatán*, edited by Grant D. Jones, pp. 43-68. University of Texas  
Press, Austin.

## Chapter 8

# Survey and Mapping of Hum Chaak and Hats Kaab

*Satoru Murata*

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In addition to survey and mapping at the site of Ma'xan (see Chapter 2), we mapped two more sites using the total station during the summer 2011 season, which is summarized in this chapter—the sites of Hum Chaak (see Chapter 14 for a discussion on excavation there) and Hats Kaab (see Chapter 10). We used a slightly different approach to establishing temporary datums at these two sites from that used at Ma'xan, so this is explained below, after which I summarize the results of the mapping programs at each of the sites.

### Method

Instead of setting an arbitrary backsight using tape and compass, as was done at Ma'xan, we set up two points using the Trimble GeoXH GPS unit, and use those to establish semi-permanent markers, which should, in theory, be accurate enough as to require minimum amount of adjusting in the future. Below is an outline of the process.

(1) First, we set a base station point on which the total station will be first set up. A rebar rod is driven into the ground, and its UTM coordinates are measured with the Trimble GeoXH handheld GPS unit. We let the GPS rest on the rebar until the error range displayed reaches around 16-17 cm. We assume that these *coordinates* are accurate (assumption 1). Since the error range for elevation tends to exceed several meters, the elevation reading is rounded to the nearest multiple of five.

(2) Next, we set a backsight point that is as far away from the base station point as possible, but within sight and shooting distance from the base. UTM coordinates are taken for this point as well. While the *distance* between the two points (which can be derived from trigonometric calculation) will be inaccurate, we assume that the *azimuth* between the base point and this backsight point is accurate (assumption 2). This is because even a cumulative error of 50 cm between two points that are, e.g., 500 m apart, will only result in an angular error of less than 0.06 degrees. If the two points are separated by 1 km, the angular error will be less than 0.03 degrees; in either of these cases, the error would be small enough so that a generated map of any particular site will be highly accurate in terms of site orientation.

(3) A total station shot is taken from the base station point to the backsight point. This will inform us the accurate distance between the two points, as well as the difference in elevation.

We use the latter to calculate the relative elevation for the backsight point.

(4) Since we are assuming that the azimuth between these two points is accurate, the “correct” coordinates of the backsight will be somewhere along the extension of the line drawn between the base station point and the backsight point, where the distance away from the base station point equals the distance derived in step (3).

(5) With the above in mind, we are able to calculate the azimuth from the two sets of UTM coordinates, then the coordinates of the “corrected” backsight point using the distance (as measured by the total station) and the calculated azimuth (**Figure 8.1**). We can then use the coordinates and elevations for the base station point and the “corrected” backsight point as the two known points on the landscape to go forth with the rest of the mapping. Obviously, since both assumptions (1 and 2 above) are *incorrect*, there will be inaccuracies throughout the entire map.

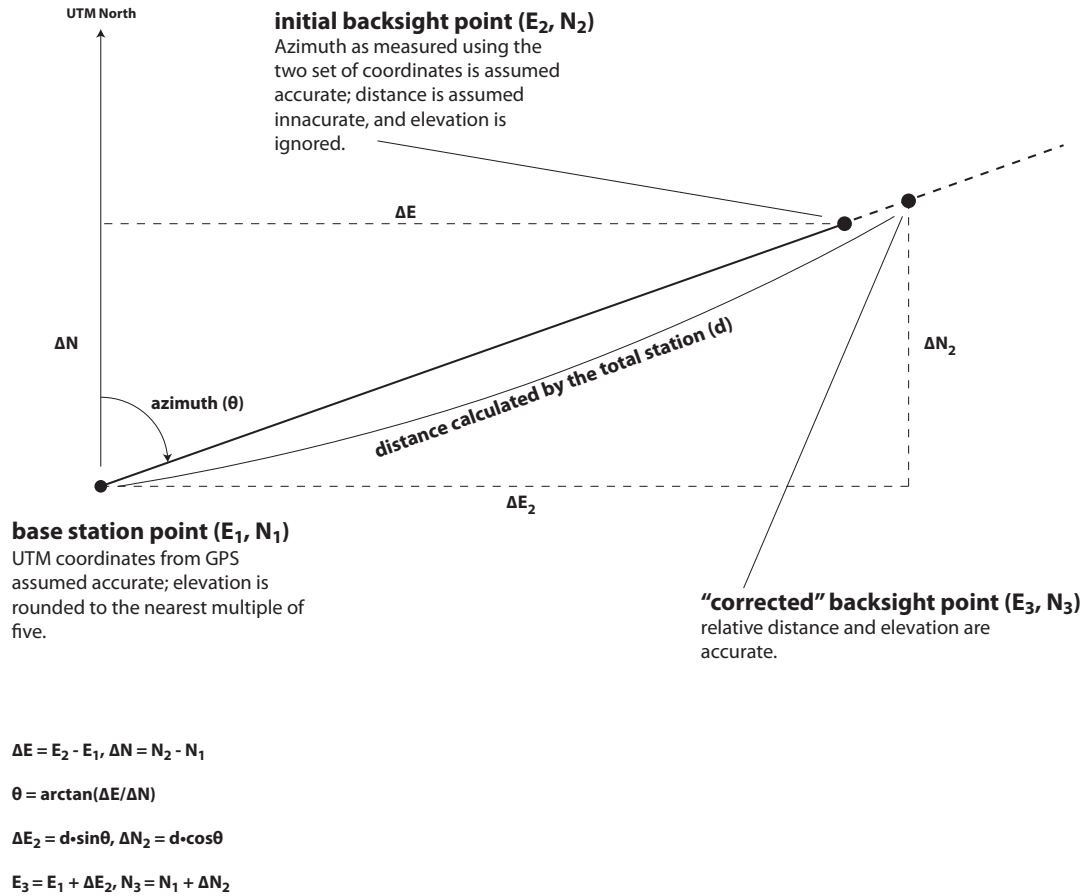
Specifically, there are three steps that need to be taken in the future for improved accuracy:

(1) The UTM coordinates for the base station point are inaccurate, with an error range of around 20 – 25 cm, which results in *all* points on the map to be inaccurate by at least this same distance. This can be rectified in the future by “tying in” the base station point to nearby survey markers using the total station, or, with the use of more accurate GPS technology. The horizontal shift in the coordinates is, then, applied to *all* the points on the map, including the backsight point.

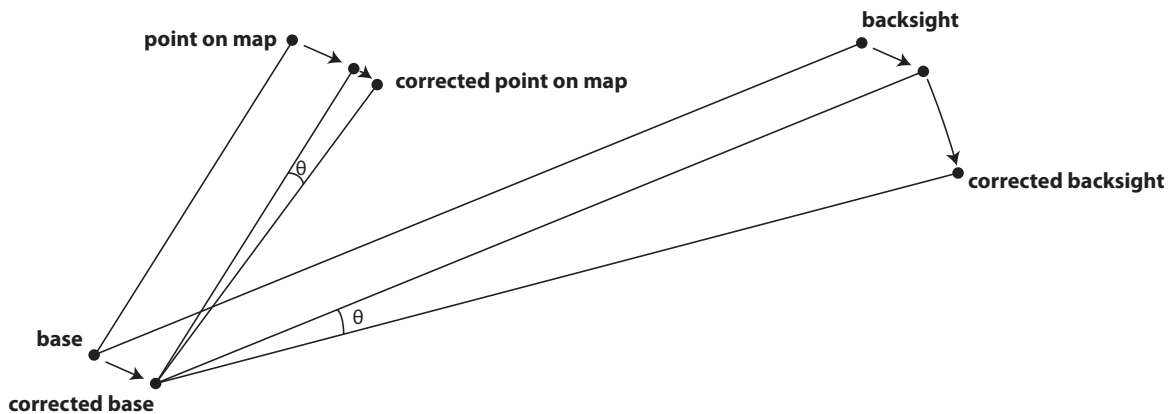
(2) The elevation for the base station is inaccurate, with an error range of at least several meters; this can be rectified in the future by “tying in” this point to a nearby survey marker. The vertical shift is then applied to all the other points on the map, including the backsight point.

(3) While the relative distance from the base station point to the backsight point is already accurate, the azimuth is inaccurate; this can be rectified in the future by “tying in” the backsight point to nearby survey markers using the total station, or, with the use of more accurate GPS technology. Since the corrected base station point calculated in step (1) above is accurate, the backsight point is corrected, *not* by shifting the point horizontally, but rather *rotating* the point around the corrected base station; the amount of rotation required here ( $\theta$ ) is, then, applied to *all* points on the map.

With these three steps (**Figure 8.2**), all points will become as accurate as they would have been if we had tied in the base station and the backsight to known survey markers from the beginning; this method allows us to conduct the survey/mapping work prior to the tie-in, while retaining a relatively high degree of accuracy in both the horizontal position (~25 cm) as well as the orientation of the mapped points (<0.1 degrees).



**Figure 8.1.** How to calculate the coordinates for the “corrected backsight point” based on GPS readings and the two “assumptions” mentioned in the body.



**Figure 8.2.** How to correct the points on the map if/when more accurate coordinates can be obtained for at least two points on the map (or the semi-permanent markers).



**Table 8.1. Coordinates and arbitrary elevations of four semi-permanent markers (rebar rods) placed in and around the site of Hum Chaak. These numbers should be used in the future if a more accurate map is desired, by following the steps (1)-(3) above.**

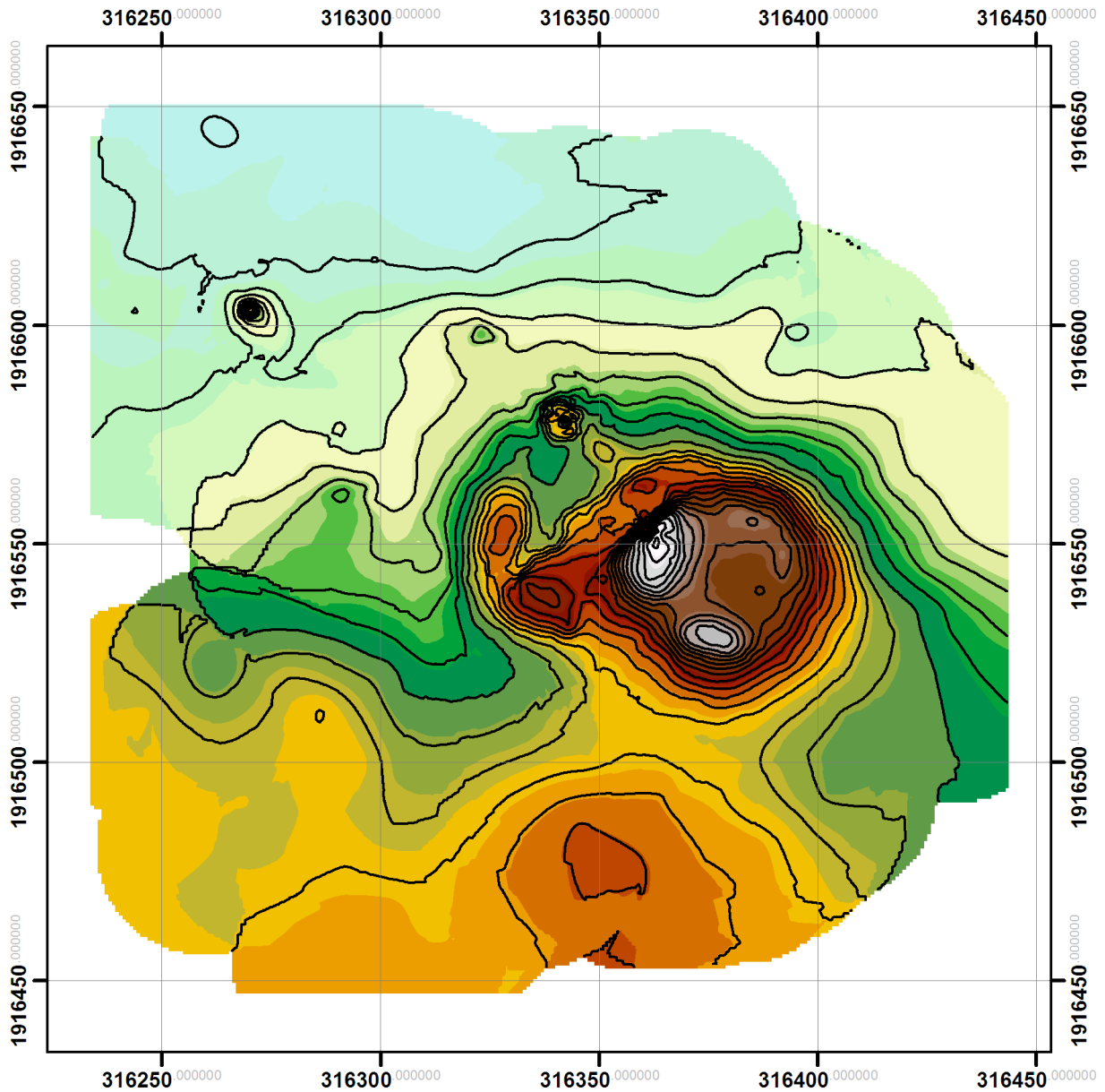
Station ID	Easting	Northing	Elevation	Notes
1	316194.91	1916656.72	30.0	On south side of road, immediately north of the site
2	316531.09	1916829.579	30.105	On south side of road, before a bend in the road
3	316331.239	1916563.938	31.689	On the northeastern slope of a platform facing the circular structure
4	316361.68	1916543.2	34.88	On the western end of the main platform, on the south side of the main structure

## Hum Chaak

The site of Hum Chaak is on the south side of the Belize River, around 4 km southwest of the community of More Tomorrow. It is accessible from the north from a road that connects More Tomorrow and Rock Dondo. A rebar was driven into the ground on the south side of the road, immediately north of the site, as the initial base station point. Another rebar was placed on the same side of the road around 380 m to the east, where the road takes a slight bend; the rebar was placed so that in the case that a total station survey is to be conducted in the future to tie in the map, this location would have a clear shot in both directions of the road (**Figure 8.3**). Using these two points, two more semi-permanent rebar rods were driven in the ground within the site itself on structures. The UTM coordinates and elevations of these four semi-permanent markers as acquired in the way mentioned above, are listed in **Table 8.1**.

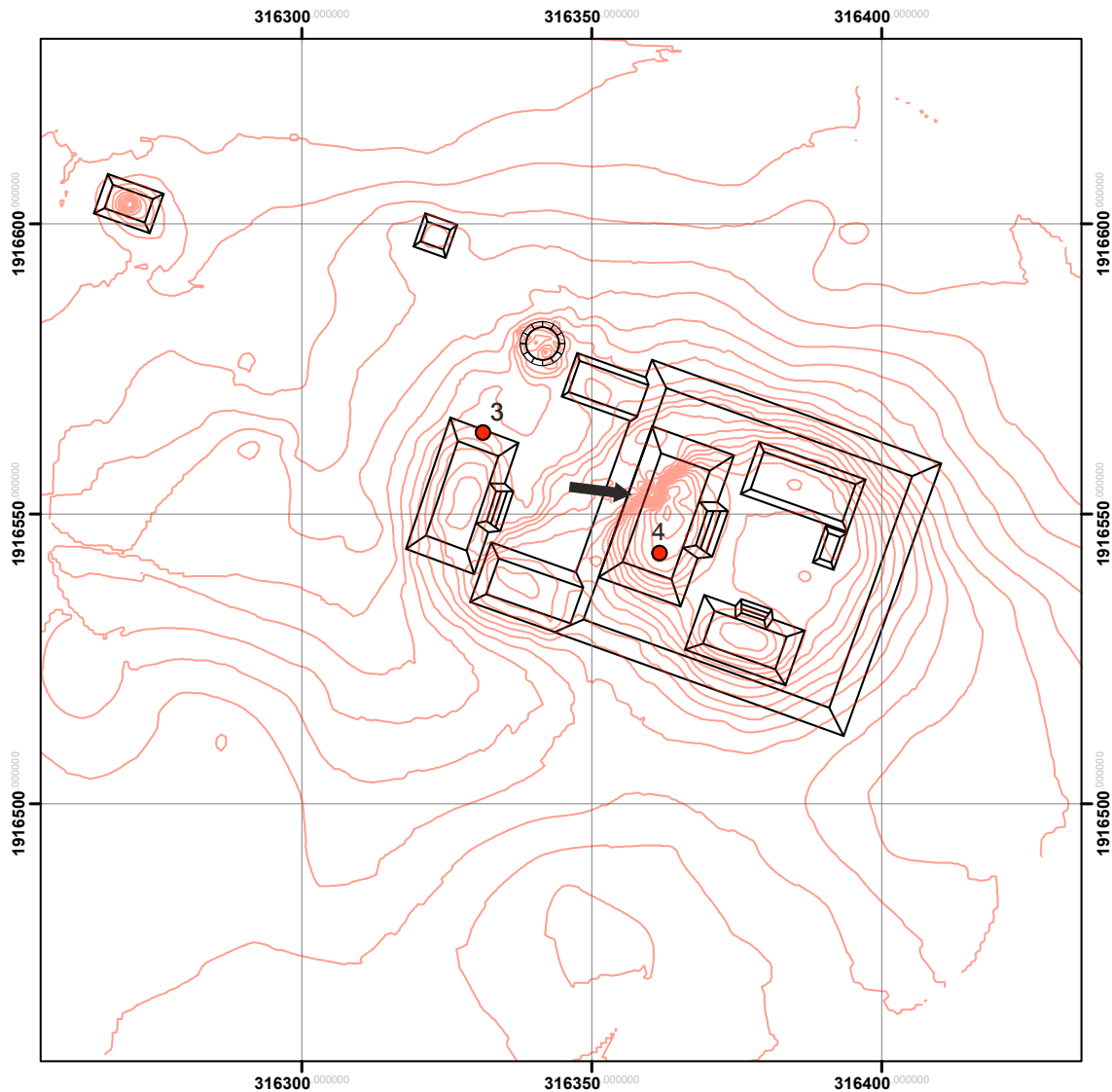
We spent two days mapping the site core of Hum Chaak, collecting 1,175 points in an area of about 32,600 m<sup>2</sup>. A topographic map and a digital elevation model were generated from these points using ArcGIS 9.3 (**Figure 8.3**); from these, a preliminary architectural map has been generated (**Figure 8.4**).

The site is oriented c. 20° east of north. The site core is comprised of an eastern main plaza, arranged atop a raised platform, and a western plaza on the ground surface, with a circular structure at its northwestern corner (see Chapter 14). The eastern plaza platform has been extensively destroyed due to looting activity, where, it is said that, heavy machinery was brought in to conduct large-scale excavation (see the location of the arrow in **Figure 8.4**). The back dirt from this excavation was spread out along the eastern half of the western plaza, creating what is likely an illusion of a low platform extending towards the northwest.



**Figure 8.3. Topographic map and overlaid digital elevation model of the site of Hum Chaak. Contour interval is 20 cm, UTM Zone 16N, Datum: NAD1927.**

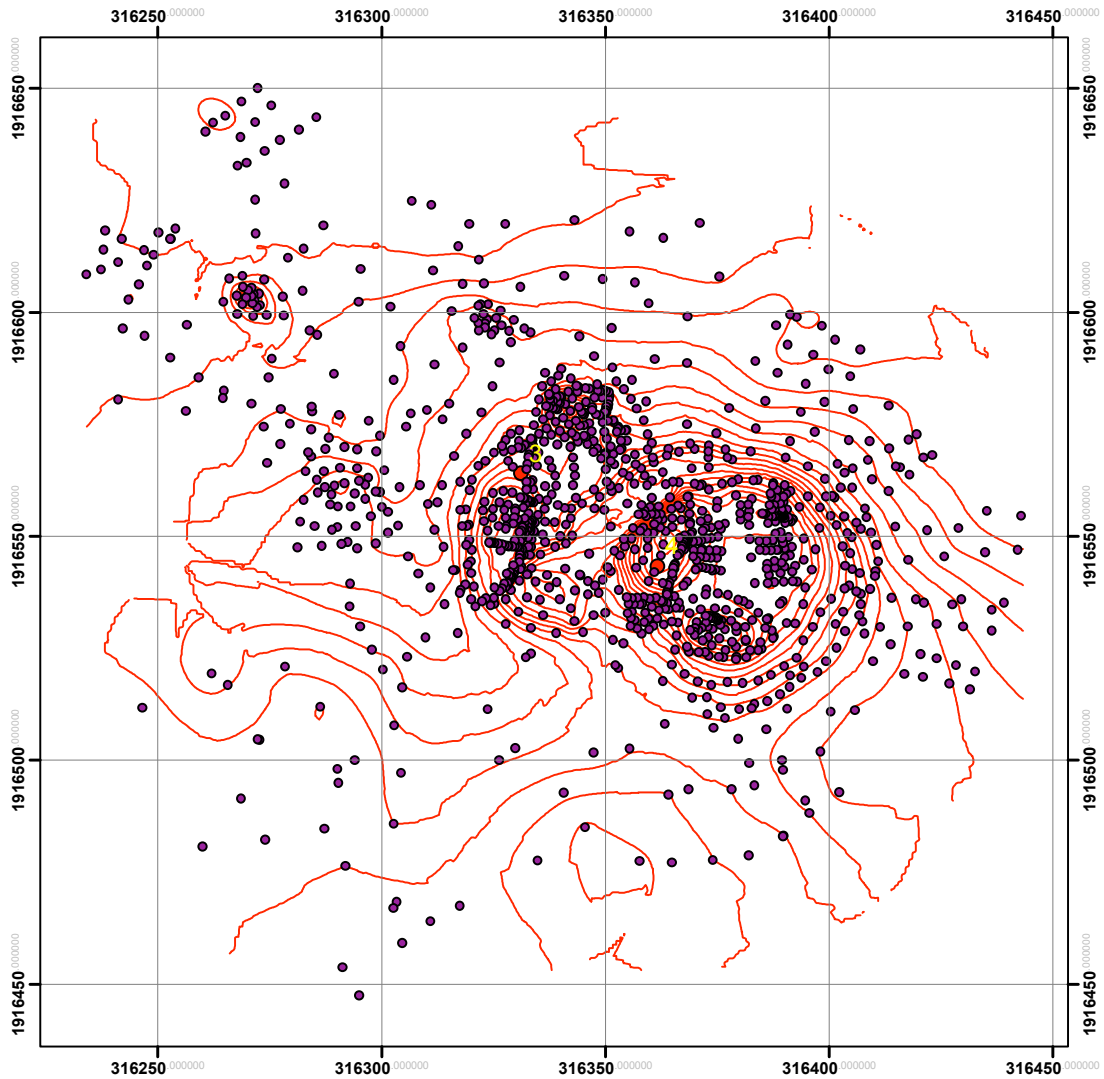
As can be seen in a plot of all the data points collected at Hum Chaak (**Figure 8.5**), some gaps exist resulting in less than optimal rendering of the topographic lines; this was mostly due to lack of visibility caused by vegetation, and time constraints, which disallowed us to circumvent it. Having access to a data collector that can do on-the-fly plotting of points—which we did not have during the 2011 seasons—should greatly facilitate efforts to rectify this in the future.



**Figure 8.4. Architectural map of Hum Chaak. The arrow is pointing to the area where intensive destruction of the platform/mound has taken place.**

The nine structures in the map represent all the mounds that were recognized in the field; however, it would be slightly odd if these nine structures represent the entire site. It is suggested that several areas be furthered surveyed to see if the site extends in any direction. Specifically, there are two areas that appear to have been cleared to the west and south of the site, as aerial imagery shows (Figure 8.6); these two areas should be relatively easy to access and search for more mounds. There also is a large, open area to the northwest, abutting the Belize River, on the opposite side of Cotton Tree bank and its sites (Yaxche and Lak'in). This area also should be

extremely easy to access via a road and holds potential for the discovery of more ancient remains.



**Figure 8.5.** A plot of all the data points gathered at Hum Chaak with the total station.

### Hats Kaab

The site of Hats Kaab is situated entirely within a plowed field, around 1.3 km north of Saturday Creek, and a little over 500 m west of the current, northwest corner of the site of Xaman (see Chapter 5). As we mentioned in Chapter 5, there is a very good chance that the gap currently see in the map between Hats Kaab and Xaman to the east (and Saturday Creek to the south, for that matter) will be filled in future surveys. In such a case, it may be prudent to

subsume Hats Kaab into Xaman; however, the architecture mapped in 2011 will remain an important segment of the site as a possible (pseudo-)E-group configuration (see Chapter 10).

Hats Kaab posed a slightly different challenge from that at Hum Chaak. First, we set a base station point (Station 1) on top of the largest structure at the site so as to have the best possible view for extensive mapping. This, however, meant that the marker could not be made semi-permanent (i.e., we could not use a rebar rod), since it would be plowed and churned over the next time a plow goes over the structure. Because of the extensively cleared nature of the landscape, we were able to place a temporary backsight (BS) almost 1.3 km away, to the northeast. Using these two points, and following the method outlined above, we set another,

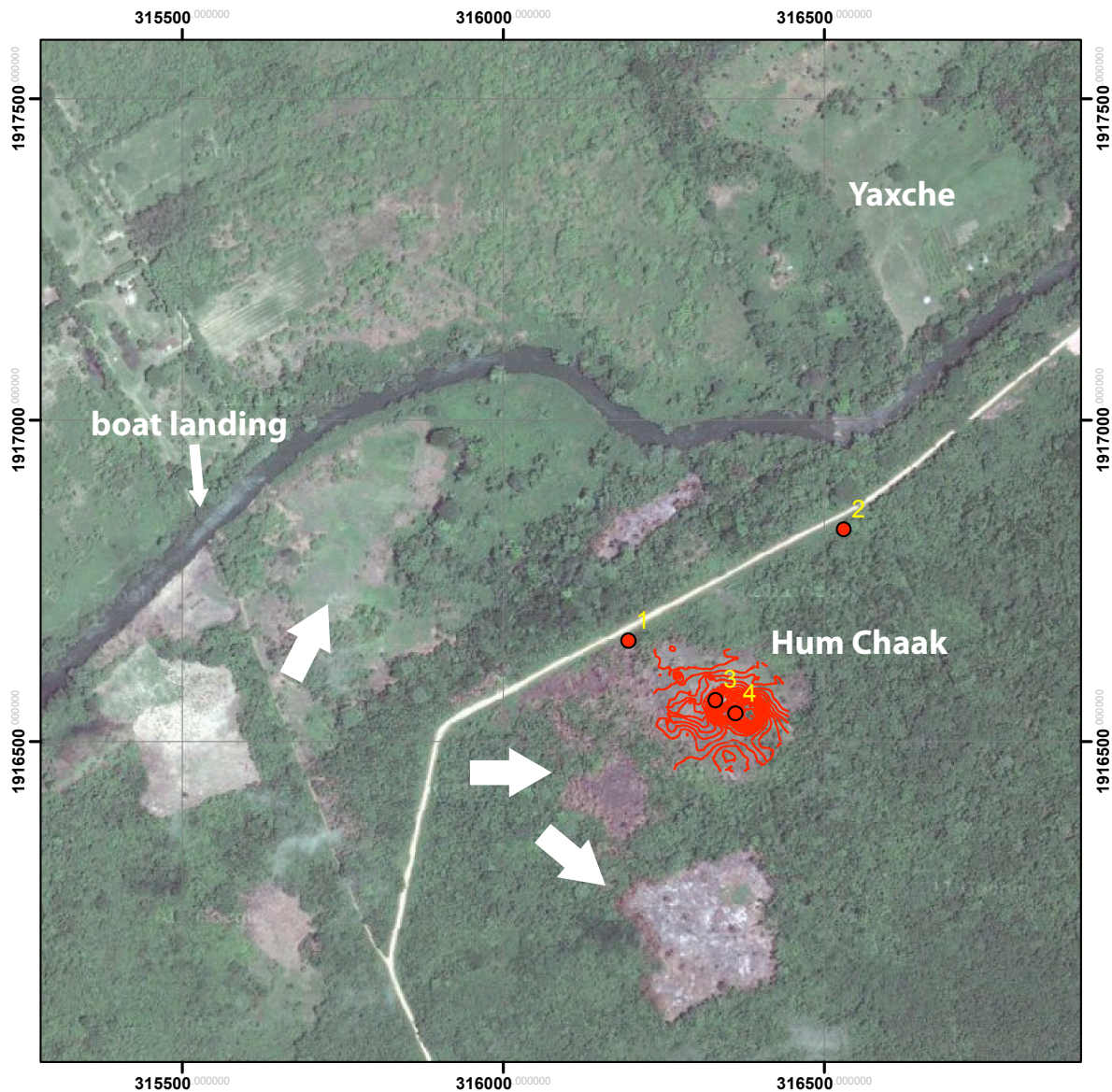
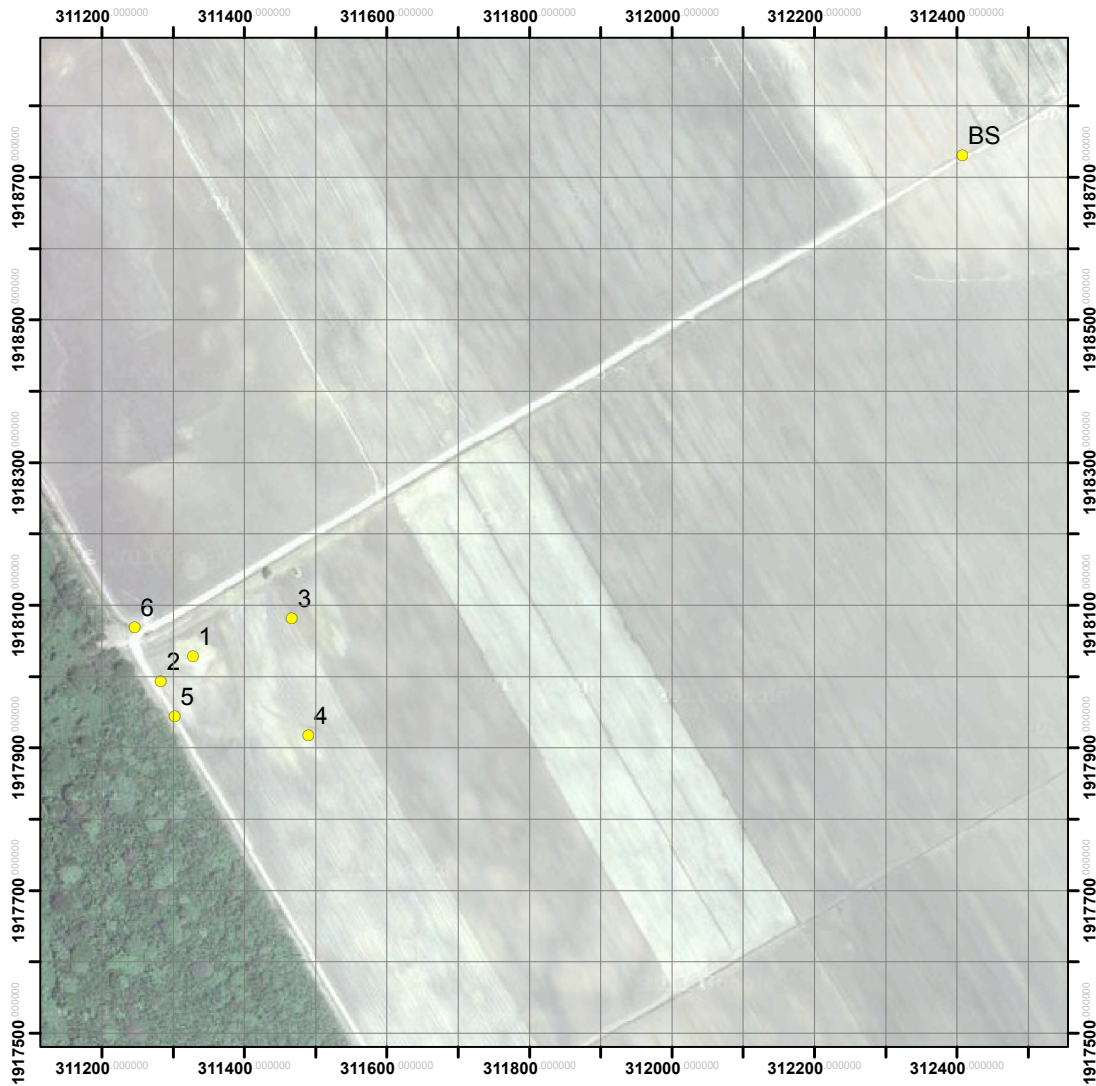


Figure 8.6. Several areas around Hum Chaak that should be surveyed in the future.

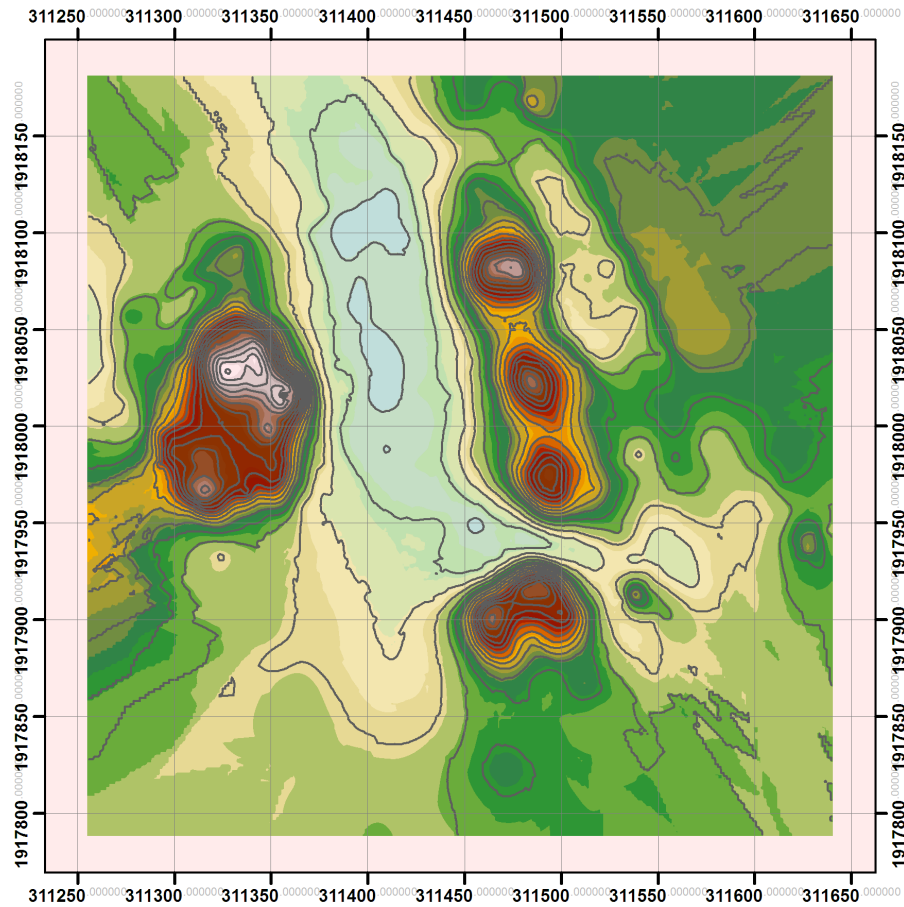


**Figure 8.7. The locations of the seven temporary and semi-permanent markers that were used for the mapping of the site of Hats Kaab. Stations 5 and 6 are the only two that were left in place, using rebar rods.**

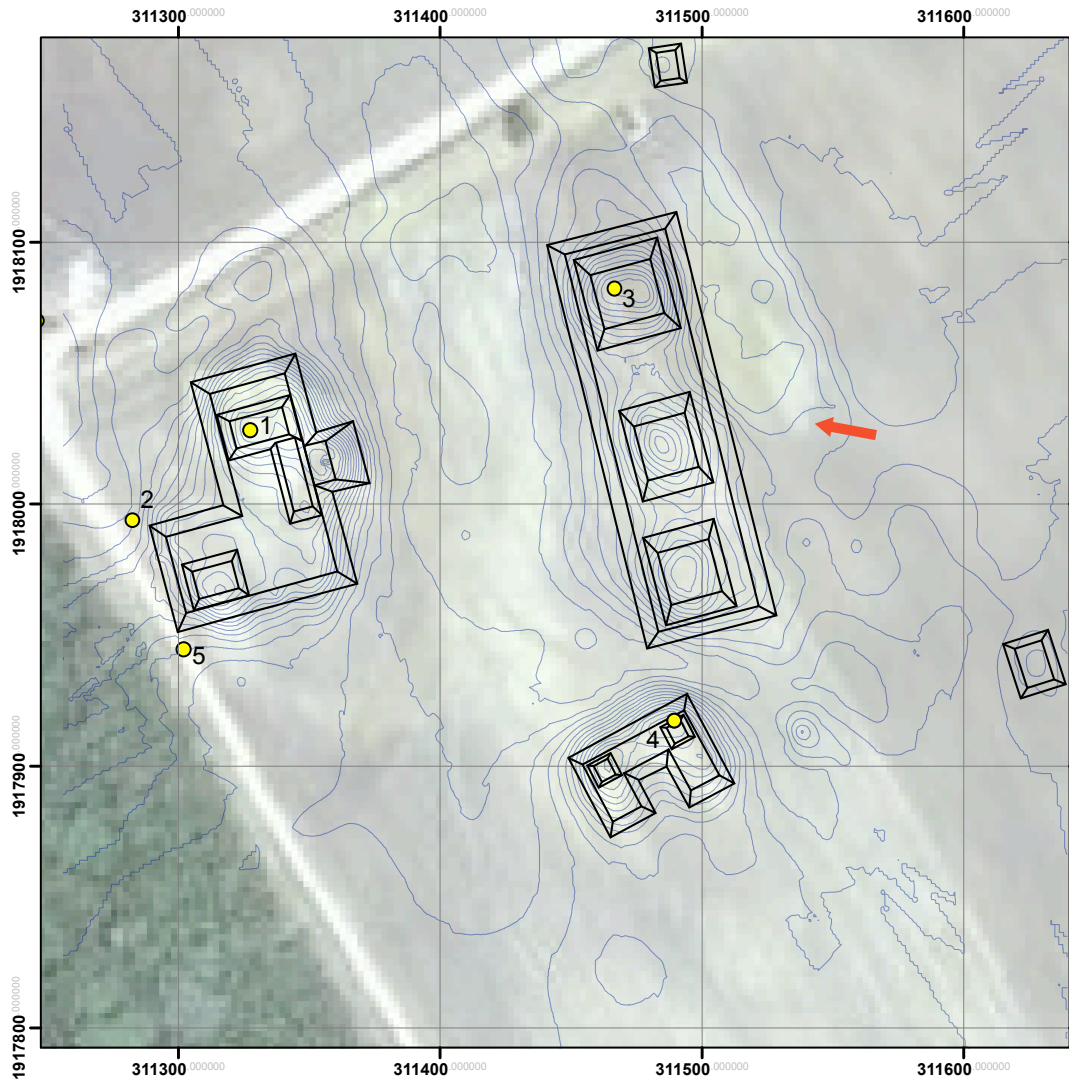
local backsight (Station 2) to be used for the actual mapping. During the course of the mapping, two more temporary base stations were placed on two other structures (Stations 3 and 4). All five of these stations, however, were in the plowzone, and, therefore, were removed after mapping. Prior to removal, two semi-permanent rebar rods were placed off the gravel road adjacent to the site and their coordinates and elevations recorded to be used in the future as the two known locations (Stations 5 and 6 [Table 8.2; Figure 8.7]). In order to make the map more accurate in the future, these two points can be used instead of the “base station point” and “backsight point” in the steps (1)-(3) above.

**Table 8.2. Coordinates and arbitrary elevations of temporary (Stations 1-4, BS) and semi-permanent (Stations 5, 6) markers placed in and around the site of Hats Kaab. The numbers for the two semi-permanent markers should be used in the future if a more accurate map is desired, by following the steps (1)-(3) above.**

Station	Easting	Northing	Elevation
1	311327.43	1918028.1	35
BS	312407.23	1918731.28	na
2	311282.58	1917993.75	31.95
3	311466.83	1918082.17	34.18
4	311489.53	1917917.02	33.97
5	311302.08	1917944.39	31.91
6	311246.02	1918069.88	31.66



**Figure 8.8. Topographic map and overlaid digital elevation model of Hats Kaab. Contour interval is 20 cm, UTM Zone 16N, Datum: NAD1927.**



**Figure 8.9. Architectural map of Hats Kaab. The arrow is pointing to the area where apparently a thorough destruction of a mound resulted in the loss of topography, and a elongated, smeary patch of white, probably due to limestone/plaster being spread around by the plow.**



## Chapter 9

### **Settlements Between Saturday Creek and Beaver Dam Creek: Ci Boc, Yaxche Nal, Ka'k'nal, Kuch, Sáamal, Ma'tunich, and Ma'k'áax**

*Eleanor Harrison-Buck, Brian Norris, David Buck, Satoru Murata, and Adam Kaeding*

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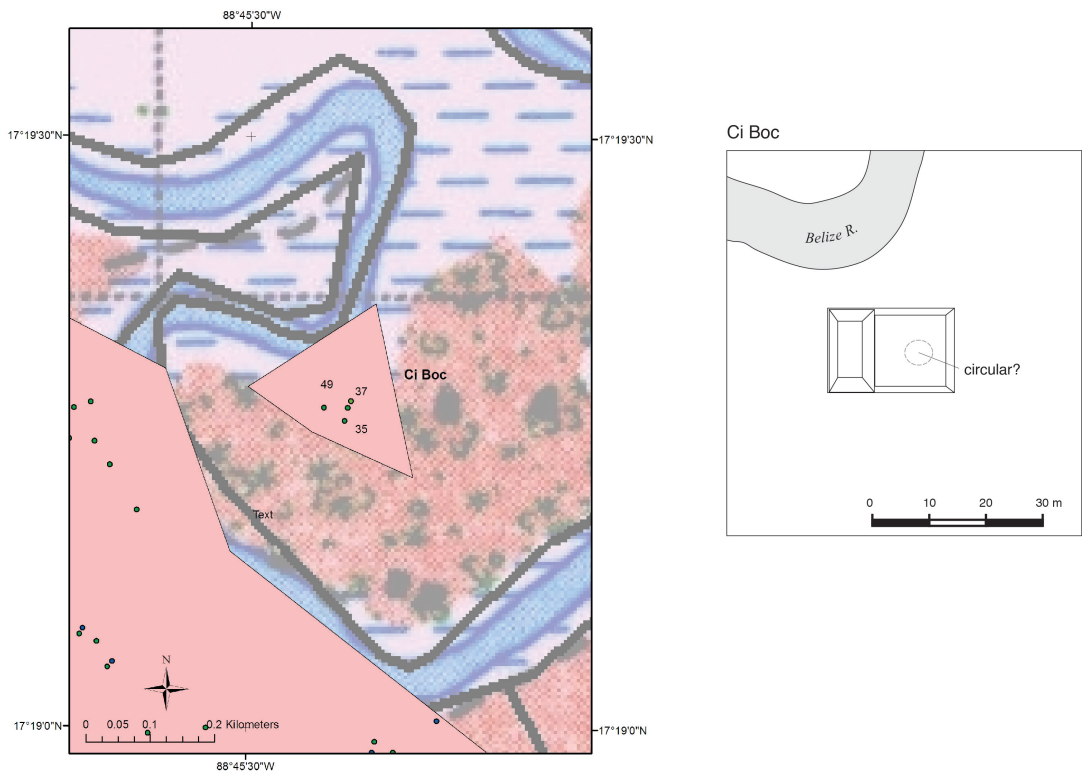
Archaeological survey along the main trunk of the Belize River revealed nearly continuous ancient Maya settlement in the area between the confluences of Saturday Creek and Beaver Dam Creek (**Figure 1.2**). Each site represents discrete clusters of mounds that tend to hug the banks of the river. Although sites directly across the river from one another may have been connected communities in the past, we have given these settlements discrete site names so as to distinguish them spatially. These ancient Maya settlements are small in size and are anchored by two of the largest settlements in the mid-section of the Belize River—the Saturday Creek site to the west and the More Tomorrow site to the east, both located on the north side of the river where the bank is highest. Going east to west, the following seven sites are described here: Ci Boc, Yaxche Nal, K'ak'nal, Kuch, Samaal, Ma'tunich, and Ma'k'áax. This series of small ancient Maya settlements were identified during the 2011 January and summer seasons and are described below.

All of these sites were found on the north side of the Belize River, except for Ma'k'áax, which is on the south side proximate to the confluence of the Belize River and Beaver Dam Creek. The area on the north side along this stretch of the Belize River is mostly cleared of forest and consists of more open fields and pastures, making sites easier to identify. Along the south side, more sites likely exist along this stretch of the river, but the area is more densely forested and intensive survey has not yet been conducted here. Locals indicated that there is another site along the southern side of the river in the area known as Rock Dondo. Additional survey in this area along the southern banks of the Belize River is planned for future seasons.

#### **Site Descriptions**

##### *Ci Boc*

The site of Ci Boc (**Figure 9.1**) was identified by Brian Norris, Adam Kaeding, and Eleanor Harrison-Buck on the first day of the January 2011 field season. The site



**Figure 9.1 Ci boc (field drawing by B. Norris; digitized by M. Brouwer Burg).**

consists of a single raised platform that measures roughly 60m (north-south) by 80m (east-west). Built on the platform is a prominent structure roughly 6-7m in height. The top of this structure measures roughly 5m (east-west) by 10m (north-south). Another structure consisting of a low stone mound was identified directly across the platform on the east side. The north side of this large platform complex is situated along the steep bank of the Belize River. The area to the east, west, and south are open fields planted with beans.

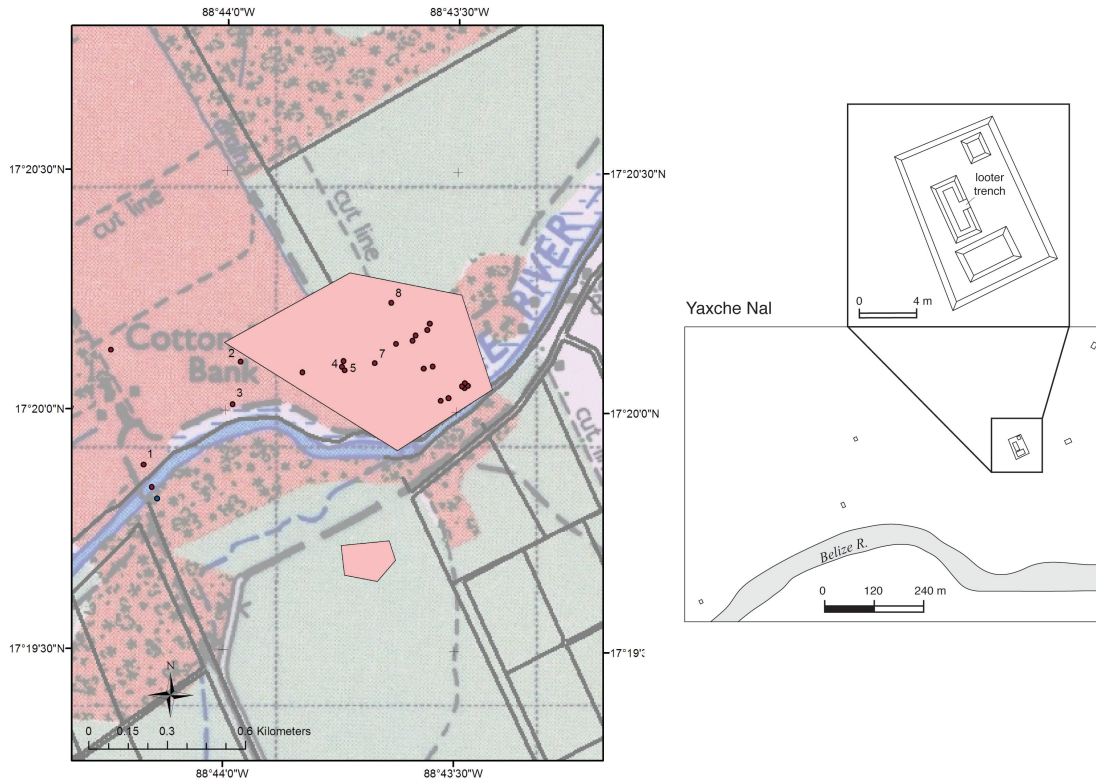
*Yaxche Nal*

The site of Yaxche Nal (“Place of the Ceiba”) gets its name from the area near where the site is located along the northern side of the Belize River, known today (and in the colonial past) as Cotton Tree Bank. According to one local who lives nearby, Cotton Tree Bank was where an old saw mill once existed that was used when the area was logged as recently as 1950. Fragments of historic artifacts were noted on the surface at Yaxche Nal, suggesting a colonial period site in the area.

The ancient site of Yaxche Nal was surveyed by Adam Kaeding and David Buck. They found as many as 21 mounds situated along the northern bank of the Belize River. The site extends along a straight stretch of the Belize River, beginning at the eastern edge of Cotton Tree Bank directly across the river from the Rock Dondo road and extends east to where the site of Kak’nal is located, just before the river takes a large bend (see **Figure 1.2**). The site of Kak’nal

(discussed below) was noted by one of the Yaxche Nal landowners, Ms. Lili Alvarez. Alvarez's house is situated on top of one of the larger mounds found just west of Kak'nal. This sizeable mound is right on the banks of the Belize River and measures roughly 2m in height and is approximately 25-x-20m at the base of the mound. Three other smaller mounds are to the north and, together, form an enclosed plaza group. All four structures sit on a raised basal platform.

Moving west of this complex, a cluster of at least 9 house mounds were identified in an open pasture. They range in size, and measure between 0.5 and 2 meters in height. A little farther to the west along the river is a large basal platform that supports at least three separate structures and probably represents an elite residential compound (**Figure 9.2**). The largest of these structures is roughly 1.5m high and measures about 16-x-10m at its base and about 9-x-5m at its top. This sizeable structure has been extensively looted and contains a huge looter's pit in the form of a "T" that bisects the center of the mound. In the looter's backdirt, they identified fragmentary remains of human bone and painted pottery that suggests an Early Classic date for the interment (**Figure 9.3**).



**Figure 9.2** Yaxche Nal (field drawing by D. Buck; digitized by M. Brouwer Burg).



**Figure 9.3 Diagnostic ceramics from Yaxche Nal (photos by S. Murata).**

On the far west side of Yaxche Nal are three smaller mounds, including a low-lying house mound in a plowed field and another slightly larger mound that measures roughly 20-x-30m around the base (~8-x-10m at the top) and is no more than 1m in height. In this area, artifacts were noted on the surface, both ancient and colonial in date. The third mound, farthest

to the west, was cut into by a modern dirt road, which bisected the structure and cut off the southwest side of the platform.

### *K'ak'nal*

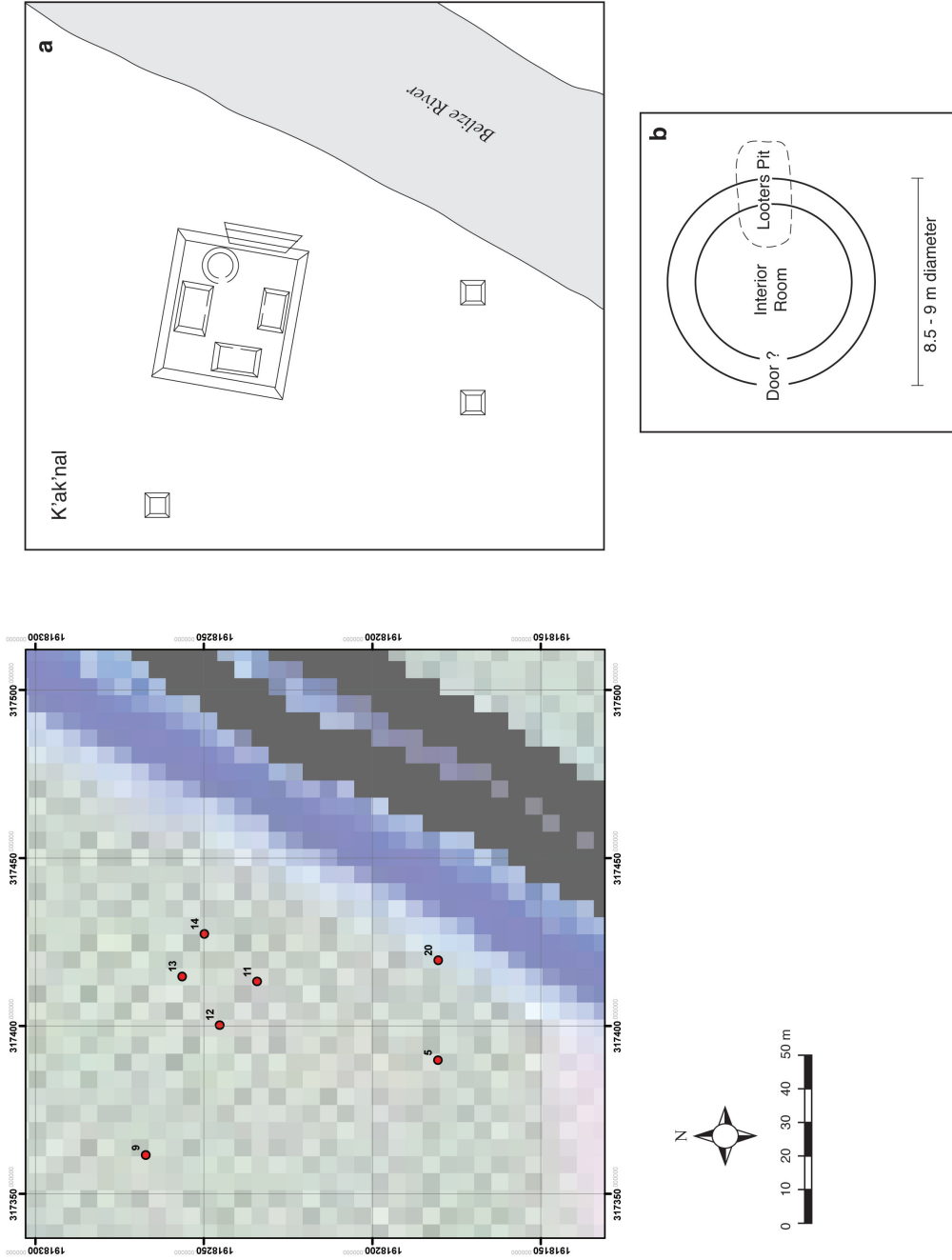
The K'ak'nal site is located on the north side of the Belize River, just east of Yaxche Nal (described above) and just west of Kuch, which is located right at the big bend in the river (see **Figure 1.2**). Farther up river is the site of More Tomorrow (see Harrison-Buck and Murata, Chapter 3). K'ak'nal is directly across the river from a citrus orchard on the outskirts of the modern village of More Tomorrow. The site was surveyed by Eleanor Harrison-Buck, Satoru Murata, and Marcario Pau during the January 2011 season.

The Hernandez family from the village of More Tomorrow have a farm on the property. We named the ancient settlement K'ak'nal (“Place of Fire”) because of the local lore surrounding the site. According to the teenage son of Mr. Hernandez, the site is haunted and one individual who previously lived there reported periodically seeing large balls of fire bursting forth from the site and surging up into the sky.

The site consists of a tightly enclosed plaza group consisting of four structures mounted on a low platform (**Figure 9.4a**). A larger mound is situated just west of this main plaza group. Another smaller, isolated mound was identified just south of the enclosed plaza group and two other mounds were found to the southwest, right on the high bank of the Belize River. The main plaza consists of four structures that form an enclosed plaza group. One of the four structures appears to be constructed entirely of stone. Mr. Hernandez and his son, as well as Mr. Macario helped clear some of the low vegetation and revealed what appears to be a small, circular stone building with a single door on the western side of the structure, facing into the plaza area (**Figure 9.4b**). A similar circular building dating to the Terminal Classic period was identified at the nearby site of Hum Chaak farther upstream on the southern side of the Belize River (see Harrison-Buck, Chapter 14). Another has been identified farther to the west at Pook’s Hill in the Roaring Creek drainage of the Belize River (Helmke 2006). Several other sites in Belize contain examples of circular architecture, including three sites in the Sibun Valley to the south and farther north at the sites of Nohmul, San Juan, Caye Coco, and Blue Creek (Chase and Chase 1982; Masson and Mock 2004; Harrison-Buck 2007).

### *Kuch*

The small site of Kuch was identified in the January 2011 season by Brian Norris, Eleanor Harrison-Buck, and Adam Kaeding. The site is located in an area on the west side of a gravel road, behind a barbed wire fence. There is a small milpa and, therefore, part of the site is cleared but other parts are covered in low, secondary bush. Here, we met the owner, Mr. Manuel Barrera and his 4th son, Minor who showed us around the site (They live in the nearby village of More Tomorrow and told us about a larger site up the road—Kaax Tsaabil [see Kaeding et al., Chapter 4]). The site of Kuch consists of two mounds oriented roughly north-south, situated approximately 75m apart with a flat plaza area in between. The highest mound is about 3.5m



**Figure 9.4 a) Sketch map of Kak'nal b) idealized planview of circular structure at Kak'nal (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**

and situated closest to the gravel road (**Figure 9.5a**). This structure has a sizeable looter's trench running east-west that was dug through center of the mound. A large quantity of freshwater shell was visible on the surface in the looter's backdirt. Mr. Marcario Pau, who visited the site with us later in the summer 2011, indicate that these shells are not found in the Belize River, but can be found in the Sibun River farther to the south. Several large roughly hewn stones were noted on the surface between the two mounds that may represent re-positioned stone monuments (**Figure 9.5b**). Very little ceramic material was visible on the surface, but one fragment of a Postclassic incense burner was noted in the vicinity of one of the large stones, which is consistent with the dating of similar such monuments found in the Sibun Valley and elsewhere in the eastern Maya Lowlands. Adam Kaeding, Eleanor Harrison-Buck, and Marcario Pau returned to Kuch during the summer field season and found one other sizeable mound to the east-northeast of the two other mounds, which was covered in low bush.

### *Sáamal*

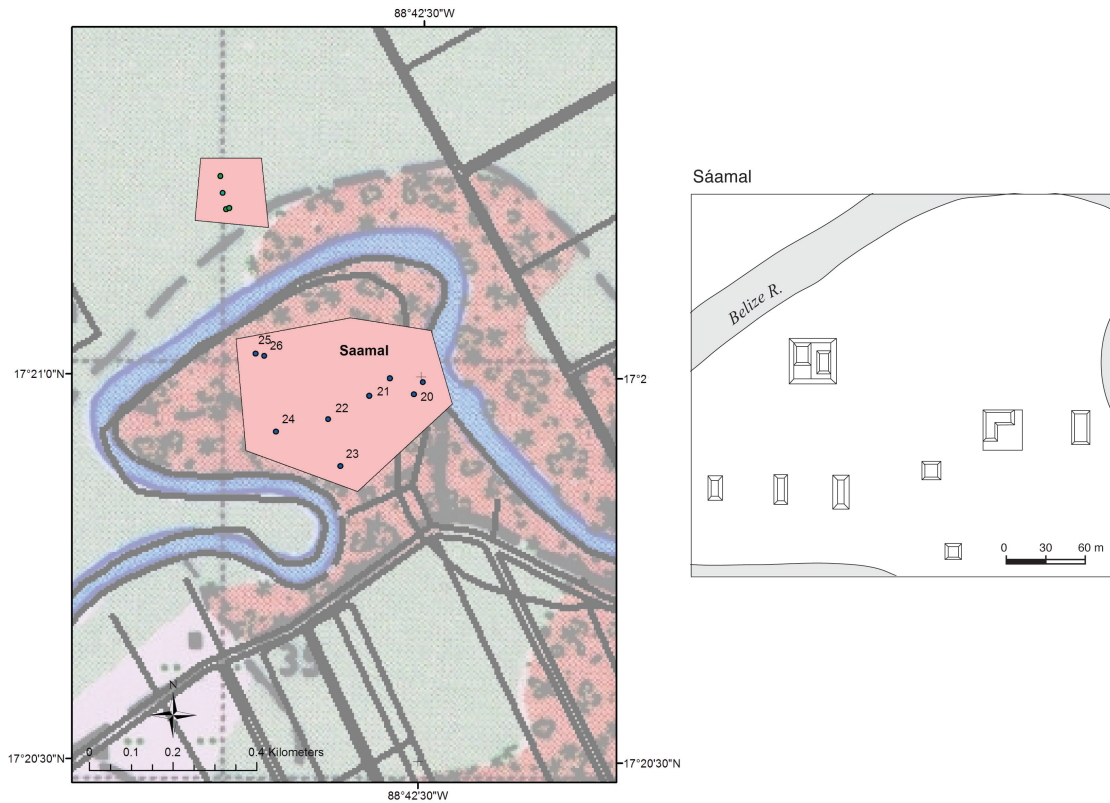
Driving on the dirt road along the south side of the Belize River, just west of the village of More Tomorrow and east of the Rock Dondo Road, there is a farm road that leads to the site of Sáamal. The farm road is to the north and dead-ends at a milpa on a tract of land that forms a peninsula along the southern side of the Belize River where the site of Sáamal is located. Sáamal is a small site located directly across the Belize River from Kuch and may have been once viewed as a single community in the past. There are about eight or nine low mounds that could be securely identified (**Figure 9.6**). Heavy plowing likely obscured some of the smaller structures. These mounds are more linear in arrangement and show no formal plaza groups, except for two larger structures in the northwestern part of the peninsula. Here, two structures face one another on a low 2m high platform. The structure along the eastern side of the platform is centered and contains a high density of stone that was noted on the surface.

The site has been intensively plowed and the mounds have been damaged from the agricultural activity. The remnants of the mounds are found over a large field, surrounded by the Belize River to the east, north, and west. During survey, large ridge and furrow plough features were noted, running east-west along the center of the field. These are probably not ancient, but may not be from recent agricultural activity. They resemble others features found extending off of the base of Structure 1 at the site of Ma'xan where the landowner, Mr. Cornie (the property owner for over 20-30 years) confirmed these were not from recent agricultural activity. It is also worth noting that the layout of Sáamal resembles the ancient settlement pattern found at Ma'xan, which shows similar linear arrangements of mounds that lack formal plaza grouping, with the exception of one large plaza group on top of Structure 1. It would be interesting to test in the future whether the linear mound arrangements are residential in nature, or represent more production-oriented activities at both Ma'xan and Sáamal.



**Figure 9.5 Kuch Site: a) largest structure (looking south)  
b) possible stone monument (photos by E. Harrison-Buck).**

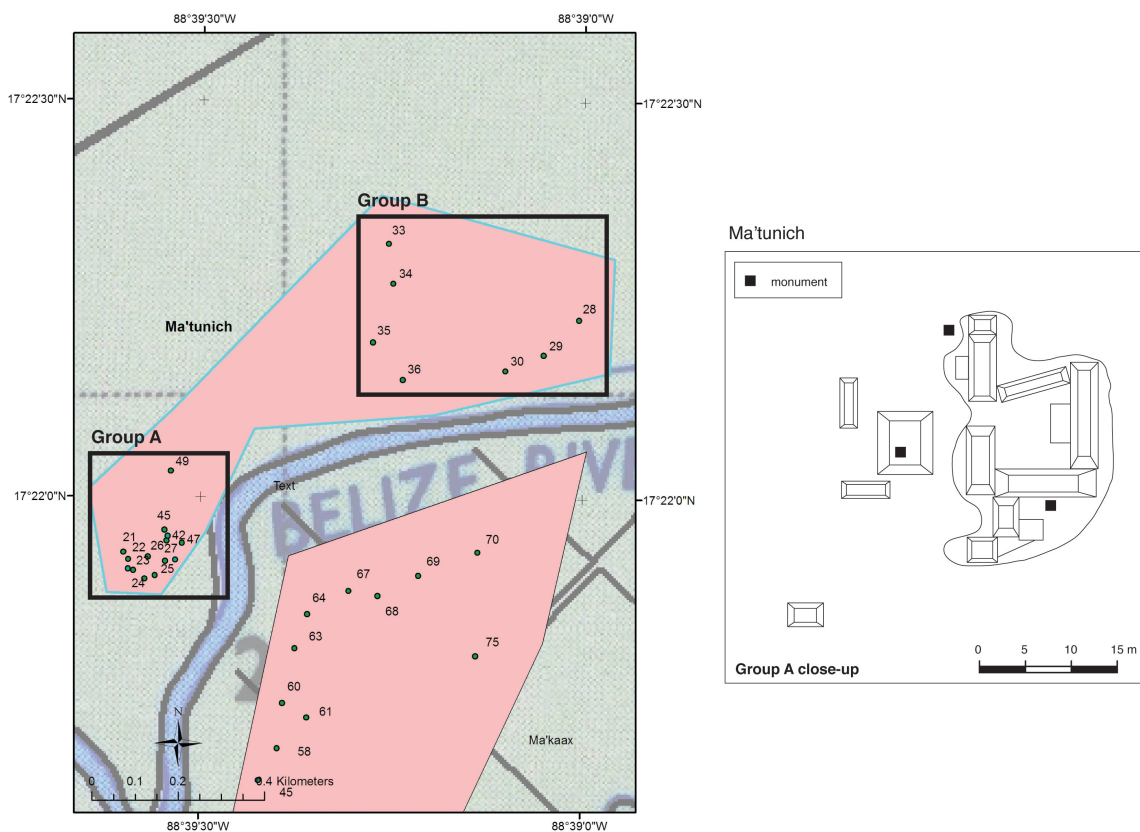




**Figure 9.6 Sketch map of Sáamal (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**

*Ma'tunich*

The site Ma'tunich was surveyed by Adam Kaeding, Satoru Murata, and Eleanor Harrison-Buck during the January 2011 field season. Ma'tunich is east (down river) from the site of More Tomorrow (see Harrison-Buck and Murata, Chapter 9). Ma'tunich is located on agricultural lands owned by several members of the Dueck family, Mennonites from the Spanish Lookout community. The site stretches out along on the north side of the Belize River and is directly across from Ma'k'aax (**Figure 9.7**). Both Ma'tunich and Ma'k'aax may have originally been part of the same ancient Maya community in the past. One local informant told us that the area where Ma'tunich is located was first opened up with a bulldozer about 15 years ago, but only in the last three years has the area been substantially cleared of forest and heavily plowed by Mennonites, severely damaging the mounds as a result. While there, farmers were preparing the fields for planting and we observed workmen systematically removing all the stone from the fields on and around the mounds. One workman told us that the owners of the property do this every season to avoid harming the plowing equipment. As a result, the mounds of Ma'tunich have virtually no stone visible on the plowed surfaces and resemble smooth, rolling hills. In many cases, the only artifacts visible on the surface are seen in the drainage ditches that cross-cut the fields at regular intervals.



**Figure 9.7 Sketch map of Ma'tunich (field drawing by A. Kaeding; digitized by M. Brouwer Burg).**

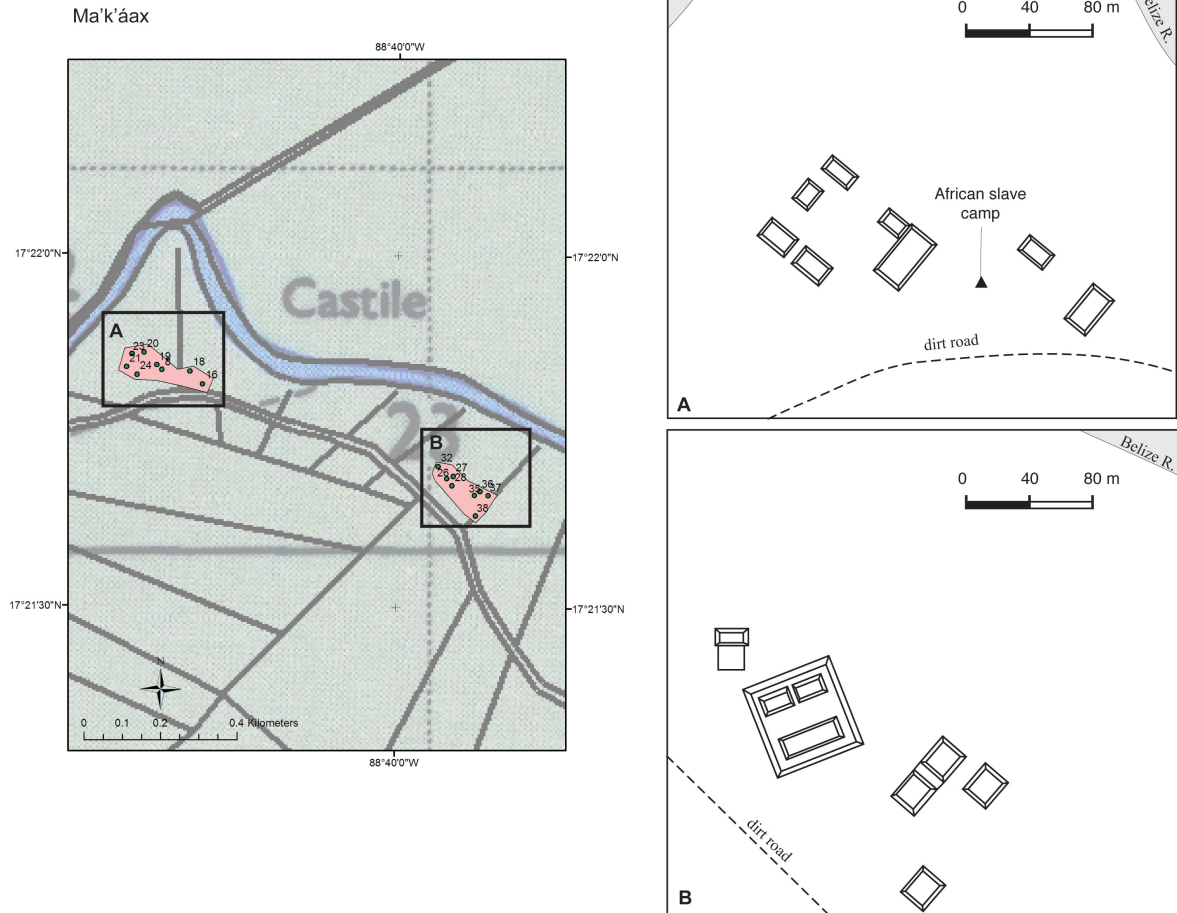
The site consists of two formal plaza groups—referred to herein as Plaza Groups A and B—both situated right along the northern bank of the Belize River (refer to **Figure 9.7**). Plaza Group A at Ma'tunich consists of an enclosed plaza arrangement with at least seven discrete structures. As of January 2011, this plaza group had not been plowed by the owner, Anton Dueck. However, some damage was still evident due to tractors dumping loose stone in the middle of the plaza, which had been systematically removed from the fields. The western plaza complex is framed by long, linear platform mounds on all four sides, resembling low Classic period range structures. A break between two of the structures along the eastern side may be the entrance into the enclosed plaza. Lines of stone were noted on the surface and several outset staircases could be discerned on the central axes of structures. Along the outside of the southern “range” structure, remains of a monument were identified. Another group of three mounds exist just to the east of the Plaza Group A, the largest of which has a monument on the top of the structure. This portion of the site has been more heavily damaged from plowing by a different owner, Issac Dueck.

Farther to the east, still hugging the northern bank of the Belize River is Plaza Group B. Significantly smaller than Plaza Group A, this complex has been more heavily plowed. A low raised platform could be discerned and two structures were positioned on the platform along the eastern side. Several long, low structures may have once lined the north and west sides of the platform, but were difficult to discern due to the plow damage and stone removal. A number of isolated and heavily damaged mounds were found to the east and west of this plaza group, also virtually denuded of all stone and artifacts.

### *Ma'k'áax*

Ma'k'áax is located on the south side of the Belize River, just west of the Beaver Dam confluence, on the Penner Farm (**Figure 9.8**). Ma'k'áax consists of a series of mounds hugging the Belize River and also an old oxbow of the river. The site is directly across the river from the site of Ma'tunich and, as noted above, may have once been considered a single community. The sites in this area are under cultivation by Mennonites and the mounds have been heavily plowed and disturbed. Three main clusters of mounds were recorded. The first (farthest to the east) consists of a string of low mounds that run along a low ridge, which is the highest flood plain on the south bank of Belize River, beginning near the confluence with the Belize River and the Beaver Dam Creek. Most of these mounds are relatively small and show little to no stone (due to continuous plowing and systematic stone removal). One of the largest mounds was notable in its wealth of artifacts that were visible on the surface, including a tiny jade bead, some human bone and teeth, and large fragments of pottery—all of which suggest at least one burial in the mound was disturbed by the plowing. Some surface collection was conducted. Numerous diagnostic ceramics were identified, including Indian Creek Polychrome and Fat Polychrome types that point to a Terminal Classic date, but an earlier component may also exist.

To the west, there are two other clusters of mounds that are part of Ma'kaax (see **Figure 9.8**). A bend in the Belize River and an old oxbow separate these mounds groups from the eastern cluster of mounds described above. The first group on the west side after rounding the bend consists of a basal platform with three or possibly four mounds on top. Another sizeable mound is also part of this group. Just a little farther to the west is the third cluster that consists of as many as eight mounds. They were heavily plowed and disturbed and the orientation was difficult to discern in all cases, but their configuration resembled an enclosed plaza group. Many artifacts were noted on the surface, including a worked quartz stone fragment, a stone axe, and a cluster of historic artifacts found between the mounds. Mr. Marcario, our guide, referred to the site as an “African Slave Camp,” which would suggest a British Colonial logging site dating to before the abolition of slavery in 1834. Some surface collection was conducted, but artifact analysis is forthcoming and the dates of the site remain tentative.



**Figure 9.8 Sketch map of Ma'kaax (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**

## Conclusions

The seven sites described above have been sketch mapped with preliminary reconnaissance conducted. None of them have been formally excavated, nor have they been intensively surveyed or mapped with a Total Station. Further investigation is needed in the future to fully understand the aerial extent of these settlements, their exact orientation, and their relationships with one another. It remains unclear whether they are discrete communities along the Belize River, or part of a yet unidentified site center between the larger sites of Saturday Creek and More Tomorrow. From this preliminary survey, it is clear that at least two discrete settlement patterns exist in this part of the Belize River valley. One pattern was found at Ci Boc, as well as Ma'kaax, and also noted at Ma'xan (see Kaeding et al. Chapter 2), where mounds are

in linear arrangements (in part mirroring the ridges of the floodplain). At these sites, only one or two more formal plaza groups are seen that appear clearly residential in nature. The second discrete pattern was noted at Kak'nal, and also at Hum Chaak (see Murata, Chapter 8) and consists of a tightly enclosed plaza group that appears residential in nature, but also contains one special purpose structure constructed entirely of stone. Based on surface inspection at K'ak'nal and excavations at Hum Chaak, these structures are circular in plan with an interior room and may have served as ritual shrine buildings (see Harrison-Buck, Chapter 14 for further discussion). Further investigations may reveal what these similarities and differences in site layout, residential architecture, and building construction mean in terms of chronology and site function and how sites inter-related in the past.

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## **Section II**

# **Site Investigations: Excavation, Artifact Analysis, and Archival Work**

## Chapter 10

### A Study of a Possible E-Group at Hats Kaab

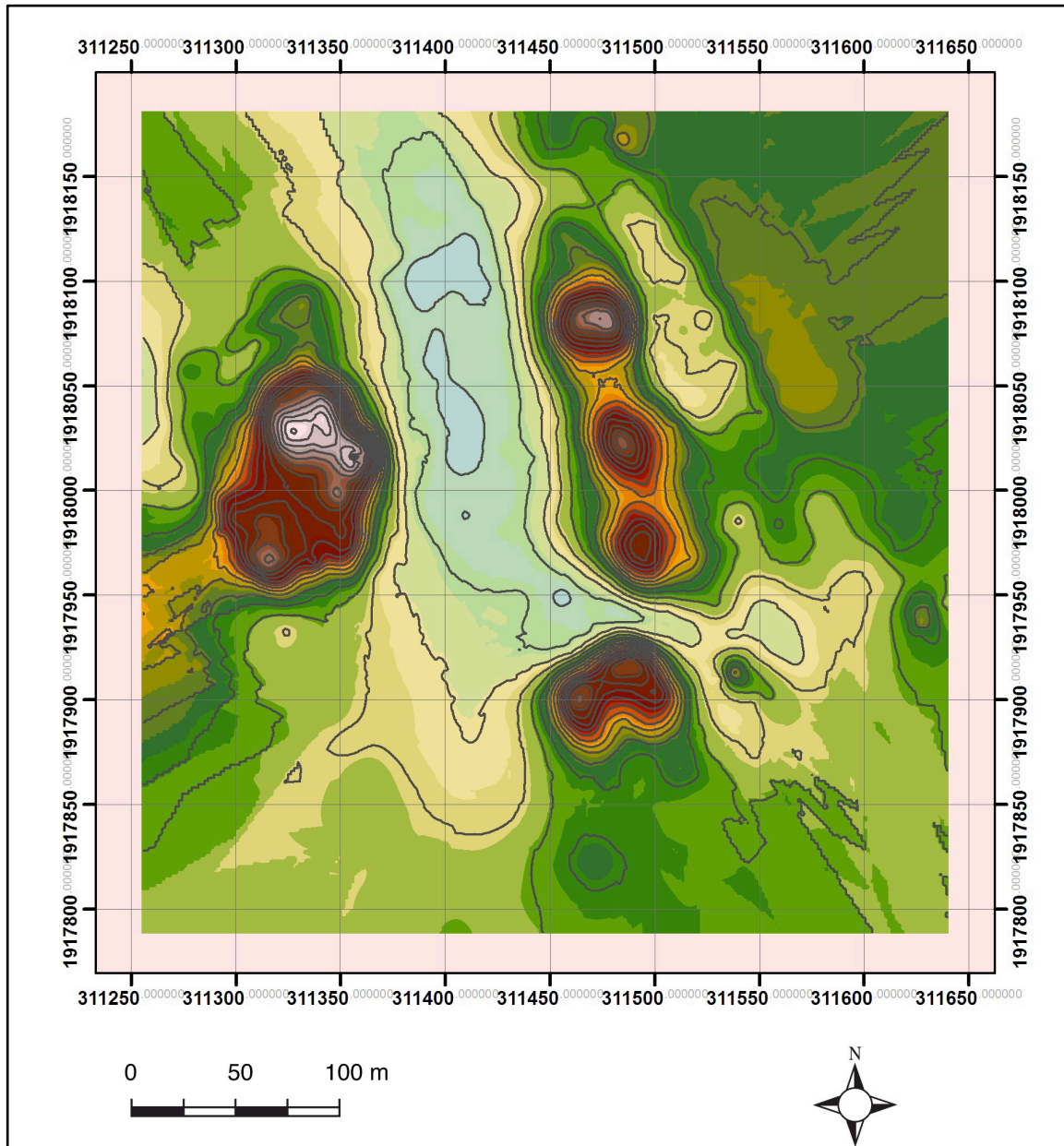
*Samantha Woods and Eleanor Harrison-Buck*

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During the January season in 2011, BREA project members identified the site of Hats Kaab, which was mapped during the summer season in 2011 (see Murata, Chapter 8). As Murata notes, the site consists of four mounds with a configuration that resembles those of other known E-Groups, particularly the one from Uaxactun (compare **Figures 10.1** and **10.2**). E-Groups are distinctive architectural complexes found at numerous Maya sites and have been traditionally interpreted as solar observatories. More recently, scholars have suggested that while Preclassic E-Groups may have functioned as observatories, later Classic period E-Groups may have had other functions (Aimers and Rice 2006; Guderjan 2006). Below we present an overview of the different variants for E-Groups found in the Maya Lowlands and compare these finds to the architecture at Hats Kaab. We offer a preliminary artifact analysis of surface finds from Hats Kaab, which suggests the site dates to the Preclassic. We present a comparative architectural study to determine whether or not the mound configuration at Hats Kaab resembles other Terminal Preclassic E-Groups in terms of spatial layout and design. We cross-examine the idea that this architectural complex served as an astronomical observatory based on both an architectural study and our own personal observations during the summer solstice in June of 2011.

#### E-Groups as Architectural Complexes

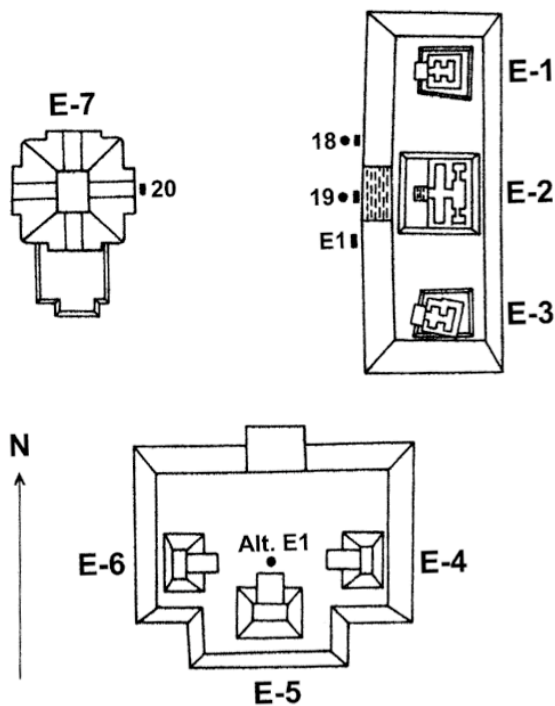
The first identified “E-Group” complex was found at the Maya Lowland site of Uaxactun, in Peten, Guatemala where Frans Blom noted certain meaningful alignments in the configuration of a group of mounds (Aimers and Rice 2006). The cluster of structures at Uaxactun consisted of a pyramid to the west that was opposite three cardinaly oriented structures to the east. These three eastern structures sat upon a long platform, which defined the eastern edge of the entire plaza group (**Figure 10.2**). Blom (1924) discovered that from the vantage point of the western pyramid, the sun rises directly over the central eastern structure on both equinoxes. He also found that the sun rises over the southernmost eastern structure on the winter solstice and over the most northernmost eastern structure on the summer solstice. These conclusions led Blom to believe that the E-Group at Uaxactun was used as a solar observatory.



**Figure 10.1 Map of Hats Kaab (prepared by S. Murata).**

Since Blom’s discovery many other similar plaza configurations (nicknamed “E-Groups” after Blom’s discovery at Uaxactun) have been found at sites throughout the Maya area, such as Tikal, Xunantunich, and El Mirador, and at sites as far away as Chiapas and the Isthmian area (Aimers and Rice 2006:79-80). According to Guderjan (2006:97) and others “the Terminal Pre-classic Uaxactun case may have been a prototype for later arrangements” (see also Aveni et al. 2003). More than 100 known E-Group or E-Group-type arrangements are found in the Lowland Maya region at sites, such as Tikal, Baking Pot, Cenote, Caracol, and Cahal Pichik to name but a few (see Aimers and Rice 2006: Table 10.1). E-Groups were constructed over a long period of





time, from Middle Preclassic to Terminal Classic times (ca. 700 BC-AD 900) and the spatial configuration of these complexes varies considerably across the Maya Lowlands (see Aimers and Rice 2006:79-82). Chase and Chase (1985) defined three discrete variations and likely more exist (**Table 10.1**). In the case of Cenote, the eastern platform is a very long and narrow compared to the platform at Uaxactun (Chase and Chase 1995). Excavations uncovered multiple burials and caches dating to the Protoclassic and Early Classic period (Chase and Chase 1995:93). “Early version of the Cenote variant – minus the central east building -- have been documented for both Tikal and Caracol; at Tikal this variant has been dated to Middle Preclassic” (Chase and Chase 1995:99).

**Figure 10.2** Group E at Uaxactun, Guatemala (*after* Rice 2004:Fig. 4.3).

The Uaxactun architectural complex and other Terminal Preclassic E-Groups appear to have functioned as solar observatories, but by the Early Classic period the function of E-Groups were no longer “based on ritual activities focused on solar events [but] had become multipurpose parts of the sacred landscape of public architecture” (Guderjan 2006:97). These so-called “pseudo E-Groups” are mostly found in the eastern Petén region and instead of three eastern pyramids, there are only two that may be linked and there is also a lack of a western viewing platform. “For the pseudo E-Groups, the sun does not rise over the appropriate eastern structure on the summer and winter solstices and equinoxes and, therefore, do not appear to have functioned as solar observatories.” (Guderjan 2006:98). In the case of Blue Creek, the Pseudo E-Group was a Late Classic addition to the Plaza along with a ballcourt (Guderjan 2006:98).

**Table 10.1** Types of E-Group Complexes.

Uaxactun Style	Three eastern platforms are in equal size and all sit upon a single platform
Cenote Style	Less consistent north to south alignments and the central platform is usually larger in size
Cenote Variant	“Significant morphological differences” (Aimer and Rice 2006:81) compared to Uaxactun and Cenote Style

Guderjan concludes that E-Groups were originally built in the Terminal Preclassic as functional astronomical ritual sites but then evolved in the Classic period and were primarily focused on the agricultural seasons, rather than as exact astronomical markers (Guderjan 2006:97). Many other functions have been suggested for these “pseudo-E-Groups”, such as scheduling agricultural tasks, trading operations, and commemorative time-tracking ceremonies in honor of the katun (20-year) period-endings, among other important ritual activities (Aimers and Rice 2006). With the different varieties of E-Groups it makes sense that there may have been a range of uses and that perhaps functions changed through time.

A preliminary study of the ceramics from Hats Kaab suggests the site dates strictly to the Late-to-Terminal Preclassic period. Based on the findings reviewed above, our assumption was that Hats Kaab served as a Preclassic solar observatory. Our own observations during the summer solstice in June 2011, discussed below, were inconclusive regarding this functional assignment. Further research at Hats Kaab is planned for the January 2012 season, including test excavations, which will allow us to more accurately define the architecture. To further test the solar observatory hypothesis, our team plans to return to the area during the month of June in 2012 so that additional observations can be made on the summer solstice. Below we present an overview discussion of the architectural complex at Hats Kaab, a review of the artifacts found on the surface of the site, and some preliminary interpretations of the building complex.

### **Architectural Complex at Hats Kaab**

At Hats Kaab four mounds were found in the same typical formation of an E-Group (**Figure 10.1**). The configuration of the mounds resembles the most generic variation of E-Groups known as the “Uaxactun Style” (Chase 2006; see Table 10.1 above). At Hats Kaab there are clearly three western mounds roughly the same size that are opposite to a larger eastern platform. On the rectified map produced by Satoru Murata (see **Figure 8.9**) there is indication that the three western platforms may lay upon one singular long platform, again mimicking the Uaxactun Style. Based on a preliminary analysis of the ceramics collected on the surface at Hats Kaab (**Figure 10.3**) we were able to date the site to the Late-to-Terminal Preclassic era, which is roughly coeval with the Uaxactun E-Group. Although the configuration of the mounds are similar to the E-Group at Uaxactun, the mounds at Hats Kaab do not appear to be on an exact cardinal alignment (compare **Figures 10.1** and **10.2**). Excavation is necessary to confirm the exact alignment of the structures as the site of Hat Kaab has been heavily plowed over the years, undoubtedly flattening and distorting the architecture to some extent.

To test the solar observatory theory, the BREA team went out to the west pyramid at Hats Kaab on the summer solstice to observe the location of the sunrise over the eastern structures. Unfortunately it was during the wet season and morning thunderstorms were rolling in, inhibiting our visibility of the sun. However, the clouds did break for a couple of minutes and although we were not able to see if the sun was rising directly over the northernmost platform, it appeared to

be rising in that general direction. The evidence is suggestive of an astronomical observatory, but will require additional observations in the future to confirm.

One interesting feature is the additional mound in the southern quadrant of the site (**Figure 10.1**). There is a possibility that it was originally two mounds prior to being plowed over season after season. If so, the mounds may have served as a ballcourt. Ballcourts are commonly associated with E-Groups in the Maya Lowlands (Aimers and Rice 2006: Table 3). However, past research shows that most ballcourts associated with E-Groups were off of the western mound or incorporated with one of the eastern mounds, rather than freestanding as is the case at Hats Kaab. Alternatively, the configuration may be similar to the southern mound complex found in the E-Group at Uaxactun, which consists of a platform with three small structures perched on top (see **Figure 10.2**).

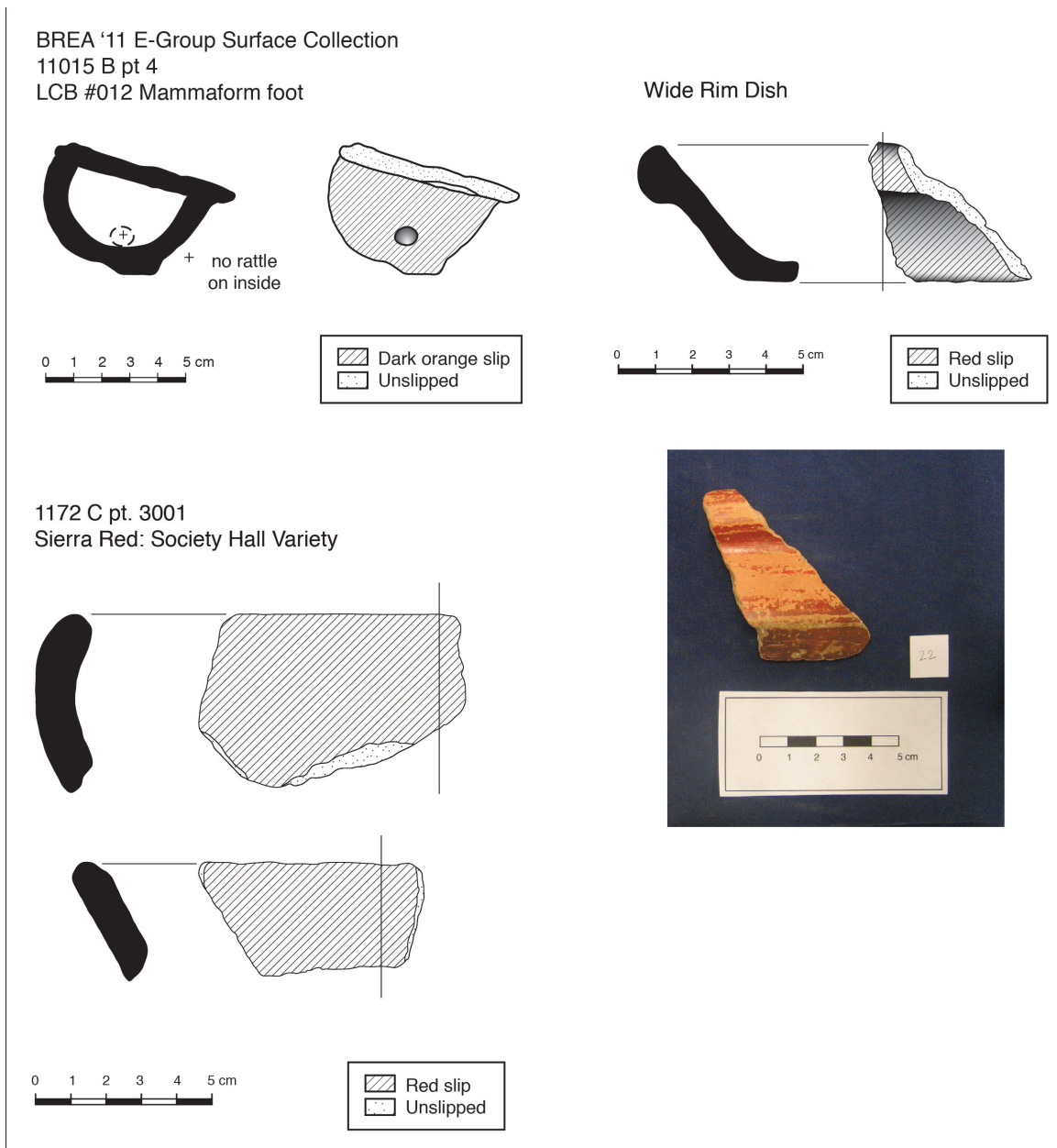
Another interesting aspect about Hats Kaab is found on the western pyramid platform, where the astronomical observations would have purportedly taken place. Here there appears to be a platform extending off the southwestern side of the pyramid. Again, this is similar to the configuration of the E-Group at Uaxactun (compare **Figures 10.1** and **10.2**).

### **Surface Collection at Hats Kaab**

The surface collections from Hats Kaab were sufficient enough to suggest the complex dates primarily to the Late-to-Terminal Preclassic (Runggaldier, personal communication 2011). The wide rimmed Sierra Red dish form and the presence of a large, hollow mammiform foot support this date assignment (**Figure 10.3**). Similar forms are found at Barton Ramie (Gifford 1976) and at Seibal (Sabloff 1975:Figures 124-127). The mammiform foot did not have a rattle embedded within and was slipped with a brown or dark orange color. Elsewhere in the Maya Lowlands, hollow mammiform feet date no earlier than the Terminal Preclassic period, ca. AD 100-300 (Healy 1980:334). The other pottery sherds that are diagnostic of the Preclassic have thick round rims and are red slipped and appear to be types that Gifford (1976) defined at Barton Ramie as Sierra Red: Society Hall variety. Both the interior and exterior of these vessels is slipped a thick, red waxy slip, except for one that is completely blackened on the inside (**Figure 10.3**). Surface collections at Hats Kaab were taken just from visitations to the site and during the survey and mapping of the site. When the BREA team returns to this site in January 2012 there will be an open excavation to directly date Hats Kaab and gain a fuller understanding.

Along with plenty of diagnostic pottery sherds, many obsidian blades were collected, which lend support to the site's ritual function, perhaps involving ritual bloodletting and sacrifice. In addition, many different styles of lithics were found in abundance on the surface. The most prominent lithic piece that was found at Hats Kaab was an enormous, fully intact "chert log". It weighs about 10 kilograms and is about 106.68 centimeters long. Based on its uncharacteristic form and the sheer quantity of chert devoted to the piece, this implement might be best categorized as an eccentric. It is a highly unusual piece and no comparative sources have yet

been found. However, the edges of the piece appear worn, which suggests a utilitarian rather than ceremonial function for this stone “tool”. It is possible that future study will reveal other examples and provide further insight into how this piece may have been used in the past.



**Figure 10.3 Terminal Preclassic sherds from Hats Kaab (drawings by S. Woods and M. Brouwer Burg; photo by M. Brouwer Burg).**

## Conclusions

Future work at Hats Kaab during the January and summer 2012 field seasons will include excavation and additional observation during the June summer solstice in order to further test whether this E-Group may have functioned as an astronomical observatory and/or served some other purpose. Excavations will target several areas of the site, including the southernmost complex in order to clarify whether it served as a ballcourt or as a platform with three structures on top, analogous to the Uaxactun E-Group. Test excavations will be conducted on the western pyramid, as well as the northernmost structure on the east side of the plaza. Together, these investigations will attempt to delineate any standing architecture and determine where the central axes of these two buildings actually lies, so that we feel more certain about our west-to-east sighting lines in preparation for the summer solstice event.

The surface collections at Hats Kaab suggest that the site dates strictly to the Preclassic period; no other later artifactual material was identified in the assemblage. Confirming this site history is critical in our future investigations as later constructions and modifications often are blamed for obscuring the astronomical functions of these building complexes later in the Classic period (Aimers and Rice 2006; Guderjan 2006). Hats Kaab offers an excellent context in which to review a potentially unadulterated Preclassic E-Group and cross-examine the general belief that early E-Group complexes, particularly those similar to the Uaxactun Style, served as astronomical observatories. In addition to solar observation, we also will consider other related functions, such as the calendric, agricultural, and general ritual purposes that may be associated with these distinctive architectural complexes during the 2012 season.

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## Chapter 11

### Operation 1 at Ma'xan

*Astrid Runggaldier and Eleanor Harrison-Buck*

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#### Brief Introduction

The site of Ma'xan, identified on the south side of the Belize River, was the focus of two excavations (Operations 1 and 2) and of mapping of all visible extant mounds. The most distinguishing features of the site today are the agricultural fields that blanket the entire extent of the site, with the exception of the strip of tree-cover that hugs the river's edge, the pyramidal platform of Structure 1, and an uncultivated low-lying swampy area southeast of the pyramid. The agricultural activities at this site have affected the ancient mounds extensively, smoothing them into lower profiles and probably extending their shapes along the direction of plowing, displacing numerous artifacts from their original location, and breaking up many of the ancient stone tools (*manos* and *metates*) which appear abundant throughout the surface scatter.

#### Objectives

The location of Operation 1 was determined by the presence of Str. 1 and its associated platforms (**Figure 11.1**). From surface observations it appears that the front of Str. 1 faces east, so that a platform on its west side extends off the back of the pyramidal structure. This rear platform extension possibly supported more than one structure, and was built at the same time or more likely after the construction of Str. 1. Therefore, the main research goals of Op. 1 were to establish some dating parameters for this area that indicate the sequence and time depth of occupation at this site. Due to an unforeseen rich deposit of what appears to be a termination rite scatter, the excavation did not continue down to sterile levels, and encompassed only the construction, use and termination phases of the platform at the back of the pyramid. Specific objectives of the excavation were as follows:

1. to recover ceramic samples from each construction and use phase for chronological analysis of the platform and associated buildings' development.
2. to identify at least some portion of the building that once stood at the highest point of the platform, and to obtain some information on its possible alignment and facing direction.
3. to recover useful materials such as charcoal samples to determine the dating of the building phases.

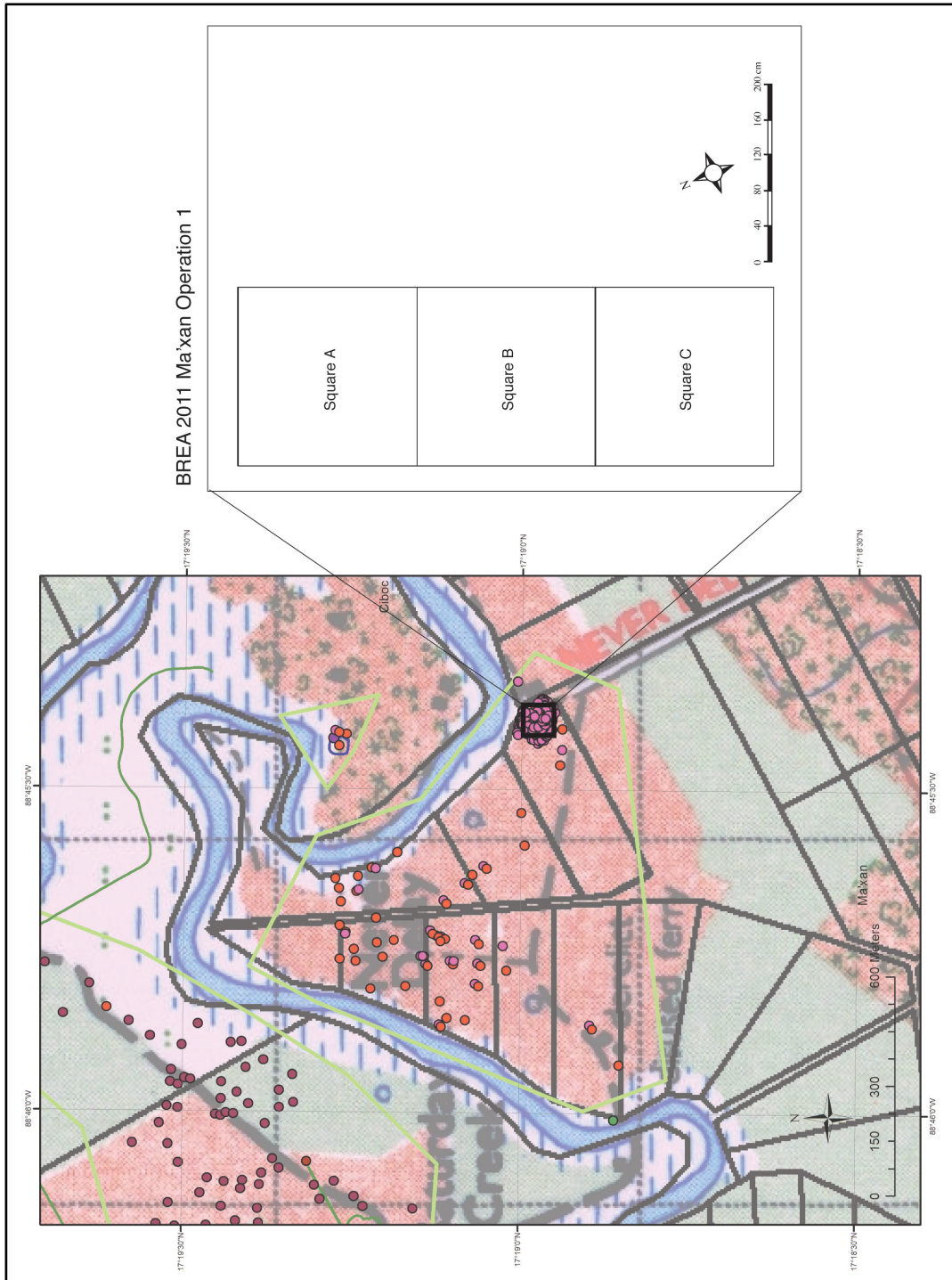


Figure 11.1 Overview map and excavation units from Ma'xan.



## Description of the Research

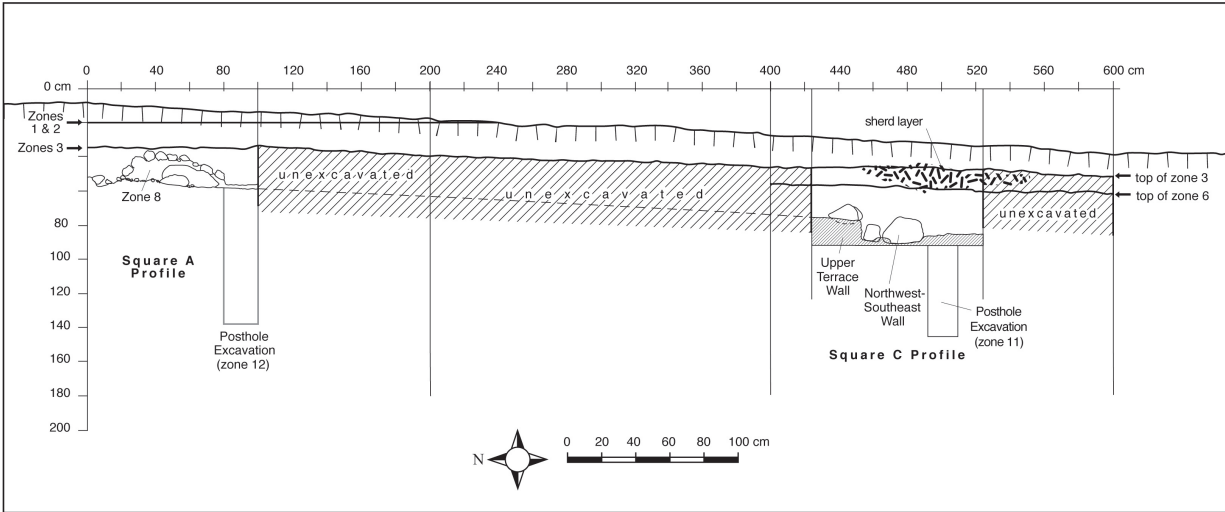
Located on the highest point of a platform extending west off the back of Str. 1, Op. 1 was a 2 x 6 m excavation unit, oriented cardinally with the length of the unit running north–south (see **Figure 11.1**). The unit was sub-divided into three squares (A–C) measuring 2 x 2 m each. Square A, at the north end of the unit, was at slightly higher elevation than squares B and C, which extended southward along the sloping profile of the mound. An arbitrary datum was placed approximately 50 cm east of the southeast corner of Sq. A, from which all depth values in this report were measured. Buckets measuring 5 gallons in volume were used to remove all soil and materials from the unit, and counted to estimate the volume of excavated materials for each zone. Zones were separated at each change that had potential cultural meaning.

### *Zone 1*

The uppermost zone of the unit, extending to all three squares A, B, and C was a plow zone of about 15 cm in thickness with little humic layer and soil relatively light in color due to the dryness of the season at the time of excavation (7.5 YR 4/2). Soil density was very loose with some inclusions of river pebbles and cobbles, small limestone fragments, and chert nodules. Artifact density was moderate (ca. 250 count over 65 buckets of soil volume), including pottery sherds, chert debitage and chipped tool fragments, obsidian, groundstone tool fragments, firecracked rock, freshwater shell, and animal bone. Plant remains, and small bits of modern charcoal were also present, probably from recent clearing activities. The zone was terminated and switched to Zn. 2 when it reached a more compact layer, showing grooves approximately 40 cm apart, running roughly north–south, most likely created by the plow that was used to till the soil. The slope of the mound, and Zones 1 and 2 are visible in the profile of the excavation (**Figure 11.2**).

### *Zone 2*

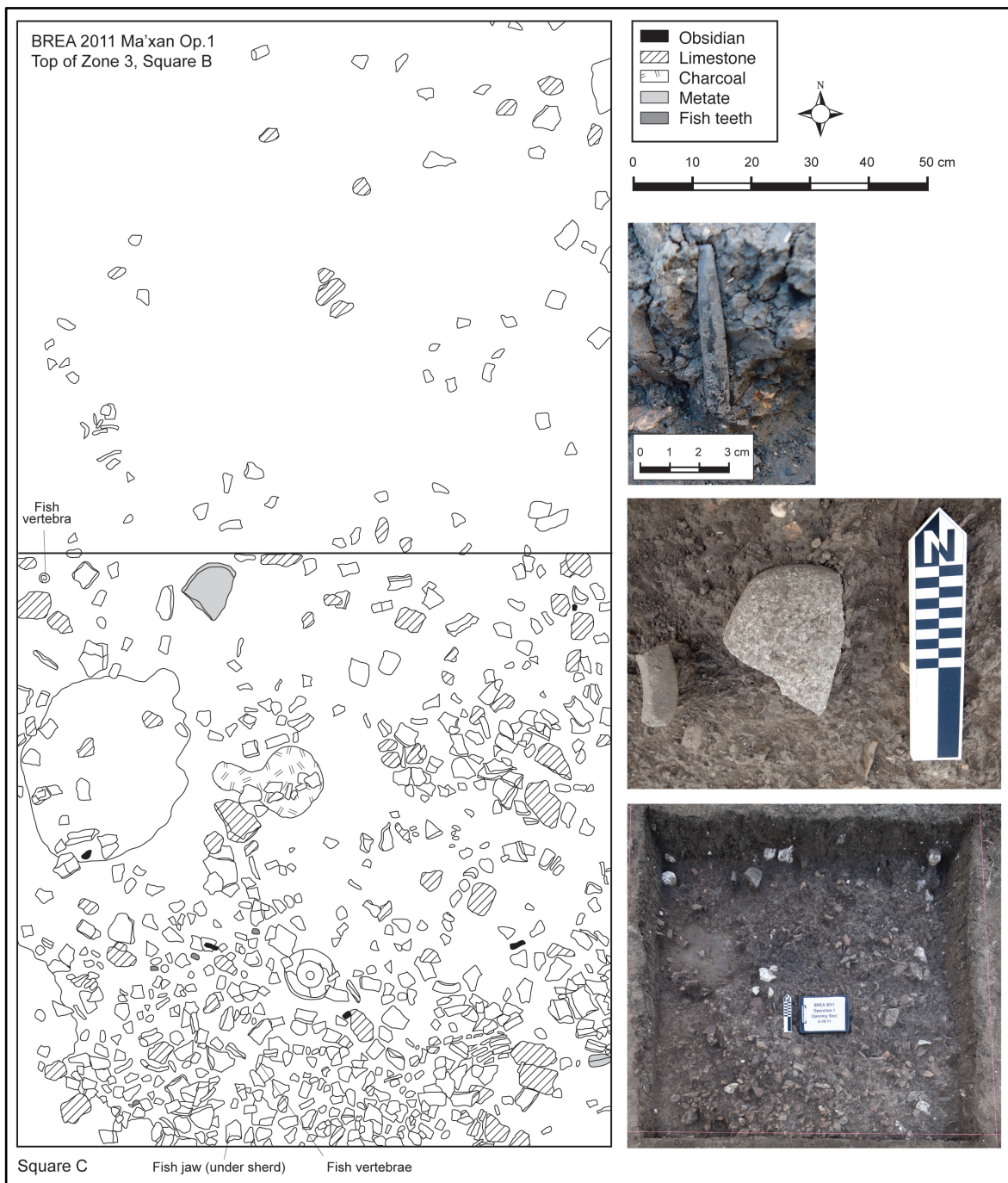
Zone 2 did not differ much from Zn. 1 with the exception of texture. Soil (7.5 YR 4/2 and 10YR 3/2) was much more compact under the loose tilled layer of the overlying stratum. Overall thickness averaged 25 cm, with depth at 47 cm below datum in the center of Sq. B. There is initial appearance of rubble and limestone, indicating that the base of this zone might marks the edge of the disturbed area affected by plowing. The zone was closed at the top surface of Zn. 3, a layer of dense scatter of pottery sherds in Sq. C and less so in B and A. Materials recovered include sherds from the bottom of Zn. 2/top of Zn. 3 that may be smaller in size and show other signs of disturbance from the plow than the layers of sherds beneath. Additional materials (in a total of 326.5 soil buckets) include non-pottery ceramic fragments and a net weight, baked clay material, chert debitage, animal bone, and a charcoal sample. Of these materials the charcoal was found scattered throughout the east side of Sq. A, where Munsell readings were 10 YR 3/2 and 10YR 4/4, the latter from silty clay mixed with eroded limestone probably from collapse, located near the north edge of the unit. From this area in Sq. A are also many of the sherds and the animal bone.



**Figure 11.2 Profile of Excavation (field drawing by A. Runggaldier; digitized by M. Brouwer Burg).**

### Zone 3

Zone 3 begins to mark distinctions in the three excavation squares. In Sq. A, only the north half of the square was excavated further (1 m N–S x 2 m E–W). The removal of Zn. 3 (2.5Y 5/4 yellowish sandy silt in 40.25 soil buckets) outlined the top of a pile of chert cobbles and limestone separated as Zn. 8 and described below (see **Figure 11.2**), so that elevations (ca. 41 cm BD at the top of the cobble pile, and ca. 58 cm BD at the base) contour a feature roughly aligned NW–SE, which we interpret as the base of a structure wall. In Sq. B, Zn. 3 was not excavated further (see **Figure 11.2**): the cleaning of its surface revealed that it did not contain the same high density of ceramics as Sq. C, and only had a few small limestone cobbles that were separated as Zn. 4 but not further excavated (**Figure 11.3**). In Sq. C, Zn. 3 comprised almost exclusively a deposit of pottery sherds and other artifacts and materials with very little soil matrix, approximately 10 cm in thickness (from 49.5 cm BD in the NE corner to 61 cm BD in the SW corner). This scatter of artifacts was clearly concentrated at the south edge of the unit, and included sherds much larger in size than those at the bottom of Zn. 2, suggesting that the plow did not cause substantial breakage to the materials in this layer (**Figure 11.3**). Further support to this observation comes from the fact that several sherds found adjacent to each other fit together into partial vessel sections, so they were not moved from their original deposition spot. Among the sherds, other materials recovered included obsidian blades whole and fragmentary, two granite *metate* fragments, a fish vertebra and several fragments of fish teeth from at least three species (Stanchly 2003, Kavountzis 2003; see also Ch. 12 in this volume). An area of burnt sherds and concentrated charcoal was identified just NW of center in Sq. C, and C-14 samples were taken. Finally a whole up-turned vessel comprised part of the scatter, but was excavated as a separate zone (Zn. 5). Zone 3 in Sq. C was terminated at the base of the sherd scatter, outlining an area of softer dark clay material in the western half, designated as the top of Zn. 6.



**Figure 11.3 Top of Zone 3 (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg; photos by S. Murata).**

#### Zone 4

Zone 4 constitutes a scatter of limestone rubble in Sq. B within the matrix of Zn 2 and atop unexcavated Zn. 3. The largest stone measured 23 x 16 cm, others averaged 15 cm, and were located 31 cm BD at the north end of the square, 28 cm BD at center, and 43 cm BD at the south end. They were designated as their own zone to separate a possible architectural feature, but the excavation was not carried out further. The stones are most likely collapse from the structure further to the north, spread southward by the plow.

#### Zone 5

Zone 5 designates a complete fragmentary vessel found *in situ* in inverted position among the ceramic deposit of Zn. 3, in the center-south area of Sq. C (**Figure 11.4**). The vessel was lifted whole with the matrix of its contents and excavated in the lab. No additional materials were recovered from the excavation of the vessel, but the sherds were not washed and a soil sample was retained from the matrix of its interior for possible future analysis.

#### Zone 6

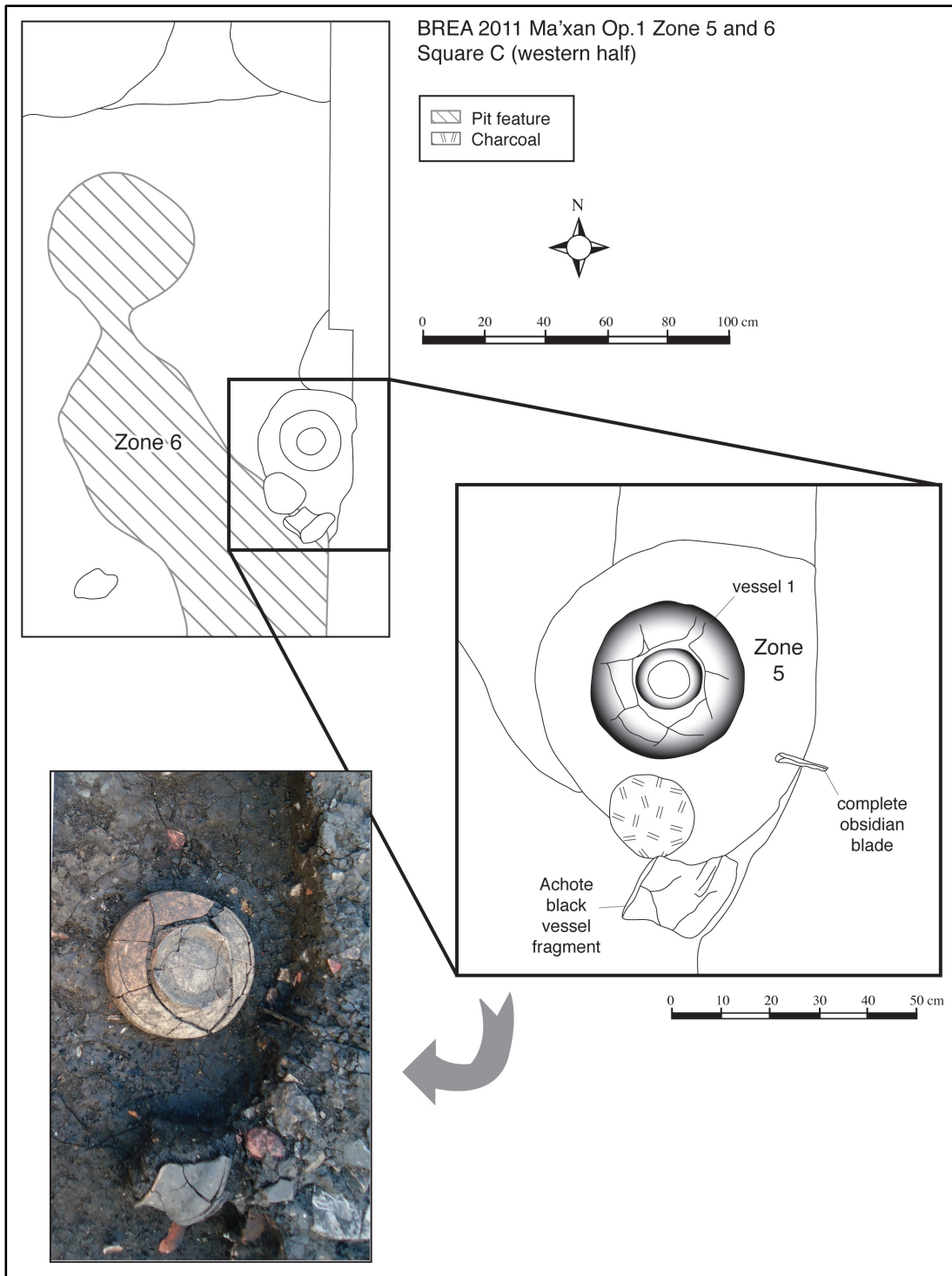
Zone 6 designates the layer beneath the sherd scatter in Sq. C, and was identified as a possible pit feature because of its darker stickier clay texture (10YR 3/3), which was visible within the sherd scatter of Zn. 3 (**Figure 11.3** and **Figure 11.5a**). Zone 6 clearly extended beyond the unit in a southeast direction, and was not fully outlined within Sq. C (see **Figure 11.4**). Only a section of it was tested with a sampling excavation, the contents of which were designated Zn. 7 (**Figure 11.5b**).

#### Zone 7

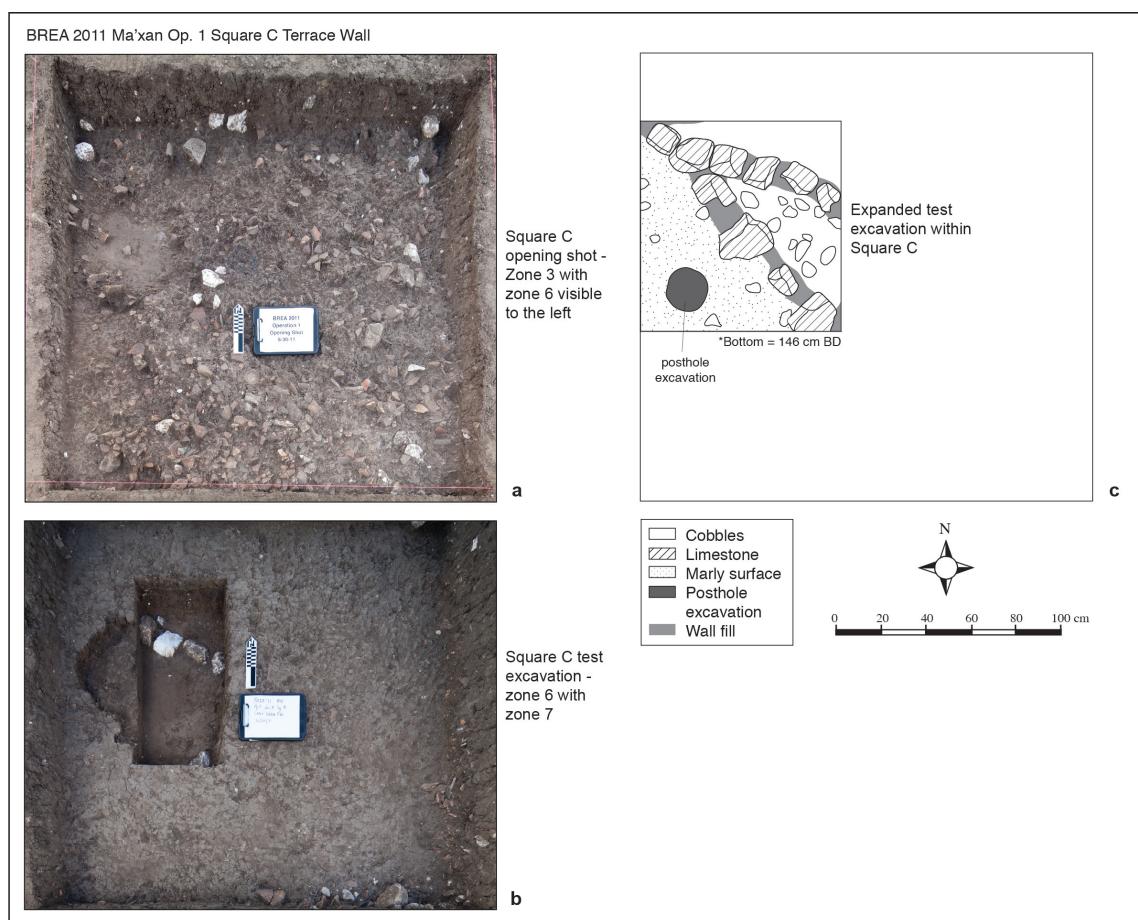
Once all sherds from Zn. 3 were removed, the visible outline of Zn. 6 did not indicate any particularly recognizable feature, such as a burial pit or posthole, so the feature was probed with a test excavation designated Zn. 7, within the western half of Sq. C and measuring 1 m N–S and 50 cm E–W (see **Figure 11.5b**). Subsequently, when a few aligned limestone rocks were uncovered at the bottom of Zn. 7, the test excavation was expanded to the west section of Sq. C (**Figure 11.5c**; see also **Figure 11.2**). Zone 7 was terminated at the exposure of a NW–SE alignment of stones parallel to the feature in Sq. A Zn. 8, additional stones from another possible structure or feature, and a marly surface with some cobbles (Zn. 9).

#### Zone 8

Zone 8 was identified beneath Zn. 3 in Sq. A and was concentrated in the northern half of Sq. A (the southern half was not excavated). Zone 8 was primarily a chert cobble pile, which also included several limestone rocks, a marly soil matrix (2.5Y 5/3), and several artifacts and materials among which bone fragments (some animal, some possibly human, including skull fragments), a worked bone pendant, an inlaid human tooth, a jade bead, and some *jute* shell (**Figure 11.6**; see also **Figure 11.2**). The materials initially suggested the presence of a grave disturbed by recent agricultural activities, but upon excavation it seems that these materials were

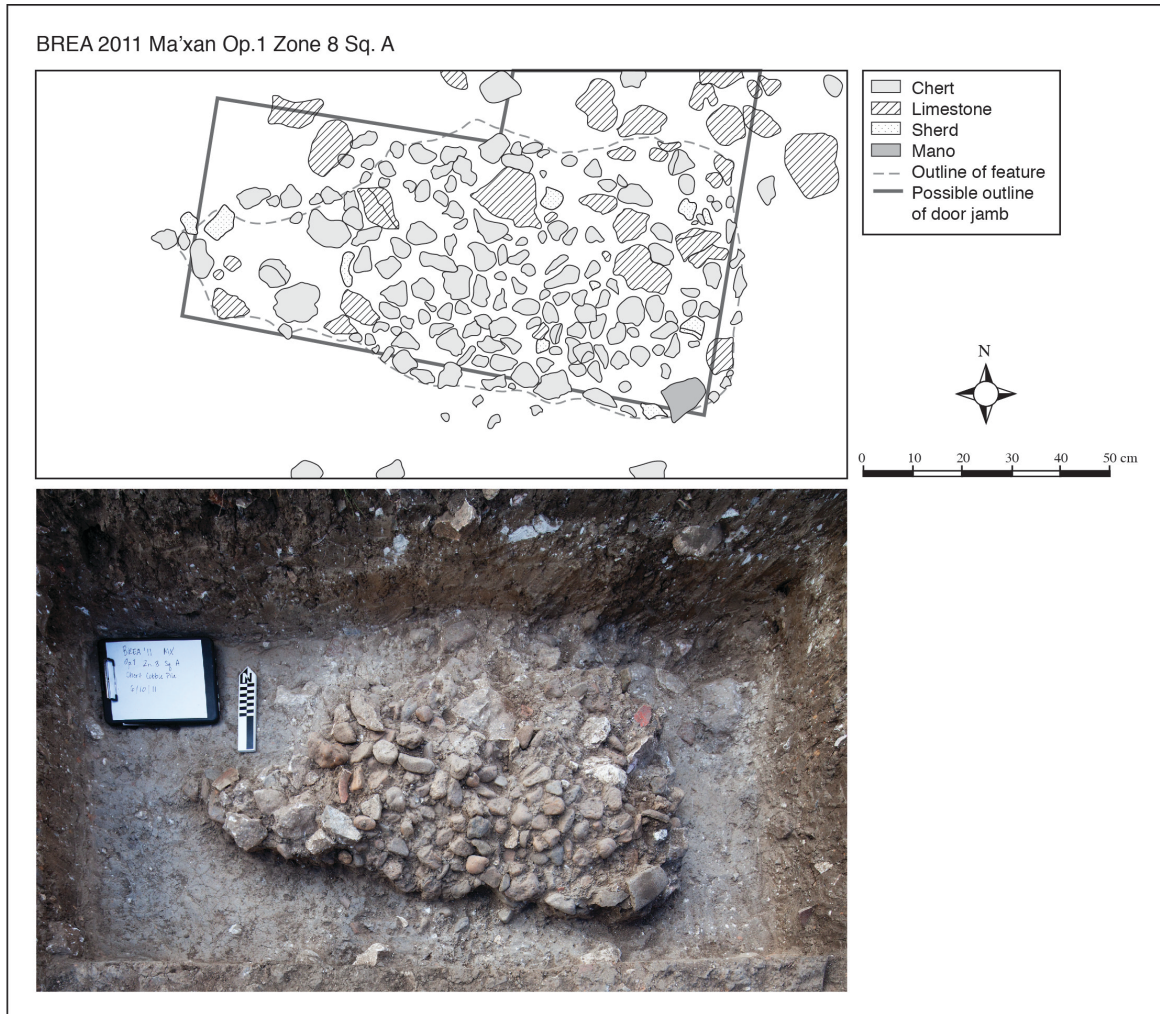


**Figure 11.4 Pot found *in situ* (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg; photo by A. Runggaldier).**



**Figure 11.5 Zone 6 sherd scatter and test pit (field drawing by S. Murata; digitized by M. Brouwer Burg; photos by S. Murata).**

part of the rock pile and its mortar, so if they originated from a grave it was one excavated in antiquity and used here as construction fill. The rock pile was determined to be part of a structure atop the highest portion of the platform on which the unit was located. Its shape, and the color and texture of the surrounding plastery surface (2.5Y 7/2), suggest that this is a wall separating exterior and interior spaces, and may have been the eastern door jamb to the structure façade, which appears to have faced south, in agreement with the overall shape of the platform. A skull fragment (animal or human), fish vertebrae, a piece of shell, and charcoal were found at the SE corner of the excavation in Sq. A, at the outside corner of the wall. The stones, arranged in a NW–SE alignment, outline a wall parallel to the one marked by stones at the bottom of Zn. 7, just under 4 m to the south. We interpret the wall features in zones 8 and 7 respectively as the front south-facing wall of a structure, and the upper terrace edge wall of its associated frontal terrace.



**Figure 11.6 Zone 8, Square A (field drawing by A. Runggaldier; digitized by M. Brouwer Burg; photo by S. Murata).**

### *Zone 9*

Zones 9, 10, and 11 were located within the test excavation of Zn. 7 in Sq. C (**Figure 11.5c**). Zone 9 identified an additional alignment of stones and a marly surface to its west that constitute construction fill of some feature or structure abutting and post-dating in construction sequence the upper terrace wall stones at the bottom of Zn. 7. The floor surface and its fill, designated Zn. 9 were not further excavated.

### *Zone 10*

This is the wedge of soil and small cobbles along the east end of the test excavation within Sq. C, between the upper terrace wall and the lower line of stones that run at a diagonal abutting the wall (**Figure 11.5c**). Zone 10 materials post-date the construction of the wall and

marly surface in Zn. 9 and the upper terrace wall, and are probably contemporaneous with the materials in Zn. 7, which enlarged the platform to the level of Zn. 6.

#### *Zone 11*

Zone 11 constitutes a posthole test excavation from the top of the marly surface in Zn. 9 down to 146 cm BD (**Figure 11.2** and **Figure 11.5c**). The excavation was carried out to collect any pottery materials that would help the chronological assessment of the construction fill in this area. The fill is subsequent in construction to the laying down of the upper terrace wall stones, but the two events may be close in sequence.

#### *Zone 12*

Like Zn. 11, Zone 12 is a posthole test excavation, placed just in front of the wall of the structure in Sq. A, into the floor surface below Zn. 3, reaching a depth of 146 cm BD (Figure 11.2). Pottery sherds were collected to help in the dating of the construction of the platform on which the structure was built. The construction fill and artifacts from this zone constitute the earliest materials in the sequence identified with Op. 1, and date the construction of the platform extending from Str. 1. The date of Str. 1 is thus equal to or earlier than the earliest materials identified in Op. 1.

### **Interpretations and Conclusions**

The primary goals of the research in this area of Ma'xan were met with the excavation of Op. 1. We obtained extensive ceramic material for the dating of the construction sequence, which at preliminary assessment while analysis is still ongoing seems to place construction of the platform in the Late/Terminal Classic period, with termination of the occupation in the Terminal Classic, and casual use of the final surface in the Postclassic period. We identified both the structure façade and the edge of the upper terrace, parallel constructions that belong to the same architectural phase and point to buildings at the back of Str. 1 facing south, not directly at the pyramid. We recovered several charcoal samples, among which one that can help date the termination deposit, and one from a possible sealed deposit beneath the surface of Zn. 3 in Sq. A that can help date the end of the use of the structure at the top of the platform.

Overall, the excavation of Op. 1 determined a construction sequence of various architectural elements in the platform mound visible to the west of the pyramidal platform Str. 1. The sequence, from earliest event onwards, includes a platform with an upper and lower terrace (Zn. 12 and base of Zn. 7), a structure at its summit (Zn. 8), an abutting feature or additional structure at the south of the upper terrace (Zn. 9 and 11), an enlargement phase of the platform (with or without termination of the main structure) (Zn. 10, 7, and 6), and a termination deposit of ceramics, fish, and other materials (Zn. 3) atop the enlargement phase, prior to final abandonment of the area.



There are two possible interpretations for the scatter of materials in Zn. 3, which is likely a termination deposit (Mock 1998; see also Ch. 12 of this volume): it is either associated with the use-phase of the structure atop the platform, or it marks the termination of that structure. In the first scenario Zones 10, 7, and 6 mark an enlargement phase of the southern terrace, which abutted the wall of the summit structure, so that both structure and enlarged terrace were used at the same time. In this scenario the scatter in Sq. C would have been visible in front of the structure on top of the terrace surface, likely marking the abandonment of the structure and of this area of the settlement. To investigate this interpretation further additional excavation of Sq. B would be needed to ascertain the relationship of the surface of Zn. 6 and the base of Zn. 3 across the entire unit.

In the other interpretation, which we consider more likely given the recovered stratigraphic relationships, Zones 10, 7, and 6 still constitute an enlargement phase of the terrace in front of the summit structure, but in this case the structure ceased to be used before the laying down of the materials in Sq. C Zn. 3. In this interpretation the surface on which the ceramic and other materials were deposited extends to the entire unit and covers the remains of the summit structure wall, knocked down to its basal course. This event, which may have been contemporaneous with the deposit, marks the end of use of the structure, so that the termination deposit may have been at one time the termination of the structure and of settlement in this area of the site. In this scenario the scatter in Sq. C would have been the last visible remains of occupation at this locale, the base of the structure walls having already been buried by the surface of Zn. 3.

The termination deposit itself may represent the smashing in situ of partial vessels and the scattering of already fragmentary pottery, given that only one vessel (Zn. 5) is complete, along with other “trash,” represented by fragmentary obsidian blades (with the exception of one complete one), partial *metates*, and the possible remains of consumed fish. The analysis of these materials is the subject of the following chapter (for further discussion see Paquette, Chapter 12).

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## Chapter 12

### Analysis of a “Problematic Deposit” at Ma’xan

*Kerissa Paquette*

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Termination deposits, often referred to as “problematic deposits,” are scatters or groupings of objects that resemble trash dumps that were purposefully deposited in meaningful locations as a means of desecrating or terminating places and objects that were once alive with animate power (Harrison-Buck 2008). In Operation 1 at the site of Ma’xan there is evidence to suggest that a termination ritual took place. In square C of Operation 1 a dense deposit of ceramic and non-ceramic materials were found (**Figure 12.1**). The ancient Maya believed both animate and inanimate objects had life forces of their own. Termination rituals were a way of ending a life cycle of a building by covering the area in garbage and debris. Below I present a detailed analysis of the contents and context of the deposit at Ma’xan and offer a comparative study of termination deposits found elsewhere in the Maya lowlands. Together, these data support the interpretation that the deposit in Operation 1 is the remains of a termination ritual that may have coincided with the abandonment of the site center at Ma’xan.

Termination deposits can include human remains, the smashing of whole ceramic vessels, intensive burning, secondary deposition of refuse, and destruction of the structure itself (Harrison-Buck et al. 2007; Pagliaro et al. 2003; Stanton et al. 2008). Termination rituals often involved destruction of buildings and any objects left inside. Termination deposits often are confused with middens or other refuse deposits due to the lack of knowledge about termination rituals. Yet, these “problematic deposits” have certain characteristics that distinguish them and appear ritualistic in nature. To the untrained eye, the deposit in Operation 1 at Ma’xan might resemble a midden. However the remains of items found in this problematic deposit strongly suggest that the layer of objects were smashed and scattered over the front facing of a platform structure as part of a termination ritual.

#### Contents and Context of the Ma’xan Problematic Deposit

Excavation of Operation 1 began in Square C where the problematic deposit was found in Zone 3 (see Runggaldier and Harrison-Buck, Chapter 11). The deposit was found throughout Square C, but tapers off to the north in the direction of the platform structure. Little evidence of the deposit was found in Square B, but it did continue farther to the south, east, and west outside of the excavation unit. Artifacts were defined and, where possible, left in situ until they were drawn and photographed. Zone 3 in Square C was then further divided into east and west halves to gain more horizontal control of where the artifacts were found in the unit. The artifacts were

removed one half at a time and were bagged and labeled separately. Reconstructable sherds were bagged together until they could be pieced back together in the lab.

Operation 1 contained several bones that are believed to have been human (**Table 12.1**). In all three squares of the operation several teeth were found and also what appeared to be a Phalange of a human foot. Other pieces of bone that are believed to be skull fragments were scattered through out the Square C (see **Table 12.1**). Osteological analysis is forthcoming and will be aimed at further identifying the presence of human skeletal remains in the deposit. This site could have been the location of a burial that was removed or desecrated during the termination ritual. Desecratory termination deposits often include human remains, suggestive of either human sacrifice or purposeful disturbance of burials and the scattering of ancestral remains (Pagliaro et al. 2003:81).



**Fig. 12.1 Ma'xan Operation 1, Square C, Zone 3 Problematic Deposit (photo by S. Murata).**

In addition to human remains, over a hundred animal bone fragments were identified in the deposits, primarily consisting of fish bone. Preliminary faunal identifications suggest these are not the remains of fresh water fish found in the Belize River, but rather, show pharyngeal jaws characteristic of Caribbean reef fish, such as the Parrot fish. In square C there also was one bone fragment that was burned. The burnt bone was removed as a part of Zone 2, which was directly above Zone 3 and was probably part of the termination deposit. The burnt bone may have been associated with a small burned feature located on the West side of square C. This

dark, posthole-size feature contained chunks of charcoal and other signs of burning and was cutting through the debris of the problematic deposit. The feature also contained several pieces of burnt ceramics. It is possible the feature represents a posthole for a post that was part of a perishable structure that was burned in antiquity. Evidence of intensive fires and the burning of buildings in association with termination deposits at other Maya sites, including Hershey, Yaxuna, and Altun Ha (Harrison-Buck 2012; Stanton et al. 2008:238). Burning was seen as a way to destroy or desecrate a supernatural power housed within a building or object.

**Table 12.1 Contents of the termination deposit.**

Operation 1 Zone 3 Square C	Weight (g)	Number of Pieces
Body Sherds	10192.6	1005
Rim Sherds	4344.9	234
Sherds with Attributes	777.9	43
Chert	1003.4	188
Chert Tool	26.3	1
Bone	58.1	98
Worked Bone	1	1
Tooth	0.9	1
Obsidian	11.1	12
Baked Clay Material	70.4	5
Speleothem	77.6	1

The problematic deposit at Ma'xan contained some items that appear to have been broken elsewhere and deposited later in this context. A piece of a chert spear was found on the east side of the deposit. There also were two mano and metate fragments found in Zone 3, each of a different type of granite with no other matching pieces found in the excavation unit. These pieces also showed erosion and ware from being exposed to the elements, suggesting they were in a state of disrepair when they were deposited in this context. Unlike a normal trash deposit, there also were an array of special artifacts that were found throughout the deposit, many of which were intact, such as worked bone beads, stone tools and an inverted ceramic bowl. Several perforated fish vertebrae that served as beads were found on the west side of the deposit. These beads were found in both Zones 2 and 3 and were clearly worked, each with a slightly different design. Other intact objects found were obsidian blades, a net spacer or weight, and a possible speleothem or cave formation (**Table 12.1**). None of these objects show signs of any damage that would be expected of materials in a refuse deposit where objects are usually discarded because they are broken and no longer useful. Since there are both used and still usable items found in this deposit it is possible that the depositional event involved several discrete but related activities. These include placing an inverted whole vessel and other special objects (perhaps objects belonging to the inhabitants) along on the front of the platform structure

and dumping a secondary midden deposit in this same general area. A final act may have involved burning the perishable building(s) perched on the platform structure and possibly partially dismantling low footing walls on the summit of the platform (if interpretations below are correct).

In Square A of Operation 1 there was a small concentration of limestone fill that contained only a few artifacts. While cut facing stones were not obvious, the formation of the cobble fill, stuck together with a white marl-like mortar substance, resembled a wall or possibly a door jam for a building on the summit of the low platform. The excavation walls limited the horizontal exposure, but it is possible the cobbles are the remnants of a partially dismantled footing wall. Along side the burning of perishable buildings, dismantling of architecture often accompanies termination deposits at other sites, such as Xunantunich located farther to the west in the upper reaches of the Belize Valley (Stanton, Brown & Pagliaro 2008). At Xunantunich, a termination deposit was associated with Structure A-11, whose exterior facing stones were torn off down to the first course. The deposit consisted of several smashed vessels and other non-ceramic objects that were uncharacteristic of a midden. A layer of chert flakes and an intact bowl with red slip were found associated with the debris (Yaeger 2010).

Like Structure A-11 at Xunantunich, one intact vessel (Vessel 1) with an interior red slip was found inverted in the problematic deposits at Ma'xan and was partially covered by the terminal debris (see **Figure 11.4**). Nearby were several obsidian blades, one of which was complete. Vessel 1 was the only intact pottery vessel found in Operation 1 at Ma'xan and it was carefully removed and brought to the lab for cleaning. All of the dirt that was located within the vessel was removed in the lab and a sample of the soil was bagged for later analysis. Inspection of the dirt inside vessel 1 revealed some small ceramic sherds that were found on the top near the rim of the vessel, which were probably remnants of debris from the problematic deposit that were picked up when the vessel was removed from the ground. Several pieces of charcoal were removed from inside the vessel and collected for radiocarbon dating at a later time. The dirt inside of Vessel 1 is similar in color and texture to the rest of the soil in Zone 3. A lighter, softer soil was revealed toward the bottom of the vessel. A soil sample from inside of the vessel also was packaged for an archaeobotany analysis at a later date. Once all of the soil was removed from the vessel it was cleaned. Heavy erosion and ware on the bottom of the vessel had removed most of the slip and indicates that the vessel was exposed for some time prior to its final deposition—rim down with terminal debris piled all around it.

The bowl and other serving wares represented in the deposit suggest food consumption and may point to ritual feasting as part of the termination event. Elsewhere, scholars have noted feasting paraphernalia associated with termination rituals. For instance, Structure A-11 at Xunantunich presented evidence of feasting and food consumption. Of the 84,000 ceramic sherds found in the termination deposit in structure A-11 most were for serving food and were in the form of bowls, plates, dishes, and cylindrical vases or drinking cups (Stanton et al. 2008). In Operation 1, several large rims of storage and cooking jars were found but densities were relatively low compared to serving wares in the context of the problematic deposit. Only 43

ceramic sherds (out of a total of 1239 sherds) found in this context in Square C appear to be utilitarian wares (**Table 12.1**). Since few utilitarian vessels were found in the deposit, storing or preparing food was most likely not a focus of this structure. Similar to Xunantunich, most of the identifiable vessels in the Ma'xan deposit were bowls and plates. These types of vessels would have also been used for feasting and food presentation. These ceramics may have been part of a midden deposit that was moved and dumped in this location, but some may have been smashed and scattered as part of a feasting event that was part of the termination event itself. Unlike the large mano and metate fragments, many of the ceramic sherds were located next to or nearby sherds from the same vessel suggesting that the debris represents possibly whole or partially reconstructable vessels. In Zone 3, preliminary study showed that over 100 sherds were partially reconstructable. Several were reconstructed during the initial analysis and were then cataloged as single fragments or partial vessels.

When Zone 3 was cleared down and the dense deposit of artifacts was removed, a small line of stones was partially exposed and defined in the excavation unit in Square C (see **Figure 11.5**). This may represent the lower wall of the platform's front-facing terrace or, alternatively, is the remains of an earlier structure. Limited horizontal exposure inhibits a fuller reconstruction of the earlier construction and heavy plowing has obscured whether any later construction phases were built. However, the present evidence suggests that the problematic deposit at Ma'xan marks the final episode of occupation at the site.

## **Discussion**

The deposit found at Ma'xan is unlike generic midden deposits and does not reflect typical refuse patterns. The Maya created localized areas for dumping trash, often placed along the back or sides of buildings. Disposing of refuse away from the structure would prevent odors and scavenging animals from entering the structure. Problematic deposits that are found inside buildings or blocking access to structures, like the one at Ma'xan, have been interpreted elsewhere as squatter's refuse, with the assumption being that squatters would have little regard for the structure they are re-occupying and might dispose of their trash in a more haphazard way (Stanton et al. 2008). In the contents of the Ma'xan deposit, there is evidence of refuse in the form of worn and broken objects, but it appears to be in a secondary context. That it is also coupled with unbroken materials that appear to have been purposefully placed in the deposit suggests the deposit is more than the haphazard midden of a squatter.

The Maya often used items until they were no longer viable. Items were even put aside when no longer useful for its original task and saved until a secondary use was determined. The presence of a number of unbroken special objects in the deposit, such as beads, an inverted whole vessel, and a complete obsidian blade, is a clear indication of the ritual function of the deposit. It is common to find obsidian pieces and exhausted cores in trash deposits, but an intact obsidian blade with little to no use is a rare find and may indicate bloodletting activities

accompanied this event. Its close association with Vessel 1 suggests that the blade and the bowl may have been deposited as a unit at some point during the ceremonial event, perhaps as a final ritual termination act.

Other special items found in the Ma'xan deposit, such as the speleothem (on the east side of Zone 3) may have held certain animate power due to its cave origin. The Maya believed that caves and other natural structures were portals to the underworld (Xibalba) and it seems unlikely that a ritually charged cave formation would be haphazardly tossed out with other refuse. Its presence here remains an anomaly, as there are few speleothems that have been identified in other termination deposits.

Termination deposits often are related to the destruction of a structure or building complex. The Maya believed that supernatural powers could be drawn from sacred landscapes, objects or from deceased ancestors (Stanton et al. 2008:235). This power could be drawn from the landscape by building a structure around or on top of any of these social agents. If the structure was no longer being used or an outside group did not want it to be used a termination or desecration ritual would be performed in order to kill or desecrate the structure. Desecratory terminations rituals are the most common type of termination deposits according to Stanton, Brown and Pagliaro (2008:236). These types of rituals revolve around the physical destruction of the building and the removal and destruction of any objects belonging to the owner that may hold special power. These rituals often coincide with warfare and in some cases may be rituals associated with conquest.

Given the size of the excavation unit of Operation 1 and the limited exposure of this deposit, along with the associated platform the exact nature of the terminal event is difficult to determine. Operation 1 was mostly located "off-mound" and only clipped the southern edge of the platform structure, revealing just a small portion of the structure and its superstructure. Nonetheless, several bits of evidence suggest purposeful building destruction characteristic of conflict-related termination events (Harrison-Buck 2012). If the burned "posthole" feature in Square C is interpreted correctly, then a perishable structure perched on the southern side of the platform may have been burned at the time of the "termination" event. The northernmost wall of Square A revealed what may be an additional post of this perishable building and also a portion of a low foundation or footing wall that was partially dismantled, perhaps as part of the termination ritual. Due to the proximity to Structure 1 (the largest basal platform at the site) it is possible that the low platform structure exposed in Operation 1 served as an elite residence or administrative building. Desecratory termination rituals like most other termination deposits often are found associated with elite structures. During warfare the Maya targeted elites and rulers with these types of "killing" rituals in an attempt to remove them from their power by destroying their living structures and personal objects (Harrison-Buck 2012; Stanton et al. 2008:237). Other objects found in Operation 1, including a jadeite bead and an inlaid tooth provide evidence that this was a structure that belonged to elites.

The deposit found at Ma'xan in Operation 1 exhibits the characteristic traits of a desecratory deposit as defined by Pagliaro and colleagues (2003; see also Stanton et al.



2008:237). These include intensive burning, the breaking and scattering of pottery with sharp edges, and a dense concentration of artifacts. The white marl and possible elite artifacts were found in close proximity to the deposit in Square A, less than four meters to the north and they appear stratigraphically related. The destruction of the actual building itself may also be present, as discussed above, although this requires further investigation to confirm. The deposit shows some redeposited midden debris, but there are also clear indications of materials that were intact and not thrown away haphazardly, but rather, meaningfully placed along the front (southern) side of the platform.

Another characteristic trait of a termination deposit is the presence of human remains, which were found in the deposit in Operation 1 at Ma'xan. Further excavation of the site could possibly reveal further remains and perhaps a desecrated burial similar to termination deposits found elsewhere, such as at Yaxuna (Pagliaro et al. 2003). The significance of the overturned bowl and other feasting items found in the deposit are still unclear but suggest a ritual function for this deposit. I believe that the deposit at Ma'xan Operation 1 had some sort of significance and put there for a reason. More excavation would help render a more accurate determination of the purpose of such an interesting deposit.

The term “problematic deposit” may be a way to better categorize what has been found thus far at Ma'xan as only a small area has been exposed and there is little we can say at this point in terms of the extent of the termination rituals or destruction of elite architecture at the site. The term “problematic deposit” is appropriate here because it distinguishes these deposits from general refuse or middens. However, the term “problematic” signals that their meaning is still not all together clear to us (Stanton et al. 2008). These deposits could be ritualistic or may be the remains of a conquest-linked event, but limited horizontal exposure and modern plowing leave interpretations open-ended at this time.

In some cases termination deposits can represent the end of one construction phase prior to the construction of a new building phase (Pagliaro et al. 2003:77). It is possible that heavy plowing damaged and obscured a later construction phase. However, no evidence of a later building phase was identified so it seems that the problematic deposit marks the final abandonment of the site center of Ma'xan.

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## Chapter 13

### Operation 2 at Ma'xan

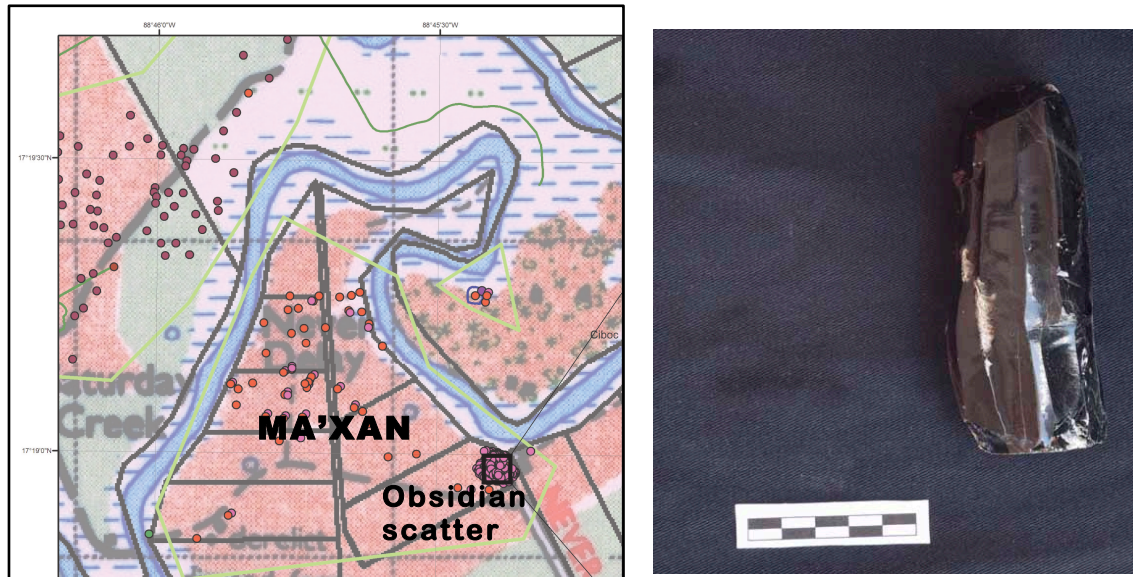
*Satoru Murata*

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During pedestrian survey at the site of Ma'xan during the January 2011 season, we noticed a mound near the site's eastern edge, on and around which there was an overabundance of obsidian blades and cores (n = 309), making it one of several "obsidian mounds" we have come across (**Figure 13.1**). There also was an abundance of groundstone, especially *manos* and *metates* of various shapes and materials, as well as an interesting collection of chert tools, including bifaces and eccentrics. Assuming the mound represents a lithic production locale, we conducted test excavations there in the hopes of defining *in situ* production remains.

#### Posthole Program

In order to assess possible locations for placing an excavation unit, we laid out a 6 x 6 m grid of 49 points (later expanded to 55) at 1 m intervals for postholing on the north side of the



**Figure 13.1** Location of obsidian scatter (left) and obsidian core from scatter (right; photo by S. Murata).

mound (**Figure 13.2**). A total of 12 (non-randomly selected) posthole pits were excavated down to around 1 m in depth (where possible), paying attention to spikes in artifact density and/or possible stone alignments. No discernible peaks in artifact density were detected. Posthole #11, upon hitting some limestone therein, was expanded to a 50 x 50 cm shovel test-pit, which was later extended another 50 cm to the south. A clear alignment was not present. After extending the central axis of the grid south, towards the summit of the mound, we found, in posthole #55, some evidence of a floor around 60 cm below the surface. With these results, it was decided that the best strategy would be to place a unit (Operation 2) at the summit of the mound; hence a 2 x 2 m unit was placed near the center of the structure, oriented cardinally (see **Figure 13.2**)

## **Operation 2**

### *Zone 1*

Zone 1 is the top “plowzone”; as the structure is located at the edges of an intensively utilized agricultural field, plowing activity is clearly evident. Soil density was very loose silty-clay, with a Munsell value of 7.5YR 3/2. Artifact density was medium, with a mixture of pottery, chipped stone tools, debitage, groundstone tools, obsidian, and historical metal. The zone, however, was not as deep as the zone 1 “plowzone” of Operation one, and was called an end when, after several centimeters of excavation, we reached a ridged surface that was made by the plow, similar to Operation 1, Zone 2.

### *Zone 2*

Zone 2 is also considered a plowzone, as the plow blades clearly reached below this stratum, admixing artifacts from above and below. Artifact density remained similar to Zone 1, with a similar range of artifact types, except for historical material. Soil density gradually shifted from semi-compact to compact as we neared Zone 3 tumble below.

### *Zone 3*

Zone 3 is what appears to be tumble of cobbles and some artifacts, including larger and better preserved pottery when compared to the overlying stratum. The tumble-like material was not uniformly distributed across the square, although the cobbles all seemed to rest on some kind of level surface. Soil density was compact, and artifact density rose slightly, including a small jade bead around 38 cm below datum in the northwest quadrant of the unit. At around 39 cm below datum, we found a long complete obsidian blade and a few pottery sherds around it, which suggested the possibility of a surface; thus, Zone 3 was called to an end after we removed the cobbles and leveled the unit at that depth.

### *Zone 4*

Zone 4 is a compact silty-clay stratum, with perhaps a slightly higher density of faunal remains, including some crab claws. Due to time constraints, we ended the zone after a few centimeters of excavation, and halved the unit so that we could continue to excavate just the eastern half (1 x 2 m) of the unit.

#### *Zone 5*

Zone 5 was originally just the northeastern 1 x 1 m quadrant of Operation 2; after around 15 cm of excavation, we encountered the next zone, which seemed to be a crude earthen surface, with much looser sediment, and some bones in the southeast corner of the quadrant. We subsequently expanded the sub-unit to the southeast quadrant, making it a 1 x 2 m sub-unit in the eastern half of Operation 2. The bones near the eastern wall of the unit appeared to be human, and once the bottom of Zone 5 was leveled, a relatively clear pit feature was revealed, which we called Zone 6.

#### *Zone 6*

Zone 6 is an intrusive pit feature along the eastern edge of the unit, going into the eastern wall and extending to the west around 50 cm. It had a much looser and darker matrix compared to Zone 5. We found what appeared to be two infant cranial bones (based on the thinness of the bones), one in the northwest corner and the other in the southeast corner of the feature (**Figure 13.3**). Thus, it was decided that this zone represents an infant burial; unfortunately, this revelation occurred on the last day of excavation at the site, so we ceased excavation at this point and called the end of Operation 2.

### **Conclusions**

Unfortunately, we were not able to find any evidence of an *in situ* lithic production area, as we had hoped at the outset of the excavation. A preliminary look at the artifacts seems to suggest indicate that, while later artifacts are present, the lower strata included early artifacts, dating to the Preclassic period. However, again, a cursory look at the surface artifacts suggests a much later, possibly Postclassic (re-)occupation. Hence, if the obsidian scatter on the surface is entirely from this later date, there is the possibility that modern plowing activities have completely obliterated remains of production activities. This would be a testament to the nature and level of destruction that is currently taking place at these large-scale agricultural fields.

## Chapter 14

### Excavation of a Circular Shrine at Hum Chaak (Operation 4)

*Eleanor Harrison-Buck*

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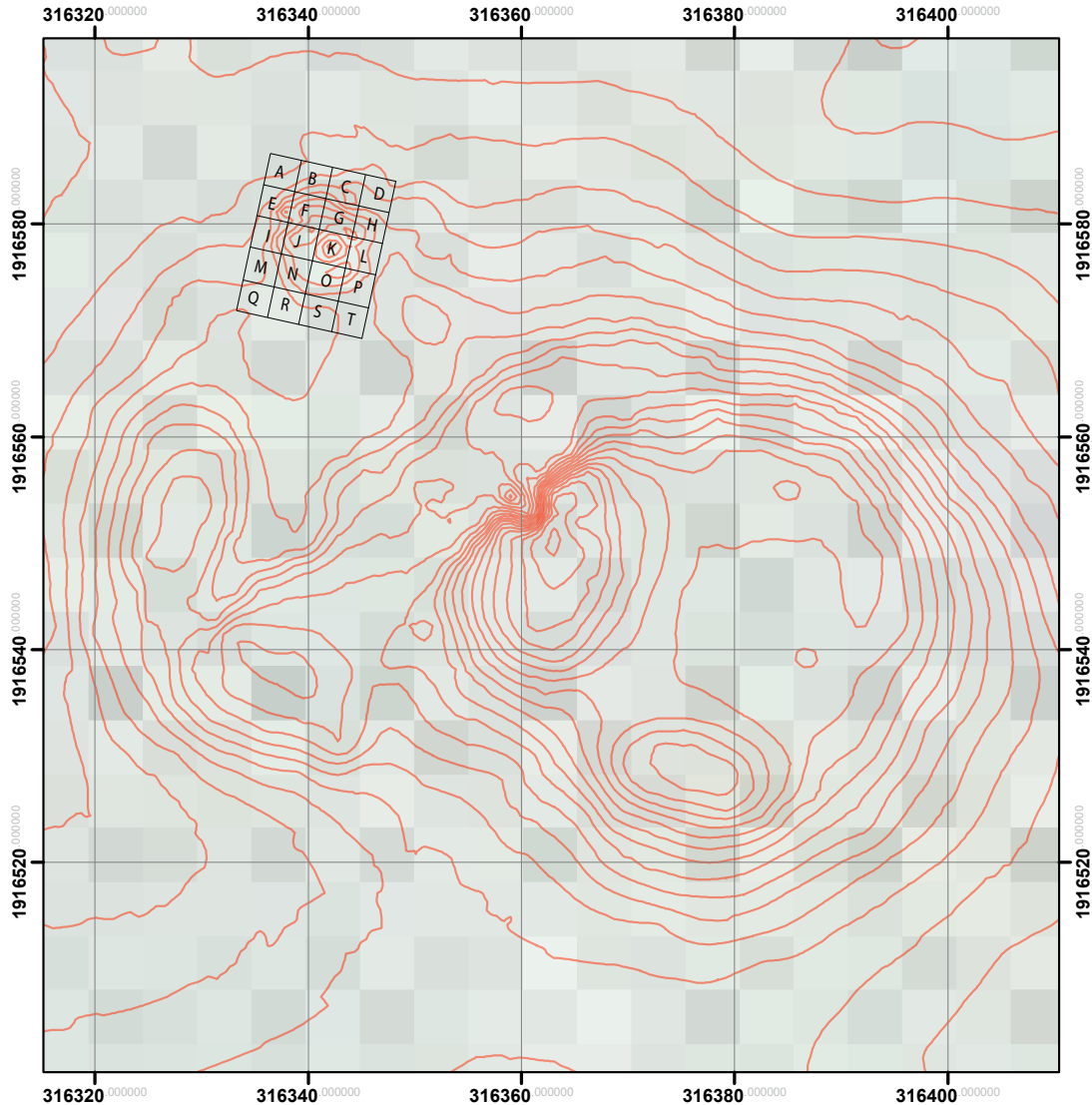
Operation 4 was excavated at the site of Hum Chaak during a two-week period from June 14-27 (**Figure 14.1**). Also during the 2011 summer field season, the site of Hum Chaak was mapped with a Total Station (see Murata, Chapter 8 for further discussion). Hum Chaak is a small site with no large pyramidal architecture. The site is oriented roughly 20° east of north and consists of one main elite residential plaza group with an adjacent, smaller plaza group to the west (**Figure 8.3**). In the northwestern corner of the smaller western plaza group is a circular stone structure, which was the focus of our archaeological investigation.

Operation 4 is a large excavation unit that extends 12 m (east-west)-x-16m (north-south) and encompasses the entire structure and some of the surrounding plaza area. The unit was divided up into twenty 3-x-3 m squares (A-T)(**Figure 14.2**). However, only Squares A-L, and N-P were excavated and Squares M and Q-T were not excavated during the 2011 season, but may be the focus of future excavation. Below I discuss the main objectives and results of the investigations at Hum Chaak and conclude with some preliminary interpretations of the data collected.

#### Objectives

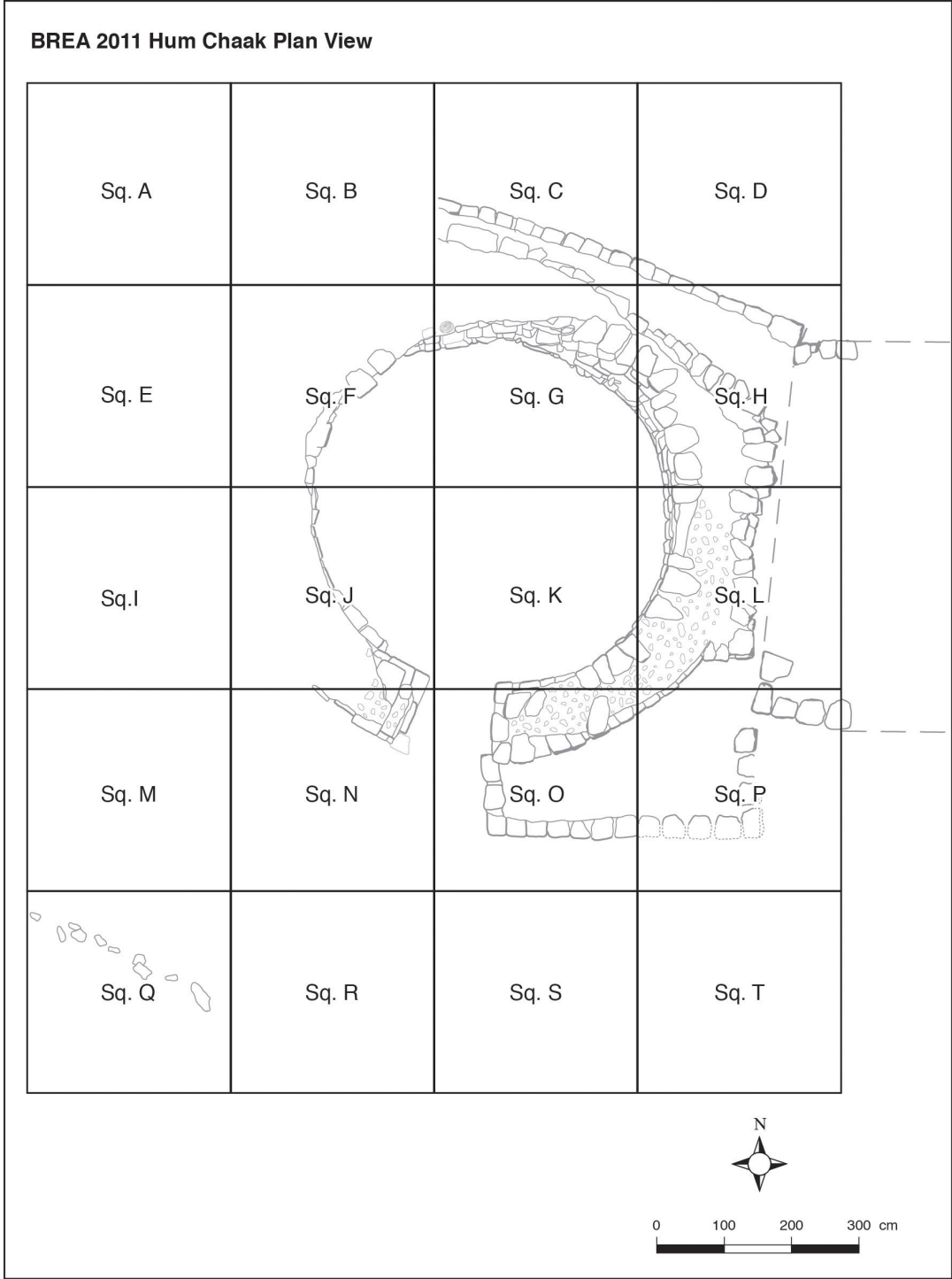
The surface of this mound prior to excavation was notable for its density of stone compared to other architecture at the site (**Figure 14.3**). The presence of stone on the surface of the mound and the overall configuration of the site is similar to other ancient Maya settlements that contain examples of circular shrine buildings. Therefore, our primary objective for the excavation at Hum Chaak was to test whether the all-stone structure noted in the survey of the northwestern part of the site was a circular building similar to others found in the Sibun Valley to the south and elsewhere in the Maya Lowlands (Harrison-Buck 2007, 2012). Elsewhere, these buildings show a distinctive layout and construction technique, which appears closely affiliated with the architectural styles found in northern Yucatan. The style of architecture is less common in the southern Maya Lowlands and appears to be introduced during the Terminal Classic period (ca. AD 780-900). In the Sibun Valley, I defined the Ik'hubil complex—a ceramic assemblage associated with circular structures that corresponds with other

comparative collections in Belize that date to the Terminal Classic period. Based on the known distribution of the Ik'hubil Complex in the Sibun Valley and other sites in north-central Belize, such as San Jose and Lamanai, it was theorized that Hum Chaak and other sites in the vicinity of the middle Belize Valley would share the primary types of the Ik'hubil Complex. With all of this in mind, our excavations at Hum Chaak aimed to test whether the stone structure shared a similar construction technique and matched the temporal chronology found at other sites outside the Belize Valley.



UTM Zone 16N, NAD27

**Figure 14.1 Map of Hum Chaak showing location of Operation 4 (map prepared by S. Murata).**



**Figure 14.2 planview of Operation 4 showing locations of Squares A-T.**





**Figure 14.3 Circular structure prior to excavation (photograph by S. Murata).**

## **Description of the Research**

The stone structure appears well-integrated into the overall layout of the western plaza group and is flanked to the south and east by several low platforms that create a somewhat enclosed plaza space. The dominant structure stands to the southeast of the stone structure and also represents the western structure of the eastern plaza group, which likely represents an elite residence (see **Figure 8.3**).

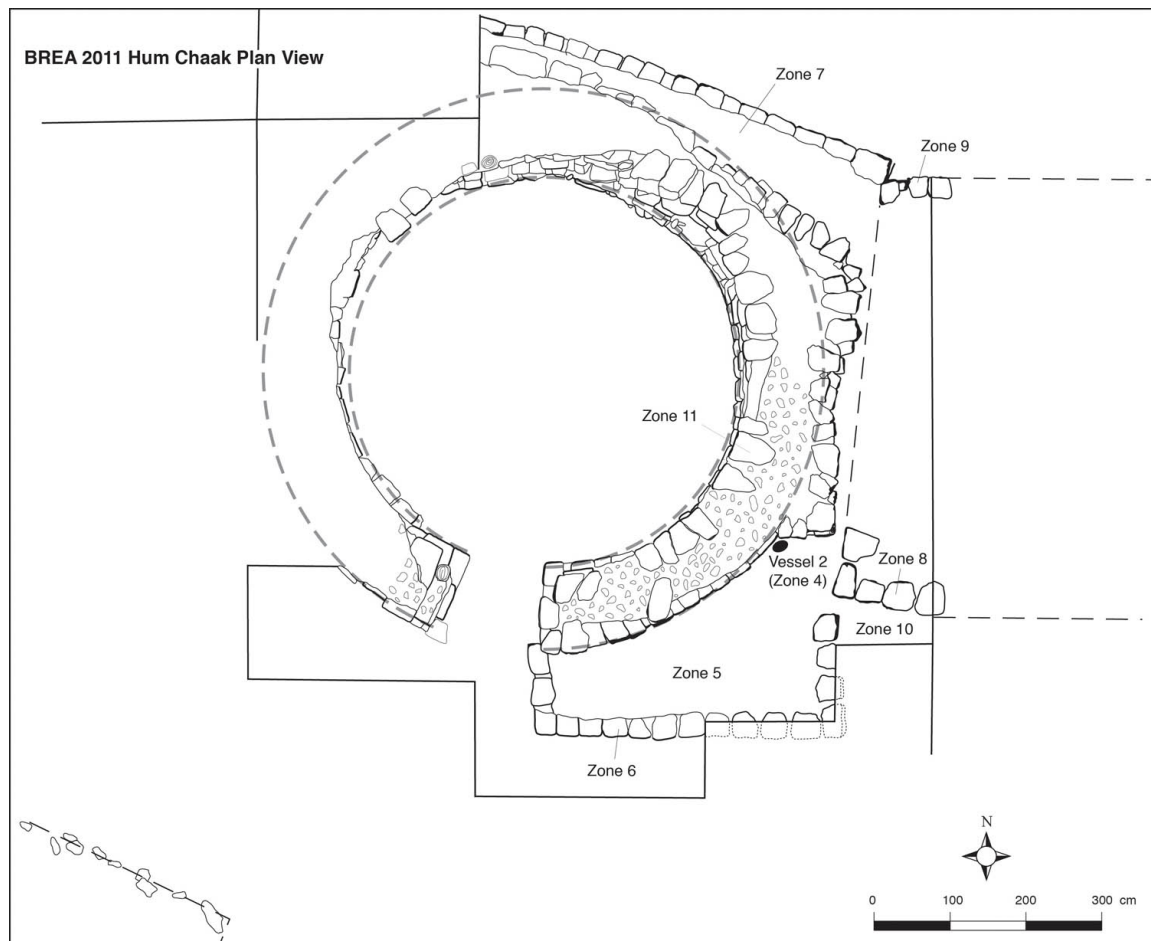
During our excavation, the site was being mapped with the Total Station and many of the elevations taken for the excavation were done with the Total Station. Two temporary datum points (Datum A and B) also were placed toward the top of the stony mound and these points ultimately were logged with the Total Station. We also used the Total Station to map the final plan view of the structure (**Figure 14.4**). In most cases, 100% of all dirt was screened through a ¼" mesh screen. Picks and shovels were used to remove the overburden and trowels were used to define architecture and *in situ* artifacts.

## **Excavation Results**

### *Zone 1*

Zone 1 is the topzone stripped off of most of the excavation unit, with the exception of Squares M, and Q-T, which were not excavated during the 2011 season.

The humic layer was a dark, loose, root-filled matrix with a relatively light density of artifacts, overall, given the aerial expanse of the excavation unit. Artifacts included pottery sherds and quite a bit of daub particularly in the northwest corner of the unit, suggesting that the structure was once topped with a perishable wattle and daub construction. The topzone was charred across the unit. The area was recently burned in a natural wildfire so very little vegetation was present on the surface during our investigation of the site (see **Figure 14.3**). This made our initial clearing fairly easy. The structure itself has very little topsoil and mostly consists of exposed limestone rubble and cut stone blocks. Prior to excavation, there was an indication of intact walls that appeared circular in form. Excavations began on the north side of the structure in Squares A-D. There are several pits visible in Zone 1 that appear to be the remains of coroso palm that may have partially disturbed some of the intact architecture. Collapse debris consisting of large and small limestone was encountered at the base of Zone 1,



**Figure 14.4 Final planview of Operation 4 (field drawing by E. Harrison-Buck; digitized by M. Brouwer Burg).**

which at its deepest point was not more than 20 cm in depth. As noted above, in many cases the stone was protruding on the surface and the topzone was wedged between the rocks. In some areas, such as Square A, less stone was encountered because the square was almost entirely off-mound.

### *Zone 2*

Zone 2 is the tumble debris sloping off all sides of the circular structure. The tumble debris consists of limestone cobbles and boulders that have collapsed from the low stub walls of the circular superstructure. The tumble was cleared down on the northern half of the structure in Squares B, C, D, F, and H and to the east of the structure in Squares L and P and to the south in Squares N and O. All other squares were not excavated any further during the 2011 summer season. A light to medium density of artifacts were recovered in the tumble debris. Artifact density spiked toward the base of the zone as excavations bottomed out on an occupational surface found around the exterior of the superstructure walls. Along the southern edge of the circular building this occupational surface was more clearly defined than in the north. A cardinaly-oriented substructure was encountered at the base of Zone 2 in Squares L, O and P and was defined as Zones 5 and 6 (see further below). At the base of Zone 2 in Squares B, C, D, and H the northern edge of another platform also was defined (see Zone 7 below).

### *Zone 3*

Zone 3 represents the fill of the interior room of the circular building that was in-filled at some point prior to abandonment as part of a final construction phase. The fill consists of boulder-size limestone, as well as smaller cobble- and pebble-size limestone mixed with a marl-filled-silty clay soil. The large boulders were elongated pieces of limestone that were set up leaning against the interior walls of the circular room (**Figure 14.5**). The area of the interior room primarily encompassed Square K, the southern half of Square G, most of the eastern half of Square J, and the southeastern corner of Square F, with very small sections of the interior room exposed in the southwestern corner of Square H and the northwestern corner of Square L (see **Figure 14.2**).

Along the northern edges of Squares N and O a doorway was defined and the fill there was removed as part of Zone 3. When exposing the doorway of the superstructure, the fill here also was removed as Zone 3 because it resembled the fill inside the room. The large doorjambes seem to have been purposefully ripped out and may have been used to block the entrance and retain the fill. This was the case in the examples of circular architecture from the Sibun Valley. The Zone 3 fill material was removed separately from the Zone 2 tumble debris lying overtop and around the exterior of the structure. This was done in an effort to isolate any diagnostic artifacts that may provide dates for the two different phases of construction. Zone 3 measured roughly a meter at its deepest



**Figure 14.5 Fill inside the room of the circular structure (photograph by E. Harrison-Buck).**

point and the zone was cleared down to where the floor of the interior room was encountered and the interior walls of the circular structure were exposed. In the center of the room encompassing virtually all of Square K was a large looter's pit dug into the center of the structure, penetrating the Zone 3 fill and intruding into the floor of the interior room, creating a shallow pit-like feature in the center of the room (see **Figure 14.6**). An attempt was made to peel back the looter's backdirt found on the surface. We ultimately labeled it Zone 1 "Looter's backdirt" but kept the artifacts found in this context separate from the other material. Fortunately, the looter's did not appear to encounter any features, such as burials or caches, as no human bone and few artifacts were found in the backdirt and the density of artifacts in Zone 3 was relatively light. One notable find was a comal fragment that was found near the top of the room fill (**Figure 14.7**). Comals are used for cooking tortillas and are thought to be of Mexican derivation introduced in the Maya area toward the end of the Terminal Classic period, perhaps by around the beginning of the tenth century. Comal fragments are relatively rare in the southern Maya Lowlands, but have been found at Terminal Classic sites in the upper Belize Valley (Aimers 2002). Notably, several examples were found in the interior room fill of the circular structures excavated in the Sibun Valley (discussed further below) and may point to an increased Mexican influence by the early tenth century that appears present at sites in northern Yucatan, such as Chichen Itza and Uxmal, at this time (Harrison-Buck 2007).



**Figure 14.6** Final photo of the circular structure (photograph by S. Murata).



**Figure 14.7** Comal fragment (photograph by E. Harrison-Buck).

#### *Zone 4*

Zone 4 consisted of a partial vessel referred to as “Vessel 2” that was found in the southwest corner of Square L adjacent to the exterior of the circular structure (**Figures 14.2 and 14.8**). The vessel appears to be the top portion of a storage jar, with the entire

rim and some of the body intact. The deposit appears to be an isolated vessel that was sitting on or just above the Zone 5 substructure floor with no other debris that would suggest a midden or other special deposit. Collapse debris surrounds the pot and it is possible the vessel was on top of the structure and came to rest in this location with the other collapse material.



**Figure 14.8 Partial vessel *in situ* (photograph by S. Murata)**

### *Zones 5 and 6*

Zones 5 and 6 make up the substructure on which the circular superstructure rests. The platform appears to be square and is cardinally-oriented. Zone 5 is the surface of this platform and Zone 6 is the wall that retains the platform. Zones 5 and 6 are part of the same construction event and were partially exposed in Squares L, O and P of Operation 4. Neither was excavated in 2011, only a portion of the surface and the top edge of the retaining wall were defined, drawn, and photographed (**Figures 14.2 and 14.4**). The Zone 5 platform surface interfaces with the bottom course of the exterior stonewall of the circular superstructure in Squares L, O, and P. A small area of preserved plaster was found associated with this surface in Square O that had been protected by collapse debris and is found just west of Vessel 2 (see Zone 4 above). The plaster appears to lip up to the bottom course of stone on the exterior superstructure walls of the circular building. The Zone 6 wall that retains the platform runs east-west in Squares O and P. In Square O the line of stones corners and extends north to where it intersects the eastern doorjamb of the

circular structure (**Figures 14.2 and 14.4**). We assume this platform breaks at the doorway and picks up again in a symmetrical fashion on the western side of the structure, but excavations did not go deep enough to expose this western side of the platform. Although only a small portion was exposed in excavation, this rectilinear platform appears to have functioned as the supporting substructure for the circular building. This is based on the interface of the platform floor with the bottom course of the superstructure and the presence of plaster lipping up to the building, as well as its aligned interface with the eastern doorjamb.

### *Zone 7*

Zone 7 is the platform wall that was found in the southern edges of Squares C, D, and H running underneath the circular superstructure walls along the northern part of the structure (see **Figure 14.2**). The limits of our excavation inhibit a full understanding of this northern wall and further excavation is necessary along the north, east and west sides of the circular structure to clarify any architectural relationships that may exist with the Zone 6 substructure platform. The Zone 7 wall is not cardinal like the Zone 6 platform retaining wall and may represent an earlier construction phase. However, when looking at the orientation of the circular superstructure, the doorway, and the alignment of the Zone 6 platform exposed in Squares O and P, it suggests that the northern and western sides of this substructure platform would not be cardinal and the angle of the Zone 7 wall is what would be expected for the rear (northern) side of the substructure. Zone 7 was partially exposed, drawn, and photographed, but was not excavated in 2011 (**Figure 14.4**).

### *Zones 8 and 9*

Zone 8 is a portion of an east-west wall exposed in the eastern side of Square O (**Figure 14.2**). Zone 9 is another east-west wall about 6 m to the north in Square H that runs parallel with the Zone 8 wall. Together, these two roughly hewn walls retain a low, one course high platform that extends out east from the circular structure. Only a small portion of the Zone 8 wall was exposed in Square O. Not enough of this structure was excavated to know its function, but both walls were partially visible on the surface running another 10-15 m to the eastern edge of the platform, demarcated by a north-south line of stones that is clearly visible on the surface. The low platform extends like an arm from the western edge of the larger plaza group and the topographic data suggests the eastern edge of the platform abuts the main elite residential structure (**Figures 8.3 and 8.4**). Excavations suggest the western edge of the platform abuts the east side of the substructure of the circular structure, effectively closing off the north side of the smaller plaza group. The only access into this plaza group appears to be just south of the circular structure. The western edge of the platform was obscured by collapse debris and what may be a later construction along the eastern edge of the circular structure, but time did

not permit us to clearly define this. Further excavation along the eastern side of the circular structure is necessary to understand this area and the interface with the eastern platform extension that connects to the main elite residential structure.

### *Zone 10*

A small area in Square P was excavated and the collapse was cleared down to a depth that exposed the facing of the Zone 8 east-west wall and the surface of what may be the main plaza floor just south of the Zone 8 eastern platform wall. The floor does not show any signs of preserved plaster but consists of a packed earthen floor with a pebble-filled ballast material. The Zone 10 floor was not excavated in the 2011 season.

### *Zone 11*

Zone 11 represents the free-standing wall of the circular superstructure. At its highest point, the wall stands about 4 courses tall (visible in **Figure 14.6**). Given the quantity of daub recovered from the excavation, the circular stub wall likely supported perishable walls and a pointed thatch roof, resembling other Terminal Classic examples found elsewhere in the Maya Lowlands. Two walls sandwiched a loose cobble fill and the interior wall consisted of more roughly hewn facing stones, whereas the exterior showed larger, more finely cut facing stones. A similar construction style was found in the examples of circular architecture in the Sibun Valley (Harrison-Buck 2007).

## **Interpretations and Conclusions**

The superstructure walls of the circular building at Hum Chaak were less well preserved than the three examples from the Sibun Valley found at the sites of Pechtun Ha, Oshon, and Obispo (Harrison-Buck 2007). In the case of the Sibun Valley, I was able to define as many as three building phases—defined as Types 1-3 (Harrison-Buck 2012). In the Sibun Valley, the first phase is a simple circular platform construction (Type 1). The second phase (Type 2) defined in the Sibun Valley represented an entirely new building that contained a circular plinth or substructure that supported the low stub walls of a circular superstructure. The final phase (Type 3) involved the infilling of the interior room and the circular superstructure was transformed into a circular platform. Perched on top of this platform was the fragmentary remains of a poorly preserved circular superstructure. In this case, the low stub walls were only a few courses high and constructed of recycled stones, suggesting a decline in the building practices at the end of the Terminal Classic period.

At Hum Chaak it is not clear whether there were as many discrete construction phases present. The Type 1 circular platform structure was not identified in our 2011 excavations, although it is entirely possible that we did not excavate deep enough to



reveal this earlier phase. Types 2 and 3 may be present at Hum Chaak, however, in this case the plinth or substructure of the Type 2 building appears to be square, not circular. The Type 3 building phase at Hum Chaak, involving the infilling of the interior room, was remarkably similar to the infilling of the Type 3 building in all three examples from the Sibun Valley. In each case, boulder-size elongated limestones were used, leaning against the walls of the interior room. This expedient method of infilling the room seems to have been aimed at creating a solid round platform on which to perch another circular superstructure. However, no such superstructure could be firmly identified at Hum Chaak because of the extensive looting that this structure underwent.

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## Chapter 15

# A British Colonial Presence in the Middle Reaches of the Belize River: Operations 5 and 6

*Adam Kaeding and John DeGennaro*

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For many reasons, including European international politics, local characters and the presence of geographic features and natural resources, Belize has a very unique history following the first arrival of Spaniards in 1511 – even in comparison to its most immediate neighboring countries. Without delving into that history in any great depth, this chapter intends to introduce some necessary background information in order to best contextualize the recently recovered data presented here. A key aspect of Belizean history that promises to be a common denominator in the evidence of historic settlement along the Belize River is the presence of economically valuable trees— specifically, logwood and Mahogany. In fact, it was the existence of a profitable European market for logwood trees, which were used in the creation of fabric dyes, that inspired some of the earliest British activities in the region while the Spanish concurrently sought to protect their claim to the same resource.

The seasonal and illicit extraction of logwood evolved into more permanent settlement involving cycles of inland woodcutting forays that were designed to sometimes avoid and sometimes take advantage of heavy seasonal rains. As has been discussed at length in the research of Daniel Finamore (1994), the logwood extraction strategies included and developed into cultural codes of conduct and even self-governance that were similar to and based upon the behavioral codes of one of Belize’s other very early opportunists: pirates. Later, the self-governing frontier communities of what was classed “Baymen” were joined by more traditional European settlers still interested in the profits that were to be made from the extraction of logwood. Markets fluctuate, however, so eventually the logwood industry began to decline. Fortunately for the transient Baymen and the more recently arrived British colonial settlers, the market for Mahogany, which was a prized material for ship- and furniture- building, was quickly expanding. Mahogany is different from logwood and it grows in different patterns and environments. To this end, woodcutters were forced to change their extraction strategies. This new strategy brought about the arrival of yet another class of immigrants, in this case, African slaves. Extracting mahogany is much more labor intensive than logwood, so, in order to maximize profits, logging interests would acquire great teams of slaves that were sent out to locate, cut and retrieve the sometimes distant wood. By 1779, the population of slaves employed in this fashion outnumbered free settlers by a ratio of 6 to 1.

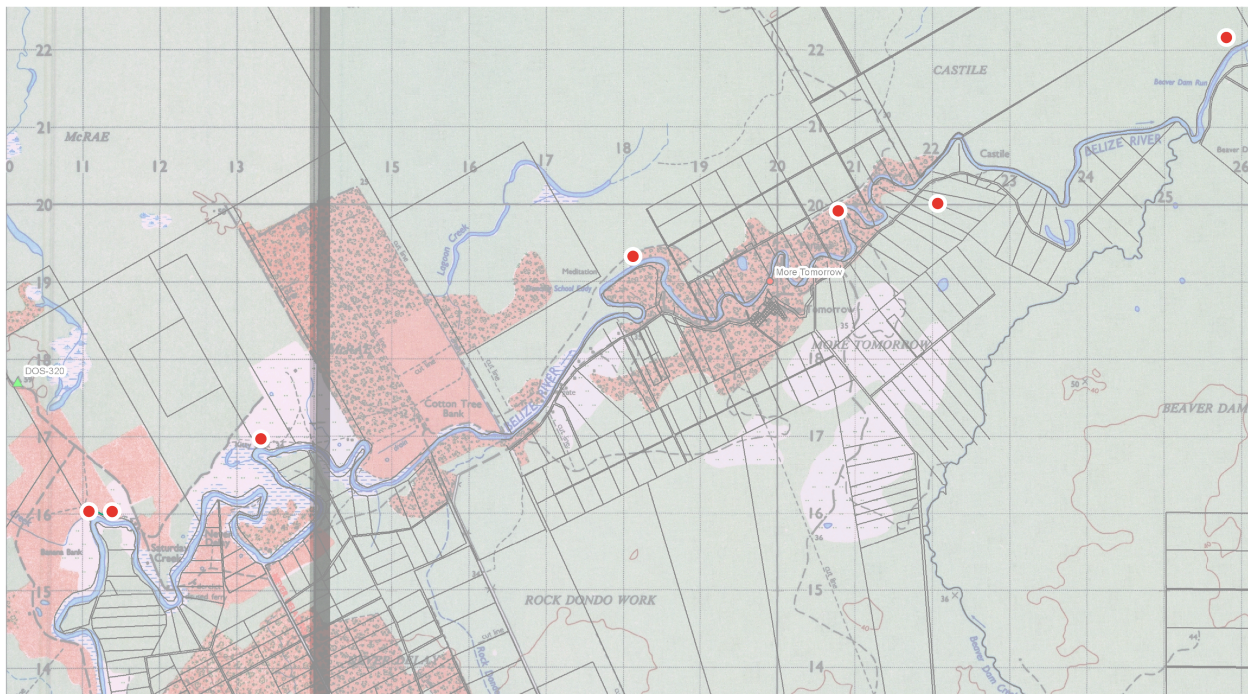
This is the general background with which the BREA project has approached the early investigations of historic period sites that we have encountered over the course of our survey.

The Belize River was the main thoroughfare for getting loggers and slave teams out into the forests to find and cut the trees—both logwood and mahogany—and it was the main artery used to then send the logs back toward the settlements and trading ports on the coast. Our assumption has been that historic sites along the river were likely to have been directly involved in the woodcutting industry. So far, our evidence largely supports this assumption.

## Survey

As has been mentioned in many of the chapters in this report, large stretches of the Belize River's banks in the survey area are currently in use as agricultural fields. The effect of this cultivation on the prehispanic sites has also been discussed. The nature of historic period settlement is somewhat different. Generally speaking, while prehispanic Maya sites are characterized by the presence of limestone house platforms and larger limestone monumental architecture, historic-period architecture in the survey region likely was constructed almost exclusively with perishable materials. Wooden, pole and thatch buildings, in some cases on stilts, and even more ephemeral seasonal camps leave a much less prominent archaeological signature than the ancient Maya stone architecture. The material record from these settlements, on the other hand, is strikingly prominent. Colorful and elaborate, European-imported ceramics, glass, and metals often stand out in sharp contrast to locally-manufactured artifacts. In the plowed fields along the riverbanks, a site of historic-period occupation is immediately recognizable within the churned up plow zone. Accordingly, our survey thus far has located historic-period artifact scatters in a number of locations as demonstrated in **Figure 15.1**.

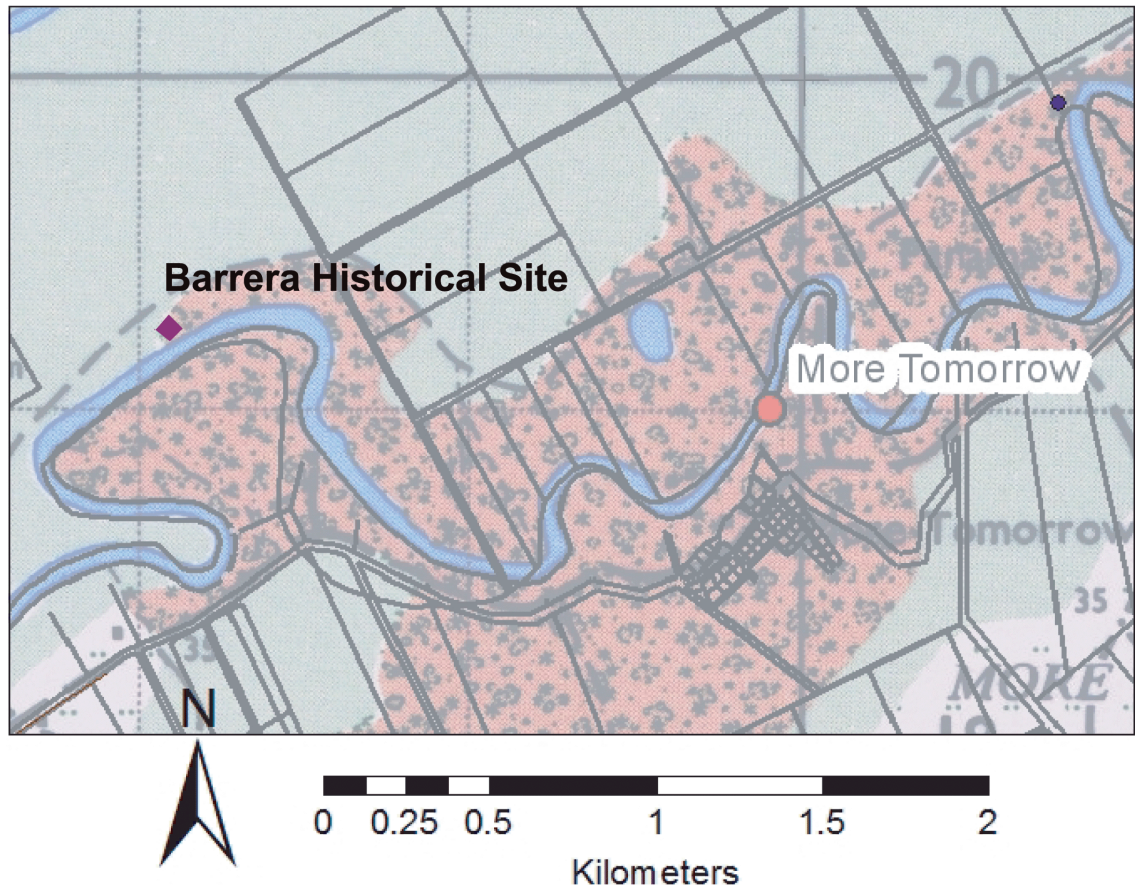
We selected two of these sites to receive further archaeological attention through excavation. The two sites are very different in a number of ways. First and foremost, the evidence that led us to select these sites was of a completely different nature. The village of More Tomorrow is home to a community that is very enthusiastic and invested in the history of their town. Members of that community have researched and compiled both a brief written account and numerous oral histories. In our interactions with some of the people of More Tomorrow, they not only informed us of the village's historical roots as a community of logging slaves working for the historically prominent Mr. Thomas Paslow, but also pointed us toward an area where they had come across a deposit of artifacts that they believed was related to that history. Further below we discuss our attempt to follow up on that information. We discovered the other site that we were able to investigate through very different means. In this case, while surveying exposed prehispanic mounds in a vast, recently plowed agricultural field in the area near Saturday Creek, we happened across a large scatter of historic-period artifacts. At More Tomorrow we had been clued into the local history but had yet to see any material correlates, near Saturday Creek we knew nothing of the history, but had confirmed the presence of the historical artifact assemblage.



**Figure 15.1 Historic sites in the middle Belize River valley.**

### **The Village of More Tomorrow and the Barrera Historical Site**

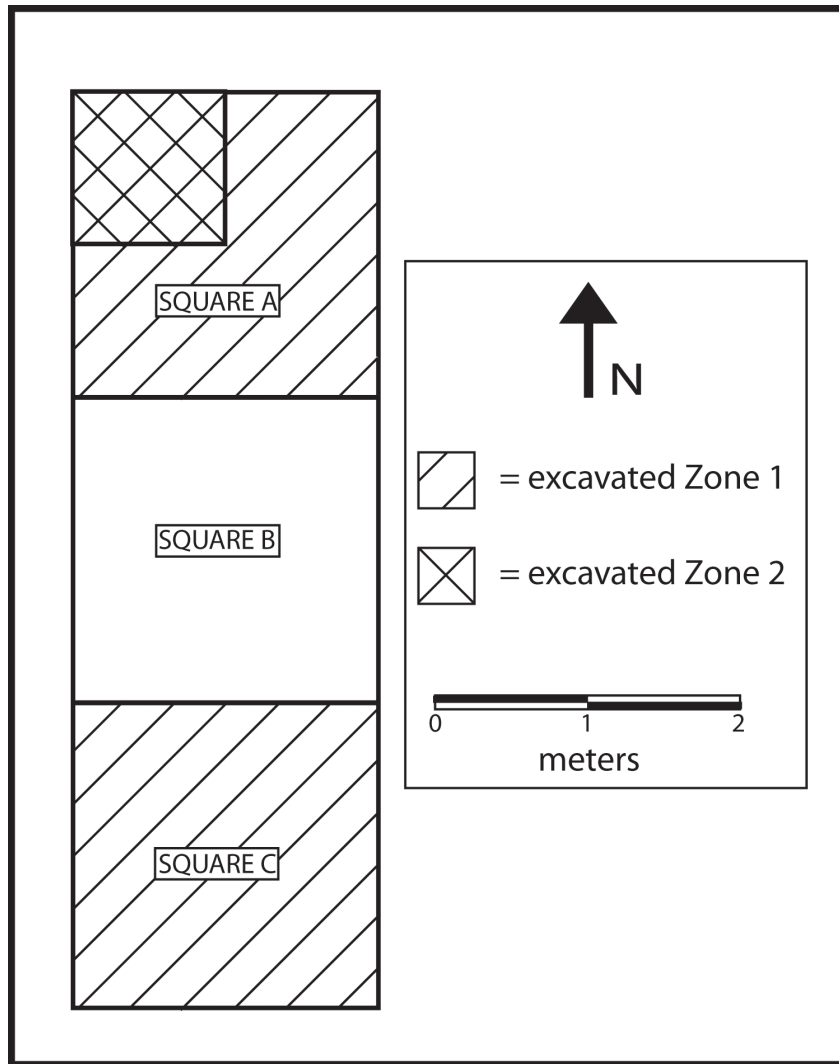
As mentioned above, members of the More Tomorrow community have actively researched the history of their village. The following information has been provided to us by Mr. Ismail Omar Shabazz based on a combination of his own investigations and the contributions of others. To date, we have not been able to track down the original sources from which Mr. Shabazz has developed this history, but that research, like everything else presented herein, is currently underway and an inventory of archival documents alludes to its credibility (Alder Burton 1931). Mr. Shabazz tells us that More Tomorrow is one of the oldest villages in Belize; having been established in 1793. At that time, the village was populated by the slaves of a man named Thomas Paslow, who owned large tracts of land in the area and is frequently represented in the archives as something of an administrative nuisance (Alder Burton 1931:202, 232). With 76 slaves in 1820, Paslow ranked among the five major slaveholders at the time. Among that group of 76, only 11 were women. Though we have yet to follow through such an analysis, we predict that this kind of heavily skewed ratio of men to women may be indicative of those slaveowners dedicated to Mahogany extraction. This ratio suggested in the archives supports our presupposition to approach this site as a logging settlement.



**Figure 15.2 Location of the Barrera Historical Site.**

*Operation 5*

Frontloaded with this historical background, we went to a location across the river from the current village of More Tomorrow where residents had encountered artifacts that they associated with the older population of slaves (**Figure 15.2**). As this was on the agricultural land of one Mr. Manuel Barrera, the area of excavation is referred to as Barrera Historical Site. The land lies in low secondary bush as the landowner is currently cultivating a different part of his plot. For that reason, we did not see, but also did not expect to see much in the way of surface artifacts. Therefore, we placed Operation 3 in the rough location where Mr. Barrera and his son, Minor, reported seeing a lot of historic artifacts, including metal and glass along with domestic items, such as stemmed glassware. We opened two 2 x 2 m excavation units with a 2 x 2 m unexcavated unit separating them along a north-south axis. The units were designated Squares A, B, and C, and began excavating in Square A, the northern unit, which was, incidentally, slightly downhill from Squares B and C (see **Figure 15.3**).



**Figure 15.3 Layout of Operation 5.**

Square B was not intended to be excavated unless warranted by the results of excavation in Squares A or C. The soil was removed and screened through ¼” mesh. After 10 cm of Zone 1, we had encountered no identifiable features or changes in the matrix and very few artifacts. The artifacts recovered were dominated by broken modern glass and some iron agricultural tools. At this point, having no compelling reason to consider the location archaeologically informative, and certainly not the deposit described by our local guides, we decided to change strategy. We quartered Square A and excavated further in the NW 1 x 1 meter quadrants. The goal of this further excavation was to ensure that we were securely below any culturally-relevant strata. Excavation of the 1 x 1m quadrant as Zone 2 reached another 10 cm. Zone 2 also proved to be sterile.

Unfortunately, these units failed to produce much of an assemblage at all and, after confirming sterility we were left with a very limited collection. We also excavated a feature that was visible from the surface as a deposit of broken glass. In the hopes that this was a trash pit

we excavated with an aim to recover different associated material types. We established a 1.5 x 1.5 meter unit above the pit to fully capture the feature and some of its surrounding matrix. We then bisected the unit with an east-west line and began to excavate the southern half. We worked our way through the bisection in zones that reflect the natural construction of the feature. The broken glass of the pit was very loosely consolidated with almost no soil fill. This was excavated as Zone 2, leaving the top zone of the matrix as Zone 1. Continuing down with Zone changes for any perceivable changes in context and in order to protect against contamination from the surface, the pit switched through Zones 3 and 4. In the end, however, the contents of the entire pit feature, all broken glass, are likely representative of only a few bottles and a pitcher. Accordingly, there is no internal stratigraphy and the feature is a single deposit. In viewing the profile of the bisected feature it becomes fairly clear that the pit was a natural feature caused frequently throughout the area by the cohune palm. In this particular case, the natural pit was a convenient place to stash the fairly modern glass.

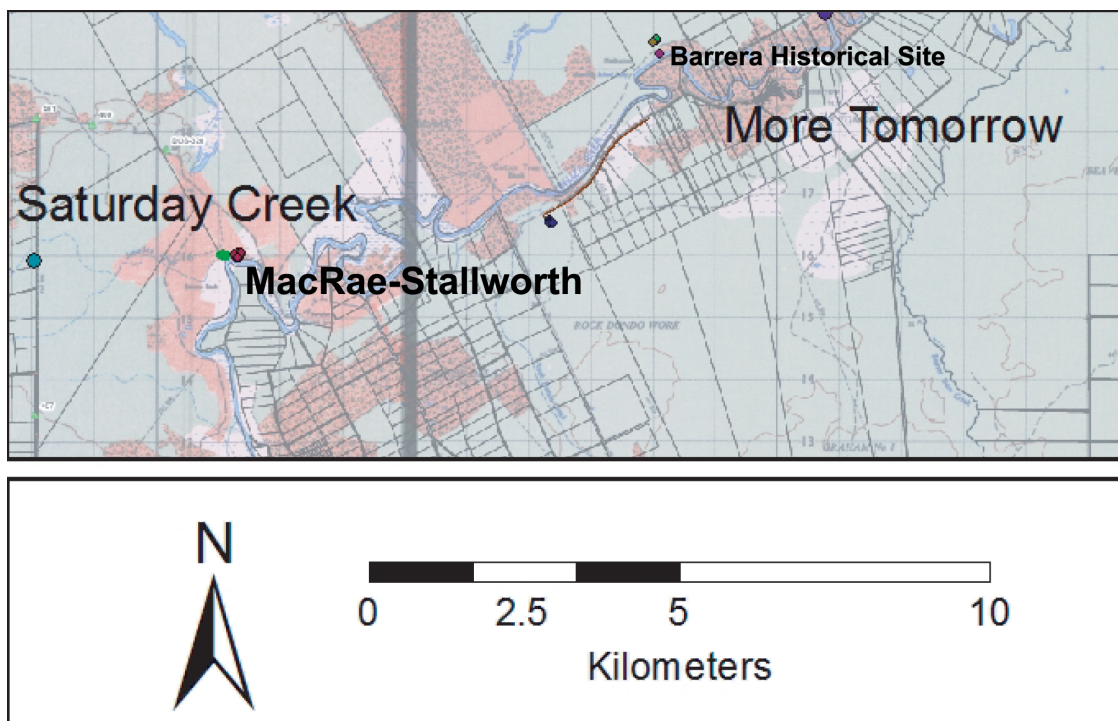
### *Preliminary Interpretations*

Though we found no features and a very limited assemblage of artifacts, that limited assemblage is somewhat intriguing. Operating under the assumption that a seasonal logging camp may have a limited material signature, we would expect to find iron implements employed in logging activities, which we did. Likewise, according to Daniel Finamore, alcohol consumption was a prevalent aspect in the lives of the loggers. In that sense, then, the large amount of bottle glass seems to fit our interpretation as well (Finamore 1994:193-194). However, there is a conspicuous lack of the larger domestic assemblage that Finamore (1994:188-190) identified for logging camps along the New River, and there is reason to question the antiquity of the artifacts recovered. So, while the data recovered from the excavations at the Barrera site are suggestive, they are far from compelling. While archival and local historical research insists that the area of More Tomorrow will yield a substantial archaeological logging-slave settlement owned by Paslow, the location we initially selected to investigate does not seem to be it.

### **Saturday Creek and the Stallworth-McRae Historical Site**

The second historical site we investigated through excavation, shown in **Figure 15.4** is the Stallworth-McRae site, located about 7 kilometers upriver from More Tomorrow near where the confluence of Saturday Creek enters the Belize River (see also Chapter 16). As mentioned above, we were drawn to excavate in this area based on the abundance and variety of historical artifacts visible in the plow zone of an agricultural field, but we had no impression of the history to which these artifacts might refer. There were also other questions that our excavations at this site sought to answer. Specifically, we had no idea of the extent to which the plowing in this field had affected the original deposit. In other words, we did not know if we were going to find

anything within a secure context. Fortunately, we did encounter a very clear transition between the churned-up and artifact rich soil of the plow zone and the much more compact, but still artifact-rich deposit beneath it. At that depth, then, we were confidently excavating within a secure context, though again, for reasons discussed below, we did not locate a single feature indicative of any architecture.



**Figure 15.4 Location of MacRae-Stallworth site.**

The artifacts collected from the surface seem to cover a great deal of the historical assemblage. The field is littered with a variety of ceramic wares and bottle glass as well as metal – mainly rusted iron. The initial impression given by these surface artifacts is that the site hosted a wide variety of activities and promised to demonstrate chronological depth. The variety of imported domestic artifacts initially suggested that we were not dealing with a transient slave logging camp. However, it also seemed to have too much variety to suggest a single household. The nature of the site itself, then, presented a question that we attempted to address through excavation.

#### *Operation 6*

Based on our impressions of the density of the surface scatter, we selected an area to excavate. We opened Operation 6, a 2 x 4 meter unit, that was separated into two squares and proceeded with an initial goal of reaching a depth below the plow zone to investigate whether there was any remaining deposit in good context. The northern square was designated Square A and the southern one, Square B. Zone 1 was removed in both squares roughly ten centimeters



and then switched to Zone 2 arbitrarily. Because this context was so clearly within soil that had been churned up by recent plow activity, this switch to Zone 2 was in no way related to any context or content change, but rather was more for administrative control. Below the depth to which the plow had reached, we were pleasantly surprised to find that the artifacts continued with at least the same density as above and with seemingly larger sherds. That rich deposit, containing a mixed assemblage of rusted iron nails and fasteners, brown, clear, blue and green bottle glass, and a variety of European ceramics continued to a depth of about 60cm below the surface. Having had an opportunity to look briefly at the recovered assemblage, though, it appears that there is no chronological distinction by depth. This matches well with the lack of any visible stratigraphy or architectural features encountered during excavation. In fact, almost all of our controlled excavation contexts, distinguished by arbitrary depths as well as what we perceived at the time as subtle changes in context, contain ceramic sherds of what will very likely be single vessels. That is, each of the ceramic types was found both on the surface and all the way at the deposit's greatest depth; beneath that the matrix was culturally sterile. One possible explanation for this particular circumstance is that the artifacts here may have been deposited by flooding. The banks of the Belize River are roughly thirty feet high at this location, making floods of that river unlikely or at least rare. Saturday Creek, however, is not so stable and people local to that stretch of the river have informed us that when the Belize is high, Saturday Creek will actually flow backwards and crest its banks flooding the area.

One category of artifacts that we did discover in excavation that had not been present in our initial surface investigation was pipe stems and bowls. These artifacts have been cited as particularly abundant in the sites investigated by Finamore and may prove to be useful in assessing more refined dates of occupation. Preliminary analysis of these artifacts, along with the glass and ceramics, seems to suggest that the bulk of the deposit dates to around the mid-1800s. With that timeframe in mind, we began to search for any historical evidence that might explain this deposit and were very fortunate in having seemed to have found it.

Following the American Civil War, British Honduras actively recruited disillusioned residents of the southern Confederate States. One man who answered this call was Reverend Robert Duval (Alder Burdon 1931:291; Simmons 2001:87). Duval had visited Belize and decided that a spot along Labouring Creek at the junction of Cut and Throw Away Creek would be the ideal location to establish a settlement that would thrive and surpass the grandeur of Richmond Virginia (Simmons 2001:88). Duval's dream of New Richmond inspired him to personally recruit some 200 ex-Confederates to come down and create this community (Simmons 2001:88). Most of that population backed out of the trip on account of a poor cotton harvest, but among those who followed through was one Colin John McRae (Simmons 2001:89). McRae was very prestigious in his own right, but was also well known as the brother of John McRae who is still regarded as one of the most successful and important early American politicians for his service as Governor and later Senator of the state of Mississippi. Colin McRae purchased 18 square miles of land in the area south of Duval's proposed New Richmond – presumably the same plot that shows up listed as McRae in currently used survey maps

(Simmons 2001:89). Among McRae's Belizean activities were a cattle, logging, and mercantile operation and a frontier store that he operated along with a man named Joseph Benjamin in the area of Saturday Creek. It seems likely that the artifacts recovered at Saturday Creek are the material signature of that store and perhaps McRae's residence. The store itself is particularly compelling as it may help to explain the variety of artifacts, specifically glass and ceramic, which we find at the site. While a single residence is unlikely to have such a wide variety of ceramic styles and such a great abundance of bottles, a frontier store certainly would (see DeGennaro and Kaeding, Chapter 16 for further discussion).

Duval's New Richmond never really got off the ground and the plan was abandoned. Duval himself returned in defeat to the United States and started raising enough money to arrange passage for his wife and children who he had left in a rented house in Belize City. Joseph Benjamin found himself in financial trouble and moved to join a different Confederate community in Orange Walk after selling his share of the Saturday Creek venture to McRae (Simmons 2001:89). Despite the hardships, McRae stayed at Saturday Creek where he is listed in the probate records of the National Archive in Belmopan as having resided at the time of his death in 1876. Probate records are invaluable documents for historical archaeologists as they list specifically the material signature of a particular individual at a particular point in time. The items listed in the probate were sold at auction so those exact objects are certainly in the ground at Saturday Creek, but similar items may well be and there are at least a few connections that are interesting. For example, we recovered a datable shotgun casing that could potentially coordinate with the weapons listed in McRae's probate. We collected a specific ceramic artifact, a bowl for shaving cream that is datable and traceable by maker's mark to a London perfumer that aligns well with the two brush-and-bowl sets from his probate. There were axes in the ground as well as the archives, and his inventory makes unspecific reference to dishes and liquids whose archaeological complements may well be the ceramic sherds and bottle glass recovered from the site. Again, all of these connections are somewhat tenuous if only for the simple reason that the items of the probate are the artifacts that we know absolutely did not enter the archaeological record at Saturday Creek, but the similarities are nonetheless compelling.

The datable archaeological signature of this deposit generally aligns with our interpretation of the area's archive-attested history – it was the location of Colin McRae's store and likely his residence. However, there are artifacts that don't quite fit. It is tempting to interpret two very small sherds of what may be hand painted majolica and certain pieces of black bottle glass as indications of significantly older occupation. In fact, no further than 200 meters upstream towards Saturday Creek from our excavation units lies what seems to be a second historical scatter. The assemblage is similar but distinct in what appear to be significant ways in terms of the relative density and presence of different ceramic types, glass and clay pipe materials. We have not excavated here and have not analyzed the surface artifacts, but the presence of a slightly different assemblage raises new questions. For example, are the two scatters respectively representative of McRae's house and the store? Could the difference in the deposits be a result of the presumed postdepositional alluvial disturbance suggested above? Or is

it possible that these separate deposits are indicative of chronological differences in the use of this part of the landscape; representing perhaps the time when McRae's niece inherited the property or even much earlier when the Spanish were active in the larger region?

## Conclusions

Each of the particular excavated sites discussed here warrants further research. Locating the slave town associated with More Tomorrow would provide insight into a culture and community that, though a dominant majority for a portion of Belizean history is greatly underrepresented in the country's archives. Further investigation at the Stallworth-McRae site would at least shed more light on another, lesser-studied period of national history when an influx of American immigrants was courted with varying success in an effort to bolster domestic agricultural production (Alder Burdon 1931:33, 281, 284.). Meanwhile, the same site may prove to host greater importance as a place of prominence throughout the many changing trends of national history: from the Maya mounds that abound on the landscape, through Spanish attempts to secure a southern colonial frontier, to pirates, illicit loggers, British settlers and ending up with McRae and later rural entrepreneurs. All of the potential of these two sites likely only scratches the surface of the many other colonial period scatters that we have yet to investigate. In conclusion, the BREA project's dedication to investigating the many different kinds of archaeological deposits in the river valley promises to continue yielding great insight into the unique phases of Belizean history and prehistory.

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## Chapter 16

# An Investigation of Colonial Artifacts at the McRae-Stallworth Site Near Saturday Creek

*John DeGennaro and Adam Kaeding*

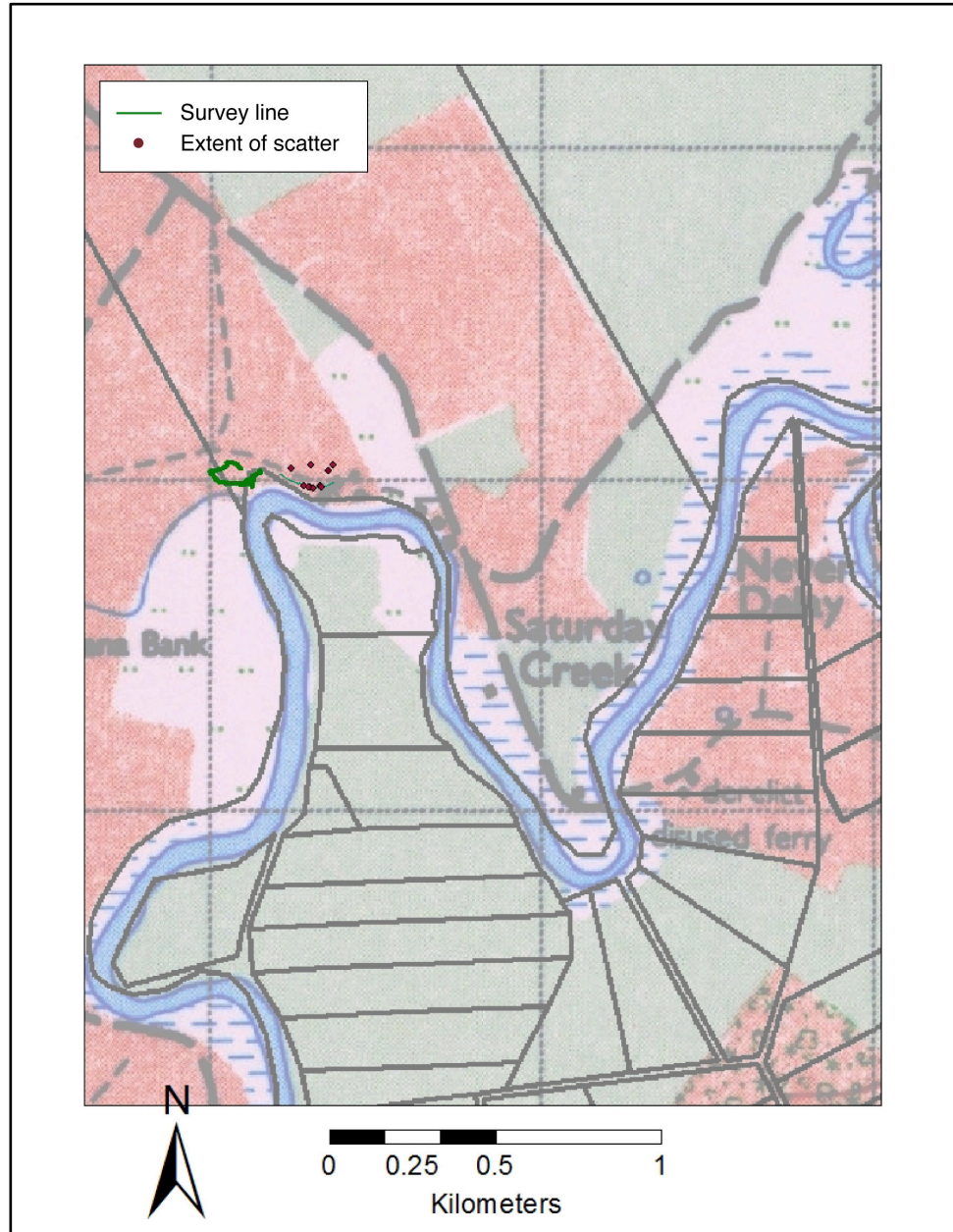
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The country of Belize, and the Belize River Valley specifically, has a long history of logging operations extending back to the 18<sup>th</sup> century. The logging industry played a major role in the formation of the initial British settlement. This industry proved to be a staple part of Belize's economy from its formative years extending into the 19<sup>th</sup> century with the area along the Belize River valley as a primary location for the extraction of mahogany (Finamore 1994:100). One goal of the Belize River East Archaeology (BREA) project is to document logging sites and other colonial occupation in the eastern Belize watershed. During the January 2011 survey season, BREA project members found a scatter of ceramics, glass, and metal on the Saturday Creek property thought to date back to the colonial period (**Figure 16.1**). The site was initially believed to be a British mahogany-logging camp occupied around the late 18<sup>th</sup> to early 19<sup>th</sup> centuries. Through ethno-historic research conducted at the Belize National Archives, the site that we named McRae-Stallworth, was found to be the property of Colin J. McRae—a former Confederate general during the American Civil War.

A 4-x-4 m excavation unit (Operation 6) as well as an extensive systematic surface collection was conducted at McRae-Stallworth (see Kaeding and DeGennaro, Chapter 15). These investigations uncovered artifacts dating to the late 19<sup>th</sup> century, appearing to coincide with the period that McRae owned and occupied the property. Below we present an analysis of the artifacts in relation to historic documents and secondary sources, focusing primarily on artifacts collected from the systematic surface collection, located adjacent to Operation 6. Our analyses of the artifact were directed by the following research questions: What do these artifacts say about the activities at the site and their date? Can the artifacts at McRae-Stallworth be linked to the period of McRae's occupation on the Saturday Creek property? Was this the site of McRae's home, his mercantile business, or some other type of occupation?

### Historical Context

The logging industry was the primary purpose for the British colonization of the country of British Honduras, known today as Belize. This early logging focused primarily on the extraction of logwood, used in the manufacturing of dyes (Bolland 1977:25). By the late 18<sup>th</sup> century, however, the demand for logwood began to decrease around the same time that the



**Figure 16.1 Location of McRae-Stallworth Land (map prepared by A. Keading).**

demand for mahogany was beginning to boom due to the growth of the luxury furniture industry in Great Britain (Waddell 1961:20). This period of mahogany extraction lasted well into the 19<sup>th</sup> century. By 1865, however, Belize was in an economic crisis due to the depletion of these mahogany reserves, as well as a lack of landowners in the interior, and those in charge decided the best way to boost the economy would be to promote agriculture (Clegern 1967:38). This was around the same time that the US Civil War had ended and many farmers from the confederacy were searching for a new home and new business opportunities (Setzekorn 1975:184). Many ex-confederate settlements appeared in Belize and other parts of colonized Latin America following the US Civil War, in part due to the British colonial government's promotion of the immigration

and in part because many ex-Confederates, disillusioned with the US, were looking for a new place to live and encouraging groups of southerners to leave. A number of ex-Confederates, including McRae, were among the groups of southerners who moved to Belize and tried to take advantage of the new business opportunities in the sugar industry, railway construction, and mahogany logging in Belize at this time. Ex-Confederate colonies that were established around this time include Toledo, Sittee, and New Richmond (**Figure 16.2**)—the latter is in the vicinity of McRae’s Saturday Creek property (Simmons 2001:19)(Belize National Archives, Belmopan, Belize [BNA] 1867-1869: Miscellaneous Papers [MC] 401: Archives of British Honduras [ABH] 21: AZ19).

One of the ex-Confederates promoting relocation of southerners was a man by the name of B. R. Duval, who attempted to set up the colony of New Richmond along the intersection of Cut and Throw Away Creek and Labouring Creek in the center of Belize. Though his settlement of New Richmond was ultimately unsuccessful and later abandoned, it attracted Colin J. McRae, who purchased and established an estate relatively close to New Richmond at the confluence of the Belize River and Saturday Creek (Simmons 2001:87). Colin J. McRae moved to the former colony after the Civil War and remained on his estate, even after the failure of New Richmond. He was a Confederate financial agent, and spent the war years in Europe, mostly England, attempting to gain funds for the Confederacy. McRae was wanted for treason at the close of the war, and fled the United States for Belize shortly after (Simmons 2001:89). McRae partnered with Joseph Benjamin, another ex-Confederate, and “operated a cattle, mercantile, and mahogany business from McRae Estate, located on Saturday Creek, “ (Simmons 2001:89). After Benjamin went bankrupt and sold his share of the business to McRae, McRae stayed on at Saturday Creek until his death in February 1877 (Davis 1961:88). In his will, McRae left his Saturday Creek property to his sister, Catherine Hempstead as guardian of his nieces and nephews who ultimately inherited the property (Davis 1961:88; Simmons: 2001:89). Gelene Armor, McRae’s niece who had lived with him during her childhood before returning to Mobile, Alabama, was in possession of the McRae Estate by 1897 (Simmons 2001:91) (BNA 1897:SPB3:F70) Armor later married Nicholas Eugene Stallworth, a lawyer from Mobile, and Gelene continued to possess the estate under the name Stallworth as late as 1908 (Scarborough Jr. 2009)(BNA 1908: SPB 3: F136). Based on the artifacts collected from the site of McRae-Stallworth, it is likely that our excavation reflects the McRae period of occupation, a notion that is explored in the artifacts section (see further below).

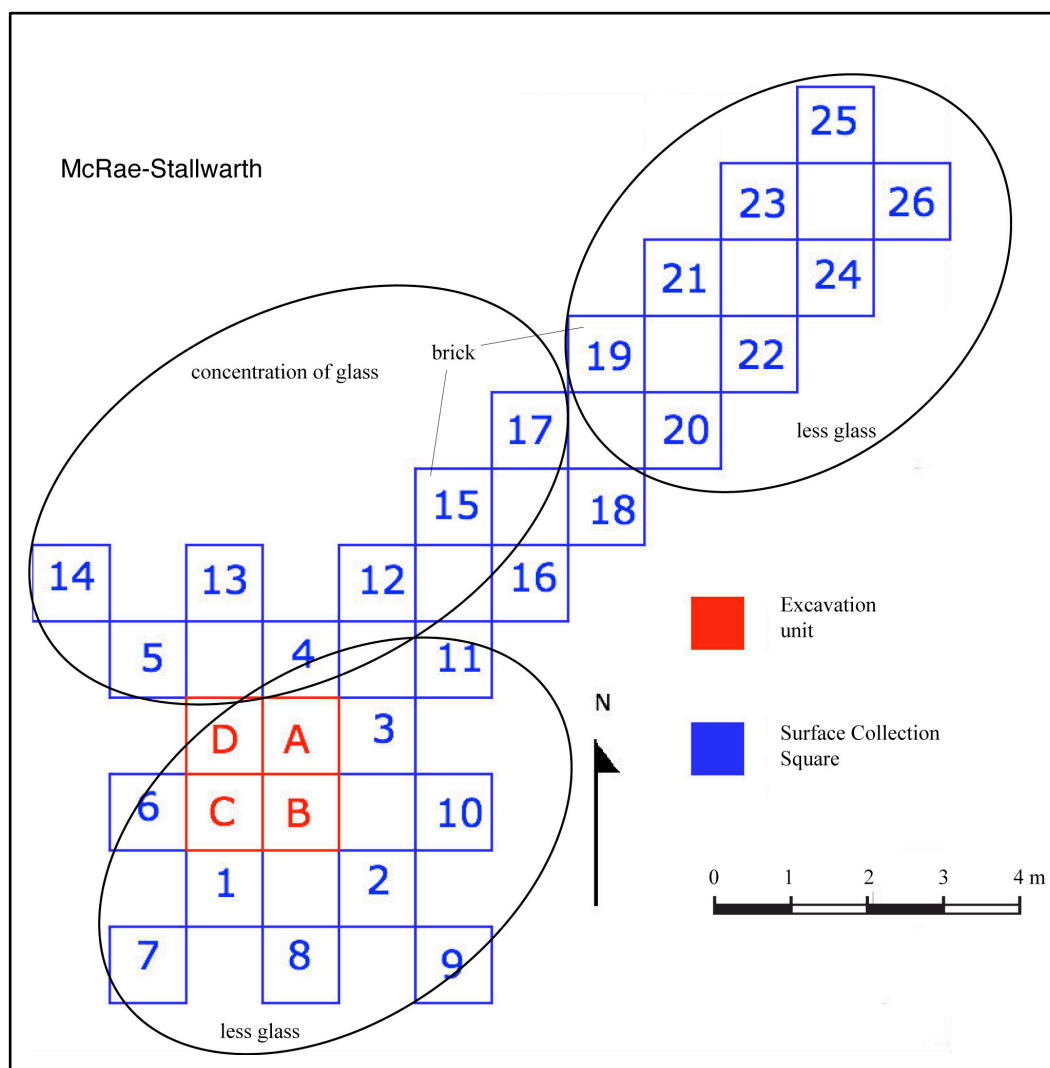
## **Methods and Sources of Research**

We chose the location of Operation 6 at McRae-Stallworth based on the high density of artifacts on the plowed surface (see discussion in Kaeding and DeGennaro, Chapter 15). Along with our excavation unit, we attempted to set up a systematic surface collection, dividing the area around the excavation unit into 2-x-2 m squares and collecting everything found within each



**Figure 16.2 Map showing confederate settlements in Belize (map prepared by M. Brouwer Burg)**

marked square (**Figure 16.3**). Along with our excavation and the systematic surface collection, we collected notable items found on the surface of the scatter, and collected some items from another scatter located close to ours. The primary focus of my analysis will be on the artifacts collected in the systematic surface collection.



**Figure 16.3 Map showing the systematic surface collection squares in relation to the excavation unit (map prepared by J. DeGennaro).**

The purpose of the surface collection was to collect the largest amount of artifacts as possible while using a collection method that preserved the context. We placed periodic 2-x-2m squares around the excavation unit in a pattern that would cover the section of the scatter that our unit was located in and branch off in the direction of another potentially dense section of artifacts. Each square was searched thoroughly for artifacts remaining on the surface and everything found was collected and catalogued. As the scatter is located on a loose dirt field, this proved to be a simple task and no raking or other disturbance of the topsoil was necessary. This surface collection can provide a clearer understanding of the occupation because of the nature of the site. Artifacts have been pushed around a great distance from the constant plowing, and in order to gain further knowledge of the nature of the occupation, it is important to collect the largest sample of artifacts possible over the greatest area possible, as the artifacts may have traveled a large distance from their original context.



A number of primary documents, as well as secondary sources were used in order to gain an impression of McRae and reconstruct his estate on the Saturday Creek property. We were able to link McRae and Stallworth to the site at the confluence of Saturday Creek and the Belize River using a number of surveyor maps, as well as McRae's probate, although initially the relationship between McRae and Stallworth was unclear to us. To gain further knowledge of McRae and Stallworth, we consulted secondary sources such as *Confederate Settlements in British Honduras* (2001) by Donald C. Simmons, Jr., and *Colin McRae: Confederate Financial Agent* (1961) by Charles Davis, which help to explain McRae as a person, his reasons for moving to Belize, and the linkage between Armor and McRae. Another important secondary source was an Internet database from Armor's great-grandson, Claude M. Scarborough Jr., found on a genealogy website that mentioned Gelene's marriage and her new surname – Stallworth. Though not used in this report, it is also worth mentioning a group of papers, letters, and other documents from McRae, known as the McRae Papers, which are located at the South Carolina Confederate Reading Room and Military Museum in Columbia, South Carolina. This collection of documents was just recently found in the attic of the McRae family home in Mobile, Alabama and could play an important role in further understanding McRae and his property, as well as his relationship to Stallworth, and provide a clearer picture of the history of the site.

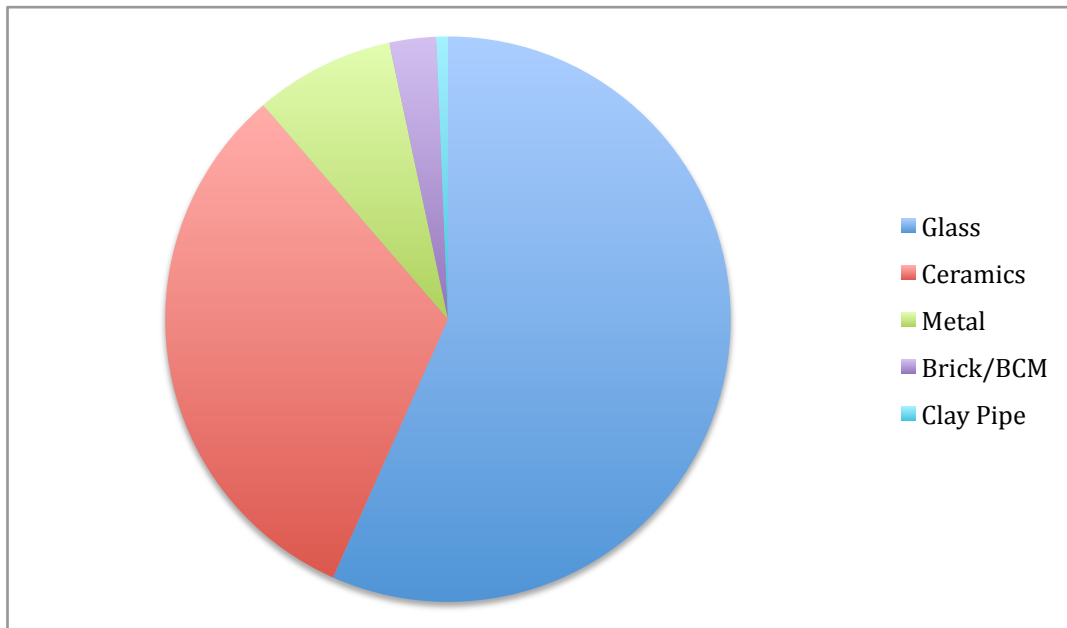
*A Guide to Artifacts of Colonial America* by Iver Noel Hume provided a useful comparative resource of artifacts from Colonial Williamsburg. It was from this and other volumes, such as Roger Dumbrell's *Understanding Antique Wine Bottles*, and Griselda Lewis' *A Collector's History of English Pottery*, that the artifacts from the McRae-Stallworth site were classified and compared. Other important comparative archaeological materials that aided in the analysis of this research came from a series of excavations conducted by Daniel Finamore in 1990 and 1992, presented in his unpublished PhD dissertation *Sailors and Slaves on the Wood-Cutting Frontier: Archaeology of the British Bay Settlement, Belize*. In order to analyze and date the artifacts from our excavation, I have compared the collection with those excavated by Daniel Finamore. Finamore excavated many British Colonial sites along the Belize and New Rivers ranging from the late 17<sup>th</sup> to early 20<sup>th</sup> centuries. Of these sites, a few dated to around the same time period as McRae-Stallworth, and yielded similar artifacts. This gives us a comparison for the dates of our site. Finamore also documents the types of activities that may have occurred at his sites based on the artifacts he found, and as we have yielded similar artifacts in some instances, we may be able to directly compare our site to his. In order to classify the artifacts recovered from our site, I have referenced a number of sources that describe artifacts from the same period in detail, specifically Hume's and Dumbrell's volumes. Through this comparison, we can begin to understand not only the timeline of the artifacts and the occupation of the site, but also possible site functions.

## Artifact Analysis

The artifacts recovered at McRae-Stallworth help us to provide a picture of the types of activities that may have occurred at this location. A majority of the artifacts relate to domestic activities, such as food and drink consumption, namely glass bottles and ceramic servingwares. Also recovered were artifacts that may relate to building and construction, such as metal fasteners and brick fragments. Of all the artifacts recovered from the surface collection, an overwhelming majority of them were glass fragments. The surface collection yielded 194 artifacts., including 85 glass fragments, 48 ceramic sherds, 12 metal pieces, 4 fired clay items that could be brick, and 1 clay pipe fragment (**Table 16.1** and **Figures 16.4** and **16.5**). The following descriptions of artifacts are organized by material and further subdivided into classes of artifact types, their functions, and uses.

**Table 16.1 Distribution of artifacts from McRae-Stallworth.**

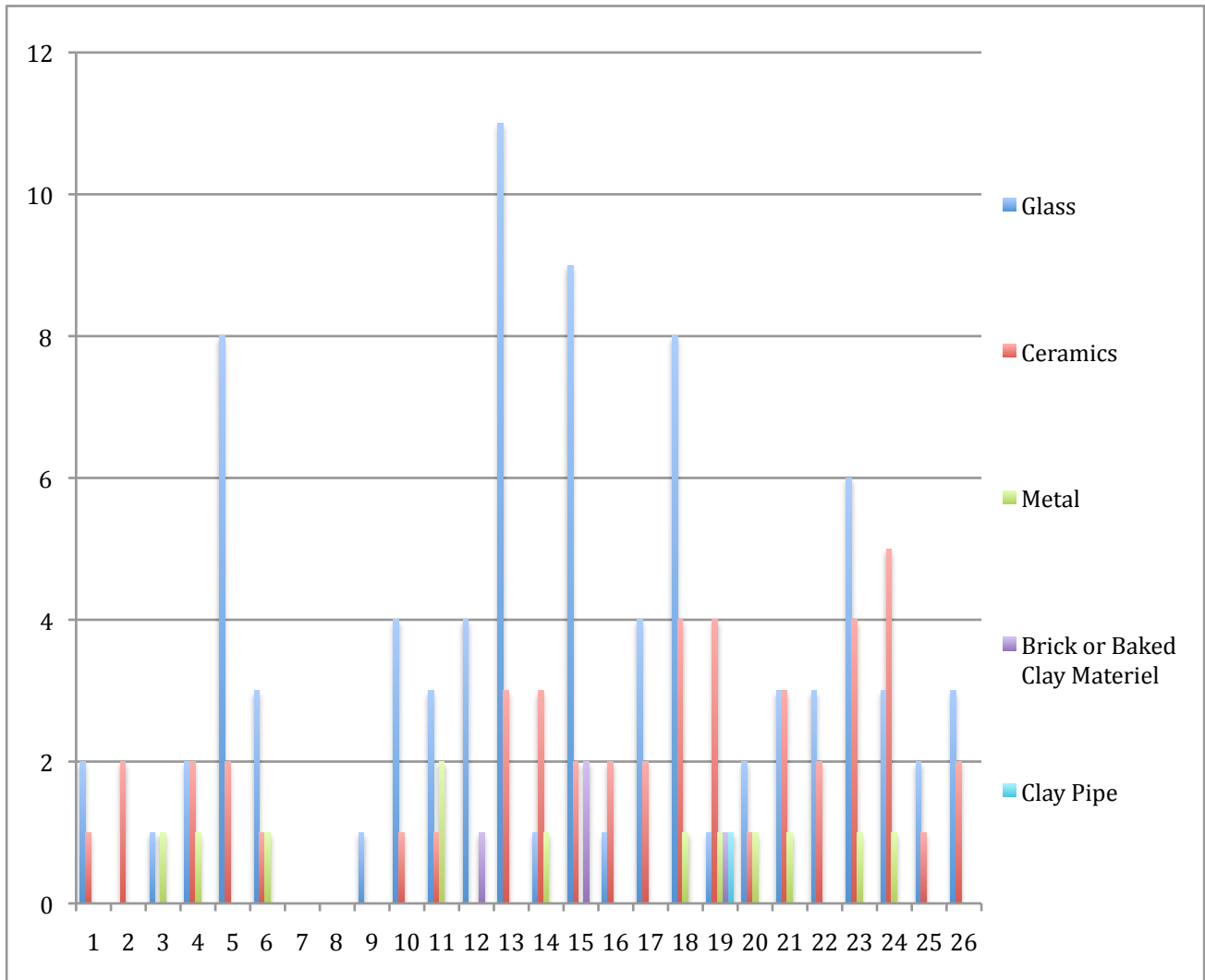
Artifact Class	Glass	Ceramics	Metal	Brick	Clay Pipe
No. of artifacts	85	48	12	4	1



**Figure 16.4 Percentage of artifact classes recovered from the surface collection.**

### *Glass*

Eighty-five glass fragments were recovered from the surface collection at McRae-Stallworth, the greatest quantity of any artifact class (**Table 16.1** and **Figure 16.4**). Of the glass, the majority was dark green in color, most likely coming from British “wine” bottles that

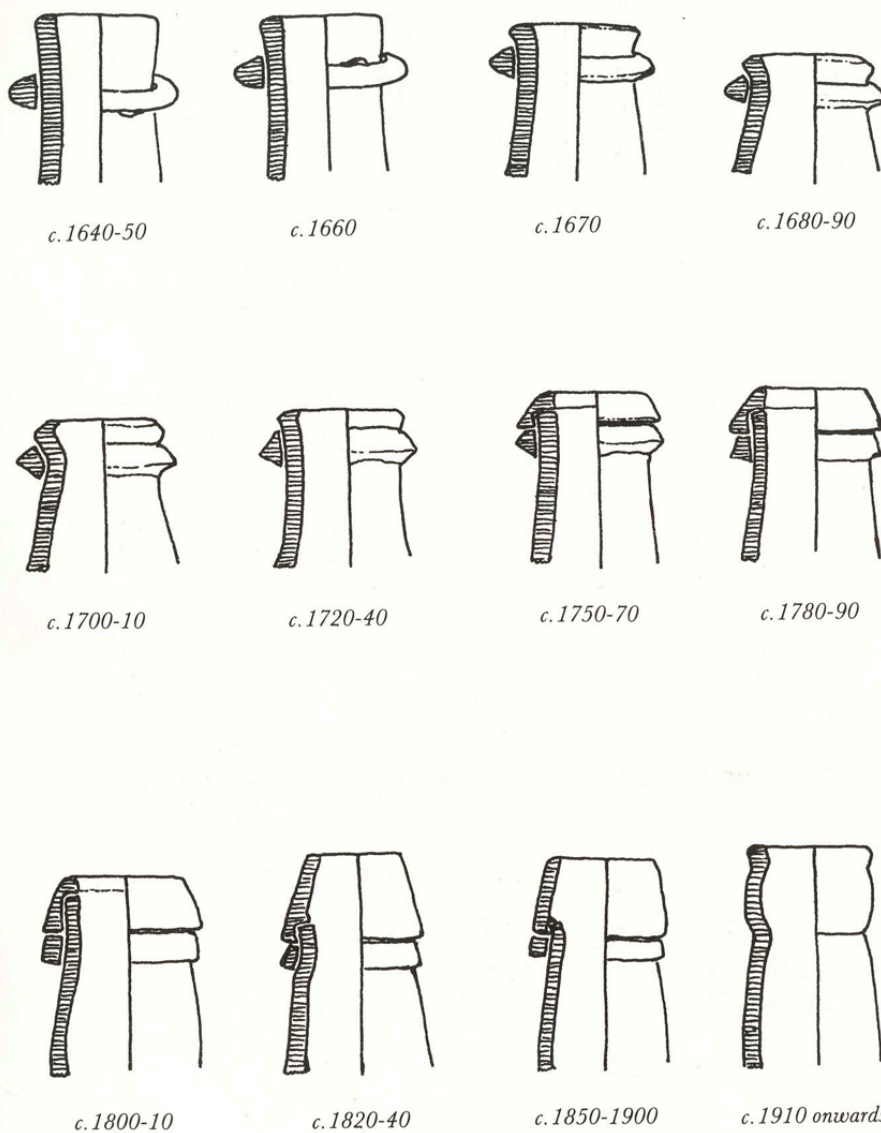


**Figure 16.5 Bar graph showing the distribution of artifacts by excavation unit or surface collection square.**

contained different forms of alcohol (fifty-seven fragments in total). By examining the lips and bases of some of the fragments found and comparing them to the forms found in Roger Dumbrell’s *Understanding Antique Wine Bottles*, it appears we have primarily bottles dating to the period between AD 1850-1900 (**Figure 16.6**; Dumbrell 1983:38). The overwhelming majority of glass stands in marked contrast to the sites documented by Finamore, who encountered a majority of servingware ceramics, and only small amounts of bottle glass at his excavation of British logging camps downstream on the lower Belize River and to the north on the New River (Finamore 1994:193).

We also found a large number of other colored glass that is hard to identify due to the small size of the fragments and less recognizable or diagnostic colors as the dark green of the British “wine” bottles (twenty-eight fragments in total). Many of the glass shards were clear, or

Changes in the string-rim construction  
on English wines, 1640-1910 onwards



38

**Figure 16.6** Diagram showing the changes of “wine bottle” lips over time. Of the lips recovered, many had a shape similar to the c. 1850-1900 shape shown above (from Dumbrell 1983:38).

tinted a light teal color. Clear glass was used in a variety of bottles and other vessels for a variety of uses in colonial times. Based on the shape of these fragments, however, it seems likely that they are from a particular type of bottle, as a variety of them are curved. We also saw a number of other colored glass, such as dark browns and some bright cobalt blues. One such blue neck fragment likely comes from a perfume bottle. Cobalt blue glass was used from the late 18<sup>th</sup> century through the 19<sup>th</sup> century, (Jones 1981:14), which coincides with the timeframe of other artifacts found at the McRae-Stallworth site.

What was absent from our site was any glass tableware, such as glasses and decanters. Though it is possible that some of the unidentifiable glass fragments may be from tableware, it is still important to note that it is largely absent in the assemblage. Finamore (1994:195) notes finding a large number of these tableware glass fragments at the logging camps, and this marks another distinction between his sites and McRae-Stallworth.

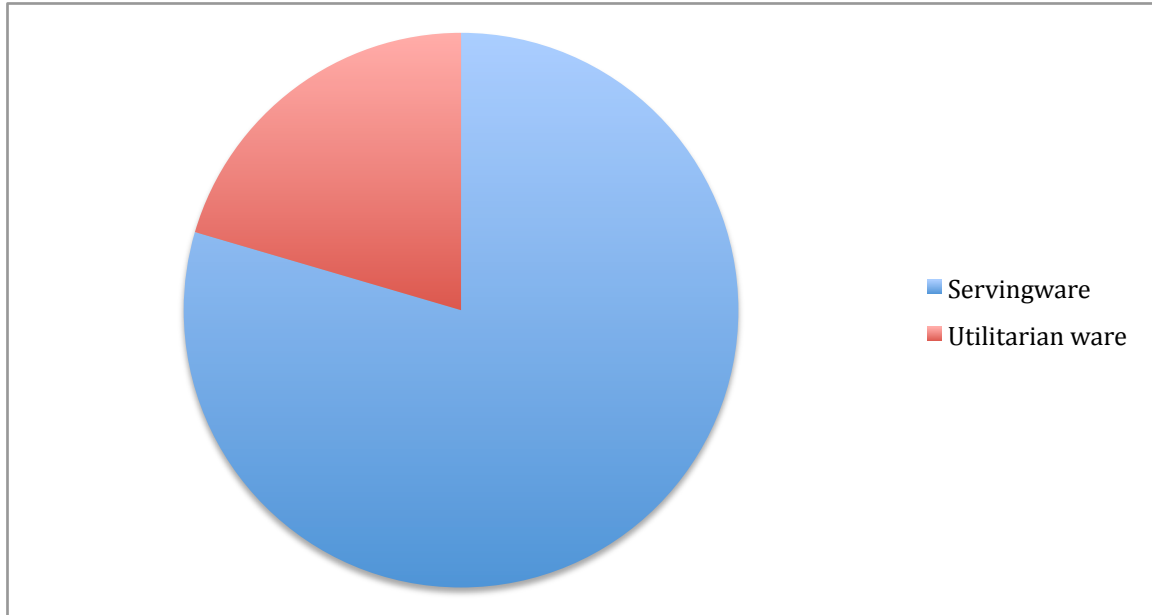
### *Ceramics*

We recovered two different types of ceramics at McRae-Stallworth. The majority of the ceramics were servingwares or dishes relating to the serving and presentation of food, specifically creamware and pearlware glazed ceramics. These white wares (thirty-five shards in total) can be distinguished from one another by examining the glaze in the crevices of the vessel—pearlware appears blue in the crevices, while creamware appears yellow or green (Hume 1970:130). Many of these ceramic fragments contain different blue transfer printed designs on them, and most, if not all, appear to be British in origin. There was also one porcelain fragment found in the surface collection. It is interesting to note that the majority of the ceramics do not appear to be high-end expensive wares, but something that might be affordable to the average commoner.

We also recovered utilitarian wares, namely stoneware containing a variety of glazes, though this proved to be only a small portion of the ceramic assemblage (**Figure 16.7**). These fragments (nine in total) likely come from large utilitarian jars that may have served as storage vessels. Due to the small and fragmentary assemblage, this assignment remains speculative. The glazing of storage jars is similar to salt glazed stoneware mugs that were popular during the 18<sup>th</sup> century (Hume 1970:114). If so, these should be assigned as servingwares, rather than utilitarian storage vessels. Whether or not these stoneware vessels are utilitarian wares, there still remains an overwhelming majority of serving ware vessels in this surface collection (see **Figure 16.7**). This is pattern of mostly servingwares is similar to some of the sites excavated by Daniel Finamore along the New River (Finamore 1994:175).

### *Metal*

Twelve metal fragments were recovered from the surface collection at McRae-Stallworth (**Table 16.1** and **Figure 16.4**). Most of these fragments were pieces of fasteners, such as square headed nails and iron staples. These fasteners could be indicative of whatever structures existed



**Figure 16.7** Pie graph showing the types of ceramics recovered at the site.

at the site, with these structures most likely being made of wood. One piece may have been part of a horse bit, as it resembles those mentioned by Hume (1970:241). The rest of the assemblage consisted of unidentifiable metal fragments, some of which may have come from iron cooking vessels, though none of the fragments could be clearly identified as such.

### *Clay Pipes*

We recovered only one clay pipe fragment in the surface collection, but many more fragments were discovered throughout the site and in the excavation unit. By the mid 17<sup>th</sup> century, clay pipes were in widespread use as they became affordable (Fox 2002:75). It is difficult to date these pipe stems, but based on shape of the base of our bowls compared to a chart from Seth Mallios' excavation at Jamestown, it is possible that the bowls range anywhere from 1850 to 1910 (Mallios 2005:96). This date range corresponds well with other associated artifacts, but the assignment is tentative given how fragmentary the pipe remains are from McRae-Stallworth. As for the origin of these pipes, it is difficult to pinpoint a specific location. We can presume that the pipes are British in origin due to the British dominance in the market at the time. However, as mass-production techniques increased over the 19<sup>th</sup> century, the ability to pinpoint specific manufacturers becomes almost impossible without a maker's mark. (Walker 1983:3).

### *Bricks*

Only four brick fragments were found at the site (**Figure 16.4**). It is unclear what exactly these fragments are from, but due to the large absence of brick at the site, it is clear that they were most likely not part of a permanent brick structure. If a permanent structure did exist at the site, it is likely to have been made out of wood, as wood does not preserve as well, and the metal

fasteners found would support wood construction. It is possible that more brick had been present at the site at one point, but the usable pieces had been removed for use in something else, while leaving the broken pieces remaining. Whether or not this is the case, the absence of brick seems to support the wooden structure theory.

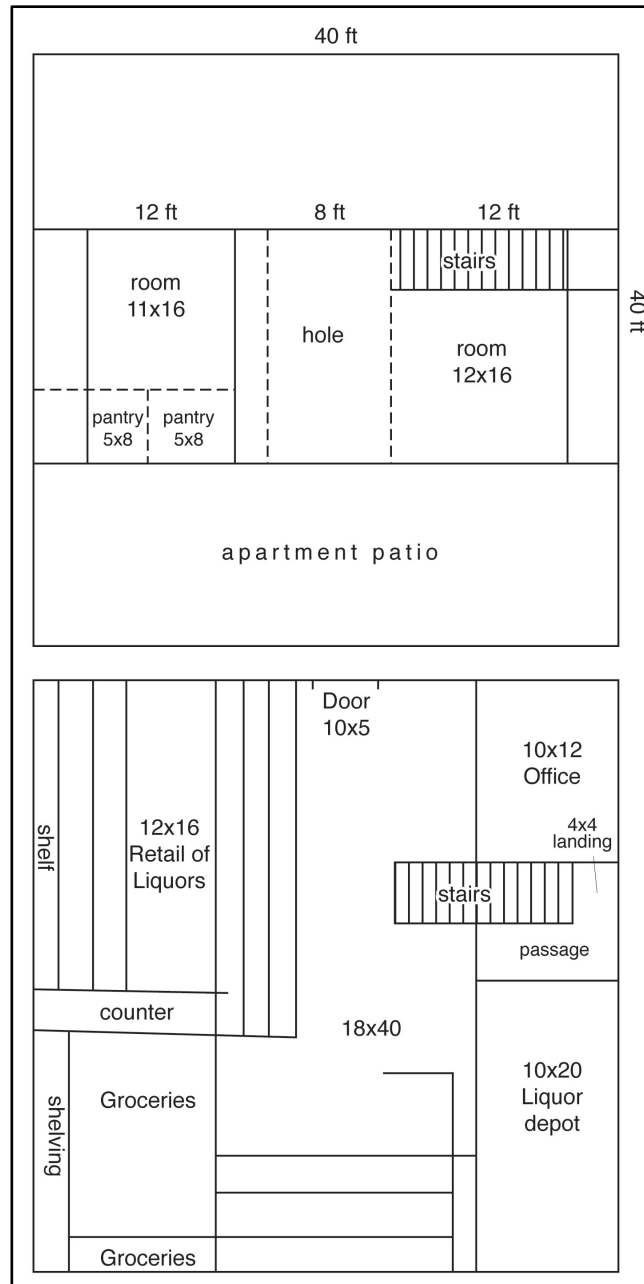
## **Data Interpretations**

Donald Simmons (2001) mentions three different types of economic activity occurring at the Saturday Creek estate of Colin J. McRae: mercantile, cattle, and mahogany business. It is clear from the artifacts that the site relates to the time period when McRae would have been running these operations, leaving a few options open for the type(s) of activity that may have occurred at this riverside location on McRae's estate. Based on the ethnohistoric accounts, it is conceivable that this area served as either a logging camp and base of operations for McRae's mahogany business, a stable or other building devoted to the cattle, a store where McRae carried out his mercantile business, or perhaps McRae's personal residence. It is also conceivable that some representation of one or more of these things was carried out in this locale.

We recognize that constant plowing may have mixed contexts and blurred the distinction between activity areas. That aside, we would not expect to find so many bottles and serving wares in a stable or other area where cattle were kept. Despite the one metal bit that was recovered, it seems unlikely that cattle operations were the primary activity in this area. Our excavations and surface collection at the McRae-Stallworth site did not reveal an overwhelming number of artifacts that pertain to logging activities (axes, chains, etc). However, Finamore (1994:165) notes in his investigation of logging sites that there is a general absence of logging materials, though it is important to note that these materials may be represented through his unidentifiable metal fragments (Finamore 1994:208). What Finamore (1994:193) found associated with mahogany logging camps along the Belize and New Rivers was an overwhelming majority of serving wares, and comparatively little bottle glass (Finamore 1994:193). This artifact assemblage stands in marked contrast to what we found at the McRae-Stallworth site, Finamore also observes at logging camps evidence of artifact modification, with many items being marked post manufacture to demarcate a personal possession (Finamore 1994:180). The McRae-Stallworth site contains predominantly bottles and other types of glass, with little to no evidence of post-manufacture modification indicative of individual users and personal possessions. If this part of the McRae-Stallworth site was a mahogany camp, we would expect to see more artifacts that would indicate the communal atmosphere of such a camp, as well other evidence distinguishing individuals in a larger community.

In examining the distribution of the artifacts, the evidence suggests to us that this part of the McRae estate was more likely used for his mercantile business or personal residence, rather than a logging camp. Given the high density of bottle glass and range of serving ware ceramics represented—we believe these data may point to a mercantile business, rather than a personal

residence. Though this remains speculative. Little information is available on McRae's mercantile business, but we presume that one of its purposes was to supply people in the area with items needed for everyday use. The overwhelming amount of bottle glass could suggest the sale of alcohol from the site location. A similar pattern is found at the ex-Confederate colony at Sittee, known as Regalia, where a plan view of the village store shows that most of the building was devoted to the sale and storage of alcohol (**Figure 16.8**; Harrison-Buck pers. comm. 2011). As for the ceramics, there are a large variety of designs and forms from the site. It seems



**Figure 16.8 Plan view of the store of the village of Regalia (redrawn by M. Brouwer Burg).**



unlikely that McRae would have personally held this many different sets of china and may indicate that the sale of different sets of tableware was part of McRae's mercantile business.

## **Conclusions**

Colin J. McRae owned and occupied the Saturday Creek estate from May of 1867 until his death in February of 1877. The many artifacts found in our excavations and surface collection at McRae-Stallworth site suggest a late 19<sup>th</sup> century date corresponding with the time that McRae would have been occupying the property. Through the analysis of primary documents and secondary sources on McRae, as well as an analysis of the artifacts recovered at the site, it is possible to begin to understand the types of activities that may have been occurring at McRae-Stallworth. Based on the density and distribution of the artifacts recovered in this area of the McRae-Stallworth site, we suggest this area was the location of McRae's mercantile store. Unfortunately, intensive plowing stands to erase this important archaeological signature. However, further investigation of the site, where other artifact scatters have been noted on the surface, may reveal additional economic activities said to have taken place here, including McRae's cattle and mahogany business, as well as his personal residence.

## **Acknowledgements**

The authors wish to thank the Belize National Archives who aided in the archival research presented herein. The first author is especially grateful to Adam Kaeding for heading the excavations and providing training in artifact analysis, as well as Dr. Eleanor Harrison-Buck for all her support. He also would like to thank the Hamel Center for Undergraduate Research, the Trout Scholarship Award committee, and the Rebecca Lang Memorial Fund committee for funding the research and his trip to Belize. Through the Research Experience and Apprenticeship Program (REAP) fellowship from the Hamel Center, which promotes research projects for freshman honors undergraduates, John DeGennaro was able to conduct research in Belize with Dr. Harrison-Buck, and he is especially grateful to all those involved with this program. His project was the first REAP fellowship to occur outside of the United States, and he appreciates the Center's support of the project. Without this fellowship his research would not have been possible.

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## Chapter 17

### Conclusions and Future Directions for the BREA Project

*Eleanor Harrison-Buck*

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Initial investigations of the BREA January and summer field seasons in 2011 were extremely productive and successful. We identified a dense occupation and a long history of settlement in the eastern Belize Valley, extending from Formative to Colonial times (Harrison-Buck et al. 2011; Kaeding et al. 2011). During the 2011 season, the BREA project identified over 400 mounds representing at least 20 different sites in the middle Belize Valley alone, which had never been mapped before (see E. Harrison-Buck, Chapter 1: **Figures 1.1-1.2**). These sites are primarily located along the main trunk of the Belize River, but some sites also were found along tributary creeks and lagoons to the north of the river. Most are ancient Maya sites dating to the prehispanic period, but several sites that were identified and excavated in 2011 contained artifacts dating to the nineteenth century Colonial period (see Chapters 15 and 16, this volume).

In 2012, we plan to continue the survey, mapping, and excavation of select sites in the BREA study area during a month-long field season in January followed by a summer season from mid-May to early July. An additional goal of the fieldwork involves training undergraduate students from the University of New Hampshire as part of a UNH-sponsored field school. Other research specialists who plan to join the BREA project in 2012 include Dr. Serita Frey, a professor in the School of Natural Resources and Environment at UNH. Dr. Frey is a soils specialist who will come down to collect soil samples at different sites throughout the eastern Belize Watershed to address a number of different research questions (see further below).

#### Overall Research Objectives

Our main research objectives for the future seasons will build on the 2011 fieldwork presented herein. During January, we will continue to focus our efforts primarily in the middle parts of the Belize River valley in the area between Saturday Creek and Beaver Dam Creek, but will also make efforts to do some preliminary reconnaissance farther to the east in the lower part of the valley where we hope to initiate further survey, mapping, and test excavation during the summer 2012. For the January season, we have six specific goals in mind:

1. Map with the Total Station the site of Kaax Tsaabil and conduct survey reconnaissance in the area to the north of Kaax Tsaabil (see Chapter 4, this volume for a discussion of the preliminary survey of this site in 2011).

2. Conduct an intensive pedestrian survey of a north-south transect from the east gate of the Yalbac property due south to the Belize River in the vicinity of the Saturday Creek site.
3. Perform test excavations at the sites of Hats Kaab and, if time permits, Hum Chaak (mapped in 2011; see Chapter 8, this volume).
4. Carry out an initial reconnaissance of the lower Belize Watershed in Transect 5.
5. Collect soil samples from different locations in the Belize Watershed.
6. Survey the area around the confluence of Saturday Creek and Beaver Dam Creek.

One of our primary research objectives is to develop a more comprehensive settlement history and a more specific understanding of changes that occurred among the lower Belize Valley settlements during periods of significant cultural transformation in Maya history—first during the Preclassic-Classic transition, then later during the so-called Classic Maya “collapse” period, and finally during the Spanish Conquest in the sixteenth and seventeenth centuries. Through our archaeological investigations, we seek to understand how these profound changes impacted social, political, and economic organization in the Belize Valley and determine how, if at all, settlement patterns and networks of interaction shifted over time.

### **Future Research Activities**

To begin to address these broader research goals, we will map with a Total Station the sites of Kaax Tsaabil—the largest site we have identified in the middle Belize Valley (see E. Harrison-Buck, Chapter 1:**Figure 1.2**). The site contains pyramidal architecture and at least one ballcourt was identified during our survey of the site in the summer of 2011. Architecture and surface finds suggest a Late-to-Terminal Classic date for the site. Local informants suggest that a number of large sites exist to the north of Kaax Tsaabil between Freshwater Lagoon and Labouring Creek. If time permits we plan to do some preliminary reconnaissance in this area.

The Spanish ethnohistoric accounts mention a north-south overland route that the colonial period friars used in their attempts to pacify the Maya living at sites, such as Tipu, along the Belize River, and the Itza living farther to the west in the Peten region of Guatemala. This overland route was said to stem from the headwaters of the New River and run south, crossing Labouring Creek to where it intersected with a “hamlet” formerly known as Chantome in the mid-section of the Belize River (Jones 1989:287-288). Based on a careful reading of the ethnohistoric accounts, I suggest this may have been the name of the ancient Maya site of either Cocos Bank or Saturday Creek—both sites lie within the vicinity of where this overland route is said to have entered the Belize River. To further test this idea, an intensive pedestrian survey will be conducted along a north-south transect during the January 2012 field season to isolate the location of this overland route and hopefully confirm the identification of Chantome. The ethnohistoric accounts record Colonial settlements along this route, but I argue that the overland route pre-dates the Spanish Conquest and was used by the Maya as early as the Terminal Classic

period (Harrison-Buck 2010). I anticipate finding clusters of Terminal Classic settlement lining the length of this north-south overland route if the transect I have laid out is located correctly. The north-south transect (the gray shaded area in **Figure 1.2**) will begin at the East Gate of the Yalbac property where two sites were identified in 2011 near the headwaters of Ram Goat Creek (a tributary of the New River). Two survey teams, spaced about 100-200 meters apart, will walk due south from the East Gate, across Labouring Creek (where a “natural” bridge has been reported) and will run along the Colorado Lagoon system (where a number of sites were identified in 2011), and end in the vicinity of where the site of Saturday Creek is located on the northern bank of the Belize River.

A third goal for the January 2012 season is to perform several test excavations at Hats Kaab and Hum Chaak—two modest-sized sites located in the middle Belize Valley (see E. Harrison-Buck, Chapter 1:**Figure 1.2**). In the 2011 season, both sites were mapped using a total station and at Hum Chaak excavations also were conducted (see Murata, Chapter 8; Woods and Harrison-Buck, Chapter 10; Harrison-Buck, Chapter 14). Our initial investigations of Hats Kaab revealed diagnostics of Late and Terminal Preclassic ceramic material and what looks like an E-Group. A number of E-Group architectural complexes have been identified just west of Hats Kaab, farther upstream along the Belize River at sites such as Barton Ramie, Blackman Eddy, and Baking Pot (Aimers 1993; Garber et al. 2001). An E-Group in this location at Hats Kaab, therefore, would not be all together surprising. Aimers and Rice (2006:82) suggest that sites with this distinctive architectural configuration are indicative of “a network of shared beliefs and ritual.” If the architectural complex at Hats Kaab—along with the ceramic material—are found to be similar to sites in the Upper Belize valley, this would suggest a shared network of interaction between the upper and lower parts of the Belize Valley during Preclassic times. Our excavations at Hats Kaab will be aimed at testing this hypothesis.

By Terminal Classic times, the upper and lower parts of the Belize River valley appear to have developed discrete spheres of interaction, reflected in the contrasting ceramic assemblages found at sites as close as Saturday Creek and Barton Ramie (Harrison-Buck 2010; Harrison-Buck et al. 2011). These data may point to diverging social groups and suggests separate economic markets were established by the end of the Classic period, the boundaries of which may have been dictated by the north-south overland route. These shifting networks of interaction are the focus of further investigation in the 2011 season. In colonial times, the overland route facilitated the movement of goods, people, and ideas between the Belize River settlements and Lamanai and points farther north, perhaps as distant as Quintana Roo and northern Yucatan. As noted above, this overland route likely was in existence as early as Terminal Classic times. During the 2011 season, a large excavation was conducted at Hum Chaak and revealed a Terminal Classic circular shrine building (E. Harrison-Buck, Chapter 14:**Figure 14.1 and Figure 14.2**) that is similar to others found in the eastern Maya Lowlands of Belize and farther afield at Chichen Itza in northern Yucatan (Harrison-Buck 2007; Harrison-Buck et al. 2011). Elsewhere, I argue that sites with Yucatec-style circular shrine buildings formed a large network of interaction in the Terminal Classic period that appear connected to

this northern superpower and developed around the same time that Chichen Itza exerted greater control over the coastal trading networks along the Caribbean (Harrison-Buck 2012). At least one excavation will be conducted at Hum Chaak during the January season to investigate the elite residence at this site and look for further evidence linking this area to northern Yucatan. This investigation is aimed at clarifying the nature of shifting social, political and economic organization at the end of the Late Classic, when many large Classic Maya centers further west in the Peten collapsed while northern Yucatec centers, like Chichen Itza, rose to power.

A fourth goal of the January season will involve further reconnaissance in the easternmost part of the Belize watershed, aimed at examining locations ideal for ancient Maya salt and pottery production. At the boundary of the Sibun and Belize Watersheds, there is a large site known as Wits Cah Ak'al just east of Belize City near the modern town of Hattieville on the Western Highway, located in pine savannah and wetlands. Recent excavations have revealed a series of sizeable earthen mounds filled with debris from saltpanning, as well as pottery production (Murata 2011). The site shows little to no evidence of habitation and appears to be strictly a large-scale production locale. The local clays are ideal for pottery production and salt can be extracted from the brackish lagoon waters. The mounds contain no standing architecture and in some cases debris, such as vessel fragments, spacers and clay supports associated with salt production, are visible on the surface. Mounds containing similar debris have been reported around the vicinity of Sand Hill in Transect 5 and will be investigated during the January and summer 2012 seasons (see **Figure 1.1** for the location of Transect 5).

This reconnaissance of the easternmost part of the study area will involve systematic soil sampling in order to test soils for their clay and saline properties, which will be directed by soil specialist Dr. Serita Frey during the January and summer seasons. She will conduct soil biogeochemical analyses to trace the local source(s) of clay for ceramic production and saline properties ideal for salt production in the areas where such production locales are thought to exist. Dr. Frey also will examine biogeochemical conditions of the soils throughout the valley to determine soil fertility and possible locations for cacao plantations in historic and ancient times. The Spanish accounts suggest that the Belize Valley was rich in cacao and was growing on the banks of the river when they first arrived in this area during the sixteenth century (Jones 1989; Scholes and Thompson 1977). Based on the Spanish accounts, I hypothesize that the low terrace banks found in the vicinity of Cocos Bank and Saturday Creek may have been places where cacao was grown and will be targeted for soil samples in hopes of detecting in the ancient soils Theobromine, the chemical compound of cacao. Soil samples also will be collected from modern cacao orchards at the Hershey plantation in the upper Sibun Valley for comparative analysis along side soils from ancient and historic sites in the middle Belize Valley.

A final goal of the 2012 field seasons will involve survey around the confluence of Saturday Creek and Beaver Dam Creek, aimed at finding British colonial logging sites dating to the eighteenth century. Investigations close to these areas on the Belize River in 2011 yielded artifact scatters dating to the nineteenth century Colonial period, perhaps associated with mahogany logging. Earlier eighteenth century logwood camps that predate the mahogany

industry often were located right at the confluence of tributaries. Only preliminary survey has been conducted right at these junctions along the Belize River, but on one nineteenth century map of the Saturday Creek property found in the Belmopan Archives, we identified a former logging camp that may have housed African slaves, noted on the map at the confluence of the Belize River and the Saturday Creek drainage. More systematic survey and surface collection are planned for the 2012 season at these particular locations in the hopes of identifying remains of these ephemeral African slave camps.

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