KA'KABISH ARCHAEOLOGICAL RESEARCH PROJECT (KARP)

INTERIM REPORT ON THE 2011 FIELD SEASON

Submitted to

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As archaeological work would not be possible without the co-operation of the local people who have as much invested in our work as we do, if not more, I would also like to thank the following individuals: Ben and Margaretha Dyck of the Blue Creek Community for helping with the project logistics both during and between the field seasons; Srs. Blanco, Che, and Magana for allowing access to their land; the ladies of Las Orquideas for keeping us well fed; and all the members of the various community that provided me with information and assistance in a variety of ways.

INTRODUCTION

by Helen R. Haines

The site of Ka'Kabish is located almost exactly 10 km from the larger centre of Lamanai at 311 degrees magnetic north (Figure I.1). The core area of the site was constructed on a limestone ridge, one of several that undulate across this part of north-central Belize (Hammond 1973; Romney et al. 1959). Situated at approximately 17^0 48' 58" north latitude by 88^0 43' 47" west longitude[1] the core area of Ka'Kabish was separated roughly in half by the construction of a road connecting the village of Indian Church to San Filipe (Figure I.2). The site sustained damage during the construction of this road and at least one building was allegedly completely destroyed while two other structures, along with a section of the south plaza, are known to have been removed during the brief succeeding use of the site as a quarry for road fill (Guderjan 1996). Using this road as a dividing point the site is broadly referred to in terms of the North Complex and the South Complexes.

Additional damage to the site was caused by extensive illicit looting operations (see Tremain 2011a, and 2011b). Currently the greatest danger to the site is from the encroaching farmland. This last situation is undoubtedly exacerbated by the sites proximity to four growing communities – one in every direction (Figure I.2).

Since its inception, the Ka'Kabish Archaeological Research Project (KARP) has focused largely on mapping the core area of the site, as well as identifying and document the surrounding settlement zone. The latter work has been closely tied to agricultural activity by taking advantage of recently cleared and ploughed lands opened up by Mennonite farmers, or through accessing the recently cleared cane fields adjacent to the site.

This volume details the work conducted by the Ka'Kabish Archaeological Research Project (KARP) under the direction of Dr. Helen R. Haines during the 2011 field season. This is the fourth season of archaeological investigations at the site. During the first two season (2007 and 2009) the work was restricted to surveying the area and mapping the core zone of the site (Haines 2008, 2009). The 2010 and 2011 field seasons, while continuing the mapping of the area, also involved excavation into key areas of the sites (Haines 2011, and this volume).

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[1]This reading was taken from the centre of the road that bisects the site using a Magellan 100 handheld GPS unit.

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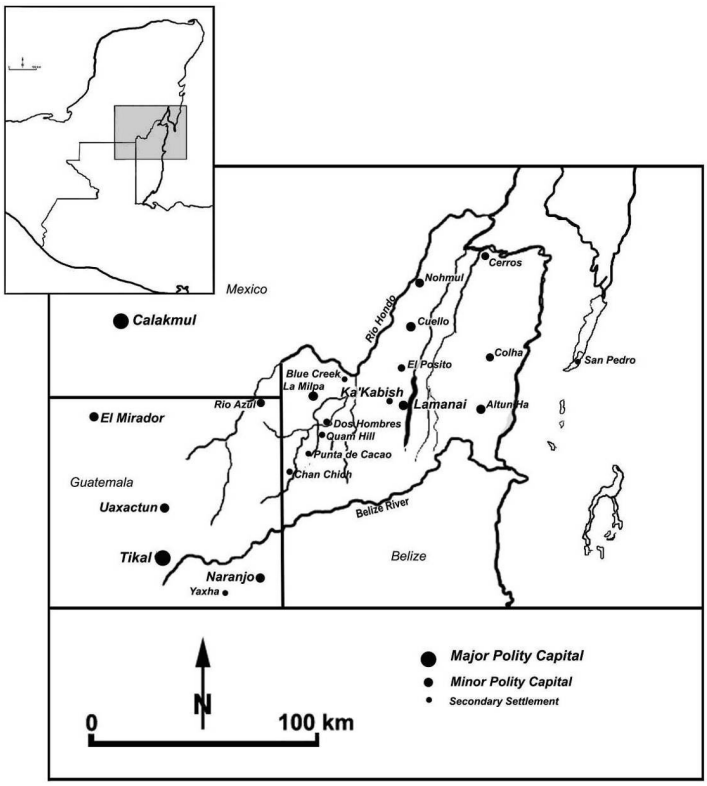

Figure 1. Map of Northern Belize and North-Eastern Guatemala Showing Key Archaeological Sites

Figure 2. Aerial Photo Showing Archaeological Sites and ModernTowns.

CHAPTER 1

OVERVIEW OF THE 2011 RESEARCH AT KA'KABISH

by Helen R. Haines

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The 2011 field season was the four summer of archaeological research at Ka'Kabish, and the second that involved excavation. The initial two seasons, conducted in 2007 and 2009 focused on mapping the core area of the site, while the 2010 and subsequent 2011 field seasons continued the mapping of the site while at the same time initiated excavation work at key locations to provide data for the formation of a site chronology.

Areas investigated during the 2011 field season encompassed a series of different locations. It was recognized that small test units across the broad area of the site would provide only a limited amount of information about the individual areas (as oppose to concentrating efforts in one area for maximum information regarding that structure or location); however, as the goal of the season was, and still is, to establish the occupation chronology of the site, this approach was judged best as it would (1) provide a wide range of information, (2) help identify shifts in construction focus through the history of the site, and (3) help identify areas where the oldest occupation may be located.

The key areas targeted for increased investigation were the Group F Acropolis Platform, Structures F-1/F-2, Structure D-14, and the Group D plaza south of Structure D-5. Investigations of the settlement zone also continued with test pitting being added to the surface survey techniques in the hopes of increasing the datable material and provided a fuller range of occupation history.

Shortly after the season commenced a forest fire swept across the north-east quadrant of the site. The fire was apparently started in a cane milpa immediately to the east of the site on the north side of the road. Fueled by the numerous cohune palm tree fronds littering the ground in this area of the site, and abetted by the late onset of the rainy season, the fire spread easily through the area and burned for several days. Unfortunately, part of the area affected by the fire was the Group F acropolis (oddly the fire did not spread down the slope of the acropolis but appears to have stopped at the top edge). Upon returning to the area a week after the fire started, it was observed that while many trees had fallen, and were now just lines of white ash (Figure 1.1), other trees were still smoldering with coals being observed in the stumps,

and there were the occasional flare-ups as patches of dried leaves, previously untouched, ignited from the heat and caught fire.

Figure 1-1. Photo of Group F Acropolis after forest fire.

Most of the buildings appeared undamaged. The sole exception was Structure FA-7. This low mound had already been damaged by looting along its east, platform wall, face. The fire had caused a tree on its south-west face to fall and the ensuing tearing up of the root mass that accompanied this drop also disturbed the construction fill. While inspecting the damaged area a collection was made of ceramic sherds pulled from fill by the tree (KKB327). A total of 27 pieces were recovered which were tentatively identified as forming a bowl with rounded sides. The surface of the pieces was highly eroded with no visible surface decoration that would have indicated a date for the structure.

The fire also put a tree down across the excavation unit started on the acropolis but did little damage to the integrity of the unit (Figure 1.2). In light of the potential on-going danger from the heat and still smoldering trees it was decided to close the unit and move the crew to the south side of the road which had been untouched by the fire. A tarp was laid across the unit and the area was backfilled.

Although the unit was closed only a scant 45 cm below the surface it did make an unexpected discovery. Approximately 20 cm below ground surface a low platform wall was discovered running east-west across the unit (Figure 1.3). As the feature was discovered early, it was possible to divide the excavation area into two sections with the area north of the wall being excavated as one lot (KKB198)

and the area to the south of the wall (likely the fill of the platform) being excavated as a separate lot (KKB199). Unfortunately, neither of these lots appears to have yielded datable material. The unit was, fortunately, closed at surface of a plaster floor on the north side of the unit when the forest fire occurred. This floor was not broached and when the unit is reopened should form an excellent control point at which to continue the excavations.

Figure 1-2. Photo of fallen tree in Platform FA Unit

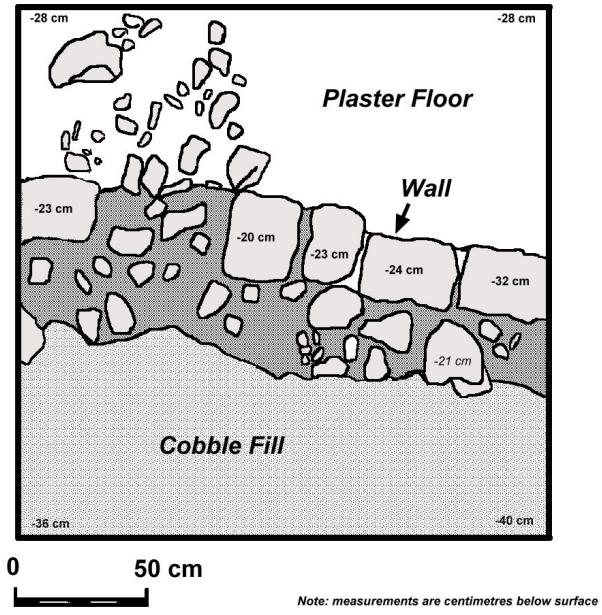

Figure 1-3. Plan Map of Group F Acropolis Unit 1

Work was also conducted in 2011 at Structures D-14 and F-1/F-2. Structure D-14 was excavated by Susan Dermarker and involved clearing a large set of units up the face of the structure and a unit into the plaza immediately in front of the structure. It was hoped that the units on the face of the structure would expose evidence of stucco masks reported by Guderjan during the 1995 Maya Research Project Survey of the area (Guderjan 1996). While the front units did not reveal any masks they did expose a staircase composed of wide, low terrace-like steps (see Demarker Chapter 5 this volume). The plaza units encountered bedrock almost immediately beneath the front of the structure which sloped down gradually as it moved into the plaza. These units yielded few ceramic pieces. The identifiable sherd were a mix of Dos Arroyos and Sierra Red types suggesting an Early Classic date for the initial building construction.

Structures F-1 and F-2 appear to be conjoined pyramids. The exact nature of the joining is uncertain and was the focus of excavations in 2011 by Christina Pitre (see Chapter 6 this volume). A series of units were laid across the middle of the east face where it was hoped that a wall or other architectural feature might be encountered. However, the work was inconclusive and it was the opinion of Dr. John Morris, Institute of Archaeology, that we were digging on the wrong side and that the stairs would be found on the west. To whit, we are applying for a permit to clear and map the looters trenches on the west side as part of the 2012 field season.

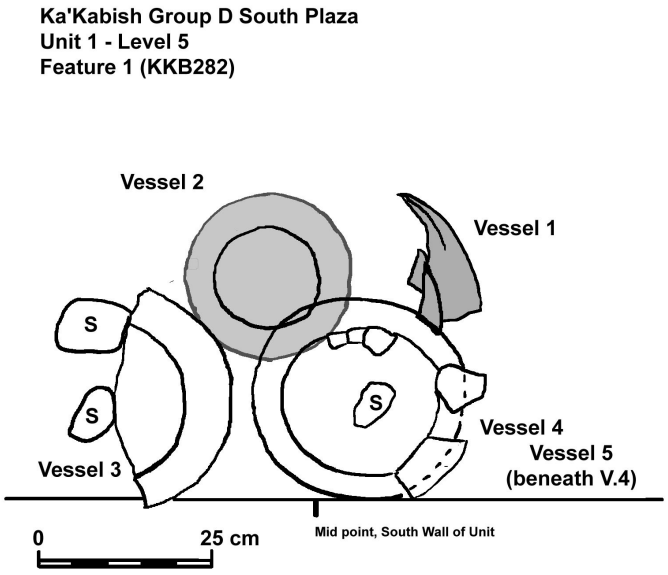

Figure 1-4. Feature 1 Cache Deposit (KKB282)

The last area of investigation in the core zone was a unit placed in the Group D plaza between Structures D-5 and D-9. This unit was initiated in 2010 but was not finished due to lack of time and inclement weather, and was reopened in 2011. During the 2011 field season this unit encountered a cache in the south wall. This cache was identified as having five vessels in total (Figure 1-4); however, upon reflection two of these (Vessel 1 and Vessel 3) may actually be part of a larger deposit of broken, restorable and partial vessels found in the same level in the unit immediately to the south (KKB354). Vessel 2 was found right side up, while Vessels 4 and 5 were placed in a well-known 'lip-to-lip' formation. Nothing was recovered from the interior of either vessel, although soil has been kept for future pollen and phytolith analysis.

The discovery of the cache and evidence of additional material in the south wall of the unit prompted the expansion of the unit to the south. Initially this unit was planned as another 2 x 2 metre unit to be comparable to Unit 1. However, almost immediately below the humus level stones were encountered in a pattern suggesting a round platform (Figure 1-5). It was decided neither to expand this area to investigate the possible structure nor to remove the stones, but to leave this structure for a future field season when it could be investigated more fully. Consequently, as the potential structure was only in the south half of the unit, Unit 2 was halved and the north area was excavated as a 1 x 2 metre unit. Concentrations of artefacts began emerging below Layer 6, a possible plaster floor. However, the vast majority of densely packed artefacts including many partial and restorable vessels were recovered below Layer 8 (KKB354), a possible cobble floor, in a layer of soft grey clay-like material (Figure 1-6). This layer matches with that found in Unit 1 (KKB282) where the Feature 1 Cache was discovered.

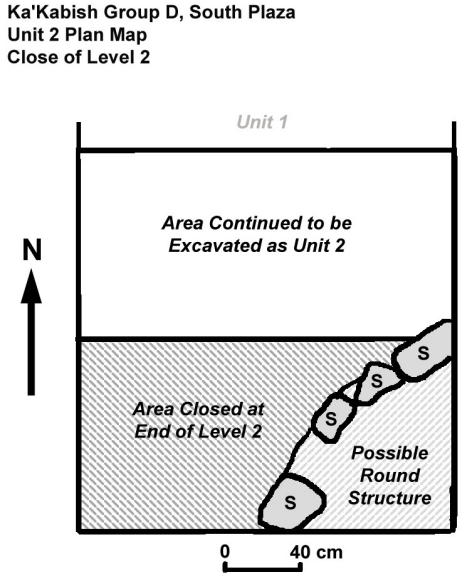

Figure 1-5. Group D South Plaza Plan Map of Unit 2 at Close of Level 2

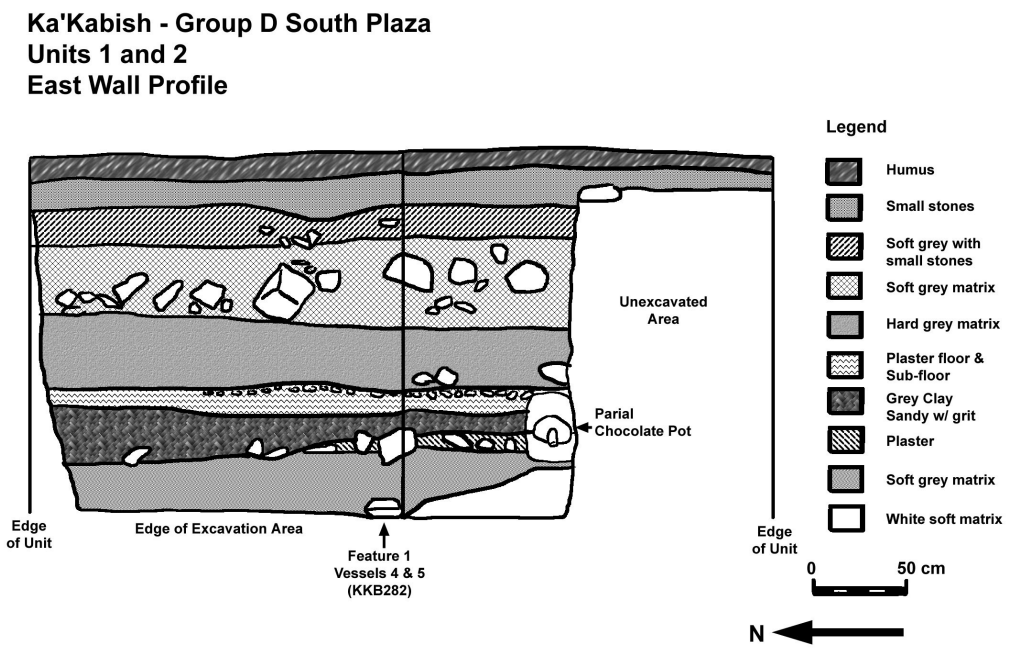

Figure 1-6. Group D South Plaza Units 1 & 2 East Wall Profile

Due to weather issues which resulted in the grey matrix becoming a gluey slurry a decision was made to halt the excavation. When the weather permitted a tarp was laid in the unit and it was backfilled for protection. As these units were not completed to bedrock it is the intent to reopen these units in 2012. Additionally, other units are planned to explore the nature of this deposit more fully. Ceramic analysis by Aimers (see Chapter 7 this volume; see also Haines and Aimers 2011) indicates that these vessels likely date to between 800-600 BC. Radiocarbon material collected from four of the vessels as well as the plaster surface confirm a date between 760-400 BC.

In all, the 2011 field season yielded considerable new information about Ka'Kabish. A Late Middle Formative period occupation, previously hinted at in excavations in the Group D North Plaza units (Tremain 2011a) and from radiocarbon dates obtained from material collected during the mapping of the looters trenches in Structure D-9 (Tremain 2011b) was confirmed by the Group D South Plaza excavations. This pushed the confirmed initial date of occupation for the site back to 800-600 BC. Also, it appears that during this time Ka'Kabish was subject to an active ritual agenda, as evinced by the ceramic plaza deposit and temple construction, and likely also possessed an emerging elite population.

During the Late Formative period this elite population clearly manifested itself with the organisation of the site and construction of several temples (Tremain 2011c). In the subsequent Early

Classic period we can see that this part of this elite population developed into a royal line (Budhoo 2011), complete with corbel vaulted palace structures (Demarker this volume).

These data clearly indicate that Ka'Kabish was an autonomous political entity from the Middle Formative to the Early Classic period. The discovery of a (looted) cocoon crypt identical in construction to those at Lamanai (Haines 2010), and known from no-where else, indicates that at some point the political fortunes of Ka'Kabish and Lamanai became entwined. It can be surmised, based on the dates for the Lamanai crypts, that this happened during the 6th century (currently no dates are known for the Ka'Kabish crypt). The exact political nature of this involvement is unclear, as is the Late Classic history for Ka'Kabish. Few structure have been identified dating this period, however, as the excavation of the site is still in its infancy, this could simply be a lack of data. Clearly more research at the site is warranted and planned for the coming years.

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CHAPTER 2

KA'KABISH: THE RESEARCH FOUNDATIONS

MAPPING TECHNIQUES, TERMINOLOGY, AND CERAMIC PHASE NAMES

by Helen R. Haines

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After only two season of excavation and four of mapping there is still much work to be done and we have only barely scratched the surface of the site history; however, the chronological depth of the site is beginning to take form as is the methodology for documenting the information. Therefore, I believe it is incumbent up at this stage to lay out the frame work for our research in terms of techniques, terminologies, and ceramic phase name identifications.

MAPPING TECHNIQUES

Ka'Kabish has been the subject of several mapping endeavours over the past few years. The first, by archaeologist from the Maya Research Program (MRP), was conducted late in summer over the course of a two day period and without benefit of underbrush clearing. This initial work documented the existence of 27 structures at the site (Guderjan 1996).

During the 2007, and 2009 field seasons the site was remapped by members of the Ka'Kabish Archaeological Research Project (KARP) using an optical Sokkia DTS-600 theodolite (Haines 2008, 2010). This work, as with the proceeding effort by the MRP team, produced a highly functional plan map of the site. As the work done by the KARP team spanned a total of 10 weeks (six in 2007 and four in 2009) and involved extensive clearing of secondary growth in and around the site core the map produced from this work was more comprehensive. It documented a total of 54 structures, arranged in five groups (identified as Groups A through F), many with clearly discernible plaza sides. It also noted the existence of several chultuns and what is believed to have been an aguada (Figure 1.1).

In 2011, the site was remapped using a Sokkia 530R Total Data Station supported by a Nomad Data Collector running TDS Survey Pro software. Data recorded from this system was then placed into ArcGIS 10 to produce a topographic map of the site. Only three areas of the site were mapped during the 2011 field season (Groups C, D, and F). The remaining area will be mapped during the 2012 field season. Once this has been accomplished, the mapping will be extended to the areas surrounding the site for a

comprehensive topographic survey. A small portion of the area to the south of the site has already been topographically documented as part of the settlement research conducted by Alec McLellan (see McLellan this volume). It is hoped that by extending the topographic survey into the settlement zone we might be able to determine the likely location of now damaged, and possibly destroyed, courtyard complexes.

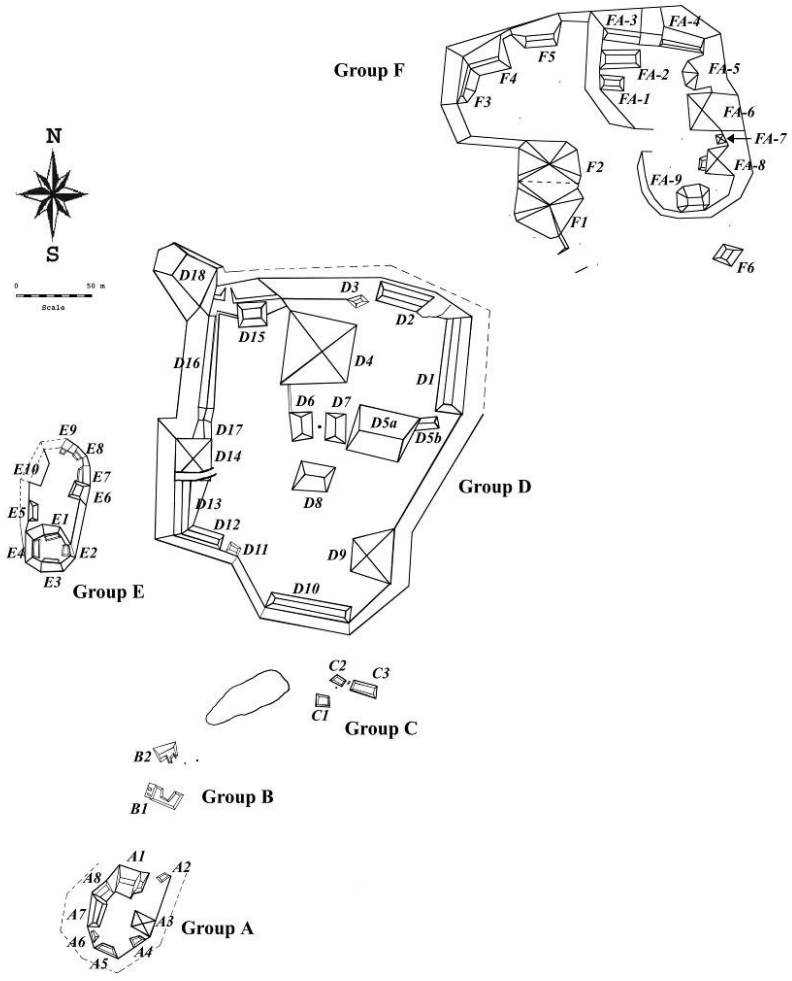

Figure 2-1. GIS Map of Ka'Kabish Groups C, D, and F

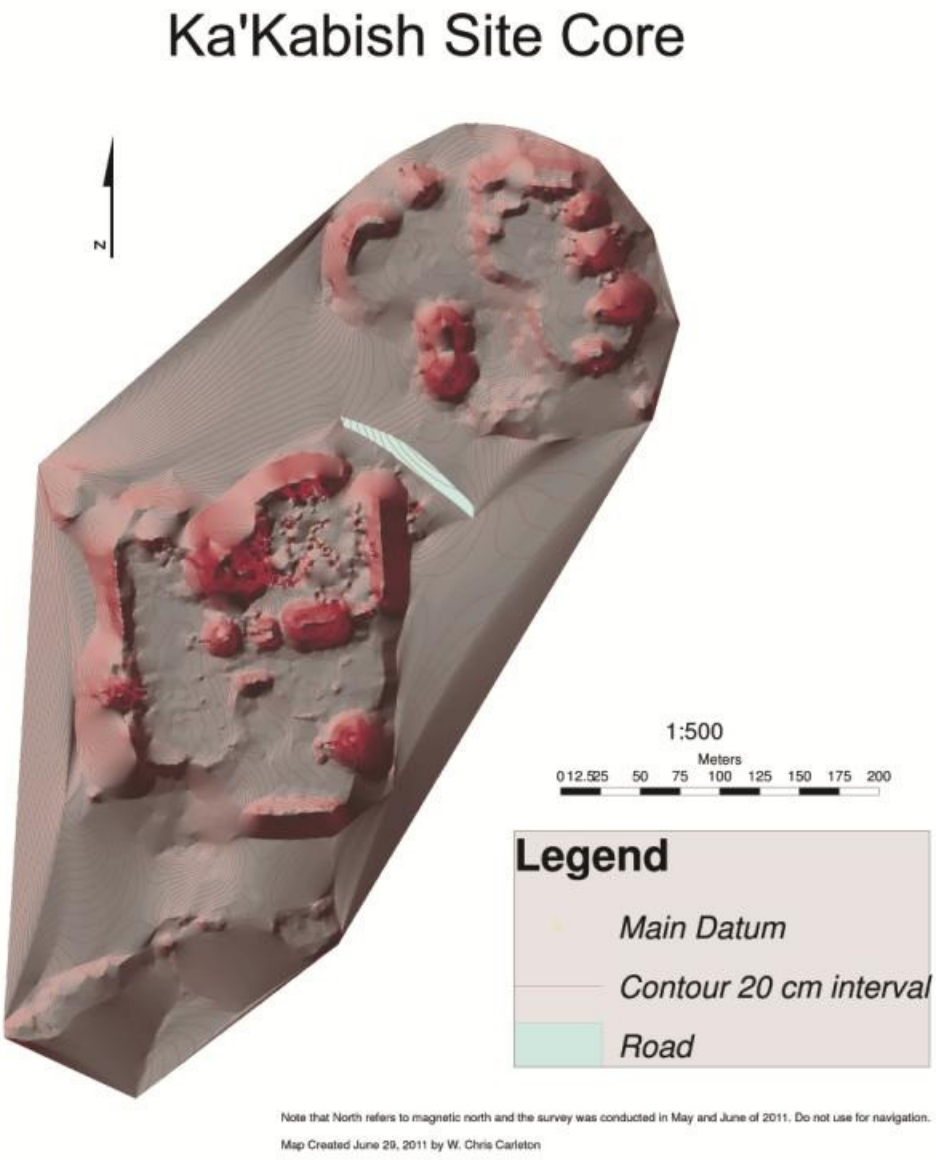

Figure 2-2. GIS Map of Ka'Kabish Groups C, D, and F

TERMINOLOGY/IDENTIFICATION SYSTEMS

Structure Designations

Terminology for the identification of structures is based off of that used by the Tikal Project (Shook and Coe 1962), with structures being assigned an alpha-numeric designation. However, unlike the Tikal project which applied a large grid across the entire site then identified structures within this grid system, Ka'Kabish structures are identified by architectural configuration. Structures arranged around a discrete plaza or courtyard are termed a "Group", with each group given an alphabetic designation. Within these groups the structures are numbered sequentially from one to the last structure. This model allows for additional structures to be added to each group as they are discovered without creating groups of widely disparate numbers (i.e., Structure 42 is not next to an earlier identified Structure 3).

As Maya structures are often built accretionally it is not uncommon to encounter multiple iterations of the same building as one penetrates a building. These earlier structures are identified using Arabic ordinal numbers as they are encountered (i.e., 1st, 2nd, 3rd, etc.) which are appended onto the overall structure name (i.e., Structure D-4-1st would be the first building encountered archaeologically and the last one built by the Maya). This system was used initially at Piedras Negras (Satterthwaite 1943:24-26) and later at Tikal (Shook and Coe 196 :9), and have since become standard practice at many sites.

Once excavation at the building is complete and/or the sequence of construction has been reasonably determined these structures are then renumbered from earliest construction to latest using Roman numbers and the prefix 'sub' (i.e., Structure D-4-sub I would be the last building encountered archaeologically and the first one built by the Maya). Although the Tikal Project initially developed this identification scheme to be used to note "intentionally buried structures (or plazas, platforms, terraces, etc. . . .) which are discovered within an area of excavation and which seem to have not logical or evolutionary relationship to surface remains at the same specific location " it is deemed useful for the Ka'Kabish project to use it in the manner outlined here (Shook and Coe 1961:6)

Artefact Collections

As noted in Gomer and McCollum (this volume) KARP uses a system of "lot numbers" to designate collections of artefacts. These collections are discrete units of material associated with a cultural level within an excavation unit. They may also be a discrete deposit within a larger deposit, such as a cache within a midden. As they are associated with defined excavation areas matrices that span adjacent excavation units will have different lot numbers. Therefore, the use of Harris Matrices are stressed to document associated deposits.

Lot numbers have been assigned sequentially from the start of the project and currently a total of 415 numbers have been assigned. All objects belonging to a deposit are given the same lot number (i.e.,

ceramic, faunal, lithic). The rational for the assignment of a single number across multiple materials is for ease of integration of the data once analysed.

Special Deposits

Additional identification systems based on those designed by David Pendergast and used for the ROM projects at Altun Ha and Lamanai are used to identify caches, burials, tombs found in structures.

For the purposes of simplicity in identification systems the term "tomb" is used broadly to refer to any stone lined and capped construction designed for mortuary purposes. While it is recognized that more precise terminology is needed to distinguished different types of mortuary construction (i.e., cists, crypts, and tombs; see Welsh 1988) it is believed that these categories can best be identified in discussions of the feature. Conflation of different mortuary constructions (specifically crypts and tombs) into a single category is used for simplicity in identification systems. "Tombs", using this classification scheme are identified using the term, followed by the structure number/number of appearances in that structure (i.e., Tomb D-5/1 refers to the first "tomb" [stone lined and capped mortuary construction] found in Structure D-5).

Burials, defined as an internment without a clearly associated, stone line, mortuary construction, follow an identification pattern similar to that for Tombs. For these the internment is referenced as Burial followed by the structure number/number of appearances in that structure (i.e., Burial BF6-M7/1). Caches are identified in a likewise manner (Cache D-5/1). It should be noted that these types of deposits are numbered in relation to the building as a whole and do not record information about any possible sub-structures or early constructions (see section above on building identifications).

Material from deposits that require additional, unique identification, are labeled with the three letter site designation followed by the lot number, separated from the following sequential number by a forward slash (i.e., KKB286/1). Vessels removed from deposits may be identified with a "v" then the number to distinguish them as a vessel.

CERAMIC PHASE NAMES

Time periods for the various historic stages or ceramic phases have been loosely aligned with the time periods identified for Lamanai (Powis 2002:23 Table 1). As Lamanai is the nearest neighbor to Ka'Kabish it was deemed useful to align the temporal periods for purposes of future comparative discussions until such time as other evidence (e.g., radiocarbon dates) suggests differently.

The exception to this alignment is the end of the Early Classic period. At Lamanai and Altun Ha the end of the Early Classic period is set at approximately AD 550 (Pendergast 1979:34 Table 5; Powis 2002:23 Table 1). The 6th century was possibly a dynamic period a Ka'Kabish, during which Tomb D-

5/1 was possibly constructed and Tomb FA-6/1 may have been re-entered. Until such time as the events of this century can be refined I have opted to use the more conventional AD 600 date for the end of the Early Classic period. It should be noted that this temporal point, as with the others, may shift slightly as increasing information about the activities at the site and the ceramic assemblages that define them becomes known.

Generic Period Terms	Ka'Kabish Time Periods	Ka'Kabish Phase Names
Late Post-Classic	AD 1450~	Tzutz
Middle Post-Classic	AD 1250-1450	Wall
Early Post-Classic	AD 1000-1250	Blanco
Terminal Classic	AD 800-1000	B'atz
Late Classic	AD 600-800	Sotz'
Early Classic	AD 250-600	Jol
Terminal Formative	AD 100-250	Kan (Late)
Late Formative	400 BC - AD 100	Kan (Early)
Late Middle Formative	600-400 BC	Naj
Early Middle Formative	800-600 BC	Patwan

Table 1.1 Time Periods and Ceramic Phase Names

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CHAPTER 3

DETAILS OF THE 2011 KA'KABISH ARCHAEOLOGICAL PROJECT LAB PROCEDURES

by Alice Gomer** and **Siobhan McCollum

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The 2011 season in the lab was a smooth-running and uncomplicated operation, with a focus on maintaining the context of the artefacts we handled, and with filing data and artefacts so that both could be easily located and analysed beyond the immediate field season. The process for working in the lab was predictable and followed the same patterns throughout the days.

LAB SET UP

Each morning began with the removal from the locked storage of the materials, furniture, and tools that would be used during the course of the day. This included moving wire shelving from indoors into the sunlight so that washed material would dry in the heat. Stacked baskets were laid next to where material would be washed in the shade, before being moved to the mesh screens and onto tables exposed to the sun. Regular inventories were made of the to be replenished, including pre-stamped tags, butcher's string, scissors, sharpies, white nail varnish, child-sized tooth brushes and lot record forms.

INITIAL PROCESSING

The first step in processing required sorting bagged finds from the previous day's excavations into unit/layer collections and counting the number of bags for each material. As the material was bagged separately in the field by the excavators we also processed the material separately. Each collection of materials was bagged in the field according to the area of excavation (unit name) and the corresponding layer of excavation. The material was transported from the field to the only AFTER each layer was closed so that the collections for each level would stay together and the material from each level would be given only a single lot number.

In the lab lot numbers were assigned to these unit/level collections, and these numbers were written on the original tags, and a second tag for insertion into the bag, in the event of an accidental loss

of an external tag. The lot numbers were tracked by recording them on the lot record forms, noting the lot number, the abbreviated site name KKB, location, layer, materials, and number of bags per material per lot number. Organic material was set aside for analysis by specialists.

WASHING

Material was washed by bag so as to keep the lots together. During washing, sherds that were smaller in size than a Belizean quarter were discarded. Washed materials were laid out in baskets to dry, with bulldog clips to affix lot number tags to the basket. Large screens were also used for drying materials, and the material was organized by lot numbers, with masking tape and a sharpie to correctly maintain the identity of the materials and to set apart each lot number.

Ceramics required the longest amount of time to dry, so there was constant vigilance in checking for their warmth in order to determine when they could be labelled and re-bagged to be filed in their appropriate zinc boxes. It seemed to be the case that on more humid days, the ceramics took longer to dry, which throttled our material processing times (meaning that on humid days we were able to get through fewer pieces). Some ceramics were left to dry overnight in the lab storage area. Obsidian and chert were re-bagged after washing and stored in zinc boxes for later analysis.

LABELLING

In following the NICH guidelines, we tried to label 20% of each bag's ceramic content. Objects were labeled using white nail varnish on an area of each washed and dried piece that was not necessary for identification or analysis. When the nail varnish was dry fine-tipped Sharpies were used to record on the label the site designation (Ka'Kabish) followed by the lot number (i.e., KKB282). Finally, these pieces were then re-bagged accordingly and filed into zinc boxes.

Whole vessels came to the lab in separate bags of their own, and were assigned to the same lot number as the rest of the materials from their context, but given a separate vessel number. These underwent the same careful cleaning and labelling processes, with the addition of the vessel number on the pair of tags and on the vessel itself. The vessels were set aside in a collection of vessels for further analysis.

END OF DAY PROCEDURES

At the end of the work day everything was moved back into the building; baskets and racks went into the storage space, while screens were put on tables in the office/lab. It was particularly important to clean up any food or garbage and remove it from the site, as we did not want unnecessary insects or animals getting into the collections.

RECOMMENDATIONS FOR FUTURE WORK

New screens or baskets should be made for the lab in the event that there is a greater quantity of material to be processed; while the screens were preferred due to their larger available space for drying and keeping separate lots organized, the baskets were easier to transport into the storage space at night without fear of losing context with a stub of the toe or a stumble. Consequently, it is recommended that a combination of both be made available for laboratory use. The screens with materials on them had to be carried a further distance around the building to the lab/office and laid out on tables so using them at night was not ideal. When they were empty we just stacked them in the storage space.

CHAPTER 4

SURVEY AND TEST-PIT EXCAVATIONS OF THE ANCIENT MAYA SETTLEMENT SURROUNDING KA'KABISH

by Alec McLellan

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During the 2011 field season, several new areas of the site were surveyed, adding to the overall number of mounded structures and artifact scatters found in the periphery. Each of these areas of occupation was test-pit excavated to increase the size of the ceramic assemblage in the settlement zone. This report provides a description of the density and distribution of the occupation, as well as the archaeological impact of the excavation strategies. An initial analysis of the ceramic materials will also be provided. The chapter will conclude with a brief discussion of the results, and a summary of the ongoing agricultural development in the area and its effect on the preservation of the archaeological record.

LOCATION AND DESCRIPTION OF THE SETTLEMENT ZONE

Two specific areas in the settlement zone were surveyed over the course of two field seasons (Figure 4-1). The first, which is referred to as Manual Blanco's fields, was specifically chosen for its proximity to the site and its state of agricultural development. As new fields were cleared, or as current crops were removed, the survey team moved in to record these areas. Eventually, a patch work of these fields were strung together to form a transect that radiated out from the site core for 1 km into the periphery. This area was roughly 0.3 km in width and was situated southwest of the site core.

In order to complete the transect survey the team often had to move into areas that were not completely cleared of crops, or other vegetation. For example, each field was subdivided by tree lines. In these areas, the number of ceramics collected on the surface of the mounds was significantly reduced. Similarly, a section of the survey was completed in sugar cane fields, which again, reduced the visibility of the remains, as well as the number of artifacts collected from the surface. Finally, as the survey team moved closer to the site core, the nature of the landscape changed, as Blanco was currently altering the topography of the area to suit his agricultural interests. It was often difficult to discern mounded structures in this area, as bulldozing activities altered the archaeological record (Figure 4-2). It is likely that multiple mounded structures existed in this area, as it was the closest to the site core. Several scatters

of artifacts were also noted in this area. However, these site formation processes made it difficult to identify individual areas of occupation.

Figure 4-1: Map Indicating Areas of Settlement
Western Rectangle Represents Blanco's Fields
Eastern Rectangle Represents Wall's Fields

Unlike Blanco's fields, which had undergone multiple years of agricultural intensification, the second survey zone, which is referred to as George Wall's fields, had recently been cleared of jungle growth. In the 2010 field season, the survey team took advantage of this cleared landscape to map and record any ancient Maya structures. Wall's fields were not initially part of the survey strategy, however, as agricultural activities allowed for an archaeological opportunity, the survey team moved to this site, which was 1.8 km southeast of the site core.

Figure 4-2: Bulldozed Area in the Settlement Zone

(McLellan 2011)

This area was completely cleared of vegetation, and was under development for corn production. These processes allowed for almost complete visibility – in fact, only several areas had been bulldozed and these were outside of the survey zone. However, in subsequent years, this landscape may be liable to change, as human activities continue to encroach on the area. For example, during the 2011 field season, a road was constructed that ran straight through the settlement zone (Figure 4-3). Serendipitously, these activities did not affect any of the mounded structures.

Figure 4-3: Construction of a Road in the Settlement Zone
(McLellan 2011)

GOALS AND RESEARCH QUESTIONS

The objective of the research is to determine the chronological sequence of settlement in several areas surrounding the monumental core of Ka'Kabish. My research is concerned with mapping settlement densities and distributions, and determining when particular structures were occupied through an analysis of ceramic typologies. The specific research questions that will be addressed include:

- How long was the settlement occupied?
- What was the distribution and density of occupation?
- Did areas of settlement remain occupied following the collapse of the monumental core zone, and if so, for how long?
- Is there material evidence of craft production, tool making, or food preparation that may indicate areas of domestic occupation?

METHODOLOGY

1. *Survey and Collection Strategies*

Common strategies of survey and reconnaissance were used to document the settlement surrounding Ka'Kabish (see Ashmore 2007:24-36). Architectural elements, as well as sherd scatters, were used to define sites. Evidence of settlement surrounding Ka'Kabish was surveyed by a group of 3 people, walking in 5 m intervals. The distance covered by these intervals depended on the length of the agricultural fields under investigation, but generally averaged between 0.3 and 1 km. If walking at a standard pace, roughly 5 km an hour, the longest distance (1 km) would take 12 minutes to survey. The survey team at Ka'Kabish surveyed much slower than the average walking speed, covering 1 km in anywhere between 30 to 60 minutes. Thus, in the case of Wall's fields (which were 1 km in length), it took the survey team over 20 hours to survey 0.5 square kilometers. It is likely that this number is extremely conservative, as a great deal of time was spent collecting artifacts and recording features. However, these time estimates are included in this section to provide readers with an idea of the effectiveness, or detectability, of the survey (Banning 2011).

The size and extent of the survey zone was often determined by the natural boundaries of the agricultural areas under investigation. Surveying locations were restricted by the ability to obtain permission from landowners, as well as the conditions of the fields. Ceramic, lithic, and faunal remains were collected from noticeable material-culture concentrations. These concentrations needed to roughly contain at least 5 pieces of material for every 30cm, as smaller concentrations were less likely to represent permanent occupations. Concentrations were visibly represented by flagging each individual artifact prior to collection. Collection strategies focused on visibly diagnostic artifacts that were larger than 5cm in diameter. "Visibly Diagnostic" referred to artifacts that represented the neck, rim, or base of a vessel, or included bichrome, or polychrome features. Ceramic analysis was conducted by Dr. Jim Aimers.

2. *Test-Pit Excavations*

To increase the size of the ceramic assemblage and to obtain earlier diagnostic materials, we conducted test-pit excavations at each mound and artifact scatter. These excavations reached the depth of a shovel, roughly 35-45 cm. Each test-pit was roughly 40 cm wide, with a length of 40 cm. Excavations yielded anywhere between 5-40 ceramics per mound, and were often accompanied by smaller quantities of lithic materials. In some cases, test-pit excavations revealed plaster floors, cut stones, and partial ceramic vessels. In one case, test-pit excavations revealed the burial of a single individual. A 1x1 m excavation unit was opened to retrieve the remains, as impending bulldozing activities threatened the preservation of the site.

3. Recording and Mapping

Ceramic scatters and platform constructions were mapped by taking GPS coordinates. Aster satellite imagery and aerial maps were used to visually represent the distribution of settlement. A Theodolite was initially used to map Blanco's fields, including evidence of material concentrations, and other features such as roads, fence lines, and water sources. A total data station was used to map Wall's fields. The length, width, and height (if applicable) of ceramic scatters and platform structures was recorded. The primary orientation of these remains, if visible, was noted. I also recorded the approximate distance of the archaeological remains from known sources of water. Finally, I noted disturbance factors such as plowing, and the growth of crops, as well as the percentage of land that was visible (as sometimes secondary growth obscured areas that may have contained archaeological materials).

4. Analysis

To identify groups of mounds, units were labeled with a settlement unit type, using the classification model developed by the Xunantunich settlement survey (Ashmore et al. 1994). This model defines 7 types of settlement based on the number, arrangement, and height of the structures. For example, a type 2 settlement unit is defined as 2-4 mounds, which are informally arranged, and less than 2 m high. By applying this model to the Ka'Kabish settlement data, we have adopted a classificatory scheme that has been used at other sites, allowing for broader, regional, comparisons.

DATA

In total, 95 mounded and non-mounded areas of occupation were recorded (Figure 4-4 and Figure 5-5). 11 of these areas were scatters of artifacts that were not accompanied by mounds. 84 of these areas were mounded due to subsurface stone platforms. 57 of these mounded structures were found on land owned by George Wall. This survey area, which included GF-1, GF2, and GF3, was 0.92 square kilometers in size. The second survey area, Blanco's fields, was comprised of 11 scatters and 27 mounds. Blanco's fields, which included BF1-BF6, BSG, BTL, and BC, covered 0.16 square kilometers. On average, in George Wall's fields 62 structures were found per square kilometer, while in Blanco's fields, 169 structures were found per square kilometer.

The topography of the settlement zone varied in elevation and in the distribution of these elevated areas (Figure 4-6, Figure 4-77, Figure 4-8, and Figure 4-9). Generally, Blanco's fields rose in elevation as the distance to the site core decreased. The lowest elevation (and the farthest from the site core) in this survey zone was between 50-55 m above sea level. As the distance from the site core decreased, the elevation rose to between 70-75 m above sea level.

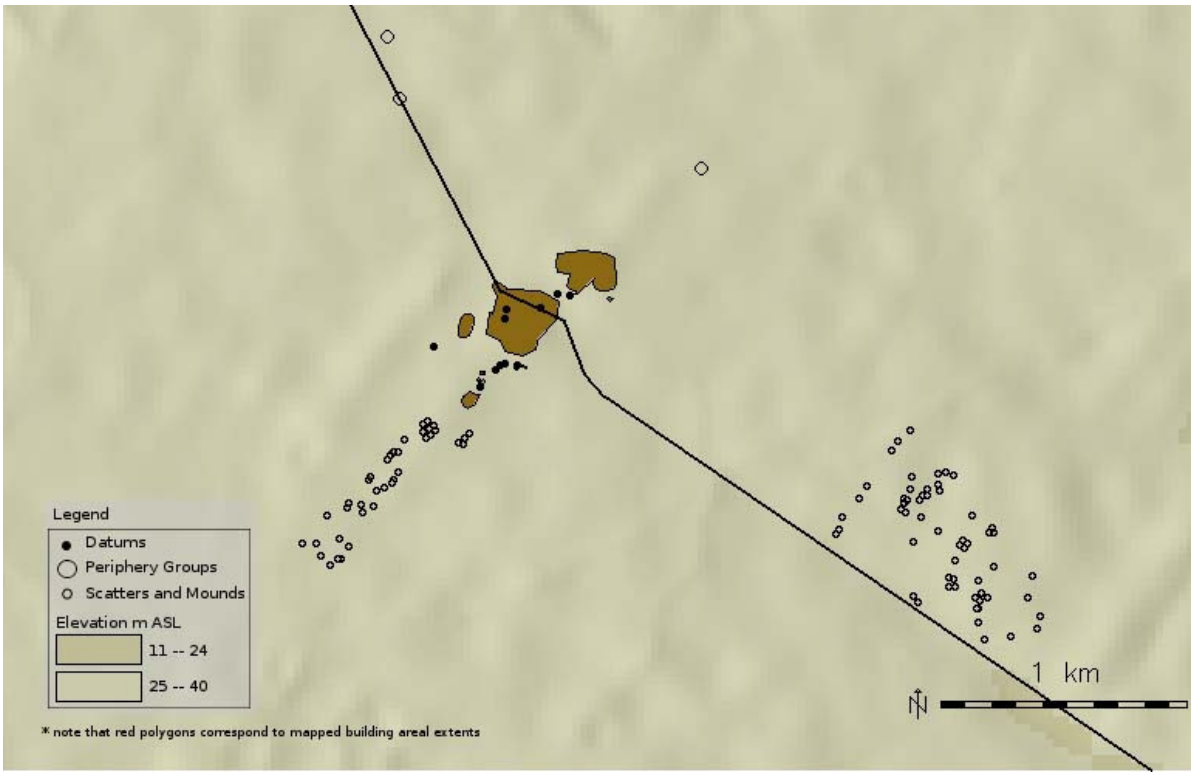

Figure 4-4: Map of the Settlement and the Site Core of Ka'Kabish (polygons)

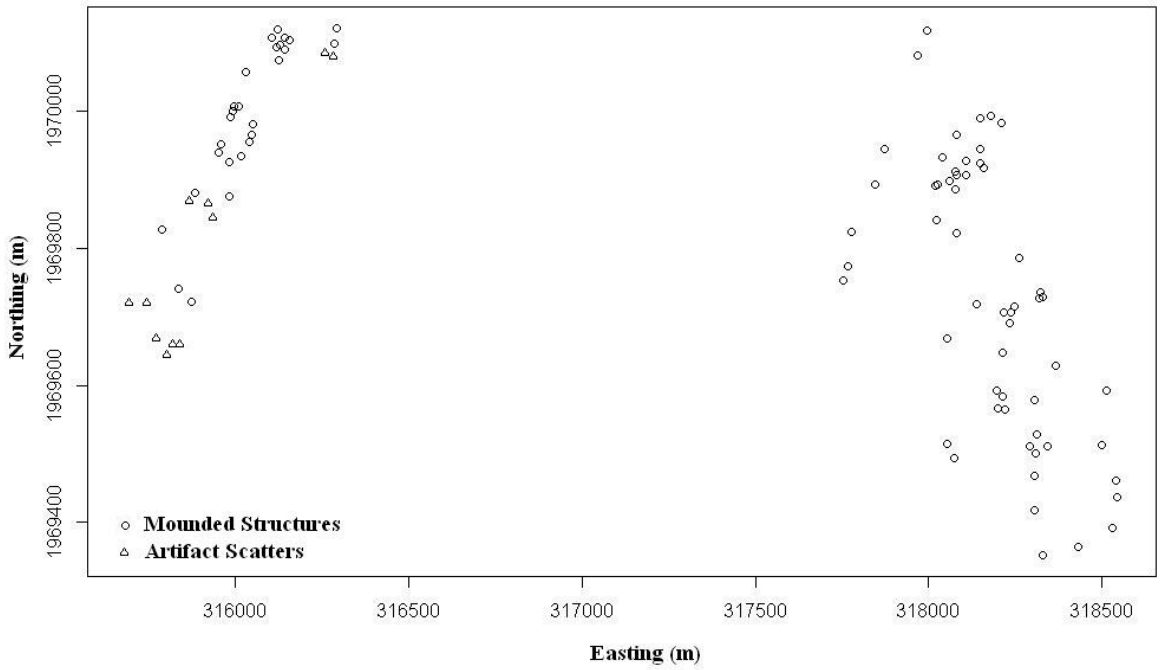

Figure 4-5: GPS Distribution of Mounds and Scatters in Both Survey Zones

In Wall's field, lower lying areas generally averaged between 50-60 m above sea level, while higher areas reached between 70-75 m above sea level. Based on initial observations, it does not seem that the location of structures was determined by the elevation of the topography, as multiple mounds were situated in low-lying areas. For comparison purposes, the site core is found in elevations ranging from 100-120 m above sea level.

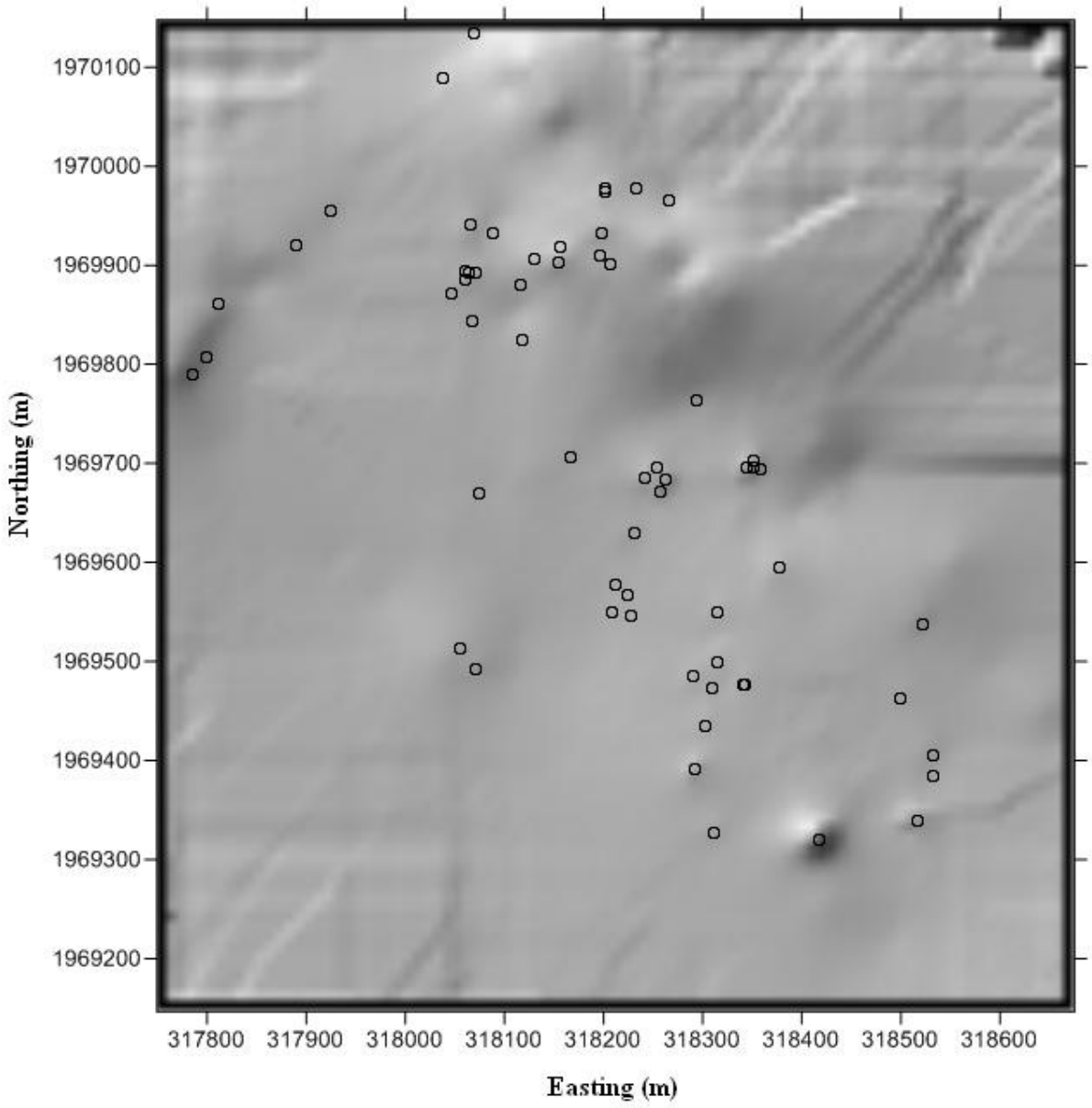

Figure 4-6: Shaded Relief Map of Wall's Fields with Mounded Structures

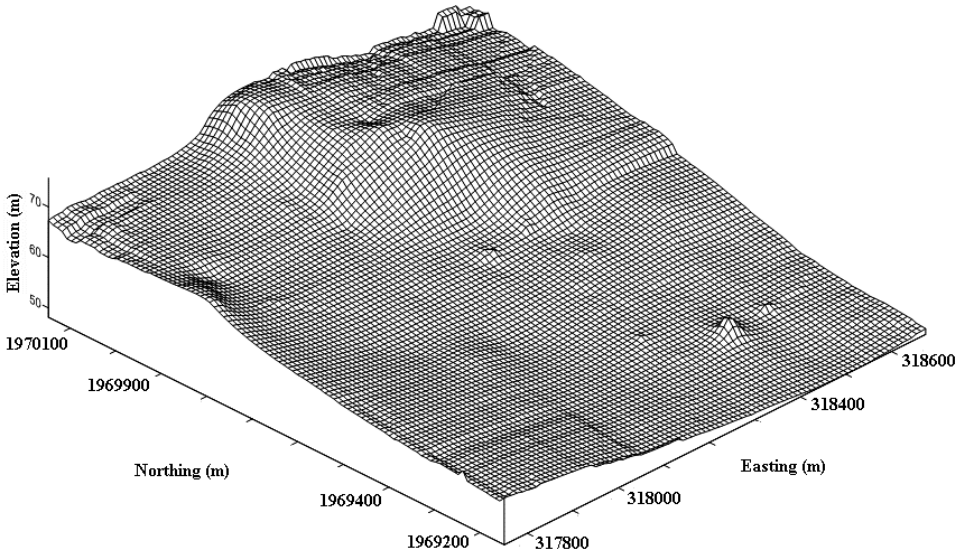

Figure 4-7: Wireframe Topography of Wall's Fields

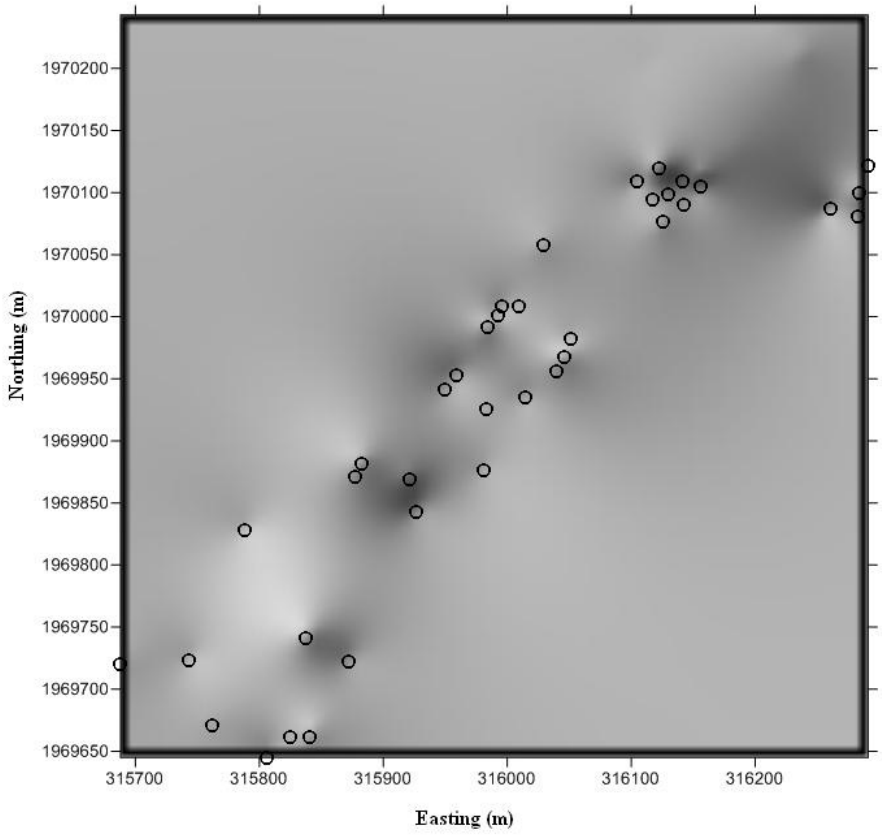

Figure 4-8: Shaded Relief Map of Topography of Blanco's Fields with Mounds/Scatters

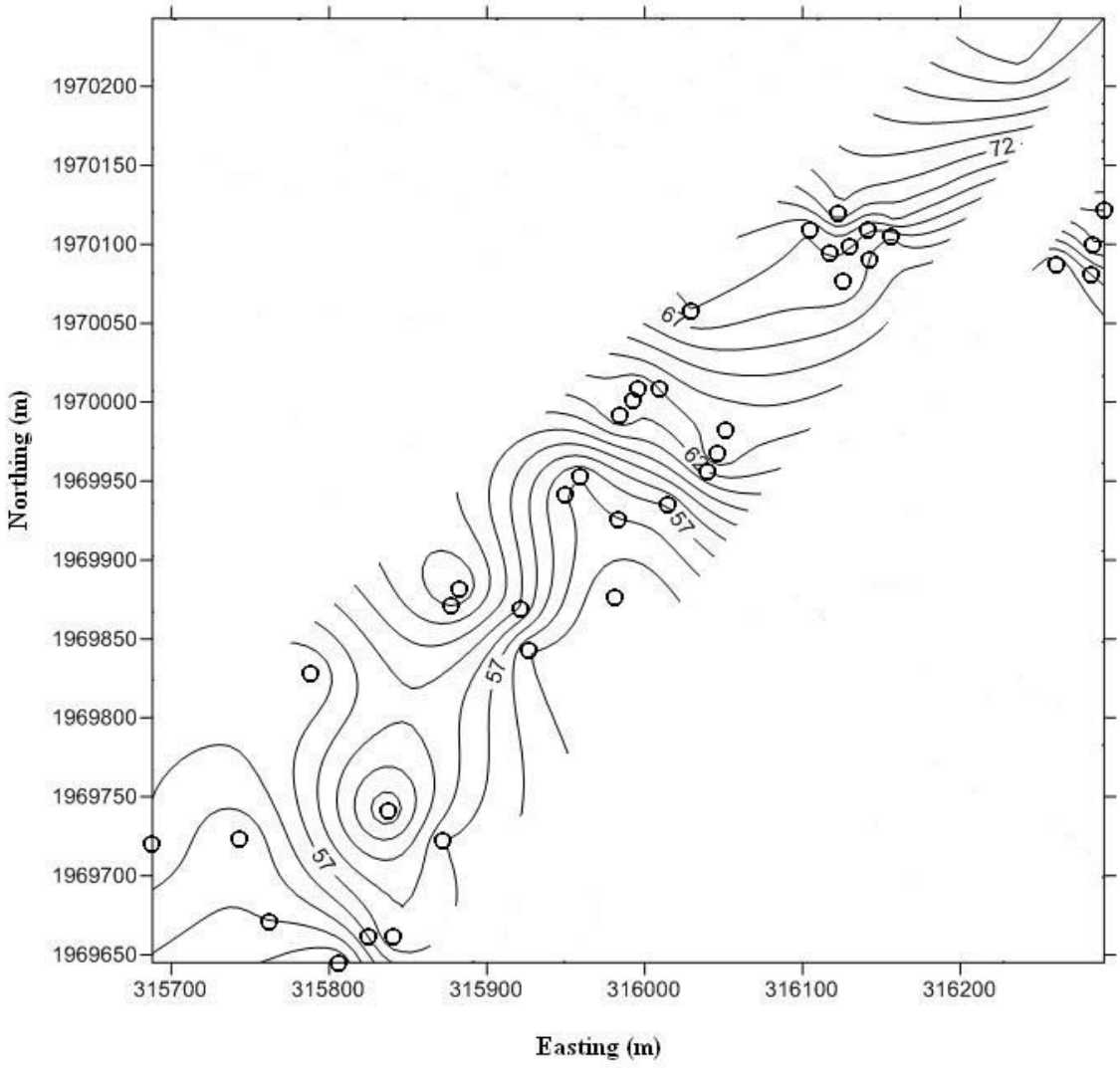

Figure 4-9: Topographic Map of Blanco's fields with Mounded Structures

Ceramics

In total, 3581 ceramic sherds were collected from the settlement zone. 3031 ceramic sherds were collected from the surface of mounds and scatters. Test-pit excavations uncovered another 550 ceramic sherds. In George Wall's fields, 1991 ceramic sherds were recovered from the surface, while 416 ceramics were test-pit excavated. In Manual Blanco's fields, 1040 ceramic sherds were collected from the surface, while 134 were test-pit excavated.

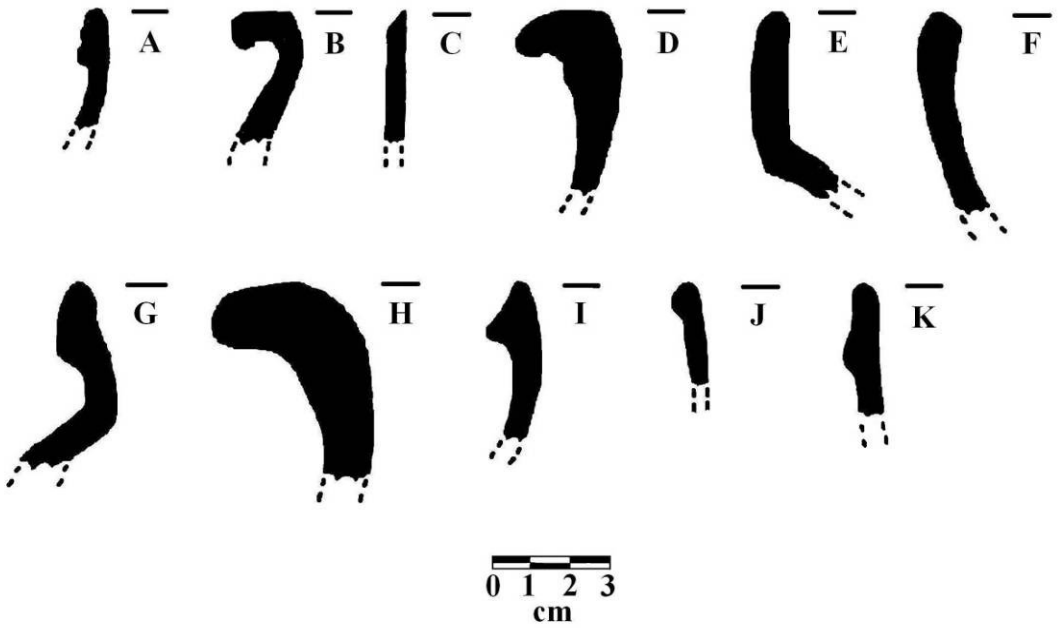

Figure 4-10: a) Undesignated Ridged Jar Rim b) Mount Maloney Black c) Rim sherd similar to Yglesias Complex rims at Lamanai d) Chambel Striated e) TsabakUnslipped System f) Garbutt Group g) Blue Creek Striated h) Red Neck Mother i) CayoUnslipped System j) NavulaUnslipped System k) Dumbcane Striated (Aimers personal communication 2011)

(illustrations by McLellan 2011)

Figure 4-11: a) Post-Classic Tubular Foot from a Dish or a Bowl (Aimers personal communication 2011)

(illustration by McLellan 2011)

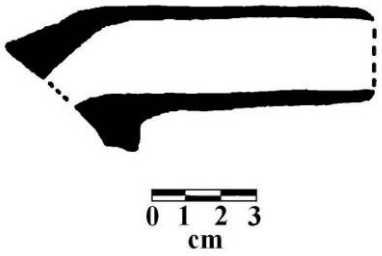

Figure 4-12: Frying Pan Censer Handle, NavulaUnslipped System (see Aimers this volume)
(illustrations by McLellan 2011)

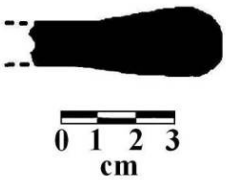

Figure 4-13: Griddle/Comal (see Aimers this volume)
(illustration by McLellan 2011)

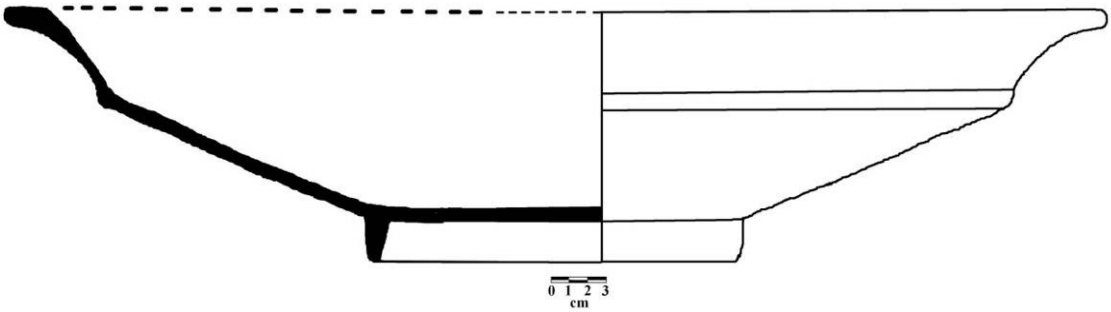

Figure 4-14: Outcurving Dish with Ring Base that is Typically Designated as Roaring Creek Red or Kik Red (see Aimers this volume)
(illustration by K. Pierce 2011; inked by McLellan)

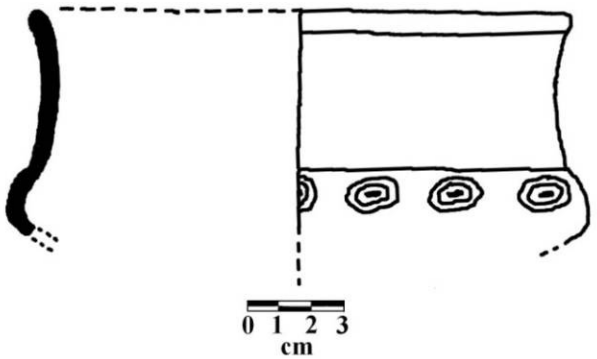

Figure 4-15: Achote Black: Stamped-impressed variety (see Aimers this volume) (illustration by K. Pierce 2011; inked by McLellan)

Ceramics were typologically defined and described and will be used to determine the date in which areas of settlement were occupied. This research will be presented as a Master's Thesis for Trent University, Peterborough, Ontario, later this year.

DISCUSSION

The Preservation of the Archaeological Record

One of the most striking observations of the settlement survey was that the preservation of the archaeological materials depended greatly on the activities of the agriculturalists who owned the fields. For archaeological purposes, areas of occupation need to be surveyed immediately after (or before) the landscape is cleared of its jungle growth. With continued use of the land for agriculture, the archaeological record is slowly degraded, and often times erased. In Blanco's fields, this process was remarkably evident, as the repeated plowing and removal of materials (such as cut stone), led to clear ambiguities in the data. For example, one of the goals of the research was to identify areas of occupation that were not mounded (structures that were not built on stone platforms). Theoretically, we assumed that scatters of artifacts that were concentrated in specific areas may have been representative of such structures. In hindsight, this assumption cannot be proven with any confidence, as agricultural processes greatly affected both the distribution of ceramic materials, and the disposition of the land they were situated on.

As an example, first hand observations of the agricultural processes enacted on Wall's fields have given a glimpse of the way these industries affect the archaeological record. First, workers are hired to scour the fields and remove any large protruding stones. These stones, especially in the case of minimally mounded structures, work as retaining walls for the construction fill used to create ancient Maya domestic dwellings. Without these retaining walls, the construction fill is slowly distributed throughout the fields,

making it difficult to identify the exact areas of occupation. Also, following harvesting season, these fields are left fallow. With heavy rains, the top soil is slowly eroded away, as small streams carry soil off of higher elevations, along with ceramic materials and small stones used for construction fill. This results in a line of ceramic materials that are deposited at the base of higher elevations (Figure 4-16). These processes must be taken into consideration at sites that have long histories of agricultural use, as past agricultural intensification may have erased many elements of the archaeological record.

Figure 4-16: Flags Showing Concentration of Artifacts Distributed Along the Base of a Hill (McLellan 2011)

GPS vs. Total Data Station

For the most part, geographical locations were recorded using Global Positioning Satellites. Each mound and scatter, along with the extent of the survey zone, was recorded in this way. In Wall's fields, a Total Data Station was used to map mounded locations and the extent of the survey zone. When comparing the geographical locations of both tools, it is evident that GPS technology was lacking in accuracy in comparison to the Total Data Station (Figure 4-17).

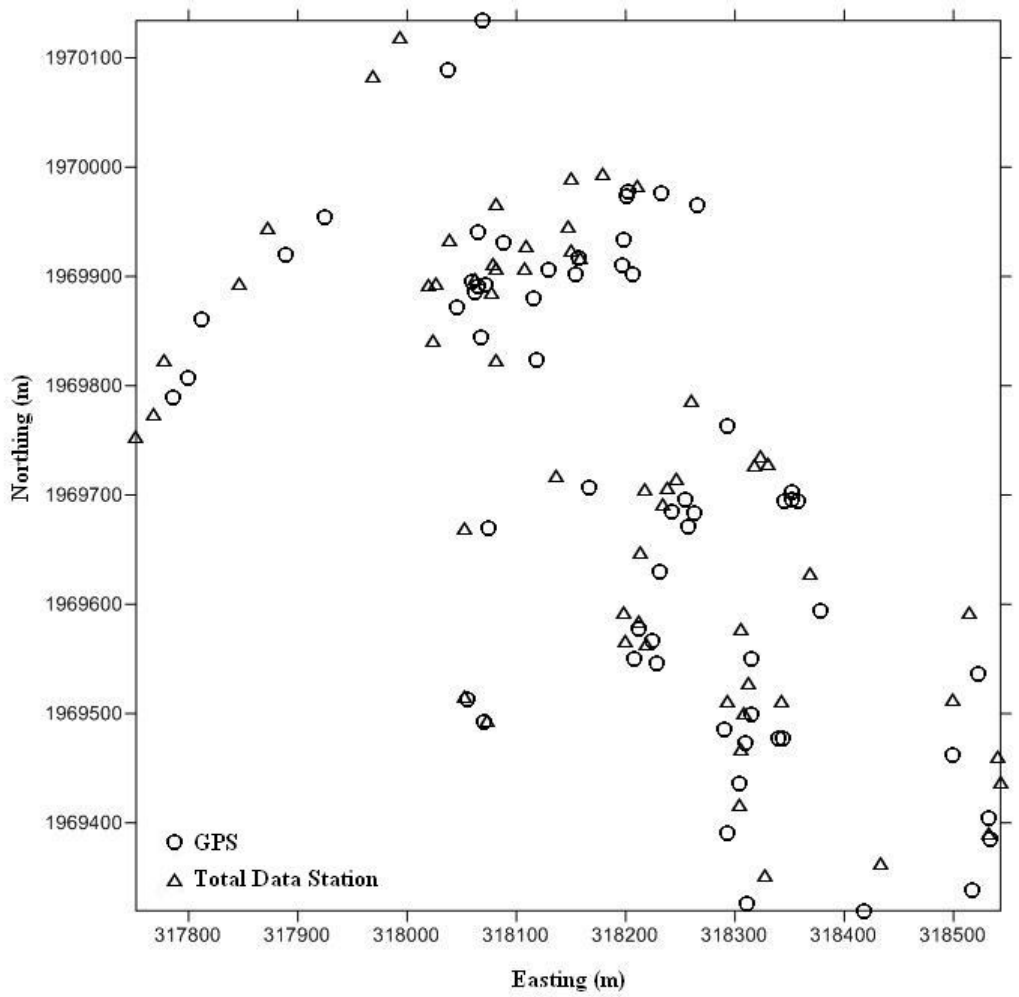

Figure 4-17: GPS locations vs. Total Data Station locations

In some cases, the GPS locations are off by over 10 m. This figure highlights the fact that archaeological surveys should not be solely reliant of GPS technologies, as inaccuracies will surely be committed. Although, with further technological sophistication the accuracy of GPS will improve, Total Data Station remains the most accurate way to map areas of occupation.

Occupation History in Comparison to the Site Core

The occupation history of the settlement zone will be completed as part of a Master's thesis; however, some preliminary results can be mentioned at this point. First, most of the ceramic materials date to the Terminal Classic (AD800-1000). Some of the earliest materials date to the Late Formative (AD200), while some of the latest materials, which have been compared to typologies developed at the site of Lamanai, show that the settlement zone was occupied as late as the Middle Post-Classic (AD1250), and may have continued until the historic, or contact, period of ancient Maya history (AD1520).

CONCLUSIONS

Archaeological survey of the ancient Maya settlement surrounding the site of Ka'Kabish shows that the area was occupied at least over a thousand years. It seems that the population climaxed during the Terminal Classic; however, further evidence is needed to validate this observation. The survey zone has shed light on several methodological issues, such as the effect of agriculture on ancient Maya settlement, and the difference between GPS and Total Data Station technologies. Future work in the area should focus on refining ceramic typologies to confidently date periods of occupation. Also, further archaeological survey of areas north of the site will provide a more representative perspective of the extent of the ancient Maya settlement.

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CHAPTER 5

KA'KABISH EXCAVATION REPORT FOR STRUCTURE D-14

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University of Toronto

INTRODUCTION

Structure D-14 is located on the western edge of the large ceremonial Group D plaza. It appears from the exterior shape to be a temple mound approximately 20m north-south by 17.5m east-west and is located somewhat to the south of the main ceremonial centre of the plaza. This plaza, as seen the 2011 excavation over two metres into the plaza floor, is elevated above the natural ground level. The western, rear, wall of D-14 forms the upper part of the western wall of the ceremonial centre and rises approximately 10 metres above present day ground surface to the west (Haines 2006:8).

Previous reports on research at Ka'Kabish (Guderjan 1996, Haines 2008a, 2010, 2011) note the existence of two looters' trenches penetrating into the core of D-14, one located at the centre of the west face and another, slightly higher up through the north side. A top plan of the western trench was produced in the report of the 2007 Ka'Kabish field season. This plan shows the trench penetrating roughly 10.5m (Haines 2008:14) into the mound interior through 5 metres of rock fill before penetrating the 1.3m thick masonry rear wall of the structure. Two vaulted chambers were discovered inside linked by a small doorway. The rear chamber, 2m wide and 3.5 m high, appears to be unpainted while the front, or eastern, room shows evidence of red wall paint (Haines 2008a:15). A doorway through the eastern wall of this chamber has been located towards the north side of the chamber. Haines believes this wall to be the exterior wall of the eastern face of the structure (2008a:15).

A corbel vaulted, and as yet unmapped, room found in the north looters trench is believed by Haines (2008a:15) to be an extension of the unpainted rear chamber. Structure D-14 was interpreted by the principal investigator to be the structure described by Guderjan (1996) as having a central stairway flanked by plaster masks. The recovery of these masks was determined to be a main focus of the 2011 excavation season as their exposure could provide investigators with a large quantity of information on the site occupation. It was proposed that the central area of the eastern face of D-14 and the areas directly north and south of the assumed stairway would be uncovered in relatively large scale areal clearing.

This area, the east face of D-14, looks directly onto the southern central portion of the D group plaza. It is penetrated by two parallel looters'- trenches running westward from the plaza through the northern and southern sections of the main body of the mound. A third looters' trench on the eastern face of D-14 was tunneled north -south through the lower part of the construction connecting the north and south looter's trenched directly below the east face masonry wall. This trench is approximately l -1.3m in width and 4.5 metres in length. There is no mention of these trenches in previous research reports. The south wall of the northern trench was covered in a thin layer of moss and therefore was most probably excavated quite a while before the 2011 field season. In fact all walls of the two exterior trenches had to be cleaned to decipher construction stratigraphy. It was between these two trenches, which I have called the Southern Looter's Trench and the Northern Looter's Trench in this report, that excavation of D-14 was intended for in the 2011 season.

METHODOLOGY

The original excavation unit was laid out over intended excavation area with the SW stake being used as the structure's grid plan datum point (S0m, W0m). All mapping was based on this datum. This datum was tied into the site grid during the field season. The initial excavation unit measured 5.4m east-west and 1.75m on the eastern end and 2m at the western limit. Elevations were taken from a separate datum located on the north side of this unit where the access was clearer. This datum was also tied into the site elevation calculations and was positioned 111.032m ASL.

Initial excavation methods included the removal of overlying vegetation and the removal of looter's debris, consisting largely of cut and uncut limestone ranging from 10 to 60cm in diameter. All archaeological deposits were removed by hand trowelling, or small hand pick axes in areas of plaster flooring and heavy rock concentrations. All back dirt was screened through 6 mm wire mesh. Total recovery of artifacts was practiced.

EXCAVATION

The east face of D-14 is covered to a depth of one metre with looters' debris and collapse. Large sections of the front, easternmost, wall of the building have been exposed and, in many areas, destroyed by what appears to have been a massive tree fall from the highest point of the mound. With this collapse post construction deposits existing on the platform surface at the top of the mound would have been destroyed and relocated to be found with collapse deposits on the lower slopes of the mound below the looters' debris.

The initial excavation unit was placed on the eastern side of the mound between the North and South Looter's trenches from 0 and 2 metres in elevation above the ground surface. It is at this level that

masks of this period, believed to be Terminal Formative, generally appear, flanking staircases, such as those seen at Cerros (Schele and Friedel 1990:98).

Almost 1 metre of over burden was removed from the area between the two trenches. This included two large tree falls but was composed mostly of a huge quantity of large faced and uncut rock thrown up out of the trenches by looters and of decaying vegetation. Excavation of Unit 1 began from the central East-West line o the unit with deposits being removed towards the north side of the South Looters' Trench (SLT) in order to avoid any mix up of trench debris with archaeological deposits.

The exposure of a probable rock face near the upper limit of the unit suggested the possible existence of a staircase in this area. As excavation continued down the slope to the east a series of four more stone alignments were uncovered. These features showed no evidence of plastering but had been disturbed by a large amount of rock collapse from above. Disturbance was also caused by the presence of a gigantic tree root penetrating the entire length of the unit.

These 'steps' or risers were an average of 60cm in height and were spaced approximately one metre apart. They were composed of two courses of cut limestone of various sizes. The surfaces between the risers had the appearance of terraces rather than 'treads' (Figure 5-1).

Figure 5-1. Photo of Ceiling in Looter Trench
(Wall of buried room visible on right)

(Dermarker 2010)

The uppermost three of the five terraces were somewhat better preserved and displayed various amounts of plastering, though all five were in poor condition. The lower two terraces show no evidence of plastered surfaces but it is now, after an intensive review of the reports and maps, belief that they were not cleared of all overlying post occupational deposits and later collapse materials.

As clearing of the rock collapse and other deposits covering the five levels proceeded, including some clearance up the face of the outer structure, it became evident that no masks were present. For this reason the initially proposed expansion of the excavation northward across the eastern face of the mound was abandoned. An earlier decision by the principal investigator concerning a primary goal of understanding more clearly the occupational history of D-14 (Haines 2011:5) led to a new direction in the excavation of the eastern face. An uncovering of the articulation of the structure with the floors of Plaza D became a major goal in order to understand the chronology of the construction of this side of the plaza and its relationship with the rest of the site. The decision was therefore made to extend the excavations 2.5m eastward beyond the limit of Unit 1 towards the plaza. In this new unit, Unit 2, a 3cm thick plaster floor, Plaster Floor 1st, was uncovered covering the entire area of the unit floor and extended .5m westward into unit 1 ending at the base of Terrace 1, the bottommost 'step'. Whether it extended below this rock alignment is unknown as it was not removed during excavations. However, it is in clear association with this feature. Three centimetres below Floor 1st and its gravely subfloor was a second plaster layer, Plaster Floor 2nd, also 3cm thick with a 3 cm subfloor of pebbles and gravel. This second subfloor was laid directly on the sloping bedrock appearing in the western half of the unit but was underlain by a black soil layer somewhat lower in the eastern half. There were very few artefactual inclusions in this deposit. Below the black soil layer the unit sloped steeply downwards and was filled with large 20 to 60 cm uncut limestone. Except for the smaller size of the stones near the top of the layer these rocks were in every way identical to those found at the base of the construction of the structure D-14 itself.

MAPPING

While actual excavation of these units was relatively limited a large amount of information had been uncovered by the looters' quarrying. The excavation of Units 1 and 2 on the north side of the South Looters' Trench provided an excellent stratigraphic profile of various elements of the construction sequence of D-14 and lined up well with the north side of the trench within the structure which penetrated it to a depth of approximately 3 metres. Due to this fortuitous circumstance we took the opportunity to clean and map the construction profile.

However, the presence of looters' debris at the bottom of the trench prevented exposure of the very base of the construction for much of the length of the profile. Safety concerns and the lack of time for full excavation of this area prevented further exposure of the trench wall surface. In all the profile produced covered a distance of 11m east to west, from the plaza floor to the rear of the interior chamber, and uncovered many phases of the construction sequence.

ARTIFACTS AND CULTURAL CONTEXT

One of the most notable features of this excavation is the paucity of artifacts recovered. The most numerous finds were pieces of naturally cracked and broken local chalcedony. While a few non-descript small ceramic sherds were found in the fill between and below the plaster floors of the plaza none appears at this point to be diagnostic. This leads us to believe that clean fill and newly quarried limestone were employed in the construction of this structure.

Found higher up among the rock collapse on Terraces 1-5 and above Plaster Floor 1st cultural material of significant interest was found. In a deposit which seems to be part of the collapse immediately above the terraces two large portions of the body of a late Classic unpainted vase with carving and apparent glyphs were found. These pieces were the remains of a luxury, and perhaps ritualistic, item.

Above the latest plaza plaster surface, Plaster Floor 1st, and within the post occupation collapse a small frog-like ceramic figurine head was uncovered. It appears to be Post Classic in date. Other diagnostic pieces from the collapse deposit appear to be domestic in origin and point to much later ceremonies being held on the abandoned structure during the Post-Classic. Several sherds of comal, a vessel employed in the cooking of tortillas, a Post-Classic staple, where found in the debris, as were numerous broken portions of manos and metates used for grinding the corn used in tortilla production. Haines (2008a:14) notes the discovery of an Early Post-Classiccomal sherd in surface overburden of D-14 during the 2007 season as well. The presence of these domestic items supports the ideas of Post-Classic feasting at this location. Darcy Weiwellin her study of Post-Classic and Colonial households at Lamanai, reported a surprising lack of comales in domestic locations (2009:397). This observation is supported by excavations at Laguna de On, Belize where comales were only found in ceremonial contexts (Masson 2000:172-173).

The most diagnostic artifacts at this Late Formative structure date to the Late Classic and the Post-Classic. This would seem to imply that occupation of this structure was neither intensive nor extensive either synchronically or diachronically. The evidence of clean fill and freshly quarried limestone being employed in the construction of the substructure of D-14 leads to the conclusion that the region surrounding this part of the site was not heavily occupied prior to the construction of this temple in

the Late Formative. This would seem to support Haines suggestion that this centre may be an incidence of the expansion of nobles outside of Lamanai (Haines 2008b).

A PRELIMINARY ANALYSIS OF THE CONSTRUCTION SEQUENCE OF STRUCTURE D-14

The creation of the South Looters' Trench within Str. D-14 has exposed an extensive profile of the construction of the section of the building approximately 5.5 m in length and roughly 4 metres in height enabling a clear view of the construction sequence.

The first evidence of the construction of D-14-1st is a layer of uncut, unfaced limestone ballast which appears at the base of the looters trench. This was covered with a layer of clean fill approximately 25 cm in depth across the top of the platform. On the mound top a layer of sterile pebbly fill laid the construction of a stone alignment if large, 20 by 40cm cut limestone and grey granite blocks. Although we did not uncover evidence of a plaster floor above this the presence of an assumed (direct evidence was destroyed by the looters) associated plaster floor, Plaster Floor 1st running from the eastern face of Str. D-14-1st two metres to a finished end near the eastern edge of the surface fill leads us to believe that this 1st structure may have been a temple platform. A replastering of this floor is apparent in Plaster Floor 2nd prior to any further construction.

Subsequently this construction and the associated plaster floor where covered with a pebbly fill entirely covering the stone feature and 1.3 metres of the plaster floor. In this same episode this floor ballast was overlain with a thick hard marl layer raising the level of the platform 15cm above the earlier on. This substructure D-14-2nd was covered with a layer of plaster, Plaster Floor 3rd, and may therefore have also served as an 'exterior' temple platform.

Directly above Plaster Floor 3rd the interior and exterior cut stone faces of the main exterior wall of the structure D-14-3rd where constructed one metre apart. Each of these faces is only one course thick. The eastern most, and exterior face,stood at least 1.7m in height and the westernmost 1.8m. No evidence of plaster on the exterior wall was found. This face stood directly above the eastern edge of Str. D-14-2nd. The area between the two faces was filled with sterile hard white marl.

Interior of the Str. D-14-3rd

The interior of Str. D-14-3rd has been divided into two Chambers, Chamber 1 and 2. Chamber 1 runs north south along across the front of the structure. Chamber 2 extends to the south of Chamber 1 westward. Neither the original floor nor any evidence of substructure construction was exposed for Chamber 2.

Below Chamber 1, above the floor of Plaster Floor 3rd of Str. D-14-2nd 40 cm of clean fill and a pebbly subfloor level were laid with some rough cut stones apparently placed beside the wall foundation

for support. The plaster floor of this room, Plaster Floor 4th, lies 55cm above Plaster Floor 3rd. This appears to have been the original occupation level of Str. D-14- 3rd and may have been a hallway between Chamber 2 and other rooms found with the North Looters Trench 4m to the north.

The plastered corner connecting the two rooms shows them to be contemporaneous. Chamber 1 runs from this point westward 1.55m where it ends at another plastered wall face, the west wall of the room. Both chamber one and two were filled in, again with clean white marl and limestone, to a level 80cm above Plaster Floor 3rd. At this level a heavy large pebble layer was positioned as a subfloor to Plaster Floor 5th and Plaster Floor 6th. Somewhat later the rooms above these plaster floors were also filled in. In this case however the fill was quite different from any seen previously. Above Plaster Floor 6 in Chamber 1 a sandy darkish brown fill with small pebbles was used (Figure 5-2).

Figure 5-2 Photo of Ceiling in Looter Trench
(Wall of buried room visible on right)

(Dermarker 2010)

Above chamber 2 something quite different ensued. Small limestone alignments are found on the interior of the chamber beside both the east and west sides of the room suggesting some use in this period.

Later, above these features a grainy greyish fill was deposited and occupation of the exposed areas of Str. D-14 in the South Looters' Trench came to an end. No artifacts, or organic material, have been found to help date this sequence.

D-14 Exterior

At some time after the construction of the main exterior wall of D-14 3rd the base of another rock face, D-14-4th, was placed above, and to the east of, the plaster floors, Plaster Floor 1 and Plaster Floor 2, of D-14-1st. The nature of this alignment is unclear due to subsequent structural collapse, possibly the cause of its destruction.

Plaza D Interface with D-14

Above the bedrock at 108.65m ASL, 6.6m east and 2.7m below the level of the base of D-14-4th is a deposit of large uncut, unfaced limestone, identical to that seen in the ballast of D-14-1st, perhaps a continuation of this substructural ballast. Levelling out the surface above the sloping bedrock is a layer of black grey soft silty soil which forms a base for the first plaster floor and subfloor, Plaster Floor-5th. The plaza in front of D-14 was resurfaced once, D-14 Plaster Floor-6th. This plaster floor extends to the base the easternmost stone alignment facing of D-14, Terrace 1. Midden deposits on the surface of the latest floor of Plaza D show the most recent evidence of use of this area, as a disposal site for domestic, or feasting, refuse.

The replastering of Plaster Floor-1 covers and postdates the construction of Terrace 1. This terrace, like those above it, is faced with large cut limestone blocks. Terraces 3, 4 and 5 show evidence of plaster on each roughly flagged treads as well. These treads are approximately one metre wide with each rising 60-80cm above the one below. The faces of the upper terraces also show evidence of plastering. Terraces 4 and 5 were laid on the same rock ballast and fill of Str. D-14-1st with Terrace 5 resting partially above the base of D-14-4th suggesting the series of terraces, 1 through 5, linking D-14 to Plaza D, were probably a later addition, a refacing or remodelling of the temple face after the placement of D-14-4th. Further excavation is needed to determine the exact nature of the interface between Terrace 5 and the structure proper and Terrace 1 and the earliest floor of Plaza D.

Pockets of post occupation soil deposition which accumulated in the immediate shadows of the 'steps' include concentrations of Late or Terminal Classic serving bowls and ceramics. This provides evidence that the structure was used, perhaps for ceremonial purposes during this period. Post-Classic comales, metates in the upper layer of accumulation show ceremonial feasting use continued well after the site was abandoned while the surrounding region and the centre at Lamanai saw continued occupation.

CONCLUSIONS

The lack of datable artifacts in the construction fill of D-14 hinders the assessment of the structure's chronological history. However the construction sequence suggests several events occurred sequentially, maybe within a short period of time. The original construction appears to have been the deposition of ballast to a height of 111.2m ASL, approximately 2.6 m above the bedrock at the plaza floor. This layer was immediately covered with a cut stone structure, Str. D-14-1st, perhaps a platform or foundation for a perishable structure with a plastered floor Plaster Floor. 1st and 2nd projecting 2m east towards the plaza area. This area was later overlaid with another plaster floor, Plaster Floor 3rd, raised .4m above the original plastered surface. At a later date the interior and exterior cut stone faces of the eastern exterior wall of a temple, Str. D-14-4th, were raised to a height of at least 2m above this floor and filled with a hard marl material. This temple was composed of at least two chambers, a room, Chamber 1, running 1.8m from the from to the rear of the structure and a corridor, one metre in width, to the east presumably connecting this to others in the temple's north end.

Either at this time, or slightly later the five stone faced terraces on the mound's east face were added physically linking Str. D-14-4th to the now plastered plaza floor. Following this a new stone face, Str. D-14-5th, now almost entirely destroyed, was added to the east and front of the temple. The nature of this construction is unknown but may have been part of a later renovation of the temple during which Chambers 1 and 2 were filled in and a new floor and rooms constructed above them. These also were later filled in.

Presumably after the abandonment of the immediate area the plaza floor was used as a midden. The top of the temple mound was visited through the Late Classic and Early Post-Classic, probably for ceremonial occasions as can be seen in the post-abandonment deposition of a Late Classic vase and bowls, and Post-Classic feasting and cooking implements.

D-14 was apparently constructed in a previously unoccupied area which became a central ceremonial plaza at Ka'Kabish. It's primary use does not seem to have lasted for an extended amount of time although it did see several periods of renovation and later visitations. There is no evidence of residential occupation in this area. Further research is needed to determine the chronology of its erection in relation to Plaza D and the rest of the site. The completion of Ka'Kabish's topographic map will enable us to link the construction and relative chronology of the mapped portion of the South Looters' Trench with the stratigraphy of looters trenches on the north and west faces of D-14 which have been subject to extensive destruction. This will provide a much clearer overall picture of the chronology and function of D-14 and its relationship to the rest of the site and settlement in the greater Lamanai area.

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CHAPTER 6

EXPLORATION OF STRUCTURES F-1 AND F-2 AT KA'KABISH

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INTRODUCTION

Excavations commenced in Group F during the 2011 field season and continued for five weeks. The goal was to gain more information regarding the relationship between structures F-1 and F-2. Was the odd form due to slump, Rio Bec architecture, or excessive damage to one large pyramid? Excavation units were opened and aligned north-south on the east side the structures. Units were placed at a relatively central distance between F-1 and F-2. We uncovered a staircase and a few plaster surfaces. Five profile maps and two plan maps were drawn to compare the north-south and east-west lines of the excavated sections of the building through the three separate units. These will be discussed in greater detail below.

DESCRIPTION

Group F is the northern-most group of the Ka'Kabish site core and is commonly referred to as the "north plaza". It is located north of the road that divides the site (Haines 2006:4, 2010:6-7). Encompassing 15 structures in total, this area is the second largest group at Ka'Kabish. Structures F-1 and F-2 are located in the southwestern corner of this group, and are located side by side in a north-south alignment. These two pyramids appear to have been constructed on the same platform (Guderjan 1996:118), and are both approximately 10.5 m tall (Haines 2010:12).

METHODOLOGY AND EXCAVATION

Unit 1 initially measured 3 m x 5 m and was set up on the east side of the structures near the base relatively between F-1 and F-2. The purpose of this unit location was to uncover the corners of one or both structures and to discover how they might be associated. Following a

forest fire interruption on site, Dr. Haines made the decision to shorten the unit in an attempt to uncover the type of architecture that might be hidden beneath the slump and thus make up for lost time. The unit was re-measured to be 2 m x 3 m and was, from that point on, referred to as "unit 1A". Level 2 was re-opened in this unit to complete the interrupted excavations. Unit 2 measured 2 m x 2 m and was situated immediately west of unit 1A. Unit 3 also measured 2 m x 2 m and was situated directly northwest of unit 2.

New levels were marked by changes in soil or the presence of architectural features. Excavation equipment consisted of trowels, rock picks, and a 1/4 inch screen. All sediment was sifted upon removal from the unit. Recovered artifacts were bagged according to material type (e.g. faunal, ceramic, and lithic) and level. Upon reviewing the artifact counts for Unit 1A, Haines decided to remove screening from the excavation process; it had become apparent that the amount of artifacts being uncovered in this unit was not significant and did not necessitate the additional time commitment of screening. No soil samples were collected.

Unit 1 - Level 1

Level 1 was the humus layer. Ceramic, lithics and bone/shell were recovered. A large quantity of debitage was uncovered in the southeast quadrant of the site.

Unit 1 - Level 2

Level two began when the sediment color changed from a dark brown to a grayish brown. Recovered artifacts included ceramic, lithic and bone/shell. Excavation of this level was interrupted by a forest fire and hence, had to be halted.

Unit 1A - Level 2 Reopened

As previously mentioned, unit 1 was shortened and reopened following the forest fire on the north plaza. No architecture was evident. The sediment 1m from the east was very dark brown/black in color; it looked as if it had been burned. The remainder of the unit had a light gray/brown sediment color mixed with small stones.

Unit 1A - Level 3

Level 3 consisted of light gray sediment with a variety of sizes of stone. Recovered artifacts included manos, metates, ceramic and lithic fragments. At the base of this level, the first architectural feature was uncovered; a poorly preserved floor covering approximately 60% of the unit from west to east. The plaster layer had been destroyed; however, the rocky aggregate was still very much present. This marked the close of unit 1A.

Unit 2 - Level 1

The humus layer for unit 2 was marked by very dark brown, loose soil, leaves, twigs and tiny stones. Screening was not used at all in unit 2 because of the low artifact density. Instead, shovels were utilized to turn over and remove the sediment from the unit. Recovered artifacts included ceramic and lithic fragments.

Unit 2 - Level 2

Soil changed to a light gray mixed with smaller stones. Recovered artifacts included ceramic and lithic fragments.

Unit 2 - Level 3

The sediment remained light gray but became mixed with large slump rocks as well as smaller stones. The remnants of a plaster floor was uncovered in the northwest corner extending approximately 1 m to the east. A small portion was also present in the southwest corner of the unit. By following this out, a poorly preserved staircase was discovered. No facing stones were present and the plaster appears to have been impacted by slump and was patchy in some areas. We uncovered three stairs, each covered in a poorly preserved layer of plaster, that had been constructed atop the plaster surface found in unit 1A. Within the lowest step fill, a small cluster of incised ceramics were recovered, which are thought to be from the Terminal Classic period (Haines 2011 personal communication). Other ceramics and lithic fragments were also among the recovered artifacts.

Unit 3 - Level 1

A prismatic obsidian blade was recovered among the humus layer of unit 3. Ceramic artifacts were also uncovered in this unit, more than had been found in the previous two units. In Unit 3 level 1, only ceramic and obsidian artifact materials were found. This layer consisted of dark, lumpy and rough sediment that extended deeper in the north portion of the unit than the south.

Unit 3 - Level 2

The sediment became lighter in colour and sandier than that in the humus layer, and extended into the northern half of the unit. Recovered artifacts included ceramics and lithic fragments.

Unit 3 - Level 3

The soil was very loose in level 3, and was only present in the southern half of the unit. In the northern half, level 2 persisted due to a consistent soil type. Recovered artifacts included ceramics, lithic fragments as well as another prismatic obsidian blade. The artifact count for level 3 was more similar to units 1 and 2 and started to reduce in frequency.

Unit 3 - Level 4

Despite similar soil characteristics, the presence of large slump rocks suggested the end of level 3. Large slumped rocks were found across the entire unit. Recovered artifacts included ceramics and lithic fragments. A small section of plaster was found in the southwest corner; unfortunately, the field season ended before we could properly conclude unit 3.

OBSERVATIONS

Unfortunately, the data that emerged from the 2011 excavations in group F proved to be inconclusive. The discovery of a 3 stepped staircase in unit 2 suggests that regardless of the relationship that exists between F-1 and F-2, they both sit on an elevated platform. This information does not help us in distinguishing between our three hypotheses (discussed further below), however it does give us a small insight into the placement of the buildings. It was also suggested by Haines (2011 personal communication) that the road separating the south and north

plazas of Ka'Kabish could have destroyed an area of the site that was connected to group F; this suggests that we were digging on the backside of the building instead of the front, as first thought. If this were the case, it would explain the lack of artifacts emerging from such a large structure.

CONCLUSIONS

The excavations discussed above were conducted in an attempt to discover the relationship between structures F-1 and F-2 in the North Plaza. Through discussion with Dr. Haines (2011 personal communication), three general hypotheses were mentioned that could potentially describe the uncommon structure form found in F-1 and F-2. The three concepts are: 1) the excess building material found between the two structures was slump resulting from natural processes and forest growth; 2) there is a range structure connecting the two pyramids, suggesting a Rio Bec architectural style (Thompson 1945:10-11); 3) through looting practices, one very large pyramid had been diminished to look as two separate structures. Further research regarding these buildings would shine more light on the conundrum that is Ka'Kabish.

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CHAPTER 7

CERAMIC REPORT OF THE 2011 FIELD SEASON

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In the summer of 2011, 5334 pottery sherds and vessels were excavated from the site core and settlement area of Ka'Kabish. With the assistance of Karen Peirce, Alec McLellan, Alice Gomer, Terry Powis, Laura Kosakowsky, and Linda Howie, I examined all of these. The complete Excel spreadsheet which lists the ceramic content of each lot (contextual unit) is available from Dr. Haines. The spreadsheet includes type-variety assignments for diagnostic sherds and basic modal information (e.g., vessel form, rim/lip form, notes on unusual features for some sherds and vessels). These results have not been included here as a complete review of the pottery is planned for the summer of 2012 when Dr. Kerry Sagebiel joins the project. Included here (Appendix A) is a list of the pottery groups and types found without sherd counts because these numbers will almost certainly be revised and printing the totals here could confuse matters. Appendix A gives a simple overview of the pottery Groups and Types identified in 2011 at Ka'Kabish. Only lots with identified content have been included in Appendix A. Most lots had sherds classified as "specials" which have not yet been identified but may be recognized as work at the site continues. As some of the notes below suggest, some of these group and/or type assignments will most certainly be revised as work progresses.

The pottery came from excavation of the front of Structure D-1, from plaza excavations to the east of Structure D-4, from Structure D-9, from a unit to the north of Structure D-9 which is not yet excavated to bedrock, and from excavations in and beneath Structure FA-6. Survey and excavation was also conducted in the settlement zone.

Most of the material is from mixed contexts such as fill and I am somewhat cautious when attempting to classify sherds from such non-primary contexts. Type-variety classification should be contextual and even with complete vessels in primary contexts this can at times be challenging. Simply matching excavated sherds to published descriptions even by an experienced analyst is a dangerous game and some archaeologists are adamantly opposed to it (Aimers 2012; Chase and Chase 2012). 2011 represents only my second season at Ka'Kabish and the total sample is not yet large enough (just under 12000 sherds and vessels since 2007) to address some of the issues that should be resolved in the long

run, such as the establishment of new types. This is even more challenging given the rarity of primary contexts. The classifications at this time are almost entirely stylistic (i.e., based on formal similarities) rather than contextual. I have also not considered in any detail technological variation (specifically, in fabrics) that might help in creating varieties or types specific to Ka'Kabish. This will be an important issue to resolve with the unslipped types specifically. Unslipped types are typically thought to be locally produced, but Fry and others have observed that they also moved surprisingly long distances (see e.g., comments on Dumbcane Striated below). Overall, the pottery of Ka'Kabish is less mysterious than it was two years ago, but much remains to be done.

One way I have attempted to address uncertainty in the classification so far is to use systems assignments. Systems lump stylistically analogous types based on formal similarity alone so they are ideal for early work at a site. Systems are named after the first published type in the system and assigning a sherd to a system is similar to saying "this sherd is stylistically similar to Type X, although further work may justify a new or different type name" (see comments in Aimers 2007, 2009). A good example at Ka'Kabish involves ridged -rim jars that are common on the periphery of the site and date to the Terminal Classic period elsewhere. These have been variously called Tu-Tu Camp Striated, Sisal Unslipped, Caderitas Heavy Plain or Dumbcane Striated. Until now at Ka'Kabish these sherds have been placed in the Dumbcane Striated System because I have not seen them in comparative collections [1]. Correspondence and the exchange of images with Robert Fry has now convinced me that it is reasonable to call these Dumbcane Striated (type) given the uniformity of this type from southern Quintana Roo to northern Belize (Fry has not yet provided group or ware designations for this type). In my opinion, further comparative analysis including petrography would be needed to justify giving these vessels and sherds (mostly jar rims) a different designation at Ka'Kabish. However, more conservative archaeologists might continue to keep the systems designation for these sherds.

I have tended to place rare sherds that resemble types from the Belize Valley, Petén, or the northern lowlands in systems, especially for types associated with the Classic period. These sherds are stylistically analogous to types in those other places but closer examination of larger samples may eventually justify the establishment of local types. This was not as much of an issue for the Late Formative material, because samples were larger and because investigators across the lowlands have noted the uniformity of the Formative types and have tended to use the same type names (Sierra Red is the best example). Nevertheless, even the Formative types raise questions (see comments on Cabro Red

[1] This, incidentally, breaks the original rules of systems assignments (naming the system after the first published type which is in this example Tu-Tu Camp Striated). In this case I chose to name the system after the type that I felt was most similar and which is geographically closest. Systems have rarely been used in type-variety classifications and these issues should be addressed eventually (Aimers 2007, 2009)

below). Varietal designations of the well-known Formative types have also proved a challenge so far. As the samples grow, these issues become easier to address and resolve.

Some of the notable finds from 2011 are reviewed below.

STRUCTURE D-9

Material from this building comes from fill, but carbon recovered from structure 9-sub-IIIA structure yielded an early carbon date in association with a jar neck (Lot 131) which I realized is Tiger Buff in 2011 (Laura Kosakowsky agreed with this assignment).

Figure 7-1. Tiger Buff Rim Sherd (KKB131)

Tiger Buff is first found in the Swasey Complex at Cuello but continues into the later Bladen Complex there (see discussion of these issues and Tiger Buff below).

STRUCTURE D-14

The latest material from the site core is from Structure D-14. In 2011, a trench was placed in the front of this heavily damaged and looted temple. Late Classic and Terminal Classic diagnostics uncovered included outcurving dishes with ring bases up to about 5 cm high that resemble the pedestals on chalices at Lamanai. These resemble the Roaring Creek Red-style vessel from a burial in the settlement zone (see below) but the higher pedestals and lack of medial ridge suggest they represent a transition to the Early Post-ClassicBuk phase at Lamanai and the Blancophase at Ka'Kabish. A few sherds of Late Classic "Lamanai style" polychromes which have not yet been given type designations at Lamanai were also recovered.

PLAZA D

The 2011 pottery from Plaza D was from a 2 x2 meter unit between Structures D-9 and D-5 that was begun in 2010 and is not yet complete. The most important material of this season was from this excavation. Vessels and some sherds that were given vessel numbers are summarized in Table 2.

Lot 282, which is the later of the two lots of interest at this locus consists entirely of Sierra Red outcurving (and in one case, outflaring) dishes generally date to the Late Formative period in the lowlands. The presence of Consejo Red, Backlanding Incised, CopatillaUnslipped, Lechugal Incised, Polvero Black , Laguna Verde Incised, Puletan Red-and-unslipped, Sierra Red, Tiger Buff and possibly Chicago Orange in stratigraphically earlier Lot 353 suggests this is not a primary deposit because these types span at least the early Middle Formative to the Late Formative, a span of over 1000 years.

Figure 7-2. Monopod "Prong" (KKB353)

A close modal analysis of this material will be required to provide better temporal estimates. For example, the double strap handles in the deposit are found in the Swasey and Bladen complexes at Cuello but are closer to true double straps in Swasey and more like "mock" double strap handles in Bladen.

The examples at Ka'Kabish are closer to true double straps and may be coeval with Swasey materials, but this will require more comparison in consultation with others more familiar with the material. The presence of a Tiger Buff monopod (which Kosakowsky lumps with Chicago Orange in the Swasey Complex at Cuello) also suggests that the deposit begins in Swasey times even if it extends much later. A closer examination of the Sierra Group modes may also be helpful in deterring the time depth of this deposit.

Figure 7-3. CopatillaUnslipped Double Strap handle (KKB353)

STRUCTURE FA-6

Tomb FA-6/1 is a vaulted tomb has been dated to the late 5th century A.D. based on a series of radiocarbon dates from material from the ceiling shaft as well as from the surface and within the plaster floor. Over 700 sherds were excavated within a roughly 1 cubic meter excavation area. Early Classic material recovered from the excavations in FA-6 included basal flange dishes which are often Dos Arroyos Orange Polychrome.

SETTLEMENT ZONE

Most of the ceramics recovered by Alec McLellan in the settlement zone are from the Terminal Classic period, indicated by large numbers of jars with "arrowhead-shaped" rims and vertical striations usually called Freshwater Striated or Blue Creek Striated (personal observation, ceramic collections at INAH Merida see also Fry 1987, 1989; Gifford 1976; Masson and Rosenswig 2005; Sanders 1960). Currently these are placed in the Blue Creek Striated system.

A burial in the settlement zone (Lot 270) contained two vessels. One is an outcurving dish with a medial ridge and high ring base which resembles Terminal Classic Roaring Creek Red in the Belize Valley and Kik Red from elsewhere in northern Belize, although its more orange color resembles Ta'ak Orange-red (see McLellan this volume). Any of these designations suggest a Terminal Classic data which is obvious from its shape. Several sherds from the 2011 season have simply been categorized as Roaring Creek/Kik/Ta'ak at this early stage but their temporal placement is secure in the Terminal

Figure 7-4. Blue Creek Striated "Arrowhead" Jar Rim

Classic. The other vessel from the settlement burial is an impressed version of Achote Black, similar in form to the vessel shown by Dr. Harrison Buck at the 2011 Belize Archaeological Symposium from Tiger Bay Cave in the Sibun valley which she calls Achote Black: Stamped- impressed variety. This appears to be an example of the formal elaboration that happens to vessel styles in the Terminal Classic as seen also in Water Witch Stamped of the Achote Group (Fry 1989).

A red-slipped solid conical dish support that resembles Rita Red from Santa Rita was also found in the settlement zone. A broken tripod support which resembles supports from the Red Payil Group was also uncovered but the paste is much coarser and a different colour than that normally associated with the Red Payil Group. Other objects in this assemblage included an animal effigy head, frying pan censer handle from the NavulaUnslipped system, and an unslipped jar rim with lines parallel to the lip which resembles Yglesias complex ceramics at Lamanai. These finds suggest Middle-to-Late Post-Classic activity in the settlement zone, possibly as late as the eve of European contact in the area.

In the fields to the south of the site, McLennan has also uncovered a Red Payil Group hollow columnar foot and a vertical neck jar rim. The Red Payil Group is well-represented at Lamanai in the Middle Post-ClassicCib period (1200/1250 to 1350 AD) (and may occur even earlier) but is often described as Late Post-Classic. Aimers has looked at Payil from across the peninsula and the homogeneity of its fabric and surface suggest a limited number of production loci, almost certainly on the coast. An orange-slipped fragmented bowl which Linda Howie pointed out is probably Zakpah Orange-Red, found at Lamanai in the Buk complex, was also uncovered.

Figure 7-5. Columnar Foot(Red Payil Group)

CONCLUSIONS

The most surprising finds of the season were pottery that has been placed in the Swasey and Bladen complexes elsewhere in northern Belize (see especially Lot 353). Kosakowsky and Pring(1998) provide the following Formative ceramic chronology for Cuello

Swasey: 1200-900 BC

Bladen: 900- 650 BC

Lopez: 650-400 BC

Chicanel: 400 BC - AD 350

Many people doubt that the Swasey phase began as early as 1200 BC. Most people I have consulted have given 1000 BC as the earliest date for Swasey, with 900 BC a more conservative estimate. Kosakowsky (personal communication 2011) suggested dates of about 1200/1000 – 800 BC for Swasey and 800- 600 BC for Bladen. These chronological questions are a matter of debate in Belize and are not resolvable at Ka'Kabish at this time, although the material found in 2011 may be relevant to these discussions.

Similar to the Late Formative/ Early Classic pottery in 2010, this early material came as a surprise near the end of the season and in this case I did not have enough of the literature on Swasey and Bladen to look into the many issues involved with this pottery in any depth. For example, my 2011 typological classifications were made following Pring(1977) but many of Pring's type and group assignments have been subsequently revised by Kosakowsky and others. These issues should be addressed in the 2012 season.

One problem at this point in the research is that Kosakowsky and Pring distinguished Bladen from Swasey based on modal changes, a new Unspecified ware (Honey Camp Group), the introduction of new groups in Rio Nuevo Glossy Ware (Quamina, Grabcatcher, and Gold Button groups), and new

varieties of Swasey types. Some researchers consider these different facets of a single complex but Kosakowsky (personal communication 2011) and Pring believe the changes are significant enough to warrant separate complexes (see also Kosakowsky 1987).

The problem for us at Ka'Kabish at this point is that the early pottery types identified at Ka'Kabish in 2011 are CopetillaUnslipped, Consejo Red, Backlanding Incised, Tiger Buff, and Chicago Orange. With one exception (Backlanding Incised, Lot 353 Vessel 16), all of these types are present in both the Swasey and Bladen Complexes and thus a closer modal examination is needed to try to sort out whether they are best related to the Swasey Complex or the Bladen Complex at Cuello. To further complicated matters, Chicago Orange is present at Cuello in the Swasey, Bladen, Lopez, and Cocos complexes (i.e., from as early as 1000 BC to AD 250). Tiger Buff (Lot 253 and Lot 131) was placed by Pring in the Swasey Complex before the Bladen Complex was separated from it, and Kosakowsky now lumps Tiger Buff with Chicago Orange. So, as it stands, Backlanding Incised is the earliest pottery yet identified at Ka'Kabish and it is placed in the Swasey Complex (only) at Cuello because it has fine postslip, incision which is characteristic of the early Middle Formative rather than later times.

The flaring Sierra Red dishes in Lot 353 are more reminiscent of Lopez (Mamom sphere) and the later Cocos complex at Cuello rather than Bladen or Swasey. The presence of substantial quantities of Sierra Red sherds in Lot 353 is also suggestive of a later time frame for at least some of this deposit since Sierra Group sherds are generally placed in the Late Formative. We can conclude that the earliest materials are part of the Swasey Sphere in northern Belize, however.

Another issue that should be addressed in coming seasons regarding the Formative at Ka'Kabish is the possible presence of Cabro Red. In her dissertation on Cerros, Robertson-Freidel(1980) created a type called Cabro Red in the Cabro Group of Chunux Hard Ware which is described as a better-made (higher fired) version of Paso Caballo Waxy Ware. Pottery like this has sometimes been classified by Kosakowsky as Sierra Red: Big Pond Variety. The discussion of how to classify this material is ongoing among archaeologists who are more familiar with the material. For now I have placed this material in the Sierra Group (Sierra Red) but it is possible that some of these sherds should be designated as Cabro Red. Again, resolution of this question will require comparative research or visits from analysts familiar with Cabro Red.

In 2011, I tentatively recorded a sherd from Lot 282 as Aguacate Orange (Aguacate Group) based on the similarity to the description in (Gifford 1976) and the fact that in 2010 we recovered what appears to be a Guacamallo Red-on-orange (Aguacate Group) sherd from Lot 101. I have, however, never been able to identify ceramics from the Aguacate Group with any confidence in any collection I have examined (see also Case 1982) and I suspect the plain orange sherds should be reassigned to the

Aguila Group. This seems reasonable given that Guacamallo Red-on-Orange has itself been moved to the Aguila Group by Brady et al. (1998).

However inconvenient it was not to have all the required publications on hand in 2011, it also showed that ceramic specialists often do agree. I noted above that I have had trouble identifying Aguacate Group ceramics—so has Case (1982). I struggled with separating Consejo Red from Ramgoat Red based on Prings's descriptions. So did Kosakowsky, who subsequently combined them under Consejo Red. However, we have not (yet) subsumed Tiger Buff in Chicago Orange as Kosakowsky has at Cuello.

In any case, at this point the ceramic sequence of Ka'Kabish covers virtually the entire span of Prehispanic occupation in northern Belize. The ceramics suggest a Terminal Classic abandonment of the site core with continued occupation on the periphery—the normal pattern across the Maya lowlands. I've highlighted a number of the current questions raised by the 2011 pottery. As is often the case at this point in the analysis there are more questions than answers but I suspect that soon a tipping point will be reached where answers come faster than new questions.

Table 1 Full and Partial Vessels 2011				
Vessel #	Lot	Group	Type	Notes
Settlement BF 6 Unit M7				
1	270	?	Roaring Creek/Kik/Taak	
2	270	Achote	Achote Black	Stamped-impressed variety
Group D Plaza South Unit 1 Level 5				
1	282	Sierra	Sierra Red	
2	282	Sierra	Sierra Red	
3	282	Sierra	Sierra Red	
4	282	Sierra	Sierra Red	
5	282	Sierra	Sierra Red	
6	282	Sierra	Sierra Red	
7	282	Sierra	Sierra Red	
8	282	Sierra	Sierra Red	
Group D Plaza South Unit 2 Level 12				
1	353	Sierra	Sierra Red	
2	353	Sierra	Sierra Red	early Late Preclassic Form (Powis)
3	353	Sierra	Sierra Red	
4	353	Sierra	Sierra Red	
5	353	Sierra	Sierra Red	
6	353	Polvero?	Lechugal Incised?	Late Preclassic form
7	353	Sierra	Sierra Red	
8	353	?	?	eroded, vessel shape not discernible
9	353	?	?	shape not discernible
10	353	Polvero	Polvero Black	
11	353	Sierra	Puletan red-and-unslipped	Late Preclassic from, but odd
12	353	Sierra	Sierra Red	
13	353	Sierra	Sierra Red	
14	353	Sierra	Sierra Red	
15	353	Consejo	Consejo Red	See LA 579, ID'd by Powis
16	353	Consejo	Backlanding Incised	
17	353	?	?	single sherd
18A	353	Sierra	Sierra Red	
18B	353	Sierra	Sierra Red	
18C	353	Sierra	Sierra Red	
19	353	Sierra	Sierra Red	
20A	353	Consejo?	Consejo Red?	based on form
20B	353	Sierra	Sierra Red	
21	353	Sierra	Sierra Red	
22	353	Sierra?	?	part of eroded base
23	353	Sierra	Sierra Red	some areas fired maroon
24	353	Consejo?	Consejo Red?	square lip like Bladen?
25	353	Sierra	Laguna Verde Incised	
26	353	Consejo?	Consejo Red?	based on form
27	353	Sierra	Sierra Red	

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FINAL WORD

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While there is still much to discover about the site and its inhabitants we now know more about the occupation and construction of the site and can begin to construct a tentative history. It appears that the site was initially settled in the early Middle Formative period, during which time it had an active ritual agenda, as evinced by the ceramic plaza deposit and temple construction, and likely also possessed an emerging elite population. During the Late Formative period this elite population clearly manifested itself with the organisation of the site and construction of several temples. In the subsequent Early Classic period we can see that this part of this elite population developed into a royal line.

The discovery of a (looted) cocoon crypt identical in construction to those at Lamanai, and known from no-where else, indicates that at some point the political fortunes of Ka'Kabish and Lamanai became entwined. It can be surmised, based on the dates for the Lamanai crypts, that this happened during the 6th century (currently no dates are known for the Ka'Kabish crypt). The exact political nature of this involvement is unclear, as is the Late Classic history for Ka'Kabish. Few structure have been identified dating this period, however, as the excavation of the site is still in its infancy, this could simply be a lack of data. What is clear is that Ka'Kabish continued to be occupied until the end of the Classic period, as did Lamanai, at which point Ka'Kabish appears to have been abandoned, while Lamanai continued to flourish.

It is also clear that contrary to our initial assumptions about Ka'Kabish, the site, and its inhabitants, formed an autonomous political entity from the Middle Formative to the Early Classic period; a polity that, rather than being subservient to Lamanai, was a political peer. Moreover, it appears that these two sites shared a similar developmental trajectory. What happened at Ka'Kabish is still to be determined and will be the focus of future investigations at the site.

APPENDIX I

Appendix 1: Lots with Classified Pottery

Group	Type	LOT NUMBER																			Lot																				Lot																				Lot																				Lot																
		184	186	187	188	189	190	193	194	195	197	198	200	202	204	205	206	209	211	213	214	215	216	249	252	256	257	259	260	261	262	263	264	267	268	269	270	271	272	273	274	275	276	277	281	282	283	291	295	296	297	298	299	302	305	307	308	309	311	314	318	324	326	333	334	337	338	340	342	343	344	345	346	348	351	352	353	354	356	359	360	367	368	369	373	377	381	382	384	388	390	394	401	402	404	408	415
Achote	Achote Black																																																					x																						?																							
Achote	Stamped-impressed																																			x																																																															
Aguacate?	Aguacate Orange?																																												?																																																											
Balanza	Urita Gouged-Incised																			x	x																																																																															
?	Dumbcane Striated		x																								x							x																																																																
Chambel	Chambel Striated	x		x																									x	x							x	x		x																																																											
Chambel	Red Neck Mother Striated	x		x		x											x						x			x		x		x					x		x	x	x				x														x																																								x	
Chicago	Chicago Orange																																																																													?																						
Consejo	Consejo Red																																																																													x																						
Consejo	Backlanding Incised																																																																													x																						
Copetilla	Copatilla Unslipped																																																																													x																						
Dos Arroyos	Dos Arroyos																																																				?																					?																									
Flor	Accordian Incised																																																														x																																										
Garbutt	Rubber Camp Brown																											x																																																																										
Palmar	Tunich Red-on-Orange																																																x																																																							
Polvero	Lechugal Incised																																												x																																			x																						
Polvero	Polvero Black																																												x			x																								x							x																		x	
Polvero?	?																																																																																																					
Red Payil	Payil Red						?																																															x																																																	
Sierra	Laguna Verde Incised															x								x																						x																																			x																						
Sierra	Puletan Red-and-unslipped																																																																														x											x		x							
Sierra	Sierra Red													x	x	x								x					?		x	x														x		x				x	x				x			x		x									x	x		x			x																				
Sierra	?									x	x	x																																x		x	x		x						x									?					x	x	x		x			x						x	x	x	x						x				x	
Tiger	Tiger Buff																																																																														x																						
Vaca Falls	?																				x																																																																																
Vaca Falls	Roaring Creek Red		?																		x							x		x						x	x						x																																																										
Zakpah	Zakpah Orange-Red																																																																								x																									
Zakpah?	?																																																																																																				
Unspecified	Unsp. Yglesias-like rim						x																																																																																													
Unspecified	"Lamanai Polychrome"																					x											x																																											x					x																
?	Red-lipped jar												x																																																																																							
?	Red lipped jar cream wash																																																x																																																						
?	Roaring Creek/ Kik/ Taak		x		x															x	x					x		x					x				x																																																															
Systems																																																																																																						
systems	Blue Creek Striated							x	x									x	x						x				x										x						x						x	x		x	x				x		x				x	x		x	x				x					x	x	x		x					x	x		x			x	x	x		
are	Cayo Unslipped																																																							x											x																																
not	Chaquiste Impressed																																						x																																																														
given	Chen Mul Modeled																																								x																																																											
group	Macal Orange-red																																															?																											x																							
assignments	Rita Red						x																																																																																																
	Navula Unslipped						x																																																																																																
	Dumbcane Striated																																																																																																				
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