BLADEN PALEOINDIAN AND ARCHAIC ARCHAEOLOGICAL PROJECT

AND

UXBENKÁ ARCHAEOLOGICAL PROJECT

Report of the 2016 Field Season

Prepared for the Institute of Archaeology,
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TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION TO THE 2016 SEASON OF THE BLADEN PALEOINDIAN AND ARCHAIC ARCHAEOLOGICAL PROJECT (BPAAP) AND THE UXBENKÁ ARCHAEOLOGICAL PROJECT (UAP)

By: Keith M. Prufer and Amy E. Thompson *1*

CHAPTER 2: ROCKSHLETER EXCAVATIONS AT MAYAHAK CAP PEK AND SAKI TZUL IN THE BLADEN NATURE RESERVE, MAYA MOUNTAINS, BELIZE

By: Keith M. Prufer, Amy E. Thompson, Asia Alsgaard, Willa Trask, Clayton Meredith, Mark Robinson, Timothy Dennehy, and Marina Adame. *5*

CHAPTER 3: IX KUKU'IL SURVEY
By: Amy E. Thompson. *45*

APPENDIX A: BPAAP and UAP *2016 Field Forms*

CHAPTER 1: INTRODUCTION TO THE 2016 SEASON OF THE BLADEN PALEOINDIAN AND ARCHAIC ARCHAEOLOGICAL PROJECT (BPAAP) AND THE UXBENKÁ ARCHAEOLOGICAL PROJECT (UAP)

By: Keith M. Prufer and Amy E. Thompson

The following report describes field research performed during the 2016 season of the Bladen Paleoindian and Archaic Archaeological Project (BPAAP) in the Bladen Reserve and the Uxbenká Archaeological Project (UAP) efforts at Ix Kuku'il, San Jose, both located in the Toledo District. All research components occurred under the auspices of the BPAAP and UAP, directed by Dr. Keith M. Prufer. 2016 is the eleventh continuous year of research at in the region with current funding provided by the Alphawood Foundation (BPAAP research) and the UNM Rogers Research Grant (UAP research). Field based research was conducted between May and June 2016 under permits issued by the Institute of Archaeology, National Institute of Culture and History.

As per IA regulations, permit holder Dr. Keith M. Prufer directed archaeological research in the Bladen Nature Reserve at Saki Tzul and Mayahak Cab Pek rockshelters, Toledo District, Belize and at Ix Kuku'il, Toledo District, Belize. Graduate students and researchers on the 2016 BPAAP and UAP field team included Marina Adame (MA), Asia Alsgaard, Timothy Dennehy (MA), Clayton Meredith (MS), Mark Robinson (PhD), Amy E. Thompson (MS), and Willa Trask (MS).

We are extremely grateful for the support of a number of institutions and individuals. Our research would not be possible without the support and permission of Institute of Archaeology (IA) and the National Institute of Culture and History (NICH), Belize. Dr. John Morris of the IA deserves special thanks, as does their tremendously professional and courteous staff. We are also grateful for the support of the Alphawood Foundation (to Prufer), which provided significant resources for field and laboratory for the Bladen focused research. Support was also provided UNM OGS Rogers Research (to Thompson) for research conducted at Ix Kuku'il.

The Departments of Anthropology at the Universities of New Mexico and Penn State University provided additional institutional support. We are particularly grateful to Dr. Les Field for his assistance with departmental resources. In the lab at the University of New Mexico, a number of individuals have been instrumental in processing data and preparing this report including Seth Newsome, Heather Edgar, and Ethan Hill. We also thank Douglas Kennett and Brendan Culleton at the Human Ecology Isotope Laboratory at the Pennsylvania State University and John Southon at the University of California, Irvine Keck CCAMS facility for on-going collaboration with AMS radiocarbon dating and geochronology.

Numerous individuals in Belize have also been of great help to the project. We would like to thank the Ya'axché Conservation Trust (YCT), for their guidance and providing us with rangers to assist in the protection of the Bladen Nature Reserve (BNR) and as archaeological assistants. In particular we thank the Science Director Said Gutierrez, and rangers Rosendo Coy, Vigilio "Dilo" Cal, and Henry Cus. An appreciation goes to Gustavo Giron Jr. of Astrum Helicopters for aiding in the transportation of equipment and samples to and from the Bladen Nature Reserve.

We also thank the Alcalde of San Jose village, and Mr. Thomas Coh, the Green Creek Farmer's Cooperative president, for collaboration and support with research at Ix Kuku'il. Other Belizeans have helped make our lives more comfortable while in the field. Special thanks to Don Owen Lewis, Jimmy and Francisca Bardalez, Bruno Kuppinger, and Dick Bardalez.

The Bladen Paleoindian and Archaic Project

Since 2014 we have been investigating the human ecology of Paleoamerican and Archaic topical foragers through fieldwork conducted in the Bladen Nature Reserve in the Maya Mountains of southern Belize as well as detailed laboratory studies. Excavations at two well stratified rockshelters, Mayahak Cab Pek and Saki Tzul (Figure 1.1) have produced a total of 11 skeletons. Four of these have already been directly dated by high precision ^{14}C AMS on purified bone collagen to between 2250 and 9500 BP. They were recovered from rich cultural levels dating to >12,500 BP by AMS ^{14}C on charcoal and seeds. Analysis of stable isotopes δ13C and δ15N from five skeletons indicate that the remains prior to 3000 BC (n=3) were all tropic foragers, and mtDNA conducted by colleagues at Harvard University indicate these early humans belong to three haplogroups, A2 and A2q (related to many Mesoamerican populations) with the oldest from D4h3a, which has been linked to the initial Paleoamerican migrations out of Beringia in the late Pleistocene. Also recovered were over 2000 samples of mammal, bird, and amphibian faunal bone, more than 6000 pieces of flaked stone, and in excess of 4kg of macro paleobotanical samples, all dating from modern to the Pleistocene. Remarkably these burials, artifacts, and ecofacts all came from two excavations (2x3m and 1x2m) units placed on flat surfaces in two rockshelters located 1.8km apart. These represent the largest stratified pre-ceramic deposits ever recovered from tropical Central America, and indicate repeated and patterned mortuary behavior starting in by the Pleistocene/Holocene boundary.

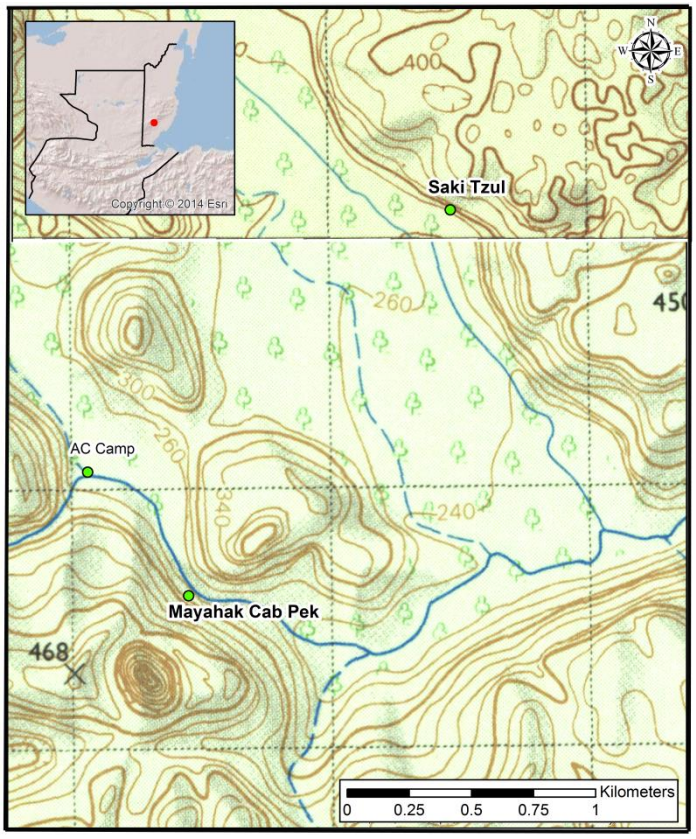

Figure 1.1 Regional map indicating the locations of Mayahak Cab Pek and Saki Tzul rockshelters in the Maya Mountains in relation to AC camp. (Map by A. Thompson)

The overall goals of this project are to understand how significant climate driven environmental change mediated human behavior, biology, and demography during large phase-shift events in the early and middle Holocene including: adaptation to (a) the emergence of tropical forests; (b)

the Thermal Maximum, the wettest and warmest period on record; and, (c) emergence of modern seasonality followed by (i) the likely gradual adoption C4 domesticates; and, (ii) shifts to sedentism and agriculture.

The Uxbenká Archaeological Project at Ix Kuku'il

Ix Kuku'il is a small political center in southern Belize with the earliest identified materials dating to the Early Classic (ca. AD 300 - 600). However, human occupation on the larger landscape predates the public architecture by thousands of year based on recent research 9 km south of Ix Kuku'il, in geomorphological and rockshelter units excavated near the Hokbel Ha Cave from 2006-2015 suggests that humans were actively residing on the landscape during the Paleoindian Period (12,000 BC – 8000 BC), Archaic Period (8000 BC – 2500 BC). While Uxbenka, a was founded during the Late Preclassic (400 BC – AD 300) the rise of Ix Kuku'il and other regional centers including Pusilha, Nimli Punit, and Aguacate occurred during the Early Classic (AD 300 – 600), and was followed by the development of a number of other regional political capitals after AD 500.

Ix Kuku'il (Figure 1.2) is located in what is today an exceptionally rich agricultural region with easy access to coastal and inland trade routes. The ancient community was situated between several larger polities, including Tikal, Copán, and Caracol. Research from nearby southeastern Petén, Guatemala suggests an Early Classic geopolitical landscape of competing rural elites. Southern Belize remained only sparsely settled until the beginning of the Late Classic (AD 550-900), when six monument bearing sites were established along with dozens of smaller communities, some of which claimed, in hieroglyphic texts, relationships with Copán, Quirigua, and Tikal.

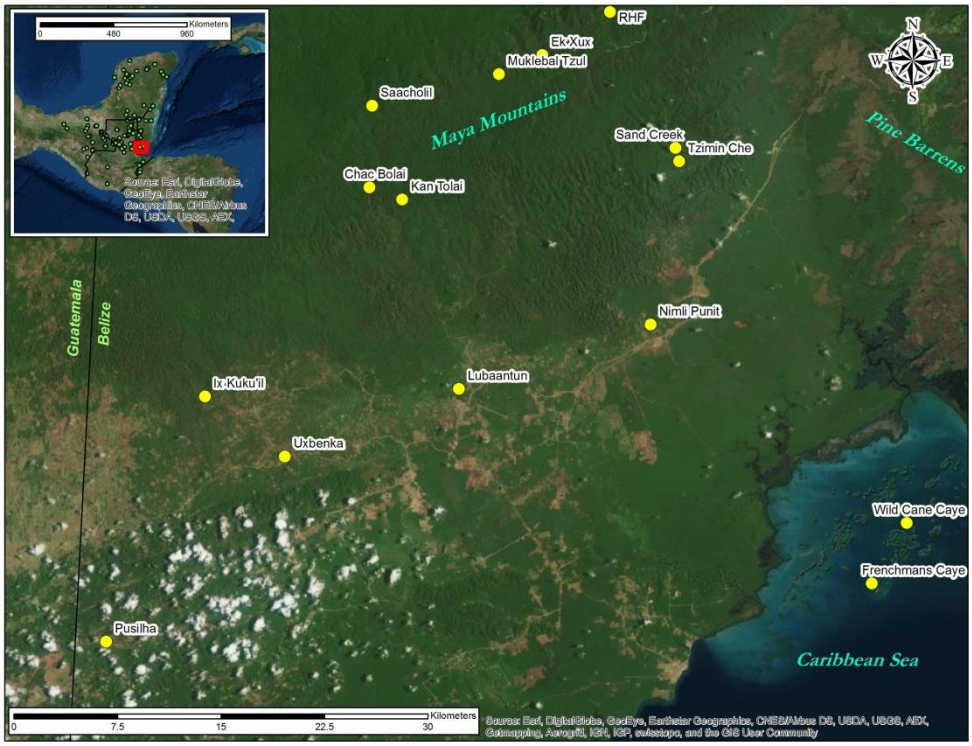

Figure 1.2 Regional map of southern Belize (Map by A. Thompson)

2016 Archaeological Research

The 2016 archaeological objectives were: (a) to excavate small test unit excavations in two rockshelters in the Bladen Nature Reserve to test for early human occupations and (b) to conduct survey of the Ix Kuku'il landscape to understand the distribution of households at Ix Kuku'il as a comparison of societal growth between Ix Kuku'il and Uxbenká.

2016 field based components:

- BPAAP excavations occurred at Mayahak Cab Pek and Saki Tzul near the Ek Xux valley of the Bladen Nature Reserve. These excavations were conducted by Keith M. Prufer, Mark Robinson, Marina Adame, Asia Alsgaard, Timothy Dennehy, Clayton Meredith, Amy E. Thompson, and Willa Trask to examine early human occupations. The findings from the rockshelter excavations are reported in Chapter 2.
- Continued survey of Ix Kuku'il to the south of the site core was undertaken by Amy E. Thompson under the auspices of the UAP. These findings are available in Chapter 3.

CHAPTER 2: ROCKSHELTER EXCAVATIONS AT MAYAHAK CAP PEK (MHCP) AND SAKI TZUL (ST) IN THE BLADEN NATURE RESERVE, MAYA MOUNTAINS, BELIZE

By: Keith M. Prufer, Amy E. Thompson, Asia Alsgaard, Willa Trask, Clayton Meredith, Mark Robinson, Timothy Dennehy, and Marina Adame

Introduction

This report describes research conducted by the Bladen Paleoindian and Archaic Project (BPAAP) in the Bladen Preserve, a Protected Area in the Toledo District of southern Belize. This study was conducted under a broader research program that involved limited excavations in a rockshelters in the Ek Xux Valley of the upper (western) Bladen reserve. Permits for this project were granted by the Forestry Department and the Belize Institute of Archaeology (IA) to conduct this research from 11 May to 7 June 2016. The research presented here was conducted in a collaboration between IA and the University of New Mexico.

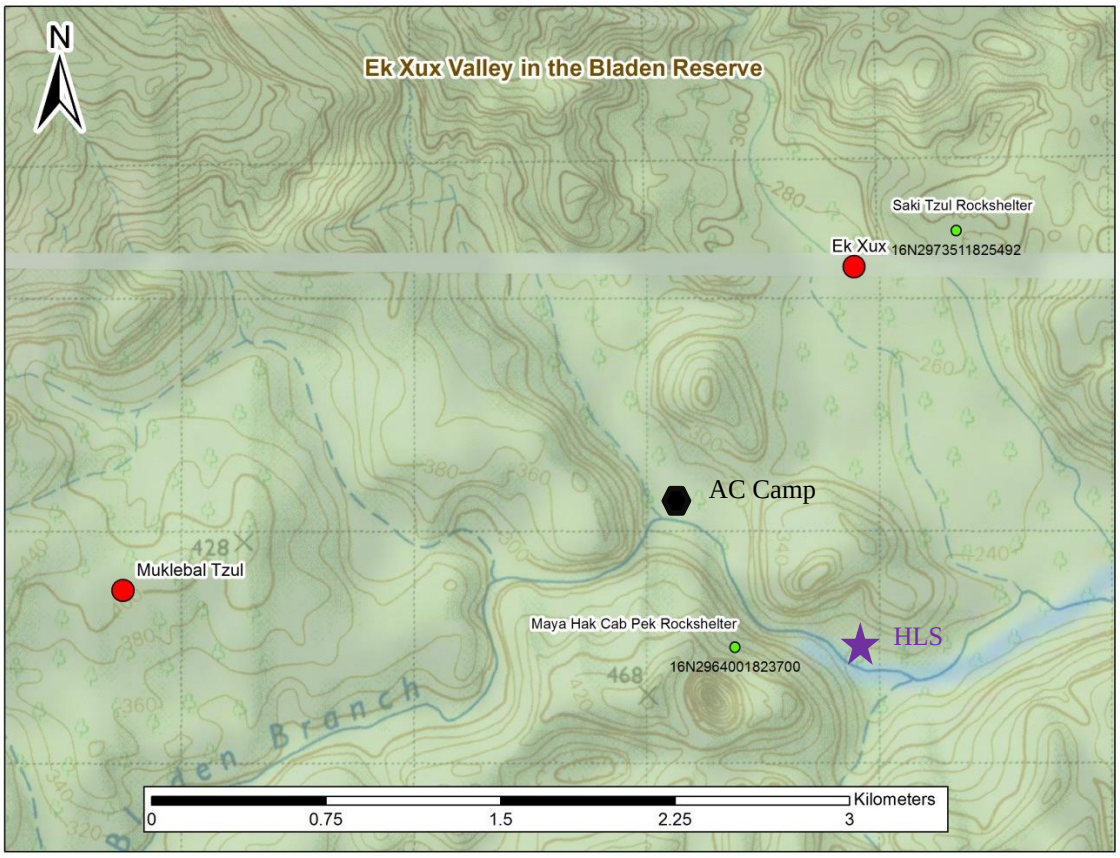

Figure 2.1. Location of Mayahak Cab Pek and Saki Tzul rockshelters in relation to nearby Classic Period Maya centers, Muklebal Tzul and Ek Xux as well as AC camp and the HLS. (Map by A. Thompson)

We detail the information gathered from the test excavations conducted at Maya Hak Cab Pek (MHCP) and Saki Tzul (ST) rockshelters. MHCP and ST are located in the Ek Xux valley of the Maya Mountains, within the uninhabited wilderness of the Bladen Nature Reserve (BNR), in the Toledo District. The purpose of this study is to explore the earliest presence of humans in Belize

and Central America during the Paleoindian and Archaic Period (10,500-2,500 BC). Previous research conducted by Dr. Prufer during the 1990s and the 2014 BPAAP field season indicates that these earliest pioneering hunters and gatherers occupied this region, and this project explores their presence through limited excavations in two rockshelters in the upper Bladen for a comparative analysis of early human occupations. For a detailed background on the limited knowledge of early (Paleoindian and Archaic) peoples in the region, please see Prufer et al. 2015.

NOTE: During excavations, macrobotanical samples were often labelled "paleobot" (paleobotanicals) or "marcobot" (macrobotanicals). For consistency in this report, we refer to all botanical (flora) remains as "macrobotanicals". The chapter was written by A. Thompson unless otherwise noted.

Project Logistics and Personal

This project consisted of camping in the Bladen Nature Reserve (BNR) for 27 nights. While most of the crew hiked in and out from Golden Stream (Figure 2.2), several crew members, supplies, and equipment were brought into the BNR via Astrum Helicopter. A small (approximately 1 km^2) patch of land was cleared for the safe transportation of these materials and referred to as the Helicopter Landing Spot (HLS) (see Figure 2.1; Figure 2.3) and was approximately 1.5 km from southeast of AC camp. The HLS was also used at the end of the project to remove all equipment, additional supplies, and archaeological materials from the BNR. AC Camp, which was established by archaeologists in the 1990s and was used during the 2014 Bladen research season, was used during the 2016 field season; the camp is adjacent to AC cave (Figure 2.1). At the end of the season, all equipment, archaeological samples, personal gear, and garbage was removed from the BNR. Fire pits were deconstructed and buried and the ash was buried in the latrines. The project consisted of eight professional archaeologists,

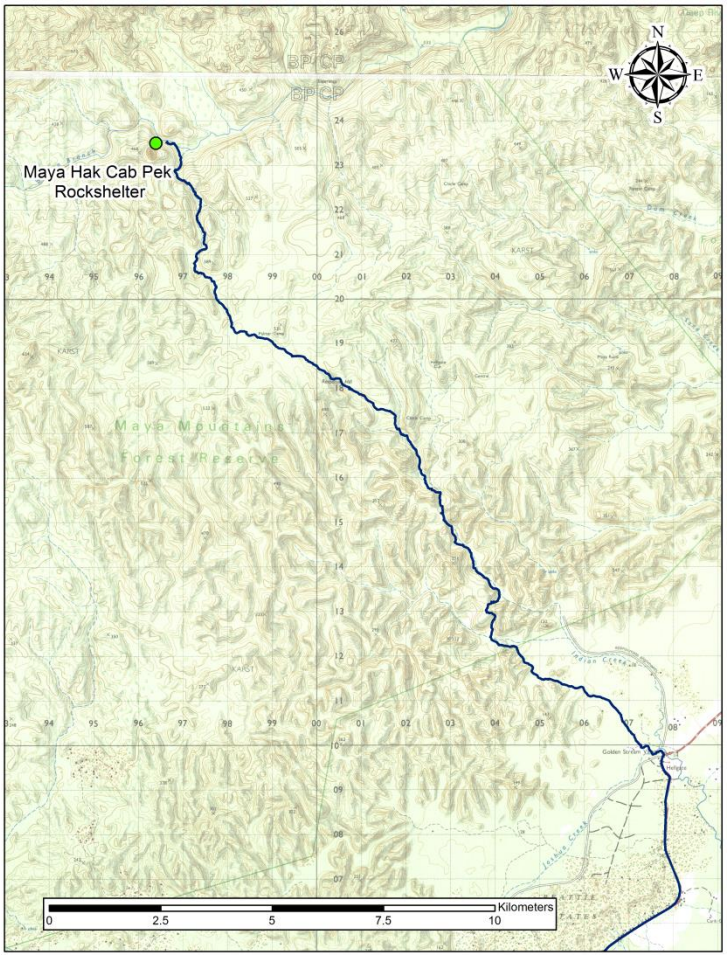

Figure 2.2. GPS track of the hike from Golden Stream village to AC camp, which is located near MHCP.

three local archaeological assistants, and a ranger from the Yaxche Conservation Trust (YTC) [Table 2.1]. Rangers from the YTC rotated out on a 10-day schedule.

Figure 2.3. View of the HLS from the air. (Photograph by A. Thompson)

Name	Affiliated Institution
Dr. Keith M. Prufer	University of New Mexico
Dr. Mark Robinson	University of Exeter
Ms. Willa Trask	Texas A&M University
Mr. Clayton Meredith	University of New Mexico
Ms. Amy E. Thompson	University of New Mexico
Mr. Timothy Dennehy	Arizona State University
Ms. Asia Alsgaard	University of New Mexico
Ms. Marina Adame	Independent Archaeologist
Mr. Henry Cus	Ranger, Yaxche Conservation Trust
Mr. Vigilio "Dilo" Cal	Ranger, Yaxche Conservation Trust
Mr. Rosendo Coy	Ranger, Yaxche Conservation Trust
Mr. Raymundo Sho	Archaeological Assistant, Santa Cruz Village
Mr. Oligario Sho	Archaeological Assistant, Santa Cruz Village
Mr. Nason Mes	Archaeological Assistant ,Santa Cruz Village

Table 2.1. Personal that took part in the BPAAP 2016 field season

Mayahak Cab Pek Rockshelter

Mayahak Cab Pek (MHCP) is located in the Ek Xux valley of the Maya Mountains (Figure 2.1). The closest ancient Maya centers are Ek Xux and Muklebal Tzul. MHCP rockshelter is located on the western side of the valley, near the Bladen River, and is a 20m high outcrop of bedded limestone. Geologic unconformities of the bedding planes are visible on the face of the rockshelter (Figure 2.4). The dripline extends 8m from the cliff face and the dry surface area of MHCP is approximately 150m^2. The excavations in MHCP were based on previous studies from the 1990s and the 2014 field season.

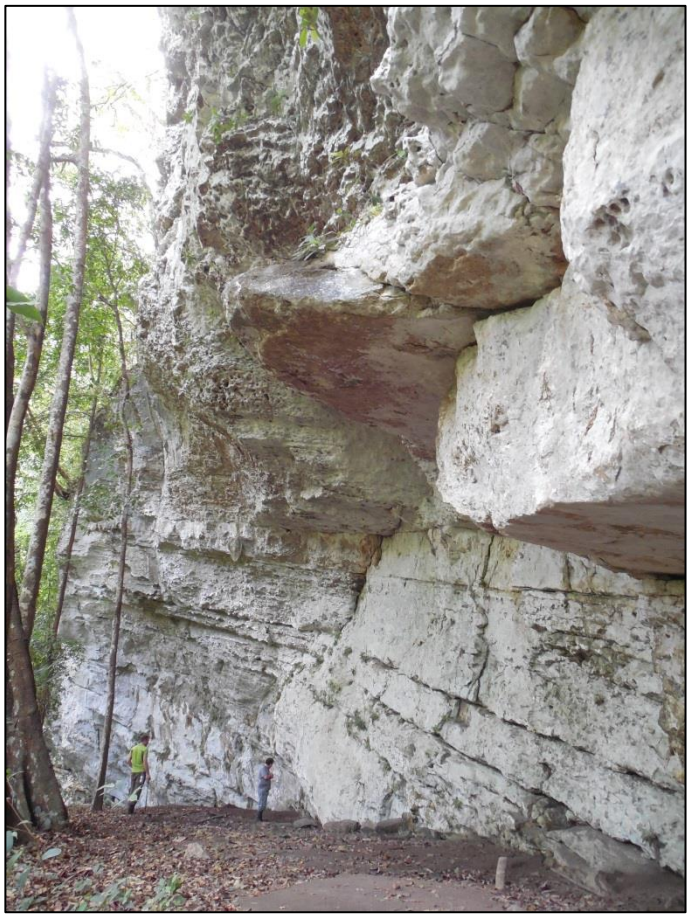

Figure 2.4. Mayahak Cab Pek Rockshelter with Drs. Robinson and Prufer for scale. Note the bedded limestone reflecting geologic unconformities on the rock face. (Photograph by A. Thompson)

Methods

The excavations of MHCP followed the 2014 units and protocol. Excavation units were established on a north-south grid. The uppermost levels were excavated based on stratigraphic layers while deeper levels were excavated based on 5 to 10 cm arbitrary levels. Horizontal provenience control was maintained using excavation unit corner nails, and vertical control relied on a permanent line level embedded in the rockshelter wall that was 25 cm above ground surface. All sediment was screened through 1/8 inch mesh, and screened artifacts were bagged separately by type (e.g. flaked stone, ceramics, and fauna). Diagnostic artifacts, radiocarbon samples, large faunal elements, unusual or unique artifacts, and burial materials (human remains and associated artifacts) were point plotted using hand tape measures for northing and easting coordinates and line levels for elevations. All artifacts and ecofacts (except *jute*) were collected. Charcoal for radiocarbon dating and species identification and sediment samples were taken from each level as well as from burials (see Tables 2.2 and 2.3). At the conclusion of this field season's work, the excavation units were lined with tarps and back filled.

***Excavation Descriptions** – by Asia Alsgaard*

Unit 1

Unit 1E was reopened on May 15, 2016 following the 2014 excavations and corresponding to Unit 29 excavated in 1998 by the Maya Mountain Archaeological Project. In 2014, excavations reached a depth of 230 cmbd in Unit 1E terminating at a large cobble horizon and the bottom of Burial 6. During 2016 excavations were conducted under the sub-operation 16-01, levels were numbered beginning at 101 in order to avoid conflation with system of level numbering used in 2014. Excavations began on the 2x1m bulk on the eastern side of the unit that had been left intact during 2014. The backfill dirt was removed until the tarp marking the end of the 2014 season was uncovered. Figures 2.4 and 2.5 show the location of all units excavated during the 2016 field season at MHCP.

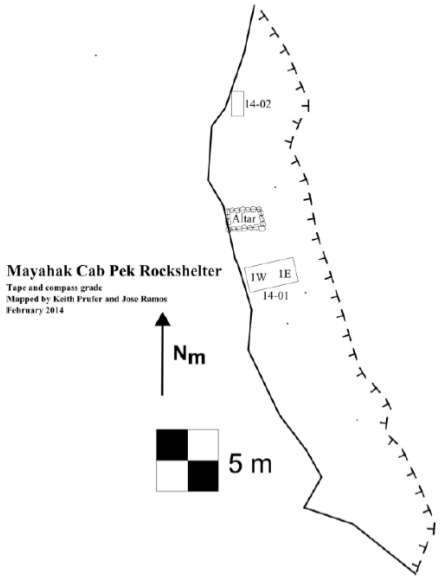

Figure 2.4. The location of 2014 test units at MHCP. 14-01 units were reopened in 2016 as 16-01. Unit 2 was added to the north of 1W and 1E. (Digitized by C. Meredith)

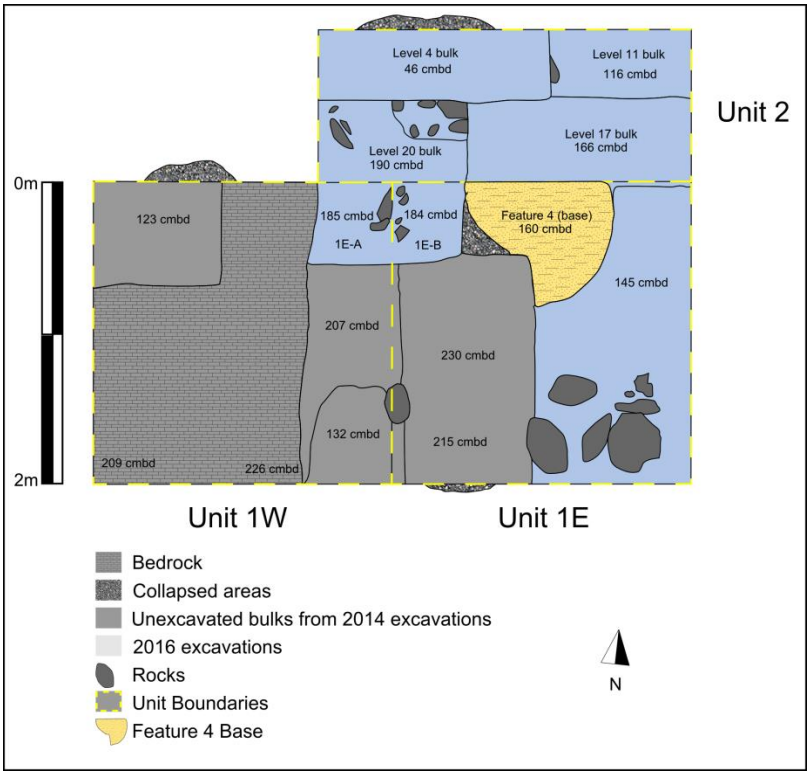

Figure 2.5. The location of 2016 excavation units at MHCP (in blue) and their ending depths. Grey areas were excavated during the 2014 BPAAP field season. (Digitized by C. Meredith)

Level 101 datum height is 24.5 cm above ground surface with level depths beginning between 89 and 74 cmbd and ending between 92 and 87 cmbd. Faunal bone (*81009*), ceramics (*81010*), and lithics (*81011*) were recovered. The tarp marking the ending of the 2014 excavations had a substantial gap on the east profile resulting in incursion of some backfill into this level.

Level 102 was a silty loam matrix (10 YR 2/2-dry and 10 YR 2/1-wet) with inclusions of burnt sandstone and limestone cobbles. Lithics (*81012*) appear superficially to be larger in size consistent with the early stages of reduction. One burnt ceramic (*81015*) was present. Faunal bone (*81013*) and macrobotanicals (*81014*) were also recovered with a majority of crab claws recovered in the northern half of the unit. The level ended between 92 and 95 cmbd with a decrease in the compactness of the soil matrix.

Level 103 was a less compact, silty loam matrix (10YR 2/2-dry, 10YR2/1-wet). Fist-sized cobbles are abundant throughout the unit at 94 cmbd and at 97 cmbd, *jute* concentration increased markedly in the NW corner of the unit; this combination is similar to that observed in 2014 just above Burial 3 corresponding with Level 7. Further excavation revealed that the *jute* concentration increased beneath the cobble layer across the entire unit. Lithics (*81016*), faunal bone (*81017, 81019*), ceramics (*81020*), and one charcoal sample (*81018*) were recovered. The level terminated at contact between cobble layer and high *jute* concentration between 97 and 101 cmbd.

Level 104 contained an increase in *jute* throughout the level. A discrepancy in the line level was noticed and a new datum was established in a tree on the eastern side of the unit at the same level as the starting datum; however, previous levels are possibly inaccurate by approximately 5-10cm because of the long length of the initial string. In the western edge of the unit, vertically aligned, flat river cobbles appear and are potentially associated with Burial 3 (see Prufer et al. 2015). A hammerstone (*81021*), lithics (*81022*), faunal bone (*81023*) and ceramics (*81024*) were recovered. The level ended between 98 and 104 cmbd.

Level 105 was a silty loam matrix (10YR2/1-dry 10YR2/2-wet) with *jute* inclusions. Feature 2 begins in this level (see Unit 2 Level 10 below). Charcoal was abundant in this level and cobbles were heavily burnt. Poor quality, silicified limestone was present, some of which was multi-colored indicating heat treatment (*81029*). Faunal bone (*81025*), lithics (*81026, 81030*), obsidian (*81034*), macrobotanicals (*81033*), and charcoal (*81027, 81028, 81031, 81032*) were recovered. Level 105 ended between 105 and 110 cmbd.

Level 106 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with *jute* inclusions. Feature 2 partially extends into this unit, but the bulk is in Unit 2 (see equivalent level in Unit 2, Level 10). There were markedly fewer macrobotanical materials (*81049*) in Level 106. Faunal bone (*81050*), lithics (*81051*), obsidian (*81057*), baked clay (*81058*), and charcoal (81055) materials were recovered. The level ended between 117 and 123 cmbd.

Level 107 was a matrix of silty loam (10YR2/2-dry, 10YR2/1-wet) with *jute* inclusions. This marks the first level where lithics are point plotted; levels were dug at 5cm intervals in recognition of the lack of ceramics. Fewer macrobotanicals were recovered from this level. The northwest corner was dug as part of Feature 3 (See Unit 2, Level 11). Lithics (*81076*), faunal

bone (*81077*), and charcoal (*81079*) were recovered. Level 107 terminated between 124 and 127 cmbd.

Level 108 was a silty loam matrix (10YR2/2 –dry, 10YR2/1-wet) with *jute* inclusions. There was an increase in macrobotanicals (*81092*) with charcoal (*81086*) smears throughout. In the NW corner of the unit, there was an increase in faunal materials with intermittent burning. Due to line level inconsistencies, the middle of the Unit is approximately 5cm higher than the northern and eastern edges. The next level will decrease the center to match the edge depths. Heavy (*81088*) and light (*81089*) floatation samples and a soil (*81087*) sample were taken beginning this level. Lithics (*81083*) and faunal bone (*81084*) were also recovered. The level terminated between 130 and 135 cmbd.

Level 109 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with *jute* inclusions. The entire unit was brought down to approximately 135 cmbd. Overall, there was a decrease in chert and faunal remains throughout the matrix. In the northwestern corner near Feature 2, there was burnt bone and ash similar to that as found in 1E-2. At that point, this area was avoided and incorporated into Feature 2. The ash extended approximately 20 cm south of the aforementioned concentration, but in a less concentrated form. In the south edge of the unit, there was a concentration of limestone and associated light ash. Lithics (*81096*), macrobotanicals (*81098*), faunal bone (*81097*), and charcoal (*81360*) were recovered. The level ended between 135 and 136 cmbd.

Level 110 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with *jute* inclusions. The northern portion of the unit has a higher proportion of ash, lithics (*81362*), faunal bone (*81361*), and macrobotanicals (*81363*). Burnt human bone and a tooth (*81365*) associated with Feature 2 was collected from the northwestern corner. In the southern portion of the unit, more, larger limestone rocks were uncovered. Floatation heavy (*81368*) and light (*81367*) fractions, a soil sample (*81366*), and charcoal samples (*81364, 81367*) were also recovered. Level 110 ended between 139 and 141 cmbd.

Level 111 was a silty loam (10YR2/2 –dry, 10YR2/1- wet). Following the excavation of Feature 3, accounting for levels and unit boundaries has become more complicated. Bulks surrounding the lowest point of Feature 3 lie in Unit 1E, 1W, and 2 complicating excavation. Due to some ambiguity and the lack of access to 2014 excavation forms, a conservative excavation strategy was taken that excavated Unit 2 contiguously but divides some segments of Unit 1E into 1E-A and 1E-B to account for the possibility that 1E-A lies in Unit 1W. Thus, excavations for Unit 1E, 1E-A, and 1E-B are located on 1E forms. Following excavation of Feature 3, bulks remained in 1E-A, 1E-B, and 1E (see Figure 2.5). These were excavated as part of level 111. In 1E-A, faunal bones (*81369*), macrobotanicals (*81368*), and lithics (*81370*) were recovered during excavation and human remains (*81372*) were recovered from screen. In 1E-B, faunal bones (*81372*), macrobotanicals (*81378*) and lithics (*81377*) were recovered. In 1E, faunal bones (*81389*) and lithics (*81388*) were recovered. One charcoal sample (*81371*) was collected. Level 111 ended at 148 cmbd.

Level 112 was a silty loam matrix (10YR2/2-dry) with medium cobble inclusions. Burnt clay was abundant throughout Units 1E-A and 1E-B as well as burned limestone fragments. Faunal

bone density was very high in both 1E-A and B with a noticeable increase in snake bones. The quality of lithic raw material appeared to increase in this level. In 1E-A, faunal bones (*81382*), lithics (*81383*), and human remains (*81384*) were recovered. In 1E-B, faunal bones (*81385),* lithics (*81386*), and human remains (*81428*) were recovered. The level terminated at 155 cmbd.

Level 113 was silty loam matrix (10YR2/2-dry). In 1E-A, faunal bones (*81436*), lithics (*81437*), macrobotanicals (*81439*) and charcoal (*81435*) were recovered. In 1E-B, faunal bones (*81432),* lithics (*81433*), macrobotanicals (*81434*) and human remains (*81428*) were recovered. The level terminated at 160 cmbd.

Level 114 was a silty loam matrix (10YR2/2-dry). In 1E-A, faunal bones (*81508*), lithics (*81507*), macrobotanicals (*81510*) and human remains (*81509*) were recovered. In 1E-B, faunal bones (*81512),* lithics (*81511*), and macrobotanicals (*81513*) were recovered. The level ended at 170 cmbd.

Level 115 was still a silty loam matrix (10YR2/2-dry). In 1E-A, faunal bones (*81542*) and lithics (*81541*) were recovered. A soil sample was collected for Feature 6 (*81547*). In 1E-B, the northwestern corner had a large amount of burnt clay fragments; a sample was collected for thermoluminescence (TL) dating (*81518*). Faunal bones (*81540)* and lithics (*81519*) were recovered. Level 115 ended at 174 cmbd.

Level 116 was a silty loam matrix (10YR2/2-dry) that ended at 178 cmbd. In 1E-A, faunal bones (*81542*) and lithics (*81541*) were recovered. A soil sample was collected for Feature 6 (*81547*). Feature 6 is approximately 25cm (N-S) and 30cm (E-W). It is an ephemeral and blotchy ash matrix with inclusions of clay nodules and minimal charcoal. In Level 116, there was a wall collapse causing a partial bucket of 1E-A to be thrown without screening. In 1E-A, faunal bones (*81554*), lithics (*81553*), macrobotanicals (*81555*), and charcoal (*81552*) were recovered. In 1E-B, faunal bones (*81546*), lithics (*81545*), and charcoal (*81547*) were recovered. In 1E-B, Feature 6, faunal bones (*81551*), lithics (*81550*), charcoal (*81548*), and burnt clay (*81549*) were recovered.

Unit 2

Unit 2 (1mx2.5m) is adjacent to the north edge of Unit 1E with the eastern edge of Unit 2 adjacent to the east profile of Unit 1E (see Figure 2.5 above). This unit was opened in order to complete excavation on a burial cairn that was uncovered in neighboring Unit 1E during the 2014 field season. During the course of excavation, a rock cairn (Feature 2), a burial pit (Feature 3) and a multiple cremation (Feature 4) were uncovered.

Level 1 started at a depth of 27-23 cmbd and was a silty loam matrix (10YR2/2-dry) with inclusions of leaves, branches, *jute*, and stones. Leaf litter was swept off before excavating ~5cmbd to achieve a level surface. Large ceramic sherds (*81102*) were found in the southern end near a large stone. Human bone (*81103*) fragments were found in this area as well. Lithics (*81100*) and faunal bones (*81101*) were also collected. Level 1 ended between 29 and 30 cmbd.

Level 2 was a silty loam matrix (10YR2/2-dry) with inclusions of leaves, branches, *jute*, and stones. There was abundant *jute* and many stones and cobbles 1-5cm in diameter. Obsidian (*81108*) was found in the NW quadrant. Large stones in the west and east side remained in the side walls. Plentiful ceramics (*81106*), lithics (*81104*), faunal bone (*81105*), human bone (*81107*), and macrobotanicals (*81109*) were also recovered. Ceramics included Dolphin Head types suggesting that this level dates to the Late Classic period. Level 2 ended between 39 and 40 cmbd.

Level 3 was a silty loam matrix (10YR2/2-dry) with inclusions of cobbles, stones, and *jute*. Small rocks and boulders were located in the eastern end of the unit surrounding a large boulder. Many *jute*, smaller stones, obsidian (*81114*), and human bone (*81116*) were recovered in screen. Large rocks also aligned from west to east and were initially believed to have covered a burial, but this was later disproved and was determined to be a stone cairn (see Feature 3 below). End depth may be off by 5-10cm because a problem with the line level was encountered (see Unit 1E, Level 104). The NW corner has cluster of rocks and so will continue to be higher than other corners. Lithics (*81110*), faunal bones (*81111*), ceramics (*81112*), macrobotanicals (*81113*), carbon (*81117*), wood (*81153*), and a special find (*81115*) were also recovered. Level 3 terminated between 47 and 51 cmbd.

Level 4 was the same silty loam matrix (10YR2/2-dry, 10YR2/1-wet). The northwest quadrant measures 50cm N-S and 150cm E-W and was left unexcavated as it was a suspected Maya burial; the remaining sectors in the Unit were taken down. There was a notable increase in small rocks and *jute* at the eastern end of the unit as well as a large ceramic (*81120*) deposit which contained several jar and bowl rims as well as a perforated ceramic disk. Human remains (*81123*) were recovered from the western half of the unit. Material in eastern 50cm of the unit is likely a feature, but the margins are difficult to define and may extend into Level 5. The photo board incorrectly was labeled "Level 5." Lithics (*81118*), faunal bones (*81119*), macrobotanicals (*81126, 81121*), obsidian (*81122*), mortar and pestle (*81128, 81129*), and charcoal (*81124, 81125, 81127*) were also recovered. The level ended around 60 cmbd (47 – 60 due to a rock in the corner of the unit. Here after the rock measurement will not be noted as it stayed the same while the rest of the unit increased in depth).

Level 5 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). Faunal bone (*81135*) was clustered at 60S, 40W and 62-68 cmbd and contained abundant charcoal. The cluster was ~15cm in diameter. A groundstone *metate* (*81129*) was recovered with plentiful macrobotanicals (*81132, 81136, 81137*) in eastern edge below a ceramic (*81134*) cluster which included the remains of jars, bowls, and vases from both slipped and unslipped vessels. Two Late Classic (Dos Arroyos) polychrome sherds were noted. Lithics (*81131*), other groundstone (*81138*), and general context of faunal bones (*81130*) were also recovered. The level ended around 70 cmbd.

Level 6 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with inclusions of stones/cobbles and *jute*. Macrobotanicals (*81142, 81145, 81151, 81144*) are noted in the eastern edge of the Unit below the concentration of ceramics (*81141*) noted above. *Jute* concentrations are similar to previous levels but ceramic and lithic (*81139*) densities have decreased. Sediment was collected for coarse (*81149*) and float (*81148*) floatation samples and for a soil sample (*81146*). Faunal

bones (*81140*), ceramics (*81141*), human bone (*81143, 81147*), obsidian (*81150*), and groundstone (*81152*) were also collected. Level 6 ended around 80 cmbd.

Level 7 was the same silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with inclusions of stones/cobbles and *jute*. The area to the west of the rock barrier immediately south of the bulked possible burial may be disturbed due to the intrusive nature of the burial in the North wall of Unit 1E. This explains the softer texture and reduced artifact and rock density noted in previous levels. Because of this possibility, artifacts were collected separately from both sides of the barrier. Artifacts in the eastern section were presumed to be in place where as the western section artifacts may be an amalgamation at multiple levels. During excavation, this pattern deteriorated suggesting that disturbance of above levels may be associated with excavation of possible burial in the North wall of Unit 2 rather than burial in North wall of Unit 1. Sediment was collected for coarse (*81168*) and float (*81167*) floatation samples for the eastern side of unit. Soil samples were collected from both the eastern and western sides of the unit (*81165, 81166*). Faunal bones (*81163*), lithics (*81154*), and macrobotanicals (*81156*) were collected from the Eastern side. Faunal bones (*81161*), lithics (*81155*), and macrobotanicals (*81157*) were also collected from the Western sides. Charcoal (*81159, 81162, 81164*) was also collected. The level ended around 90 cmbd.

Level 8 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). Both sides of unit have similar *jute* density, so the division between the eastern and western halves ceased. There was a notable decrease in macrobotanicals (*81170*) and cobbles. *Jute* density and soil texture same as previous levels. Faunal bones (*81174*), lithics (*81171*), ceramics (*81172*), and charcoal (*81169, 81175*) were recovered. Sediment was collected for coarse (*81177*) and float (*81176*) floatation samples for the E side of Unit and for a soil sample (*81175*). Level 8 terminated around 103 cmbd.

Level 9 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). There are small and medium cobbles throughout, and less ceramics but similar densities of *jute*, lithics (*81178*), and faunal bones (*81179*) were noted. There was an increase in large cobbles near the bottom of the level, especially in the west end of the unit where several large, angular cobbles dominated the matrix. The eastern portion had far less cobbles than the western side. Ceramics (*81180*), macrobotanicals (*81191*), obsidian (*81195*) and charcoal (*81181, 81182, 81186*) were also collected. Sediment was collected for coarse (*81194*) and float (*81193*) floatation samples and for a soil sample (*81192*). Level 9 ended around 110 cmbd.

> Feature 1 is a quarter circular concentration of ashy soil that disappears into the north bulk of Unit 2 and the unexcavated Maya burial discussed earlier. The top of Feature 1 began at a depth of 105 cmbd. Several fist-sized, fire affected cobbles followed the semi-circular outline of Feature 1; another, larger cobble underlies the "center" of the semi-circle. The base of Feature 1 was roughly basin-shaped (concave); the lowest depth of the feature was 117 cmbd. A cluster of rounded river cobbles was noted along the southern edge beneath a large land snail (*81179*). A single red slipped ceramic sherd (*81187*), faunal bones (*81188*), lithics (*81189*), macrobotanicals (*81190*), charcoal (*81185*), and a soil sample (*81184*) were taken.

Level 10 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with inclusions of large cobbles, river cobbles, and *jute*. Large angular cobbles were present in the western end of unit. Rounded river cobbles continued in the center of the southern area of the unit (Feature 2). The eastern side had less cobbles, less *jute*, and softer texture in general; larger cobbles in the western side were photographed and then removed so that the underlying matrix could be included in Level 10. Lithics (*81196*), faunal bones (*81197*), human bone (*81198*), obsidian (*81042*), macrobotanicals (*81041, 81043*), and charcoal (*81199, 81044, 81048*) were recovered. Sediment was collected for coarse (*81046*) and float (*81046*) floatation samples and for a soil sample (*81045*). Level 10 ended at 123 cmbd.

> Feature 2 (Figure 2.6) was contained within Unit 2: Levels 10 and 11 and Unit 1E: Levels 105 and 106. In this Feature, lithics (*81064*), faunal bones (*81065*), macrobotanicals (*81066*), human bones (*81067*), charcoal (*81062*), and a soil sample (*81063*) were collected.

Level 11 remained a silty loam matrix (10YR2/2-dry), 10YR2/1-wet). Feature 2 is a concentration of rounded cobbles roughly ovular in plan view found in the southern edge of the Unit 2 and in the northwest corner of adjoining Unit 1E. It was left intact as Level 11 was excavated and the feature was removed and the artifacts collected separately. Directly west of Feature 2, was a possible human burnt bone in the matrix of loose soil and *jute* (*81056 AA*); this matrix characterizes the space between Feature 2 and the larger cobbles to the west. In Exposure 1 the matrix removed from the western 1.5 m of the unit exposed angular irregular rocks overlaying Burial 7, Feature 1. Rocks were not consistent with the remainder of the feature and thus were removed to allow for exposure of feature. The southeastern quadrant had abundant charcoal fragments and some burnt limestone. Burnt human remains were recovered on the southern side near the edge of Feature 3, beneath Feature 2. In the general context, lithics (*81052*), faunal bones (*81053*), macrobotanicals (*81054*), human bone (*81056, 81406*), a *metate* (*81060*), ceramics (*81061*), and charcoal (*81059, 81400, 81401*) were recovered. Sediment was collected for coarse (8*1070*) and float (*81069*) floatation samples and for a soil sample (*81068*). The level ended around 130 cmbd.

> Feature 3 (Figures 2.6 and 2.7) was arbitrarily defined as a burial pit but was not well defined. A ring of stones surrounding the presumed burial appeared incomplete on the eastern margin, possibly as a result of disturbance associated with Feature 2. As a result, a buffer margin east of the presumed burial extending to the east margin of the unexcavated bulk was collected with Feature 3. Feature 3 lies within both Unit 1E and Unit 2 Level 11, so some lot cards show Level 1E-2. Level 11 was in the northwestern corner of the Level/Feature there appeared to be some grey ashy materials. For Feature 3, Level 11, lithics (*81071*), faunal bones (*81072*), macrobotanicals (*81073*) and charcoal (*81074*) were collected. In the general context, obsidian (*81075*) and human bone (*81078*) were recovered. Within the ring of stones, a sediment sample was collected for coarse (*81082*) and float (*81081*) floatation and for a general soil sample (*81080*). Obsidian (*81085*) was collected above possible Burial 7. In the sediment between the cobbles, lithics (*81409*), faunal bones (*81410*), human bone (*81411*), ceramics (*81412*), and macrobotanicals (*81413*) were collected.

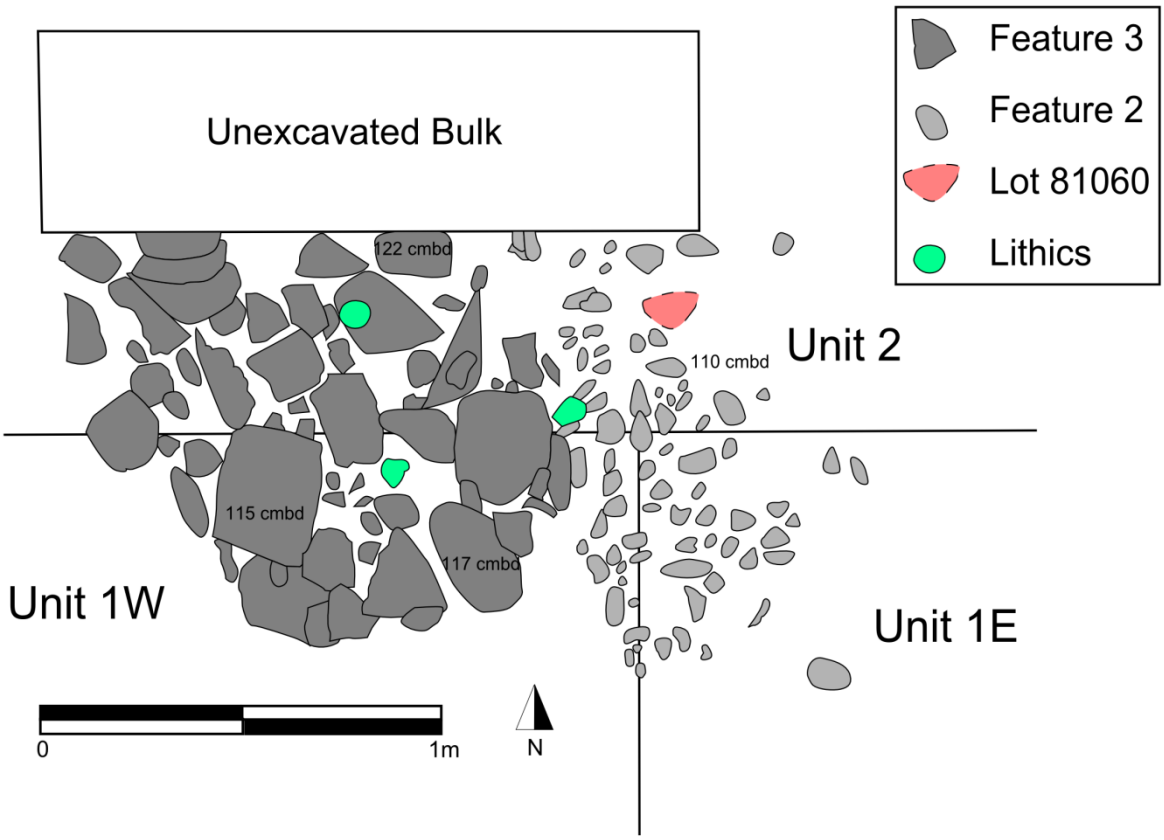

Figure 2.6. The location of Features 2 and 3 and associated artifacts at MHCP. (Digitized by C. Meredith)

Figure 2.7. Excavation photograph of Feature 3 Exposure 2. (Photograph by C. Meredith)

After Level 11 the decision was made to stop excavating Feature 3 in 10cm levels and to excavate the remainder of the Feature as a single unit and collect artifacts together from within rock circle. The excavation of Feature 3 terminated at base of bottom layer of rocks at 149 cmbd. Feature 3's matrix had similar quantities of *jute* and charcoal as levels immediately above the feature and the sediment was loosely consolidated throughout the feature. No evidence of human remains were discovered among or immediately beneath the rocks. Several bones inconsistent with human burial features were recovered from among the rock circle. Preliminarily, this quantity appears no different than the amount recovered from previous levels outside of the feature, suggesting that Feature 3 was a rock cairn with no associated internment. Several burnt, partial human bones fragments were recovered from within the feature; these may be associated with the burnt bone cluster directly east of Feature 3/ under Feature 2. Several fragments of burnt bone were uncovered directly under Feature 3 and are believed to be associated with cluster. This may indicate Feature 3 was intrusive on the burnt bone concentration. The matrix directly below Feature 3 marked a decrease in *jute*. Juvenile human bone (*81091*), and charcoal (*81090*) were collected.

Level 12 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). This is an arbitrary excavation level for the section of the unit fully outside of Feature 3 and is only in the southeastern corner. Burnt human remains recovered in the southern side just east of Feature 3; these were chased out and collected as a new feature. Outside the area of burnt bone, macrobotanical, charcoal, and burnt, degraded limestone were plentiful as was the adjoining northeastern quadrant and of unit 1E. This level only occurs in the southwest corner of Unit 2; all other sections are either unexpected or are part of Feature 3. Lithics (*81093*), faunal bones (*81094*), macrobotanicals (*81099*), and charcoal (*81408*) were recovered from Level 12. Level 12 ended around 130 cmbd.

Level 13 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) and was confined to the southeast quadrant, stretching west towards the center of the unit. Level 13 reached the edge of Feature 4, which was dug below the ending target depth of this level. Larger cobbles and rocks seem clustered towards the NE section of this level. Faunal bones (*81395*), lithics (*81396*), macrobotanicals (*81397*), groundstone (*81523*), and charcoal (*81398, 81399*) were recovered. Sediment was collected for coarse (*81522*) and float (*81521*) floatation samples and for a soil sample (*81520*). Level 13 terminated around 140 cmbd.

Feature 4 crosscuts all three units (1E, 2, and Feature 3) but was not recorded within a level form. The start depth of the feature was around 125 cmbd and consisted of a silty sand with fine silt matrix (10YR3/2-dry, 10YR2/1-wet) with inclusions of red clay. The borders were first defined based on the location of burnt bone within the feature. The highest point is approximately 125cm which was near the top of Level 11. The Feature was loosely defined cluster of human bone, much of which is fragmentary and/or burnt. It seemed to vaguely underlie Feature 2. The largest concentration of burnt bone was in the higher areas in the center and radiated out and down being mixed with, potentially, unburnt faunal bones and chert lithics. A collection of river pebbles was noted above the bone. The entire feature was approximately 140cm (N-S) x 80cm (E-W). After defining the Feature, it was excavated in 6 grid squares (A-R). There are multiple individuals, both adult and sub-adult. The Feature appears to have been deposited during a single deposition event and may have been burnt *in situ* based on the presence of burnt clay

beneath the feature. The Feature was pit-like in shape. Lithics (*81374*), faunal bones (*81375*), human bone (*81390, 81566*), obsidian (*81394*), macrobotanicals (*81376*), and charcoal (*81391, 81392, 81425, 81393*) were collected. Sediment was collected for coarse (*81381*) and float (*81380*) floatation samples and for a soil sample (*81379*). Equally, a phytolith sample was taken (*81564*). Feature 4 terminated between 140 and 158 cmbd.

Level 14 start depth was 47-144 cmbd and consisted of a silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with inclusions of medium to large cobbles and *jute*. Isolated human long bone fragment were noted in association with two lithics in the southeastern corner of the level. The level extended to 150 cm west of the eastern bulk, beyond which was Feature 3 at this depth; it was partly an arbitrary 5cm level and partly a cultural level. Lithics (*81524*), faunal bones (*81525*), human bone (*81527*), and macrobotanicals (*81526*) were recovered. Sediment was collected for coarse (*81530*) and float (*81529*) floatation samples and for a soil sample (*81528*). Level 14 ended around 145 cmbd.

Level 15 was a 5cm arbitrary level consisting of a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). The southwestern corner (below Feature 3) included a few medium cobbles including one circular, smoothed stone, several isolated humans remains, few *jute*, lithics, and fauna. One large chert core was found near bottom of the level beneath Feature 3. In the west section of the level, a single ceramic sherd was recovered, but it might be intrusive from Feature 3, which was overlying this part of Level 15. The eastern section was excavated one week later due to removal of Feature 4 (which took nearly a week), and the northernmost part of the level overlays the previous level. Ash and charcoal were noted throughout the eastern portion of the level. Several small veins of light brown/tan soil were also noted in center of the level, but they did not continue or form a feature. Lithics (*81417*), faunal bones (*81418*), human bones (*81419*), ceramics (*81424*), obsidian (*81427*), macrobotanicals (*81420*), and charcoal (*81426, 81531*) were recovered. Sediment was collected for coarse (*81423*) and float (*81422*) floatation samples and for a soil sample (*81421*). The level ended around 150 cmbd.

Level 16 was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). There were few *jute* across the unit, and the silty matrix was looser and less compact. A concentration of large cobbles was noted in the western end of the level. Charcoal was abundant throughout the level. Lithics (*81429*), faunal bones (*81430*), macrobotanicals (*81536*), and charcoal (*81431*) were recovered. Sediment was collected for coarse (*81534*) and float (*81533*) floatation samples and for a soil sample (*81532*). The level terminated around 156 cmbd.

Level 17 was the same silty loam matrix (10YR2/2-dry, 10YR2/1-wet). The area was concentrated with lithic (*81502*) materials and macrobotanicals (*81501*); burnt clay was also present but not collected. Burnt human bone and a tooth were also found in the matrix, which were likely associated with the top of Feature 5. A *metate* (*81505*) was present and a small bead of worked shell (*81506*) was found. Macrobotanicals (*81501*), faunal bones (*81503*), human bones (*81504*), and charcoal (*81500, 81537*) were found. Sediment was collected for coarse (*81563*) and float (*81539*) floatation samples and for a soil sample (*81538*). Level 17 ended around 160 cmbd.

Level 18 began around 160 cmbd and consisted of a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). There was an abundance of burnt limestone and charcoal directly north of 1E-B - Feature 5. Feature 5 consisted of a very thin ash layer extending just inside the portion of Level 18 and was excavated on 1 June (in the westernmost meter of the unit). The feature presumably extended to the west. Feature 5 was a shallow, ephemeral ash feature, which was ~1cm at its deepest beginning at 160 cmbd and topped by charcoal sample (*81516*). The ash layer was distinct and artifacts associated with it occurred either above or below it in the matrix and were collected along with the Level 18 fill from the remainder of the unit. Lithics (*81514*), faunal bones (*81515*), and macrobotanicals (*81517*) were recovered. The level ended at 170 cmbd.

Level 19 began at 170 cmbd and was a silty loam matrix (10YR2/2-dry, 10YR2/1-wet). Rocks in the north profile that were protruding into the unit were not removed as their removal would result in the destabilization the wall, potentially resulting in wall collapse; they were kept in place to preserve the profile. Rocks with in the unit had no discernible patterning and were removed following completion of the level. Feature 6 extended into Unit 2 from Unit 1E-B. The feature consisted of abundant burned clay nodules. Little charcoal was present within the deposit. The feature was cleared and not removed immediately as part of this level. After excavation of Level 116 in Unit 1E-B, Feature 6 was found to be relatively shallow (~5cm) and contained very little charcoal within the abundant ash. Faunal bone (*81542*) from this unit was largely charred. Lithics (*81543*), charcoal (*81541*), macrobotanicals (*81544*), and a soil sample (*81547*) were also taken. Level 19 ended at 174 cmbd.

Level 20 was the same silty loam matrix (10YR2/2-dry, 10YR2/1-wet) with inclusion of limestone cobbles. Feature 6 is included in this level. Lithics (*81557*), faunal bones (*81558*), and macrobotanicals (*81559*) were recovered. Sediment was collected for coarse (*81562*) and float (*81561*) floatation samples and for a soil sample (*81560*). Level 20 terminated at 185 cmbd.

The unit was closed to due to the end of the field season. Profiles were drawn for the north (Figure 2.8) and west walls.

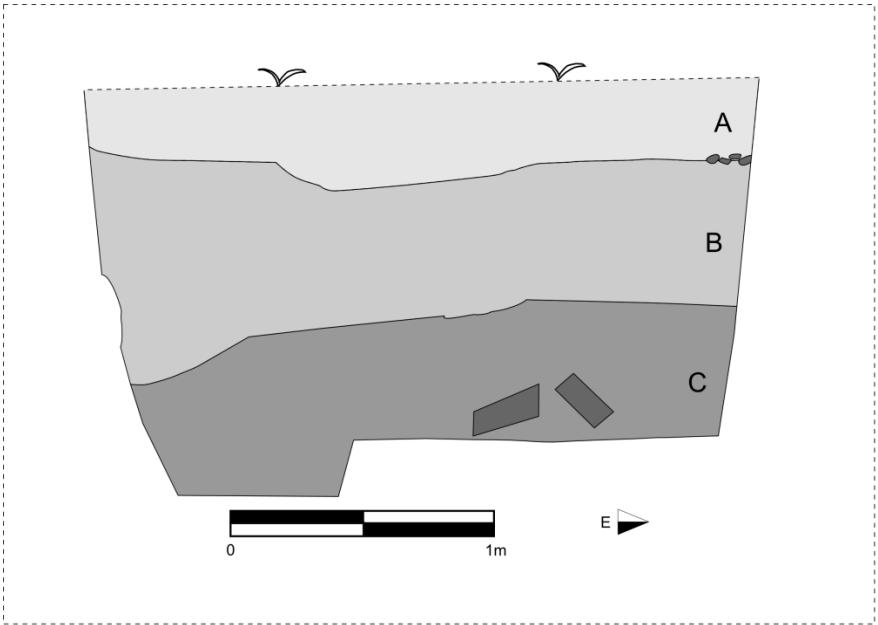

Figure 2.8. The North Profile of Unit 2 at MHCP. (Digitized by C. Meredith)

Conclusions

All units at MHCP were closed due to the end of the field season. A tarp was laid down across the base of the units and backfilled. In total, six features were identified during the 2016 field season at MHCP, including a rock cairn (Feature 2) and a cremation area (Feature 4),

indicating human use of the rockshelter. Charcoal samples (*81028, 81027, 81079, 81360, 81393, 81435, 81552, 81548*) have been submitted for AMS ^{14}C dates (Table 2.2); results are pending as of mid-November 2016. Ceramics from MHCP suggest a Late Classic (Dolphin Head and Dos Arroyos) use of the rockshelter. Brief ceramic analysis with Drs. Arlen Chase, Laura Kosakowsky, and Jim Aimers at the 2016 BAAS indicates that most ceramics date post AD 150 through the Terminal Classic with most ceramics dating to the late portion of the Early Classic through the Terminal Classic. However, results from 2014 fieldwork at MHCP indicate early (Archaic) use of the rockshelter and is supported by the lack of ceramics in the lowest levels of excavations.

Saki Tzul Rockshelter

The Saki Tzul (ST) rockshelter is located in the Ek Xux valley of the Maya Mountains (Figure 2.1), and is across the Ek Xux Creek from the Classic Period Maya center Ek Xux. ST is located on the eastern side of the valley and is a starkly white limestone outcrop. The massive rockshelter is approximately 80m tall, 250m long, and is between 8 and 15m wide and is visible from the air (Figure 2.9). The rockshelter runs along a generally east-west axis with differences in the elevation of the ground surface. The dripline is approximately 8-15m from the cliff face and the dry surface area is estimated to be 2000m^2 (however, it was noted during a large storm that rain blew in from heavy winds, resulting in enough moisture for vegetation to grow within the dripline). A large boulder dropped from the cliff face and resulted in a noticeable feature on the landscape that influenced our selection of excavation location, as this rock was likely significant to people of the past.

Figure 2.9. Photograph of Saki Tzul showing its massive size and starkly white cliff face. (Photograph by K. Prufer)

Methods

An excavation unit was established on a north-south grid. Early levels were excavated based on natural stratigraphy while among the deeper levels, the strata were excavated in 5 or 10 cm arbitrary levels within the natural stratigraphy. All sediment was screened through a 1/8" mesh, and screened artifacts were bagged separately by type (lithics, ceramics, macrobotanicals, faunal bone, etc.). Diagnostic artifacts, radiocarbon (charcoal) samples, larger faunal elements, architectural features, and human osteological remains were point plotted within each level. All artifacts and ecofacts were collected and in-field analysis occurred on ceramic materials so only diagnostics were removed from the BNR. Charcoal for AMS radiocarbon dating (Table 2.2) and soil sediments were collected from each level and features.

Excavation Descriptions

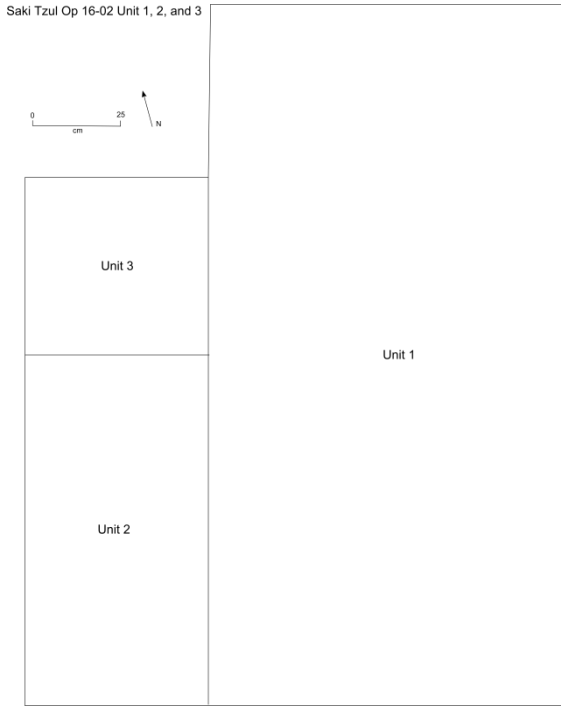

Figure 2.10. Schematic plan view of the locations of ST 16-02 Units 1, 2, and 3. (Digitized by E. Ray)

Unit 1

A 2m-x-1m unit was opened between the large boulder and the cliff face at ST under the Sub-Operation 16-02; the unit was oriented to the north (Figure 2.10). A datum was set at the base on cliff face at 29 cm above the ground surface. Leaf litter was cleared off the top of the unit and no rocks or artifacts were noted on the surface level, which was between 4 and 23 cmbd.

Level 1 consisted of the removal of leaf litter to clear off the surface of the unit. The soils were Aeolian silt that were very dry and loose and were primary excavated using a brush. As the unit deepened, the soils became slightly more compact. Artifacts recovered included ceramics (*81200*), bone (*81201*), lithics (*81202*), faunal bone (*81203*), and macrobotanicals (*81204*). The level terminated with the appearance of rocks in the east and an assortment of *jute* in the natural matrix in the southwest between 19 and 25 cmbd in an attempt to level off the surface of the unit.

Level 2 was composed of dark greyish brown (10 YR 4/2), loose soils. Artifacts recovered from the general matrix included lithics (*81205*), ceramics (*81206*), human bone (*81207*), faunal bone (*81208*), macrobotanicals (*81209*), and a large snail (*81210*). Three features were identified in Level 2.

> Feature 1 was in the western third of the unit and consisted of a distinct, *jute* rich matrix that revealed two clusters of bone, Area A in the southwest and Area B just north of the center (Figure 2.11). Feature 1 soils had an abundance of *jute* and artifacts as well as human remains. Area A contained a radius, ribs, and a phalanx while Area B contained a

scapula and finger bones. Artifacts from Feature 1 included ceramics (*81211*), faunal bone (*81212*), human remains (*81213*), lithics (*81214*), and macrobotanicals (*81215*). Bone (*81216*) was recovered specifically from Area A and Area B included ceramics (*81218*), human bone (*81219*), charcoal (*81220*), and obsidian (*81221*). Large rocks were noted at the base of Feature 1 in the southwest portion of the area and may be associated with Feature 3 (see below). The rocks were about 20 cm below the final contexts of Feature 1.

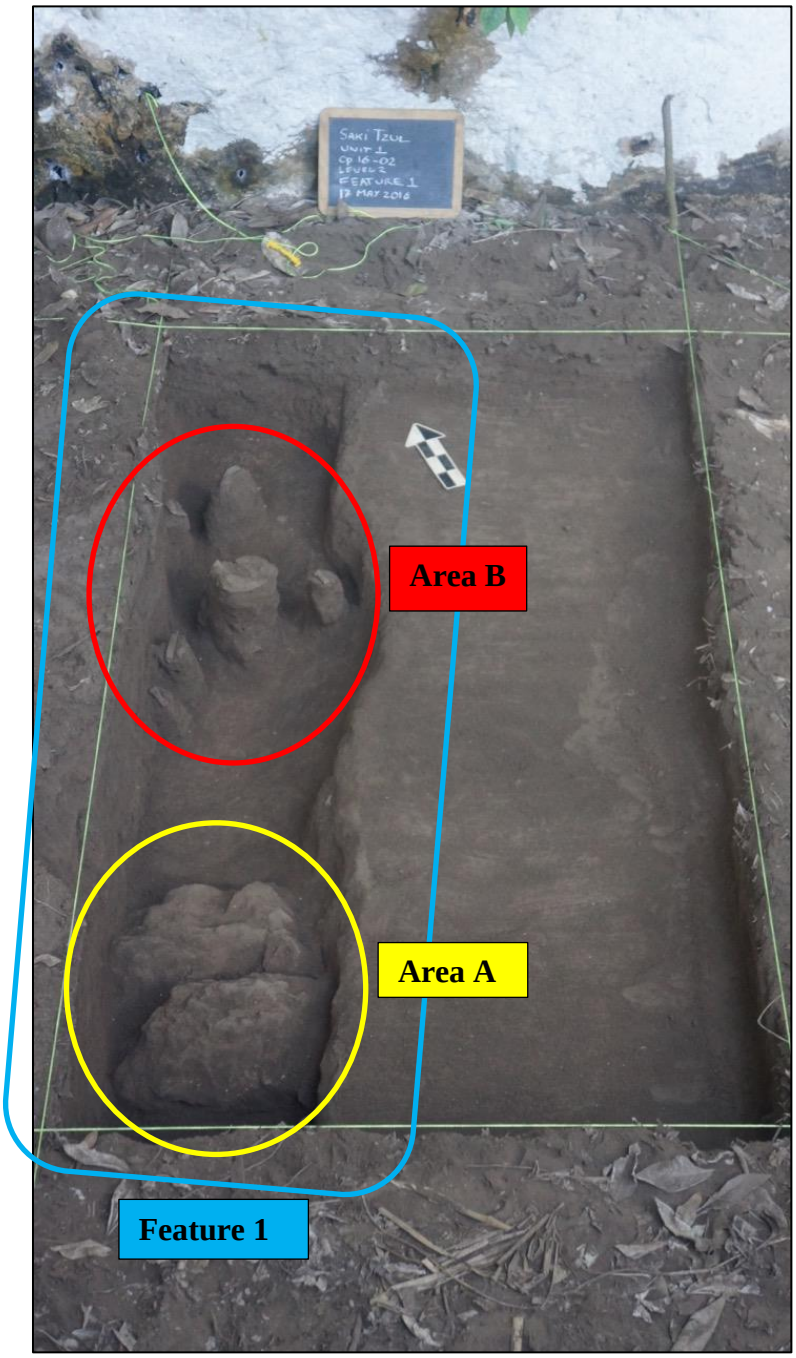

Figure 2.11 Photograph of ST 16-02 Unit 1 Feature 1 with Areas A and B highlighted. (Photograph by K. Prufer)

Feature 2 consisted of a harder, packed silt matrix in the eastern side of the unit. Human bones (*81217*) were recovered; however nothing else was associated with Feature 2. It is likely that Feature 2 was a result of bioturbation rather than a cultural feature.

Feature 3 is in the southeast portion of the unit and was defined by a cluster of bones (*81222*) [specifically foot bones and vertebrae] and hard packed silts. Few other inclusions were noted in the feature. Ceramics (*81223*), lithics (*81224*), macrobotanicals (*81225*), obsidian (*81226*), faunal bone (*81227*), bone beads (*81232*), wood (*81233*), and groundstone [n=2] (*81234*) were recovered from Feature 3. Ceramics included red and black slipped wares and a modeled carved sherd with red slip (Figure 2.12) and a portia-gouged incised Tinaha Red, which dates to the Terminal Classic (Aimers, Chase, and Kasokowsky, personal communication) and was likely imported. A large chunk of burned wood was associated with Feature 3 and continued between and under the rocks identified at the base of Feature 1. This wood was likely burned in-situ as evidenced by the white ash remains intermixed within and among the rocks. Feature 3 was lower than the general matrix to the north and was likely cut into the lower strata of Level 3, suggesting that it occurred after the general matrix of Level 3. A silt deposit was placed above Feature 3 and was largely devoid of inclusions. Feature 1 (see above) was then cut into this thin silt deposit and buried in a distinct matrix with more *jute*.

Figure 2.12. Modeled-carved sherd from Feature 3. (Photograph by M. Robinson)

The base of Level 2 was defined by a *jute* rich and unconsolidated rock matrix. Due to the depth of the level, artifacts were collected separately from the base of Level 2 and included human bone (*81228*), ceramics (*81229*), lithics (*81230*), and macrobotanicals (*81231*). The level terminated between 45 and 53 cmbd with the appearance of increased, unconsolidated rocks in the southern portion of the unit and *jute* rich deposits in the northern half of the unit that was more compact that previous silts.

Figure 2.13. Polychrome (Zacal 3 / Tepeu I/II) sherds from Level 3 (Photograph by M. Robinson)

Level 3 was a 10cm arbitrary level that was composed of *jute* and unconsolidated rocks. The matrix became rockier, particularly in the northeast section of the unit. Ceramics (*81235*), macrobotanicals (*81236*), lithics (*81237*), faunal bone (*81238*), and human bones (*81239*) were recovered from Level 3. A ceramic concentration was noted in the northwest corner and contained polychromes sherds from the same vessel with *witz* (stepped) imagery (Figure 2.13) that were Zacal 3 /

Tepeu I/II, which date to the end of the Early Classic / Late Classic period (Aimers, Chase, and Kasokowsky personal communication). The level terminated between 53 and 62 cmbd.

Level 4 was another 10cm arbitrary level that consisted of the same matrix as Level 3, densely packed *jute* and rock strata. Artifacts recovered from Level 4 included macrobotanicals (*81240*), faunal bone (*81241*), lithics (*81242*), ceramics (*81243*), and human bone (*81244*). Ceramics were likely Late/Terminal Classic based on a rim with an extreme exterior fold and punctuations. The northern portion of the unit had larger rocks, burnt limestone, and siltier soils rather than the densely packed *jute* and rock matrix while the southern part of the unit contained an abundance of *jute* and skeletal materials, including teeth (Figure 2.14). Fewer artifacts were noted in the lowest areas of the level and the level was terminated between 64 and 65 cmbd to maintain vertical control based on the differences in matrix.

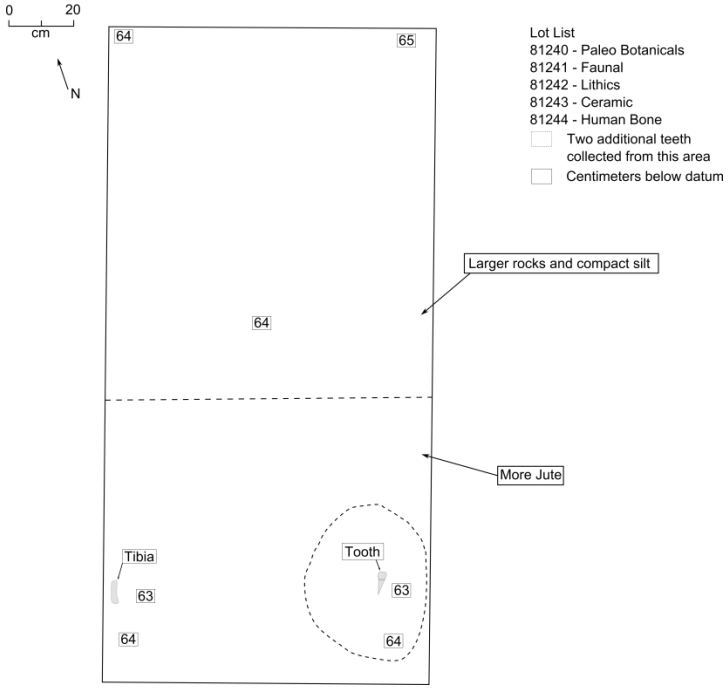

Figure 2.14. Plan view of ST 16-02 Unit 1 Level 4. (Digitized by E. Ray)

Level 5 consisted of the remained *jute* and rock matrix that terminated with the appearance of a distinct change in the soils to a semi-compact, lighter grey silt with little to no *jute*. The northeast portion of the unit contained larger rocks (Figure 2.15). Artifacts recovered from Level 5 included ceramics (*81245*), lithics (*81246*), faunal bone (*81247*), macrobotanicals (*81248*), human bone (*81249*), obsidian (*81250*), charcoal (*81251*), and a shell pendent (*81252*). The level terminated between 81 and 88 cmbd.

Level 6 was an arbitrary level of approximately 5cm through a light grey-brown silt. Far fewer *jute* or other inclusions were noted in this level than in previous levels. The large rocks in the northern side of the unit continued through this level and a charcoal sample was collected from this area. A second cluster of stones was present in the southwestern portion of the unit (Figure 2.16) and three large land snails were noted in the southern half of the unit. A sediment sample (*81258*) was collected and charcoal (*81253*), lithics (*81254*), faunal bone (*81255*), macrobotanicals (*81256*), and human bone (*81257*) were also recovered from the matrix. The level terminated between 90 and 94 cmbd. A large limestone rock was present in the northwest sidewall corner of the unit and was 91 cmbd. This rock remained in the wall of Unit 1 until the end of the field season. For all levels below Level 6, the northwest corner measurement was taken from the matrix (which got gradually deeper) rather than the rock.

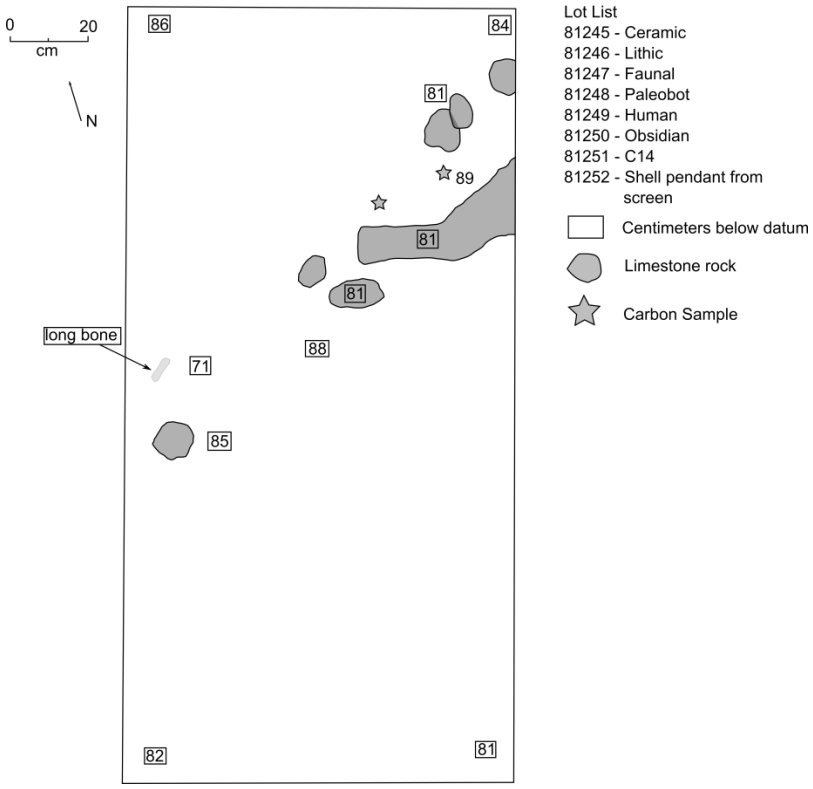

Figure 2.15. Plan view of ST 16-02 Unit 1 Level 5 (Digitized by E. Ray)

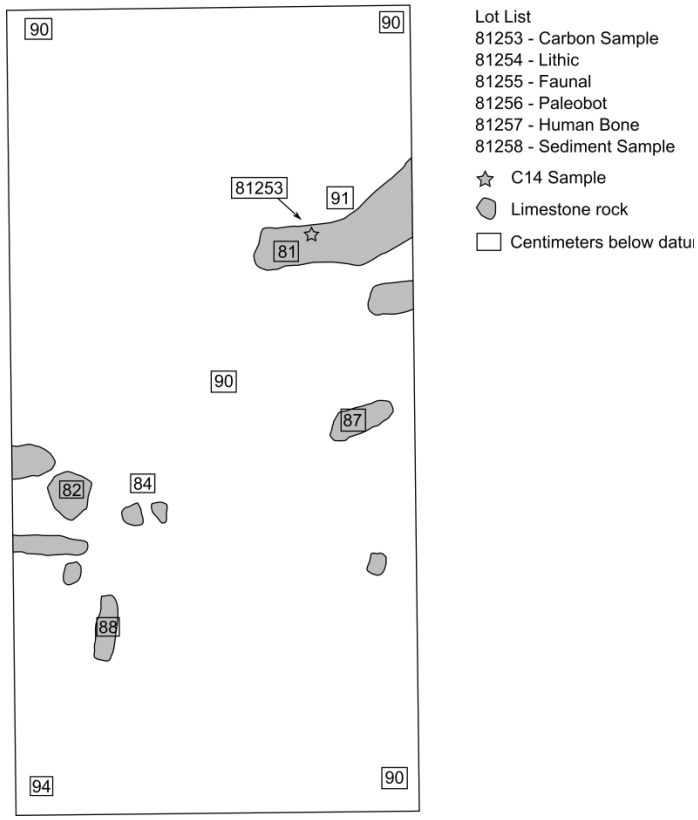

Figure 2.16. Plan view of ST 16-02 Unit 1 Level 6 (Digitized by E. Ray)

Level 7 consisted of a continuation of the matrix from Level 6, with a light grey-brown silt; some *jute* was mixed in with the silt. The rocks in the northern portion of the unit (see Feature 5 below) continued and small rocks appeared in the western side of the unit (see Feature 4 below). Artifacts recovered from Level 7 included charcoal (*81259*), lithics (*81260*), faunal bone (*81261*), macrobotanicals (*81262*), sediment (*81263*), human bone (*81264*), and obsidian (*81266*); an abundance of human bones (*81265*) were noted in the southwest portion of the unit and collected separately from the general matrix. The level terminated between 95 and 98 cmbd with a transition to less *jute* and an increase in the abundance of large rocks.

Level 8 was a 5cm arbitrary level that consisted of silts with *jute* and small rock inclusions. A large amount of land snails was noted in the northwest portion of the unit, next to a large, limestone rock in the corner of the unit. Two rocks clusters (Features 4 and 5 – Figure 2.17), noted in previous levels, continued in Level 8. Feature 4 contained the articulated skeletal remains of a sub-adult with its head oriented to the east, facing north. Artifacts recovered from Level 8 included lithics (*81270*), macrobotanicals (*81267*), faunal bone (*81268*), sediment (*81269*), human bone (*81272*), obsidian (*81271*), and charcoal (*81273*). While ceramics had not been recovered since Level 5 (approximately 10-15 cm above Level 8), a single ceramic sherd (*81274*) was found in the Level 8 matrix. The level terminated between 104 and 105 cmbd. Unit 2 (see below) was opened to explore the extent of Feature 4.

> Feature 4 consisted of a cluster of rocks located in the southwestern portion of the Unit 1. It consisted of both groundstone and limestone rocks that were placed over a sub-adult (approximately 18 months old, based on dentition) burial, creating semi-formal burial architecture that began around 97cmbd. Unit 2 was opened to expose the extent of Feature 4, which was removed in three exposures (Figure 2.18a, 218b, and 2.18c). Artifacts from Feature 4 included groundstone (*81275* and *81276* [collected for starch analysis]), faunal bone (*81278*), macrobotanicals (*81279*), human bone (*81280*), and obsidian (*81281*). Feature 4 reflects formal burial architecture for sub-adults during (potentially) preceramic time periods (Figure 2.19).
>
> Feature 5 consisted of a cluster of rocks that had the potential to be part of a burial feature. After mapping and removing the rocks in two exposures, no burial feature with articulated human remains was noted. Like Feature 4, Feature 5 contained both limestone and groundstone within the rock cluster that appeared in two layers. Under Feature 5 the sediment retuned to the same consistency as the remainder of the unit. While the rocks continue into the eastern side wall of the unit, only one human bone (*81283*) was recovered. Additionally, faunal bone (*81277*), lithics (*81282*), and charcoal (*81284*) were collected from within the extent of Feature 5.

Figure 2.17. Plan view photograph of ST 16-02 Unit 1 Features 4 and 5 (Photograph by K. Prufer)

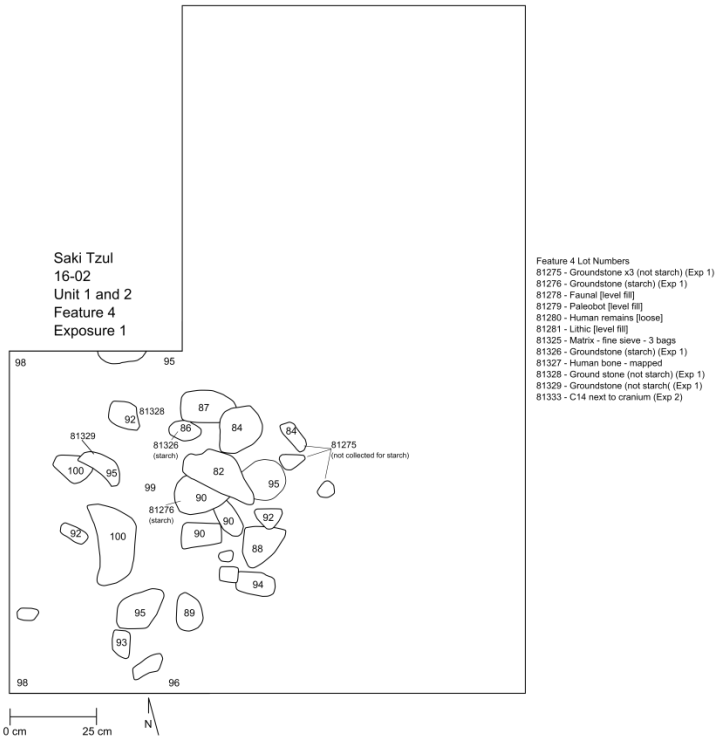

Figure 2.18a. ST 16-02 Units 1 & 2, Feature 4 Exposure 1. (Digitized by A. Thompson)

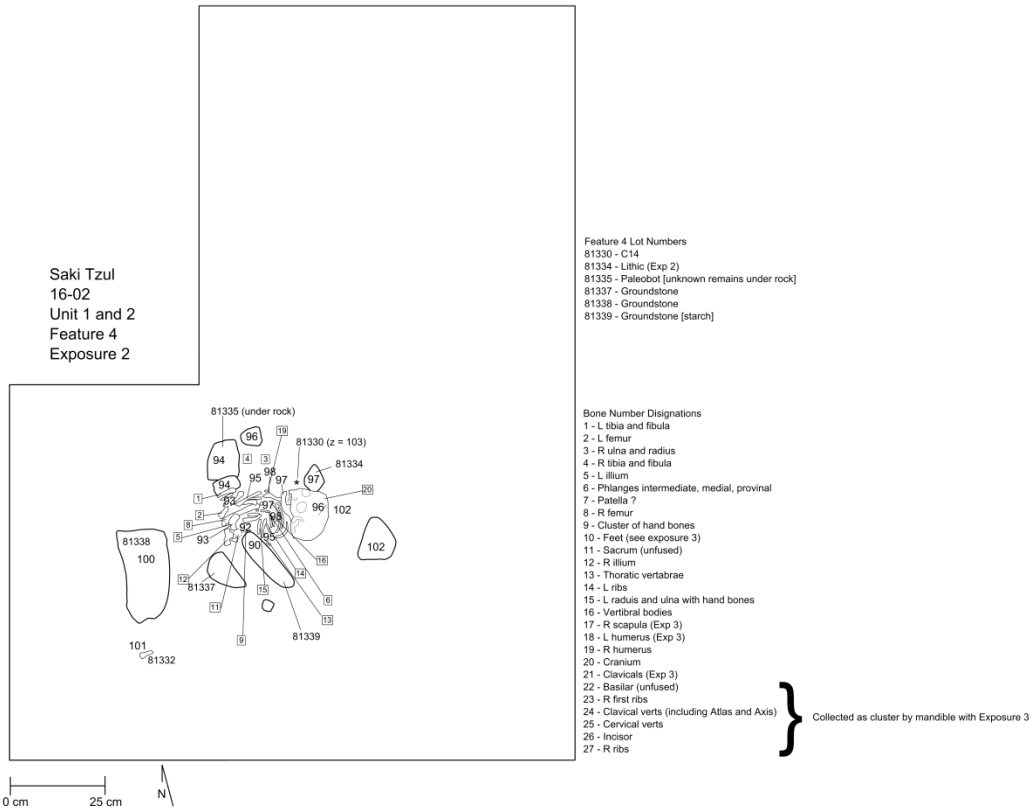

Figure 2.18b. ST 16-02 Units 1 & 2, Feature 4 Exposure 2. (Digitized by A. Thompson)

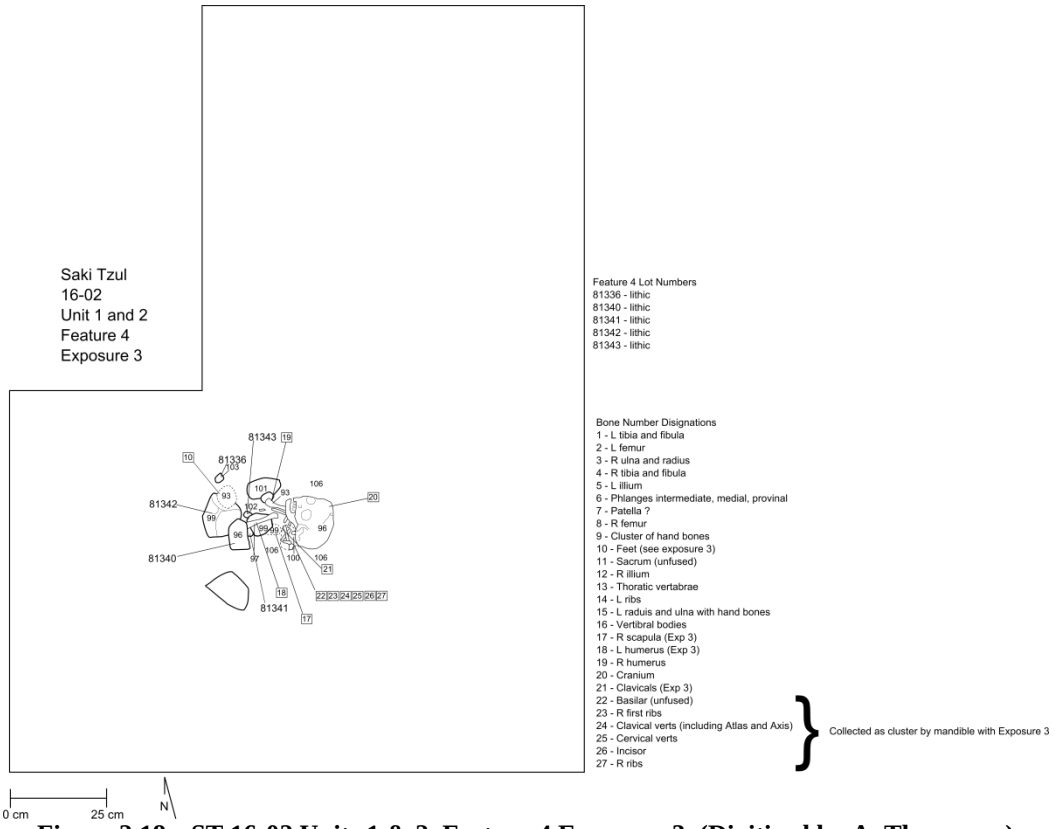

Figure 2.18c. ST 16-02 Units 1 & 2, Feature 4 Exposure 3. (Digitized by A. Thompson)

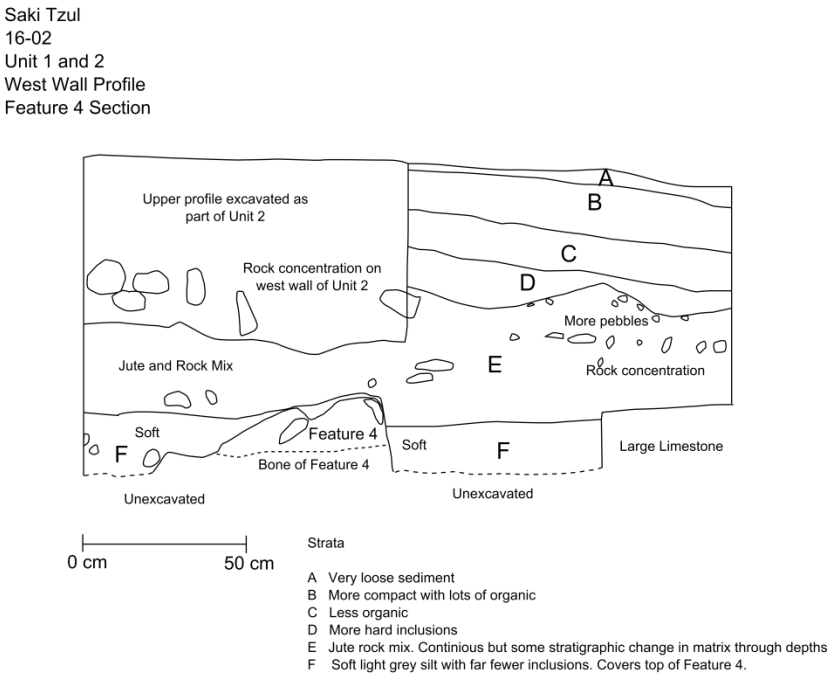

Figure 2.19. ST 16-02 Units 1 & 2 West Wall Profile before Feature 4 excavation. (Digitized by A. Thompson)

Level 9 was a 5cm arbitrary level. The north end of the unit continued to have an abundance of large land snails while a concentration of burnt *jute* was noted in the southern portion of the unit. Charcoal (*81285*), human bone (*81286*), faunal bone (*81287*), macrobotanicals (*81288*), lithics (*81289*), and hematite (*81290*) were recovered from Level 9. The level terminated between 110 and 113 cmbd.

Level 10 was composed of a silt mix and the level ended in an increase in larger limestone rocks across the unit. The northern end of the unit contained more *jute* in the upper portion of the matrix and was siltier at the base of the level and was hypothesized to be a different (higher) cultural layer than was present in the southern end of the unit. The abundance of large land snail declined in the Level 10 and overall there was a reduction of *jute* in Level 10 than noted in previous levels, however *jute* was still noted in the southern portion of the unit. Larger limestone rocks were noted but were covered with smaller limestone pebbles, particularly in the southern end of the unit. Larger volcanic rocks were noted as well as a unique piece of black chert. Artifacts recovered from Level 10 included macrobotanicals (*81347*), faunal bone (*81348*), lithics (*81349*), human bone (*81353*), a stone pendent (*81354*). Also, a soil sample (*81351*), a soil sample for heavy and light fractions (*81352*), and charcoal (*81350*) were collected from Level 10. The level terminated between 120 and 123 cmbd.

Level 11 was the removal of larger rocks across the unit and the appearance of more broken limestones within an ashy sediment. Bones were noted under the rock in the wall of the northwest corner of the unit along with a three lithics; this was designated Feature 6 (see below). Artifacts recovered from Level 11 included macrobotanicals (*81355*), faunal bone (*81356*), lithics (*81357*), charcoal (*81358, 81442*), and soils (*81358, 81359* [float]). Many lithics, including expedient rhyolite tools, were noted throughout the level. Crab remains were also abundant in Level 11, which ended between 130 and 137 cmbd.

> Feature 6 contained human bones and lithics and was under the large rock in the corner wall of the northwest side of the unit (Figure 2.20). Human bones (*81443*) included two vertebrae, a clavicle, and a foot phalanx. There is no obvious cut / intrusion indicating the defined area of the Feature 6 deposit. The matrix of Feature 6 matches the general matrix of Level 11, but was defined as a feature based on the clustering of human bones and lithics. Three lithics (*81444, 81445, 81446*) were given separate lot numbers and were point plotted in situ; one lithic (*81446*) was groundstone.

Level 12 was divided in half during excavations to account for differences in the strata between the northern half and southern half of the unit; macrobotanicals (*81447*), soil samples (*81450, 81451* [float]), and obsidian (*81458*) were collected from the matrix of the entire unit while all other artifacts / ecofacts were collected separately from the northern and southern portions of the level. Shells were noted in Level 12 though *jute* density and the amount of crab decreased overall while there was an increase in other faunal materials. Isolate human remains were recovered including cranium and maxilla. The northern half of the unit was generally rockier with several large limestone rocks and groundstones among a loose silt matrix. Artifacts recovered from the northern half of Level 12 included faunal bone (*81454*), lithics (*81455*), and human bone (*81456*). The southern half of the unit had fewer large rocks and was about 5 cm higher than the

northern half of the unit, based on the cultural stratigraphy. Artifacts from the southern half of the level included faunal bone (*81448*), lithics (*81449*), and human remains (*81453*). Charcoal samples (*81452, 81457*) were collected as well. The level ended at 150 cmbd in the northern half of the unit and 146 cm in the southern half of the unit.

Figure 2.20. Photograph of ST 16-01 Unit 1 Feature 6. (Photograph by M. Robinson and W. Trask)

Level 13 was a 5cm arbitrary level that consisted of loose silt with small rock inclusions as well as several larger rocks across the unit. Like Level 12, Level 13 was separated into northern and southern halves and artifacts were collected separately. Macrobotanicals (*81459*) and soil samples (*81463, 81464* [float]) were collected from the matrix of the entire unit while all other artifacts / ecofacts were collected separately from the northern and southern portions of the level. A possible jaguar tooth (*81467*) was collected as well as charcoal samples (*81460*). Faunal bone (*81468*), lithics (*81469*), obsidian (*84170*), human remains (*81471*) were recovered from the northern half of the unit. Similar artifact assemblages were collected in the southern half of the unit and included faunal bone (*81461*), lithics (*81462*), obsidian (*81465*), and human remains (*81466*). Level 13 ended at 156 cmbd on the northern end and 152 cmbd on the southern end.

Feature 7 is in the eastern portion of the unit. It consisted of a dark brown, hard packed, friable silt with burnt faunal bones. All of the Feature 7 sediment matrix was collected for floatation (*81472*). Burnt limestone was noted at the base of Feature 7 and a charcoal sample (*81473*) was collected. Feature 7 was likely a fire pit. Feature 7 ended at 151 cmbd. It was later noted that Feature 10 (see below) cut into Feature 7, therefore making Feature 7 older than Feature 10.

Feature 8 is stratigraphically deeper than Feature 7, but is similar in appearance with a dark brown, hard packed silt; it is located in the southeastern corner of the unit. It was

likely a fire pit. All of the Feature 8 sediment matrix was collected for floatation (*81474*). Additionally charcoal (*81475*) was collected from Feature 8. Feature 8 ended at 167 cmbd.

Level 14 consisted of the removal of a rock layer and associated soils. Like Levels 12 and 13, Level 14 was divided into the northern and southern portions of the unit due to the depth differences in the cultural levels. Macrobotanicals (*81476*), human bones (*81482*), a groundstone *metate* (*81483*), and charcoal (*81484*) were collected from the matrix of the entire unit while all other artifacts / ecofacts were collected separately from the northern and southern portions of the level. The northern end of the level included both larger rocks and densely packed smaller rocks which included groundstones, river worn rocks, and flat and rounded rocks. Feature 9 was revealed with the removal of larger rocks in the northeastern corner of the level (see below). The northern half of the unit included faunal bone (*81480*), lithics (*81481*), human remains (*81485*), and obsidian (*81486*). The southern half of the level recovered faunal bone (*81477*) and lithics (*81478*). Large rocks were present in the western half of the southern portion of the level. Feature 10 was defined by large limestone rocks and the appearance of a cranium (see below). Feature 11 cut through Level 14 (see below). Level 14 terminated with a stratigraphic change to compacted silts at 175 cmbd in the northern half of the unit and 165 cmbd in the southern half of the unit.

Feature 9 was located in the northeast corner of Unit 1 and included articulated pelvis and humerus bones as well as scapula and ribs. Human remains (*81491*) and faunal bone (*81492*) were collected from Feature 9. An additional unit was **not** open to expose the full extent of Feature 9 due to a) time constraints and b) the proximity of the face of the rockshelter, which was approximately 30 cm away from the feature, making it difficult to access given the limited time left in the field.

Feature 10 was a human burial. A cranium, which was fragile and already broken, was covered with large limestone rocks with densely packed small rocks in-between larger stones. The rock layer, which included groundstone, covered the burial and was a constructed cultural feature rather than a natural level indicating intentional burial architecture over the deceased individuals. The internment extended into the western wall of the unit, therefore Unit 3 was opened and Unit 2 was excavated down to the level of the burial feature (see descriptions below). Feature 10 artifacts included human remains (*81487*), lithics (*81488*), macrobotanicals (*81489*), and faunal bone (*81490*). After Units 2 and 3 were excavated to the level of the burial feature, the entire feature was removed as a single context in five different exposures (Figures 2.21a – 2.21d) throughout a (generally) looser silt. Feature 10 cut into Feature 7, this making Feature 7 older than Feature 10 based on laws of superposition. Also, Feature 10 cut into Feature 11, and both Features cut through the Level 15 matrix making Feature 10 the youngest of these three stratigraphic levels and Level 15 the oldest.

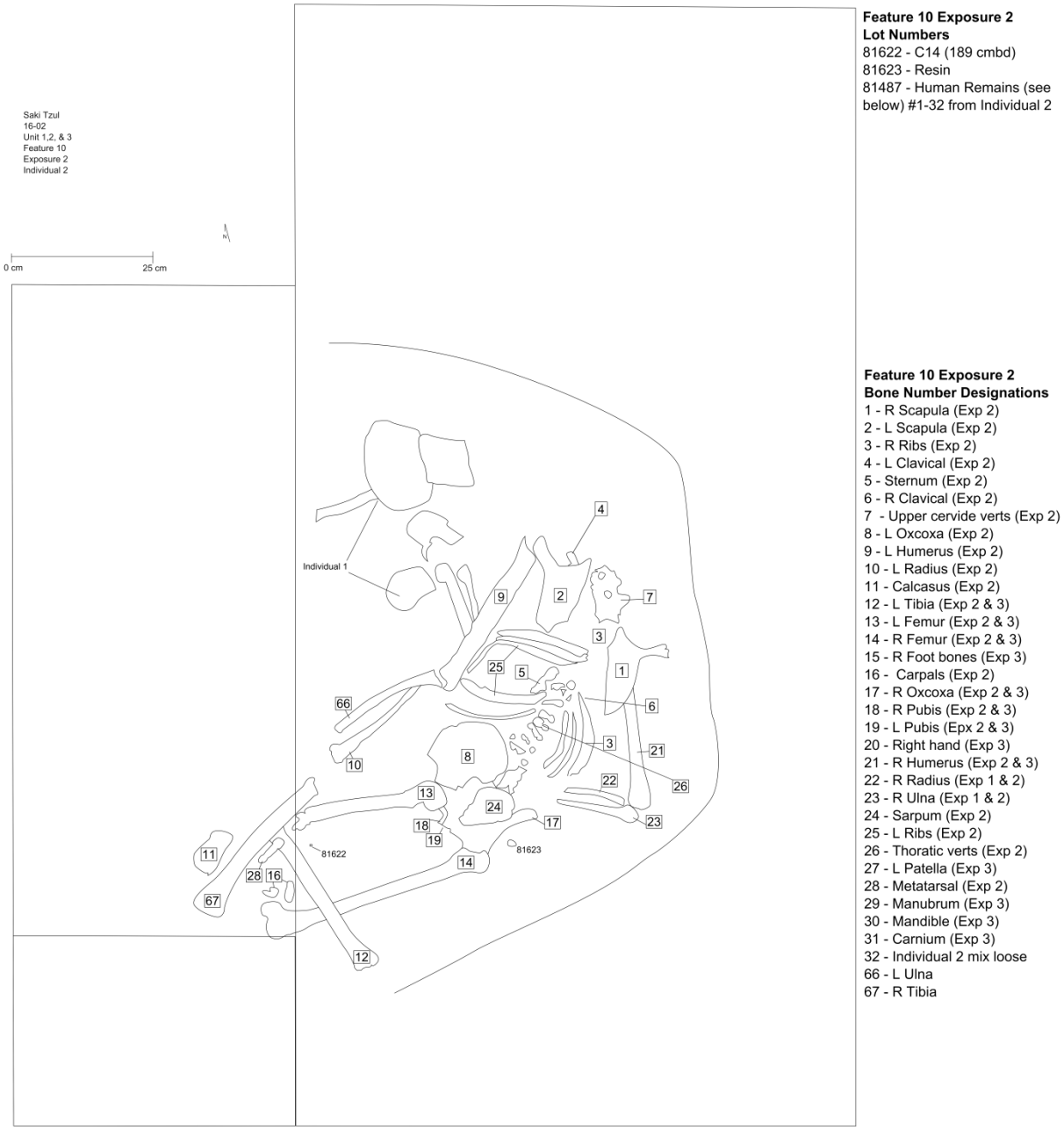

Figure 2.21a. ST 16-02 Units 1, 2, & 3 Feature 10 Exposure 2. (Digitized by C. Meredith)

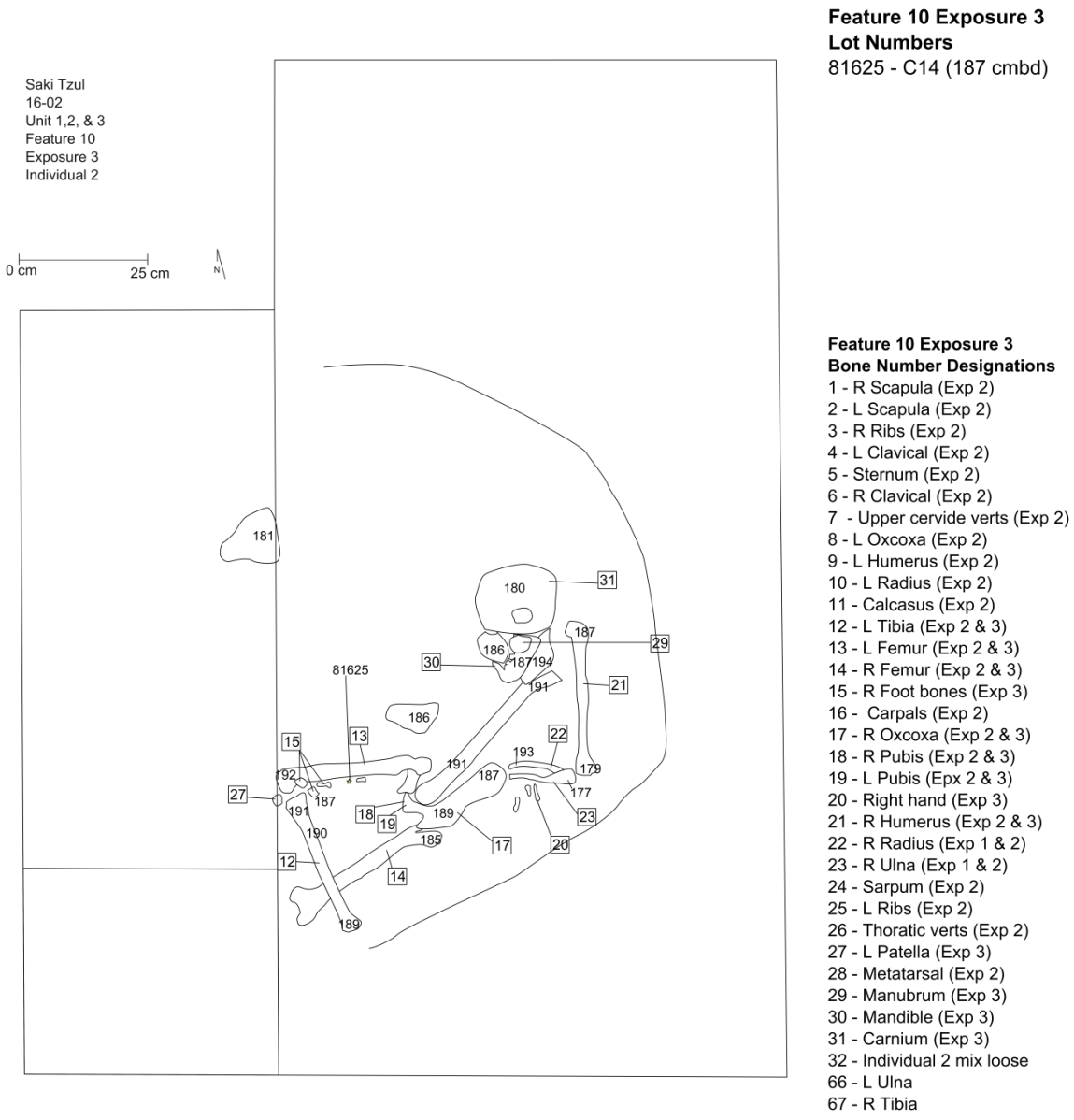

Figure 2.21b. ST 16-02 Units 1, 2, & 3 Feature 10 Exposure 3. (Digitized by C. Meredith)

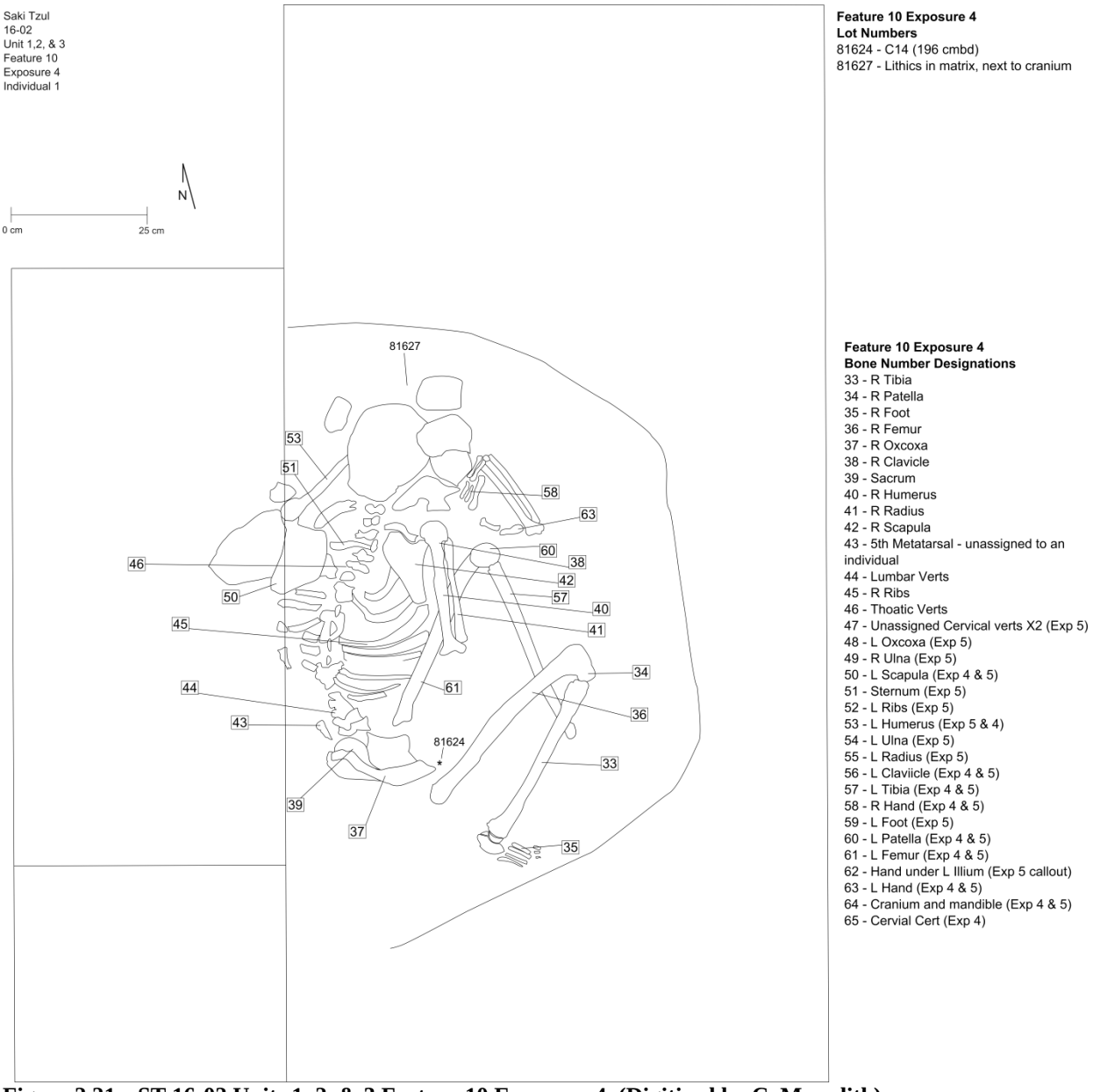

Figure 2.21c. ST 16-02 Units 1, 2, & 3 Feature 10 Exposure 4. (Digitized by C. Meredith)

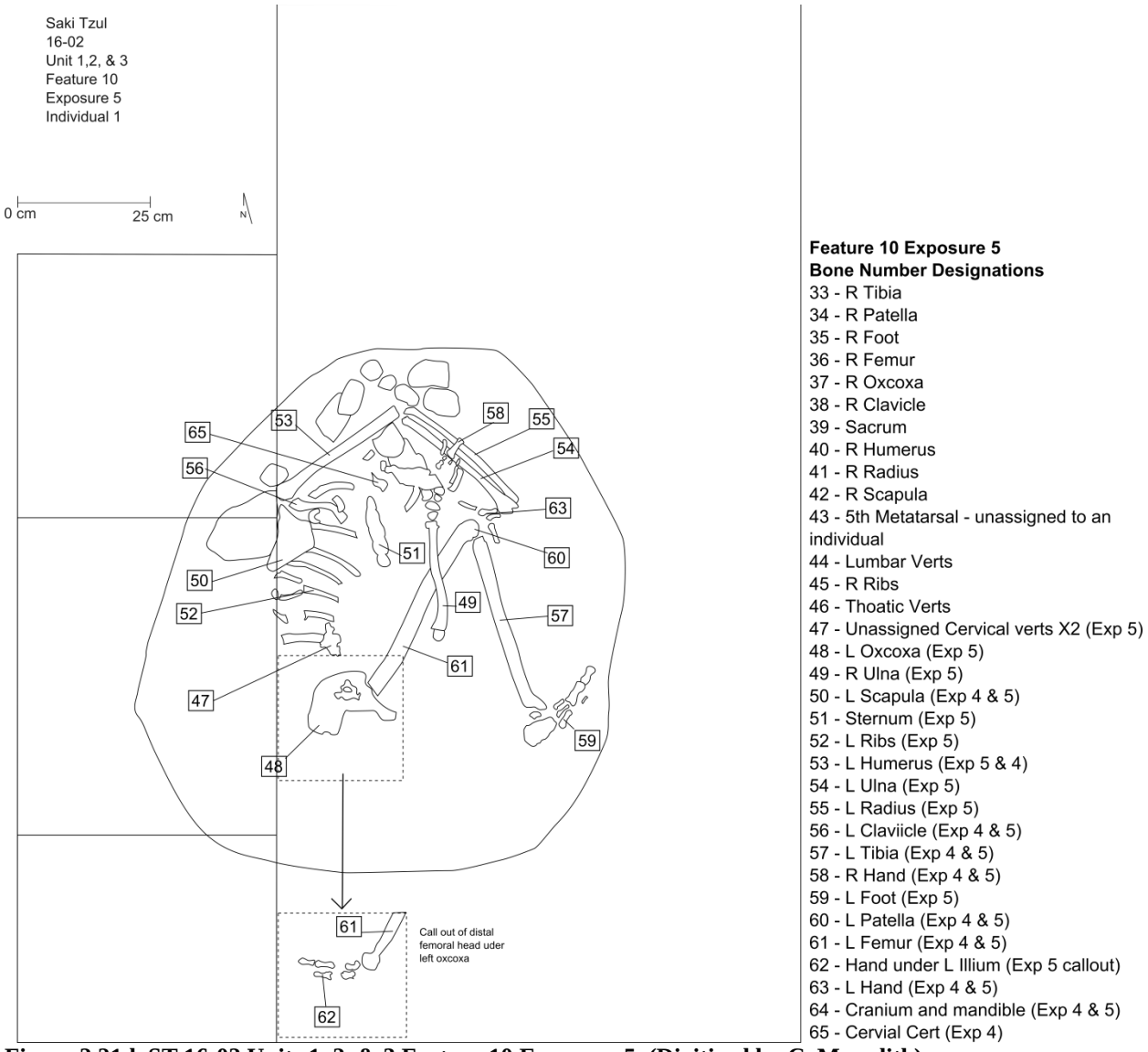

Figure 2.21d. ST 16-02 Units 1, 2, & 3 Feature 10 Exposure 5. (Digitized by C. Meredith)

Level 15 was under the hard-packed silt of Level 14. The south and eastern portion of the level had a burnt limestone surface with charcoal embedded throughout. Artifacts recovered included lithics (*81617*), human remains (*81618*), faunal bone (*81619*), macrobotanicals (*81620*), obsidian (*81637*), and charcoal (*81639*); the charcoal was on the limestone surface while all other artifacts were from the general level fill. The limestone surface almost appeared to be plaster. The underlying matrix of Level 15 was a very orange silt and the level terminated between 176 and 180 cmbd on the eastern and southern sides of the unit. Features 10 and 11 cut into Level 15, making both of them younger than Level 15.

Feature 11 is located in the northern portion of the unit and extends from the southwest of Unit 2 to the northeast of Unit 1. It is a burnt feature. Feature 11 cut through the surface of Level 14 and Level 15, making it younger than both stratigraphic deposits. However, Feature 10 cut through Feature 11, making Feature 11 older than Feature 10. Feature 11

continued to 205 cmbd in the northern area of Unit 1 and 182 cmbd in the southern portion of Unit 2.

Unit 2

Unit 2 was a 50cmx100cm (1m) unit opened to the west of Unit 1 (see Figure 2.10) to reveal the extent of Feature 4 (see above). It was excavated in formal levels based on the known stratigraphy from Unit 1. The datum was Unit 1 was used for Unit 2 was 29 cm above ground surface. The surface level, which was between 6 and 15 cmbd, included the removal of leaf litter. No artifacts were found on the surface.

Level 1 was the removal of the top-most sediment, which as a soft silt with few inclusions (though a large root was noted in the southwest portion of Unit 2 resulting in a very soft matrix). Artifacts recovered from Level 1 included human remain (*81291*), ceramics (*81292*), faunal bone (*81293*), and macrobotanicals (*81294*). Ceramics included a square lipped black slipped jar rim sherd. The level terminated with the appearance of a *jute*-rich matrix between 18 and 21 cmbd, with the exception of the southwest corner that had bioturbation due to the root (noted above) where the *jute*-level began at 28 cmbd.

Level 2 generally followed the natural stratigraphy of Unit 1 Level 2, which was a *jute*-rich matrix with rocks, however Unit 2 Level 2 had less *jute* than Unit 1 Level 2. Large rocks were noted in the southwest of Unit 1 (see above) do not continue and confirm their relationship with Feature 3 (see above). Artifacts recovered from Level 2 included macrobotanicals (*81295*), lithics (*81296*), ceramics (*81297*), faunal bone (*81298*), and human remains (*81299*). The human bones included infant ribs and an unfused epiphysis. The level terminated between 45 and 49 cmbd.

Level 3 was a soft sediment with a cluster of rocks in the southwest quadrant of the unit; these rocks continue into the western wall of the unit and it was hypothesized that they may be part of a burial feature. An infant mandible (*81638*) was located the western wall of the unit near the rocks at 47 cmbd and was collected at the end of the excavations during profile drawings on 5 June 2016. Artifacts recovered from Level 3 included macrobotanicals (*81300*), faunal bone (*81301*), ceramics (*81302*), lithics (*81303*), and human remains (*81304*). The level terminated with a transition to more *jute* and rocks between 52 and 53 cmbd.

Level 4's matrix consisted of an increase in *jute* and rocks. Burnt limestone was noted throughout the level along with large pieces of charcoal. A softer patch of soil was noted in the eastern area of Unit 2 but was not determined to be a cultural feature. Macrobotanicals (81305), faunal bone (81306), ceramics (81307), lithics (81308), and human remains (81309) were recovered from Level 4. Level 4 ended between 57 and 65 cmbd.

Level 5 was *jute* and rock-rich matrix with more *jute* on the southeastern side of the unit. The softer patch of soil noted in Level 4 was excavated in Level 5 and was 4 cm deep; the *jute* matrix was present beneath this inclusion. A layer of pebbles was noted in Unit 2 Level 5 that did not exist in Unit 1 Level 5 therefore the stratigraphic levels do not match. The pebbles and *jute* matrix was continuous and did not break above Feature 4, indicating that Feature 4 was not

intrusive and is older than Unit 2 Level 5. Artifacts recovered from Level 5 included macrobotanicals (*81310*), faunal bone (*81311*), lithics (*81312*), ceramics (*81314*), and human bones (*81315*). Level 5 terminated with a transition to larger rocks at the base of the level between 63 and 72 cmbd.

Level 6 was the same densely packed *jute* and rock matrix. Level 6 of Unit 2 does not correlate with Unit 1 Level 6. A few rocks were present throughout the level but lacked any recognizable patterning that would indicate organized burial architecture. This level is clearly above (and younger than) Feature 4 as there is no cut through the strata. Macrobotanicals (*81316*), faunal bone (*81317*), human bone (*81318*), charcoal (*81319*), and lithics (*81320*) were recovered from Level 6. Among the human remains were left and right occipitals. The level ended with a transition to a soft light grey-brown silt between 83 and 87 cmbd.

Level 7 was the removal of loose sediments that included *jute* and rocks. The rocks lacked obvious patterning and were not part of burial architecture associated with Feature 4. Artifacts collected from Level 7 included charcoal (*81321*), faunal bone (*81322*), lithics (*81323*), and macrobotanicals (*81324*). A few human rib bones were noted in the southwest corner of the level but were not part of Feature 4. The lowest part of the level was screened separately and bagged with Feature 4 materials. The Level 7 matrix ended between 95 and 99 cmbd with the exposure of the rocks associated with the burial architecture of Feature 4 (see above).

Level 8 consisted of the general matrix surrounding Feature 4, which included *jute* and loose rock inclusions. This level largely correlated to Unit 1 Level 8. Artifacts recovered from this level included lithics (*81330*), faunal bone (*81331*), and human remains (*81332*). The level terminated beneath the base of Feature 4 with a transition to an increased abundance of limestone rocks between 106 and 109 cmbd.

Level 9 was a 5cm arbitrary level that correlates to Unit 1 Level 9 that included small limestone rocks, *jute*, and other inclusions with large rocks at the base of the level. This matrix is likely a naturally formed sediment prior to extensive human occupations. Artifacts recovered from Level 9 included macrobotanicals (*81344*), faunal bone (*81345*), and lithics (*81346*). The level ended between 111 and 112 cmbd. After Level 9, Unit 2 combined with Unit 3 to reveal Feature 10 (see below).

Unit 3

Unit 3 was a 50cmx50cm unit placed to the north of Unit 2, and west of Unit 1 (see Figure 2.10). Unit 3 was quickly excavated to allow for the full exposure of Feature 10, which was identified in Unit 1 Level 14 (see above). Unit 3 did not have formal excavation forms filled out, but detailed notes are available in AET's notebook (pgs. 35 – 38). Artifacts were not screened but collected *in situ* due to time constraints. The same datum was used for Unit 3 as Unit 1 and 2.

Unit excavations began in the same matrix as Feature 1. Human remains were identified around 30 cmbd but were not articulated; bioturbation from root disturbances were noted beneath the bone. The osteological materials were fragmented and poorly preserved and included a clavicle

and ribs. Faunal bone was also collected in the same lot number (*81493*) as the human bones to be separated in the lab.

A stratigraphic change occurred at 40 cmbd to a more compact and grainy matrix rather than the soft silts above. No *jute* and few artifacts were identified in this strata.

At 56 cmbd another stratigraphic change occurred with the appearance of more *jute*, rocks, and some faunal and human (*81494*) bones in the northwest area of Unit 3. Human ribs were located at 59 cmbd, as well as a possible clavicle. Red and black ceramic sherds were noted in this *jute*-heavy matrix.

A stratigraphic change occurred at 75 cmbd in which less *jute* and generally smaller inclusions were noted that levels above (and below). The matrix was softer and included larger rocks. Human vertebrae were noted at 78 cmbd directly under looser soils and top of another *jute*-rich matrix.

At 78 cmbd the soil matrix resumed back to being *jute* rich (with 3 cm of soft, loose soils between two compact *jute*-rich levels). Many small rocks were noted in this level and no ceramics were present.

A stratigraphic shift occurred at 96 cmbd to a matrix with notably less *jute* and a lighter silt. Small limestone rocks appeared around 100 cmbd and faunal bone were noted at 103 cmbd.

At 109 cmbd a stratigraphic change occurred with the appearance of an ashy matrix; this likely correlated to Unit 1 Level 8 Feature 4, and the ashy materials found near the infant burial.

At 114 cmbd Unit 3 was combined with the excavation of Unit 2 creating a 75cmx50cm unit, to uncover the extent of Feature 10 (see above). At this point, all soils were screened and artifacts collected included human bone (*81495*), and faunal bone (*81496*). In general more rocks were present throughout the unit.

The appearance of a siltier matrix and more rocks, especially in the northern end of the combined Unit 2 and Unit 3 excavation, indicated at stratigraphic change at 125 cmbd. Many small rocks were noted throughout the unit and faunal bone (*81497*) and human bone (*81498*) were collected.

A stratigraphic change occurred at 135 cmbd in which almost no *jute* was present and there appeared larger rocks and groundstones among the silty matrix. Artifacts recovered included faunal bone (*81499*) and human bone (*81600*). The level ended at 145 cmbd.

Conclusions

All units at ST were closed due to the end of the field season and wall profiles were drawn (Figures 2.22, 2.23, 2.24, and 2.25). A tarp was laid down across the base of the units and backfilled. In total, eleven features were identified during the 2016 field season at ST, including an infant burial with formal architecture (Feature 4) and a double burial of two adult males with formal architecture (Feature 10). Charcoal samples (*81220, 81251, 81273, 81333, 81285, 81350,*

81358, 81475, 81460, 81473, 81639, 81622) have been submitted for AMS ^{14}C dates (Table 2.3); results are pending as of mid-November 2016. Ceramics from ST suggest Early and Late Classic (Zacal 3 / Tepeu I/II, Tinaha Red, Modeled-Carved) use of the rockshelter. Brief ceramic analysis with Drs. Arlen Chase, Laura Kosakowsky, and Jim Aimers at the 2016 BAAS indicates that most ceramics date post AD 150 through the Terminal Classic with most ceramics dating to the late portion of the Early Classic through the Terminal Classic. However, based on the lack of artifacts under Level 8 at ST and similar trends seen in the 2014 MHCP excavation, we believe there is early (Paleoindian and Archaic) use of the ST rockshelter.

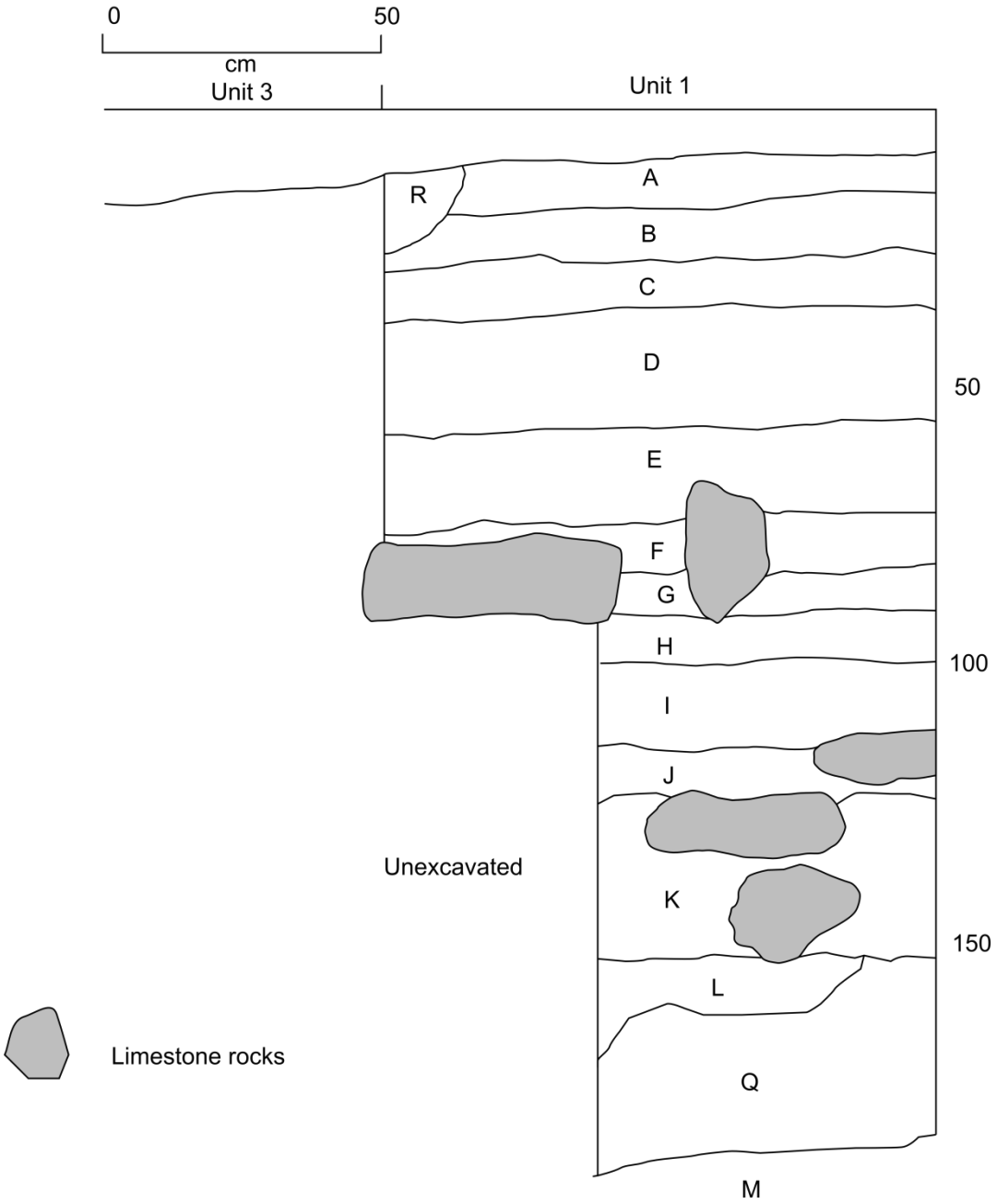

Figure 2.22. ST 16-02 North Wall profile at the end of excavations. (Digitized by E. Ray)

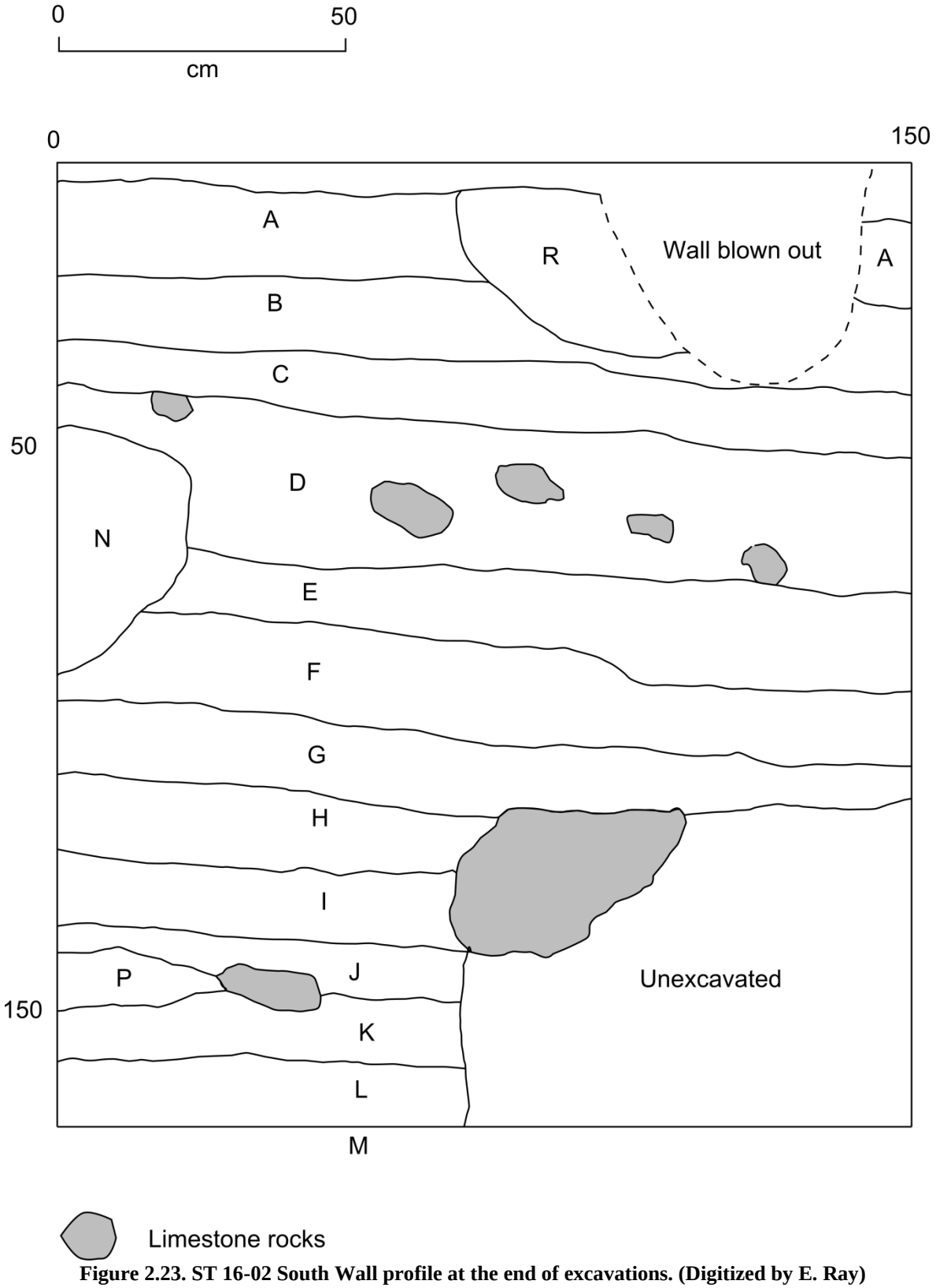

Figure 2.23. ST 16-02 South Wall profile at the end of excavations. (Digitized by E. Ray)

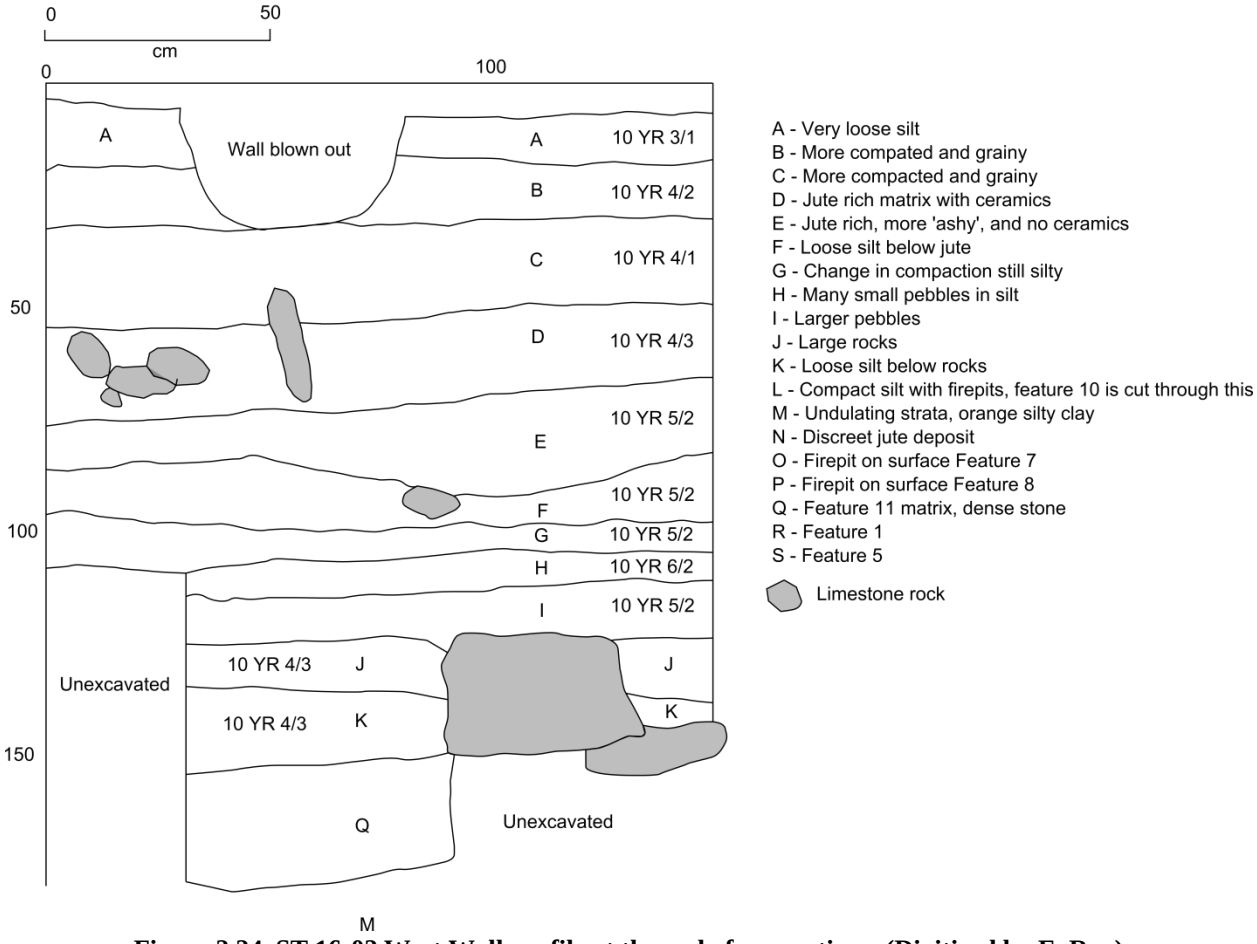

Figure 2.24. ST 16-02 West Wall profile at the end of excavations. (Digitized by E. Ray)

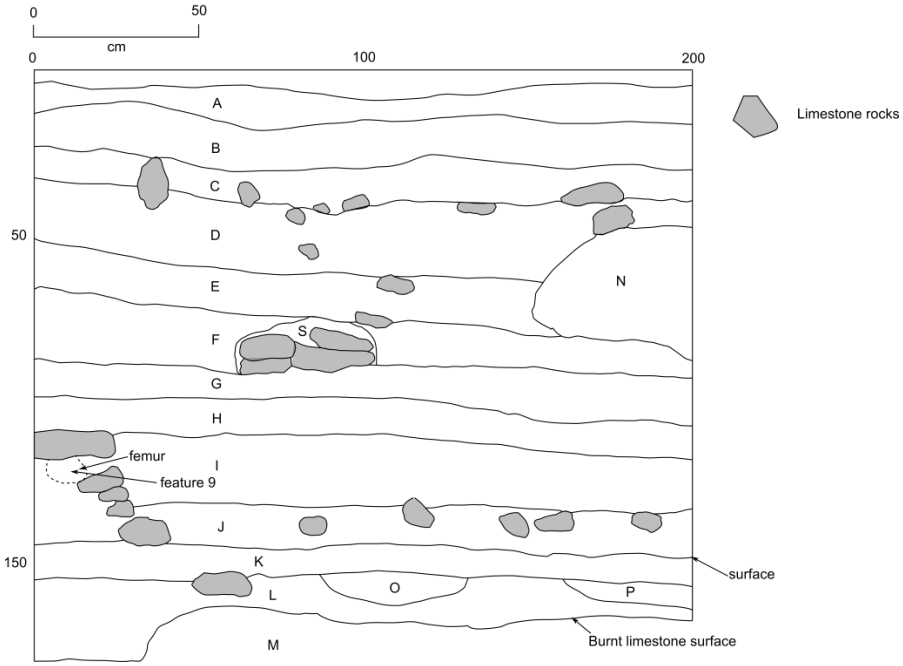

Figure 2.25. ST 16-02 East Wall profile at the end of excavations. (Digitized by E. Ray)

Lot Number	Site	Unit	Level	Feature	X	Y	Z	Context	
81018	MHCP	1E	103		W90	N96	94		Charcoal
81027	MHCP	1E	105		W12	N139	105	*Jute* rich level beneath cobble layer	Charcoal
81028	MHCP	1E	105		W94	N186	99	*Jute* rich level beneath cobble layer	Charcoal
81031	MHCP	1E	105		W43	N62	103		Charcoal
81044	MHCP	2	10		W134	S93	118		Charcoal
81048	MHCP	2	10		W53	S95	114		Charcoal
81059	MHCP	2	11		E28	S97	127	In rocks above burial 7	Charcoal
81074	MHCP	2	11	3	W107	S117	122	General/Screen	Charcoal
81079	MHCP	1E	107		W49	S120	125		Charcoal
81086	MHCP	1E	108		W23	N45	124	Within charcoal concentration (small smeary flakes)	Charcoal
81090	MHCP	2	12	3	E83	S60	133	Within feature 3 rocks/matrix above burial 7	Charcoal
81117	MHCP	2	3		E50	S44		Gray-brown silty loam, General/Screen	Charcoal
81124	MHCP	2	4		E2	S63	52		Charcoal
81125	MHCP	2	4		E245	S19	52		Charcoal
81127	MHCP	2	4		W20	S40	52	Beneath large rock	Charcoal
81133	MHCP	2	5		W78	S62	65	Within chert debitage concentration	Charcoal
81162	MHCP	2	7		W54	S26	86		Charcoal
81164	MHCP	2	7		W46	S81	84		Charcoal
81181	MHCP	2	9		E49	S51	104		Charcoal
81182	MHCP	2	9		W59	S8	106	May be associated with ash cluster	Charcoal
81185	MHCP	2	9		W73	S6	108	Feature 1 ash concentration/See plan view	Charcoal
81186	MHCP	2	9		W60	S45	110	Cohune nut cluster (see level 9 plan view)	Charcoal
81199	MHCP	2	10		W2	S30	112		Charcoal
81360	MHCP	1E	109		W42	N115	133	General/Screen	Charcoal
81364	MHCP	1E	110		W17	N53	137	General/Screen	Charcoal
81367	MHCP	1E	110		W70	N124	139	General/Screen	Charcoal
81371	MHCP	1E	111		W225	S145	136	1E-A bulk remaining from feature 3 excavation	Charcoal
81391	MHCP	1E-2		4	W77	S102	131	Feature 4 near cranial bone fragments in section B	Charcoal
81392	MHCP	1E-2		4	W78	S88	135	Associated with cranial bone fragments in section B	Charcoal
81393	MHCP	1E-2		4	W100	S142	145	Feature 4 near cranial bone fragments in section B	Charcoal
81398	MHCP	2	13	W18	S89	131			Charcoal
81408	MHCP	2	12	W66	S78	133		Sediment matrix between cobbles of feature 3	Charcoal
81425	MHCP	1E-2		4	W94	S101	134	Section B	Charcoal
81426	MHCP	2	15		E82	S83	147		Charcoal
81431	MHCP	2	16		E28	S68	156		Charcoal
81435	MHCP	1E	113		W207	S33	158	1E-A	Charcoal
81500	MHCP	2	17		W156	S95	157	Fill	Charcoal
81516	MHCP	2	18		W160	N20	166		Charcoal
81531	MHCP	2	16		W74	S77	147		Charcoal
81535	MHCP	2	16						Charcoal
81537	MHCP	2	17		W10	S68	159		Charcoal
81541	MHCP	2	19		W215	N4	169	Level Fill	Charcoal
81547	MHCP	1E-B	116		W156	S1	176		Charcoal

81548	MHCP	1E-B	116		W163	N0	181		Charcoal
81552	MHCP	1E-A	116		W201	S42	178		Charcoal
81556	MHCP	2	20		W197	N23	176		Charcoal

Table 2.2. Charcoal samples collected from MHCP. Grey samples were submitted for AMS ^{14}C dates.

Lot Number	Site	Unit	Level	Feature	X	Y	Z	Context	
81220	Saki Tzul	1	2	1	E12		39	Context B	Charcoal
81253	Saki Tzul	1	6				91	General/Screen	Charcoal
81251	Saki Tzul	1	5				81	General/Screen	Charcoal
81259	Saki Tzul	1	7				93	General/Screen	Charcoal
81273	Saki Tzul	1	8		E52	N37	94	General/Screen	Charcoal
81284	Saki Tzul	1	8	5	N85	E60	105	General/Screen	Charcoal
81285	Saki Tzul	1	9		N12	E33	106	General/Screen	Charcoal
81319	Saki Tzul	2	6		E45	N67	72	General/Screen	Charcoal
81321	Saki Tzul	2	7		E22	N89	85	General/Screen	Charcoal
81333	Saki Tzul	1+2		4				Next to burial	Charcoal
81350	Saki Tzul		10		E161	N11	115	General/Screen	Charcoal
81358	Saki Tzul	1	11					General/Screen	Charcoal
81442	Saki Tzul	1	11		E90	N23	129	General/Screen	Charcoal
81452	Saki Tzul	1	12	South	E55	N100	135	General/Screen	Charcoal
81457	Saki Tzul	1	12		E65	N180	148	General/Screen	Charcoal
81460	Saki Tzul	1	13		E33	N88	149	General/Screen	Charcoal
81473	Saki Tzul	1	13	7	E87	N125	150	General/Screen	Charcoal
81475	Saki Tzul	1	13	8	E65	N10	145(?)	General/Screen	Charcoal
81479	Saki Tzul	1	13	South	E52	N35	154	General/Screen	Charcoal
81484	Saki Tzul	1	14		E50	N100	170		Charcoal
81603	Saki Tzul	2+3			E45	N55	161	General/Screen	Charcoal
81609	Saki Tzul	2+3					175	Possibly associated with the pit next to/ above feature 10 and feature 11	Charcoal
81622	Saki Tzul	1		10	E3	N50	189	General/Screen	Charcoal
81624	Saki Tzul	1	14	10				Associated with the lower skeleton	Charcoal
81625	Saki Tzul	1	14	10				General/Screen	Charcoal
81639	Saki Tzul	1		15				On burnt limestone surface	Charcoal

Table 2.3. Charcoal samples collected from ST. Grey samples were submitted for AMS ^{14}C dates.

Works Cited

Prufer, Keith M., Christopher Merriman, Clayton Meredith, Willa Trask, Mark Robinson, and Josue Ramos

2015 The Bladen Paleoindian and Archaic Project, 2014 Field Season Report Prepared for the Forest Service Department, Government of Belize. In *The Uxbenká Archaeological Project: Reports on the 2014 Field Season in Toledo district, Belize*. Chapter 5. Report to the Institute of Archaeology, Government of Belize, and National Science Foundation. Keith M. Prufer and Amy E. Thompson, editors. University of New Mexico, Albuquerque. Pg. 37 – 52.

CHAPTER 3: IX KUKU'IL SURVEY

By: Amy E. Thompson

Introduction

Ix Kuku'il was initially visited by Uxbenka Archaeological Project (UAP) members in 2012 and in 2013, survey identified eight administrative areas and 45 settlement groups (see Thompson and Fries 2014). 2014 and 2015 field work at Ix Kuku'il focused on chronology building through test unit excavations across the known settlements with a minor focus on opportunistic survey that resulted in a total of 58 documented households and eight administrative (non-residential) groups (Thompson 2015, 2016; Thompson and Prufer 2016). In 2016, one week (5 days) of survey occurred, resulting in the documentation of 13 new architectural groups and the re-mapping of two previously documented settlement groups (Figure 3.1).

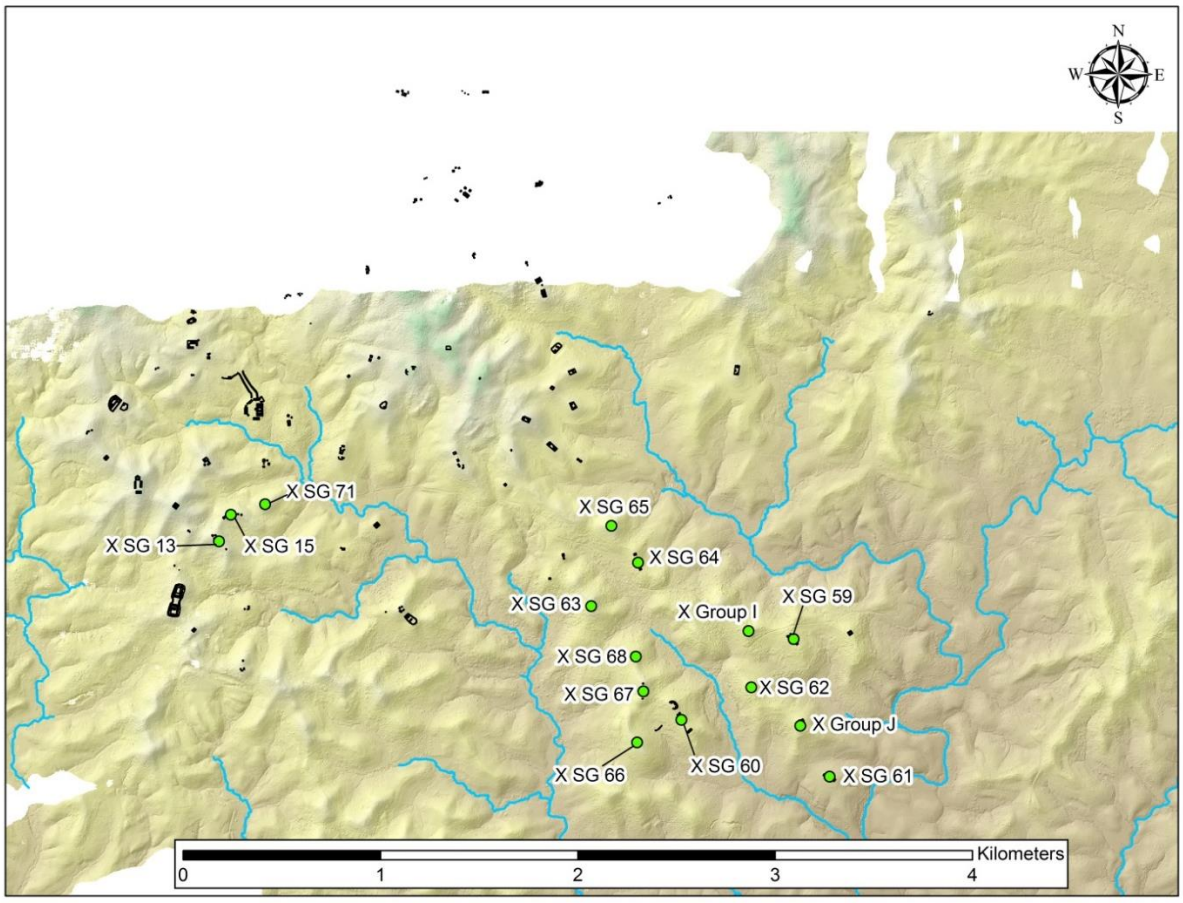

Figure 3.1. Location of groups surveyed (green dots) during the 2016 field season.

Field Methods

In 2011, the UAP obtained Light Detection and Ranging (LiDAR) imagery of the landscape surrounding Uxbenká. This imagery, totaling 135 km^2 in area, provides insight into the extent of local populations across the landscape. Thompson and two local Maya laborers, Orlino Salam

and Eusebio Cal, used a bare-earth model of the LiDAR as a basemap to guide them to unsurveyed hilltops. Each hilltop was surveyed and either designated with a settlement group number if ruins were present, or marked as "NO SG 2016-#" for future reference and recording which hilltops had been surveyed but lacked visible archaeological features on the surface (Figure 3.2). The last settlement group (SG) documented by Thompson was X SG 58, thus the 2015 field survey began with X SG 59. The "X" designation prior to the settlement group number allows for mapped households at Ix Kuku'il to be distinguished from household mapped at Uxbenka using the same handheld GPS unit. All buildings were mapped with the pace and compass method or using a disto-laser and digitized using field drawings and the LiDAR basemap when possible. All surface artifacts were collected and analyzed during summer 2016.

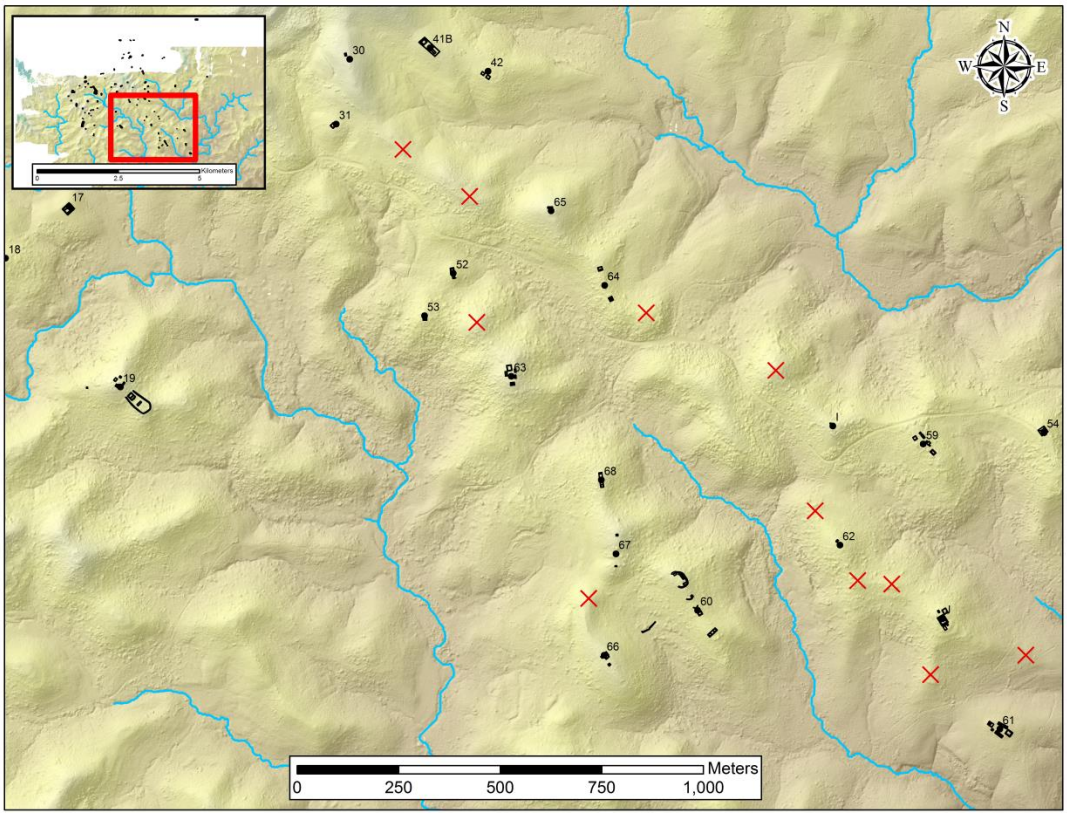

Figure 3.2. Location of hilltops that lacked archaeological features designated by red Xs.

Findings

X Group I

X Group I is a single, small pile of rocks on a hill with large, limestone bedrock outcrops (Figure 3.3) located along the road from San Jose village to the Ix Kuku'il Stela Plaza (X Group A). It is 2.75 km southeast of the Stela plaza. The hilltop is covered in large, fractured limestone outcrops but a small pile of rocks that measures 4.2 m by 2.6 m (Figure 3.4) at the summit indicates human modification and likely ritual function since the platform is too small for a traditional domicile. An abundance of ceramics (*81905*) were collected from the hillslope along with lithics (*81904*). Ceramic types included Turnifo and Better than Puluacax as well as a basal flange fragment and a censar fragment, suggesting both Early and Late Classic use of the hilltop.

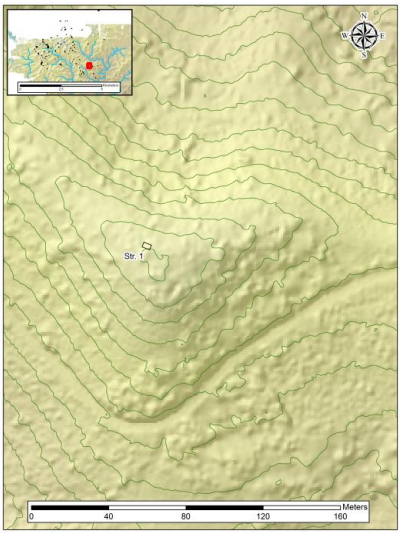

Figure 3.3. Plan view of X Group I.

3.4. Picture of bedrock outcrop at the summit of X Group I. Backpack for scale.

X Group J

X Group J is located 3.2 km southeast of the Stela Plaza and is composed of five structures on a high hill with large limestone outcrops along the side of the hill. The five buildings are situated around an informal plaza with two structures lower than, but connected to the other three, via Structure 1's staircase (Figure 3.5). Structure 1 dominated the hilltop and is approximately 5 m tall and measures 23 m by 18 m. It has a central stairway leading from a lower area where Structures 2 and 3 are located to the summit of the edifice. This structure is likely an outlaying temple based on its commanding size. Structures two and three are at the base of Structure 1's staircase and measure 10 m by 5.5 m and 3 m by 3 m, respectively. On the upper plaza, Structure 4 measures 10 m by 12 m and is approximately 1 m tall. Structure 5 was covered in dense vegetation during the survey. A ballplayer figure fragment (*81912*) was found along the slope of X Group J. Additional artifacts recovered included ceramics (*81911*) which included a possible ceramic tool (*81913*), and Santa Cruz Red, Remate, and Turneffe rim sherds, suggesting both Early Classic and Late Classic occupation of the group.

Figure 3.5. Plan view of X Group J.

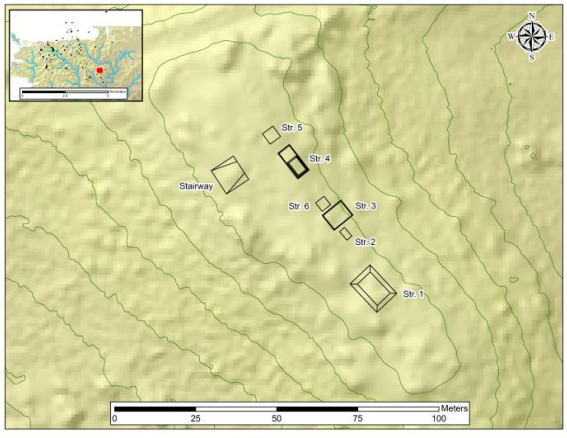

Figure 3.6. Plan view of X SG 59.

X Settlement Group 59 (X SG 59)

X SG 59 is located 3 km southeast of X Group A. This group consists of six buildings on the eastern side of an elongated hilltop (Figure 3.6). While a plaza is present, it is not circumscribed by building platforms, but is open providing unrestricted access to the area. Structure 1 is on the southeastern side of the hill and measured 12 m by 8.5 m. Structure 2 is a small platform that is 2 m by 3.5 m. Structure 3 flanked by Structures 2 and 6 and measured 5.9 m by 7.5 m. Structure 4 has a lower platform with a higher platform on top of it. The higher platform measured 5.5 m by 3 m and was two courses of stone high. The lower platform extended an additional 4.48 m and was one course of stones tall. Structure 5 is the northern most building and measured 4 m by 4 m. Structure 6 measures 3.3 m by 3.3 m. A staircase was present on the western side of the group. A berm was present on the northern end of the modified hilltop but no linear alignments of rocks were identified. A small area of burned clay was present near the stairway. Artifacts recovered from the hilltop included lithics (*81901*), ceramics (*81900*), a hammerstone (*81902*) and two *metate* fragments (*81903*). Ceramic types included Puluacax, Better than Puluacax, and a cream slipped sherd with bright orange paint on it suggesting a Late Classic occupation.

X Settlement Group 60 (X SG 60)

X SG 60 is 2.7 km southeast of X Group A and consists of seven buildings situated along an elongated ridge with a central plaza at the summit of the hilltop. There are three wall features along the slope of the hill (Figure 3.7). Structure 1 is on the southeastern slope of the hill and measured 10 m by 8 m; there were three small looters pits in the structure. The backside of the building is about 2 m tall and on the front, towards the upwards slope of the hill is 1 m tall. Structure 2 is a small platform attached to a wall feature that measures 4.5 m by 5 m. It is small and less than 50 cm tall. Structure 3 is also attached to a wall / basal platform at the summit of the hill and measures 10 m by 4 m. There's a large looters pit along the southern wall of Structure 3. Structure 4 is on the northeastern side of the hilltop and consists of a basal platform with two smaller platforms on top of it. The basal platform measures 13 m by 5 m. The southern upper platform measures 8 m by 4 m and there's a 2 m gap between the southern and northern platform. The norther platform is 3 m by 4 m. Structure 4 is about 1.5 m tall. Structure 5 is on the northern edge of the hilltop summit and measures 7 m by 5 m. There's a small building between Structures 4 and 5, which was designated Structure 7. A looters pit is present at the edge of Structure 7 and suggests about 1 m of construction fill on the edge of the hill to modify and expand the hill top. Structure 6 is located on the south eastern edge of the hilltop and is a long basal platform measuring 25 m long by 8 m and has two small

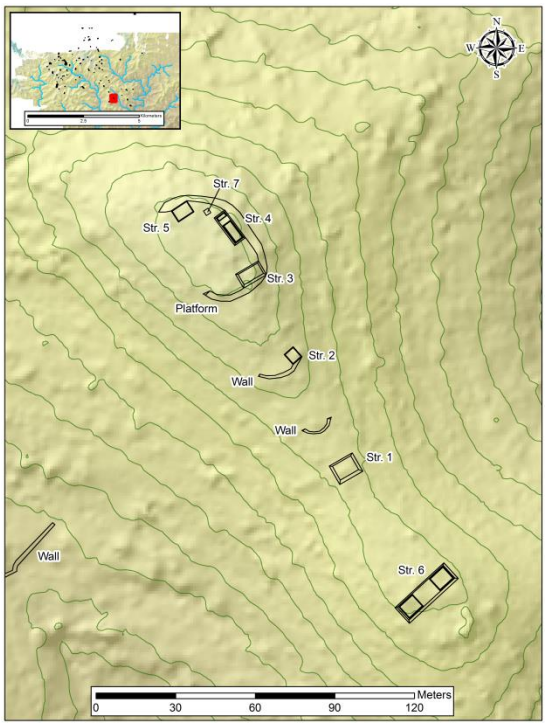

Figure 3.7. Plan view of X SG 60.

platforms on top with an 8 m space between them. There's a looter's pit on the eastern side of the upper platform. Artifacts recovered from the hilltop included lithics (*81907*), ceramics (*81906*), and *metate* fragments (*81908*). A *metate* leg fragment was left in the field due to the land owner's request. The *metate* leg fragment was photographed and measured. The *metate* body was 23 cm by 14 cm and 4 cm thick and the foot was 6 cm by 8 cm by 6 cm. The ceramics included many large body jar sherds and only diagnostics were collected.

X Settlement Group 61 (X SG 61)

X SG 61 is located 3.5 km southeast of X Group A. This household group is composed of five buildings situated around a central plaza (Figure 3.8). Structure 1 has a lower platform with a higher platform on top of it. The basal platform measures 9 m by 13 m and is 50 cm above the plaza but has a 3 m tall façade on the hillside. The upper platform is 8 m by 3 m and is about 50 cm higher than the basal platform. Structure 2 is small measuring 4.5 m by 4.5 m. Structure 3, like Structure 1, also has a basal platform and has two small platforms on top of it. The basal platform measures 21 m by 6 m and is about 50 cm tall. The upper platforms are 5 m and 6 m by about 5 m and have a 3 m space between them. Structure 4 is on the southeastern side of the plaza and is the tallest building on the hilltop, with the summit about 2.5 m above the central plaza floor, measuring 15 m by 12.5 m. Structure 5 appears to be a low triadic building (Figure 3.9), with the basal platform measuring 25 m by 6 m. The two smaller platforms are aligned with the edge of the basal platform and measure 4 m by 4 m. The highest, central platform of the small triadic edifice is 1.5 m tall and is 10.5 m by 5 m. The southern edge of the hilltop is composed of a 45 m bedrock outcrop and a possible stairway was present between Structures 3 and 4. Artifacts recovered from X SG 61 included lithics (*81910*) and ceramics (*81909*). The lithics included a chert core, possible scrapers, and debitage while the ceramics suggest a Late Classic occupation with Remate, Chacluum, and a Late Classic style polychrome.

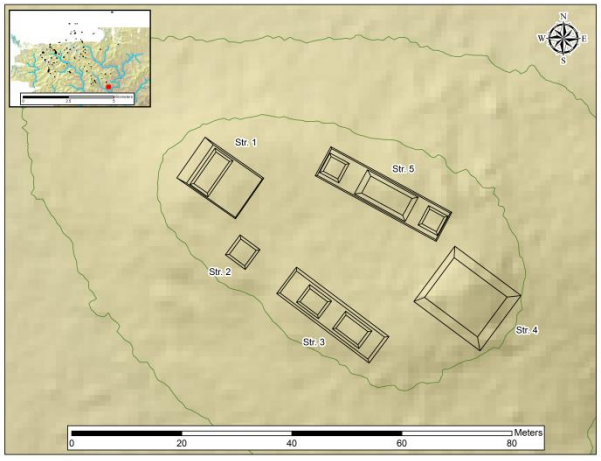

Figure 3.8. Plan view of X SG 61.

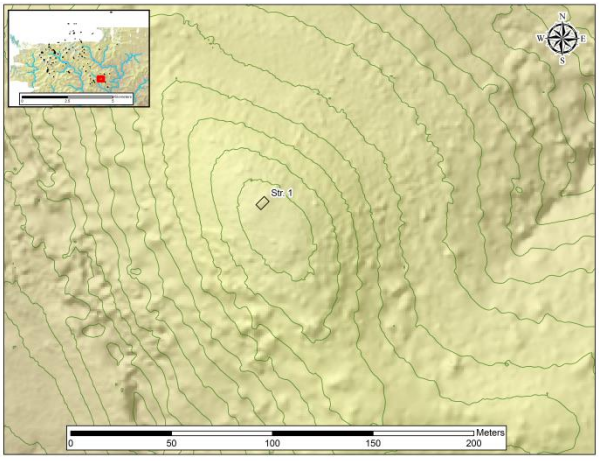

Figure 3.10. Plan view of X SG 62.

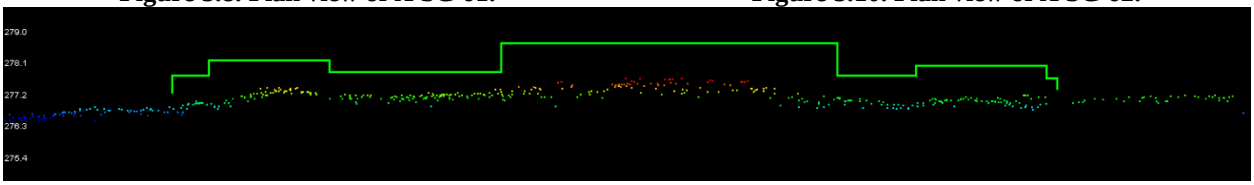

Figure 3.9. LiDAR point cloud of a low triadic building (Structure 5) at X SG 61.

X Settlement Group 62 (X SG 62)

X SG 62 is located 2.9 km southeast of X Group A and consists of a single building on the northern side of a modified hilltop (Figure 3.10). Structure 1 measure 5.8 m by 3.5 m. While the building looks like it could be a natural pile of rocks, but they appear more stacked than natural and was 50 cm tall. Small ceramic sherds were present on the hillslope, suggesting that the hilltop was occupied. No artifacts were recovered from X SG 62.

X Settlement Group 63 (X SG 63)

X SG 63 is 2 km southeast of X Group A. This group consists of a five buildings situated around a central plaza (Figure 3.11). The hilltop has noticeably large bedrock boulders creating a natural platform that the buildings were built upon. Structure 1 is located on the southern edge of the hilltop. It is a tiered building that measures 10 m by 6 m; the upper platform is 4 m long and the lower platform is 2 m long. There is a looters pit on the edge of the building along the hillslope. There's a looter's pit along the southern side of Structure 1. Structure 2 is on the eastern side of the hilltop and measures 4 m by 8 m and is approximately 75 cm tall. Structure 3 is also 4 m by 8 m and is located just north of Structure 2; it is a low structure with 1 course of stone that is less than 25 cm tall. Structure 4 is the largest building on the hilltop and is approximately 2 m tall and measures 14 m by 11.5 m; it is covered in four large looters pits. Structure 5 is 2 m away from Structure 4 and measures 11 m by 5 m and is 1.5 m tall. Due to the sense vegetation on the hilltop no artifacts were recovered from X SG 63 during survey.

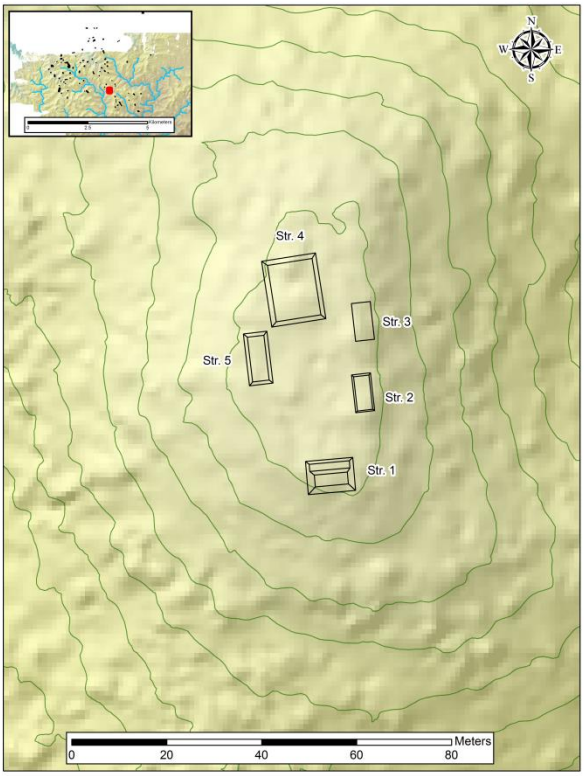

Figure 3.11. Plan view of X SG 63.

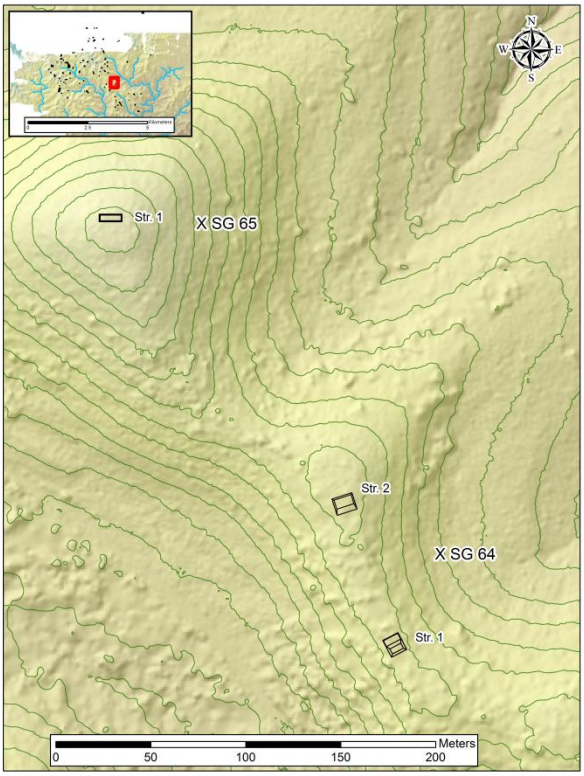

Figure 3.12. Plan views of X SG 64 and X SG 65.

X Settlement Group 64 (X SG 64)

X SG 64 is located 2 km southeast of X Group A. X SG 64 consists of two medium sized buildings situated on opposite ends of an elongated hill (Figure 3.12). The flat saddle between the two edifices contains no structures and no artifacts were recovered during survey. Structure 1 is located on the northern side of the ridge and measures 11 m b 9 m; the building was significantly steep on the southern side than on the northern side – the southern side was about 1.5 m tall while the northern side was 50 cm tall. Structure 2 was located on the southern edge of the ridge wans was similar in size to Structure 1, measuring 10 m by 9 m. Structure 2 has two tiers, the bottom of which measure 4 m long.

X Settlement Group 65 (X SG 65)

X SG 65 is 1.9 km southeast of X Group A and is composed of a single building on the northern side of a modified hilltop (Figure 3.12). Structure 1 is 2-3 courses of stone tall and was built on bedded sandstones measuring 12 m by 4 m. No artifacts were recovered from this settlement group.

X Settlement Group 66 (X SG 66)

X SG 66 is located 2.6 km southeast of X Group A. X SG 66 is composed of four buildings situated around an informal plaza (Figure 3.13). Structure 1 is located in the middle of the hilltop and is a two tiered building that measures 5 m by 5 m. The lower tier is 10 cm tall while the upper tied is two courses of stone that are 25 cm tall and 1.5 m long. Structure 2 is the largest building and is situated in the middle of the hilltop and measures 7 m by 10 m. Structure 2 is 1.5 m tall and is connected to Structure 3 with a stairway that faces X SG 60. There are approximately 5 steps on the 3.5 m tall staircase. Structure 3 is 3 m by 5.8 m and is a low building platform. The stairway is about 10 m long. Structure 4 is located on the western side of the building and measures 5 m by 4 m. Artifacts recovered included ceramics (*81914*) and lithics (*81915*) and ceramic types included Chacluum, Remate, and Turneffe indicating a Late Classic period occupation of X SG 66.

X Settlement Group 67 (X SG 67)

X SG 67 is located 2.45 km southeast of X Group A and is composed of two buildings (Figure 3.14); Structure 1 is on the a flattened minor hilltop and is a small, ephemeral building that has 1-2 courses of linearly aligned stones visible on the surface; Structure 1 is 2 m by 4.5 m and is 70 m south of Structure 2 but on the same isolated landscape formation. Structure 2 is a small building that measures 4.95 m by 4.2 m. Due to the dense jungle vegetation, this building was nearly impossible to see as it is <25 cm tall, except for the fact that there was a large looter's pit measuring 1.2 m by 2.2 m that showed three courses of stone in the building platform suggesting a modified hilltop. No artifacts were recovered from X SG 67.

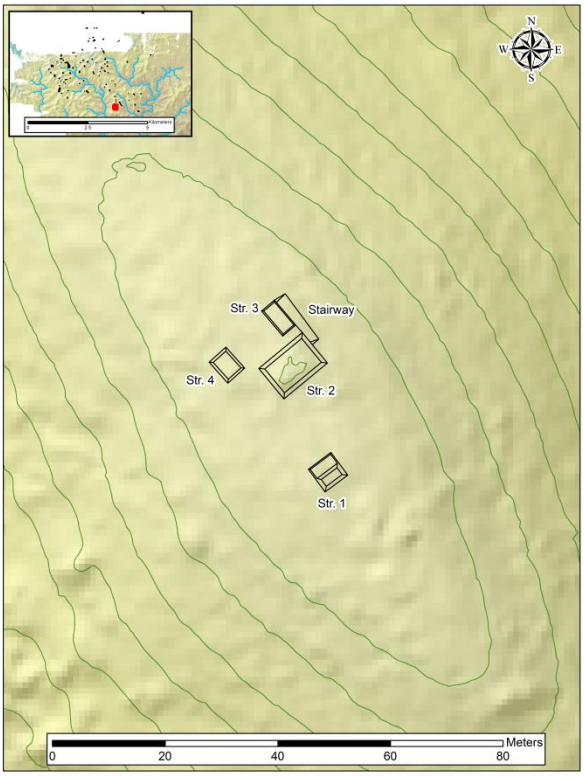

Figure 3.13. Plan view of X SG 66.

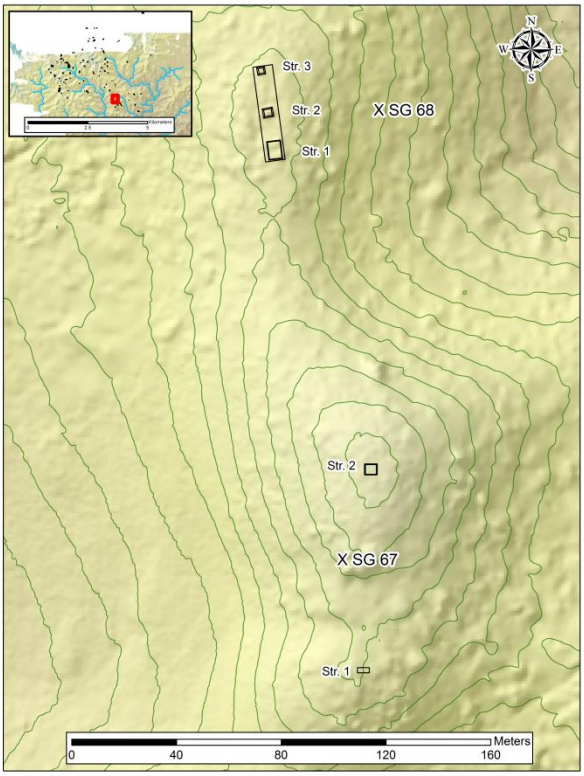

Figure 3.14. Plan views of X SG 67 and X SG 68.

X Settlement Group 68 (X SG 68)

X SG 68 is located 2.3 km southeast of X Group A. X SG 68 consists of a three building platforms on a lower basal platform (Figure 3.14). The basal platform measures 36 m by 7.5 m. Structure 1 is situated on the southern edge of the basal platform and measures 5.3 m by 7.1 m. There's a 9.5 m space between the platforms of Structures 1 and 2, which measures 3.6 m by 3.9 m. Structure 3 is located on the northern end of the basal platform. A small, fourth structure was noted on the eastern side of the hill, but the dense jungle vegetation made it difficult to map and therefore will be re-mapped in the future for accuracy. No artifacts were recovered.

X Settlement Group 69 (X SG 69) / X Settlement Group 13 (X SG 13)

X SG 69 was mapped in the field and later it was realized that this group was mapped in 2013 as X SG 13, therefore the residential space will keep its initial designation. The group is located 660 m south/southwest of X Group A. X SG 13 is composed of four buildings on an elongated hill. Three buildings are on the summit of the hill with a small platform located on a finger ridge of the same landscape feature (Figure 3.15). Structure 1 is on the northwest edge of the hilltop and has a staircase leading downslope; the building measures 9.5 m by 6.7 m and is the largest / highest building in the group. Structures 2 and 3 mirror each other on opposite sides of the bill and are similar in size. Structure 2, the western most building is 6.5 m by ~3 m and has two courses of stone visible on the surface. Structure 3 is on the eastern side of the hill and measures 4 m by 7 m and is a lower platform, with one course of stone visible on the surface. There is an 80 m difference between Structure 4 and the hilltop structures. Structure 4 is a low platform that

is approximately 50 cm tall and measures 5 m by 2.5 m. Ceramics (*81916*) were found along the hillslope and the 2013 ceramics (*71170*) included Remate and Turneffe types suggesting a Late Classic occupation.

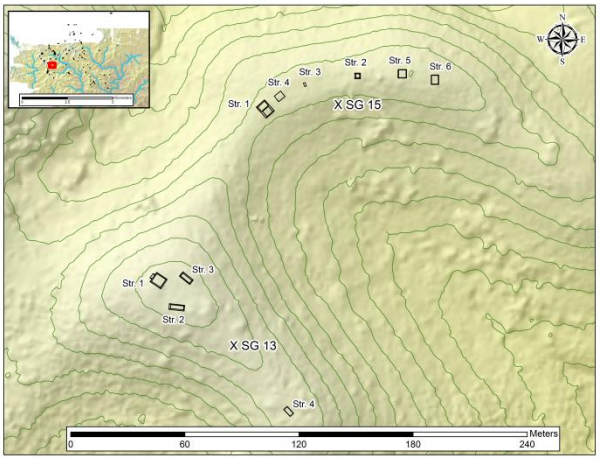

Figure 3.15. Plan view of X SG 13 and X SG 16.

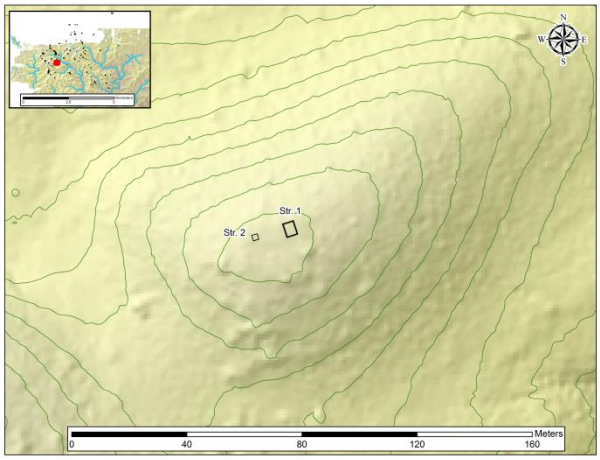

Figure 3.16. Plan view of X SG 71.

X Settlement Group 70 (X SG 70) / X Settlement Group 15 (X SG 15)

X SG 70 was mapped in the field and later it was realized that this group was mapped in 2013 as X SG 15, therefore the residential space will keep its initial designation. The group is located 540 m south/southwest of X Group A. X SG 15 is composed of six buildings on an elongated hill that is 100 m northwest of the summit of X SG 13 (Figure 3.15).The buildings are situated in a linear fashion with no central plaza. The buildings mapped in 2013 kept their same number designations. Structure 1 was remapped as a more complex platform, with two tiers; the top tier is 1.5 m tall and the lower tier is 1 m tall. The building measures 5.8 m by 7.8 m with the lower platform being 3 m wide and the upper platform being 3.6 m wide. Structure 4 is a low platform with a single course of stone visible on the surface measuring 4.3 m by 3.7 m. Structure 3 is a small rise that is 25 cm tall and had a few stones present and measure 2 m by 2 m. Structures 2, 5 and 6 are located on a slightly higher area of the ridge. Structure 2 is a low platform that measures 4 m by 5 m and is at least two courses of stone tall, measuring about 50 cm in height. Structure 5 is also approximately 50 cm tall and measures 6 m by 6 m. A low berm is present between structure 2 and 5, but was not designated as a building due to the lack of stones present on the surface. Structure 6 is the eastern most building and measures 4 m by 5 m. Ceramics (*81917*) were recovered from the area near Structures 1, 3, and 4 due to the fact that this part of the ridge was at the edge of a milpa, whereas buildings 2, 5, and 6 were in low vegetation. 2016 ceramic types included while 2013 ceramics (*71181*) from X SG 15 included a single Better than Puluacax sherd, suggesting a Late Classic occupation of the hilltop.

X Settlement Group 71 (X SG 71)

X SG 71 is located 490 m south of X Group A. X SG 71 is composed of two small buildings on a gradually sloping hill (Figure 3.16). Structure 1 is 4 m by 5 m and Structure 2 is 2 m by 2 m. Structure 1 is about 40 cm tall and several small stones were visible on the surface while Structure 2 was a low building platform <25 cm tall. There's a large berm on the southwestern

edge of the hilltop and a few rocks were present on the surface, but not enough to confirm the presence of an ancient Maya building platform; future excavations on the berm could confirm the presence of a building platform. Artifacts recovered from the hilltop included ceramics (*81918*) and lithics (*81919*). Ceramics included a black slipped sherd that was not Chacluum, Better than Puluacax, and a possible Remate sherd, suggesting a Late Classic period use of the hilltop.

Survey Conclusions

The 2016 survey was one week long and resulted in the remapping of two settlement groups and documenting 11 new households and two large architectural groups. The variations in the size of households and large architectural groups nearly 3km from the Stela Plaza remains similar to the trends exhibited in previous years' settlement survey, that Ix Kuku'il had heterarchical nodes of power with families of varying social status spread out across the landscape. Analysis of ceramic types suggests an Early Classic and Late Classic occupation of Ix Kuku'il, with more groups containing evidence of Early Classic occupation than previously thought. However, no Late Preclassic or Postclassic ceramic types have been identified at this time. Future research objectives at Ix Kuku'il include continued survey of the hinterland houses across the landscape, test unit excavations to build a chronological history of the development of the ancient polity, and large excavations in the core to gain a better understanding of the administrative functions and political power present at Ix Kuku'il and how it relates to larger nearby communities including Uxbenká, Lubaantun, Nimli Punit, and Pusilha as well as smaller centers in the region such as Aguacate, Xnaheb, and Uxbentun.

Works Cited

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2016 BPAAP Sub-Operation (Sub-Op) Form

Total # of Pages_____
(include all drawings and forms)

RS Name _____ **SubOperation_____**

Number of Units_____ **Excavators_____** **Dates of Excavation_____**

Provide summary description of excavation goals, findings, stratigraphy, and interpretations (form should be accompanied by a general sketch map showing the orientation of all structures, units, and datums):

2016 IA Accession Number: 10366

2016 BPAAP Unit Form

RS Name_____ Location in RS _____ **Unit** _____

Unit Size_____m (N-S) x _____ m (E-W) **Date(s)_____** **Recorder_____**

Stratigraphic Description (describe soil type, texture, color, and inclusions for individual strata; record this same information on profile drawings of unit walls; include *interpretation of depositional events*; also include descriptions of radiocarbon samples, and interpretations of their chronological relationship to unit stratigrapy; continue on reverse if necessary):

Feature Description (if features are present, describe them and their relation to stratigraphic units; record this same information on profile/plan drawings; include *interpretation of features as they relate depositional events*; continue on reverse if necessary):

Sample Description (describe all samples collected from unit - radiocarbon, soil, plaster, float, etc. - context, and reason for collection; continue on reverse if necessary):

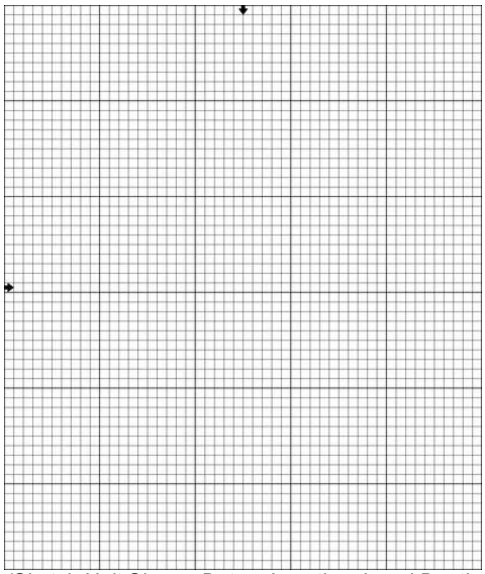
Sample Type	***Lot #***	***Context/Depth (cmbd)***

Sample Type	***Lot #***	***Context/Depth (cmbd)***

2016 BPAAP Level Form

RS name _____ **Unit** _____ **Level**_____

Unit Size_____**m (N-S) x** _____ **m (E-W)** **Date(s)**_____ **Recorder**_____



(Sketch Unit Shape, Datum Location, Level Depths, Features, Sample Locations, etc.)

Datum Height_____ **(cms above ground surface)**

Level Start Depths: NW____ **NE**____ **SW**____ **SE**____ **C**____

Level End Depths: NW____ **NE**____ **SW**____ **SE**____ **C**____

Soil Description

Munsell_____**(dry)** _____**(wet)**

Type & Texture_____

Inclusions_____

OtherComments_____

Sample Type	***Lot #***	***Context / Depth (cmbd)***

Artifact Type(s)	***Lot #***	***Description / Context***

Camera_____ **Photo #s**_____ **Other Lot #s**_____

2016 IA Accession Number: 10366

BPAAP LOT NUMBER FORM (2014)

RS_____ Excavators/recorders_____

Lot #	*Group*	*SubOp*	*Str.*	*Unit*	*Level*	*Context*	*Artifact Type*

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

BLADEN PALEOINDIAN AND ARCHAIC PROJECT

RS NAME:________ OP.: _______E.U.: ______LVL: ______

Date: _____ . ____ /_____Excavators:_______Fea#________

Lot#:____________________material____________________

XY: Easting: ______ Northing: _______From____________

Z: Relative or Absolute:_________datum_______________

Context:

2016 IA Accession Number: 10366

UAP LOT NUMBER FORM (2016)

Excavator(s)_____

Lot #	*Group*	*SubOp*	*Str.*	*Unit*	*Level*	*Context*	*Artifact Type*

2016 IA Accession Number: 10366

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context:

Uxbenka Archaeological Project (2016 IA Accession #10366)

Group ________________ SubOp ______________
Structure ______________ Unit ________ Fea#_______
Lot # _________________ Level ________________
Excavator(s) ______________ Date(s)_______________
Material ____
XY: Easting ______ Northing ________ from __________
Z: Relative *or* Absolute Datum_________
Context: