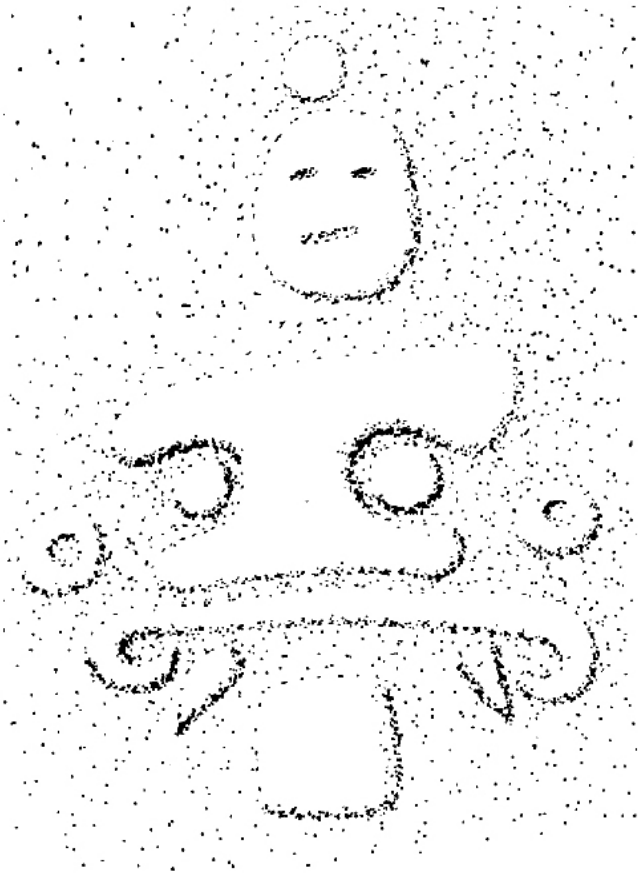
# Final Report

# of the

# Cochuah Regional Archaeological Survey's

# 2004 Field Season



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with contributions by
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NOTE: Copies of this CRAS report, and prior CRAS and Yo'okop reports, are available on our web page:

http://online.redwoods.cc.ca.us/yookop/

The web page also contains photographs and updates not included in this report.

## Acknowledgements

The 2004 CRAS field season was funded by the Antiqua Foundation, as was our 2003 CRAS season and our 2002 season at Yo'okop. Additional support for Johan Normark's participation during the 2004 field season was provided by Birgit och Gad Rausings Stiftelse för Humanistisk Forskning, Wilhelm och Martina Lundgrens Vetenskapsfond 1, and Kungliga Vetenskaps - och Vitterhetssamhället. The 2001 Yo'okop season was made possible by a grant from the Selz Foundation. We very much appreciate the support and encouragement that Bernard Selz has continued to provide to us through the years. The 2000 season was funded by the H. John Heinz III Fund of the Heinz Family Foundation (reference number H1305) and the Foundation for the Advancement of Mesoamerican Studies Inc. (FAMSI project number 99016). Without these funds, our research in this region would not have been possible.

We also would like to thank our colleagues from the United States, Canada, Sweden, and Mexico, including INAH-QR and INAH-Nacional, for helping us to continue with our fifth season of research. Adriana Velazquez Morlet, director of INAH-Quintana Roo, has been incredibly helpful in helping us to continue our research in the Cochuah region. Also, our Project ethnographer Sandra Bever provided us with advice on matters related to the modern Maya and continues to assist as a liaison between the Project and government officials.

Additionally, the members of Project would like to thank Hugh and Dianne Johnstone and Tom and Mary Lou Shaw for years of unflagging support as we worked toward our goal of running our own research project. Our family and friends have been incredibly patient and supportive.

Finally, and most importantly, we would like to thank the people of Ichmul, Xquerol, Sacalaca, Saban, and Huay Max who graciously allow us to live and work in their *ejidos* during our summers. In addition to the crew members we were able to hire (following pages), we received countless archaeological (and survival) tips and assistance from individuals throughout the *ejidos*.

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Reinaldo Cen Noh
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Victor Moo Noh
Romaldo Xix Noh
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Basilio Caamal Koyoc
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Wilbert Camal Tamay
Bonifacio Coyol Coho
Wilfrido Chan Coyoc
Rojer Rene Cohuo Poot
Jorje Cohuo Chan
Asuncio Chan Koyoc
Jose Luis Camal Tamay

Group 2
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Fidencio Poot Balam
Pedro Damiano Cohuo Pech
Luis Poot Be
Wilfrido Cohuo Tamay
Asterio Camal Cohuo
Donato Cohuo Pech
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Marcos Cohuo Cohuo

Group 3
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Sebastian Camal Tamay
Lauriano Cohuo Pech
Nazario Cohuo Pech
Esteban Poot Chan
Ubencio Poot Bé
Pedro Elias Cohuo Chan
Jubencio Cohuo Chan
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Group 4
Bonifacio Coyol Coho

Group 5
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Fidencio Poot Balam
Eduardo Cohuo Poot
Filiberto Cohuo Poot
Pedro Daminao Cohuo Pech
Asterio Camaal Cohuo
Luis Poot Be
Marcos Cohuo Cohuo
Pedro Elias Cohuo Chan

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Jorge Cohuo Chan
Sebastian Camal Tamay
Nazario Cohuo Pech
Jubencio Cohuo Chan
Wilfrido Chan Coyoc
Esteban Poot Chan
Pedro Pablo Cohuo Pech
Santiago Cohuo Poot

Group 7
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Aurulio Cohuo
Joventino Cohuo
Filiberto Chan Coyoc
Pedro Damiano Cohuo Pech
Rojer Rene Cohuo Poot
Wilfrido Cohuo Tamay
Fernando Poot
Wilbert Caamal

**Field Crew: Xquerol *Ejido***
(continued)

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Fidencio Poot Balam
Wilfrido Chan Coyoc
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Jose Anacieto Un Noh
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Gilberto Hernandes Ake
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Marcos Cohuo
Jose Inez Noh
Gregorio Pech
Cristobal Un
Tranquilino Dzul
Susano Noh
Eustaquio Un
Anastacio Noh Un

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# Introduction

Justine M. Shaw

In 2004, a fifth season of archaeological research was carried out in the Cochuah region of west-central Quintana Roo and eastern Yucatan. In its second year as the Cochuah Regional Archaeological Survey (formerly the Proyecto Archaeológico Yo'okop), the Project conducted mapping and excavations in the *ejidos* of Ichmul, Sacalaca, and Xquerol (Figures 1 and 2).

During a 10-week season, much of the crew focused upon the site of Nohcacab. Here, two structures were excavated and consolidated, and three 2x2 m test pits were dug in order to better explore a potential Chichén Itzá presence at the site. The possible Chichén Itzá presence at Nohcacab had been detected in 2003, when an excavation at Nohcacab was undertaken to generate a ceramic sample that would enable the preliminary dating of the site, and its placement in a regional context. Nohcacab's largest residential platform was chosen for this initial sampling, as it provided the best chance for yielding a sealed stratigraphic column. The test unit was placed between three structures of different apparent ages. The oldest of these appeared to be Structure N1W1-1, while the youngest, Structure N1W1-2, was a small Postclassic shrine associated with a masonry altar (Structure N1E1-10). Both the shrine and altar were constructed with reused veneer and jamb stones. In front of Structure N1W1-1 was an L-shaped residential foundation brace with an internal bench, Structure N1E1-8 (see "Nohcacab's Operation 2: Structure N1E1-8" this volume). Since this building blocked access to the vaulted residence, it was assumed to postdate that construction. Likewise, since part of the rear wall of the foundation brace had been removed to permit access between the shrine and altar, it was assumed that the foundation brace's construction preceded that of the shrine. The placement of the excavation was such that it would likely cover a series of construction episodes spanning the Terminal Classic through the Postclassic periods.

A related construction, Structure S3E2-2 was also located in the northeastern portion of the site. It too possessed double wall lines in the rear and sides and a single wall line in the front. Although a plan map of the structure's visible surface architecture was made in 2003, no related excavations or surface collections were made that season. Chichen Slatewares were observed on the surface.

Both the T-shaped and L-shaped foundation braces were architectural anomalies. Most buildings at Nohcacab had closed fronts, marked by foundation braces that were continuous except for the doorways. Structures N1E1-8 and S3E2-2 are different from the norm in that their fronts were open, demarcated only by a single line of stones that served to raise the interior floor above that of the plaza. The back and side walls were constructed of low (<1 m) core-veneer masonry supporting poles, with low benches placed along the back walls. Similar structures are known from a variety of Northern Lowland sites including Uxmal (Barrera and Huchim 1990; Rupert and Smith 1957; Ruz Lhuiller 1955), Sayil (Tortellot et al. 1992), Chichén Itzá (Rupert and Smith 1957), Ek Balam (Bey et al. 1997), Yo'okop (Structure N6W1-11 - Shaw et al. 2002) and Edzná (personal observation). Since these buildings were either constructed

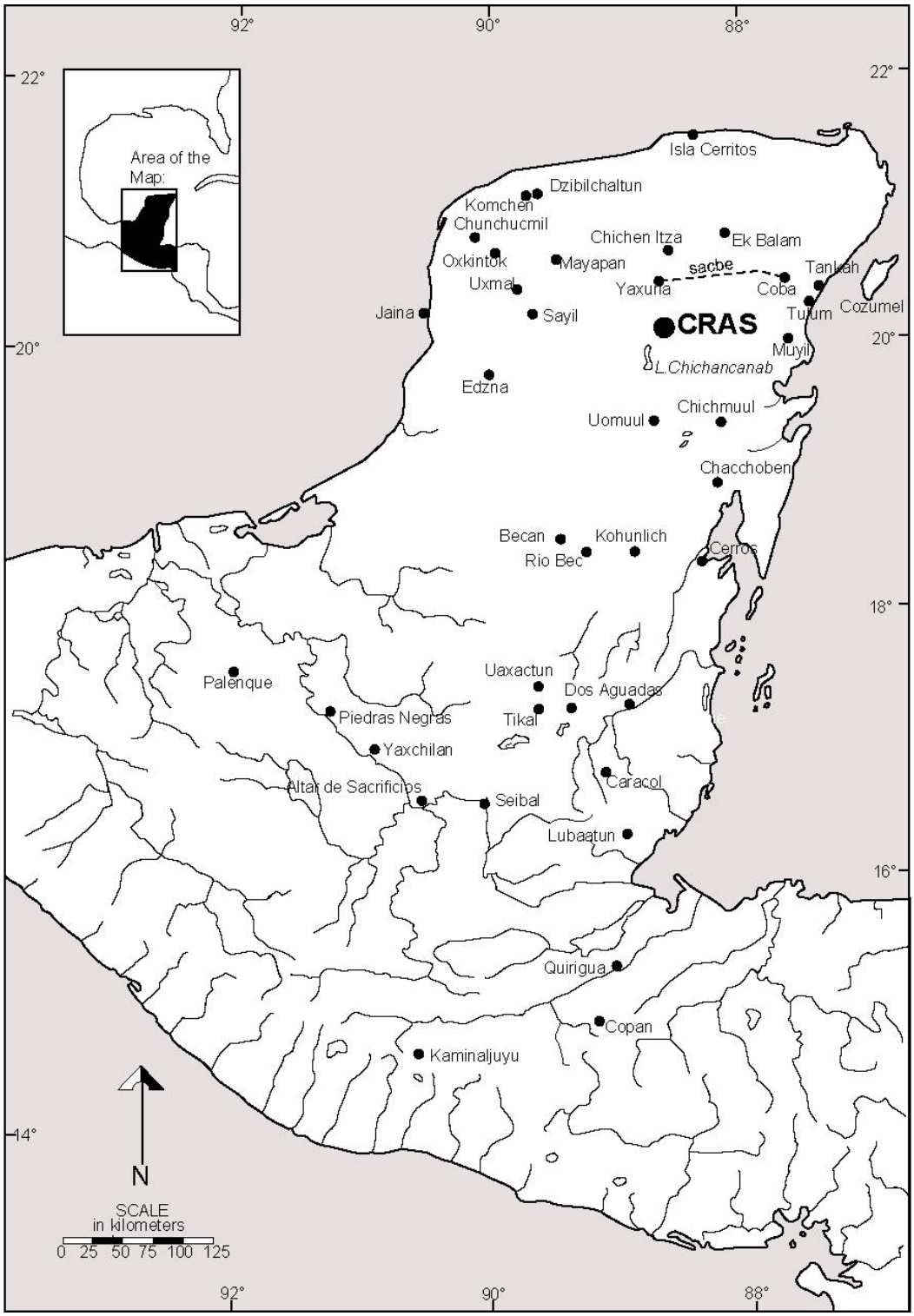



**Figure 1. Location of the CRAS Study Area**

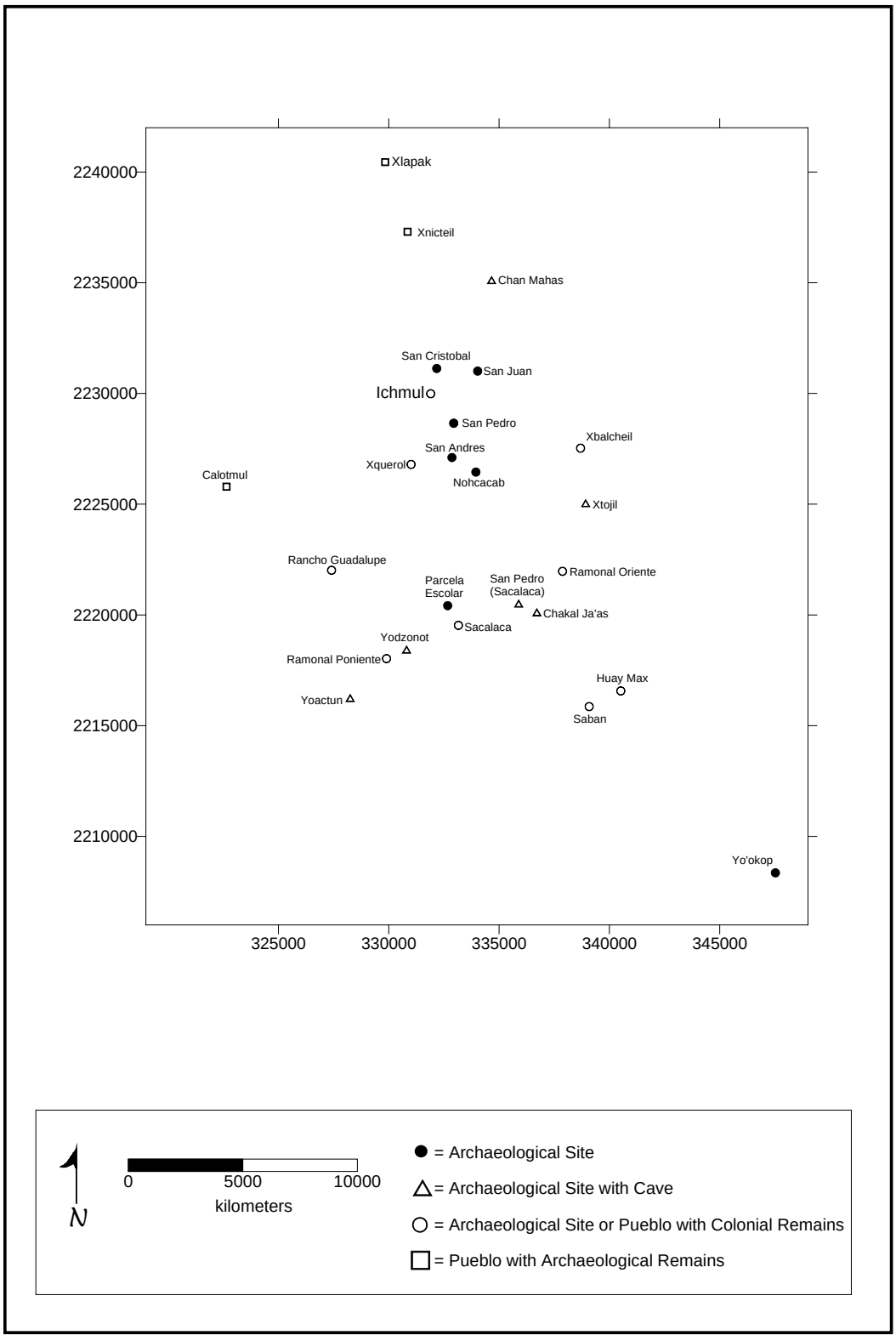



**Figure 2. Sites within the CRAS Study Area**

over earlier florescent-style architecture, built in violation of previous site planning (Bey et al. 1997), or employed reused florescent façade elements in their construction (Barrera and Huchim 1990; Ruz Lhuiller 1955), it has been suggested that these structures are contemporaneous, marking a "Postmonumental" phase of the Terminal Classic (Bey *et al*. 1997:249) associated with a dark age following the decline and abandonment of many northern cities (Andrews *et al*. 2003).

While the 2003 test pit produced ceramics spanning the Terminal Classic through the Postclassic, the poor preservation of the floor meant that these materials were commingled. Of particular interest was the recovery of significant numbers of Chichen Slatewares near the surface. Interestingly, Chichén-related ceramics such as Balantun Black on Slate, Yalton Black on Orange, Chumpich Incised, and Tohil Plumbate were recovered from the open fronted building placed in the center of the Monjas quadrangle at Uxmal (Ruz Lhuiller 1955:52). The same was not true at Ek Balam (Bey et al. 1997:245), where the associated ceramics for the open-fronted residences were typical of the Cehpech ceramic sphere. The frequencies of Chichen Slateware ceramics at Nohcacab were not sufficient to warrant its inclusion within the Sotuta ceramic sphere, implying "extensive cultural contact at the technological level" (Willey et al. 1967:312). Small assemblages or subcomplexes of Sotuta-associated ceramics have been found outside of the Sotuta sphere in a variety of contexts including: termination (at Yaxuná [Ambrosino 2003], Uxmal [Kowalski et al. 1996], and Edzná [Boucher 1993]), dedication (Cobá [Robles 1990]), and occupation (at Edzná [Boucher 1993], Dzibilchaltún [Andrews and Andrews 1980], and Yaxuná [Shaw 1998]) contexts.

Thus, the 2004 excavations of Structure N1E1-8 and Structure S3E2-2 sought to explore whether or not a genuine Chichén Itzá-related presence had taken place at Nohcacab and, if such an occupation were evidenced, what the nature of it had been. This was to be assessed based upon the artifact content of the structures, as well as their relationship to any associated architecture (see "Nohcacab's Operation 2: Structure N1E1-8" and "Nohcacab's Operation 6: Structure S3E2-2" this volume). Three 2x2 m test pits in plazas and middens aassociated with Puuc-style architecture were excavated as a means to provide Terminal Classic control samples to which the Postmonumental structures could be compared (see "Nohcacab's Operation 4" and "Nohcacab's Operation 5" this volume).

An additional thrust of the CRAS 2004 research was the accurate mapping of the *sacbe* between the site of Xquerol and Ichmul, a site located just across the state boundary into Yucatan (see "Ichmul and Its Surroundings" this volume). In addition, the area around the *sacbe* terminus at Ichmul was mapped and a 2x2 m test pit was excavated in the plaza in which the *sacbe* terminated. Finally, when local informants reported additional roadways, four more *sacbeob* were located and GPS coordinates were recorded along portions of the *sacbe* courses (see "All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region" this volume).

The site of Ichmul had been visited by Stromsvik, Pollock, and Berlin as part of their brief reconnaissance of the area east of Peto (Stromsvik et al. 1955:170-171). They remarked primarily upon its substantial ancient Maya and colonial constructions (colonial constructions began in 1571 with the establishment of a Franciscan convent named San Bernardo de Sena Ichmul - Andrews 1991 and Bretos 1992), noting architecture concentrated for a kilometer or more in each direction from the main

square, divided by three roads exiting the plaza to the east, west, and south. On each of the main platforms and pyramids are fortifications that likely date to the Caste War. However, the unfinished 18th century church indicates that the town was, at least for a time, abandoned prior to this conflict. By the time of this 1954 visit, the ancient Maya constructions were already in poor condition, having been quarried for colonial, historic, and more recent constructions. However, a system of standing vaulted passages still existed that permitted the explorers to enter one of the largest mounds on its north side. Exposed masonry along the western edge of the ruins revealed a sequence of earlier constructions replaced by Puuc- or Chenes-style cut stones, as well as Postclassic East Coast-style cruder masonry. A small sample of ceramics that was collected appeared to be "Puuc types," as well as potentially colonial and Postclassic Mayapan redwares. Based upon their observations of architectural and ceramic styles, Stromsvik, Pollock, and Berlin estimated that the major period of occupation at Ichmul was the Late Classic. They did not locate the terminus of the Xquerol-Ichmul *sacbe* at Ichmul, as its existence was not noted until halfway from Ichmul to Xquerol.

The CRAS project did not have permission in 2003 to conduct research at Ichmul, as the site lies in Yucatan, and the Project's permit only covered adjacent *ejidos* in Quintana Roo. However, Project members did make a brief visit to the site at the end of the 2003 season; the modern road between Xquerol and Ichmul was closed for the majority of the season so that it could be widened, re-graded, and re-surfaced using heavy machinery. These construction activities heavily impacted the ancient *sacbe* connecting the two centers, as the snaking modern road cuts through the *sacbe* twice. Only the ~40m of the *sacbe* lying in the state of Quintana Roo could be mapped in 2003, although it was observed that much of the remaining *sacbe* (in the state of Yucatan) could be readily recorded utilizing *brechas* from the adjacent modern road.

At Ichmul, Project members observed the same colonial, Caste War, and ancient Maya features described by Stromsvik, Pollock, and Berlin. However, it was noted that the growing modern occupation had caused further damage to the site, collapsing the previously described standing vault at only about 10 m into the structure. A side passage near this collapse could be followed for approximately 5 m before more collapse was seen. The largest mounds at Ichmul were overgrown with relatively recent vegetation, although they were crossed by a number of paths. The edges of the mounds adjacent to the plaza formed the rear of *solares* (house lots). Modern inhabitants were keeping much of the colonial architecture clear of vegetation, with recent repairs to roofs visible; no such efforts had been made to maintain or protect the more ancient architecture, which appeared to function primarily as a source of raw materials. While not authorized to collect any ceramic materials, Project members were able to informally examine and replace sherds on the surface of the site. Unlike the observations of Stromsvik, Pollock, and Berlin, the sherds identified by Dave Johnstone were largely Early Classic in date.

Based upon the large-scale of the architecture observed at Ichmul, the aerial extent of ancient features reported by Stromsvik, Pollock, and Berlin, and the network of *sacbeob* discovered in 2004, it is believed that Ichmul was a regional center, perhaps equal to Yo'okop in power, for at least a portion of its occupation.

Another component of the 2004 season was further documentation of the cave sites found in the *ejido* of Sacalaca, as well as the recording of a limited number of new

settlements reported by local informants as a means to better understand the settlement patterns in the region (see "Sites with Caves in the *Ejido* of Sacalaca" this volume). In 2003, Alberto Flores and Johan Normark, working with local consultants from the *ejido* of Sacalaca, located several caves in the area that were previously not known to archaeologists (Shaw et al. 2003). Although they only had four days to visit these caves and other outlying sites in the *ejido*, the two found and photographed a number of interesting features within the caves.

It is likely that these caves, like others in the Maya area, functioned from the region's initial settlement until quite recently as important symbolic and ceremonial locations (Rissolo 2001). Used for burials (Marquez de Gonzalez et al. 1982; Rue et al. 1989; Vesilind 2003) and ceremonies related to ancestor worship (Carlson 1981), caves have been significant features in Mesoamerican beliefs for several thousand years. The Maya traditionally viewed caves as portals to the Underworld, where supernatural deities and powerful ancestors resided. Shamans, as supernatural specialists, were the individuals needed to communicate through these portals and bring health and success to the living (Prufer et al. 2003:231-232). As part of these ritual activities, caves may be decorated with paintings and/ or incised designs (Leira and Terrones 1986; Stone 1989; Strecker 1984 and 1985) and contain artifacts used in ceremonies (Graham et al. 1980). Above ground temples may also be located on or near the entrances to caves (Bonor Villarejo 1991; Brady 1997; Heyden 1975; Pugh 2001). Additionally, caves also served as boundary markers, dividing communities and social groups (McAnany 1995), in the same manner as *cenotes* and wells (Roys 1943:181). Thus, for much of Maya history, caves have served as critical features in the sacred and political geography of the region, whose location and contents are important in understanding regional settlement.

The caves in the Sacalaca *ejido* are being increasingly visited by modern peoples, used as shelters from the rain by farmers and recreational areas by others. These visits are resulting in the destruction and/ or modification of archaeological features within the caves (Graham et al. 1980). This season, no deep-cave explorations were made; the most accessible, and therefore most-threatened, features were to be the focus of this part of the project.

In the course of locating these cave sites, and conducting further reconnaissance, additional historic sites were located (see "Forgotten Churches of Cochuah Province" and "*Mulob* and Wells: Relations between Prehispanic and Colonial Settlements" this volume).

Additionally in 2004, the cultural anthropology component of the CRAS research was conducted by Veronica Miranda, who continued her research on childbirth practices in the region under the guidance of Sandra Bever. Expanding her study in Saban and Huay Max, she also worked with women, midwives, and doctors in Xquerol and Ichmul. Miranda's research sought to explain the reasons behind women's childbirth-related choices (see "Rural Women Taking a Stand: Maternal Health Choices in the Central Yucatan Peninsula" this volume).

In sum, the 2004 season was able to more deeply explore questions raised in prior seasons, while laying the groundwork for future research in Ichmul, Sacalaca, and *ejidos* to the south of Saban. In addition to providing answers to basic "where" and "when" questions concerning settlement in the region, it is hoped that these efforts can continue to test hypotheses concerning the ancient, historic, and modern Maya.

# Methods

Justine M. Shaw

The 2004 Cochuah Regional Archaeological Survey (CRAS) involved archaeological reconnaissance of the *ejidos* of Xquerol, Ichmul, and Sacalaca. The goal of the project was to obtain a general idea of the location, scale, and variety of the archaeological remains in each *ejido*, with the larger and more accessible remains receiving greater attention due to the limited time available for the survey. Additionally, the Project devoted time to more intensive excavations at Nohcacab in order to test hypotheses regarding a possible Chichén Itzá presence at the site.

As the sites included in the survey area had received little-to-no attention from archaeologists in the past, it was determined that CRAS should perform basic documentation on the largest architecture in each *ejido*, with surrounding smaller features included as time permitted. For this reason, investigators utilized local consultants as their primary means to locate sites and features. Since the local Maya have been utilizing their territory for *milpas*, hunting, and procuring natural resources throughout their lives, most adult men are able to readily report the location of *montículos* (or *mul*). Such features are generally at least 3 m tall, decidedly skewing our sample. However, archaeologists made an effort to record the existence of adjacent smaller constructions in all zones that were mapped in detail.

A Global Positioning System (Garmin 12CX GPS) was used to locate the modern pueblos and archaeological sites within the region. More detailed mapping was done using a Topcon GTS-213 total station with a TDS-48 data collector operated by the principal investigators and/or other archaeologists. Topographic relief, as well as any *in situ* archaeological elements, was recorded. The resulting maps are presented with a 50cm contour interval (unless otherwise noted) in order to display some subtle terrain changes. Crews from each *ejido* were hired to clear all features to be mapped and to help locate features. Due to the structure location procedure, mapping generally began near a large mound and proceeded to the surrounding territory as time permitted. Data on each point (recorded as coordinates N, E, and Z relative to the site datum, as well as with a descriptive code and notes) were saved on the data collector and then downloaded onto a laptop computer each night. Data were e-mailed home each weekend to ensure their safety. Using Surfer (version 7.0), maps were generated daily to allow ground-truthing. This strategy permitted maps of the documented regions to be prepared and given to INAH-QR and local authorities at the time the field season was completed.

Three 2x2 m test pits were excavated in at Nohcacab, while one such excavation was carried out in Ichmul. These plaza area excavations were aimed at providing ceramics from sealed contexts that could be used to date the sequence of constructions in a given area, as well as to determine the number and characteristics of such building and occupation episodes. Additionally, two horizontal structural excavations were conducted at Nohcacab. All pits and structures were excavated in natural levels, with materials separated according to the operation/ level/ lot system. All fill was removed using small hand picks and trowels, transferred to buckets, and then screened using 1 cm mesh. Shaw or Johnstone monitored each excavation, which was under the

immediate direction of one or more of the Project archaeologists. One to two local crew members assisted with the excavation and screening. All test pits were backfilled upon completion of the excavating and recording process. The two structures were consolidated, and then the consolidated architecture was backfilled, as mandated by the Project's INAH permit.

Ceramic finds from the excavations were washed and marked with the operation, level, and lot, while lithics were not scrubbed under water so that residue analyses might be done in the future. The Project utilized digital photography, color slides, plan and profile maps, and extensive note-taking to record remains visible on the surface, in areas impacted by modern activities, and in excavations. Sherds were identified to the variety level whenever possible, using the type-variety system (Smith *et al.* 1960).

At the end of the season, maps and preliminary summaries were presented to local authorities so that interested individuals could begin to see the products of our research as soon as possible. Spanish-language versions of the completed report will be delivered to Xquerol and Sacalaca in 2005.

Additionally, Veronica Miranda continued her study of pregnancy and childbirth practices in the region, using informants from the *ejidos* of Saban, Ichmul, and Xquerol. Although Sandra Bever was not able to travel to Saban in person, she continued to advise Miranda about how to select and conduct her case study-based research. It is hoped that Bever will be able to return in the future to continue her study of the relationships between the modern Maya and Project archaeologists.

## Nohcacab's Operation 2: Structure N1E1-8

Justine M. Shaw

In 2003, a 2x2 m test pit was excavated directly west of Structure N1E1-8, an L-shaped foundation brace located at the site of Nohcacab (Figure 3). This first excavation at the site, Operation 1, yielded a sample of Chichén Slateware ceramics from the level associated with Structure N1E1-8. This collection, in addition to the Postmonumental style of the construction, raised questions about a possible Chichén Itzá-related presence at Nohcacab that was further explored in 2004 in Operations 2 and Operation 6 (see "Nohcacab's Operation 6: Structure S3E2-2" this volume), as well as through the comparative test pits excavated near Puuc-style structures (see "Nohcacab's Operation 4" and "Nohcacab's Operation 5" this volume). Operation 2 was designed to further expose the architecture of Structure N1E1-8, as well as to provide artifact samples from contexts within the structure.

Prior to excavation, double wall lines were visible to the rear (south and west) and ends (northern and eastern extensions of the "L") of Structure N1E1-8 (Figure 4). The front faces of the structure, the interior of the "L", were composed of single lines of stones. A greater volume of collapse towards the rear of the structure was thought to be the result of a higher wall in this portion of the foundation brace and/ or the presence of benches. Some cut stones were visible in the wall lines, but the inconsistent nature of their inclusion and the varied orientations of their surfaces made it appear that they were likely borrowed from another structure(s), rather than produced for Structure N1E1-8 itself. An additional argument for the later and intrusive nature of the L-shaped structure is that it was built directly in front of Structure N1W1-1, violating the center of the plaza that it shared with Structure N1E1-2 (Figure 5). A Postclassic altar (Structure N1E1-10, Figure 6) built on Structure N1E1-8, apparently with cut stones that had been part of the latter's walls (after being removed from another still earlier structure), violated the western wall of the northern extension of Structure N1E1-8 near its center. Larger rubble piles to the north and south of the shrine, as well as the absence of any *in situ* wall stones on the surface near the shrine, are the result of Postclassic clearing of structural elements and collapse debris from Structure N1E1-8 to make space for altar-related activities.

The 2004 excavation of Structure N1E1-8 was divided into numerous suboperations utilizing architectural elements visible on the surface (Figure 7). The suboperations were then excavated in natural levels, leaving collapse debris *in situ* until it could be photographed and examined for patterning. Levels were further divided into lots to further separate the various contexts associated with the structure.

### Operations 2a-2f

Operations 2a-2f were designed to clear a 50-cm area outside Structure N1E1-8 in order to allow consolidation of the walls, as well as to gain a small window into the pattern of collapse debris around the structure and look for evidence of a plaza floor in association with the construction. The depth of the suboperations was determined by the level of the base of the stones forming the structure's walls, and thus they varied

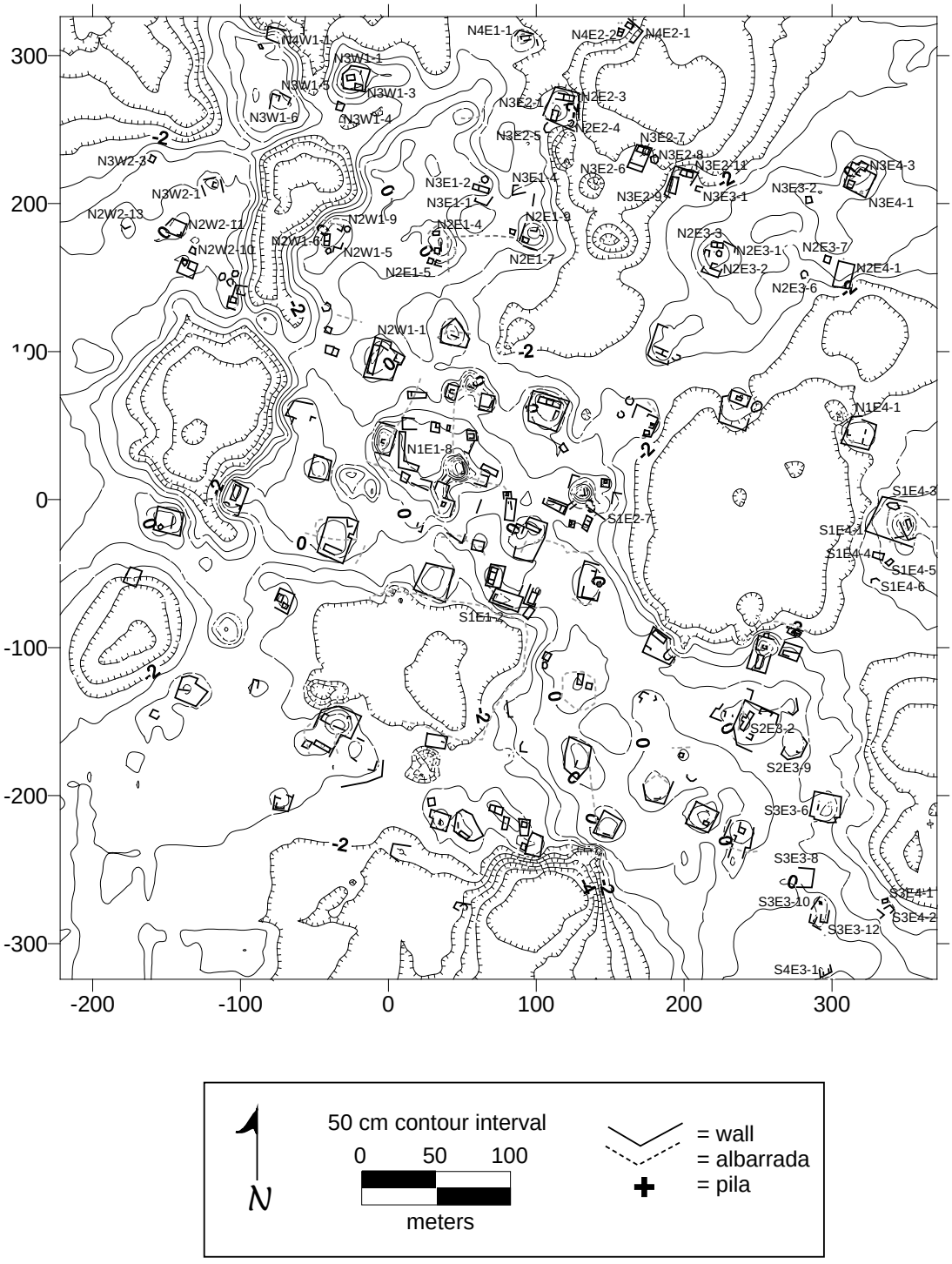



**Figure 3. Nohcacab Site Map**

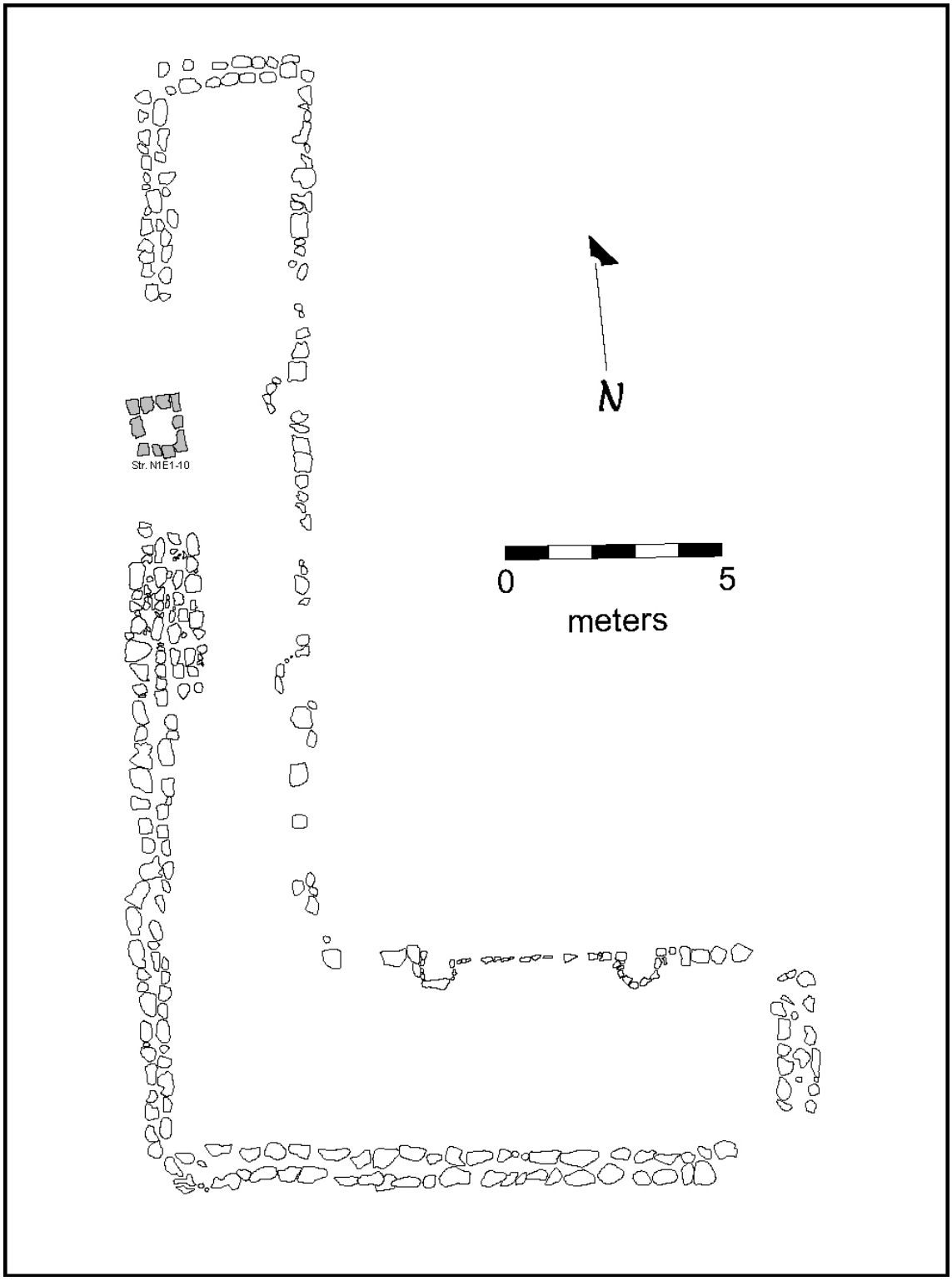



**Figure 4. Plan of Structure N1E1-8**

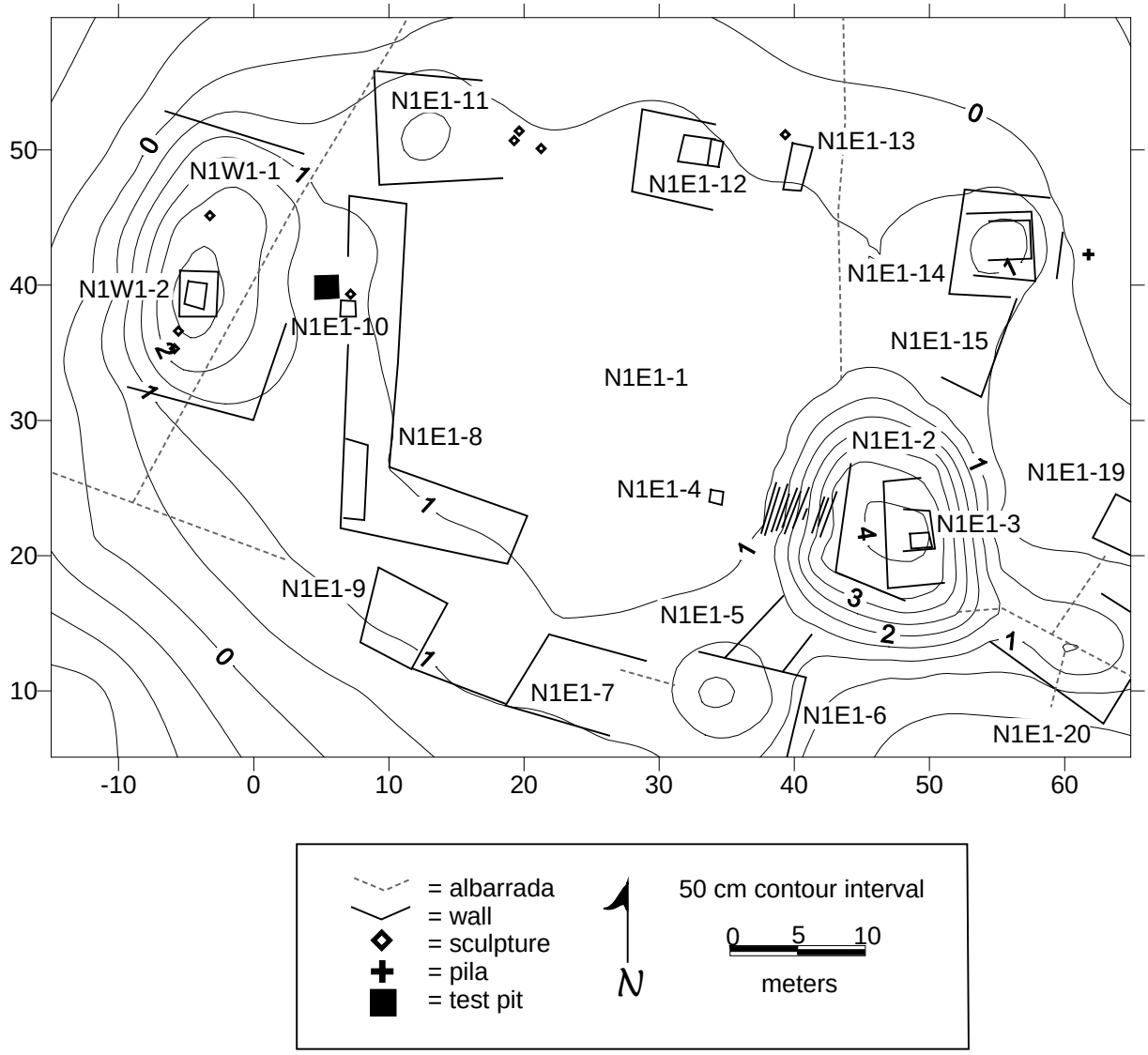



**Figure 5. Structure N1E1-8 Vicinity**

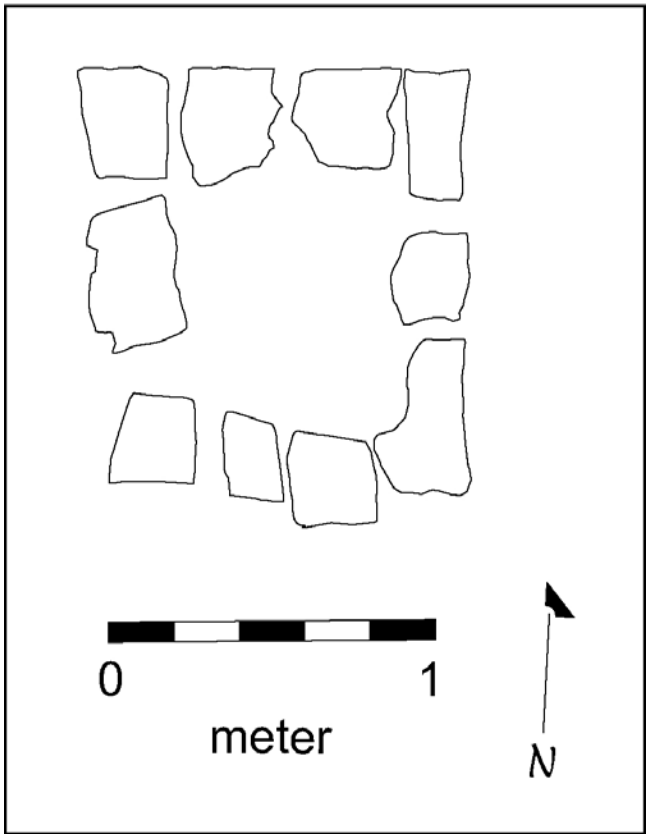



**Figure 6. Structure N1E1-10: Postclassic Altar**

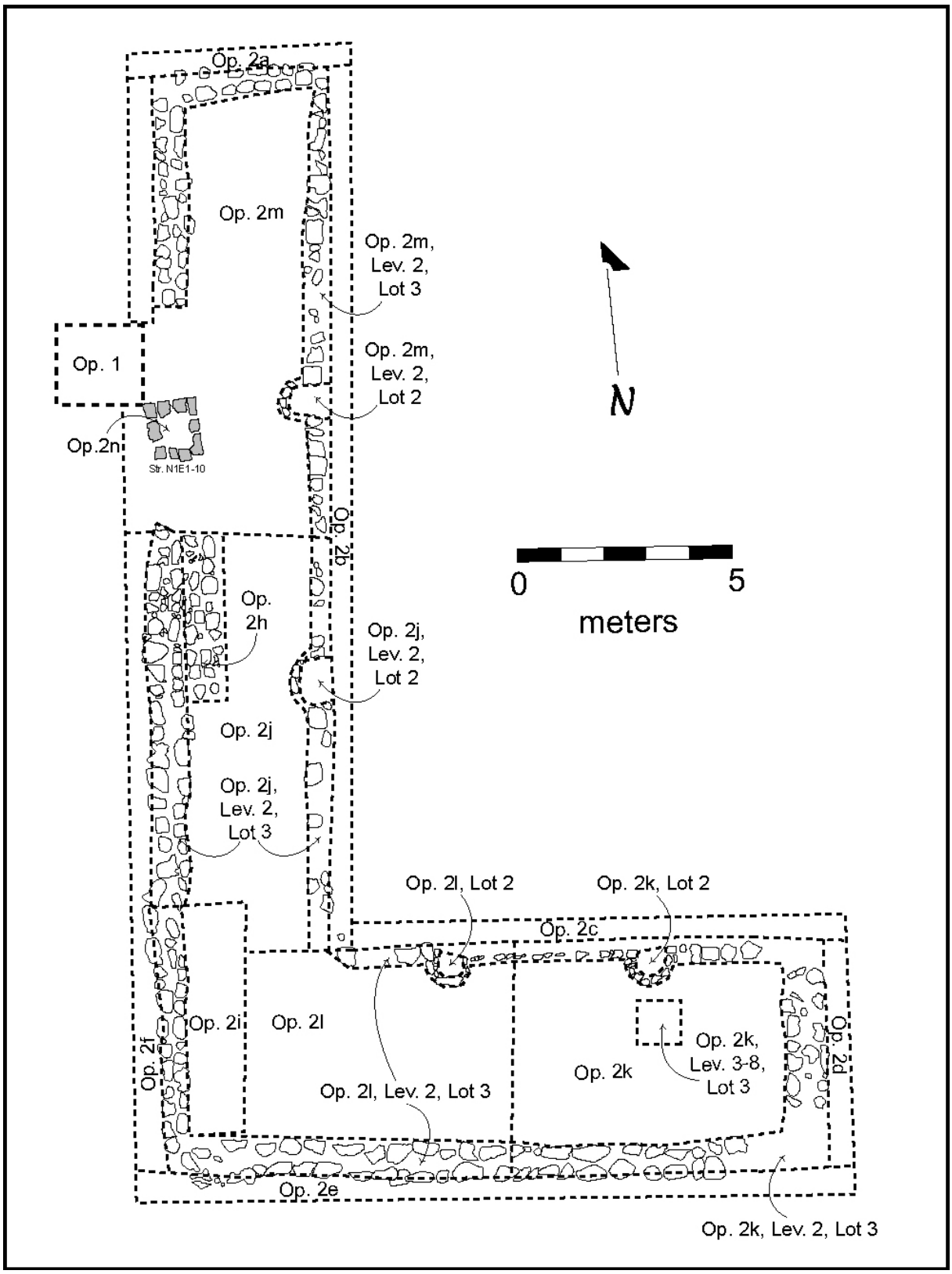



**Figure 7. Plan of Operation 2 Suboperations and Lots**

from 15 to 40 cm below the modern surface, with deeper suboperations adjacent to the double wall lines, which utilized generally larger, more deeply bedded stones. Sediment in these suboperations, as in the first level of every one of the suboperations, was very dark brown (7.5YR 2.5/2) with many rootlets from the *zacate* grass covering the *rancho* of Nohcacab, as well as gravel inclusions. Debris from the structure was visible on the surface, although larger stones were more prevalent along the double wall lines, as well as near the bend in the "L" on the front of the structure. A spindle whorl (Figure 22, far left) and three obsidian blade fragments were found near the northern end of Operation 2b (Table 3). Small flakes of chert, with moderate quantities of ceramics were also present throughout the suboperations (Table 3). Artifact concentrations were greatest near the ends (northern and eastern) of the front faces of the structure, with lower densities in the interior bend of the "L" and behind the structure, adjacent to the double wall lines. Ceramics from Operations 2a-2f were primarily from the Terminal Classic, with minor quantities of Chen Mul Modeled *incensario* fragments and Late Formative inclusions. The Terminal Classic materials included a mix of Puuc Slate and Chichen Slate wares (Table 6).

### Operation 2g

Operation 2g was originally intended to focus upon a concentration of larger stones to the north of the Postclassic shrine that was thought to possibly be a bench. However, after removing the loose debris, in became apparent that no such feature was present and the area was included as part of Operation 2m.

### Operation 2h

Operation 2h was designated to separate a bench in the rear of the center of the longer, northern extent of the "L" (Figures 4 and 8). This bench, extending approximately 70 cm eastward from the interior of the western wall, was composed of generally rectangular stones, with their flatter faces upright. Operation 2h, Level 1, Lot 1 removed the material from between the larger stones, as well as the debris that had been deposited upon the bench by the builders of the Postclassic shrine. It is possible that this Postclassic effort also truncated the northern extent of the bench, as the northern end of the bench coincides with the start of the gap in the western wall in which the shrine was built. If the bench had extended farther to the north, this would have made it more symmetrical relative to the interior of the northern wing of the "L".

A 80 cm x 2 m lot within the suboperation, Operation 2h, Levels 1-2, Lot 2 was initiated to explore the stratigraphy of the bench and its relationship to the structure (Figure 9). The bench rocks were numbered and mapped prior to their removal to permit the excavation. The first level was completed to a depth of 15 cm. The second level of this lot was comprised of a very dark grayish brown (10YR 3/2) with white flecks, the same Level 2 deposit as elsewhere in the structure, but at a greater depth. Large (15-25 cm) rocks and cobbles underlay the flat bench stones. As these rocks protruded through the depth at which floor would have been found in this portion of the structure, the bench was apparently constructed at the same time as the structure. Ceramics from within the bench were primarily Terminal Classic Puuc Slatewares (Table 6).

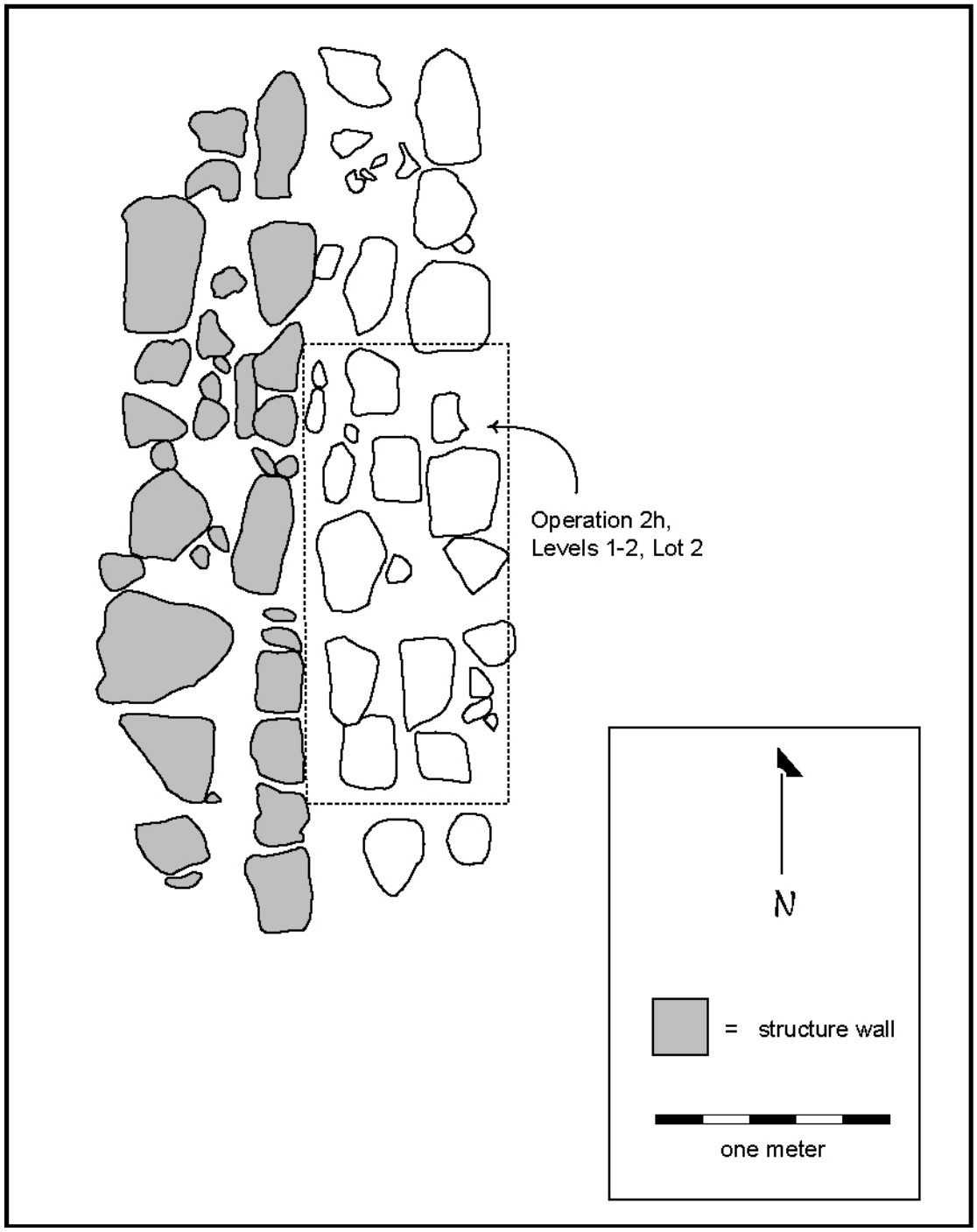



**Figure 8. Plan of Structure N1E1-8's Bench**

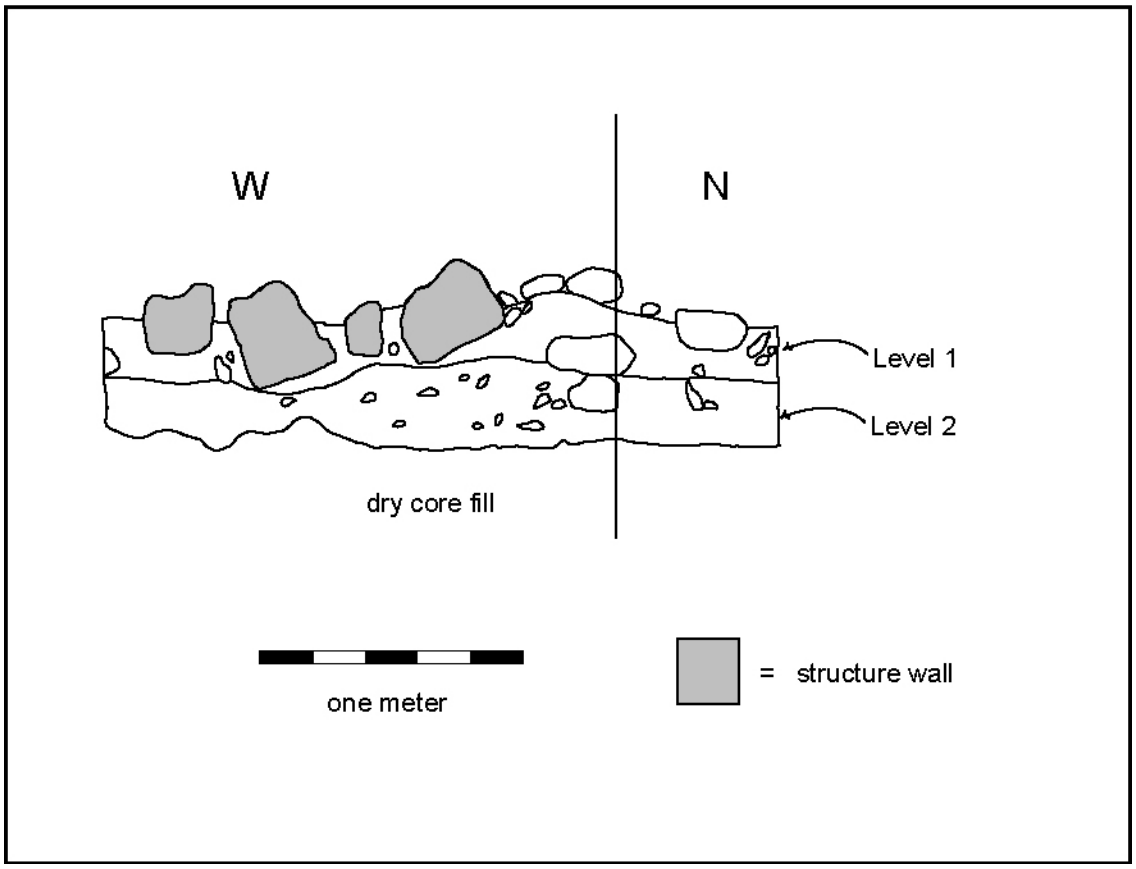



**Figure 9. Profile of Structure N1E1-8's Bench: Operation 2h, Levels 1-2, Lot 2**

## Operation 2i

Operation 2i, like Operation 2g, was aimed at the exploration of a possible bench feature. However, the absence of an actual bench could not be determined until Operation 2i, Level 1, Lot 1 was excavated to remove sediment and cobble-sized collapse. Upon the completion of the level, no patterning indicating a purposefully constructed feature was visible in the arrangement or orientation of the stones left *in situ*. It appears that the concentration of material in this zone was the result of the manner in which Structure N1E1-8 had collapsed. With both double walls falling inward, the interior bend collected more material than any other portion of the collapse zone. Although the bench was found not to exist, the suboperation was maintained as a distinct area in the following excavation of Operation 2i, Level 2, Lot 1. It was anticipated that the deeper collapse might have resulted in better preservation than in other zones. This proved not to be the case, with no intact floor or *in situ* fragments located nor were any notable differences in the types or quantities of artifacts contained within the area. Limited quantities of Puuc Slate and Chichen Slatewares were uncovered in the lots, as well as Late Formative, predominantly Sierra Red, sherds present elsewhere (Table 6).

## Operations 2j, 2k, 2l, and 2m

Operations 2j, 2k, 2l, and 2m included the bulk of the interior of Structure N1E1-8. Operations 2k and 2l were arbitrarily divided at 6 m from the exterior NE corner of the shorter (eastern) wing of the "L", while Operations 2j and 2m met at the northern edge of the bench feature excavated in Operation 2h (Figure 7).

The first level of these interior suboperations (Operation 2k) was a continuation of the same deposit excavated in the exterior suboperations (very dark brown - 7.5YR 2.5/2). This level extended 5-10 cm below the modern surface, ending at a lighter-colored (dark brown – 7.5YR 3/3), harder deposit, peppered with white flecks and small chunks of stucco with fewer rootlets, but more large roots. Small flakes of chert, a bifacial chert core, and moderate quantities of ceramics (largely Terminal Classic Puuc Slatewares) were present in this latest deposit covering the structure.

While Level 1 of Operations 2j and 2m consisted of only one lot each, Operations 2k and 2l contained two lots in Level 1. Operation 2k, Level 1, Lot 1 and Operation 2l, Level 1, Lot 1 contained the bulk of the material in the interior of the structure. Operation 2k, Level 1, Lot 2 and Operation 2l, Level 1, Lot 2 were separated in order to distinguish materials from two inset entrances in the eastern wing of the "L" (Figure 10). The easternmost of these (Operation 2k, Level 1, Lot 2) was enclosed by a semi-circle of cut stones the opened into a gap in the face of the northern, single wall line. This easternmost entrance began 3.4 m from the NE corner of this short wing of the "L", and spanned an 82 x 75 cm area in its interior. The second entrance in this segment (Operation 2l, Level 1, Lot 2) was formed using a single, longer stone, with five stones remaining to complete the 80- x 75-cm inset. As Operation 2l, Level 2, Lot 2 was removed to expose the floor level of the entranceway, fill indicating a rapid, intentional filling of the inset was located (such as an 8-cm chunk of floor fragment at a 45 degree angle). This fill likely relates to what appears to be intentional fill throughout the

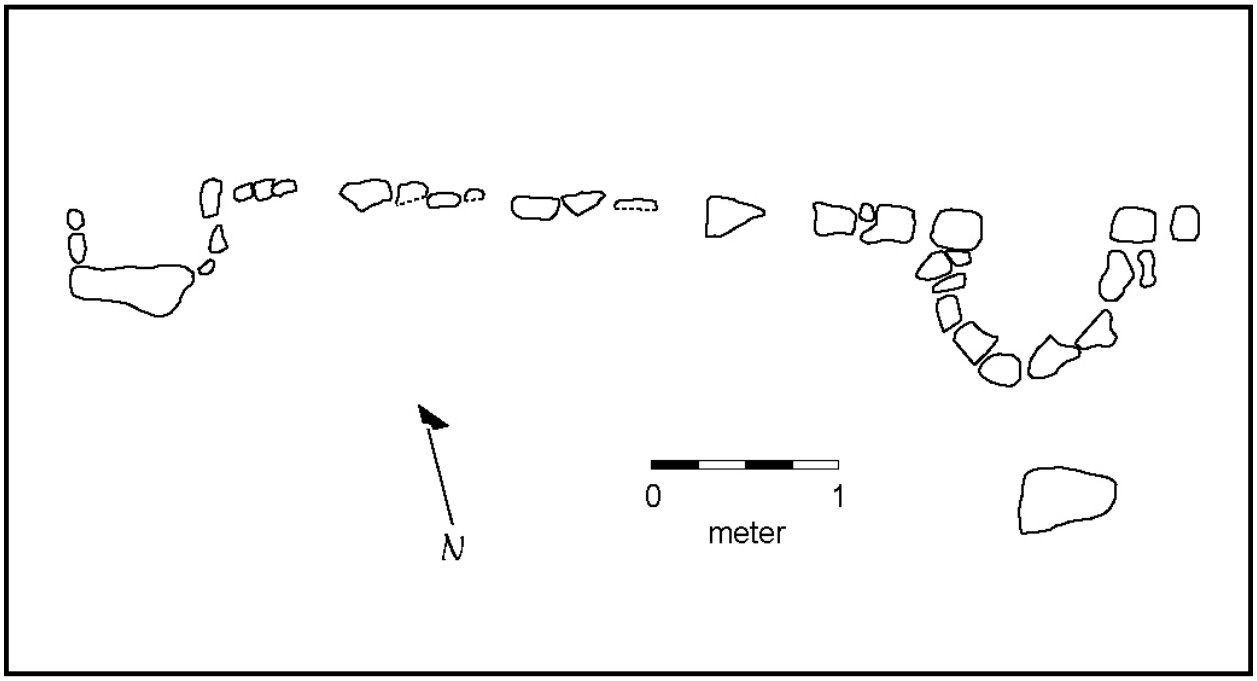



**Figure 10. Northern Entrances to East Wing of Structure N1E1-8**

area around the structure, potentially related to the creation of a plaza surfaced during the Postclassic.

The excavation of Level 2 in the four main suboperations began with Operation 2k. While cobble-sized stones, and elements lacking a clear orientation were removed immediately in this level, larger rocks were left in place in order to better understand the way in which the structure collapsed, as well as Structure N1E1-8's original composition. It soon became evident that the rear, double wall of the structure had been significantly higher than that of the front, composed of at least six courses of stones. In the area of Operation 2k, approximately half of these stones were square-to-rectangular, finely cut stones, which had fallen on their faces, directly upon the interior floor of the structure. The bulk of the stones' bodies were contained within Level 2. Therefore, in spite of the harder texture of the deposit and its numerous white flecks, the top of the Level 2 deposit did not appear to have been the floor surface of the structure. The white flecks may be the result of interior wall stucco from the structure's sides and cement from the core of the double wall, as well as floor fragments from below, being dispersed. Many of the floor fragments in this deposit had been burned, fired to a deep gray color. Some *in situ* floor fragments ranging from 3-5 cm in diameter were found at the base of Level 2 of Operations 2k and 2l.

Operations 2j, Level 2, Lot 1 and Operation 2m, Level 2, Lot 1 continued the clearing of material above the original floor level. As no *in situ* floor fragments were located in either area, excavations were halted at the top of the *chich* material that marked the start of the subfloor. In other areas of the structure with intact floor, the floor surface was only about 1-2 cm thick, so this gravel-to-cobble-sized deposit best mimicked where the floor surface would have been. In this northern wing of the structure, the floor tilted downwards towards the exterior, or east, with a difference of 8-10 cm in the relative height of the subfloor. While the east-west (southern) wing of the "L" had, as a whole, sloped downward to the east, no such overall northern or southern tilt was detected in the northern wing. Another difference is that the rear (western) wall of the northern section of the structure contained very few cut stones, while the southern wing had contained substantial numbers of cut stones in all of the courses above the base of the wall. *In situ* collapse in the northern wing revealed cut stones only in the top portions of the rear wall, while the base of the wall was composed of larger, irregular boulders.

Operation 2m, Level 2, Lot 2 included the interior of a semi-circular entrance in the northern third of the northern wing of the structure, directly east of the Postclassic shrine. The interior portion of the entrance was set back 78 cm from the exterior face of the eastern wall. Several of the stones forming the entrance were missing and no intact floor was found at the base of the level. An even more fragmentary entrance was present in Operation 2j. Here, an entrance was hypothesized based upon a gap in the eastern wall, the presence of two *in situ* stones 68 cm inward from the face of the outer wall, and the approximate location where an entrance would have been placed to maintain the symmetry created by two entrances in the eastern wing and the Operation 2m entrance.

In addition to the Late Formative building ceramics contained in reutilized fill, the second level within the structure, in Operations 2j, 2k, 2l, and 2m, contained moderate

quantities of Chichen Slatewares. While Puuc Slatewares still predominated, this deposit directly upon the floor or floor level had the second highest concentration of Chichen Slatewares in the structure (Table 6).

Operation 2k, Level 3, Lot 3 was carried out to obtain subfloor artifact samples from Structure N1E1-8 for use in dating its construction, as well as obtain a general idea about the sequence of construction activities in the area prior to the building's construction. The 1x1 m unit was placed 37 cm south of the westernmost entrance (3.17 m from the exterior of the eastern wall of the structure). The surface of the unit included a large, flat stone, which was originally thought to perhaps be part of a larger feature. No other architectural elements or distinct artifact patterning were found upon removal of the rock, however. Level 3 began at 30 cm below the modern ground surface, continued through *chich* and cobbles representing subfloor for the structure, and ended in 20-25 cm (Figure 11). It contained Yokat Striated and Muna Slatewares, but no Chichen Slatewares.

Level 4, Lot 3 began as the matrix changed to a reddish brown (5YR 4/3) with white flecks and a looser texture. This 4-cm-thick deposit ended at the partially intact Floor 2 (Figure 12). No smooth surface remained, but dense stucco portions of the floor were recorded. Operation 2k, Level 5, Lot 3 removed 24 cm of floor fragments and a subfloor sequence of gravel and cobbles. Eighteen cm into the deposit, more sherds were concentrated in what was interpreted as a possible living surface. Directly under this surface, at the bottom of the level was a floor (Floor 3) that, while lacking a smooth finish, sealed the entire 1x1 m unit, providing that materials from below were not mixed with those from above. A large, uncut rock protruded approximately 25 cm into the southeast corner of the unit, lying directly atop the floor surface. As the majority of the rock was anchored outside the unit, it could not be removed. Level 6, Lot 3 removed this Late Formative plaza surface (7.5YR 5/4 brown in color). The 16-cm-thick plaster surface laid over a few cobbles. Twenty-two cm below the level of this first Late Formative plaza surface was another such surface, which also sealed the surface of the unit, although its polished surface no longer remained. The plaster portion of Floor 4 was 6-7 cm thick and it was laid upon a complete sequence of dry core fill, grading from gravel to cobbles to boulders at its greatest depth; the entire floor sequence was approximately 35 cm deep. At this point, a 15-27 cm deposit of *chac luum* (5YR 3/4 dark reddish brown) over bedrock was excavated. Ceramics from these lots below Structure N1E1-8 were almost exclusively Late Formative in date (Table 6).

### Summary of Structure N1E1-8's Occupation

Occupation in the vicinity of Structure N1E1-8 began as early as the Middle Formative, as evidenced by the ceramics in the *chac luum* deposit overlying the bedrock in the 1x1 m test pit. Following this, two significant flooring episodes took place during the Late Formative, a time when Nohcacab seems to have had a significant population based upon the predominance of sherds from this time period in all operations and upon the surface of the site. The fill associated with the construction of Structure N1E1-8 dates to the Terminal Classic, with only Puuc Slatewares being removed from below the bench and in the subfloor excavation. These wares are

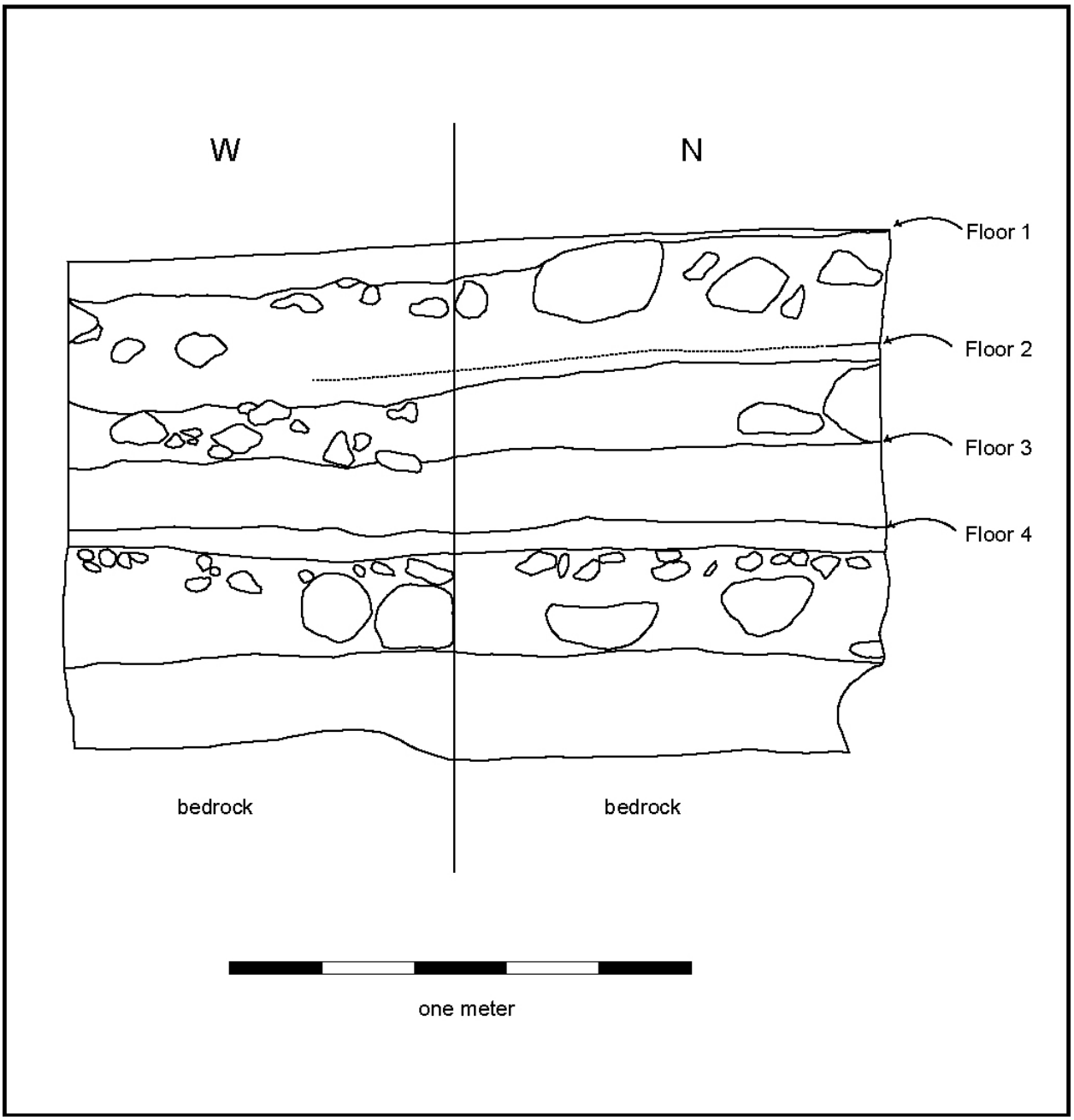



**Figure 11. Structure N1E1-8, Operation 2k, Levels 3-8, Lot 3**

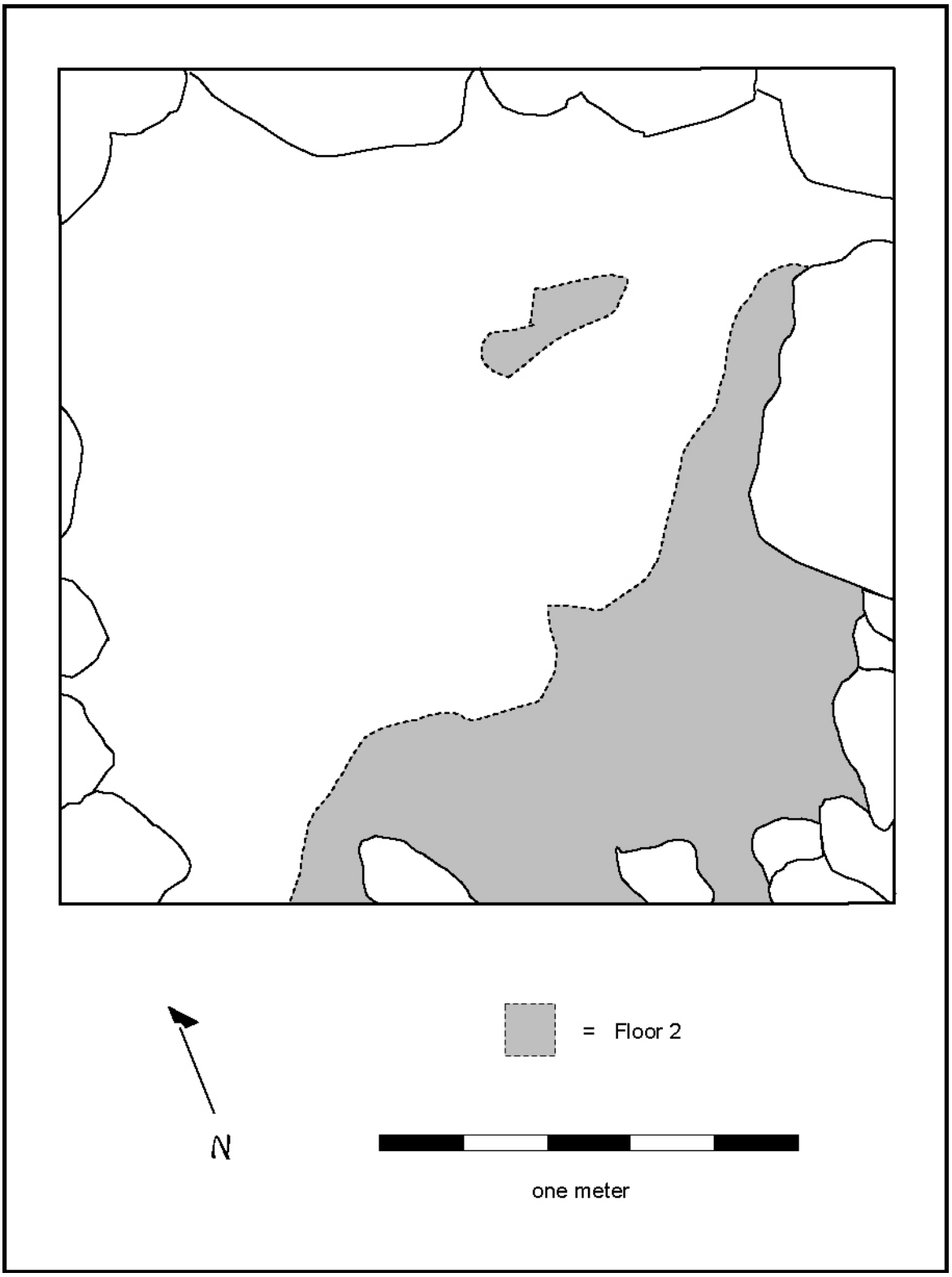



**Figure 12. Structure N1E1-8, Operation 2k, Level 4-5 Interface, Lot 3 (Floor 2)**

consistent with the ceramics found elsewhere in the site in contexts associated with Puuc architecture (see "Nohcacab's Operation 4" and "Nohcacab's Operation 5" this volume).

However, the occupation of Structure N1E1-8 can be clearly associated with the Chichen Slatewares evidenced in the excavations encircling the structure and from upon the floor level. Additionally, a Pachuca green obsidian blade fragment, often associated with Chichén Itzá, was found directly in front of the structure. These intrusive ceramic wares, in addition to the manner in which the building was constructed, utilizing borrowed stones that were aligned in a manner other than they would have been originally intended in order to achieve a novel architectural plan, raises questions about the reasons for the abrupt architectural and ceramic shift. The violation of a previously open plaza further emphasizes this disjunction. No evidence for a hiatus prior to the building's construction was evidenced, leading to the hypotheses that the changes evidenced affected a resident population, not a previously empty site. One hypothesis that may explain such a pattern is an occupying population from Chichén Itzá ordering the construction of the building with a complying, but resentful, local population being responsible for the construction.

The end of Structure N1E1-8's occupation appears to have involved fire in some manner, based upon the burned floor fragments, particularly concentrated in the area of Operation 2k, on the end of the eastern wing of the structure. The area most strongly associated with this burning also collapsed in the most intact manner, with the wall courses lying directly upon the floor surface. Elsewhere, Structure N1E1-8 appears to have gradually collapsed in a more piecemeal fashion, possibly the result of a more gradual process.

During the Postclassic, the plaza appears to have been leveled once again, utilizing the remains of the structure as well as other materials form the immediate vicinity. Additionally, a portion of the west wall of Structure N1E1-8 was removed and stacked to the north and south. In the open space created, an altar was built using the more finely cut stones from the structure, probably taken from the front wall, including the fragmentary semi-circular entranceways which were in a much poorer condition near the altar then in the eastern wing. This altar was probably used in conjunction with a larger shrine built on the summit of Structure N1W1-1 to the west.

## Nohcacab's Operation 3

Dave Johnstone

Operation 3 was a 2x2 m test pit located on the north side of a residential platform (Structure N1W1-3), located approximately 60 m north of Structure N1E1-8 (Figure 13). The deposit was banked up against the platform approximately 1 m from the ambient ground surface to nearly the top of the platform at a place where the platform makes a right angle. As the platform is at its highest point immediately behind the deposit, natural erosional processes could be ruled out as a source of the deposit. Because of this, it was hoped that the deposit might be a midden. Unlike construction fill, which, at best, is tertiary context, midden deposits are in secondary context, and permit a broader interpretation of behavior of nearby structures from which they originated. Those on top of the platform included a double wall line rectangular foundation brace (Structure N1W1-4) typical of the Terminal Classic period, as well as a smaller square foundation brace (Structure N2W1-1) that may represent a kitchen or storehouse. Additionally, this test pit expanded the areal extent of our Terminal Classic ceramic sample, with the hope that we would be able to document the distribution of Chichen Slatewares across the site.

Since we were excavating non-construction deposits, we did not anticipate encountering flooring episodes. As a result, vertical control was maintained through 10 cm arbitrary levels taken from the ground surface. All excavated material was passed through 0.5 cm mesh screens and all ceramics and lithic materials were saved for later analysis. As no features were encountered during excavation, each level consisted of only a single ceramic or lithic lot.

The matrix of the first three levels consisted of a black organic silt with few pebble-sized pieces of limestone and occasional larger cobble or boulder-sized chunks of stone (Figure 14). Two fragments of plaster floor were recovered from Level two, though at different depths. In all three levels, the ceramic sample was sizeable, with relatively large sherds. In all cases, these dated to the Terminal Classic. A single sherd of Dzitas Slate and three sherds of Balantun Black on Slate were recovered from the top 20 cm. A mid-section of a chert axe was recovered from Level one, and a fragment of ground conch, possibly an inkwell, was excavated from Level 3.

Levels 4 through 7 saw a change in the matrix to a pinkish-grey loose silt. The stony fraction increased both in number and in size, with cobble-sized pieces predominating. Two *tusa* (burrowing rodents) tunnels suggest that there may have been some mixing from higher levels. Ceramically, the sample size decreased, as did the dimension of the sherds themselves. These sherds dated to the Terminal Classic Period, with some earlier admixture.

The final three levels were excavated through a red silty-clay (*chac luum*) containing numerous boulder-sized pieces of limestone that made excavation difficult. The number of ceramics was much reduced and dated to the Late Formative, with some earlier sherds. Three carbonized seeds (1 maize and 2 bean) seeds were encountered in the solution pits of the bedrock.

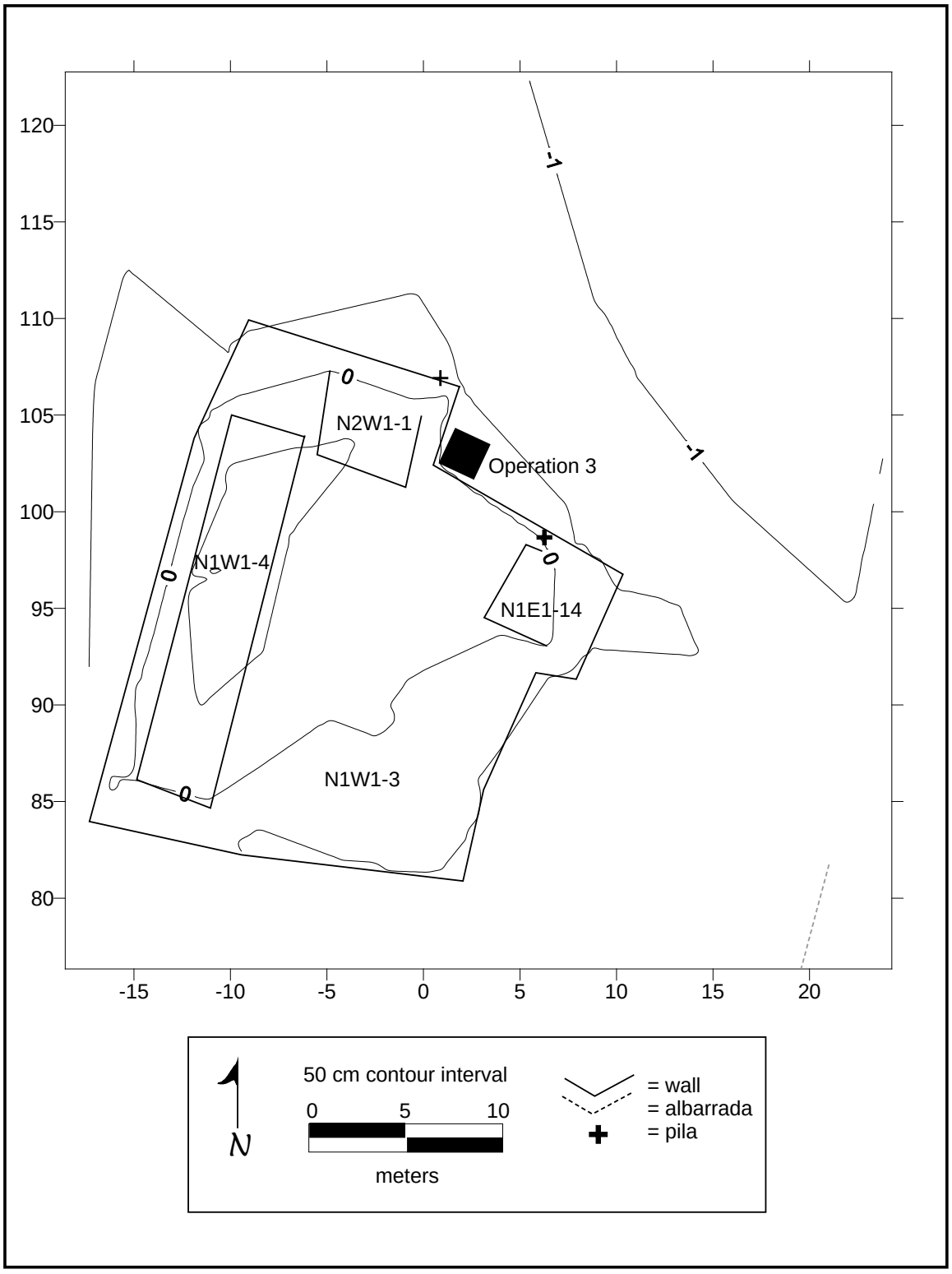



**Figure 13. Location of Nohcacab's Operation 3**

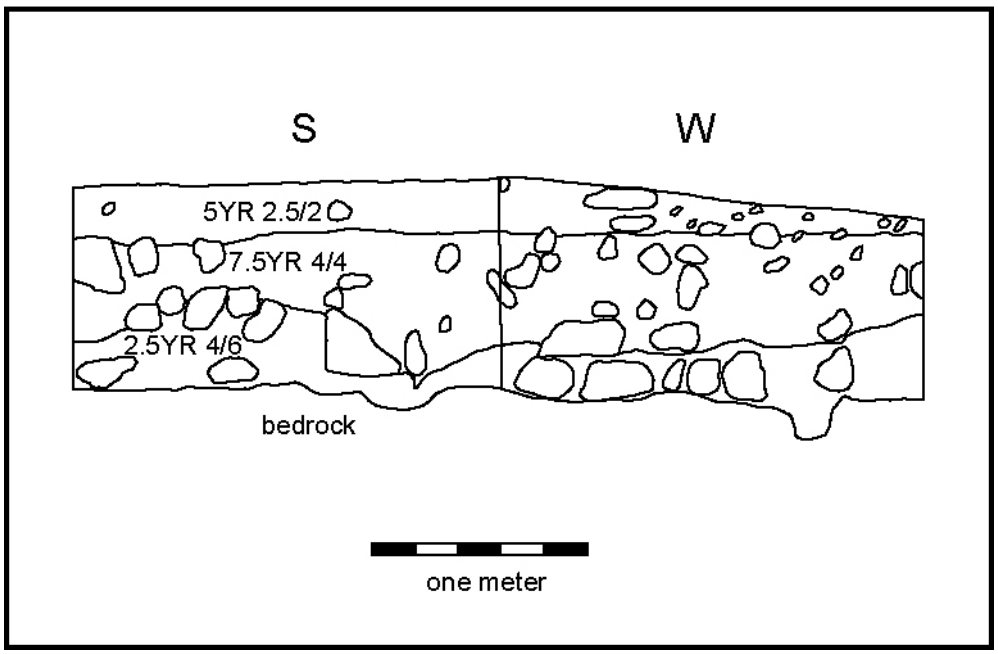



**Figure 14. Nohcacab's Operation 3, South and West Profiles**

Only the top three levels can be considered as a midden, as they contain an abundance of large-sized ceramics, in contrast to the lower levels with fewer, smaller sherds. The floor fragments do not represent an in-situ floor, but rather discarded floor remnants produced during the renovation or destruction of a floor on the platform or within one of the superstructures. The recovery of some Chichen Slateware sherds suggests that the distribution of these types was not spatially restricted, though their numeric availability may have been limited. The middle levels likely date to the construction of the platform, and may represent materials needed to stabilize the preexisting ground surface, or to raise it. The lower three levels probably represent a Late Formative paleosol (*chac luum* is present everywhere at the site overlying bedrock). The presence of carbonized seeds may indicate the presence of an ancient field, or a nearby storehouse.

## Nohcacab's Operation 4

Tatiana Young

Operation 4, a 2 x 2 test pit, was situated to the north of the foundation of Structure S1E1-2 (Figure 15). Operation 4 was intended to provide artifacts that could be used to date the structure and to define its architectural style, as well as to explore the possible influence of a Chichén Itzá-related group in the given area. The test pit was excavated in natural levels, aside from Level 1, which was excavated as an arbitrary 10-cm level. The artifacts were removed according to operation, level, and lot using trowels and small picks. Excavated soil was carried in buckets and then screened using 1 cm mesh. One of the local crew members from *ejido* of Xquerol participated in the excavation, screening, and recording process in the test pit. Upon completion of Operation 4, the test pit was backfilled using excavated materials.

The area of the structure itself, and as a result the test pit, was slightly sloping down towards the north. Structure S1E1-2 is comprised of a mixture of wall remains and architectural components. The test pit was situated about 1 m down towards north from the remains of a wall line of the described structure. The surface of the test pit was covered by *zacate* grass, pebbles and some ceramics. The *zacate* grass was cleared with help of a machete, which allowed the surface collection of the test pit area. A unit datum was located at the southwestern corner of the test pit.

Level 1 (Figure 16) was excavated as an arbitrary 10 cm level, since no change in soil color or composition was presented in the zone near the surface. The density of artifacts was high; one full bag which contained 364 sherds (Table 6). Numbers of artifacts were higher at the north side of the test pit. One of the significant finds of this level was a spindle whorl. The presence of the spindle whorl could be connected to use of the site to grow cotton. Existing in this site, but rare elsewhere in the region, are deeper pockets of soil deposits that could indicate this was a suitable place for cotton cultivation. Partially buried sizable boulders and angular stones that were present in the deposit suggest a collapse. Operation 4, Level 1, Lot 1 was closed at approximately 10 cm below the surface. The soil color of Level 1, according to the Munsell book (Kollmorgon Instruments Corporation 1998), was dark brown (10YR 2/2). Ceramic analyses revealed primarily Puuc Slatewares.

Taking into consideration a change of soil color to a lighter brown shade (7.5YR 2.5/3), Level 2 was excavated as a natural level. A few floor fragments were recovered, burned and unburned. They were randomly scattered in through the level. However no gravel or cobbles, as a base for the floor, were discovered. The density of artifacts was still high; indeed the density was the highest of all levels (Table 6). Artifacts included large pieces such as a whole base of a plate and a few handles of vessels. Distribution of artifacts remained the same as in Level 1 – richer in the north area of the test pit. Such a pattern of the artifacts was influenced by the sloping surface of the test pit. One of the distinctive artifacts was a fragment of an obsidian microblade. *Tok tunich* in Maya, or chert artifacts, were also discovered. Presumably, chert came to the region as trade items, as it is not available locally. In the northeast corner of the test pit, a cut stone

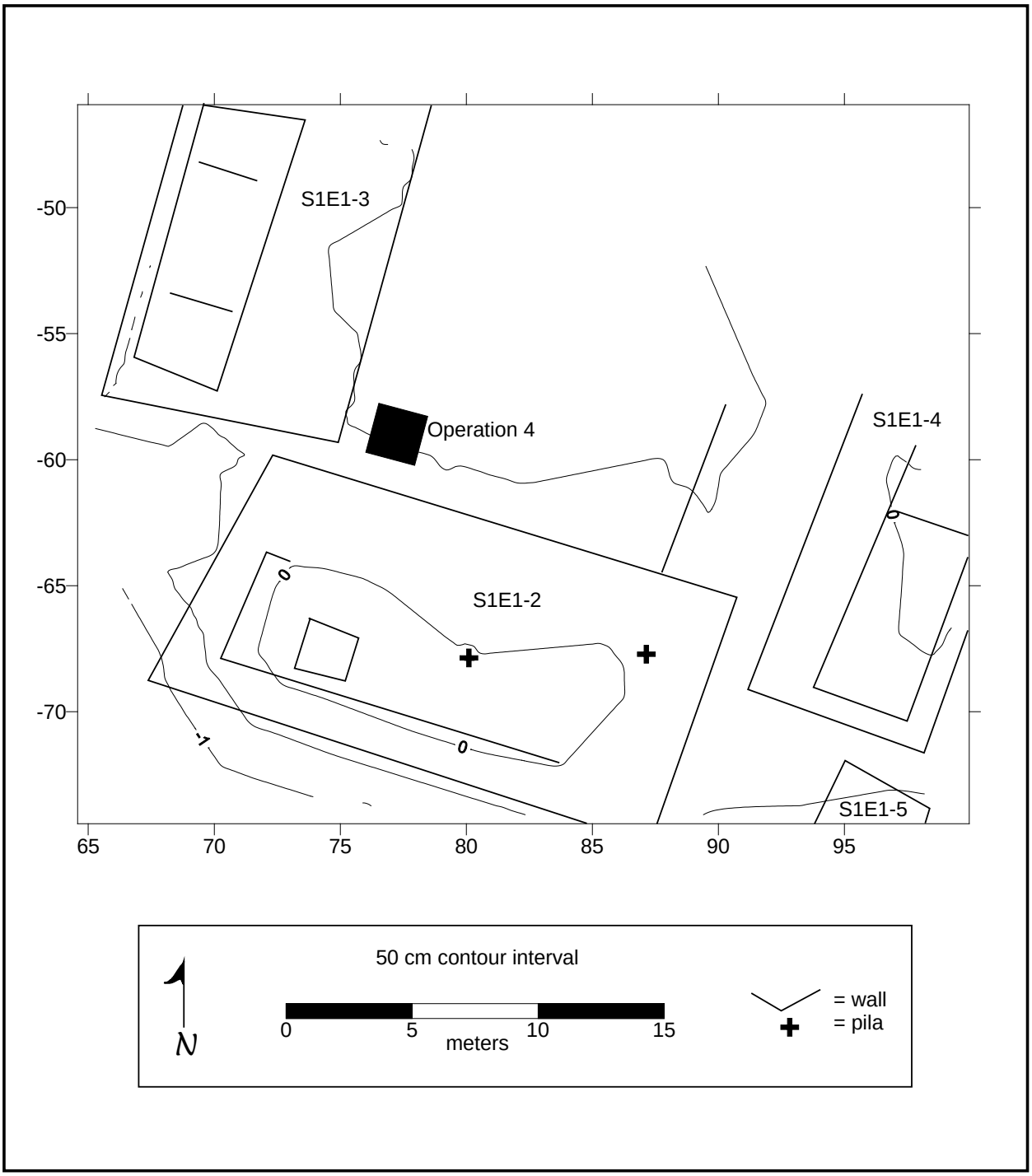



**Figure 15. The Structure S1E1-2 Area**

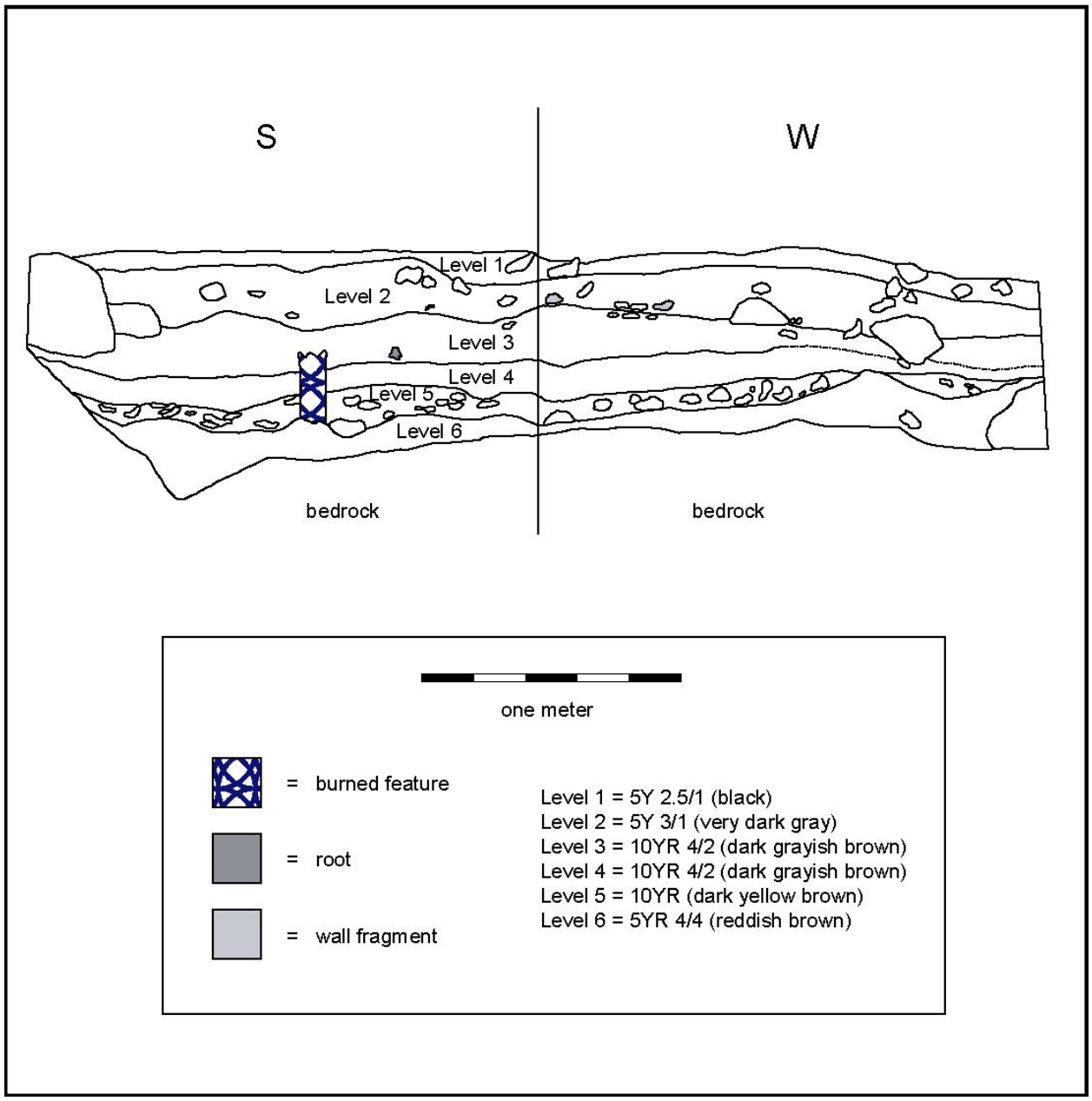



**Figure 16. Southern and Western Profiles of Operation 4**

was located, with more cut stones discovered in the center and southwest corner at a greater depth. A Puuc-style stone was located in the northeast corner. It was a square-shaped stone, with dimensions of about 23 cm. One of the sides was adorned with design of two incised crossing lines resembling a letter "X", while the other side appeared to be rough. The stone was positioned with the X-side down when discovered. The presence of Puuc architectural components indicates a Terminal Classic occupation. In this region, stones of this type were placed only in the most visible parts of buildings. The presence of boulders and cut stones suggests the possibility of a collapse or destruction. There are at least two types of destruction known: if stones are discovered on the plaza floor situated vertically on the same level, they may have been purposely dismembered or destroyed through a rapid event; if stones are separated by soil deposits, a slower natural collapse is indicated. In this case, the stones appearing between different layers of soil suggest a natural collapse. Stones can themselves be an indicator of a floor level, since they may have fallen on the floor during a natural collapse or purposeful destruction. Operation 4, Level 2, Lot 1 was terminated at a depth of approximately 34 cm below the surface. The Munsell reading of the sediment was very dark brown (7.5YR 2.5/3). Analysis of sherds produced results of 80% Puuc Slatewares dating to the Terminal Classic period. Similar to Level 1, only a few pieces of Chichen Slateware were present.

Level 3 was also excavated as a natural level. The southwest corner of the test pit contained a fragment of floor and a stucco fragment, possibly crushed by a collapse. A large fragment of what appeared to be a wall plaster was located at 38 cm below the surface in the test pit's south face. Perhaps, the cut stones discovered in this level fell from the naturally decaying Structure S1E1-2. It seems that the site/structure was abandoned for some period of time. The period of inactivity is indicated by vertically distributed deposits of soil between the discovered cut stones.

The most significant discovery of Level 3 was a well-made, hard, and relatively straight plaza floor (Floor 1), located at the depth of approximately 43 cm. The floor was located in the south part of the test pit and covered about a half of the test-pit surface. The north part of the test pit produced bedrock. The floor itself was white (5Y 8/1). The density of artifacts noticeably decreased to about one-half of a bag with the total number of sherds 201 pieces. Operation 4, Level 3, Lot 1 was terminated at a depth of approximately 43 cm. The sediment was dark yellowish brown (10YR 4/4). The total count of cut stones from the 2nd and 3rd levels, including one of the Puuc style, was seven. Ceramic analyses produced results indicating the presence of the Terminal Classic occupation using Puuc Slatewares, with no presence of Chichen Slatewares.

Level 4 was significant because of the presence of a well-made plaza floor. This level was separated into two lots: Lot 1 was located in the south side of the test-pit and contained the floor. Lot 2 was located in the northern part of the test pit and contained the bedrock. The decision was made to excavate Level 4, Lot 2 first, in order to preserve and uncover any features that might have been present under the sealed floor. In the northwest corner of the test pit, numerous medium-sized rocks with dimension of about 2.5 x 4.5 cm were located, perhaps *chich* or sub-floor. The northeast corner exposed bedrock. The density of artifacts was very low. Appearance of a *chac luum* (red soil) indicated completion of Level 4, Lot 2. The sediment in northeast corner was

dark brown (10 yr 3/3) and in the northwest corner it was dark yellowish brown (10YR 3/4). The results of ceramic analyses indicated presence of Puuc Slatewares. The stratigraphy between Lot 2 and Lot 1 produced a vertical floor definition: boulders as a base, situated on top of red soil; followed by cobbles and *chich* located on top of the boulders with the cobbles/ *chich* layer covered by plaster. Present day Maya house floora contain a similar profile.

The thickness of the floor in Level 4, Lot 1 was approximately 7 to 10 cm, thickest at the southeast corner. The test pit's south face had an appearance of a charcoal-carbon mark, which was also slightly visible at the floor; perhaps this occurred from burning, but it could as well be a residue of a root. The amount of artifacts collected in Level 4, Lot 1 was slighter higher than that in Lot 2. Ceramic analyses indicated predominately Puuc Slatewares with only one sherd of Chichen Slateware.

Operation 4, Level 4, Lots 1 and 2 were terminated at a depth of approximately 59 cm. The floor sediment at the southeast corner was pale yellow (2.5Y 8/2 ). The sediment at center - dark reddish brown (5YR 3/4); reddish brown (5YR 4/4) at southwest corner and dark reddish brown (5YR 3/3) at northwest corner of the test pit.

The last level, Level 5, revealed irregular bedrock over the entire surface of the test pit at its base. This level produced few artifacts; the ceramics present were largely Puuc Slatewares. Operation 4, Level 5, Lot 1 was closed at a depth of approximately 85 cm. The sediment was reddish brown (5YR 4/3).

In order to further the investigation of the of Structure S1E1-2 area, the structure was cleared of *zacate* grass. Clearing revealed a more detailed view of the surface remains of the structure, which allowed more precise mapping (Figure 17). Structure S1E1-2 seems to contain fragments of walls, some of which are adorned by Puuc-style architecture. The Puuc-style architecture contains precisely arranged trapezoid-shaped cut stones, which formed a V-shaped opening between each of them. It was decorated with colonettes, which are nicely preserved on the south side of the structure. It is plausible to suggest that the Puuc-style wall dates to Terminal Classic period. The remains of what looks like a Postclassic altar are visible on the top of Terminal Classic structure. One of the colonettes and some cut stones from Terminal Classic structure were used for construction of the altar. A *pila* is located in the edge of the northeast corner of the Terminal classic wall.

In summary, all five levels of Operation 4 point to the Terminal Classic occupation, associated with Puuc Slatewares. Chichen Slatewares were present in small numbers in the Level 1, 2 and 4/1 in the test pit near Structure S1E1-2. Level 3 which indicate the time when structure was abandoned and naturally collapsing contains no presence of Chichen Slate ceramics. The artifacts accumulated in the sealed floor lot, Level 4, Lot 1, which correlates with ceramics in use at the time of construction of theTerminal Classic structure, however holds a few Chichen Slate ceramics. Indication of a natural decay supported by the appearance of layers of soil between stones, suggesting an abandonment of the structure for a period of time, with the possible re-usage of the building's material for the construction of a Postclassic altar much later.

The presence of Chichen Slatewares in this small quantity does not support theories of occupation or domination by a foreign group. However, Chichen Slatewares

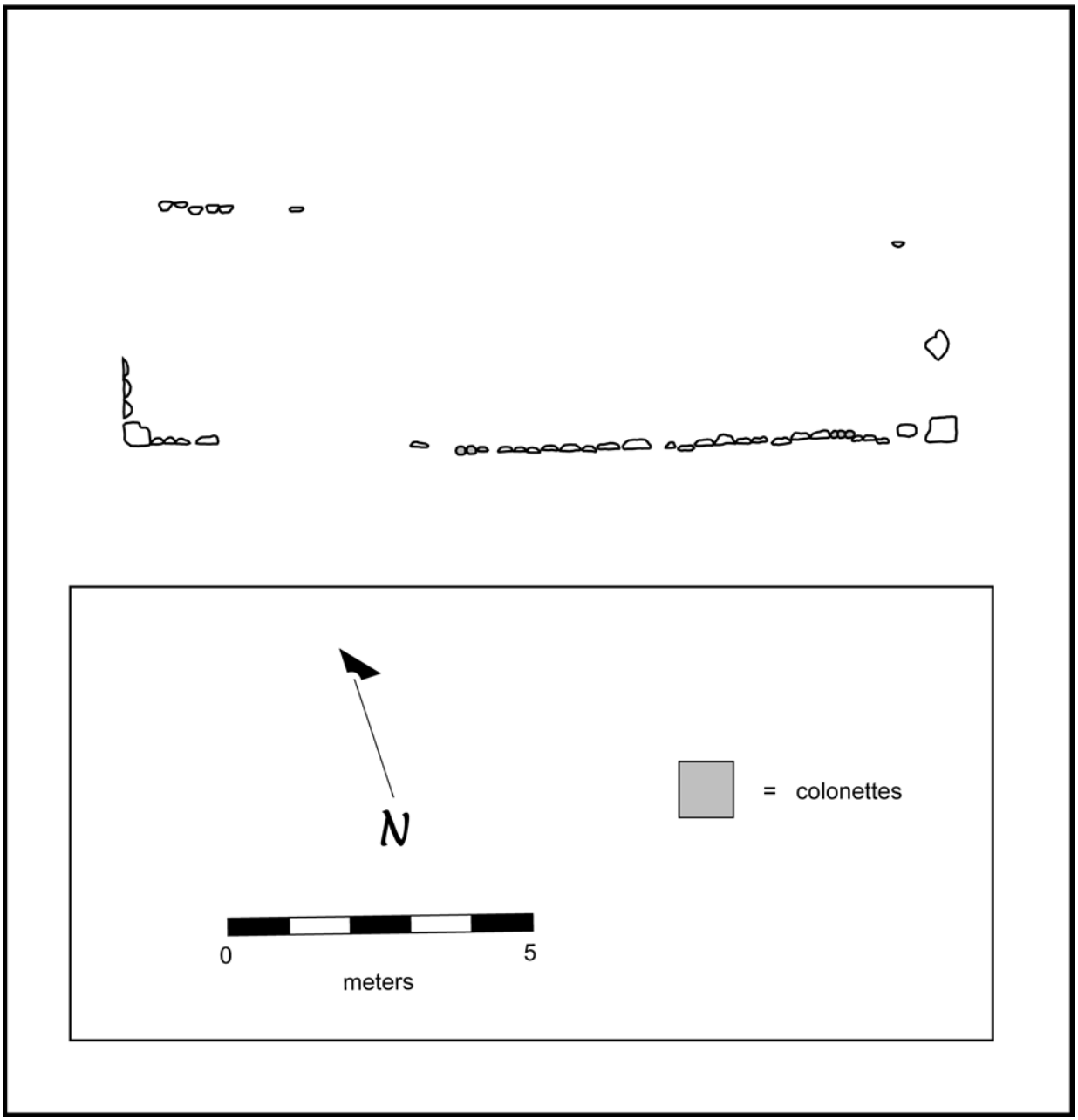



**Figure 17. Plan of Structure S1E1-2**

could represent exchange items. In addition, the Puuc-style architecture supports the hypothesis of a significant Terminal Classic occupation of Structure S1E1-2. Proper arrangement of trapezoid cut stones suggests that the group responsible for construction of the structure had exact knowledge of how to build that type of architecture. This is unlike the group that constructed the L-shape building of Structure N1E1-8 (see "Nohcacab's Operation 2: Structure N1E1-8" this volume), where the stones were not correctly oriented. Therefore, this suggests that the group which was responsible for the construction of the Terminal Classic Structure S1E1-2 was different from the group that erected the L-shaped building of Structure N1E1-8.

It is possible the local inhabitants were forced to erect the L-shaped building. Discontented and lacking knowledge in the proper arrangement of Puuc-style architecture it is likely they would produce a visibly different structure. Meanwhile, the Terminal Classic Structure S1E1-2 seems to have been constructed with care, possibly by its own residents.

## Nohcacab's Operation 5

Christopher Lloyd

Operation 5, a 2 x 2 m test pit was placed in a plaza in order to provide a control sample of ceramic material from a structure that demonstrated Puuc architectural style. The plaza is characterized by a Terminal Classic structure (S1E2-7) to the south of the test pit (Figure 18). A 3-m-high Postclassic pyramidal structure (N1E2-1) sits to the west of the test pit, adorned with a shrine on top. Another Postclassic shrine (N1E2-2) lies to the northeast of the test pit. These buildings are situated on a 1-m-high raised platform. The Terminal Classic building to the south of the test pit has one defined wall line facing south. This intact wall line runs for 12 m and is constructed of Puuc veneer stones, flat on the outer surface and angled inward towards the back. No other well-defined wall lines are present, with the exception of a few *in situ* stones. It is probable that this Terminal Classic structure was robbed of cut stones for the construction of the Postclassic pyramidal structure to the west. Cut stones are abundant to the northwest of the test pit at the base of the pyramidal structure and the smaller Postclassic shrine to the northeast. Many of these cut stones are most likely collapse.

Operation 5 was excavated with 10-cm, arbitrary levels defined by a datum in the southeast corner until natural levels could be discerned through differences in soil color and cultural deposits (Figure 19). No additional lots were called for in the excavation of Operation 5; each level referenced was in Lot 1. The surface of Operation 5 had a black soil (10 YR 2/1) mixed with organic debris from the surrounding vegetation, small rocks, and few roots. One large 25 x 20 cm unmodified rock was visible in the northeastern corner. Level 1 also consisted of black soil (5 YR 2.5/1), although not as black as the surface soil due to less accumulated organic debris. Level 1 had the second largest quantity of ceramics in Operation 5 (Table 6). The ceramics excavated from Level 1, Lot 1 consisted of large Terminal Classic sherds. The average depth of Level 1 was 13 cm below the surface.

The tops of many rocks were exposed in Level 2, Lot 1, mostly in the northeastern quadrant of the operation. The largest amount of ceramics was excavated from this level as well as three lithic artifacts: a bipolar core, scraper, and flake. The average thickness of Level 2 was 6.5 cm.

Three rectangular, no frills cut stones were visible in Level 3, Lot 1, most likely collapse from the westerly pyramidal structure, thought to be Postclassic. Most of the rocks in Level 3, including the ones exposed in Level 2, were small enough that, by the time Level 4 was reached, they had all been removed. Level 3 went down an average of 13 cm. The transition between Levels 3 and 4 consisted of a very fine, *chac luum* soil. The notable change in matrix prompted the transition from arbitrary levels to natural levels. Level 4, on average descended 16 cm because of the large rocks present. Large, unmodified rocks, possibly plaza sub-floor, comprised the entirety of Levels 4 and 5; although no floor was ever excavated. The floor should have been located somewhere in-between Levels 3 and 4. This level was also devoid of smaller rocks (*chich*) that are usually associated with floors.

As the rocks increased in Level 5 Lot 1, the ceramics decreased in both quantity and size. It is possible that both ceramics and rocks were used as fill. A substantial amount of leverage was required to remove many of the large rocks. Little dirt was present within these levels, only enough to fill in-between the large rocks. A small, incomplete, unifacial, obsidian blade fragment was excavated towards the end of Level 5. Level 5 was the second deepest level; the average thickness was 22 cm, in part due to the large volume of rocks.

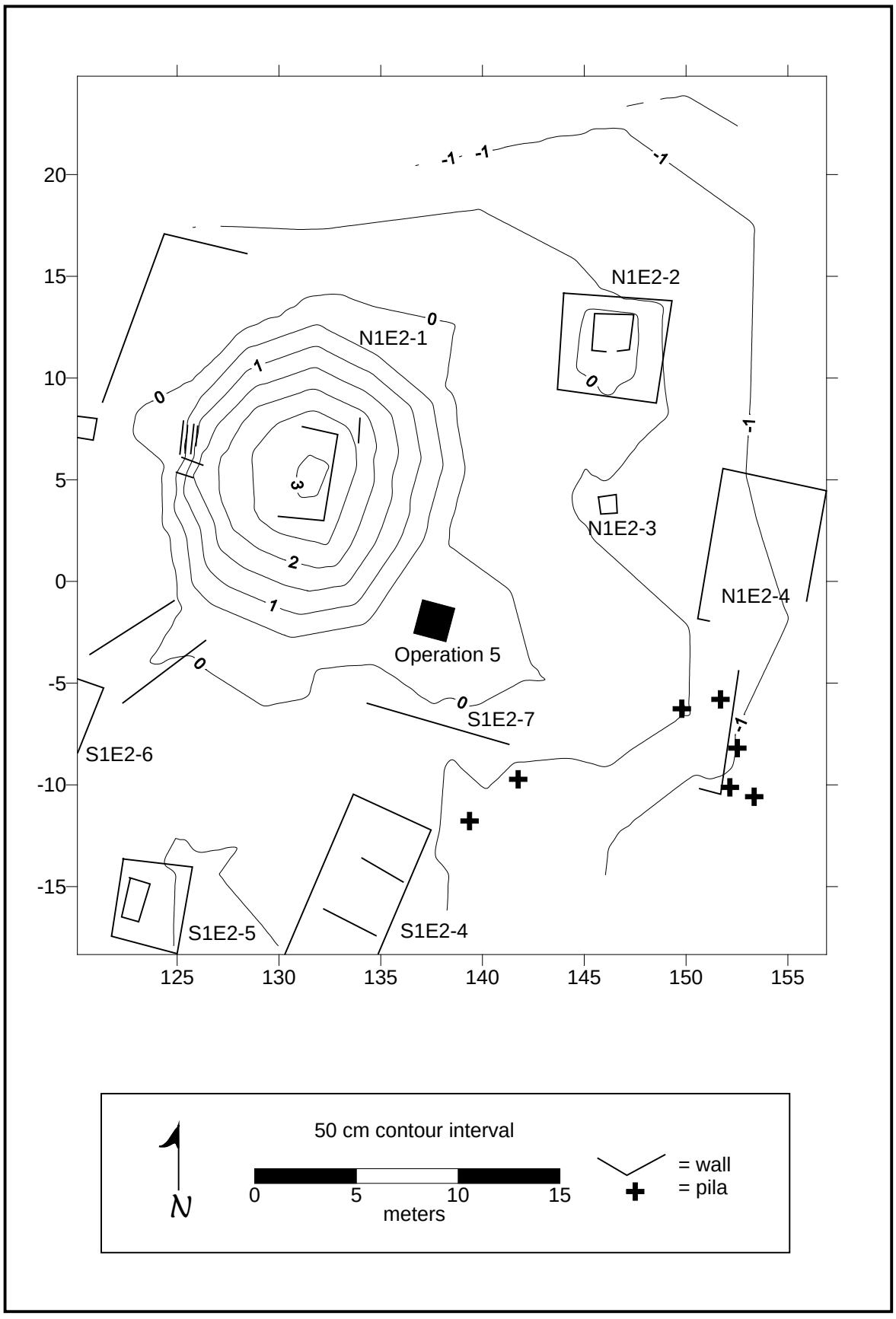



**Figure 18. Location of Operation 5**

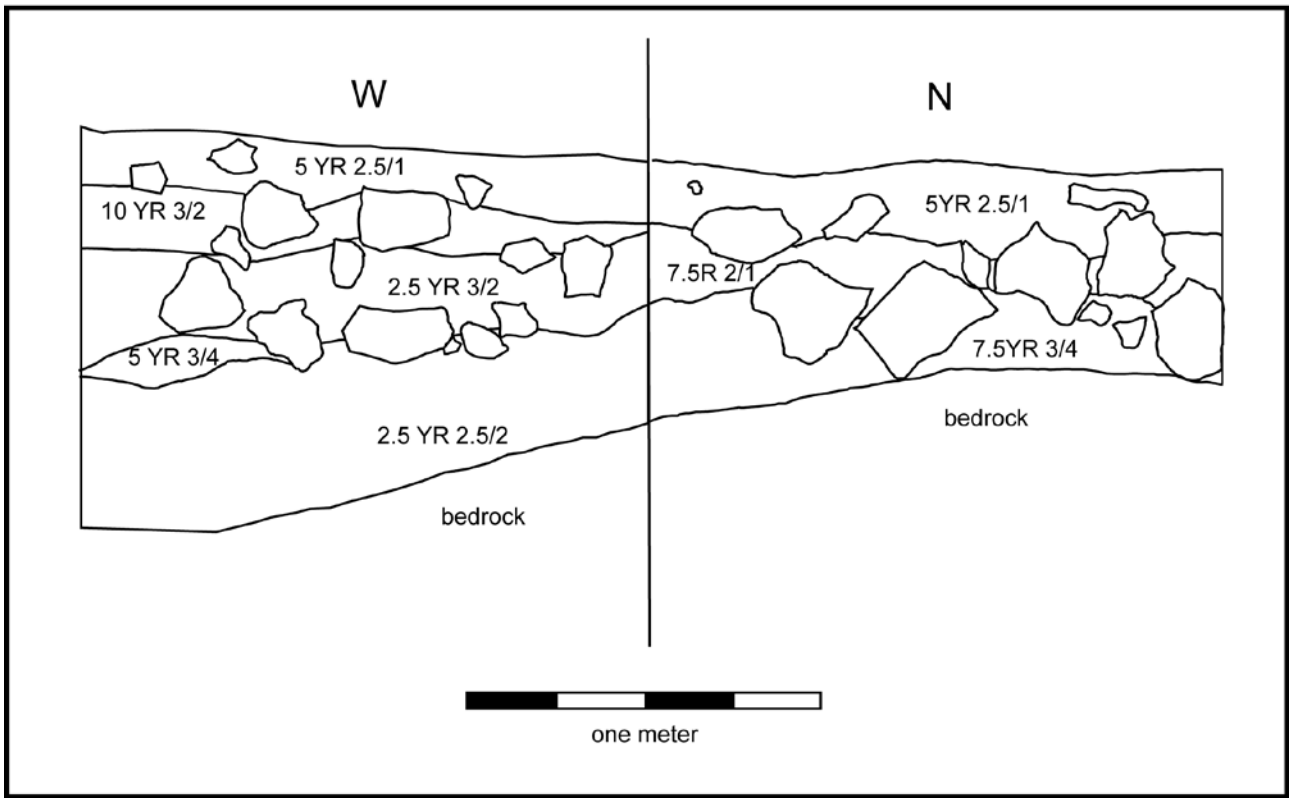



**Figure 19. North and West Profiles of Operation 5**

The presence of bedrock in the northeastern quadrant brought Level 5 to a close. There was a 69 cm elevation difference between bedrock in the northeast corner and the southwest corner (end) of Level 6, Lot 1. The bedrock was significantly sloped from north to south making it difficult to anticipate where the operation was going to end. The soil of Level 6 was extremely red (2.5 YR 2.5/2). The average thickness of Level 6 was 28 cm, easily the largest level of Operation 5.

No floors were present in the excavation of Operation 5. Perhaps this lack of a normal architectural feature is due to the platform never fully being completed, a lack of resources, or the abandonment of the specific locale. Sub-floor may have been present, beginning with large cobbles at the beginning of Level 4, then progressing to boulders in Level 5.

The sherds excavated from Operation 5 are predominately Terminal Classic with no Chichen Slatewares. Ceramics were most prevalent within the first three levels and significantly dropped off in subsequent levels. Level 6 was exceptionally sparse with one or two very small sherds per bucket. Although 336 ceramics were excavated from Level 6, the southwest corner went down 60 cm. Few lithic artifacts were excavated from Operation 5; in all five lwere recovered: two incomplete unifacial obsidian blade fragments, a chert flake, a scraper, and bipolar core.

Operation 5 was devoid of Chichen Slatewares and acted as a control for the hypothesis. Not all test pits associated with Terminal Classic structures at Nohcacab are characterized by Chichen Slatewares. Does the lack of Chichen Slatewares and the lack of a floor insinuate the early abandonment of the plaza and architecture before Chichen wares became common? Are Chichen Slatewares only tied to possible administrative buildings, such as Structures N1E1-1 and S3E2-2 may have been? Were the individuals associated with the architecture and plaza too prideful and or against Chichen regional control/ influence to use Chichen Slatewares? Or is the lack of Chichen ceramics simply a preference? The excavation of Operation 5 brings up many more questions than it resolves.

## Nohcacab's Operation 6: Structure S3E2-2

Dave Johnstone

The second areal excavation was undertaken on Structure S3E2-2, a "T"-shaped foundation brace (Figure 20). Like Structure N1E1-8 (see Shaw "Nohcacab's Operation 2: Structure N1E1-8" this report), Structure S3E2-2 was a "Postmonumental" structure consisting of parallel walls on the rear and sides, and a single-walled (exterior faced only) front. The front wall was flush with the floor, and may not have served as a foundation brace, but as a definition and retaining wall function for the floor raised 10-20 cm above the surrounding ground surface level. A semi-circular indentation in the front wall may have marked an entranceway. The walls were constructed of a mixture of rough and finished stones bonded with wet topsoil.

Lots 1 through 3 were within the structure, Lots 4 through 9 were outside, Lots 10 and 12 were material from within the walls recovered during consolidation, and Lot 11 was a 1x1m test pit (Figure 20). Within the structure, Level 1 proceeded to the base of the rear and end walls. This turned out to be below the level of the original floor, which was heavily eroded, leaving only the *chich* subfloor behind. At, or slightly below the level of the wall, a poorly preserved plaster floor (Floor 1) was found. Wherever present, this floor was burned to a bluish grey. At the level of this floor was a concentration of Puuc Slateware sherds. Many of these had also been exposed to intense heat, and were heavily spalled. The distribution of these sherds was not restricted to the confines of Structure S3E2-2, as Lots 4, 7, and 8 also contained these heat-spalled sherds. Level 1 yielded eight obsidian microblades, two side-notched projectile points, and a chert axe (see Lloyd "Small Finds Report 2004: Nohcacab" this report). While some cut veneer stones were scattered within Level 1, they did not appear to have originated from the walls or Structure S3E2-2. Unlike the "L" shaped structure excavated by Shaw, this building did not appear to have ever had a tall masonry wall. Rather, it seems that the original height was less than 1 m.

Associated with Floor 1 was an earlier building, Structure S3E2-2 sub-1. It consisted of a 3 m section of a platform edge, or plinth, faced with cut veneer stones (Figure 20). These stones were of a smaller, more uniform size than those used in the construction of the later Postmonumental building, and are consistent with Puuc-, or Florescent-style architecture. The floor covering sub 1 was missing, exposing the fill behind it. This fill extended 1-2 m north of the wall before it too disappeared. Unlike the lots associated with the construction of Structure S3E2-2, a lot excavated from the fill associated with sub 1 contained no sherds of Chichen Slateware.

A 1 x 1 m test pit located at the intersection of Structure S3E2-2 and sub 1 was excavated to obtain a sealed ceramic sample associate with sub 1, and to provide a construction history for this locality (Figure 21). Floor 1 did not cover the entire unit, and was pierced by a *tusa* (gopher) burrow. However, it was possible to determine that the walls of both the Postmonumental building and sub 1 rested directly on this floor. The floor itself was 25 cm thick, and contained a ceramic sample that dated to the Terminal Classic period and did not contain any Chichen Slateware.

A second floor (Floor 2) was in a better state of preservation, covering 75% of the unit. This floor was 10 cm thick and capped by packed *sascab*. The ceramics associated with this level dated to the Terminal Classic Period.

Floor 3 was encountered at a depth of 35 cm below Floor 1. It too was capped by a layer of packed *sascab*, but was in a much better state of preservation. The floor was 10-11 cm thick, and contained, in addition to sherds from the Terminal Classic Period, a large sample of sherds dating to the Early Classic Period.

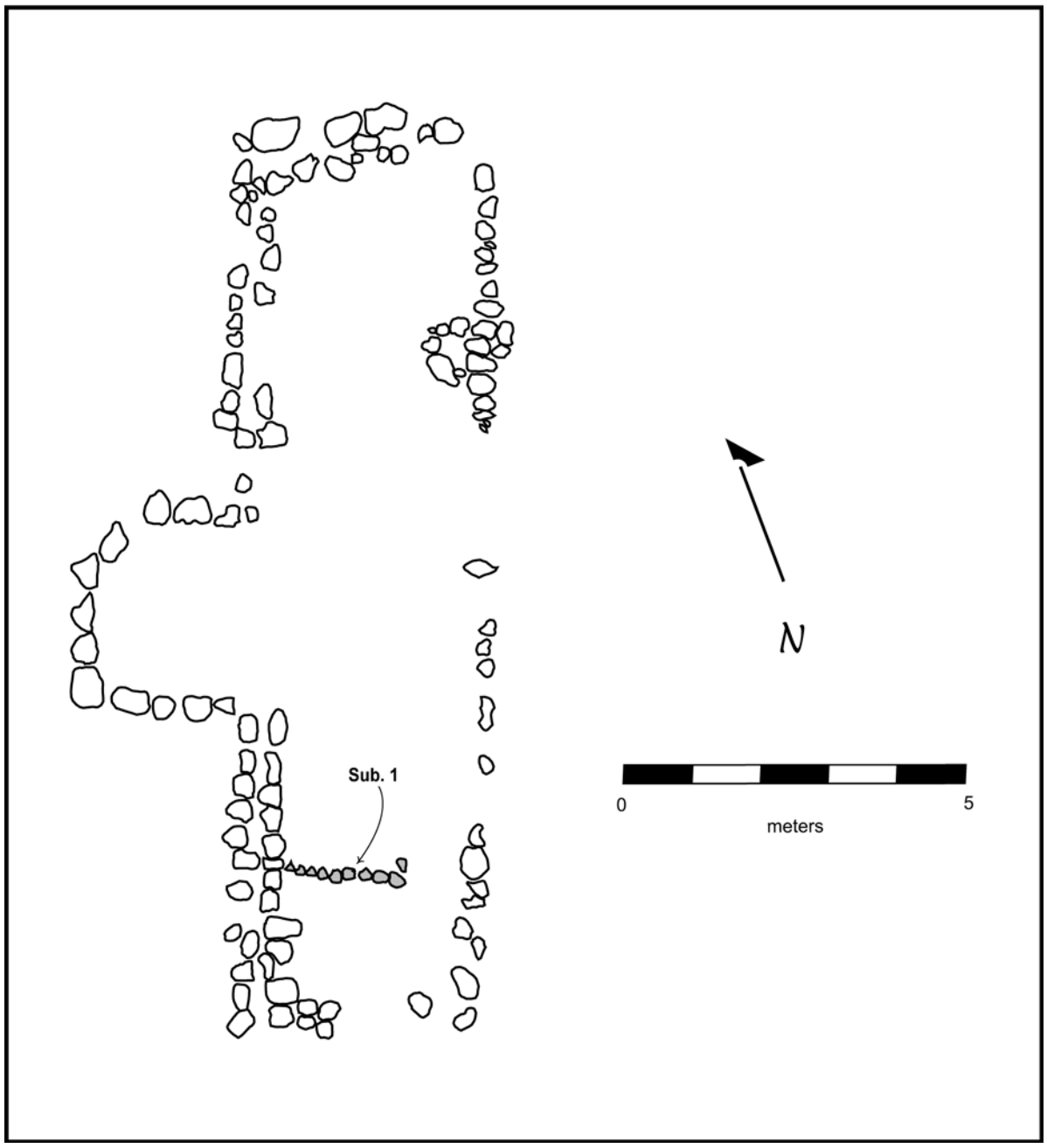



**Figure 20. Structure S3E2-2**

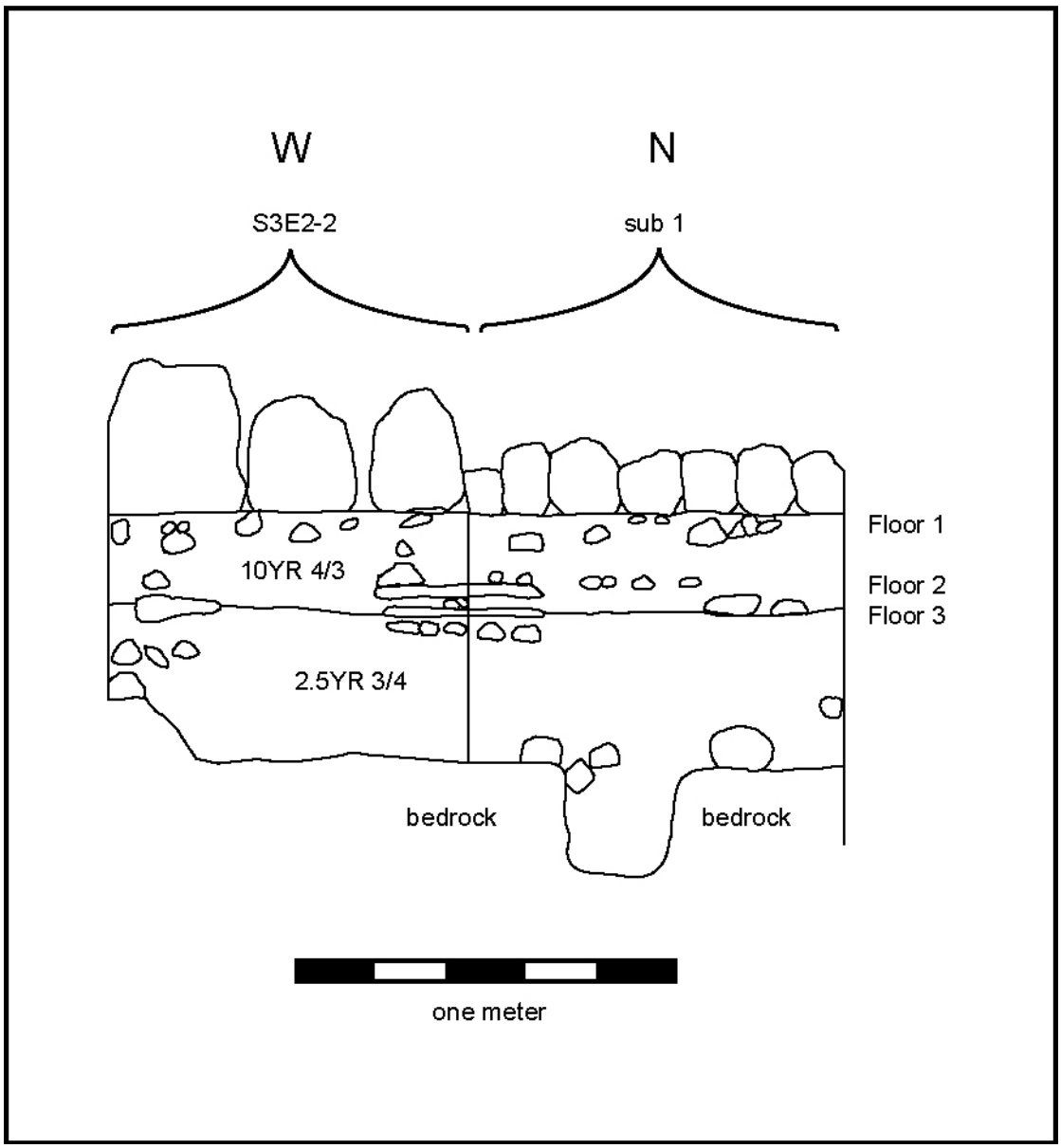



**Figure 21. Nohcacab's Operation 6, Lot 11, West and North Profiles**

Level 5 consisted of *chac luum* (iron rich red soil) overlying pitted bedrock. Very few ceramics were recovered from this level, and they were a mixed lot comprised of Terminal Classic and Late Formative sherds.

Following excavation, the walls of both Structures S3E2-2 and S3E2-2 sub 1 were consolidated. The soil matrix between the stones was removed and screened for sherds. Any canted stones were reset in their upright position, and the matrix between the stones was replaced by concrete. During this process, it was noted that the west wall of Structure S3E2-2 was built directly on top of sub 1, and that its wall ran underneath that of S3E2-2. Following final mapping and photography, the walls were reburied to further protect them.

Operation 6 revealed a more complicated than expected construction sequence for this locality. Two floors, build during the Terminal Classic, preceded the construction of either of the structures encountered. Floor 1, associated with the construction of the Puuc-style sub 1, superceded these floors. Prior to the construction of the Postmonumental style Structure S3E2-2, the walls of sub 1 were truncated, and the plaster floor covering its surface was removed. A large fire, indicated by the burnt plaster and the heat spalled ceramics, burned over most of the excavated area. Structure S3E2-2 was then constructed directly over both Floor 1 and sub 1, reutilizing many of the veneer stones removed from sub 1. A floor for this Structure was the built, covering sub 1. This floor contained more veneer stones, and a number of obsidian microblades as well as Chichen Slateware ceramics. Chichen Slateware ceramics were also recovered from deposits outside Structure S3E2-2, located adjacent to the northeast and northwest corners of the structure. During the Historic Period, the locality suffered from some stone robbing in order to facilitate the construction of *albarradas* (dry laid field walls) for the present day *rancho*.

## Settlement at Nohcacab

Dave Johnstone

Mapping at Nohcacab during the 2004 field season focused on extending the mapped portion of the site to the north and east. As with last season (Shaw 2003a), the mapping effort was aided by the seasonal burning of the *zacate* grass to promote its growth as fodder for the cattle of the rancho. A total of 14.6 ha. was mapped. As of now, it is not possible to say with any certainty where the site limits may lie.

Eighty-one new structures, including residential platforms, foundation braces, and shrines were recorded (Table 1). In addition, two *chultuns* (rainwater capture and storage devices) were noted. Both were located in *bajos* (depressions), logical places where surface runoff might be concentrated. This helps to solve, at least in part, what the residents of Nohcacab did for a water supply. These two *chultuns* do not seem sufficient to supply the potable water needs for the population at the site, suggesting that more such features await discovery.

Where discernable, structures tended to be oriented slightly east of north. While many residences are located on raised platforms, others were built on the natural ground surface. In either case, construction within the *bajos* was avoided. Only one platform (Structure N3E2-6) was built below the –2 m contour. This exception might have been effected in order to control the *chultun* found below it. Current farmers do not plant in these bajos. This is not due to fertility issues. Indeed, the soil in the low areas has been described as extremely fertile. The main factor involved is that the *zacate* preferentially grows here, and this grass tends to quickly invade, making frequent weeding a necessity. Planting in newly cleared forest plots is less labor intensive. As the *zacate* is an introduced species, this restriction would not have been present in the past. One subject for future research would be a palynological study of the local micro-topography to determine if these low areas were crop specific.

Enough of Nohcacab has been mapped to permit comparison with the residential areas of Yo'okop (Johnstone 2002a). When residential platform distances to their nearest neighbors are compared (Table 2), the average distances at the two sites are quite similar; about 27 m. Yo'okop is much more variable about the average than is Nohcacab, possibly a function of the larger areas of reserved space. Another possibility is that the more variable nature of Nohcacab's micro-topography results in more crowding in the areas best suited for residential construction. Platform areas are, on average, larger at Nohcacab. This is due, in large part, to the presence in the sample of Structure N1E1-1, three times larger than the next largest platform at Nohcacab, and nearly twice as large as the largest platform in the Yo'okop sample. One is tempted to say that the larger platform areas could have supported more residential units, but this does not seem to be the case. Indeed, differences in area might be a misleading statistic, as the platforms at Yo'okop are taller on average. This would mean that the volume estimates should be quite comparable between Yo'okop and Nohcacab.

## Table 1. Structures Mapped at Nohcacab

| Quadrat | Structure Number | Structure Type | Time Period | Comments |
|---|---|---|---|---|
| S4E3 | 1 | platform | | |
| | 2 | rectangular foundation brace | | |
| S3E3 | 6 | platform | | |
| | 7-8 | rectangular foundation brace | | |
| | 9 | platform | | |
| | 10 | shrine | Postclassic | |
| | 11-12 | rectangular foundation brace | | |
| S3E4 | 1-2 | rectangular foundation brace | | |
| S2E3 | 9 | platform | | |
| | 10 | apsidal foundation brace | | |
| S1E4 | 1 | platform | | |
| | 2 | tandem foundation brace | Terminal Classic | |
| | 3 | apsidal foundation brace | | |
| | 4-5 | rectangular foundation brace | | |
| | 6 | apsidal foundation brace | | |
| N1E4 | 1 | platform | | |
| | 2-3 | rectangular foundation brace | | |
| N2W2 | 10 | rectangular foundation brace | | |
| | 11 | platform | | |
| | 12 | rectangular foundation brace | | |
| | 13 | apsidal foundation brace | | |
| N2W1 | 5 | platform | | |
| | 6 | rectangular foundation brace | Terminal Classic | |
| | 7 | apsidal foundation brace | | |
| | 8 | rectangular foundation brace | | |
| | 9 | apsidal foundation brace | | |
| N2E1 | 3-6 | rectangular foundation brace | Terminal Classic | |
| | 7 | platform | | |
| | 8-9 | rectangular foundation brace | | |
| | 10 | apsidal foundation brace | | |
| N2E3 | 1 | platform | | |
| | 2 | rectangular foundation brace | Terminal Classic | |
| | 3 | transverse foundation brace | Terminal Classic | |
| | 4 | rectangular foundation brace | | |
| | 5-6 | apsidal foundation brace | Postclassic | |
| | 7 | rectangular foundation brace | | |
| N2E4 | 1 | platform | | Unfinished |
| N3W2 | 1 | platform | | |
| | 2-3 | rectangular foundation brace | | |
| N3W1 | 1 | platform | | |
| | 2-4 | rectangular foundation brace | | |
| | 5 | platform | | |
| | 6 | rectangular foundation brace | Terminal Classic | |
| N3E1 | 1 | platform | | |
| | 2 | transverse foundation brace | Terminal Classic | |
| | 3 | apsidal foundation brace | | |
| | 4 | platform | | Unfinished |
| N3E2 | 1 | platform | | |
| | 2 | rectangular foundation brace | | |
| | 3 | transverse foundation brace | Terminal Classic | |
| | 4-5 | apsidal foundation brace | | |
| | 6 | platform | | Chultun at south end |
| | 7 | transverse foundation brace | Terminal Classic | |
| | 8 | apsidal foundation brace | | |
| | 9 | platform | | |
| | 10 | rectangular foundation brace | | |
| | 11 | transverse foundation brace | Terminal Classic | |
| N3E3 | 1-2 | rectangular foundation brace | | |
| N3E4 | 1 | platform | | |
| | 2-3 | rectangular foundation brace | Terminal Classic | |
| N4W1 | 1 | platform | | |
| N4E1 | 1 | platform | | |
| | 2 | rectangular foundation brace | | |
| N4E2 | 1 | platform | | |
| | 2 | transverse foundation brace | | |
| | 3 | rectangular foundation brace | | |

## Table 2. Comparison of Residential Platforms at Nohcacab and Yo'okop

| Residential Platform Nearest Neighbor (m) | | | Residential Platform Area (m2) | | |
|---|---|---|---|---|---|
| Yo'okop | Nohcacab | | Yo'okop | Nohcacab | |
| 3 | 4 | | 120 | 100 | |
| 5 | 4 | | 120 | 120 | |
| 6 | 10 | | 180 | 140 | |
| 11 | 10 | | 182 | 144 | |
| 13 | 12 | | 182 | 240 | |
| 18 | 20 | | 195 | 288 | |
| 21 | 20 | | 260 | 324 | |
| 21 | 23 | | 270 | 325 | |
| 25 | 25 | | 280 | 360 | |
| 30 | 25 | | 300 | 380 | |
| 37 | 25 | | 322 | 400 | |
| 40 | 25 | | 324 | 400 | |
| 41 | 25 | | 352 | 500 | |
| 48 | 27 | | 400 | 500 | |
| 49 | 27 | | 450 | 500 | |
| 50 | 28 | | 540 | 600 | |
| 61 | 30 | | 621 | 625 | |
| | 30 | | 625 | 625 | |
| | 30 | | 630 | 625 | |
| | 30 | | 682 | 680 | |
| | 30 | | 775 | 1000 | |
| | 40 | | 1850 | 3000 | |
| | 40 | | 439.0909 | 593.8 | average |
| | 40 | | | | |
| | 41 | | 370.3816 | 591.3373 | standard deviation |
| | 42 | | | | |
| | 45 | | | | |
| | 45 | | | | |
| 28.17647 | 26.89286 | average | | | |
| | | | | | |
| 17.9765 | 8.558621 | standard deviation | | | |

## Small Finds Report 2004: Nohcacab

Christopher Lloyd

During the 2004 field season, CRAS conducted excavations in both Ichmul and Nohcacab. More small finds were recovered this field season than in all previous four field seasons of both the Cochuah Regional Archaeological Survey and Proyecto Archaeológico Yo'okop combined (Hanks 2002:110; Lloyd 2003:109; Shaw 2001c:50). The total amount of non-ceramic artifacts excavated from all previous field seasons combined is 72. This field season a total of 180 non-ceramic artifacts were recovered from Nohcacab (Table 3 and Figure 22). The small finds were recovered from all test pits, building consolidations, and surface collections. These include spindle whorls, projectile points, obsidian microblades, drilled shell, flakes, cores, and scrapers. Two of the more prolific areas of lithic concentration were the "T"-shaped structure (S3E2-2) and a midden just north of platform N1W1-3.

Most of the cores, block shatter, and flakes at Nohcacab are exhausted, suggesting a limited resource. No chert spalls or large chunks were excavated. The source of acquiring mineral resources may have changed throughout the Formative, Classic, and Postclassic; geography played an important part of where mineral resources were acquired from, and certainly politics. Chert was a valuable mineral resource at Nohcacab and may have been imported from the southern costal area near Colha, or Altun Ha in modern day Belize and or the west, near Becan. Both Colha and Altun Ha have significant beds of high quality chert (Mitchum 1991:45). Excavations of these sites have uncovered large lithic workshops consisting of thousands of flakes (Shafer 1991:31).

A large amount of chert flakes, block shatter, and cores were recovered from the "T"-shaped structure (S3E2-2); Operation 6, Level 1 yielded 34 pieces in all. This amount of debitage suggests some lithic production activities. The total of all chert, flakes, and block shatter recovered from both Levels 1 and 2 is 46. The "Central Place" theory suggests households further removed from major centers are more likely to be involved in the primary production of lithics. "At these distant households, increased primary production would result in debitage exhibiting a greater prevalence of the earlier stages of lithic reduction" (Fedick 1991:105).

Operation 3 yielded several artifacts including modified shell, several chert cores, and numerous chert flakes. Clark and Bryant (1988) in their analysis of the Yerba Buena chert industry assess the distribution of chert artifacts at a specific residence and are able to determine different activity areas.

> "The largest relative percentage of raw material, cores, large chunks, projectile points, used pieces, and pieces with cortex came from within the house…most by-products of projectile point manufacture were found on the porch or in its associated midden" (Clark and Bryant 1988).

The midden associated with Structure N1W1-3 fits Clark and Bryant's description; the lithics excavated from the midden are mostly flakes and other small refuse. If the structure associated with the midden had been excavated, would it have fit the lithic pattern at Yerba Buena? Structure S3E2-2 seems to fit Clark and Bryant's description; the lithics excavated from the "T"-shaped structure (S3E2-2) are mostly larger cores, or finished lithics. Had the surroundings of Structure S3E2-2 been excavated, would they have yielded flakes and other discarded byproducts of lithic production?

"Blood was the mortar of ancient Maya ritual life" (Sievert 1992:83). Obsidian microblades were used for bloodletting throughout Mesoamerica; auto sacrifice was commonly employed to collect blood, and then used to commune and conjure ancestors.

Twenty-one incomplete obsidian blade fragments were excavated from various operations throughout Nohcacab. Unfortunately no complete microblades were excavated, all were broken. The average blade is 9 mm in width and 3 mm in thickness. According to Alexander Villa Benitez in his 2002 report of the Toluca Valley, the average Mesoamerican blade for blood-letting rituals is 6 mm wide and 2.5 mm thick (Villa Benitez 2002:4). Previous blades excavated from Yo'okop measure 9.9 mm in width and 2.1 mm in thickness. All of these microblades are pressure flaked on the ventral side and flat on the dorsal side. Did obsidian microblades arrive at Nohcacab already made and ready to use? No obsidian flakes or cores were excavated. The lithics recovered from Yo'okop during the 2002 field season also exhibit a similar pattern, a respectable amount of chert flakes and cores were excavated, but no obsidian flakes or cores (Hanks 2002:119). Chert is by far the most common mineral resource excavated from Chichén Itzá; obsidian only composes 0.6% of all the raw materials excavated (Sievert 1992:83).

> "The principal source for the northern Maya area was San Martin Jilotepeque during the Middle Preclassic, El Chayal during the Late Preclassic, and Ixtepeque during the Terminal Classic and Postclassic. They suggest that trade routes were fairly constant during the Preclassic and Classic periods with the principal routes running from south to north through the central region of the Peten and the Yucatan Peninsula" (Fowler 1991:11).

> "During the Terminal Classic Ixtepeque obsidian began to be transported in appreciable amounts from the Motagua region up the Caribbean coast to Chetumal Bay and then across the base of the Yucatan Peninsula" (Fowler 1991:11).

The "T"-shaped structure (S3E2-2) had nine obsidian blade fragments, including an incomplete, proximal microblade fragment of what is thought to be green, Pachuca obsidian. Pachuca obsidian is from Sierra de las Navajas in the modern state of Hidalgo, Mexico. The presence of Pachuca obsidian suggests possible trade with central Mexico. The Pachuca obsidian was excavated from the first level and lot of Operation 6. Janine Gasco notes in her 2002 report of Xoconochco "in Soconusco (Chiapas) there was a shift in the Late Postclassic period from an earlier predominance of Guatemalan obsidians to Mexican obsidians" (Gasco 2002:7). The presence of Terminal Classic ceramics in the stratum suggests trade with central Mexico may have arisen earlier at Nohcacab. Perhaps Chichén Itzá's influence at Nohcacab allowed for trade goods from central Mexico.

Among one of the more substantial finds of Nohcacab was the complete head of a chert axe, including the haft. The axe is covered on both sides with many negative flake removals and appears to have been worked along the edge. The axe was excavated from Operation 6, Level 1, Lot 1. This particular axe was the largest stone tool recovered from Nohcacab; and required a large, valuable piece of chert to produce. Freidel mentions the use of axes in a war context and for ritual decapitation sacrifice (Freidel 2004: 6); these axes may have also served as clearing tools for the cleaning of *bajos*, *rejolladas*, agricultural, and residential lands. Perhaps future use wear analysis can shed some light on the specific use of axes, scrappers, and projectile points at Nohcacab.

Two additional incomplete, chert axes, in poor condition were excavated from Operations 2j, and 3. The axe recovered from Operation 3, Level 1, Lot 1 is an incomplete distal fragment. The axe fragment from Operation 2j, Level 2, Lot 3 is a distal fragment of white chert with a very clear angle and worked edge. Neither of these axe fragments have as defined negative flake removals as the axe recovered from Operation 6. It is plausible that during retouch work the axe from Operation 3 was broken and subsequently discarded next to the structure.

Three side-notched, bifacial, projectile points were excavated from Operation 6, Level 1. The projectile point excavated from Level 1, Lot 2 is a distal fragment of brown chert; the point has been retouched and an incomplete haft is present. The projectile point from Level 1, Lot 5 is a pale brown, proximal fragment of chert. The point from Level 1, Lot 8 is a complete projectile point of white chert. Stylistically these projectile points resemble 2 Postclassic projectile points excavated from Yo'okop during the 2002 field season. The overall dimensions of the points excavated this field season are larger, particularly in length, measuring 1 cm longer (Hanks 2002:109). These projectile points were possibly used for atlatl darts, or arrows. It is plausible these projectile points were used for hunting or warfare.

A stemmed, chert biface was recovered from a surface collection on Structure N2W1-8. The point is complete except for two heat spalls, probably from recent burnings to clear the rancho of growth. During the 2003 field season at Nohcacab, a similar biface was recovered from a surface collection; it measured 11.3 x 3.2 x 0.9 cm; a few centimeters larger in length and width than the macroblade collected this field season, as well as different in coloration. The average dimensions of stemmed blades excavated from a Late Classic workshop at Colha measure 7.1 x 2.5 x 0.8cm; slightly smaller in length than those found at Nohcacab, but similar in thickness (Roemer 1991:58). Macroblades excavated at El Pozito, Belize measure 13.3 x 4.3 x 0.9 cm, slightly larger than those of Nohcacab in length and width (Hester et al. 1991:67).

Excavated from both Operations 4 and 2b were spindle whorls made of limestone, with striated triangular designs radiating from the center. These spindle whorls suggest the use of thread; perhaps cotton or maguey, grown in the many depressions throughout Nohcacab. No needles were found in association with the spindles. The latest associated ceramics in both Operation 2b, Level 1, Lot 1 and Operation 4, Level 1, Lot 1 are Postclassic. Cotton and maguey were important commodities that may have been used for trade and or the production of clothing. Cotton textiles were a hot commodity of the Late Classic Maya (Freidel 2004:10). Through ethnographic, ethnohistoric, and archaeological comparisons, Christina Halperin and Antonia E. Foias (Foias and Halperin 2001:3) have classified spindle whorls based on size and have found the smaller the spindle whorl the finer the thread. Some spindle whorls excavated from Motul de San José are large enough to suggest the production of cordage. The spindle whorls from Motul de San Jose are predominantly from elite residential groups "suggesting that spinning was restricted to elite groups". (Foias and Halperin 2001:3) Perhaps spinning was also restricted to elite groups at Nohcacab.

Two complete chert scrapers were excavated from Operations 5 and 6. Retouch is clearly present on the cutting edge of the scraper from Operation 5, Level 2, Lot 1. Both finds are relatively large pieces of chert for Nohcacab. Both Operations 5 and 6 have Terminal Classic ceramics in the associated stratum. Each are composed of different types of chert. Scrapers were used to cut meat, plane wood, and scrape hides. The use of these particular tools is unknown; perhaps these were used to clean meat from the hides of the small Yucatecan deer, or to plane wood for a lintel.

Modified, drilled marine shell, usually associated with the upper class (Masson et al. 2001:4), was excavated from Operation 3, Level 3, Lot 1. The fragment is flat on top and rounded on the sides. This shell fragment may have been used as a paint-pot used to store ink for writing. This could suggest that Structure N1E1-16 was the home of a scribe, or a political building in which detailed records were necessary for transactions. Iconography of individuals with paint-pots, often worn behind the ear and made of what looks like shell, specifically conch is seen on vessels throughout Mesoamerica. "His ability to record the words and images of the gods and know their functions would make him an indispensable person to the community and its leaders" (Kerr 1990:4). Terminal Classic ceramics were associated with this artifact. Clark (1989) mentions the trade of Ixtepeque

obsidian via Chetumal Bay and across the base of the Yucatan, perhaps shell was obtained while along the coast and traded with the obsidian.

> "Shell was one important currency for the marketplaces of the Late Postclassic Maya, and we see that manufacture of shell ornaments was an activity associated with some upper status houselots at the city" (Masson et al. 2001:4).

CRAS excavated and recovered many interesting small finds this field season including a diagnostic piece of green Pachuca obsidian. These lithics have helped to paint a more accurate idea of what life at Nohcacab may have been like. The large amount of lithics recovered in varying stages from the T-shaped structure (S3E2-2) suggest craft specialization. The spindle whorls collected from Operations 4 and 2b suggest the use of cotton or maguey used in clothing, possibly in exchange for other trade goods. The green Pachuca obsidian is diagnostic of trade with central Mexico. The modified shell from Operation 3 was probably used for ink, indicating there was a necessity for writing, possibly for business transactions, keeping track of stockpiles of food and or other goods. The presence of shell suggests trade with individuals along the coast, or a possible trade route which, at some point, was in close proximity to the coast. Future use wear analysis on the blades, projectile points, and scrapers could help refine ideas of what these tools were used for. Electron fluorescence might indicate a specific source of chert and obsidian; in turn trade patterns could be analyzed. The ceramics associated with the lithics could help reveal trade patterns through time to understand the shift in alliances and politics. In summation, Nohcacab is an extensive suburban area that had a wide range of activities including trade, lithic production, food and probably cotton or maguey cultivation, ritual auto sacrifice, ancestor worship, and craft specialization.

## Table 3. Non-ceramic Artifacts from Nohcacab, 2004 CRAS Field Season

| Artifact Type | Condition | Material | Length (cm) | Width (cm) | Thick-ness (cm) | Color Code (Munsell) | Op | Lev | Lot |
|---|---|---|---|---|---|---|---|---|---|
| blade | incomplete proximal | obsidian | 2.1 | 1.2 | 0.2 | 7.5 YR 3/0 | 2b | 1 | 1 |
| flake | complete | chert | 2.3 | 1.9 | 0.5 | 10 YR 7/1 | 2e | 1 | 1 |
| bipolar core | incomplete | chert | 2.0 | 1.2 | 1.2 | 7.5 YR 8/1 | 2e | 1 | 1 |
| block shatter | complete | chert | 1.8 | 1.3 | 0.4 | 7.5 YR 8/1 | 2e | 1 | 1 |
| blade | incomplete | obsidian | 2.4 | 1.2 | 0.3 | 10 YR 3/1 | 2b | 1 | 1 |
| blade | incomplete | obsidian | 2.1 | 0.9 | 0.3 | 10 YR 3/1 | 2b | 1 | 1 |
| blade | incomplete | obsidian | 1.6 | 1.1 | 0.3 | 10 YR 3/1 | 2b | 1 | 1 |
| spindle whorl | complete | limestone | 3.1 | 3.1 | 1.1 | 10 YR 5/4 | 2b | 1 | 1 |
| blade | incomplete | obsidian | 2.1 | 1.2 | 0.3 | 10 YR 2/1 | 2b | 1 | 1 |
| ecofact (bone) | incomplete | bone | 1.8 | 1.3 | 0.5 | 10 YR 5/1 | 2b | 1 | 1 |
| floor | chunk | sascab | 3.0 | 3.0 | 0.8 | 10 YR 8/1 | 2c | 1 | 1 |
| block shatter | complete | chert | 1.6 | 1.2 | 0.9 | 10 YR 7/3 | 2d | 1 | 1 |
| block shatter | complete | chert | 1.2 | 1.0 | 0.6 | 10 YR 6/4 | 2d | 1 | 1 |
| ecofact (unmodified shell) | complete | shell | 2.1 | 1.7 | 1.0 | 5 YR 8/2 | 2f | 1 | 1 |
| block shatter | complete | chert | 2.3 | 1.1 | 0.8 | 5 YR 4/1 | 2f | 1 | 1 |
| floor | incomplete | sascab | 2.3 | 2.0 | 0.6 | 7.5 YR 5/2 | 2f | 1 | 1 |
| floor | incomplete | sascab | 1.9 | 1.3 | 0.7 | 10 YR 6/3 | 2f | 1 | 1 |
| block shatter | complete | chert | 1.4 | 1.2 | 0.3 | 10 YR 7/4 | 2f | 1 | 1 |
| flake | complete | chert | 1.6 | 1.0 | 0.3 | 10 YR 7/3 | 2f | 1 | 1 |
| bipolar core | complete | chert | 4.4 | 4.0 | 4.1 | 10 YR 8/2 \| 10 YR 5/2 | 2j | 1 | 1 |
| flake | complete: from hinge fracture | chert | 1.9 | 1.1 | 0.2 | 10 YR 7/3 | 2l | 1 | 1 |
| flake | incomplete: proximal end | chert | 1.5 | 0.8 | 0.4 | 10 YR 8/3 | 2m | 1 | 1 |
| flake | complete: hinge fracture | chert | 1.5 | 1.6 | 0.15 | 5 YR 7/3 | 2n | 1 | 1 |
| ecofact (shell) | incomplete | shell | 2.0 | 1.3 | 0.2 | 10 YR 7/2 | 2l | 1 | 2 |
| ecofact (shell) | incomplete | shell | 2.0 | 1.1 | 0.3 | 10 YR 7/2 | 2l | 1 | 2 |
| flake | | chert | 1.1 | 0.9 | 0.1 | 10 R 6/6 | 2j | 2 | 1 |
| core | hinge fracture | chert | 2.9 | 1.6 | 1.1 | 7.5 YR 4/2 | 2j | 2 | 1 |
| core | not fully reduced core | chert | 3.2 | 2.0 | 1.1 | 10 YR 7/2 | 2j | 2 | 1 |
| flake | triangular flake | chert | 2.3 | 1.6 | 0.4 | 10 YR 8/4 \| 10 YR 8/2 | 2j | 2 | 1 |
| flake | chunky | chert | 1.5 | 1.0 | 0.8 | 2.5 YR 3/4 | 2j | 2 | 1 |
| bipolar core | complete | chert | 2.6 | 2.7 | 1.5 | 5 YR 4/3 \| 5 YR 8/2 | 2j | 2 | 1 |
| flake | proximal end with percussion | chert | 1.7 | 1.5 | 0.3 | 5 YR 6/2 | 2k | 2 | 1 |
| block shatter | | chert | 1.6 | 1.0 | 1.0 | 7.5 YR 7/4 | 2k | 2 | 1 |
| block shatter | | chert | 1.6 | 1.0 | 0.5 | 7.5 YR 8/0 | 2k | 2 | 1 |
| flake | 2 percussions | chert | 1.5 | 1.1 | 0.4 | 2.5 YR 4/4 | 2k | 2 | 1 |
| flake | | chert | 1.0 | 0.8 | 0.3 | 5 YR 7/4 | 2k | 2 | 1 |
| flake | incomplete proximal end: | chert | 2.1 | 1.7 | 0.4 | 10 YR 8/2 \| 10 YR 7/6 | 2l | 2 | 1 |
| blade | incomplete medial | obsidian | 1.5 | 0.9 | 0.2 | 10 YR 3/1 | 2l | 2 | 1 |
| flake, biface thinning | incomplete | chert | 1.7 | 1.4 | 0.3 | 10 YR 4/4 | 2l | 2 | 1 |
| flake | incomplete | chert | 2.7 | 2.3 | 0.2 | 2.5 YR 6/6 \| 2.5 YR 4/6 | 2l | 2 | 1 |
| bipolar core | complete | chert | 1.3 | 1.5 | 0.9 | 5 YR 7/1 | 2l | 2 | 1 |
| flake | complete | chert | 1.5 | 1.3 | 0.15 | 10 R 4/8 \| 10 R 6/3 | 2l | 2 | 1 |
| flake | incomplete | chert | 1.6 | 1.4 | 0.25 | 5 YR 6/6 | 2l | 2 | 1 |
| flake | complete | chert | 1.1 | 1.4 | 0.2 | 7.5 YR 6/4 | 2l | 2 | 1 |
| block shatter | complete | chert | 2.2 | 0.6 | 0.4 | 7.5 YR 8/0 | 2l | 2 | 1 |
| flake | complete | chert | 0.8 | 1.0 | 0.3 | 7.5 YR 7/4 | 2l | 2 | 1 |
| blade | incomplete | obsidian | 1.4 | 1.2 | 0.3 | 5 YR 4/1 | 2m | 2 | 1 |
| block shatter | complete | chert | 2.0 | 1.0 | 0.9 | 5 YR 8/1 | 2m | 2 | 1 |
| bipolar core | complete | chert | 2.6 | 2.0 | 1.4 | 5 YR 7/1 \| 5 YR 5/4 | 2m | 2 | 1 |
| flake | incomplete | chert | 1.8 | 1.6 | 0.7 | 5 YR 8/1 | 2m | 2 | 1 |
| flake | incomplete | chert | 2.4 | 1.5 | 1.4 | 5 YR 8/1 | 2m | 2 | 1 |

| Artifact Type | Condition | Material | Length (cm) | Width (cm) | Thick-ness (cm) | Color Code (Munsell) | Op | Lev | Lot |
|---|---|---|---|---|---|---|---|---|---|
| flake | incomplete | chert | 1.8 | 1.4 | 0.2 | 10 YR 4/2 | 2m | 2 | 1 |
| flake | incomplete | chert | 1.2 | 0.6 | 0.4 | 5 YR 7/4 | 2m | 2 | 1 |
| flake | incomplete | chert | 0.9 | 0.5 | 0.4 | 5 YR 5/6 | 2m | 2 | 1 |
| bipolar core | complete | chert | 2.1 | 1.6 | 0.4 | 5 YR 8/2 | 2m | 2 | 1 |
| flake | complete: hinge fracture | chert | 1.8 | 1.6 | 0.6 | 5 YR 7/3 | 2n | 2 | 1 |
| block shatter | complete | chert | 1.7 | 1.0 | 1.0 | 5 YR 3/3 | 2j | 2 | 2 |
| axe / projectile point fragment | incomplete distal end | chert | 1.3 | 1.7 | 1.2 | 10 YR 8/1 | 2j | 2 | 3 |
| block shatter | complete: hinge fracture | chert | 1.7 | 0.6 | 0.4 | 10 YR 7/4 | 2j | 2 | 3 |
| flake | incomplete proximal end: | chalcedony | 1.5 | 1.5 | 0.15 | 10 YR 8/1 | 2j | 2 | 3 |
| core | complete | chert | 2.5 | 1.6 | 0.8 | 10 R 8/1 | 2k | 2 | 3 |
| flake | complete: proximal end | chert | 1.6 | 1.6 | 0.15 | 10 YR 7/4 | 2k | 2 | 3 |
| flake | incomplete distal end | chert | 1.0 | 1.2 | 0.2 | 10 YR 7/3 | 2k | 2 | 3 |
| flake | incomplete distal end | chert | 1.5 | 1.0 | 0.1 | 10 YR 5/4 | 2k | 2 | 3 |
| flake | complete: proximal end | chert | 1.4 | 2.0 | 0.8 | 10 YR 6/3 | 2k | 2 | 3 |
| flake | complete | chert | 2.0 | 1.3 | 0.8 | 10 YR 8/1 | 2l | 2 | 3 |
| flake | incomplete | chert | 2.0 | 1.5 | 0.2 | 10 YR 7/1 | 2l | 2 | 3 |
| flake | incomplete | chert | 1.1 | 1.0 | 0.2 | 10 YR 7/3 | 2l | 2 | 3 |
| exhausted core | complete | chert | 1.5 | 1.0 | 0.6 | 10 YR 7/2 | 2l | 2 | 3 |
| flake | | chert | 1.8 | 1.2 | 0.5 | 5 YR 7/3 | 2k | 5 | 3 |
| axe | incomplete | chert | 6.5 | 5.6 | 1.3 | 10 YR 8/2 | 3 | 1 | 1 |
| flake | complete | chert | 4.1 | 3.4 | 0.5 | 10 YR 8/2 | 3 | 1 | 1 |
| bead | complete | shell | 2.6 | 1.5 | 0.6 | 10 YR 8/2 | 3 | 1 | 1 |
| floor | Piece | sascab | 2.1 | 1.9 | 0.8 | 10 YR 8/1 | 3 | 1 | 1 |
| core | complete | chert | 2.9 | 2.6 | 2.0 | 10 YR 7/2 | 3 | 1 | 1 |
| flake | complete | chert | 4 | 3.3 | 0.5 | 10 YR 7/2 | 3 | 1 | 1 |
| flake | incomplete | chert | 2.2 | 1.2 | 0.6 | 2.5 YR 6/3 | 3 | 2 | 1 |
| flake | incomplete | chert | 1.9 | 1.4 | 0.4 | 2.5 YR 8/1 | 3 | 2 | 1 |
| flake | incomplete | chert | 1.6 | 1.2 | 0.2 | 2.5 YR 4/8 | 3 | 2 | 1 |
| block shatter | complete | chert | 1.5 | 1.1 | 0.9 | 10 R 4/6 | 3 | 2 | 1 |
| flake | complete | chert | 2.7 | 2.6 | 0.5 | 7.5 YR 8/0 \| 5 YR 6/3 | 3 | 3 | 1 |
| ground shell fragment | flat on top, rounded sides | shell | 3.1 | 2.1 | 1.0 | 5 YR 8/1 | 3 | 3 | 1 |
| ecofact (bone) | incomplete | chert | 2.6 | 1.6 | 1.1 | 10 YR 5/4 | 3 | 4 | 1 |
| flake | complete | chert | 2.2 | 1.9 | 0.5 | 7.5 YR 5/4 | 3 | 4 | 1 |
| bipolar flake | complete | chert | 2.3 | 1.3 | 0.3 | 7.5 YR 7/4 | 3 | 4 | 1 |
| flake | complete | chert | 2.0 | 1.3 | 0.4 | 10 YR 6/4 | 3 | 4 | 1 |
| flake | complete | chert | 2.6 | 1.9 | 0.5 | 10 YR 4/1 | 3 | 6 | 1 |
| flake | incomplete distal end | chert | 1.5 | 1.4 | 0.5 | 10 YR 7/4 | 3 | 6 | 1 |
| flake | incomplete | chert | 2.6 | 1.1 | 0.5 | 10 YR 6/2 \| 10 YR 6/3 | 3 | 7 | 1 |
| flake | complete | chert | 1.9 | 1.5 | 0.3 | 5 YR 7/1 | 3 | 8 | 1 |
| flake | incomplete distal end | chert | 3.9 | 2.6 | 0.3 | 5 YR 6/2 \| 5 YR 3/1 | 3 | 8 | 1 |
| flake | complete | chert | 4.6 | 2.8 | 0.7 | 10 YR 8/1 \| 10 YR 3/1 | 3 | 9 | 1 |
| splindle whorl | complete: triangular designs | limestone | 3.2 | 3.2 | 1.2 | 7.5 YR 4/2 | 4 | 1/2 | 1 |
| blade | incomplete medial | obsidian | 0.6 | 0.9 | 0.3 | 10 YR 4/1 | 4 | 2 | 1 |
| floor | incomplete | sascab | 2.8 | 2.0 | 1.1 | 10 YR 7/2 \| 10 YR 4/1 | 4 | 2 | 1 |
| core | exhausted | chert | 2.1 | 0.9 | 1.4 | 10 YR 5/1 | 4 | 2 | 1 |
| bipolar core | complete | chert | 3.3 | 1.9 | 1.1 | 5 YR 3/3 | 4 | 2 | 1 |
| flake | incomplete proximal end | chert: chalcedony | 2.6 | 1.4 | 0.5 | 5 YR 7/1 \| 5 YR 8/1 | 4 | 2 | 1 |
| flake | incomplete proximal end | chert | 2.4 | 1.6 | 0.2 | 5 YR 7/4 | 4 | 2 | 1 |
| scraper | complete | chert | 4.3 | 4.1 | 0.7 | 10 YR 8/1 | 5 | 2 | 1 |
| bipolar core | complete | chert | 2.2 | 1.8 | 1.4 | 10 YR 7/2 | 5 | 2 | 1 |
| flake | complete | chert | 1.3 | 1.5 | 0.2 | 10 YR 3/4 | 5 | 2 | 1 |
| blade | incomplete | chert | 2.9 | 2.4 | 0.4 | 5 YR 3/2 | 5 | 3 | 1 |
| blade | incomplete | obsidian | 2.9 | 1.0 | 0.4 | 5 YR 3/1 | 5 | 5 | 1 |
| axe | complete | chert | 11.2 | 4.5 | 2.0 | 10 YR 4/1 | 6 | 1 | 1 |

| Artifact Type | Condition | Material | Length (cm) | Width (cm) | Thick-ness (cm) | Color Code (Munsell) | Op | Lev | Lot |
|---|---|---|---|---|---|---|---|---|---|
| blade | incomplete proximal | obsidian | 2.3 | 1.3 | 0.2 | 10 YR 3/3 | 6 | 1 | 1 |
| blade | incomplete: medial | obsidian | 2.0 | 0.7 | 0.2 | 10 YR 4/1 | 6 | 1 | 1 |
| blade | incomplete medial | obsidian | 2.0 | 1.1 | 0.2 | 10 YR 5/1 | 6 | 1 | 1 |
| blade | incomplete medial | obsidian | 1.3 | 1.2 | 0.2 | 10 YR 5/1 | 6 | 1 | 1 |
| flake | complete | chert | 6.6 | 4.0 | 1.9 | 10 YR 7/2 | 6 | 1 | 1 |
| flake | incomplete | chert | 2.2 | 1.7 | 0.4 | 10 YR 8/4 | 6 | 1 | 1 |
| bipolar flake | complete | chert | 3.0 | 2.1 | 0.9 | 10 YR 5/1 | 6 | 1 | 1 |
| flake | incomplete | chert | 1.6 | 1.6 | 0.4 | 2.5 YR 6/6 | 6 | 1 | 1 |
| flake | incomplete | chert | 1.5 | 1.3 | 0.3 | 5 YR 6/3 | 6 | 1 | 1 |
| blade | incomplete medial | obsidian | 2.3 | 0.8 | 0.15 | 10 YR 5/2 | 6 | 1 | 2 |
| blade | incomplete | obsidian | 1.9 | 1.3 | 0.3 | 10 YR 3/1 | 6 | 1 | 2 |
| flake | complete | chert | 3.3 | 2.2 | 0.5 | 10 YR 8/1 | 6 | 1 | 2 |
| flake | complete | chert | 3.1 | 2.5 | 1.0 | 10 YR 7/1 \| 5 YR 6/3 | 6 | 1 | 2 |
| projectile point | incomplete | chert | 2.8 | 1.1 | 0.4 | 7.5 YR 5/6 | 6 | 1 | 2 |
| flake | complete | chert | 2.1 | 1.7 | 0.5 | 10 YR 6/6 \| 10 YR 6/1 | 6 | 1 | 2 |
| flake | complete | chert | 1.1 | 1.4 | 0.4 | 10 YR 6/3 | 6 | 1 | 2 |
| flake | complete | chert | 1.8 | 1.4 | 0.5 | 10 YR 6/4 \| 10 YR 5/6 | 6 | 1 | 2 |
| flake | complete | chert | 1.0 | 1.4 | 0.2 | 5 YR 4/4 | 6 | 1 | 2 |
| flake | complete | chert | 2.6 | 1.9 | 0.3 | 10 YR 4/3 | 6 | 1 | 3 |
| flake | complete | chert | 1.9 | 2.0 | 0.5 | 2.5 YR 3/4 \| 2.5 YR 5/6 | 6 | 1 | 3 |
| flake | incomplete distal end | chert | 1.6 | 1.5 | 0.5 | 7.5 YR 7/1 | 6 | 1 | 3 |
| bipolar flake | complete | chert | 3.6 | 3.5 | 1.2 | 5 YR 8/1 | 6 | 1 | 4 |
| bipolar core | complete: | chert: chalcedony | 1.5 | 1.7 | 0.5 | 7.5 YR 8/1 | 6 | 1 | 4 |
| bipolar core | complete | chert | 1.7 | 1.4 | 0.6 | 7.5 YR 6/4 \| 7.5 YR 3/1 | 6 | 1 | 4 |
| exhausted core | complete | chert | 1.3 | 1.5 | 0.8 | 7.5 YR 4/6 | 6 | 1 | 4 |
| bipolar core | complete | chert | 1.9 | 1.8 | 1.7 | 5 YR 3/4 \| 10 YR 8/1 | 6 | 1 | 4 |
| blade | incomplete | obsidian | 1.1 | 0.7 | 0.2 | 10 YR 5/1 | 6 | 1 | 5 |
| projectile point | incomplete: proximal | chert | 2.4 | 0.7 | 0.3 | 10 YR 7/3 | 6 | 1 | 5 |
| ecofact (bone) | incomplete | bone | 1.8 | 0.6 | 0.5 | 10 YR 3/1 \| 10 YR 4/4 | 6 | 1 | 5 |
| flake | complete | chert | 1.6 | 1.5 | 0.2 | 7.5 YR 7/4 | 6 | 1 | 5 |
| flake | complete | chert | 2.6 | 2.0 | 0.4 | 5 YR 5/3 | 6 | 1 | 5 |
| block shatter | complete | chert | 2.0 | 1.5 | 0.8 | 5 YR 5/3 | 6 | 1 | 5 |
| block shatter | complete | chert | 1.6 | 1.3 | 0.6 | 5 YR 5/6 \| 5YR 3/3 | 6 | 1 | 5 |
| flake | incomplete | chert | 2.0 | 1.8 | 0.3 | 10 YR 8/1 | 6 | 1 | 5 |
| blade | incomplete medial | obsidian | 1.3 | 0.9 | 0.2 | 10 YR 4/1 | 6 | 1 | 12 |
| flake | complete: hinge fracture | chert | 6.8 | 3.4 | 0.5 | 10 YR 6/2 \| 10 YR 8/1 | 6 | 1 | 12 |
| flake | incomplete 1/2 | chert | 3.6 | 1.8 | 0.8 | 5 YR 8/1 | 6 | 1 | 12 |
| flake | incomplete | chert: chalcedony | 0.9 | 0.7 | 0.2 | 5 YR 8/1 | 6 | 1 | 12 |
| bipolar flake | complete | chert | 2.2 | 1.5 | 1.0 | 7.5 YR 5/4 | 6 | 1 | 12 |
| flake | incomplete | chert | 2.0 | 1.5 | 0.2 | 7.5 YR 8/4 | 6 | 1 | 5 |
| flake | complete | chert | 1.5 | 1.5 | 0.3 | 2.5 YR 4/8 | 6 | 1 | 6 |
| flake | incomplete 1/2 | chert | 1.9 | 1.3 | 0.6 | 5 YR 8/1 | 6 | 1 | 6 |
| bipolar flake | complete | chert | 2.5 | 2.3 | 0.5 | 5 YR 8/1 | 6 | 1 | 6 |
| flake | incomplete | chert | 2.3 | 1.4 | 0.4 | 10 YR 7/3 | 6 | 1 | 6 |
| flake | incomplete | chert | 1.4 | 0.9 | 0.6 | 5 YR 7/4 | 6 | 1 | 6 |
| flake | incomplete | chert | 1.5 | 1.1 | 0.2 | 5 YR 3/2 | 6 | 1 | 6 |
| flake | complete: proximal end | chert | 2.4 | 1.5 | 0.6 | 10 YR 8/1 | 6 | 1 | 7 |
| flake | incomplete | chert | 2.4 | 1.3 | 1.3 | 10 YR 8/2 | 6 | 1 | 7 |
| bipolar core | incomplete | chert | 2.6 | 1.3 | 1.5 | 10 YR 8/1 | 6 | 1 | 7 |
| block shatter | complete | chert | 1.9 | 0.7 | 0.8 | 10 YR 3/2 \| 10 R 3/6 | 6 | 1 | 7 |
| scraper | complete | chert | 6.0 | 3.9 | 0.7 | 5 YR 4/1 \| 5 YR 8/2 | 6 | 1 | 8 |

| Artifact Type | Condition | Material | Length (cm) | Width (cm) | Thick-ness (cm) | Color Code (Munsell) | Op | Lev | Lot |
|---|---|---|---|---|---|---|---|---|---|
| projectile point | complete | chert | 2.5 | 1.3 | 0.3 | 2.5 Y 8/2 | 6 | 1 | 8 |
| bipolar core | complete: hinge fracture | chert | 2.6 | 1.0 | 1.0 | 5 Y 8/1 | 6 | 1 | 8 |
| flake | complete: | chert | 2.6 | 2.0 | 0.4 | 5YR 7/2 \| 5 YR 6/3 | 6 | 1 | 8 |
| flake | incomplete very brittle | chert | 2.0 | 1.0 | 0.4 | 5 YR 4/6 \| 5 YR 8/1 | 6 | 1 | 8 |
| ecofact (shell) | incomplete unmodified | shell | 2.4 | 2.0 | 0.15 | 5 YR 8/1 | 6 | 1 | 9 |
| ecofact (shell) | incomplete unmodified | shell | 2.6 | 2.6 | 0.1 | 5 YR 8/1 | 6 | 1 | 9 |
| ecofact (shell) | incomplete unmodified | shell | 2.0 | 1.9 | 0.2 | 5 YR 8/1 | 6 | 1 | 9 |
| blade | incomplete: medial | obsidian | 1.2 | 1.2 | 0.2 | 5 YR 4/1 | 6 | 2 | 1 |
| bipolar core | complete: | chert | 3.3 | 1.5 | 1.1 | 10 R 6/3 | 6p | 1 | 1 |
| blade | broken: heavily retouched | obsidian | 2.6 | 0.9 | 0.3 | 5 YR 3/1 \| 7.5 YR 3/0 | Back dirt | | |
| blade | broken: proximal end | obsidian | 3.0 | 1.1 | 0.2 | 5 YR 3/1 | Back dirt | | |
| point | missing haft | chert | 9.3 | 2.5 | 1.3 | 5 YR 4/2 | | | |
| block shatter | complete | chert | 4.7 | 4.1 | 2.3 | 5 YR 3/1 \| 5 YR 8/1 | | | |

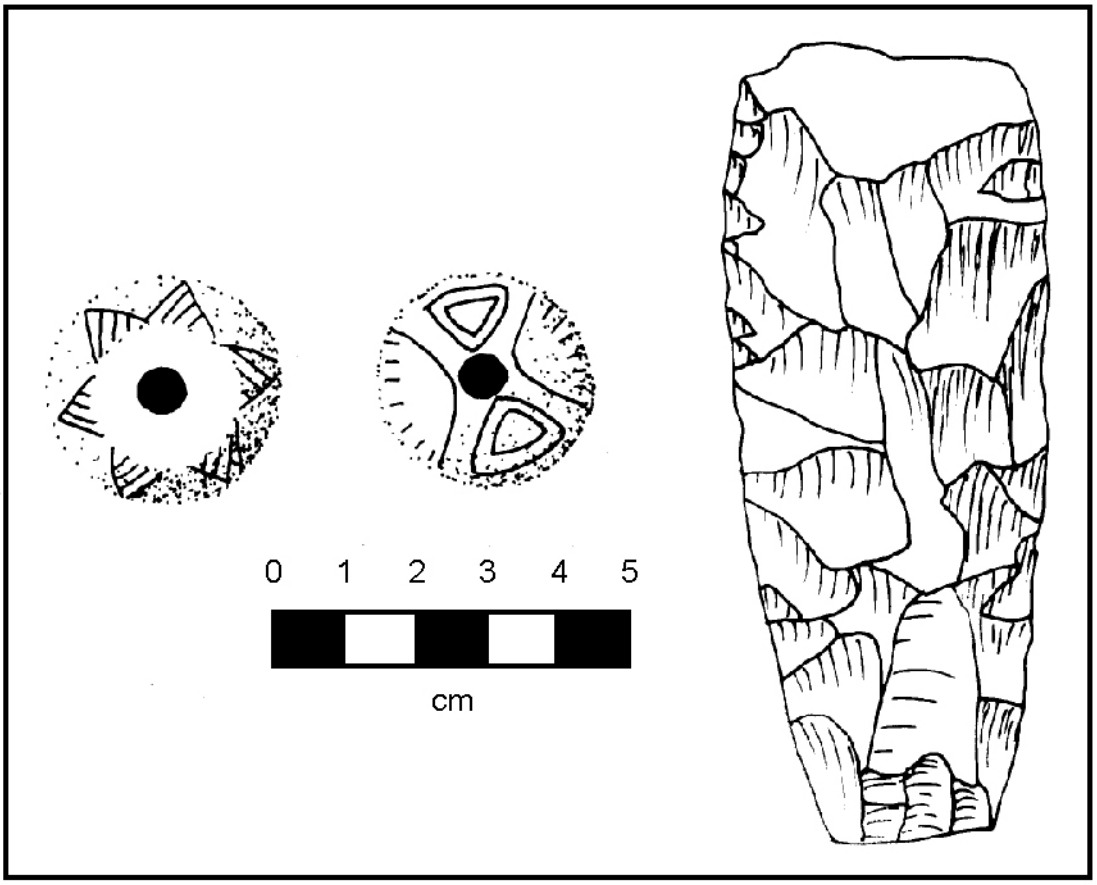



**Figure 22. Non-ceramic artifacts from Nohcacab, 2004 CRAS Field Season: (left and middle) spindle whorls and (right) chert axe**

## Ichmul and its Surroundings

Alberto Flores Colin and Johan Normark

Ichmul lies in southeast Yucatán, near the border with Quintana Roo. The site was initially visited by Stromsvik and Pollock (1955:170-171) when they went through areas east of Peto. They reported three pyramids that were at least 8 m tall. South of the modern plaza lay two enclosed quadrangles on top of an impressive acropolis. Passage vaults were also investigated by these explorers. Terraces and smaller mounds were seen in different directions from this main central area. A very large *sascabera* was located near the plaza as well. They found exposed masonry along the western edge of the plaza that revealed Puuc or Chenes-style cut stones. They collected a small sample of ceramics that appeared to be Puuc slatewares and Postclassic Mayapan redwares, as well as some colonial ceramics. They dated the main architecture and a small sample of pottery to the Late Classic period (Stromsvik et al. 1955:170).

On an informal trip to Ichmul by the CRAS Project in 2003, numerous Early Classic ceramics were seen scattered on the surface. The standing vault, observed by Stromsvik and Pollock, had collapsed about 10 m into the structure. There was also a western side passage that stood intact for about 5 m before more debris blocked the way. It was also observed that the edges of the principal mounds are located either within, or forming boundaries between, *solares* (house lots).

During the 2004 season, members of the CRAS project, under the direction of Johan Normark and Alberto Flores, surveyed and mapped the *sacbe* between Ichmul and Xquerol, parts of central Ichmul and various locations in the site's vicinity (Figure 2). From Stromsvik and others' (1955) brief reconnaissance and last year's survey in Xquerol (Shaw 2003a), we knew about the existence of this *sacbe*. We suspected that the *sacbe* connected the two sites and nothing more. However, from analysis of aerial photographs before the field season, and based upon information obtained from locals, we soon detected the existence of at least four additional *sacbeob* (Figure 23). The major part of the work in Ichmul was aimed at understanding these architectural features.

### The Site of Ichmul

Ichmul means "between mounds". It is most likely not the original Classic period name, as by the time of the conquest, the inhabitants of Ichmul had no knowledge of the earlier occupants (Roys 1957:140). The contemporary town of Ichmul has Precolumbian, Colonial, Caste War, and modern architecture. Around two thousand people live in Ichmul today.

Colonial constructions began in 1571 when a Franciscan convent called San Bernardo de Sena Ichmul was founded (Andrews 1991; Bretos 1992) (Figure 24). By the time of Father Ponce's report in 1588, there existed at least five large pyramids at the site. A large cross stood on top of one pyramid. Ponce was informed by locals that the mounds were built upon "vaulted burial chambers" (Ciudad Real 1979:325-329). The town was abandoned on Christmas Day of 1847, after resisting 20 days of Maya rebels' attacks during the Caste War. The fortifications on top of the western section of the Central Acropolis, where one of the pyramids are located, date from this defense or when the federal militia recovered the town the following year (Reed 1971:74-76, 116-119).

The convent is today located at the eastern part of Ichmul's large central plaza. No major Prehispanic structures are known on its western, northern, and eastern sides. However, there is a low, but very wide, platform to the east of unknown age. This is the foundation for the ruined colonial church and convent. In the convent area, there is a deep

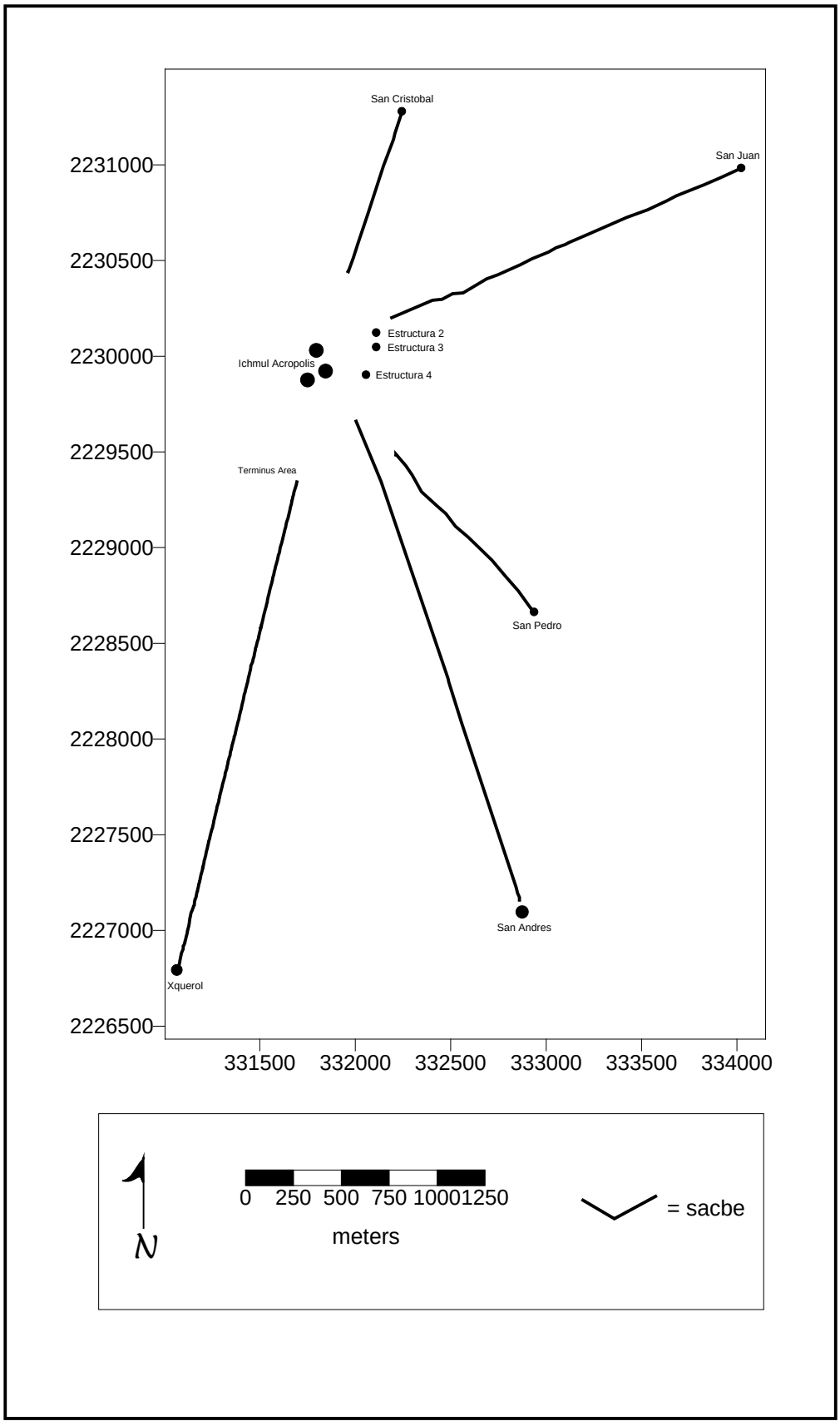



**Figure 23. *Sacbe* System of Ichmul**

**Figure 24. Colonial Church with Convent**

dry well. North of this church is another larger and white church which is the sanctuary where the Blister Black Christ (Figure 25) is located. This image was object of an extended "cult" during the sixteenth century. Partly because of this, Ichmul's population increased during this period. The Christ was a miracle figure and some time after, during the seventeenth century, it was taken to Mérida where it has a chapel in the Catedral (Caseres et al. 1998, III: 356-357). On the north side of the plaza is a smaller and actually overgrown L-shaped colonial church. North of this area, there is a steep slope, perhaps part of a *sascabera* or a quarry.

Roughly 50 m west of the white church sanctuary is a water tower, standing in the northern part of the plaza. Local informants told us that this water tower had been constructed over an old well, about 20 years ago, which was confirmed by an old picture from 1982 that shows a well in the same area (Artigas 1982:185). Colonial texts mentioned the existence of two *cenotes* at Ichmul (Relación de Ichmul y Tikuch, RHGY 1983:298). We located none during the 2004 field season, but we now suspect that one of the *cenotes* is under the well/ water tower. In the *ejido* of Sacalaca, we located a well built on top of a *cenote* at Yodzonot that may resemble the one at Ichmul. The Spaniards used to build the wells upon "*cenote*'s mouth" (Bretos 1992:24).

Ichmul has a large central acropolis, roughly two hectares in aerial extent, located south of the large modern plaza. The central acropolis consists of several range structures and two pyramidal structures, in a pattern more similar to sites in the southern lowlands than other sites in the north. These are sites with formal plaza groups, usually on top of a raised acropolis. We had only the time to map the western section of this large architectural feature.

The mapped area (Figure 26) has on its south side a rather complicated set of low walls, plazas, platforms and a wide ramp. This is an area where we assume that the *sacbe* between Ichmul and Xquerol once originated, if the *sacbe* continued all the way to the acropolis area. The last traces of the *sacbe* are several hundred meters south of the acropolis. It would have terminated on the south side of the eastern and unmapped portion of the acropolis if it maintained the same alignment.

South of the acropolis are two larger platforms, Structure S3W1-1, and Structure S4W1-1, and the southernmost of these two, Structure S4W1-1 may have been located on the west side of the *sacbe* if the roadway originally ended near the acropolis. An unmapped structure and *sascabera* were observed east of this structure and it may be hypothesized that the *sacbe* to Xquerol originally ran between these two mounds.

The central acropolis itself has at least six plazas. Behind the *comisaria* is one major plaza, Plaza 1, which is the highest elevated of the plazas. It is enclosed on three sides by three range structures; Structure S1W1-1, Structure S2W1-1, and Structure S2W1-2, which all have substantial Caste War fortifications in a well-preserved state (Figure 27). These walls are sometimes up to 2 m tall and were probably constructed from stones taken from the older part of the Central Acropolis or from structures around the plaza. Traces of low and older platforms were seen beneath the Caste War fortifications, probably part of the original structures.

A large concrete "*pila*" of fairly recent date is placed in between Structure S1W1-1 and Structure S2W1-1. The southeastern part of the plaza has a 10-m-tall pyramidal structure, Structure S2W1-3, also covered with Caste War fortifications on its top (Figure 28). Some traces of low platforms surrounding a small patio on top of the pyramid may have supported perishable structures in Prehispanic times.

East of Plaza 1 is Plaza 2, situated on a lower elevation. It has a range structure, Structure S2W1-4, bordering its east side. This structure also has the remains of Caste


**Figure 25. El Santo Cristo de las Ampollas**

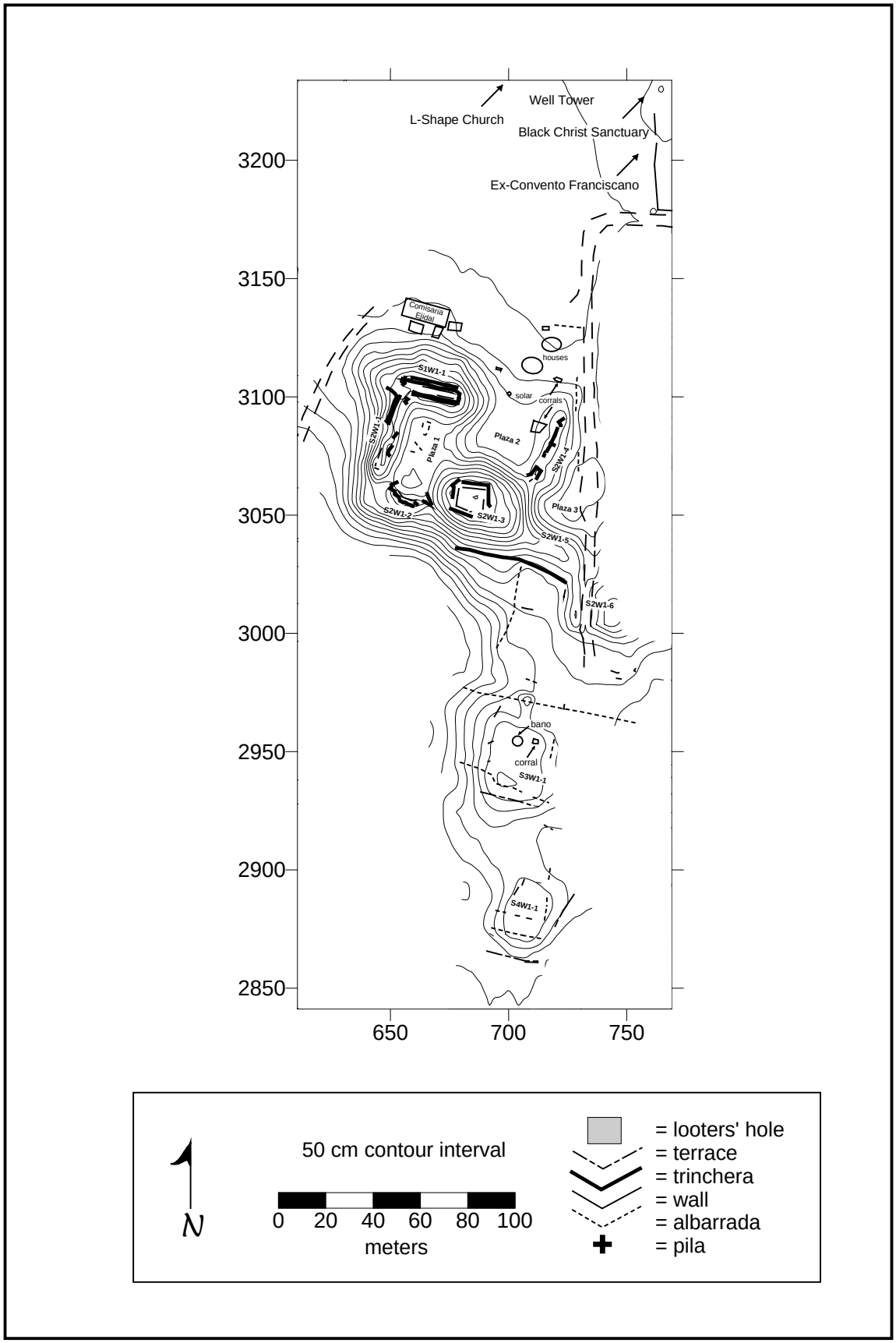



**Figure 26. Ichmul's Central Acropolis**

**Figure 27. Photo of Ichmul Caste War Fortification**

**Figure 28. Ichmul's Structure S2W1-3**

War fortifications. The southern edge of the plaza is bounded by the pyramidal Structure S2W1-3. The northern part of the plaza is open towards the Great Plaza.

Southeast of Plaza 2 is Plaza 3, on an even lower elevation, at the same level as the present ground surface. It is bounded by Structures S2W1-4 and S2W1-5. The eastern part of the plaza is lower than a nearby modern road that we believe has been constructed within the plaza area. This road cuts through Structure S2W1-6, which is a large platform set on the southernmost section of the acropolis. The road cut exposes much of the structure's dry core fill. An electric post is also jammed into the structure.

On the eastern side of this road, we did not map more than the southwestern part of the eastern section of the acropolis. However, the south side of this part of the acropolis has a long and tall range structure running east-west, bordering a plaza to the north. This plaza has range structures on all its sides. There is another plaza north of this and a small plaza is found north of this one as well. This last plaza is adjacent to a 10-m-tall pyramid, which stands in the northeastern part of the acropolis, just bordering the Great Plaza. On the northern part of this structure is the T-shaped vaulted passage that was investigated by Stromsvik and others (1955), and also visited by the CRAS project in 2003 (Figure 29). On top of the pyramid there is a platform supporting a patio with surrounding smaller platforms (0.2-0.3 m tall), with veneer stones, similar to the ones on the other pyramidal structure in the central acropolis, Structure S2W1-3. The facing wall supporting this elevated platform is the best preserved in the whole acropolis (Figure 30). There are also traces of stairways on the western and northern sides of this building.

None of the investigated structures in the eastern part of the Central Acropolis have any traces of Caste War fortifications, which partly explains the better state of preservation at this location. However, only a small portion of the eastern part of the Central Acropolis was cleared, so we only have an incomplete picture of the architecture in this area. It seems that it is longer in north-south extent than on the western part.

The western part of the acropolis is bounded to the west by the modern road to Xquerol, which enters the site on part of the lower area of the acropolis. West of this road is a large platform extending further to the west, behind a large red colonial building. The owner of the *solar* where it is located says it contained a vaulted structure that collapsed a few years ago. This may be the Puuc-style building Stromsvik and others (1955) mentioned in their report.

East of the Central Acropolis area there are several large platforms. One of the larger covers at least two *solares*. Another large structure is a platform with several traces of foundation braces to the northeast of the Central Acropolis.

A minor acropolis, the Eastern Acropolis, is located 250 m from the central gate of the white church at the Great Plaza (Figure 31). It consists of a 40-m-long and 5-m-tall range structure, laid out in a north-south direction. On its top, there is a colonial wall that runs parallel to the structure's bearing. On the structure's western side, there are two shorter range structures to the north and south of each other. They are running east-west and form a small plaza. These three structures may sit on a low and wide platform. To the northwest of these structures is a 10-m-tall pyramid which has at least two levels (Figure 33). All structures in the Eastern Acropolis are heavily disturbed by later activities.

The state of preservation at Ichmul is not good due to the impact of colonial and modern occupation and the Caste War. Therefore, this important site should be recorded to gather as much information as possible before future developments further affect what still can be recorded.

### Sites adjacent to Ichmul

Apart from the sites connected to Ichmul by *sacbeob,* there are several other sites in the vicinity of the site that may have been in daily contact with this larger site. The sites

**Figure 29. Photo of Standing Vaulted Passage Entrance**

**Figure 30. Photo of Acropolis Platform Wall**

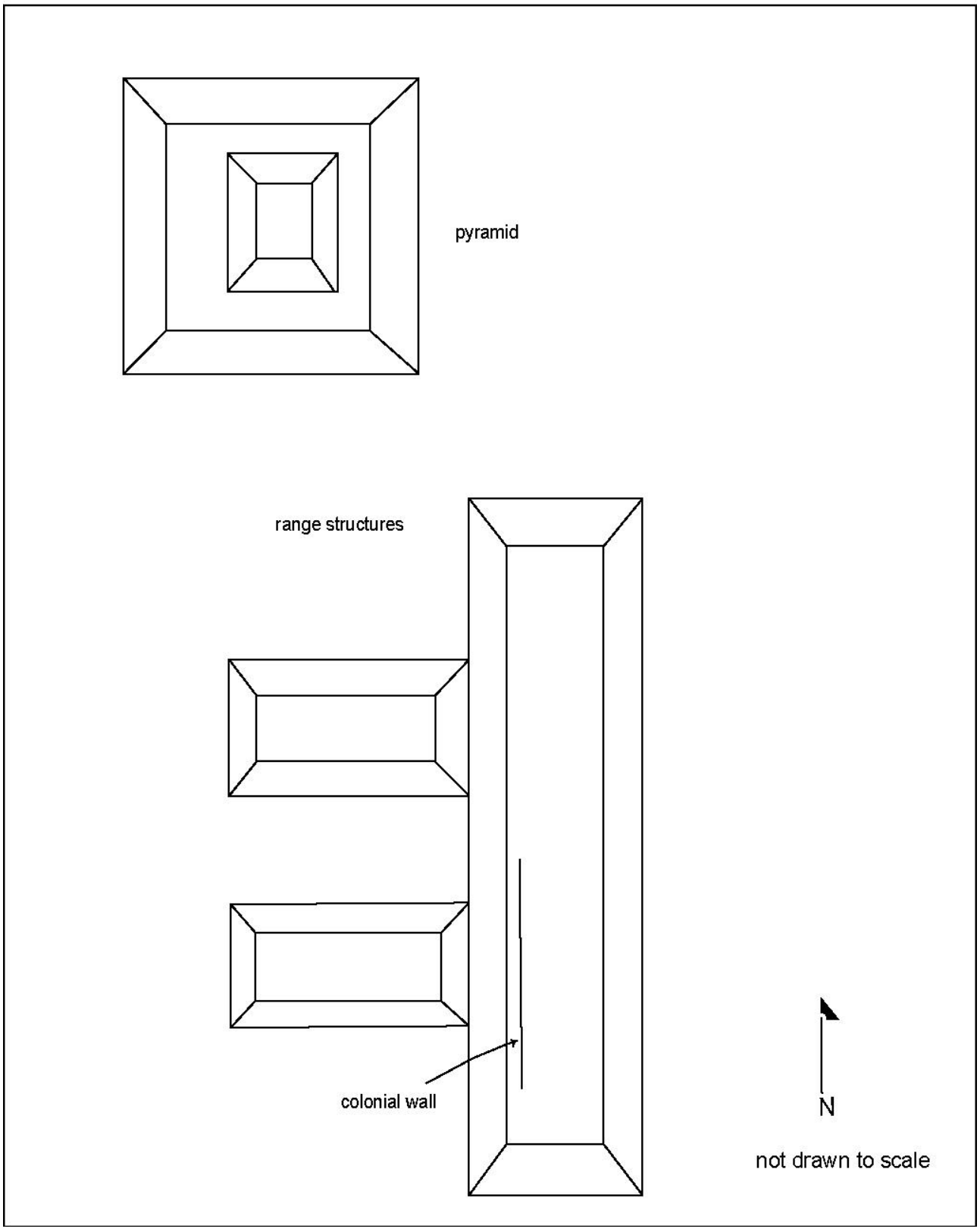



**Figure 31. Sketch Map of Ichmul's Eastern Acropolis**

mentioned below represent only sites visited in an extensive survey, places mentioned by local informants, or on the way to other locations. Two of them are also larger–than-average sites.

*Xlapak*

Xlapak lies 10.5 km north of Ichmul's Great Plaza (Figure 32), and is only reachable by a small rocky road. There is a modern settlement a few hundred meters from the ancient center. The ancient site has a large plaza area with many platforms. The eastern portion of this area is built on top of a platform which has some megalithic architecture (Figure 33). This area also has a very large *sascabera* that has collapsed, separating the largest structure, a 10-m-tall pyramidal platform with a range structure on its top, from the lower buildings to the west. The western section of the plaza area is dotted with Puuc-style colonnades and carved blocks (Figure 34).

In the center of the modern village, there is a colonial wall. In the nearby pink-colored *casa ejidal*, the villagers have set a panel, taken from the Prehispanic center, inside the modern concrete structure. The panel is heavily eroded but shows a palace scene: two persons are sitting in the right part of the panel, facing left. One of them seems to be smoking. Two other persons are on their knees in front of them. They are holding various objects; the one furthest to the left of the panel holds a bowl. All four seem to wear headdresses (Figure 35). Parts of this panel are now colored pink. The local informants mentioned a second panel that now is in Yaxcaba, the *municipio* to which this *ejido* belongs.

*Xnicteil*

Xnicteil is located on the route to Xlapak, 7.3 km north of Ichmul's Great Plaza. It is a small center at which only three possible Prehispanic structures were observed. One is in the center of the modern village, near a colonial period water trough for animals. A taller structure was located to the west and a *sascabera* could be seen near this structure. On the road to Xlapak we also saw a third platform next to the road (Figure 36).

*Calotmul*

Calotmul is located on the road between Ichmul and Peto, 10 km west of Ichmul's Great Plaza. East of the modern village, only a few meters north of the road, are two pyramidal structures, each over 10 m tall. The northern one has been severely looted but shows faced stones and not a dry core fill (Figure 37). Local informants told us about more structures and a cave with water and a possible passage. There is no *sacbe* at this fairly large site according to the locals.

*Chanmahas*

Chanmahas is a site off the road between Ichmul and Chikindzonot, 6 km northeast of the Great Plaza in Ichmul (Figure 38). It has a small pyramid, a well and some *pilas* located south of a large and deep *dolina,* a collapsed dome. At the bottom of the *dolina* there are three wooden crosses which indicate modern ritual use. There is also a large *pila* and traces of a stairway leading down to a small pool of water. Local informants mentioned a nearby *cenote*-cave, which we did not have time to visit.

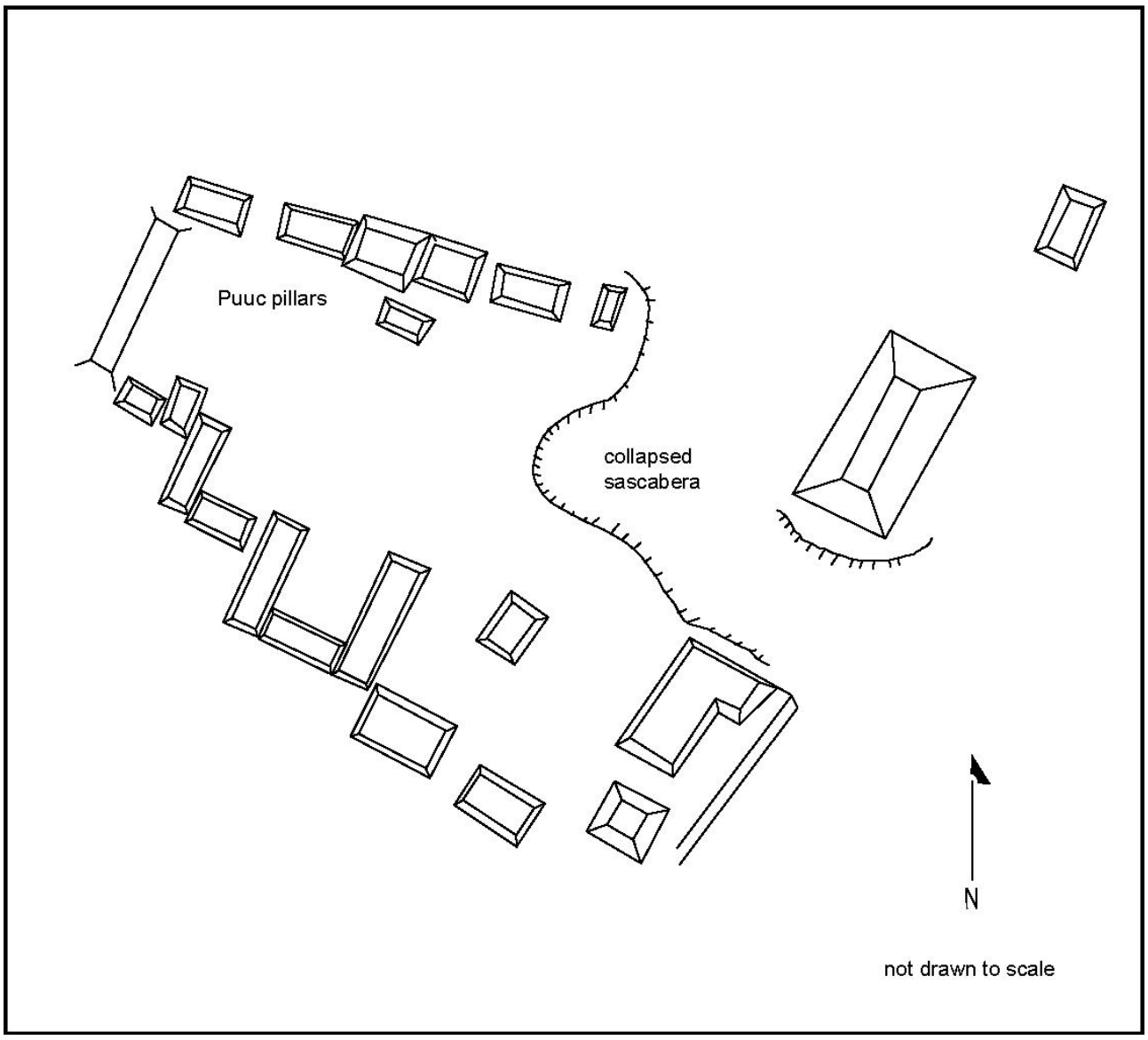



**Figure 32. Sketch Map of Xlapak**

**Figure 33. Photo of Megalithic Architecture at Xlapak**

**Figure 34. Photo of Puuc Element at Xlapak**

**Figure 35. Photo of Panel at Xlapak**

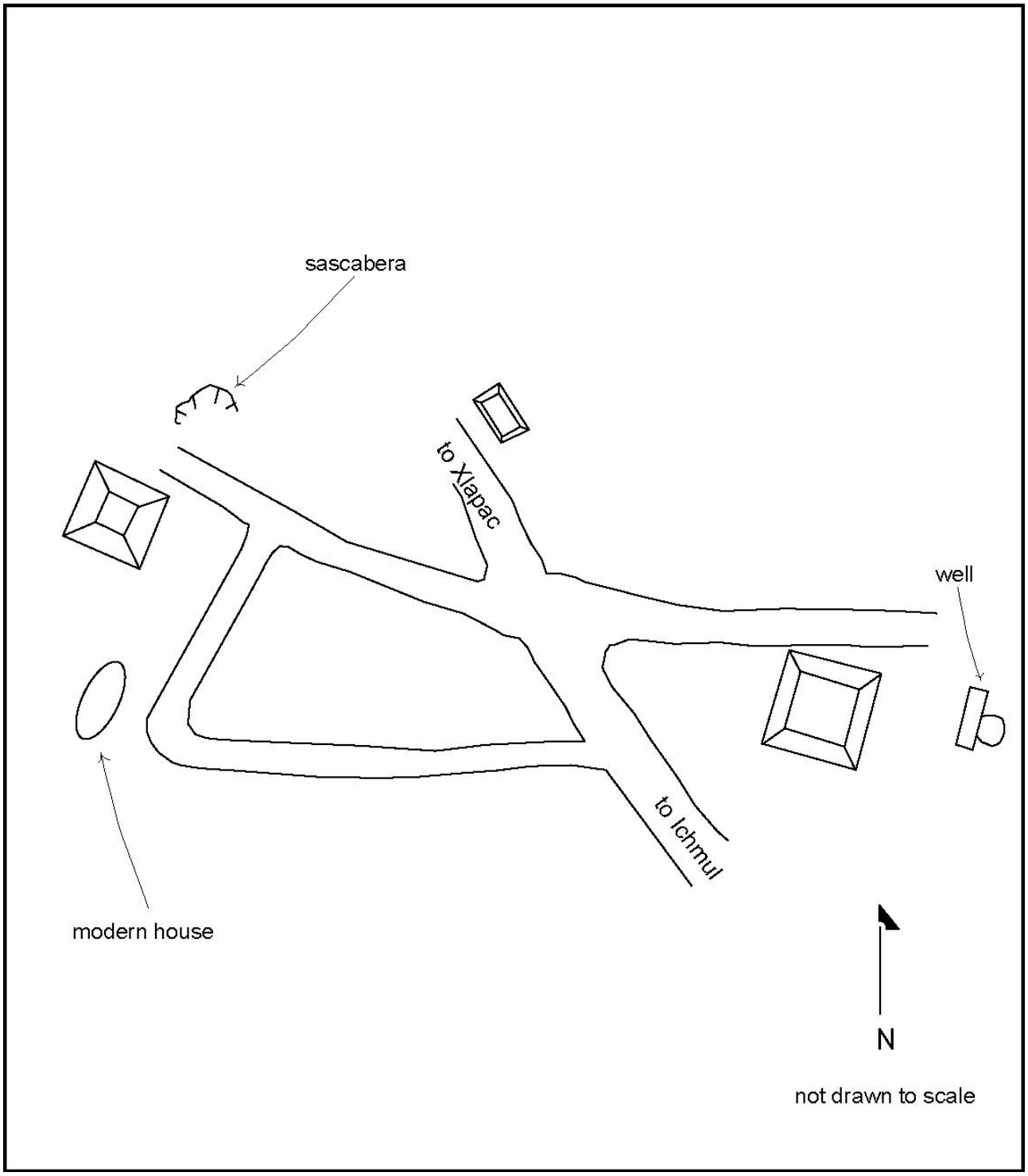



**Figure 36. Sketch Map of Xnicteil**

**Figure 37. Photo of Construction Detail at Calotmul**

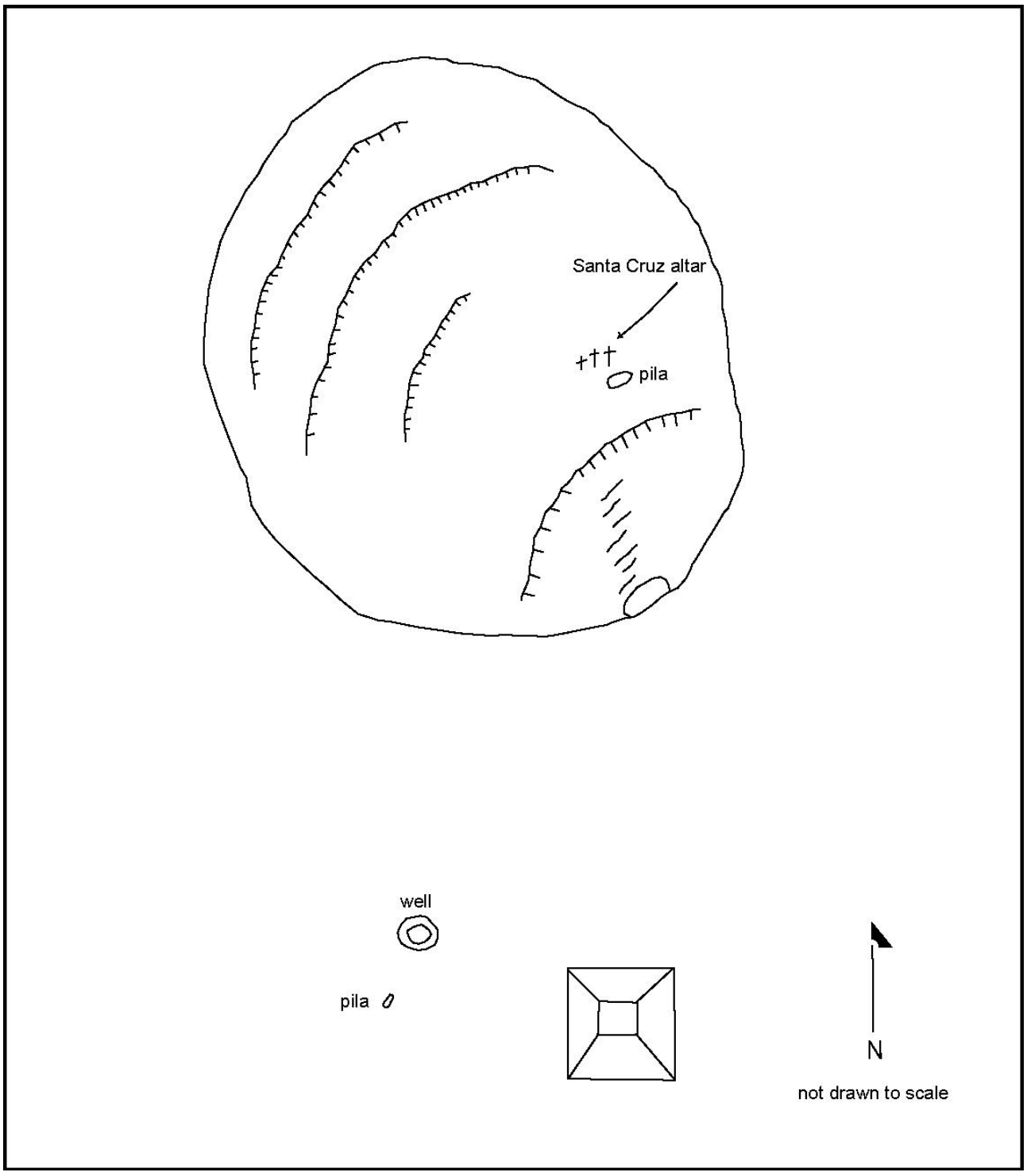



**Figure 38. Sketch Map of Chanmahas**

## All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region

Alberto Flores Colin and Johan Normark

The term *sacbe* in archaeological contexts usually refers to a raised road, or causeway. There are five known *sacbeob* at Ichmul. These connect Ichmul with the sites of Xquerol, San Andres, San Juan, San Cristobal and San Pedro (Figure 23). These *sacbeob* vary in terms of length, width, height and associated features (Table 4).

Contemporary and colonial Yucatec terminology is full of different kinds of roads (Bolles and Folan 2001; Keller 2001). However, we have decided to use only *sacbe* or *sacbeob* for practical reasons. *Sacbeob* need to be classified in an archaeological way without implying symbolical or past or present emic meanings.

Length is a good way of categorizing *sacbeob*, since it reflects the spatial extent of some form of social integration and interaction. Shaw has proposed a three-level category: local intra-site, core-outlier intra-site, and inter-site (Shaw 2001a:262). The first and most common category of *sacbeob* links major architectural groups in a high-density portion of a site core and is less than 1 km long. The length may relate to the distance that people usually traveled in a day or in ritual processions. It may also be the distance over which a certain form of political control could be exerted (Shaw 2001a:265). Only one of the *sacbeob* at Ichmul falls within this category, and that is the San Cristobal *sacbe.* Today it is 910 m long, but its original length would most likely have been greater.

The second category is between 1 and 5 km long and links peripheral loci in a less densely populated area to the core. At Ichmul, this category is exemplified by the other four *sacbeob*. The third category includes causeways more than 5 km long, which connected different sites that may have been independent, or vassals. This category has not been found in the Cochuah region, but is exemplified by the Cobá-Yaxuná *sacbe* (Benavides 1981; Folan 1983).

A problem with most classifications is that they assume the importance of overall site layout for our understanding of each single causeway. They do not take account of the timing of road and site construction. A larger causeway network may have changed over time. This is best exemplified by Caracol, which shows different periods of expansion of its extended causeway networks (Chase and Chase 1996). Other examples include Cobá (Folan 1983) and Chichén Itzá (Cobos and Winemiller 2001). We do not yet know if all *sacbeob* at Ichmul were constructed around the same time or if they mark a temporally extended expansion period. Only testpits in Ichmul and in the termini, envisioned for the 2005 season, can give us answer to these issues.

### Methods

The survey and mapping of the *sacbe* between Xquerol and Ichmul continued from where the 2003 field season had ended in Xquerol, because we were only sure of the terminus area in Xquerol. Stromsvik and others' (1955) report did not indicate where the *sacbe* might have originated in Ichmul. We decided to only clear the eastern side of the *sacbe*. A 1.5 – 2-m-wide *brecha* was cut by workers, following the course of the *sacbe*. Each 50 m, or at any obvious topographic or architectural feature, we made a transverse *brecha* to the west side of the *sacbe* to be able to map that portion as well. Workers also cleared mounds that were found near the *sacbe*. Any open areas near the *sacbe*, such as *milpas*, were also surveyed and mapped. A mapping team followed and mapped the *sacbe* with a Topcon GTS-213 and a data collector.

The other *sacbeob* were investigated by the use of hand held Global Positioning System (Garmin 12CX GPS), following a cleared *brecha* along one side of each *sacbe* (apart from San Andres where logistics made it impossible to get total coverage). Features of interest were mapped in with this GPS.

| Sacbe | Current length | Length from intersection | Bearing (from intersection / terminus) |
|---|---|---|---|
| Xquerol | 2530 | 3180 | 193 / 13 |
| San Andres | 2640 | 3050 | 162 / 342 |
| San Juan | 1650 | 2310 | 68 / 248 |
| San Cristobal | 910 | 1270 | 18 / 198 |
| San Pedro | 1100 | Intersect with San Andres 1480 | Is not lined up with the intersection / 320 |
| Total length | 8830 | 11290 | |
| Possible sixth sacbe | Aerial photo 190 | Intersect with San Andres 310 | Is not lined up with the intersection / 223 |

**Table 4. The *Sacbeob* of Ichmul**

## Ichmul-Xquerol *Sacbe*

Only a small portion of the *sacbe* between Ichmul and Xquerol had been mapped during the 2003 field season, since the major part of the *sacbe* lies in the state of Yucatan and in the *ejido* of Ichmul (for which the Project did not have permits in 2003). The final part of the *sacbe* lies within the state of Quintana Roo and in the *ejido* of Xquerol. Only four mounds were mapped at Xquerol in 2003. From last year's survey, we knew that the *sacbe* disappears when it enters the modern village of Xquerol. This can be correlated with the increased presence of *albarradas* and houses as one proceeds into the modern inhabited areas. Additionally, the modern dirt road between Ichmul and Xquerol crosscut the *sacbe* at two places, one of which is close to Xquerol, which has resulted in some quarrying for construction material.

The alignment of the *sacbe* seems to indicate an original terminus near Structure N1E1-1 in Xquerol (Figure 39). This structure is found directly north of a Catholic church, to the northeast of Xquerol's modern *plaza*. This 9–m-tall pyramid has been heavily impacted by four recent looters' holes. However, it was possible to locate what remained of a south-facing stairway, a superstructure on its rear northern side of the top, as well as a ramp or a platform that extended roughly 5 m from the northern edge of the pyramid (Shaw 2003a). Northeast of Xquerol's Structure N1E1-1 is Structure N1E1-2, a 2.5-m-tall structure lacking any *in situ* architecture on the surface. There is an *albarrada* that divides *solares* and a pig feeding area near the mound.

A large underground *sascabera* lies directly southeast of the pyramidal structure, extending under a nearby modern house that lies south of the mound. No ancient artifacts were encountered on the surface there, but it is used as a modern garbage dump and as an outlet for the house's drain. This *sascabera* probably was formed when people extracted *sascab* for the pyramid's stucco that still covers part of the structure (Shaw 2003a).

Knowledge from the preliminary surveys around the other termini that do not have modern settlement that complicates the picture strongly suggests that a plaza area existed in front of this pyramid. Only *chac luum* has been found in the solares between where the causeway ends today and the pyramid. There are no traces of *chich* or other components of a causeway. Operation 1 at Xquerol showed two major phases of construction of the plaza south of the pyramid: Late Formative and Terminal Classic (Normark 2003a). However, no secure date for the construction of the *sacbe* could be gathered from this test pit, since it was laid out on the south side of the structure, and the *sacbe* is well to the north.

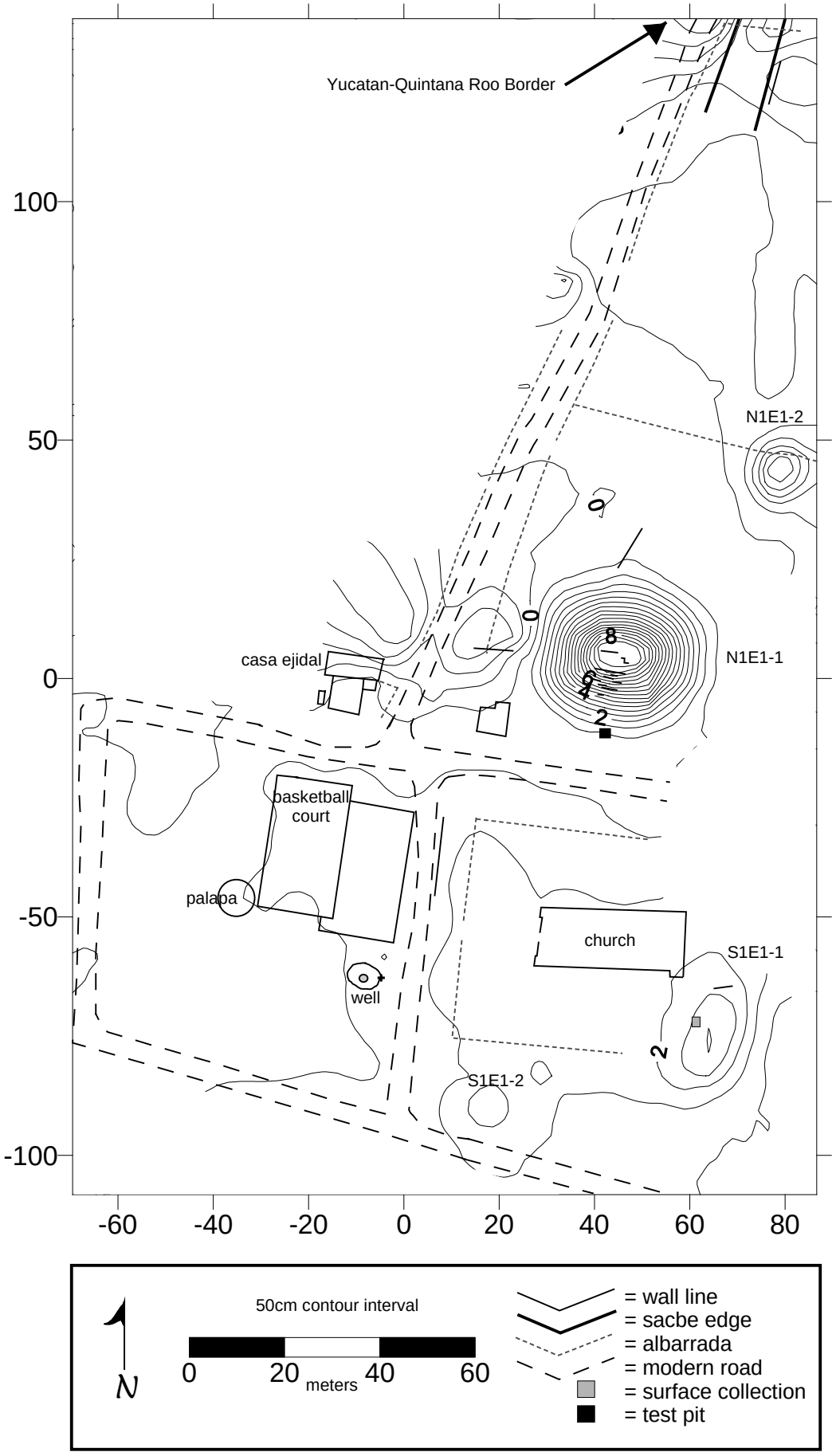



**Figure 39. Plan Map of Xquerol**

The *sacbe* is 13 m wide, one course high and 2,530 m long in its current state of preservation, following an alignment of 13 degrees east of north in a straight line from Xquerol to Ichmul (Figure 40). At some places, the *sacbe* is considerably higher, particularly at locales where the slope is in a different angle from the course of the *sacbe*. The builders apparently wanted to keep the road bed as leveled as possible. The *sacbe* runs across varied topography; the highest parts being in Ichmul, midway, and at Xquerol. *Sacbeob* usually varied on the account of the nature of the terrain, such as topography, surface conditions, hydrology, and avoidance of valuable agricultural land and accessibility of construction areas to laborers (Trombold 1991:4).

As already indicated, this *sacbe* has been more disturbed than any of the other *sacbeob* since it has modern settlement at both ends of its length and a lightly trafficked modern dirt road nearby which crosscuts parts of its course (Figure 41). Another obvious disturbance of the *sacbe* is a sheep farm which is located near Ichmul and is partially located on top of the *sacbe* (Figure 42). However, this section is one of the best-exposed portions of the *sacbe*, since it is not forested; we could therefore map this area better than elsewhere.

The cuts along the dirt road themselves give us indications of how the road was constructed (Folan 1991). Some intact portions of the *sacbe* are fairly well preserved and they do show an exterior wall line, of 0.6 x 0.8 m large, roughly cut stones. The roadbed was settled upon bedrock after soil and humus had been removed. Most *sacbeob* were built with larger stones as sidewalls, medium-sized stones in the center and *chich* stones on top. Some of the medium-sized stones formed boxes, which were filled with other medium sized stones. At no portion of the *sacbe* could we find an intact surface that may have consisted of *sascab* or plaster, although at least one *sascabera* was located within the first part of *sacbe* from Ichmul, about 20 m from the road. Because we did not have the capability to survey a wider area we do not know the extension of *sascaberas* and quarries along the *sacbe*.

In 2003, a 9-m-long step was found on the eastern edge of the *sacbe* terminus in Xquerol (Shaw 2003a). At another location, 650 m northeast of Structure N1E1-1 in Xquerol, there appear to have been steps on the west side of the *sacbe*, but these might just as well have been part of a terraced construction technique in a particularly tall section of the *sacbe*, since the height is roughly two meters on the western side. Similar features have been observed on the *sacbe* outside Puerto Morelos where Jennifer Mathews is working (personal observation).

A nearby *milpa* close to Xquerol was mapped but no structures were found. It was mainly mapped to show the lack of visible inhabited areas and possible past agricultural land that may have surrounded the *sacbe*.

Few mounds were located along the known portions of the *sacbe*. Roughly halfway between Ichmul and Xquerol, 1,275 m northeast of Structure N1E1-1 in Xquerol, on one of the highest elevated portions of the *sacbe*, there is an apsidal platform extension to the east of the *sacbe*, Structure N13E4-1. Its function or age could not be determined. This part of the *sacbe* is also one of the tallest; it is more than 4 m tall on the western side.

A platform, 30 x 30 m in extension, Structure N25E6-1, is located near the sheep farm and close to the modern road. The mound is 90 m west of the *sacbe* and is so far the only known structure near the *sacbe*, apart from the terminus.

The final known portion of the *sacbe* near Ichmul runs parallel to a 6-m-tall pyramid, Structure S7W2-1 (Figure 43). The pyramid is heavily looted on its northeastern side. The intersection between the pyramid and the *sacbe* was chosen for a test pit (see “Operation 1 at Ichmul” later in this chapter). It was not possible to see if the *sacbe* and the pyramid are separated or if they overlap. Approximately 40 m northwest of this intersection is a platform with two lower structures on its top, Structure S7W2-1, and Structure

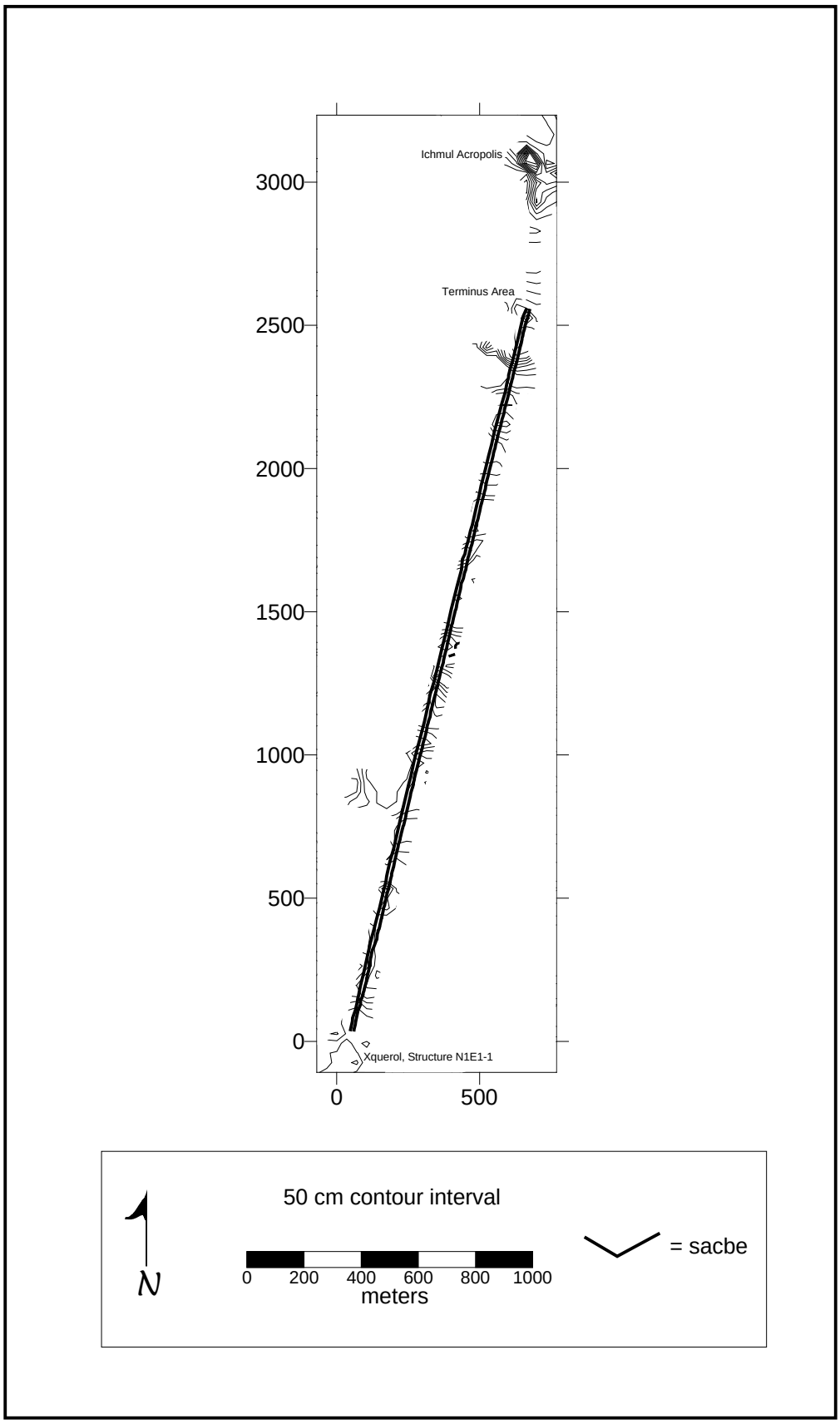



**Figure 40. Plan Map of the Ichmul – Xquerol *Sacbe***

**Figure 41. Photo of Road Cut in Ichmul – Xquerol *Sacbe***

**Figure 42. Sheep Farm Along Course of Ichmul – Xquerol *Sacbe***

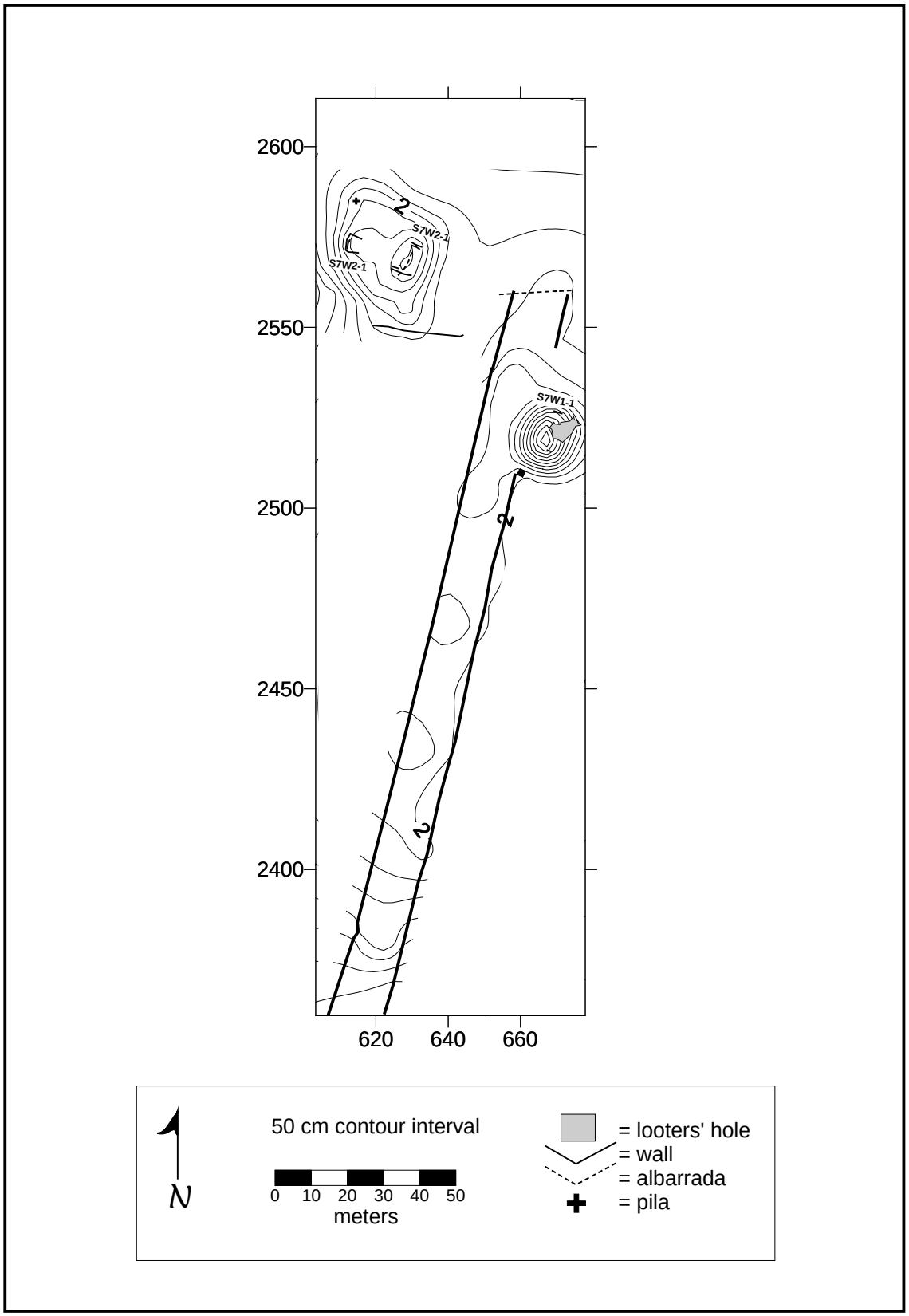



**Figure 43. Ichmul – Xquerol *Sacbe* Terminus Area at Ichmul**

S7W2-2. A *sascabera* is located near this platform. Other possible platforms are visible in the *zacate* grass.

The *sacbe* itself continues for 30 m after the pyramid until it ends. Where the last known portions of the *sacbe* disappear near Ichmul, there is also an increase in the number of *albarradas*. The final portion of the *sacbe* has an *albarrada* running along its western side. The functions and age of these stone walls have not yet been determined but they were probably used for cattle management, indicating a new colonial or modern resource and land-use and a changed economy. *Albarradas* sometimes incorporate ruins, such as *sacbeob*, in defining contemporary land rights, such as those between *solares*. This area is 450 m from the south side of the Central Acropolis. The part of the *sacbe* closer to Ichmul may also have been destroyed by the *trincheras* during the Caste War. The construction of these exterior defensive walls took place in 1847, when Ichmul was under siege (Reed 1971: 75).

**Operation 1 at Ichmul**

A permit had been obtained for one test pit at the terminus plaza of the Ichmul-Xquerol *sacbe*. However, as the survey could not find the original terminus for the *sacbe* at Ichmul, this test pit had to be placed where the final sections could be detected. Where the final end of the *sacbe* was seen, only bedrock existed, so the decision was to place the excavation to the side of the *sacbe,* in a possible plaza area between Structure S7W2-1 and the *sacbe*. Here we hoped to obtain a sealed lot that could date the nearby *sacbe*. Operation 1 at Ichmul was therefore placed in the intersection between the Ichmul-Xquerol *sacbe* and the collapsed remains of Structure S7W2-1, due to the requirements of our permit. The unit was oriented along the alignment of the *sacbe*, and was excavated following natural strata (Figure 44).

Level 1 consisted of a layer of humus, mixed with boulders of 0.3 x 0.4 m in size, as part of the collapse from the nearby structure. The stones were mixed with some *chich* stones of 0.05 – 0.1 m in size. The western part of the unit, closest to the *sacbe*, revealed a higher density of ceramics than the eastern part of the unit. The most representative ceramics on this level was Sierra Red and Chancenote Unslipped, both dating to the Formative period. The soil was dark brown.

Level 2 consisted of a dark brown layer with a high content of collapsed stones, in a fairly even distribution. These stoneswere roughly 0.3 x 0.2 m. Some of these have traces of being exposed to surface conditions, such as holes from erosion. These stones are also mixed with a significant amount of *chich*. The most common ceramics were Sierra Red.

Level 3 had a light brown and solid layer mixed with boulders of 0.3 x 0.4 m in dimensions and lots of *chich*. Chunhinta Black, Sierra Red (Formative) and Chen Mul Modeled (Postclassic) were the most frequent ceramics found in this level.

Level 4 consisted of a brown and light white soil. There were no large stones in this level, only a substantial amount of *chich*. This layer included Formative Sierra Red, and Terminal Classic Muna Slate and Yokat Striated ceramics. Below this layer was bedrock and, as a consequence, a sterile level.

Since we did not find a sealed context, such as a lot under a plastered floor, we do not have a confirmed relative date of this test pit. Most of the content in the pit came from collapsed debris from the structure and the *sacbe*. The ceramics found ranges from the Middle Formative (Chunhinta Black) to the Postclassic (Chen Mul sherds). There is also a presence of Yokat Striated and Muna Slate ceramics that suggests a Terminal Classic date as well. A tentative Terminal Classic date could be postulated to this architectural feature.

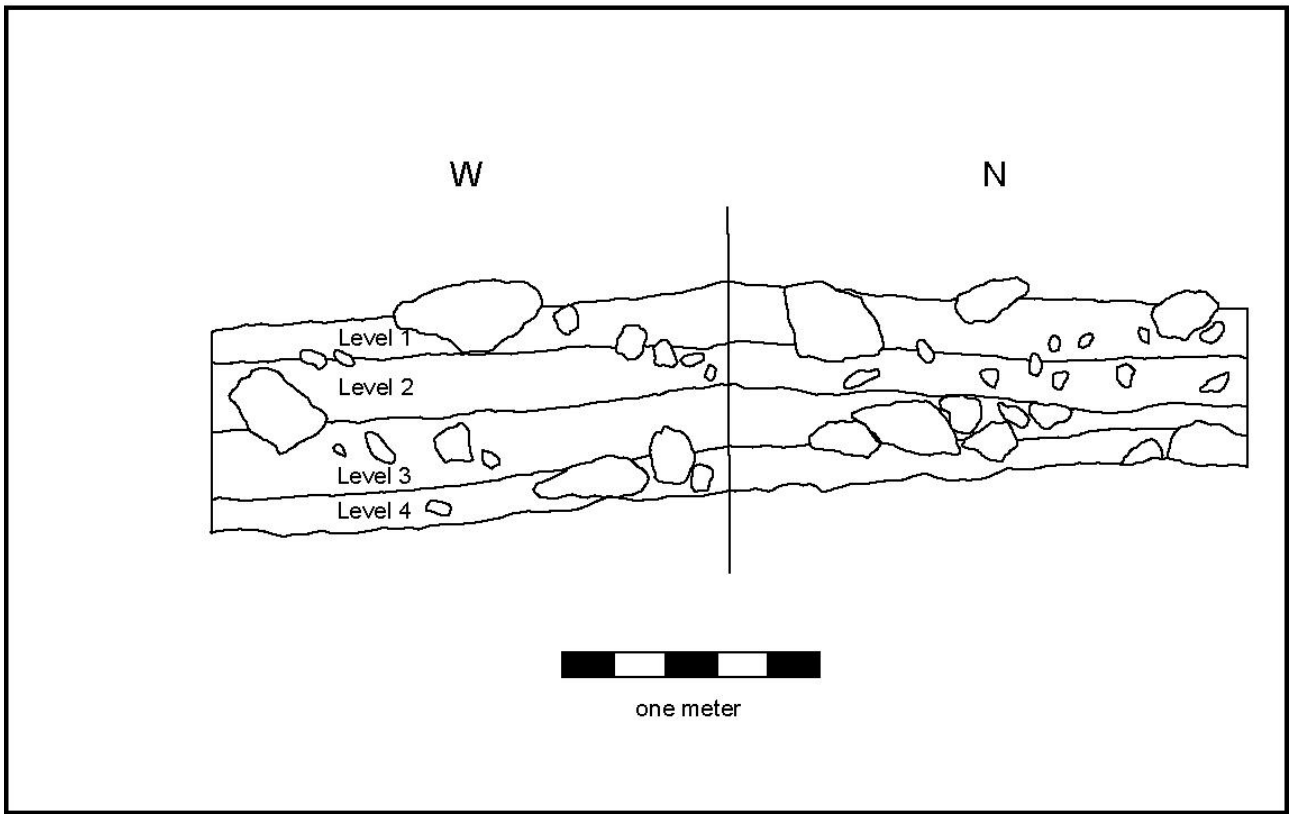



**Figure 44. North and West Profiles of Ichmul's Operation 1**

### Ichmul-San Andres *Sacbe*

From an aerial photograph, a possible second *sacbe* at Ichmul was detected before this field season. It seemed to run to the southeast from Ichmul at the bearing of 162 degrees east of north and also seemed to end near the site of Nohcacab, which in Yucatec Maya means "the large village" (Bretos 1992: 131). The CRAS project had begun work at this settlement during the 2003 season. Survey on the ground after additional information from locals located this *sacbe*. The *sacbe* ends at the southern part of the Ichmul *ejido*, at a location called San Andres, 1 km northwest of Nohcacab. Another possible *sacbe* branch was located on the aerial photograph. This may connect with the San Andres *sacbe*, about 1,650 m down the preserved section of the roadway. If it exists, it will go in a northeast direction, for about 300 m, with the bearing of 43 degrees east of north from the San Andres *sacbe*. We did not have the chance to investigate the possible existence of this *sacbe*, but judging from aerial photos, it may end in an area with depressions, much like the area at Nohcacab.

The San Andres *sacbe* shares roughly the same width, height and length as the *sacbe* to Xquerol. The *sacbe* is 2,640 m long today. Another common trend is that the terminus of the *sacbe* at Ichmul probably was not where we find it today. This area is within the modern and colonial town. Constructions for *albarradas* and houses have used the major stones from the *sacbe* and today it ends in a *solar*.

Preliminary surveys were done near the *sacbe*'s terminus in Ichmul and in San Andres. At about 160 m along the preserved *sacbe* from Ichmul, there is a large *sascabera* located approximately 20 m west of the structure. Further south, an interesting feature was encountered about 330 m southeast from its present origin in Ichmul. A long *sascabera* that once ran east-west for about 60 m had collapsed and the overlaying *sacbe* had collapsed with it, exposing a nicely preserved profile of the *sacbe* (Figure 45). Parts of the *sascabera* were still preserved (Figure 48). Local informants told us that a few years ago there had been plans to construct a modern road on top of the *sacbe*. The *sacbe* had been cleared from vegetation but once the workers reached the collapsed area, the plans were halted since filling the cut would have required substantial amount of material not available. A similar collapsed *sascabera* and *sacbe* has been found along *Sacbe* 1 at Yo'okop (Shaw et al. 2000).

The area surrounding the cut is today a *milpa*/ rancho and the lack of vegetation made it possible to view construction details, such as boxes (Figure 49). Such boxes may have been constructed by different work groups. For example, the short and unfinished *Sacbe* 4 at Yo'okop seems to have been constructed in at least two sections. This may represent either a construction pause or mean that it was constructed by at least two working parties. It is not unlikely that the causeway was constructed by the inhabitants of the two groups that were connected (Shaw 2001a: 27). A similar pattern has been found at Xunantunich in Belize (Keller 1994).

The profile of the collapsed *sacbe* reveals that the construction of a *sacbe* was similar to that of a house foundation or a platform. The ground was cleared of humus and debris down to the natural subsurface, which led to the removal of soil. Stones lined the edges and stones were graded to fine gravel on top of the causeway (Figure 46). Then ballast for a roadbed of either rock, packed soil or a mixture of soil and shell fill was laid. *Sacbeob* were then usually covered by large amounts of *sascab* or plaster (Folan 1991; Keller 1994).

The terminus area at San Andres is the most extensive one of the known parts of the *sacbe* system at Ichmul, since it forms a small acropolis (Figure 47). At San Andres, the *sacbe* runs up to a large raised plaza area. At the southern end of this plaza, 35 m south of the *sacbe* terminus, is a large structure, roughly 6 m tall, 50 m long on its east-west side and 40 m long to the north-south. The western section of the building is tallest and consists of an inner courtyard surrounded on all sides by 1-m-tall

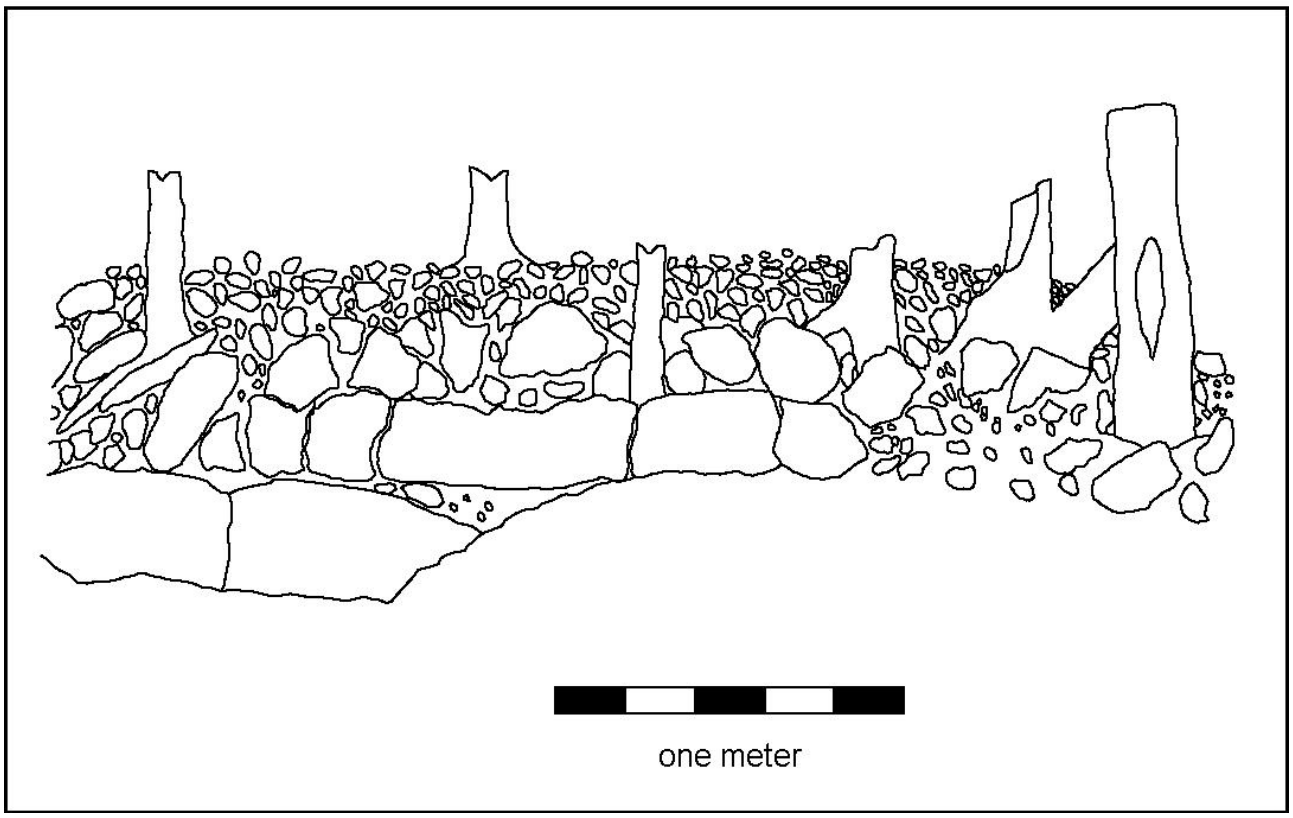



**Figure 45. Profile of Ichmul – San Andres *Sacbe* Collapse**

**Figure 46. Photo of Ichmul – San Andres *Sacbe* Edge**

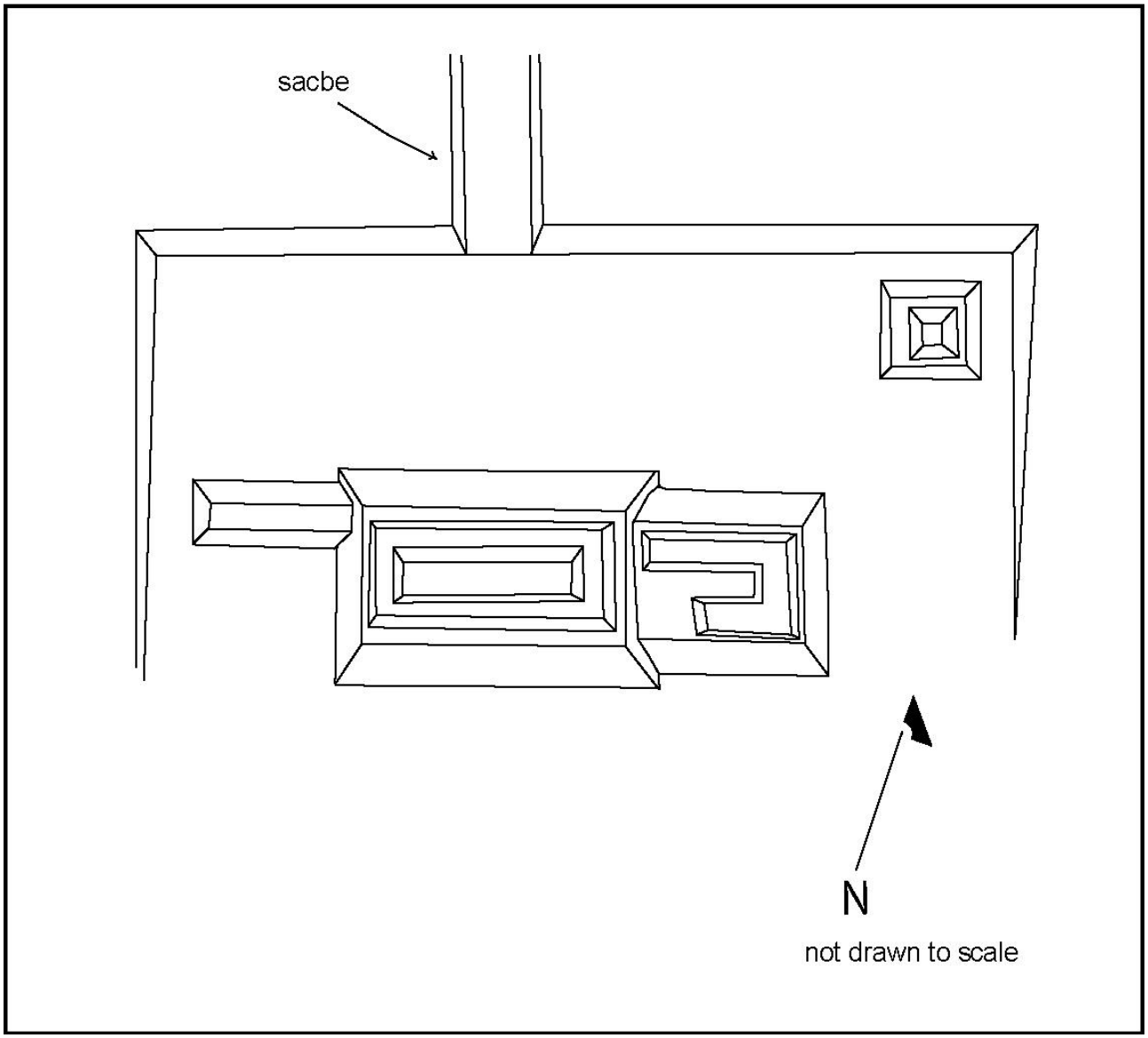



**Figure 47. Sketch Map of the San Andres *Sacbe* Terminus Area**

buildings. East of this is a slightly lower area with an inner courtyard surrounded by a lower structure on three sides. The southern side is open-ended. Attached to this major structure in the northwestern corner, is a 2-m-high and 15-m-long platform of dry core fill. Northeast of the major structure is a small, 5-m-tall pyramid. The area between these buildings is flat and may be part of the same plaza. The white church in Ichmul is clearly visible from these buildings.

Near this terminus area is a modern *rancho*. A *milpa* is located further to the south, near the road between Xquerol and Nohcacab.

In an early informal survey from the site of Nohcacab towards the area of San Andres, following coordinates approximated from the aerial photos, a continuous settlement from Nohcacab to San Andres was located. Larger structures, similar to Structure N1E1-2 in Nohcacab, were located closer to San Andres. This makes us believe that San Andres and Nohcacab were the same settlement during the Terminal Classic, perhaps part of the same "big village".

### Ichmul-San Juan *Sacbe*

The San Juan *sacbe* is similar in width and height to the two earlier *sacbeob*, but it is shorter. About 1,650 m is currently detectable which has the bearing of 68 degrees east of north. It also shares with them a lack of trace of the original terminus in Ichmul. The *sacbe* originated in the eastern part of the site where we also encountered traces of ancient, and most likely Post-contact streets, bordered by *albarradas*. We suspect, due to the increasing number of *albarradas* and the diminishing traces of the *sacbe*, that the *sacbe* was used for these later constructions.

There may be structures near Ichmul associated with the *sacbe*, but we did not have the opportunity to investigate these possible mounds. There is an extension of the *sacbe* on the southern side, not dissimilar to the one found along the *sacbe* to Xquerol, Structure N13E4-1, but it does not have an apsidal form. Near where we believe that the *sacbe* once was located, there is a large *haltun* which may have been used for storing water, and/ or for some water-related rituals (Figure 48). It may originally have been a quarry filled with water as seen at other sites in the lowlands (Scarborough 1993). Several *sascaberas* were located along the *sacbe,* which hopefully can be mapped in the future. The modern paved road between Ichmul and Chikindzonot cuts through the *sacbe* and no traces of the *sacbe* can be found within 40 m on each side. This is yet another example of reuse of the *sacbe*.

The terminus area in San Juan consists of a plaza area with one large mound, 6 m tall and 35 m long (Figure 49). It was probably a platform for a single range structure. Southeast of this mound are two smaller mounds. A local informant says there are more mounds further to the east. Northwest of the terminus area is a colonial well, a water trough, and a nicely cut rectangular stone (Figure 50). Local informants tell of a nearby structure with rooms that now has collapsed. This is probably from colonial time if it was contemporaneous with the well.

### Ichmul-San Cristobal *Sacbe*

This *sacbe* is considerably smaller than the aforementioned *sacbeob*, in width (5 m), height (one course high) and length (910 m). The *sacbe* has the bearing of 18 degrees east of north, as seen from Ichmul. As with the larger *sacbeob*, we could not find the beginning of this *sacbe* in Ichmul due to later disturbances, such as *albarradas*. Following the preserved alignment, it may have originated near one of the larger platforms at Ichmul with preserved foundation braces. Another possible origin is the Great Plaza.

The terminus area at San Cristobal (Figure 51) was located in a *milpa* and had, at the time of visit, very clear visibility. The end of the *sacbe* runs uphill and ends in a raised plaza area. There is a 6–m-tall pyramid at the northern end of the plaza.

**Figure 48. Photo of *Haltun* near Ichmul - San Juan *Sacbe***

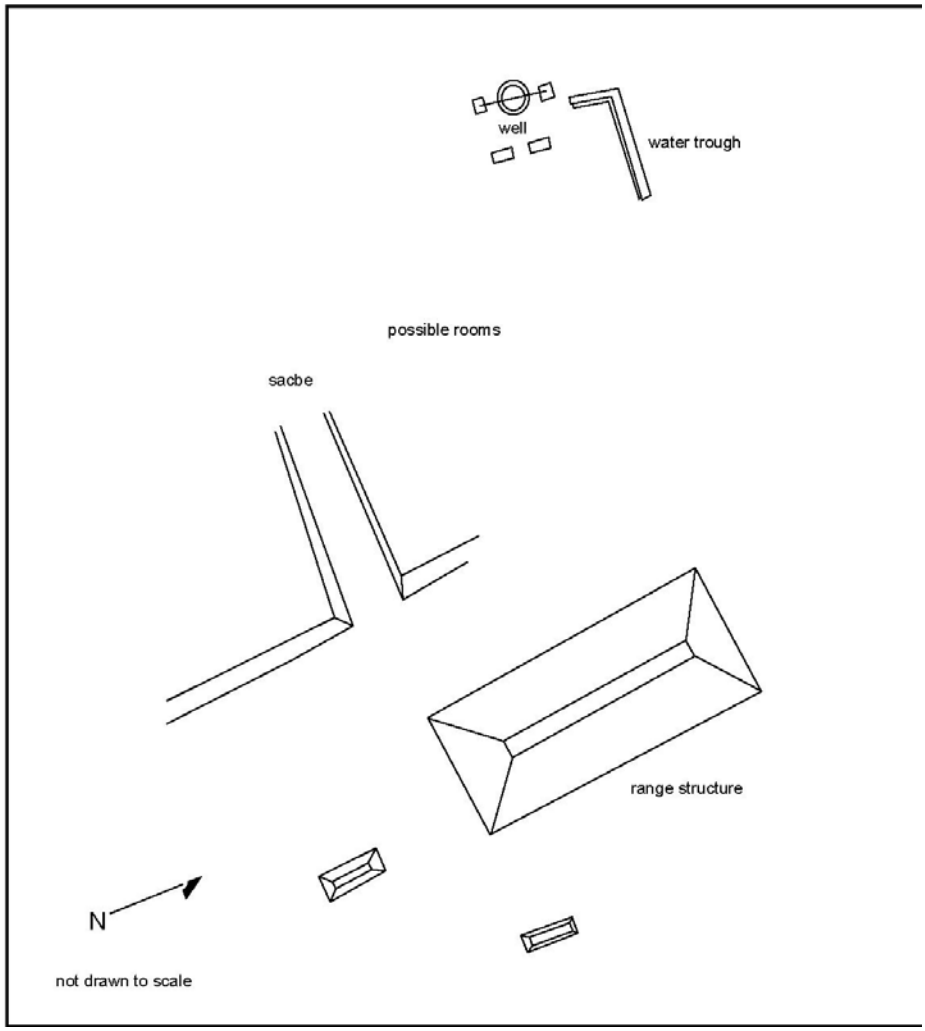



**Figure 49. Sketch Map of the San Juan *Sacbe* Terminus Area**

**Figure 50. Photo of Colonial Well Near San Juan Terminus Area**

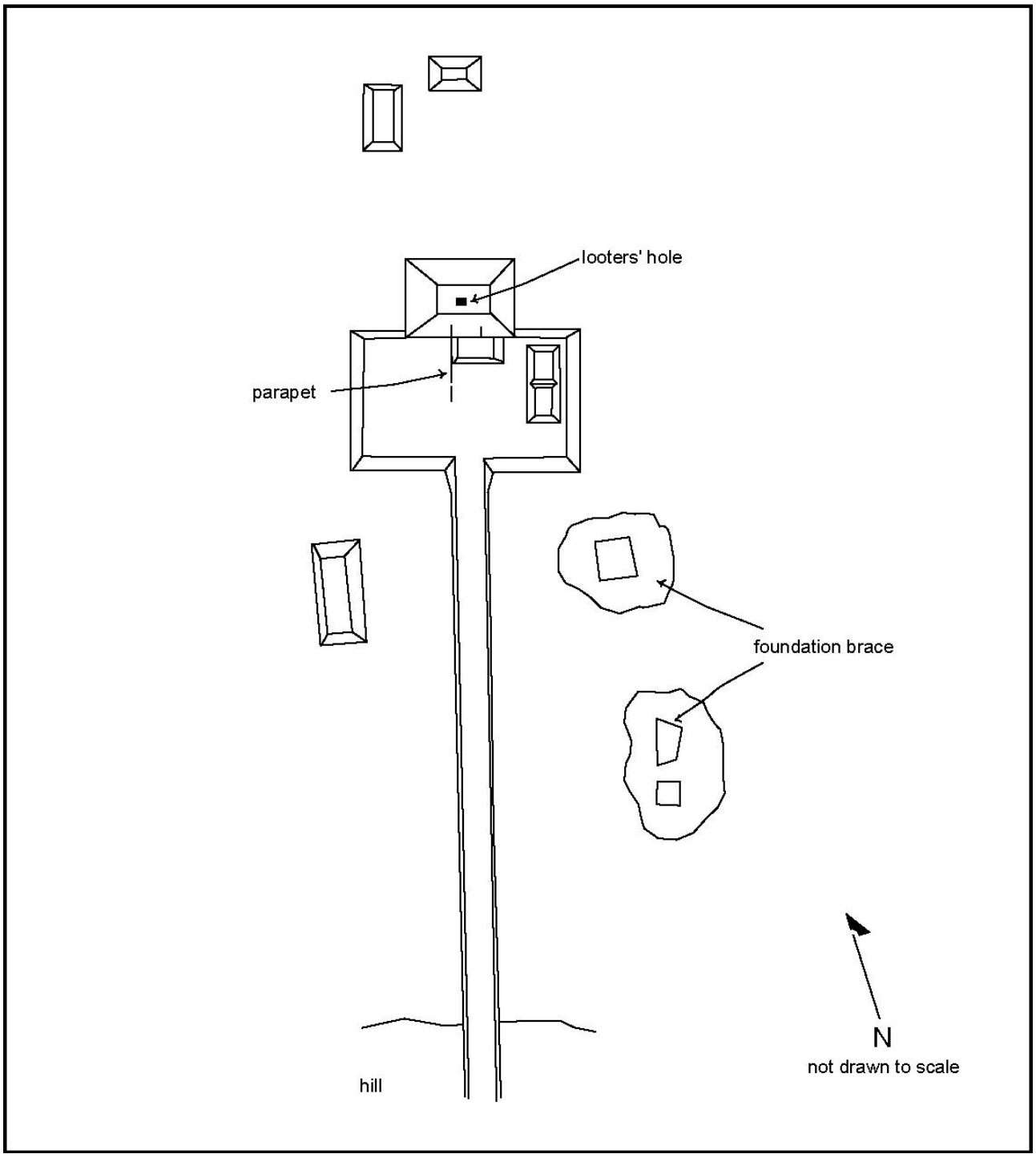



**Figure 51. Sketch Map of the San Cristobal *Sacbe* Terminus Area**

An interesting feature here is a parapet that runs down the western part of the pyramid and on to the platform. There were also some traces of a parallel parapet, particularly on the pyramid. These may have bordered a stairway, a balustrade, but its presence on the platform is unclear. There was also a minor mound in front of the pyramid.

On the small hills east and south of this area, we saw traces of foundation braces and in the perimeter of the *milpa* there was a fairly large platform. Two hundred m north of the San Cristobal terminus are at least two small pyramids. The area around San Cristobal seems to have good potential as a zone to survey for understanding settlement around a terminus. The other termini areas lack known substantial surrounding settlement.

### Ichmul-San Pedro *Sacbe*

This *sacbe* is of similar proportions to the San Cristobal *sacbe*. It is 1,100 m long in its current state. The bearing is 320 degrees east of north from the terminus in San Pedro. As with the other four known *sacbeob*, this one lacks a known terminus area in Ichmul. However, if it is traced further to the northwest, it may have been a side branch to the San Andres *sacbe*. A road cuts the *sacbe* twice and what probably was the first 380 meters of the *sacbe* is no longer visible (if it originated from the San Andres *sacbe* that is). A *sascabera* has collapsed under the *sacbe*, similar to the one along the San Andres *sacbe*, but this collapse is much smaller.

The terminus area in San Pedro (Figure 56) seems to lack a plaza and the *sacbe* ends in front of a 5–m-tall pyramid. No settlement, as found at San Cristobal, could be seen at San Pedro.

## Interpretations and Hypotheses

The *sacbeob* system at Ichmul is different from the one at the nearby large site of Yo'okop, which is of comparable size to Ichmul. The *sacbeob* at Yo'okop seems to have been constructed to connect different architectural groups, like beads on a string, and could be seen as an internal *sacbe* system, with the possible exception of *Sacbe* 2, which is 1.2 km long. This is an example of a linear and extended *sacbeob* between two intra-site groups.

Sites such as Chichén Itzá (Cobos and Winemiller 2001), Caracol (Chase and Chase 2001) and Calakmul (Folan et al. 2001) had *sacbeob* that ran off in radial directions, similar to the spokes on a wheel. It is to these large centers that the *sacbeob* at Ichmul seems to be most similar.

At Ichmul, we have *sacbeob* radiating out of a major center. If four of the *sacbeob* are traced further along their courses into Ichmul (Xquerol, San Andres, San Juan and San Cristobal), they seem to converge in the same general area, which is north of, and partly within, the white sanctuary church. The *sacbeob* at other sites like Ichmul do not so strongly originate in one single area, roughly 50 x 50 m large. This area could maybe have been the place for a Prehispanic temple. It was not an uncommon practice among the Spaniards to raise their churches on top of older temples or platforms, such as at Izamal (Quezada 1997: 142-143). Similar to the way in which colonial churches were used to layout historic Yucatecan roads, like the old road to Merida that runs from church to church, we do not believe that the actual *sacbeob*

originated at this area, only that the layout was made from there. In this case it may have been a taller structure, making it possible to lay out straight lines beyond the Central Acropolis, which at least must have blocked the view for the Xquerol *sacbe*. We do not believe that the *sacbeob* are older than the Central Acropolis as it shows traces of Early Classic architecture and ceramics and the *sacbe* to Xquerol seems to have been at least Terminal Classic in its construction date.

We suspect that this northeastern part of the plaza was once of major importance, as it was in colonial times. The many churches at the site and the presence of the Black Christ suggest an important role in the Colonial period. The Black Christ, as Esquipulas Christ, is sometimes related to trade and water (Navarrete 1999). Lothrop and Borhegyi (*idem)* think that the use of the Black Christ is a syncretic version of the Postclassic Maya trade god of Ek Chuah, the Postclassic Yucatec merchant god, who also was depicted in black colors. It is believed that Ek Chuah was God M, a god that actually did not exist in the Maya area before the Postclassic. This god was associated with cacao trade (Taube 1992:88-89). However, God M shows similarities with God L, the Classic period merchant god, which also was painted black. This aged god was also connected to the Underworld, *cenotes*, rain and lightning (Taube 1992). It is therefore interesting that there is a possible *cenote* near where the *sacbeob* intersect, from where a possible quadripartite layout once was planned, at least as late as when the *sacbeob* were built. This layout may not have existed before, during the Early Classic, or the *sacbeob* may have been laid out on top of existing trails. Perhaps Ichmul's expansion also followed an urbanization plan. One of the authors also argues for more unintended consequences of settlement changes (Normark 2004a).

It is generally believed that a site could be divided into quadrants that reflect ancient quadripartite cosmology (Mathews and Garber 2004). In the 1930s, the village of Chan Kom was said to be divided into quadrants by four roads leading inward. The perceived world, village and *milpa* were seen as squares with the four corners located in the cardinal directions and one central point. Wooden crosses were raised at four of the entrances, the corners of the village, and the center consisted of a *cenote*. In reality, there were seven paths that entered the village from no particular cardinal direction (Redfield and Villa Rojas 1962:114). These corners were visited in ritual processions. However, we should not project this cosmology too far back in time (Normark 2004b). It may be the unintended consequences of other actions, similar to what Joyce (2004) recently has argued with the earliest monumental architecture.

It has been argued that the largest sites in the Southern and Northern Maya Lowlands grew up in areas where surface water was rare, particularly during the dry season (Lucero 2002). The landscape was modified to take advantage of this resource and used it in man-made *aguadas*, *haltuns*, *chultuns* or natural *cenotes* through an intricate network of plazas, stairs, culverts and causeways. Water was used for drinking and for pot irrigation in the site cores (Scarborough 1993). Curtis and others (1996) argue that, although the Northern Lowlands are drier than the Southern Lowlands, the southern area was more severely affected by droughts since the water table lay at deeper levels and thus relied more on surface-water reservoirs. Many sites in the Northern Lowlands, with the exception of the Puuc region, had access to water through *cenotes* and lakes (Curtis et al. 1998; Shaw 2003b). Large water jars could have been

used as well to collect water (Johnstone personal communication 2004). The dependence on centralized water control may have been exaggerated in the northern area. However, water was still important in rituals and petitions for rain. The layout of *sacbeob* indicates the importance of this water.

Navarrete (personal communication 2004) says that the Black Christ sometimes is related to water features like natural wells, as was God L. Water has also been associated with the *sacbeob*. Lorenzen (2003) argues that a *sacbe* at the site of Tumben-Naranjal in the Yalahau region that connects with a Postclassic shrine near a wetland was used for water-related rituals and processions enacting the rain god Chaak's movement across the sky. According to him, the *chaakob* reside in the northwest corner of the world as part of the Yucatec cosmological plan. This particular site has *sacbeob* linking major architectural groups to water-related features such as caves, wells and wetlands (Lorenzen 1999). Several sites have *sacbeob* connected with some sort of water source. Chichén Itzá has a causeway connecting the sacred *cenote* with the Great Plaza (Cobos and Winemiller 2001). Apart from the possible central *cenote* in Ichmul, the San Juan *sacbe* passes by a large, water-filled *haltun* and the *sacbe* is in line with a dry well behind the white church (probably of Colonial origin). This *sacbe* is also heading in a northeastern direction from Ichmul.

The Great Plaza at Ichmul, the Black Christ, and the *sacbeob* may indicate that Ichmul was a major market place, at least in Prehispanic times. Being a commercial center, it may have had far reaching contacts. Such data are interesting to consider if we look at evidence found at another nearby location by the CRAS project. There is evidence for Chichén Itzá architecture and Sotuta slatewares at the site of Nohcacab, which lies close to the San Andres terminus. As earlier mentioned, we believe that these two sites are part of the same continuous settlement. The possible Chichén Itzá presence at Nohcacab breaks with the older Puuc-oriented Terminal Classic architecture and ceramics. In some recent articles (Andrews et al. 2003; Dahlin 2002), there is a speculation that Chichén Itzá survived the drier conditions (Gill 1994; Hodell et al. 2001; Hodell et al. 1995) by conquering other sites and extracting tribute, possibly creating a territorial empire. If this was part of Chichén Itzá's strategy, Ichmul, as a possible trade center, may have been one of the targets to expand their domain.

Indigenous informants told Father Ponce about the existence of many ruined buildings along the coast of the Asunción Bay. These are said to be the remains of the temples of the "lords of Chichén Itzá". Here they supposedly embarked or disembarked the cacao trade boats from Honduras (Ciudad Real 1979:329). This bay probably was part of the Cochuah province (Gerhard 1991: 64) or at least was under its control. Cochuah also had trading factories along the Ulua River in Honduras (Roys 1957:135).

Another possibility is that Ichmul and sites in its vicinity could have been influenced by a Chichén Itzá style that became widespread at this time (Schele and Freidel 1990). The data are so far inconclusive on the nature of these architectural features and ceramics. However, based upon CRAS work to date, the Postmonumental structures excavated at Nohcacab do appear to be quite unusual for the region.

There are no known roads to the west and northwest of Ichmul. This absence could be explained by the presence of other centers in that area, such as Calotmul and Xlapak, which could have had political, social, or religious influences of the layout of the *sacbeob* at Ichmul. However, the modern paved road that goes to the west from the

Great Plaza in Ichmul could have been constructed on an older *sacbe*. So far, there is no evidence to support such a hypothesis. Such a *sacbe* would not have aligned very well with the white church/cenote.

Another political aspect of Ichmul is its role around the time of the Spanish conquest. According to sixteenth century chronicles (RHGY 1983), Ichmul was the *cabecera* of the Cochuah province once it was conquered. Sometimes *cabecera* was an equivalent term to capital in the Spaniards documents (Quezada 1991:62). As a consequence, Ichmul should have been an important place since the friars chose significant locations, both religious as demographic, to settle their monasteries (*idem* 1997:131-134). Due to the Spaniards' congregation policy, we do not know for certain the exact location of several towns. Postclassic Ichmul may have been located elsewhere, which still could be in the vicinity. The small nearby site of Nohcacab has traces of several Postclassic shrines and altars (Normark 2003b), but this is not enough to say that Postclassic Ichmul was located in Nohcacab. However, no Postclassic architectural remains have so far been detected in modern Ichmul. If there was a major Postclassic temple at Ichmul it may have been located where the white church is located today or the site was just an important pilgrimage site with little Postclassic settlement. As the last major period of occupation at Ichmul, these would have been the first to be destroyed by/ for Caste War constructions.

Earlier studies of *sacbeob* have also focused upon the centralization and decentralization of political economy. In some cases, *sacbeob* have been critical for maintaining a centralist approach to at least larger centers such as Caracol (Chase and Chase 2001). In such models, it is argued that an expanding center connected outlying smaller centers to its economical and political sphere by constructing *sacbeob*. Some of these may also have been used to maintain control of the flow of goods (Benavides 1981). This layout may also reflect social organization such as *barrios*, lineages or "houses" (Gillespie 2000). Since it may be possible that a *sacbe* connected to one lineage rather than the royal power, *sacbeob* can also be indicators of decentralization. The *sacbeob* at Ichmul might just as well have been constructed from the hinterland to the center. However, since four of the *sacbeob* seems to originate in one place, it is probably more likely that the *sacbe* system indicates some sort of centralization in the Great Plaza/Central Acropolis area.

So far, no ballcourt has been found in Ichmul. Causeways and ballcourts have been used to indicate the integration and centralization of larger and factional populations, whereas ancestral shrines have been seen as the resistance to such centralizations (Fox and Cook 1996). *Sacbeob* have been seen by some as cooperative structures through which communication between sites were facilitated. In this way, causeways may have maintained a uniform identity as they integrated the population (Chase and Chase 2001:280). Some of the termini structures may have been ancestral tombs for some important lineage or perhaps the burial chambers for different rulers. The *sacbeob* may therefore indicate some sort of parental or kinship relationship which reflects an overall social organization (Kurjack 1977). It may be that the mounds at Ichmul contain vaulted burial chambers as the sixteenth century people mentioned (Ciudad Real 1979: 328-329). Or maybe they were just referring to the presently known vaults in the Central Acropolis.

*Sacbeob* united some places, but they also distanced and separated other places and people. Kurjack and Andrews (1976) argue that *sacbeob* were a form of boundary maintenance and may therefore have been a response to political or military threats. Long and wide, inter-site causeways, such as those at Chichén Itzá or Caracol, extended to smaller sites. These large cities were centers of large political entities and the causeways may thus be indications of political and/or martial use (Freidel et al. 1993; Hassig 1991). This could have been a secondary function at Ichmul.

Boundary maintenance was frequently related to land and water rights. *Yax chibal uai ti lum*, "first founding lineage of the land", reflects the very idea of land rights in the Yucatec area. Land close to houses was also close to the ancestral tombs. The largest buildings were the ones built on older buildings in the Maya area (McAnany 1995:65, 97), manifesting an ancestral connection.

Causeways could also function by setting up certain limits and *barrios* within a site. If some *sacbeob* functioned like Aztec royal causeways did, where only certain people could have walked or been carried (Hirth 1991:212-214), a long *sacbe* could have been an obstacle and boundary for commoners or others not allowed to travel on the causeway, at least at certain times, such as festivals. Once the causeways had been laid out, they governed further construction projects, causing constraints for later practices (Normark 2004a).

Today, processions are made to mark the limits of the land that the lineage or the town owns. Among the modern highland Kiché, ritual processions and visits to different sacred places where the ancestors' "sleep" takes place according to a calendar order (Tedlock 1992). The Lowland kings were probably involved in similar, ritualized, framing activities in which property boundaries were marked off. The hieroglyphic stairway at Seibal indicates that Ruler 4 of Dos Pilas went through a ritual route to establish boundaries by performing a ritual at Seibal and two days later at Tamarindito (McAnany 1995:87-90). *Sacbeob* and less formal roads were probably used for such activities. Reese argues that in the planning of the Late Formative site of Cerros, structures and causeways were arranged so that transitions from one place to another took place at a single performance venue where rituals dramatized the creation story by moving between mythical points/places (Reese 1996:173-181). Such places were also most likely associated with land rights and it should be possible that the *sacbeob* at Ichmul had such a function.

Agricultural resources may thus have been another reason for joining different segments of society and architecture. Southeast of San Andres, we have the extensive settlement of Nohcacab that is located around several depressions, which elsewhere have been argued to be good for agriculture since it maintains soil and moisture (Kepecs and Boucher 1996). No other form of desirable resources has been located within the investigated area. Classic period farming in the Lowlands consisted of several different techniques. House gardening, short-fallow infield, long-fallow outfield, terraces, dams, canals, raised fields and drainage systems have all been found at different sites. The variability depended upon climate patterns, the parent material of the soil, workability, root zone, drainage, slope and erosion (Fedick 1995). However, it has been argued by some researchers that, since the agriculture in the Lowlands included a mixture of techniques in small units adapted to eco-niches, this would argue against centralized management (Demarest 2000). It was important to have several

non-contiguous plots in different edaphic places to minimize risks, such as powerful local rain (McAnany 1995:79). Farmsteads were dispersed, since they utilized fields between the households (Drennan 1988). Numerous, small, storage facilities, rather than a few large or centralized ones, may be the explanation for the weakness of Late Classic political formations (Tourtellot 1993:223). However, Nohcacab may have been a specialized agricultural society due to its depressions. The branch of the San Andres *sacbe* also appears to lead to a similar sort of place; it and Nohcacab are the only nearby places on the aerial photos that display these kinds of depressions.

Some researchers believe that intensified agriculture such as kitchen gardens and nearby infields close to the household, was the general form of agriculture (Tourtellot 1993:222). High phosphate levels in vacant spaces around house mounds in the hinterland of Xunantunich may be indications of this kind of agriculture (Robin 1999). The largest tracts of open spaces and fertile soil at Sayil were close to the elite houses. Small garden plots were probably owned by commoners (Smyth et al. 1995:339-341). This kind of agriculture may have been practiced in the flat areas at Yo'okop, since the settlement reflects a "garden city" pattern (Johnstone 2002:11). At Nohcacab, houses lie concentrated on bedrock and agricultural areas are usually free from cultural material remains.

Cosmological aspects of *sacbeob* have been discussed by several authors (Bolles and Folan 2001; Folan 1991; Keller 2001). Of major importance to contemporary Yucatec Maya seem to be the *Kusam Sum* or other mythical roads. Local informants in Ichmul told us about a mythical road which connects the T-shaped vaulted passage in the eastern part of the Central Acropolis in Ichmul with Yo'okop. Yo'okop is similarly said to be connected to Cobá and Chichen Itzá. This kind of mythical roads could have existed in the past as well, maybe indicating some sort of social, political or symbolic connection.

It is generally believed that a long-lasting function of a *sacbe* was to delimit sacred space or define the extent of the sacred domain. In modern rituals, cardinal locations are joined by a perimeter, which makes it possible to distinguish what is inside or outside (Hanks 1990:302). The movement of the sun usually defines these locations. Causeways aligned in certain directions may relate to the movement of rain and astronomical objects, solstices and equinoxes. These alignments may have had some significance for ceremonies related to the calendar. The Milky Way was the *axis mundi* or the world tree, which united different levels of the cosmos (Freidel et al. 1993). It is also called *saqi b'e* ("white road") by the modern K'iche' (Tedlock 1992). The contemporary Tzotzil call the Milky Way the "road of rain" (Vogt 1976).

In Classic period inscriptions, road is *bih* (Ch'olti'an). At Cobá there is also a panel with the inscription "SAK-bi-hi" (*sakbih*) (Stephen Houston, personal communication 2003). The *bih* glyph is also known as the quincunx pattern, which we also find in glyphs relating to time, such as some forms of the *k'in* glyph (Coe and van Stone 2001:47). Since *k'in* was the same as the sun, it is possible that the quincunx was associated with the sun's daily path (the ecliptic) and the quadripartite world representing the sunrise and sunset at the solstices. No known *sacbe* at Ichmul has an east-west alignment, but they may resemble the quadripartite world or be aligned to other astronomical objects (Folan 1991). Another version of the *bih* glyph is in the

shape of a footprint. Footprints are also found in other iconographical contexts in the Maya and Aztec area, relating to walking or movement (Miller and Taube 1993:113).

A causeway tied places together, but at the same time it was a place for traveling. Causeways themselves are seldom discussed; it has been more important to focus on the points they connect. In this sense, the causeway was a liminal place, between better-known and important places, but still part of the settlement. *Sacbeob* could be conceived as prolongated platforms (Kurjack 1977). As one of the authors sees the *sacbe* itself as fairly neglected, he wishes to emphasize another aspect of *sacbeob* that can be investigated. This is the notion of polyagency (Normark 2004a, b, c). Polyagency is the causal capabilities of anything material or immaterial, so called polyagents. The above-mentioned hypotheses derive from a humanocentric perspective, meaning that archaeological hypotheses are derived from a human, cultural, or social perspective when archaeologists actually only have material remains as their primary objects of study (Normark 2004c). Polyagentive archaeology sets the material remains of today in the center rather than an unknown and invisible human agent of the past.

Here a biography of *sacbeob* can be useful to see what effects the layout of *sacbeob* have on later settlement, to see unexpected outcomes of human behavior and other material relations (Normark 2004a). A good example is the collapsed *sascabera* under the San Andres *sacbe*. This collapsed area actually changed the plans of transforming the *sacbe* into a modern dirt road. However, in most cases, the *sacbeob* have been used for construction material for other constructions. Some Yucatec Maya causeways may have been used by the Spaniards and may be the foundations of colonial and modern causeways, which may explain why so few regional causeways are known (Shaw 2001a:262). The Spaniards tended to distinguish between roads (*brechas*) and causeways (*sacbeob*). It also seems that the Spaniards mainly followed roads, rather than causeways, since these were used for pilgrimage, at least at Izamal, as described by Landa and Lizana (Landa 1998:55, 59; Lizana 1988:56).

Years of neglect may be an answer to the question of why causeways were not reused in their original way. It is important to see how these formation processes (Schiffer 1987) continue to affect and change the present landscape. Ancient structures are important here, since they can be reused in ways not expected by the original constructors. The later disturbances of old remains need therefore not be negative; they give us opportunity to see the way in which objects form our actions and later discursive fields.

As our investigation is in a preliminary stage, we cannot conclude anything for certain. Research in the future, such as more test pits and an extensive survey with a total station, should help us to confirm or reject our current hypotheses as we will have a better knowledge of the internal and external relations at Ichmul, the city among mounds and *sacbeob*.

## Ceramic Report from Ichmul and Nohcacab

Dave Johnstone

### Ichmul

A small ceramic sample (Table 5) was obtained from collapse debris adjacent to Ichmul's Sacbe 1 (see "All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region" this report). This sample has ceramic types that span a continuous sequence from the Middle Formative through the Postclassic periods. A great deal of mixing has occurred through the levels, with Terminal Classic sherds appearing throughout the deposit, and Postclassic *incensario* sherds occurring in the middle two levels. Unfortunately, the ceramic sample from each period was too small to permit adequate comparisons with other sites in the region.

### Nohcacab

The 2004 field season at Nohcacab had a number of foci, including areal excavation of structures, the testing of a midden, and an additional two plaza excavations. While all of the locations chosen for excavation were picked with an eye towards targeting Terminal Classic loci, ceramic material from other periods was also recovered (Table 6; Figures 52-56).

In contrast to Ichmul's small sample, the ceramic sample recovered from this season was rather large. Seventy lots from five operations yielded a total of 15,493 sherds of which over half were identifiable to the level of the ceramic type (Smith et al. 1960). As the number of sherds from Nohcacab is over three times that of Yo'okop, the inferences that can be drawn from the data are stronger.

The 2003 Nohcacab test pit, Operation 1 (Johnstone 2003), only permitted the establishment of five ceramic complexes for Nohcacab, with ceramic material from the Early and Late Classic Periods virtually absent. Four additional localities from other parts of the site have furnished enough sherds from these time periods to verify the presence of occupation at Nohcacab during these periods. This is not to say that we have as yet encountered any deposits dating to the Early or Late Classic periods, but rather, have found ceramic materials in sufficient quantities to deduce their existence at other portions of the site. Reworking of some of these deposits has resulted in some of this material being incorporated into later constructions. The ceramic complex dating to the Early Classic is called the Ch'omak complex, while that dating to the Late Classic is called the Keh complex.

The Ch'omak complex is quite similar to Yo'okop's Ixchel complex (Johnstone 2002b), dominated by Xanaba Red and having high proportions of imported polychromes from the northeast plains (Tituc) and from Belize (Dos Arroyos). Both can be included in the Xculul ceramic sphere including sites like Yaxuna, and Komchen (Johnstone 2001).

During the Late Classic, Nohcacab's Keh Complex is also quite similar to that of Yo'okop, with high frequencies of a locally produced redware (Arena) and a suite of striated types from the Caribbean coast. High frequencies of Peten Polychrome (Saxche) pottery suggest an important inland trade route passing through the region.

In addition to the new complexes, the Middle Formative Chi'ik complex is now sufficiently large to permit comparison with other sites. While possessing many of the types present in the Komchen sphere (Ball 1978), like Yaxuna (Johnstone 2001), Nohcacab does not have a strong Achiotes constituent. This and the high proportions of Kin Orange-red in the Northwest part of the Peninsula (Andrews 1988) may suggest that ceramically, the Middle Formative is more variable than once thought.

The forgoing revelations were an unexpected bonus, as the focus of this year's excavations was on the Terminal Classic period. Specifically, we were interested in documenting the degree and extent of Chichen influence at Nohcacab. If Chichen influence was strong, possibly through direct conquest, then it was expected that Nohcacab would have a similar ceramic signature to Chichen, and be included in its ceramic sphere. We were also interested in the relationship between "postmonumental" architecture and Chichen Itza-affiliated ceramics. To this end, we cleared and consolidated two such structures. As a control, three test pits were placed in association with an earlier Puuc style of architecture: two in plazas, and one in a midden. If the Chichen-affiliated ceramics were generally available through market exchange, it was expected that Chichen Type ceramics would be well distributed throughout the site. A more restricted distribution of Chichen ceramics might indicate Chichen residents, gift exchange, or pilgrimage. Smyth and Rogart (2004) have used "foreign" ceramics, architecture and burial practices to argue for a Teotihuacan presence at Chac, while Lincoln (1990) has used these same variables to argue against a foreign presence at Chichen Itza.

Overall, the degree of types common to the Terminal Classic Sotuta ceramic complex at Chichen Itza was low at Nohcacab. Only 3.7% of identifiable ceramics dating to the Terminal Classic were composed of types common at Chichen Itza. Thus, the site in general cannot be considered to be a part of the Sotuta ceramic sphere. Indeed, the percentage of such ceramics at Nohcacab is lower than the percentage of Puuc ceramic types found at or near Chichen Itza (Anderson 1998; Lincoln 1990).

The Chichen-affiliated ceramics are not uniformly distributed across the site of Nohcacab. At the postmonumental structures, Chichen-affiliated ceramics were higher than the site average: 5.8% of the Terminal Classic sample could be classed as types frequently found in Chichen's Sotuta complex. For the rest of Nohcacab, these same ceramics only constitute 0.4 % of the Terminal Classic ceramic assemblage. Thus, these "foreign" types have a highly restricted distribution at Nohcacab. This begs the question, why? It is possible that the two ceramic assemblages are chronologically separated, with the postmonumental architecture representing a late phase occupation following a ca. A.D. 900 collapse and/or conquest. If, however the Puuc architectural style is concurrent with the "postmonumental," then the differential architecture and ceramics could be a means of maintaining a distinct ethnicity. Those who occupied the postmonumental buildings were not exclusive users of Chichen-affiliated ceramic types, and were heavily dependent on more local ceramics. If these occupants of the postmonumental structures were Chichen émigré's, what brought them to Nohcacab? Were they governors sent to oversee tribute payments, or merchants along a trade route? These questions await further research.

## Table 5. Ceramics from Ichmul

| Type | 1/1/1 (Op/Lev/Lot) | 1/2/1 | 1/3/1 | 1/4/1 |
|---|---|---|---|---|
| Achiotes Unslipped | | | | |
| Chunhinta Black v. Ucu | | | 7 | 3 |
| Nacolal Incised | | | | |
| Joventud Red | | | | |
| Desvario Chamfered | | | | |
| Guitarra Incised | | | | |
| Dzudzuquil Cream to Buff | | | 4 | 2 |
| Tumben Incised | | | | |
| Tipikal Red on Striated | | | | |
| Chancenote Unslipped | 1 | 4 | 1 | 1 |
| Tancah Unslipped | | | | |
| Xanaba Red (LF) | | | | |
| Dzalpach Composite | | | | |
| Sierra Red | 5 | 4 | 3 | 5 |
| Laguna Verde Incised | 1 | 2 | | |
| Ciego Composite | | | | |
| Lagartos Punctate | | | | |
| Repasto Black on Red | | | | |
| Flor Cream | | | | |
| Mateo Red on Cream | | | | |
| Polvero Black | | | | 1 |
| Saban Unslipped | | | | |
| Yaxcaba Striated | | | | |
| Xanaba Red | 4 | 1 | 3 | 2 |
| Caucel Trickel on Red | | | | |
| Tituc Orange Polychrome v. Tituc | | | | |
| Balanza Black | | | | |
| Lucha Incised | | | | |
| Aguila Orange | | | | |
| Dos Arroyos Orange Polychrome | | | 1 | |
| Cetelac Fiber Tempered | | | | |
| Elote Impressed | | | | |
| Yalchak Striated | | | | |
| Maxcanu Buff | | | | |
| Hunabchen Red | | | | |

## Table 5. Ceramics from Ichmul
(continued)

| Type | 1/1/1 (Op/Lev/Lot) | 1/2/1 | 1/3/1 | 1/4/1 |
|---|---|---|---|---|
| Kanachen Black | | | | |
| Tituc Orange Polychrome v. Tituc | | | | |
| Tituc Orange Polychrome v. Bandas | | | | |
| Dos Caras Striated | | | | |
| Sacalaca Striated | | 1 | | |
| Encanto Striated v. Sacna | | | | |
| Arena Red | | 3 | | |
| Batres Red | | | | |
| Lakin Impressed | | | | |
| Muna Slate (LC) | | | 1 | |
| Sacalum Black on Slate (LC) | | | | |
| Saxche Orange Polychrome | 3 | 2 | 2 | 1 |
| Juleki Cream Polychrome | | | | |
| Chantori Black on Orange | | | | |
| Sayan Red on Cream | | | | |
| Chum Unslipped | | | | |
| Yokat Striated | 1 | 4 | 1 | 2 |
| Muna Slate | 4 | 9 | 2 | 4 |
| Sacalum Black on Slate | | 3 | | 3 |
| Tekit Incised | | | | |
| Tekit Incised v. Dzib | | | | |
| Teabo Red | | 1 | | |
| Ticul Thin Slate | | | 1 | |
| Balantun Black on Slate | | | | |
| Navula Unslipped | | | | |
| Yacman Striated | | | | |
| Chen Mul Modeled | | 5 | 3 | |
| Mama Red | | | | |
| Unidentified | 10 | 27 | 23 | 14 |
| Total sherds | 29 | 66 | 52 | 38 |

## Table 6. Ceramics from Nohcacab

| Type | 2a/1/1 (Op/Lev/Lot) | 2b/1/1 | 2c/1/1 | 2d/1/1 | 2e/1/1 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | 5 | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | 4 | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 1 | | 2 | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | 1 | 2 | | | 1 |
| Dzalpach Composite | | | | | |
| Sierra Red | 10 | 24 | 5 | 1 | 6 |
| Laguna Verde Incised | | | | | 1 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2a/1/1 (Op/Lev/Lot) | 2b/1/1 | 2c/1/1 | 2d/1/1 | 2e/1/1 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | 1 | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | 1 | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | 1 | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | 9 | | |
| Yokat Striated var. Yokat | 11 | 67 | 23 | 11 | 29 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 22 | 42 | 18 | 11 | 12 |
| Sacalum Black on Slate | 2 | 11 | 6 | 1 | 1 |
| Tekit Incised | | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | 7 | 6 | | 2 |
| Becal Incised | 1 | 1 | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | 1 | 1 | | | 1 |
| Dzitas Slate | | 12 | 12 | 3 | |
| Balantun Black on Slate | 1 | 7 | 11 | 1 | |
| Chacmay Incised | | | | | |
| Piste Striated | | | 2 | | |
| Cumpich Incised | | 3 | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | 1 | 5 | | 1 | |
| Mama Red | | | | | |
| Unidentified | 70 | 444 | 62 | 68 | 68 |
| Total sherds | 120 | 637 | 156 | 99 | 121 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2f/1/1 (Op/Lev/Lot) | 2h/1/1 | 2h/1/2 | 2h/2/1 | 2h/2/2 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | 7 | | | | 4 |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | 1 | | | | 1 |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | 1 | 3 |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | 4 | | | | 5 |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 1 | 1 | 2 | 6 |
| Dzalpach Composite | | | | | 1 |
| Sierra Red | 38 | 3 | 6 | 1 | 29 |
| Laguna Verde Incised | 4 | | | | 3 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | 1 | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | 1 | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | 1 | | | | |
| Xanaba Red | | | | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | 1 |
| Hunabchen Red | 1 | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2f/1/1 (Op/Lev/Lot) | 2h/1/1 | 2h/1/2 | 2h/2/1 | 2h/2/2 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 69 | 6 | 7 | 3 | 6 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 62 | 8 | 4 | 5 | 13 |
| Sacalum Black on Slate | 8 | | | | |
| Tekit Incised | 2 | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | 10 | | 1 | 1 | |
| Becal Incised | 1 | | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | 24 | | | | |
| Balantun Black on Slate | 14 | | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | 7 | | | | |
| Mama Red | 1 | | | | |
| Unidentified | 408 | 15 | 0 | 21 | 72 |
| Total sherds | 664 | 33 | 19 | 34 | 144 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2i/1/1 (Op/Lev/Lot) | 2i/2/1 | 2j/1/1 | 2j/2/1 | 2j/2/2 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | 1 | | 5 | 1 |
| Nacolal Incised | | | | 1 | |
| Dzocobel Red on Black | | | | 1 | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | 1 | |
| Tumben Incised | | | | 1 | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 1 | | 3 | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 1 | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 3 | 8 | | 39 | |
| Laguna Verde Incised | | 1 | | | 17 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | 4 | 1 |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | 1 | |
| Xanaba Red | | | | 6 | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | 1 | 1 | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | 1 | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2i/1/1 (Op/Lev/Lot) | 2i/2/1 | 2j/1/1 | 2j/2/1 | 2j/2/2 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | 1 | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | 1 | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 5 | 11 | 25 | 35 | 21 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 5 | 2 | 20 | 46 | 17 |
| Sacalum Black on Slate | | | 1 | 5 | 2 |
| Tekit Incised | | | | 3 | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | | 10 | 6 | |
| Becal Incised | | | | 1 | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | | 2 | | |
| Dzitas Slate | | 2 | 2 | 2 | |
| Balantun Black on Slate | | 1 | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | 1 | | | 1 | |
| Chen Mul Modeled | | | 4 | | 1 |
| Mama Red | | | | | |
| Unidentified | 18 | 35 | 154 | 214 | 105 |
| Total sherds | 32 | 63 | 219 | 379 | 165 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2k/1/1 (Op/Lev/Lot) | 2k/2/1 | 2k/2/3 | 2k/3/3 | 2k/5/3 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | 8 | | | |
| Nacolal Incised | | 1 | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | 1 | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 6 | | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 10 | | | 1 |
| Dzalpach Composite | | | | | |
| Sierra Red | 10 | 73 | 3 | 2 | 26 |
| Laguna Verde Incised | | 5 | | | 2 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | 1 |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | 2 | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | 2 | 1 | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2k/1/1 (Op/Lev/Lot) | 2k/2/1 | 2k/2/3 | 2k/3/3 | 2k/5/3 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | 2 | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | 1 | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 18 | 164 | 27 | 7 | |
| Yokat Striated var. Xquerol | | 1 | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 11 | 97 | 13 | 2 | |
| Sacalum Black on Slate | | 5 | | | |
| Tekit Incised | | 3 | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | 1 | | |
| Teabo Red | 5 | 4 | 2 | | |
| Becal Incised | | | | | |
| Ticul Thin Slate | | 3 | | | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | | 8 | 2 | | |
| Balantun Black on Slate | | 11 | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | 2 | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | 1 | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | 6 | | | |
| Chen Mul Modeled | 1 | 9 | | | |
| Mama Red | | 4 | | | |
| Unidentified | 76 | 702 | 37 | 9 | 25 |
| Total sherds | 121 | 1128 | 89 | 20 | 55 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2k/6/3 (Op/Lev/Lot) | 2k/7/3 | 2k/8/3 | 2l/1/1 | 2l/1/2 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | 5 | 1 | | |
| Nacolal Incised | | 4 | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | 1 | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | 3 | 1 | | | |
| Tumben Incised | | 1 | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | 1 | 12 | | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | 1 | |
| Dzalpach Composite | | | | | |
| Sierra Red | 18 | 33 | 5 | 3 | |
| Laguna Verde Incised | | 4 | | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | 5 | 1 | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2k/6/3 (Op/Lev/Lot) | 2k/7/3 | 2k/8/3 | 2l/1/1 | 2l/1/2 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | | | | 29 | 3 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | | | | 14 | |
| Sacalum Black on Slate | | | | | 1 |
| Tekit Incised | | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | | | 5 | |
| Becal Incised | | | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | | | | 1 | |
| Balantun Black on Slate | | | | | 2 |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | 2 | |
| Mama Red | | | | | |
| Unidentified | 30 | 48 | 13 | 125 | 5 |
| Total sherds | 52 | 114 | 20 | 180 | 11 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2l/2/3 (Op/Lev/Lot) | 2m/1/1 | 2m/2/1 | 2m/2/2 | 2m/2/3 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | 2 | 2 | 9 | | 1 |
| Nacolal Incised | | | 1 | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | 1 | | 1 | | |
| Majan Red on Cream | | | 1 | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | 1 | | | | |
| Chancenote Unslipped | | | 4 | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 1 | | | 3 |
| Dzalpach Composite | | | | | |
| Sierra Red | 6 | 34 | 83 | | 8 |
| Laguna Verde Incised | 2 | 1 | 3 | | 3 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | 1 | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | 2 | | |
| Xanaba Red | 2 | | 11 | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | 2 | | | | |
| Balanza Black | 1 | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | 2 | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2l/2/3 (Op/Lev/Lot) | 2m/1/1 | 2m/2/1 | 2m/2/2 | 2m/2/3 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | 1 | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | 1 | | |
| Encanto Striated v. Sacna | | | 1 | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | 1 | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 21 | 30 | 38 | | 17 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 33 | 44 | 38 | 3 | 36 |
| Sacalum Black on Slate | 3 | | 1 | | 2 |
| Tekit Incised | | 2 | 1 | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | 5 | 1 | 6 | | 8 |
| Becal Incised | | | | | 1 |
| Ticul Thin Slate | | | | | 1 |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | 1 | | 9 | | 2 |
| Balantun Black on Slate | | 2 | 1 | | 1 |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | 1 | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | 1 | 1 | | |
| Chen Mul Modeled | | 8 | 4 | | 11 |
| Mama Red | | | | | |
| Unidentified | 164 | 307 | 345 | 11 | 156 |
| Total sherds | 247 | 433 | 564 | 14 | 250 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | 2n/1/1 (Op/Lev/Lot) | 3/1/1 | 3/2/1 | 3/3/1 | 3/4/1 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | 1 | 1 | 1 | | |
| Nacolal Incised | | | 1 | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 4 | 9 | 10 | 1 |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 6 | 14 | 17 | 15 | 19 |
| Laguna Verde Incised | | | | 2 | 3 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | 1 | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | 10 | 7 | 11 | 1 |
| Caucel Trickel on Red | | | 1 | | |
| Tituc Orange Polychrome v. Tituc | | 1 | 2 | 3 | |
| Huachinango Bichrome Incised | | | 1 | | |
| Balanza Black | | | | | 1 |
| Lucha Incised | | | | | |
| Aguila Orange | | | | 2 | |
| Dos Arroyos Orange Polychrome | | 5 | 3 | | 1 |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | 2 | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 2n/1/1 (Op/Lev/Lot) | 3/1/1 | 3/2/1 | 3/3/1 | 3/4/1 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | 2 | |
| Sacalaca Striated | | | | 3 | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | 2 | 7 | 2 | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | 5 | 8 | 5 | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | 3 |
| Yokat Striated var. Yokat | 3 | 93 | 180 | 91 | 30 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 1 | 65 | 93 | 41 | 6 |
| Sacalum Black on Slate | | 1 | 5 | 24 | 4 |
| Tekit Incised | | 1 | 1 | 1 | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | 15 | 10 | | |
| Becal Incised | | 2 | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | 1 | | | |
| Dzitas Slate | | | | | |
| Balantun Black on Slate | | 3 | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | 1 | |
| Chen Mul Modeled | 1 | 1 | 1 | 2 | |
| Mama Red | | | | | |
| Unidentified | 32 | 197 | 176 | 85 | 39 |
| Total sherds | 45 | 421 | 523 | 302 | 108 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 3/5/1 (Op/Lev/Lot) | 3/6/1 | 3/7/1 | 3/8/1 | 3/9/1 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | 2 | | 2 | 1 | 2 |
| Nacolal Incised | | | | 1 | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | 1 | |
| Dzudzuquil Cream to Buff | | 2 | | | 1 |
| Tumben Incised | | | | | 2 |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | | | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | 4 | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 16 | 13 | 13 | 8 | 53 |
| Laguna Verde Incised | | 4 | 2 | | 10 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | 1 | | 2 | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | 1 | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | 1 |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 3/5/1 (Op/Lev/Lot) | 3/6/1 | 3/7/1 | 3/8/1 | 3/9/1 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | 1 | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | 2 | 2 | | | |
| Yokat Striated var. Yokat | 15 | 8 | 4 | | 3 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 7 | 5 | 2 | | |
| Sacalum Black on Slate | 1 | | | | |
| Tekit Incised | | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | 1 | | | | |
| Becal Incised | | | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | | | | | |
| Balantun Black on Slate | | | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 47 | 25 | 29 | 15 | 61 |
| Total sherds | 96 | 60 | 52 | 29 | 133 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 3/10/1 (Op/Lev/Lot) | 4/1/1 | 4/2/1 | 4/3/1 | 4/4/1 |
|---|---|---|---|---|---|
| Achiotes Unslipped | 1 | | | | |
| Chunhinta Black v. Ucu | | | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | 1 | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | 1 | | | | |
| Tumben Incised | 1 | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | 7 | | 4 | 2 | 2 |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 1 | | 1 | |
| Dzalpach Composite | | | | | |
| Sierra Red | 36 | 1 | | | 1 |
| Laguna Verde Incised | 5 | | | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | 1 | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | | | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 3/10/1 (Op/Lev/Lot) | 4/1/1 | 4/2/1 | 4/3/1 | 4/4/1 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | 1 | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | 1 | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | 1 |
| Yokat Striated var. Yokat | | 100 | 305 | 115 | 81 |
| Yokat Striated var. Xquerol | | 1 | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | | 80 | 154 | 52 | 19 |
| Sacalum Black on Slate | | 3 | 17 | 2 | 2 |
| Tekit Incised | | | 5 | 1 | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | 3 | 13 | 1 | |
| Becal Incised | | | | | |
| Ticul Thin Slate | | 1 | | 1 | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | | 4 | 1 | | |
| Balantun Black on Slate | | 1 | 1 | | 1 |
| Chacmay Incised | | 2 | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | 2 | 1 | | |
| Chen Mul Modeled | | 5 | | | |
| Mama Red | | 1 | | | |
| Unidentified | 28 | 159 | 177 | 26 | 7 |
| Total sherds | 81 | 364 | 680 | 201 | 114 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 4/4/2 (Op/Lev/Lot) | 4/5/1 | 5/1/1 | 5/2/1 | 5/3/1 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | 1 | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 2 | | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 2 | 8 | 4 | | |
| Laguna Verde Incised | | | | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | 1 | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | 1 | | | |
| Caucel Trickel on Red | | 4 | | | |
| Tituc Orange Polychrome v. Tituc | | 2 | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 4/4/2 (Op/Lev/Lot) | 4/5/1 | 5/1/1 | 5/2/1 | 5/3/1 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | 1 | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | 8 |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | | | | 1 |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 28 | 29 | 154 | 307 | 122 |
| Yokat Striated var. Xquerol | | | 7 | 6 | 5 |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 4 | 8 | 92 | 128 | 86 |
| Sacalum Black on Slate | 2 | 1 | 2 | 6 | |
| Tekit Incised | | | 2 | 1 | 1 |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | 1 | | |
| Teabo Red | | 1 | 4 | 6 | 5 |
| Becal Incised | | | | | |
| Ticul Thin Slate | | 4 | 1 | 3 | 2 |
| Tabi Gouged-Incised | | | 2 | | |
| Dzitas Slate | | | | | |
| Balantun Black on Slate | | | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 31 | 76 | 125 | 130 | 51 |
| Total sherds | 68 | 137 | 394 | 588 | 281 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 5/4/1 (Op/Lev/Lot) | 5/5/1 | 5/6/1 | 6/1/1 | 6/1/2 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | 1 | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | | 3 | | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 3 | | 26 | | 1 |
| Laguna Verde Incised | | | | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | 1 | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | 1 | 2 | | 6 | 7 |
| Caucel Trickel on Red | 1 | | | | 1 |
| Tituc Orange Polychrome v. Tituc | | | | | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | | | 1 | 1 |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 5/4/1 (Op/Lev/Lot) | 5/5/1 | 5/6/1 | 6/1/1 | 6/1/2 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | 1 | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | 2 | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | 1 | | | 1 |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | 1 | | | |
| Yokat Striated var. Yokat | 30 | 50 | 66 | 195 | 394 |
| Yokat Striated var. Xquerol | | | | 1 | 5 |
| Oxkutzcab Applique | | | | 2 | |
| Muna Slate | 12 | 15 | 25 | 115 | 167 |
| Sacalum Black on Slate | 1 | 4 | 4 | 3 | 25 |
| Tekit Incised | | | 1 | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | 6 |
| Teabo Red | 2 | 1 | | 2 | 3 |
| Becal Incised | | | | | |
| Ticul Thin Slate | 1 | | | | 2 |
| Tabi Gouged-Incised | | | 1 | | 1 |
| Dzitas Slate | | | | | 9 |
| Balantun Black on Slate | | | | 1 | 11 |
| Chacmay Incised | | | | 1 | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 11 | 13 | 206 | 254 | 379 |
| Total sherds | 62 | 88 | 336 | 581 | 1013 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/1/3 (Op/Lev/Lot) | 6/1/4 | 6/1/5 | 6/1/6 | 6/1/7 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | | 1 | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | 1 | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | | 5 | 5 | |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | 2 | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | | | 1 | | 2 |
| Laguna Verde Incised | | | 1 | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | | 1 | 4 | |
| Caucel Trickel on Red | | | | | |
| Tituc Orange Polychrome v. Tituc | | | | | 1 |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | 1 | |
| Dos Arroyos Orange Polychrome | | | 1 | | |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/1/3 (Op/Lev/Lot) | 6/1/4 | 6/1/5 | 6/1/6 | 6/1/7 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | 1 | 1 | 2 |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | 1 |
| Sacalum Black on Slate (LC) | | | | | 1 |
| Saxche Orange Polychrome | | | | | 1 |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 48 | 64 | 130 | 57 | 133 |
| Yokat Striated var. Xquerol | 4 | 3 | 3 | | 3 |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 41 | 57 | 66 | 5 | 63 |
| Sacalum Black on Slate | 1 | 3 | 7 | | 3 |
| Tekit Incised | | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | 1 | | 1 | |
| Teabo Red | 1 | 1 | 5 | 3 | 1 |
| Becal Incised | | | | | |
| Ticul Thin Slate | | 2 | | 1 | 2 |
| Tabi Gouged-Incised | 1 | 1 | | | |
| Dzitas Slate | | 1 | 6 | 11 | 3 |
| Balantun Black on Slate | | | 5 | 7 | 6 |
| Chacmay Incised | | | 1 | | |
| Piste Striated | | 1 | | 4 | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 120 | 107 | 229 | 159 | 156 |
| Total sherds | 216 | 244 | 463 | 259 | 378 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/1/8 (Op/Lev/Lot) | 6/1/9 | 6/1/10 | 6/1/11 | 6/1/12 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | 1 | | | 4 |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | | | | | |
| Laguna Verde Incised | | | | | |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | 3 | 2 | | | 3 |
| Caucel Trickel on Red | | | 1 | | |
| Tituc Orange Polychrome v. Tituc | 1 | | | | 2 |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | | 1 | 1 | | 2 |
| Caldero Buff Polychrome | | | | | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/1/8 (Op/Lev/Lot) | 6/1/9 | 6/1/10 | 6/1/11 | 6/1/12 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | | 1 |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | 4 | | | | 2 |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | | | | |
| Yokat Striated var. Yokat | 63 | 57 | 14 | 16 | 107 |
| Yokat Striated var. Xquerol | | | 2 | | 3 |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 36 | 21 | 4 | 13 | 71 |
| Sacalum Black on Slate | 1 | 2 | 1 | 1 | 5 |
| Tekit Incised | | 1 | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | 2 | 1 | 1 | | 2 |
| Becal Incised | | | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | 1 | | | |
| Dzitas Slate | 1 | | | | 7 |
| Balantun Black on Slate | | | | | 4 |
| Chacmay Incised | | | | | |
| Piste Striated | 1 | | | | 1 |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 83 | 49 | 7 | 7 | 88 |
| Total sherds | 195 | 136 | 31 | 37 | 302 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/2/1 (Op/Lev/Lot) | 6/2/11 | 6/3/11 | 6/4/11 | 6/5/11 |
|---|---|---|---|---|---|
| Achiotes Unslipped | | | | | |
| Chunhinta Black v. Ucu | | | | | |
| Nacolal Incised | | | | | |
| Dzocobel Red on Black | | | | | |
| Joventud Red | | | | | |
| Desvario Chamfered | | | | | |
| Guitarra Incised | | | | | |
| Dzudzuquil Cream to Buff | | | | | |
| Tumben Incised | | | | | |
| Majan Red on Cream | | | | | |
| Petjal Red on Black and Cream | | | | | |
| Tipikal Red on Striated | | | | | |
| Unto Preslipped Striated Black | | | | | |
| Chancenote Unslipped | | | | 2 | 2 |
| Tancah Unslipped | | | | | |
| Xanaba Red (LF) | | | | | |
| Dzalpach Composite | | | | | |
| Sierra Red | 2 | 1 | | 2 | 10 |
| Laguna Verde Incised | | | | | 1 |
| Ciego Composite | | | | | |
| Lagartos Punctate | | | | | |
| Alta Mira Fluted | | | | | |
| Repasto Black on Red | | | | | |
| Flor Cream | | | | | |
| Mateo Red on Cream | | | | | |
| Polvero Black | | | | | |
| Saban Unslipped | | | | | |
| Yaxcaba Striated | | | | | |
| Xanaba Red | | 2 | 1 | 10 | 9 |
| Caucel Trickel on Red | | | | 2 | 2 |
| Tituc Orange Polychrome v. Tituc | | 1 | 1 | 1 | |
| Huachinango Bichrome Incised | | | | | |
| Balanza Black | | | | | |
| Lucha Incised | | | | | |
| Aguila Orange | | | | | |
| Dos Arroyos Orange Polychrome | 4 | 1 | | 3 | 4 |
| Caldero Buff Polychrome | | | | 2 | |
| Cetelac Fiber Tempered | | | | | |
| Elote Impressed | | | | | |
| Yalchak Striated | | | | | |
| Maxcanu Buff | | | | | |
| Hunabchen Red | | | | | |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | 6/2/1 (Op/Lev/Lot) | 6/2/11 | 6/3/11 | 6/4/11 | 6/5/11 |
|---|---|---|---|---|---|
| Kanachen Black | | | | | |
| Tituc Orange Polychrome v. Bandas | | | | | |
| Dos Caras Striated | | | | | |
| Sacalaca Striated | | | | | |
| Encanto Striated v. Sacna | | | | | |
| Arena Red | | | | | |
| Batres Red | | | | | |
| Lakin Impressed | | | | | |
| Muna Slate (LC) | | | | 2 | |
| Sacalum Black on Slate (LC) | | | | | |
| Saxche Orange Polychrome | | 2 | | 1 | 1 |
| Juleki Cream Polychrome | | | | | |
| Chantori Black on Orange | | | | | |
| Sayan Red on Cream | | | | | |
| Chum Unslipped | | 3 | | | |
| Yokat Striated var. Yokat | 6 | 24 | 5 | 7 | 27 |
| Yokat Striated var. Xquerol | | | | | |
| Oxkutzcab Applique | | | | | |
| Muna Slate | 1 | 14 | | | 9 |
| Sacalum Black on Slate | | 1 | | | 1 |
| Tekit Incised | | | | | |
| Tekit Incised v. Dzib | | | | | |
| Akil Impressed | | | | | |
| Teabo Red | | 1 | | | |
| Becal Incised | | | | | |
| Ticul Thin Slate | | | | | |
| Tabi Gouged-Incised | | | | | |
| Dzitas Slate | | | | | |
| Balantun Black on Slate | | | | | |
| Chacmay Incised | | | | | |
| Piste Striated | | | | | |
| Cumpich Incised | | | | | |
| Kilikan Composite v. Cream | | | | | |
| Tumbador Incised | | | | | |
| Navula Unslipped | | | | | |
| Yacman Striated | | | | | |
| Chen Mul Modeled | | | | | |
| Mama Red | | | | | |
| Unidentified | 9 | 60 | 4 | 18 | 33 |
| Total sherds | 22 | 110 | 11 | 50 | 99 |

## Table 6. Ceramics from Nohcacab
(continued)

| Type | Total |
|---|---|
| Achiotes Unslipped | 1 |
| Chunhinta Black v. Ucu | 63 |
| Nacolal Incised | 9 |
| Dzocobel Red on Black | 1 |
| Joventud Red | 2 |
| Desvario Chamfered | 2 |
| Guitarra Incised | 1 |
| Dzudzuquil Cream to Buff | 18 |
| Tumben Incised | 7 |
| Majan Red on Cream | 1 |
| Petjal Red on Black and Cream | 1 |
| Tipikal Red on Striated | 1 |
| Unto Preslipped Striated Black | 1 |
| Chancenote Unslipped | 102 |
| Tancah Unslipped | 0 |
| Xanaba Red (LF) | 39 |
| Dzalpach Composite | 1 |
| Sierra Red | 751 |
| Laguna Verde Incised | 74 |
| Ciego Composite | 0 |
| Lagartos Punctate | 0 |
| Alta Mira Fluted | 1 |
| Repasto Black on Red | 0 |
| Flor Cream | 2 |
| Mateo Red on Cream | 0 |
| Polvero Black | 19 |
| Saban Unslipped | 0 |
| Yaxcaba Striated | 4 |
| Xanaba Red | 102 |
| Caucel Trickel on Red | 12 |
| Tituc Orange Polychrome v. Tituc | 15 |
| Huachinango Bichrome Incised | 3 |
| Balanza Black | 3 |
| Lucha Incised | 0 |
| Aguila Orange | 3 |
| Dos Arroyos Orange Polychrome | 36 |
| Caldero Buff Polychrome | 2 |
| Cetelac Fiber Tempered | 0 |
| Elote Impressed | 0 |
| Yalchak Striated | 0 |
| Maxcanu Buff | 3 |
| Hunabchen Red | 2 |

## Table 6. Ceramics from Nohcacab

(continued)

| Type | Total |
|---|---|
| Kanachen Black | 0 |
| Tituc Orange Polychrome v. Bandas | 2 |
| Dos Caras Striated | 6 |
| Sacalaca Striated | 12 |
| Encanto Striated v. Sacna | 1 |
| Arena Red | 21 |
| Batres Red | 0 |
| Lakin Impressed | 0 |
| Muna Slate (LC) | 6 |
| Sacalum Black on Slate (LC) | 1 |
| Saxche Orange Polychrome | 35 |
| Juleki Cream Polychrome | 0 |
| Chantori Black on Orange | 0 |
| Sayan Red on Cream | 0 |
| Chum Unslipped | 21 |
| Yokat Striated var. Yokat | 3844 |
| Yokat Striated var. Xquerol | 44 |
| Oxkutzcab Applique | 2 |
| Muna Slate | 2156 |
| Sacalum Black on Slate | 182 |
| Tekit Incised | 26 |
| Tekit Incised v. Dzib | 0 |
| Akil Impressed | 10 |
| Teabo Red | 164 |
| Becal Incised | 7 |
| Ticul Thin Slate | 24 |
| Tabi Gouged-Incised | 13 |
| Dzitas Slate | 123 |
| Balantun Black on Slate | 92 |
| Chacmay Incised | 4 |
| Piste Striated | 11 |
| Cumpich Incised | 3 |
| Kilikan Composite v. Cream | 1 |
| Tumbador Incised | 1 |
| Navula Unslipped | 0 |
| Yacman Striated | 14 |
| Chen Mul Modeled | 64 |
| Mama Red | 6 |
| Unidentified | 7315 |
| Total sherds | 15493 |

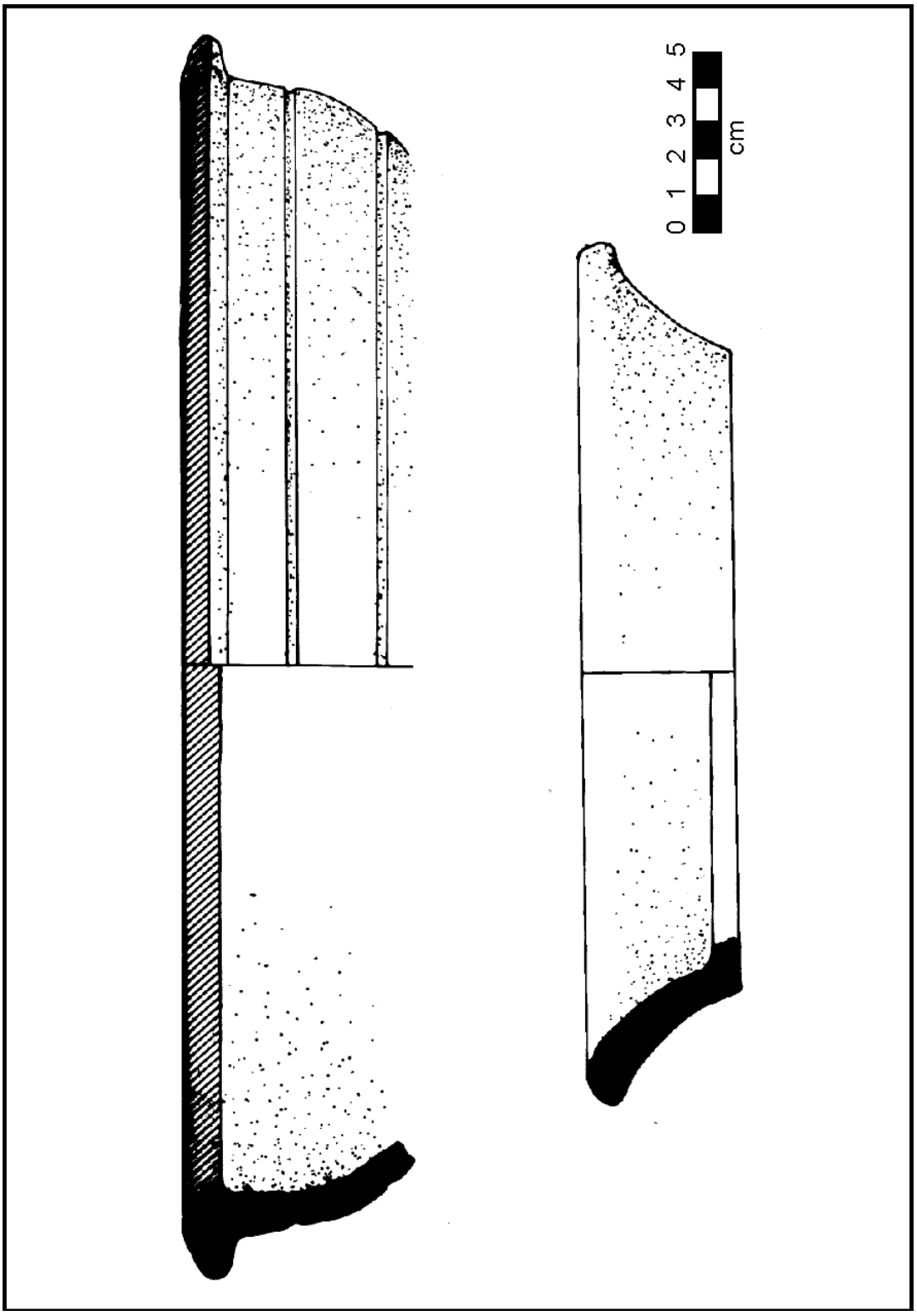



**Figure 52. Formative Ceramics from Nohcacab: (top) Petjal Red on Black and Cream var: Incised and (bottom) Sierra Red**

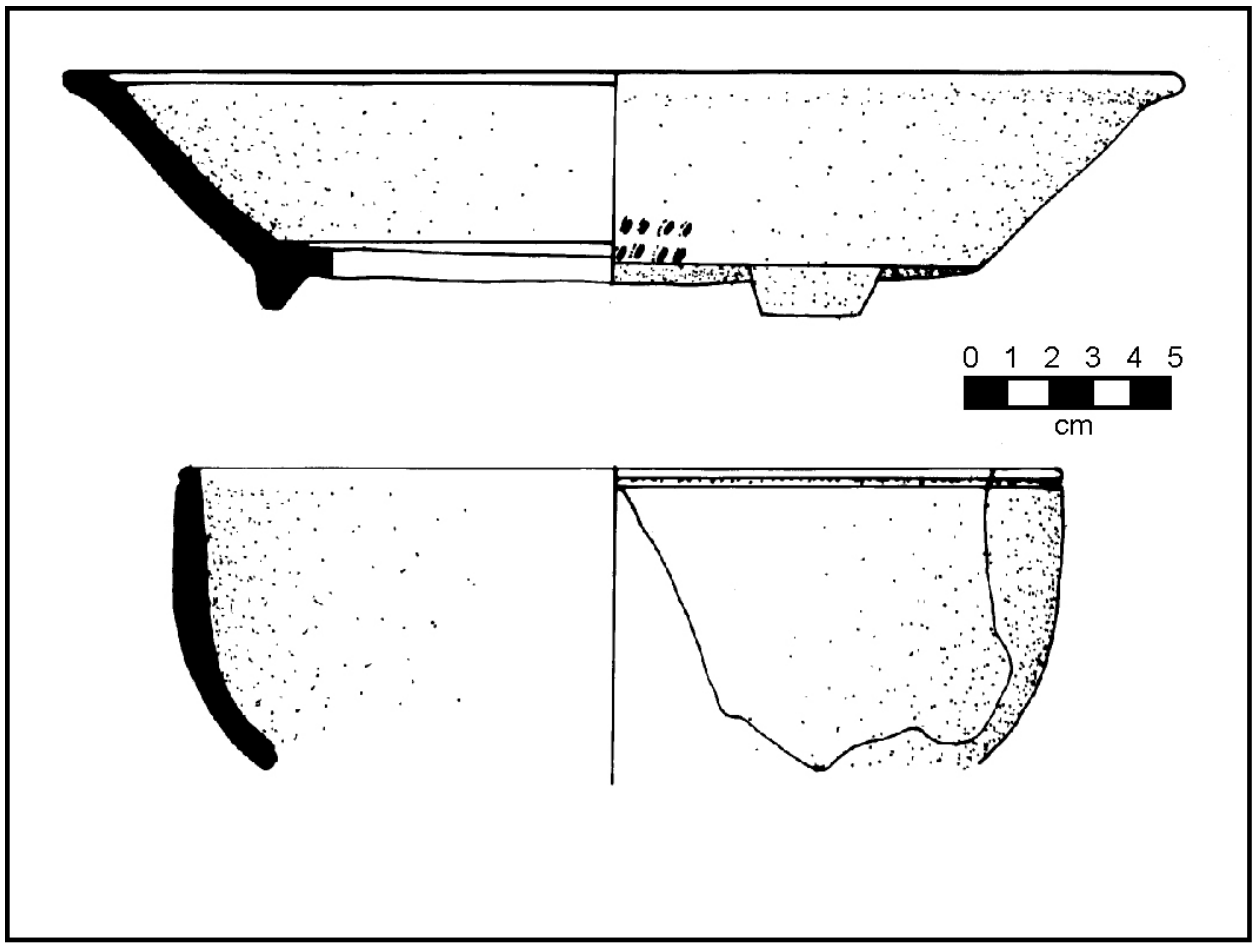



**Figure 53. Terminal Classic Ceramics from Nohcacab: (top) Akil Impressed and (bottom) Muna Slate**

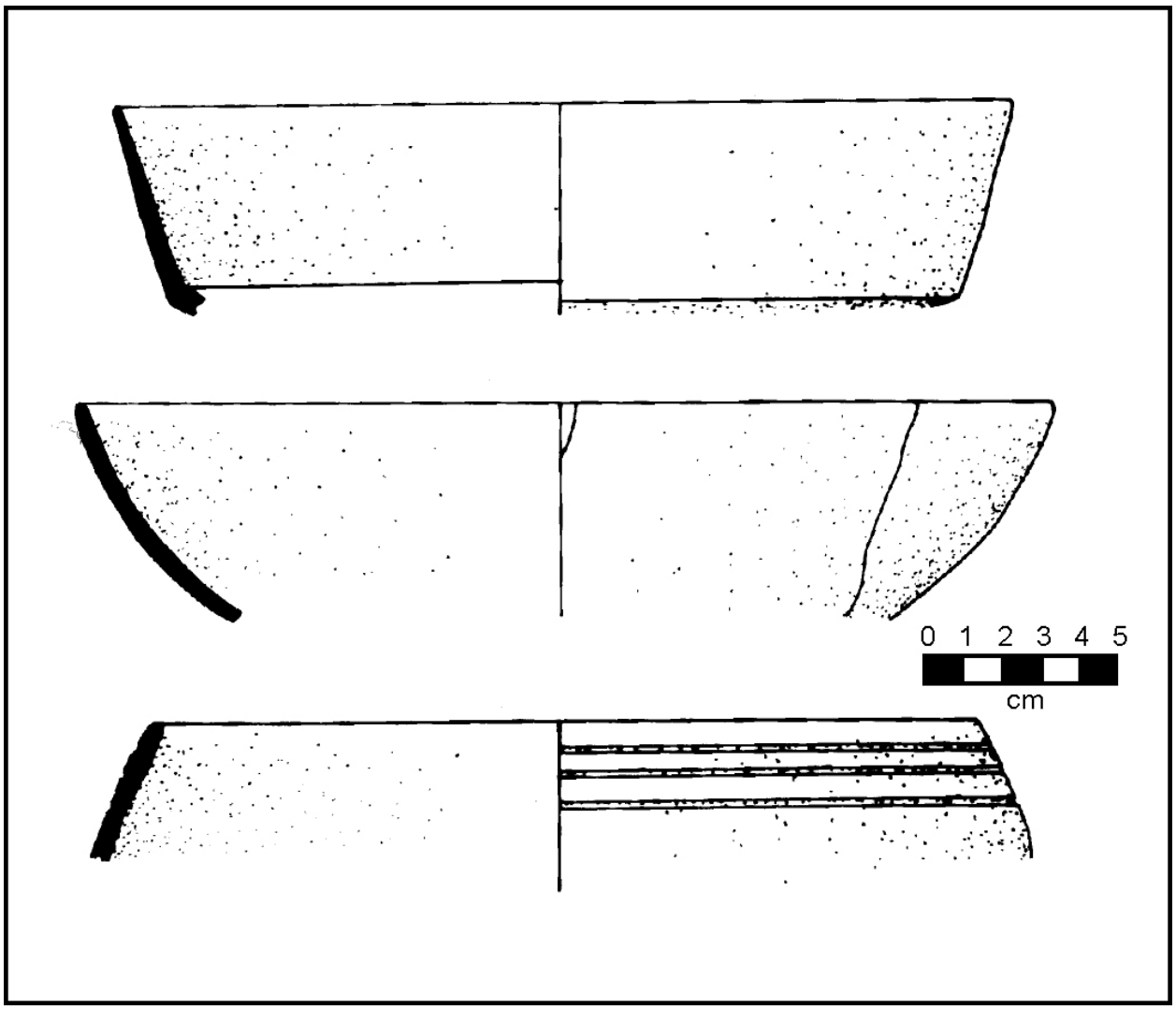



**Figure 54. Terminal Classic Ceramics from Nohcacab: (top) Ticul Thin Slate, (middle) Ticul Thin Slate, and (bottom) Becal Incised**

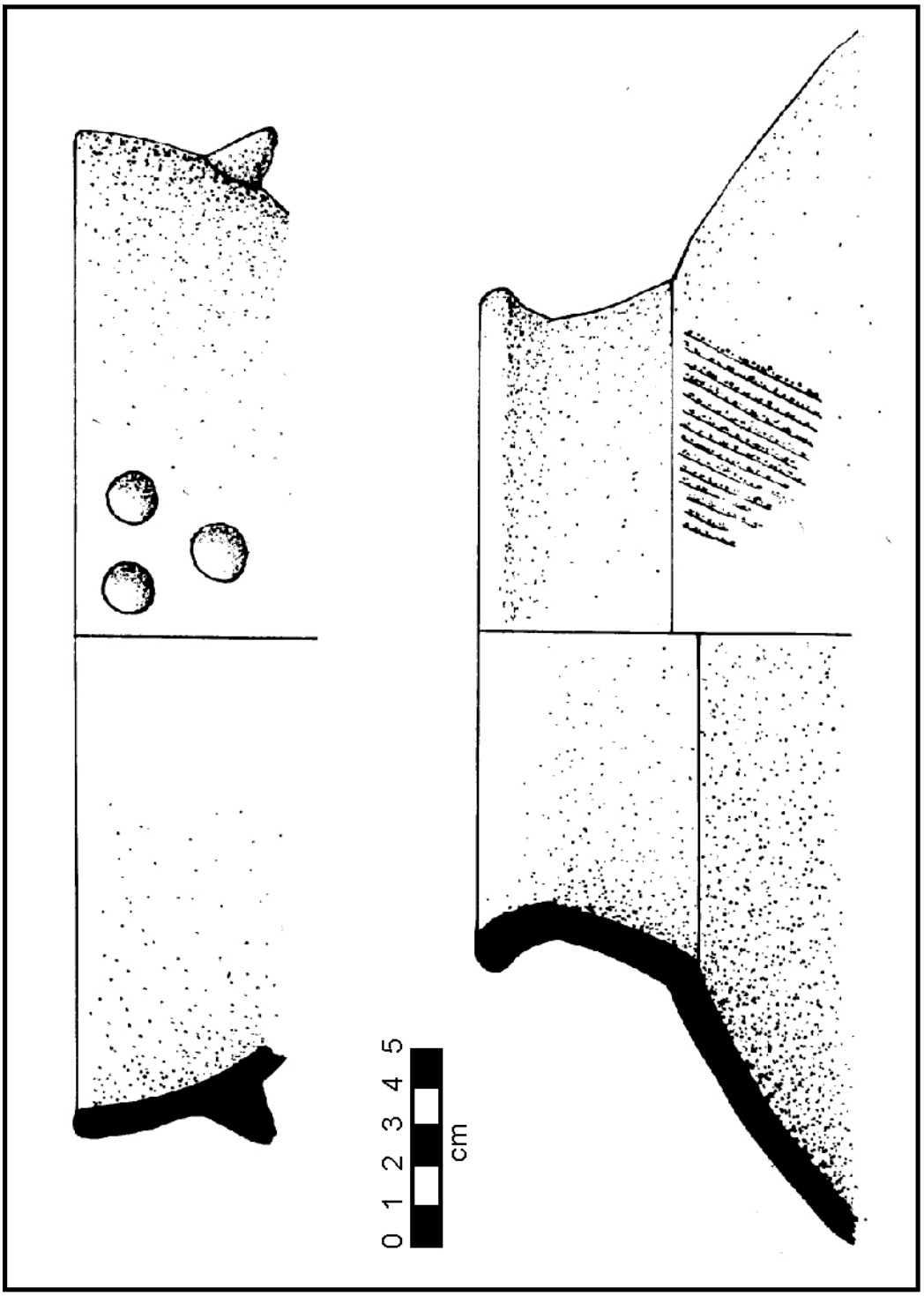



**Figure 55. Terminal Classic Ceramics from Nohcacab: (top) Oxcutzcab Applique and (bottom) Yokat Striated**

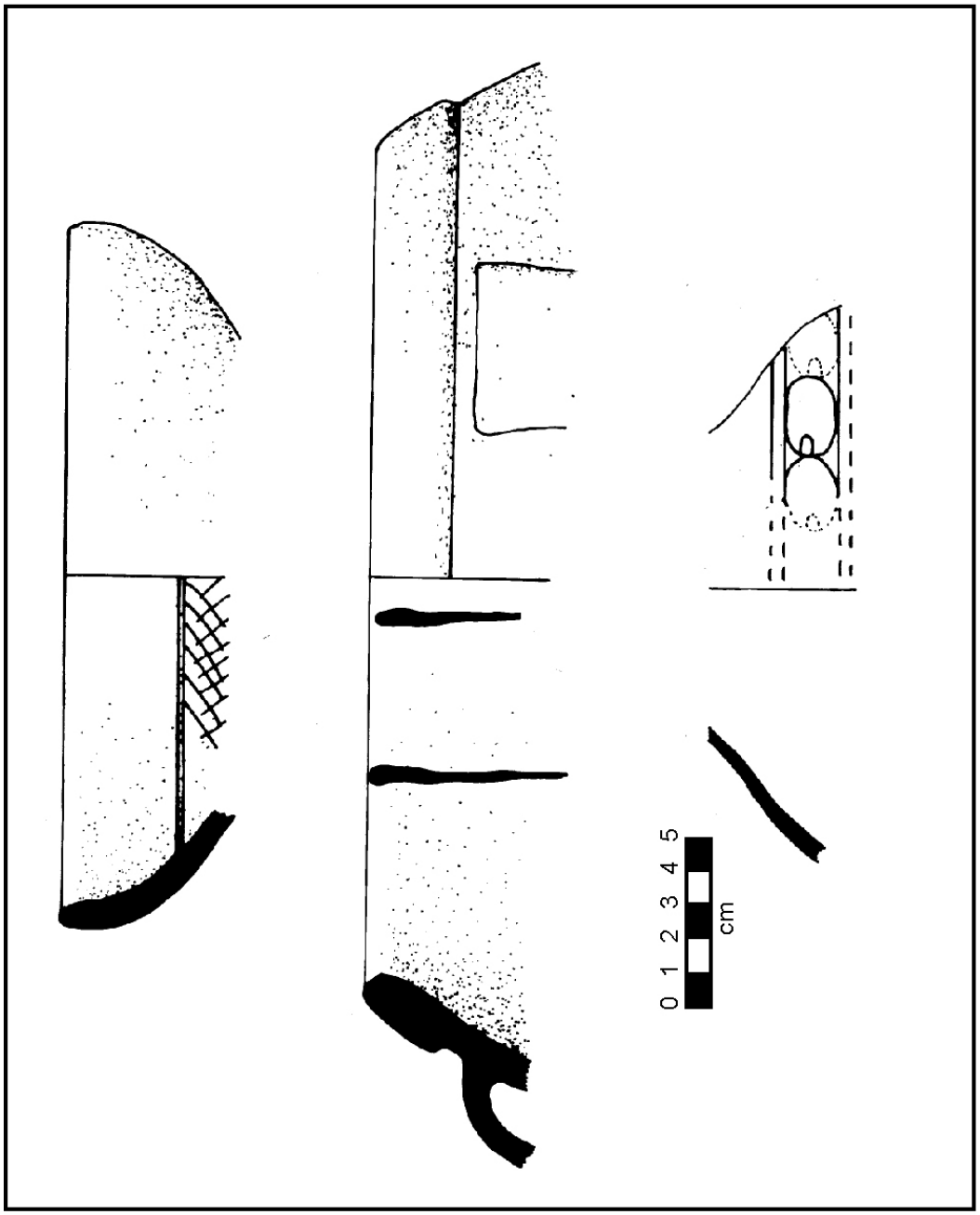



**Figure 56. Terminal Classic Ceramics from Nohcacab: (top) Chacmay Incised, (middle) Balantun Black on Slate, and (bottom) Chumpich Incised**

## Sites with Caves in the *Ejido* of Sacalaca

Justine M. Shaw

The *ejido* of Sacalaca is located to the northwest of the *ejido* of Saban (which contains the site of Yo'okop) and to the south of the *ejido* of Xquerol. As in Xquerol, the modern pueblo of Sacalaca has engulfed many of the archaeological remains, leaving only scattered mounds that have not been consumed as sources of material for historic and modern constructions. However, once outside the remains of the *pueblo* itself (mapped in 2003 – Shaw et al. 2003), remains dating from the Formative period through Caste War (see "Forgotten Churches of Cochuah Province" and "*Mulob* and Wells: Relations between Prehispanic and Colonial Settlements" this volume) are generally much better preserved as they may be accessed only via winding footpaths. In addition to structures ranging from rectangular foundation braces to colonial churches, caves long utilized by humans pepper the landscape. These caves were the focus of 2004 research in the *ejido*, with additional features and sites being documented as time permitted.

### Site of San Pedro

The site of San Pedro, located 3km to the northeast of the modern *pueblo* (Figure 2), contains a cave that is entered through a *sascabera* (mine for powdered limestone) positioned on one side of a *rejollada* (natural sinkhole not in contact with the water table). The entrance appears to have been entirely walled off at some point, using uncut stones likely available in the immediate vicinity (Figure 57). The wall had been breached at the time of study, with the removed stones deposited in the area surrounding the entrance. Entrance is also possible via two approximately 50 cm holes in the roof of the cave in the *sascabera*. These wall lies beyond these holes, however, so no entrance would have been possible when it was in place.

The cave itself (Figure 58) contains abundant sherds on its surface but, aside from its entrance area, does not appear to have been modified or embellished in any way. Although bats inhabit its interior, the surfaces are relatively free of *guano*, possibly as a result of being sealed off for a long period of time. Water appears to periodically enter the cave, depositing leaves and other organic material from the outside.

The path of the cave appears to snake approximately under Structure N1W1-1 (Figure 59), a platform and substantial foundation brace built upon a natural bedrock outcrop. The walls of the platform and foundation brace are built using massive uncut stones (up to 1 m in height), often associated with Late Formative constructions. A rocky hill to the west of the cave has also been modified into a large platform (Structure N1W1-3) with several structures upon it. The eastern face retains a clearly intact platform wall, while the western edge appears to have been formed using the natural terraces of the bedrock. A small *sascabera* was located on the western face of the rise, even with a line of *in situ* wall stones.

Approximately 50-150 m west of the hill are two more sizeable platforms, Structures S1W3-1 and N1W2-1. Both use pre-existing bedrock outcrops, but are largely cultural constructions. Structure S1W3-1 is elevated 2 m above the surrounding

**Figure 57. Entrance to San Pedro Cave**

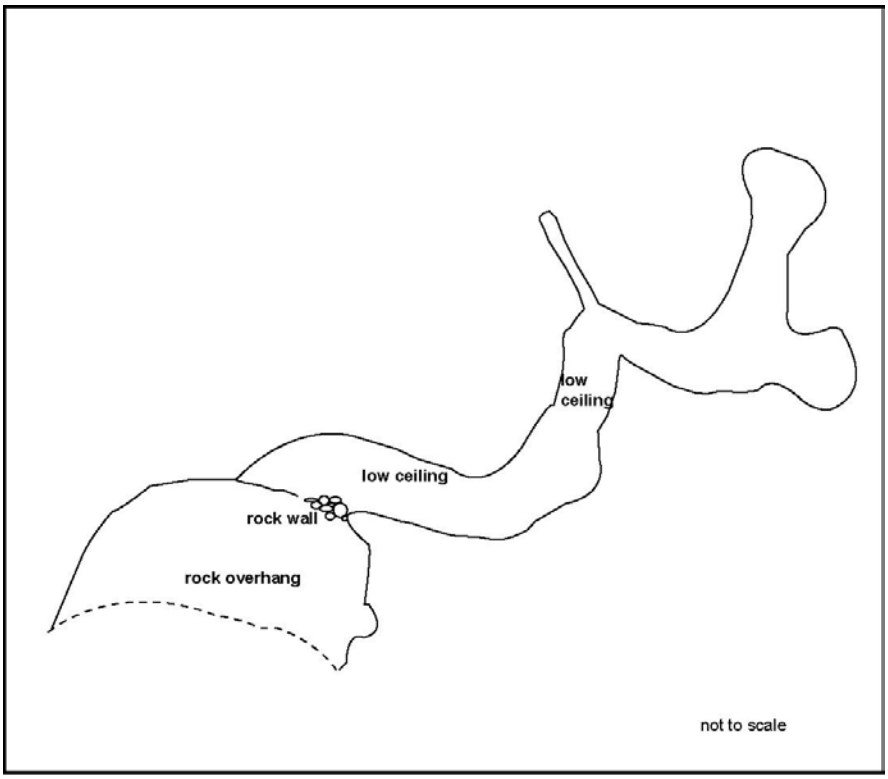



**Figure 58. Sketch Map of San Pedro Cave**

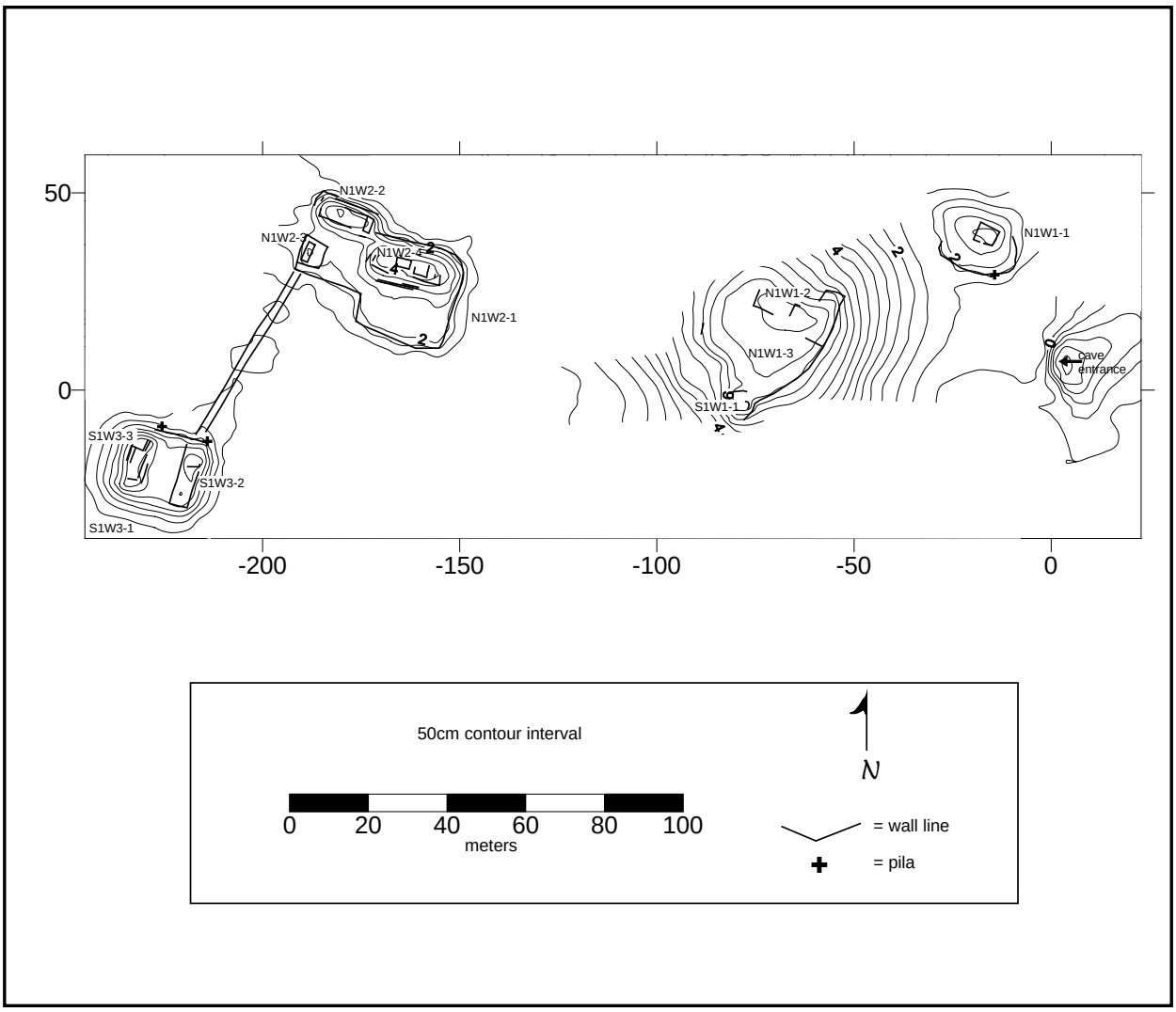



**Figure 59. Plan Map of the Site of San Pedro**

terrain. While collapse has obscured the platform's architecture on its north, west, and south sides, the eastern platform edge is still well-defined by large uncut stones, ~50 cm in size (Figure 60). Traces of two smaller platforms supporting superstructures sit atop Structure S1W3-1. The western Structure S1W3-3 appears to be two small rooms linked by a narrow bench-like feature of some sort, while the eastern Structure S1W3-2 is a generally lower building with a higher piece of architecture on its northern edge.

A ~80-cm-wide wall runs nearly perpendicular to this eastern edge (Figures 61a and 61b). While the wall has collapsed along most of its length, it remains in good condition where it directly abuts the platform wall, standing about a meter in height. It was originally thought that the wall might have functioned as a *sacbe* of some type, but its relatively high, yet narrow, surface would have been awkward for walking even if the top had been leveled. The wall's construction style differs from that of the Caste War *trincheras* observed elsewhere in the region, which typically borrow large stones from surrounding structures. It contains large stones on its face, with cobbles in its core. The construction of the wall appears to be at least roughly contemporaneous with both Structures S1W3-1 and N1W2-1 because it abuts platform wall segments in good condition at both of its ends; the collapse that has taken place has fallen against both wall and structures, rather than the wall being constructed against or utilizing collapse. An informant reported additional similar walls in the area, but none were seen abutting the documented architecture and time constraints and the dense nature of the surrounding vegetation prohibited further investigation.

The Structure N1W2-1 platform contains three main structures, the larger two of which look southward across the platform, while the smaller Structure N1W2-3 looks east to the interior of the platform. The main platform itself is lower than Structure S1W3-1, yet also uses large uncut stones in its wall. A large looters' hole pierces the center of Structure N1W2-2, but the platform is otherwise in good condition.

Other small mounds containing architecture were observed in the vicinity, but these were not documented in order to allow more time to focus on other sites in the *ejido*.

## Site of Chakal Ja'as

The site of Chakal Ja'as (Figures 2 and 62) was visited briefly in 2003 and was selected for further study because of the numerous petroglyphs associated with the entrance to the cave as well as a desire to better document the associated architecture. In 2004, three days were spent in taking new photographs of the incised illustrations, attempting rubbings of key examples (which did not prove to reveal more features than photographs taken in varied lighting), and formally mapping the architecture and topography.

The cave of Chakal Ja'as is entered at the eastern edge of a sizeable *rejollada*, at a level approximately 1.5 m above the current ground surface. It contains sherds, but has not been modified in its interior in any way. Numerous other natural small passages and pockets are scattered around the edge of the *rejollada*, at all levels

**Figure 60. Structure S1W3-1 Platform Edge**

**Figure 61a. Wall Abutting Structure S1W3-1 Platform Edge**

**Figure 61b. Wall Connecting Structures S1W3-1 and N1W2-1**

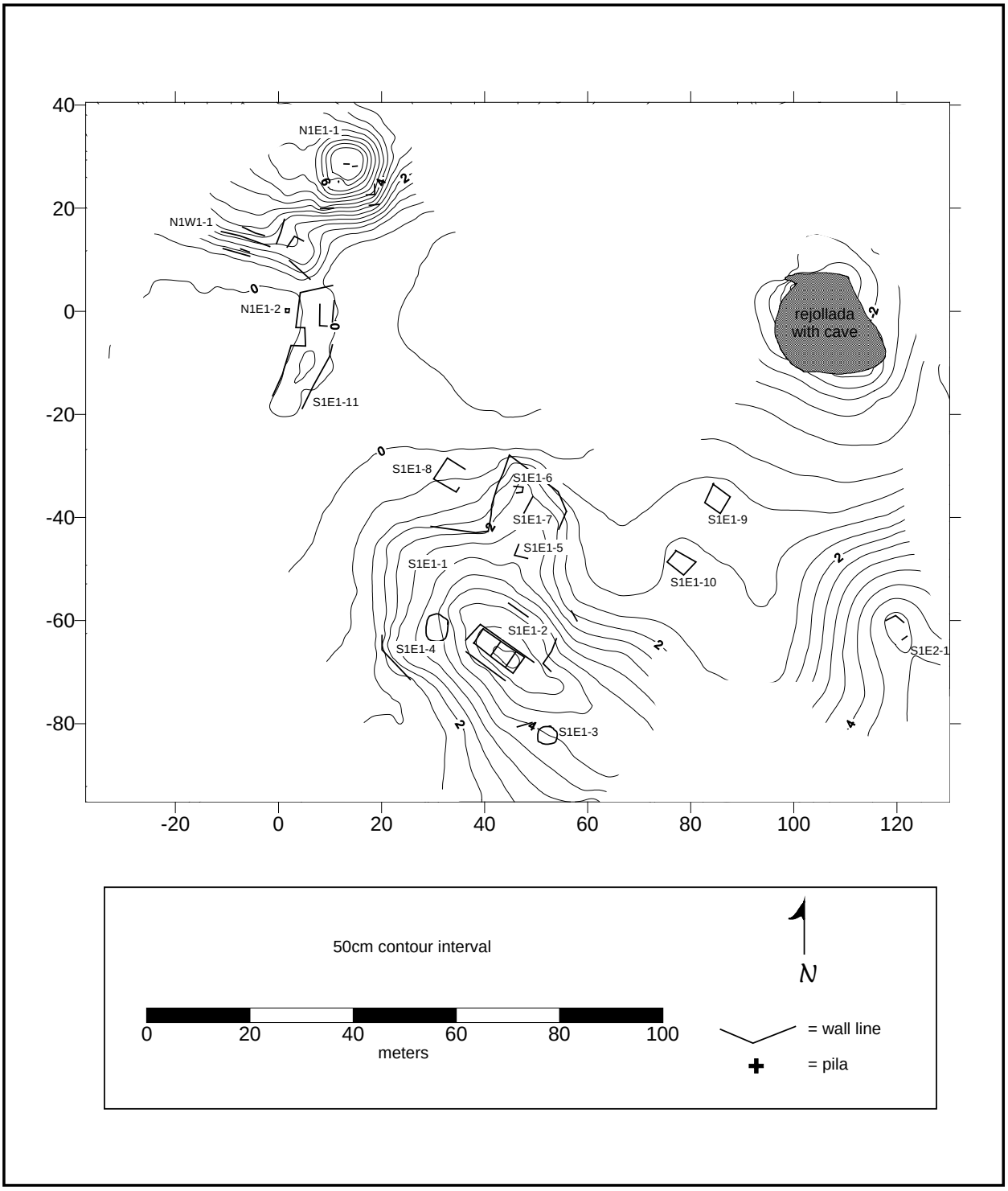



**Figure 62. Plan Map of the Site of Chakal Ja'as**

and orientations. The petroglyphs themselves (Figure 63) are scattered along the eastern side of the *rejollada*, where an overhang has created a naturally roofed rock shelter protecting the features. They are positioned at heights that can be easily reached without climbing or using ladders, steps, or similar assistance.

The bottom of the *rejollada*/ rock shelter area appears to contain deep deposits of sediment, rock, and other material that have built up through time. These layers have been partially exposed in one place, where a pit, possibly a *pib* (for subterranean cooking, often associated with traditional Maya ceremonies), has been excavated to a depth of ~1.5 m. The bottom of the pit does not reach bedrock, so the infill may reach to a considerably greater depth. In the sides of the pit, numerous sherds were observed, as was a 4 cm flake of chert that included part of the cortex and a 12 cm chert projectile point in perfect condition. These materials were photographed, but not removed from the pit because the Project's permit from INAH did not include the collection of materials associated with the cave. The slope down to the east from the pit was littered with sherds, likely washing from the material excavated from the pit.

The two main foci of the site's architecture are situated on natural rises to the west and southwest of the *rejollada*. The western group is the most visually impressive, rising up to 7 m above the surrounding terrain. However, bedrock is visible on the surface of much of the area, up to 2 m from the top of the Structure N1E1-1 summit. The natural rise has been terraced and modified to create the pyramidal Structure N1E1-1, as well as space for the Structure N1W1-1 platform, which is approached from the south by a series of steps composed of large shaped stones. The Structure S1E1-11 platform sits at a much lower level, accompanied by the Structure N1E1-2 Postclassic altar.

The Structure S1E1-1 platform complex similarly has been formed by modifying a natural rise. Massive uncut stones up to 1 m in size have been used to partially ring the outcrop, with the rock itself defining the edge in other areas. Two round structures (Structures S1E1-3 and S1E1-4), a platform and foundation brace with Terminal Classic double wall lines (Structure S1E2-2), traces of other foundation braces (Structures S1E1-5 and S1E1-7), and a Postclassic altar (Structure S1E1-6) are found across the surface. On the lower *chac luum* surface between the platform and the *rejollada* are two additional rectangular foundation braces, while a third (Structure S1E2-1) sits atop another hill to the south of the *rejollada*.

As at other sites, additional surface features are present, but only the larger constructions more directly associated with the cave were recorded. Mounds are believed to continue to the south of the Structure S1E1-1 area.

### Site of Yo' Aktun

The site of Yo' Aktun is located approximately 6 km to the southwest of the *pueblo* of Sacalaca (Figure 2). The settlement includes a sizeable cave (Figure 64), as well as a number of surface structures (Figure 65). Only a portion of the site could be recorded during the final two days of the field season; more mounds are known to exist in the vicinity.

The cave at Yo' Aktun was by far the most expansive recorded in the *ejido* to date. Accessed in a small *rejollada* on the eastern edge of the mapped zone, its

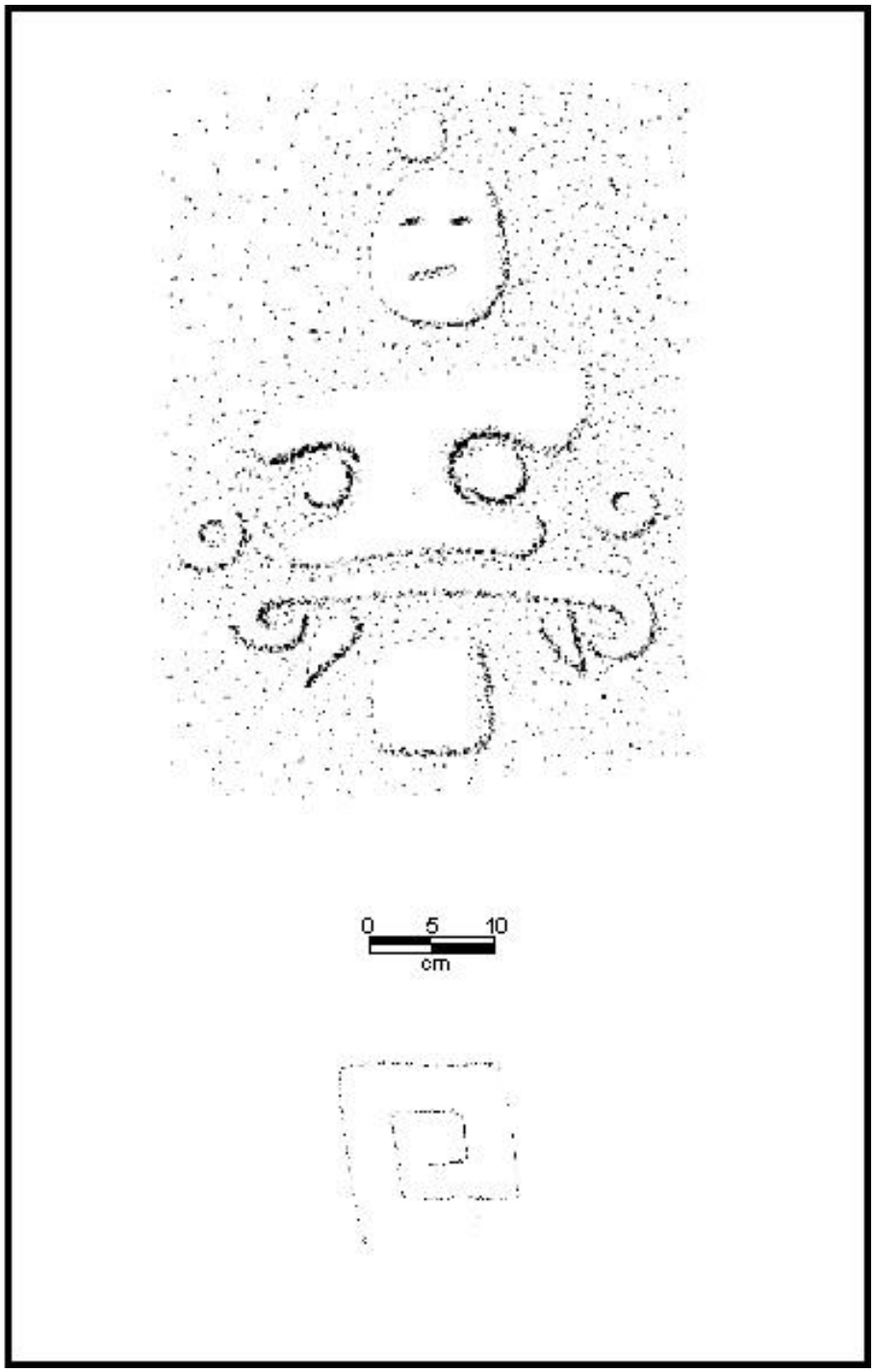



**Figure 63. Possible Tlaloc and Step-Fret Petroglyphs from Chakal Ja'as Cave**

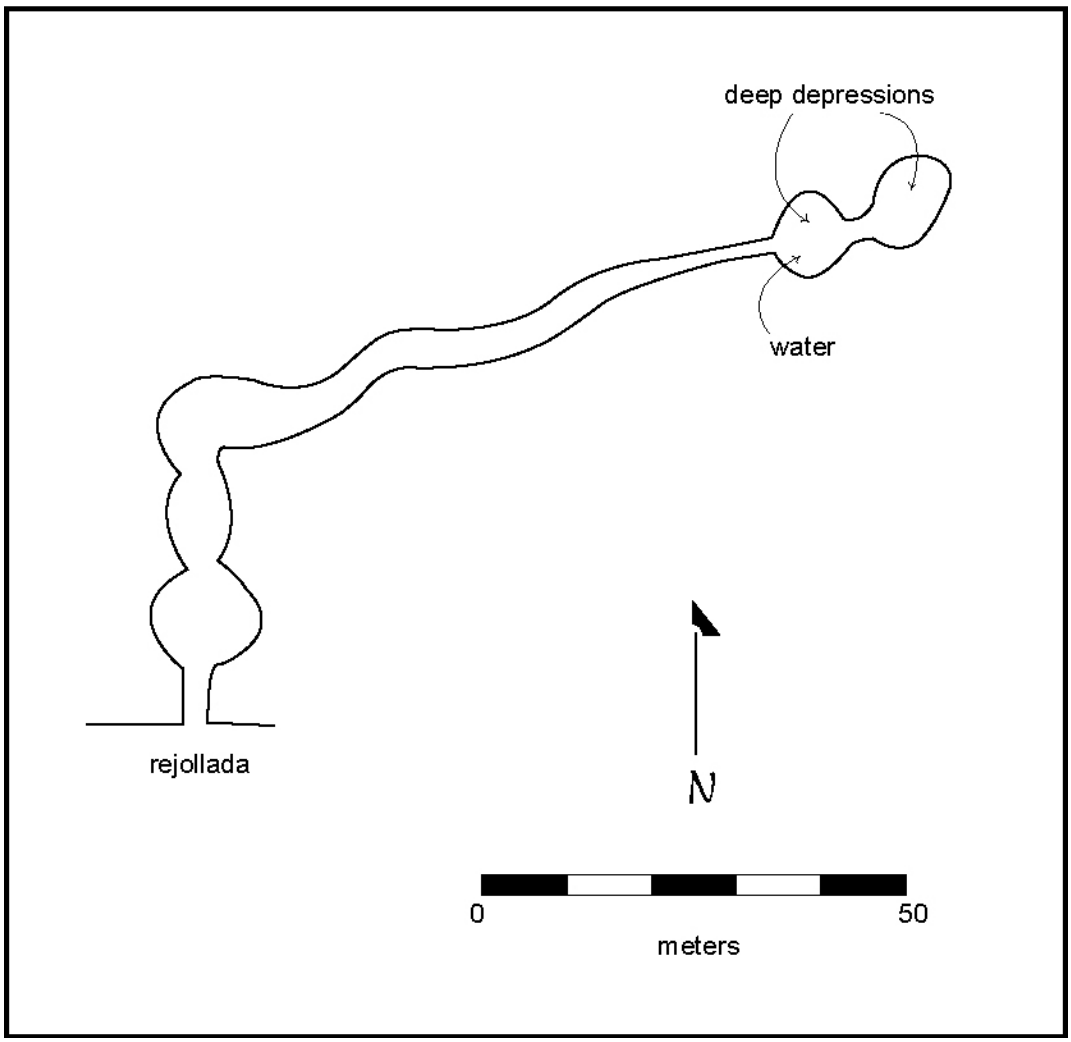



**Figure 64. Plan of Yo' Aktun Cave**

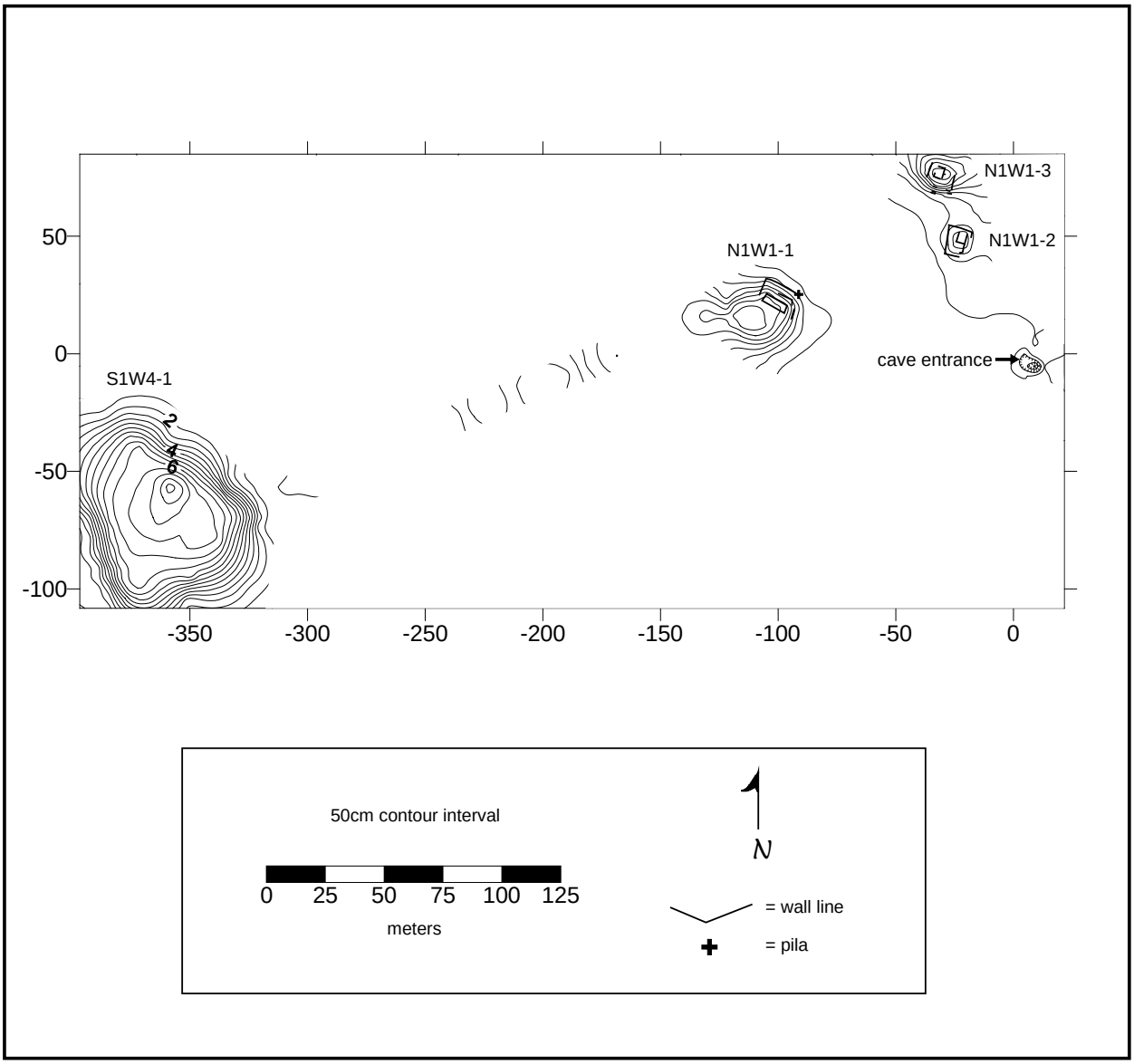



**Figure 65. Plan of the Site of Yo' Aktun**

restricted entry opens into a series of chambers which can generally be traversed standing upright. A tape and compass were used to record the interior passageways, which culminate in two deep chambers, the first of which has a pool of water at its base. Few sherds were visible in the cave. However, deep *guano* deposits blanket the floor of the interior, as well as other flat surfaces, obscuring any such materials that may exist. The cave generally lies under an approximately 7 m hill to its north-northeast. The hill was not cleared or searched for architectural features so that the limited time available could be used to document more obvious cultural features at the site.

To the northwest of the *rejollada* are two platforms utilizing smaller natural rises as their bases. Structure N1W1-2 appears to have originally entirely covered any exposed bedrock, forming a base for a 2-3 room foundation brace. The larger Structure N1W1-3 had a constructed southern frontal façade that included a stairway and at least one terrace level, as well as platform walls to the west and east. Its northern edge was less elevated from the surrounding bedrock. The remains of one rectangular foundation brace were located on the western portion of the summit, but the eastern portion was partially obscured by a long looters' hole. The foundation brace included single lines of cut stone, while the platform walls and terraces were composed of larger stones that had only been roughly shaped.

A similar approach was taken in the construction of Structure N1W1-1, another platform built upon the edge of a natural rise. It too included a terrace on its steep, northern slope, as well as a formal platform edge wall. The remainder of the rise appeared to have been leveled by imported stones, but no intact wall lines could be located among the rubble.

On the final afternoon of work, the rough outline of the Structure S1W4-1 acropolis was mapped using two cross *brechas*. One, extending from Structure N1W1-1, crossed the structure slightly south of its center. The other perpendicular clearing bisected the structure. Additional points were recorded as visibility between treecover permitted. Thus, the dimensions present on the map (Figure 65) are generally correct, but the acropolis's corners and all architectural details are missing from the current map. Numerous structures with intact wall lines are clearly still visible across the surface that could be readily recorded if the acropolis is properly cleared in the future. More mounds were visible in the vicinity of the acropolis.

## The Role of Cave Sites

Based upon these cave sites, as well as others reported from elsewhere in the *ejido* (such as at Parcela Escolar and Santa Cruz reported last year), caves appear to be a feature type that attracts settlement. While materialistic, functional explanations may be raised for this association – such as the availability of associated *sascab* deposits for construction or the presence of deeper soils in the accompanying *rejolladas* – it seems that these alone can't entirely explain the attraction to cave features since these features are found elsewhere without caves and with little-to-no signs of associated occupation. Instead, the caves themselves appear to have been the attraction, their use evidenced in the sherds included in the cave floor materials and in petroglyphs. At the sites recorded, architecture appears to cluster near the caves, with suitable hills and outcrops more distant from the caves being ignored as construction locales. As entrances to the Underworld (Freidel et al. 1993), they would have been

critical ceremonial locations for the region's inhabitants (Rissolo 2001). Whether the functions of the sites themselves differ from sites lacking caves, or the caves merely provided an enhanced ability to conduct activities performed at all sites, remains to be tested by extensive comparative excavations that are beyond the goals of the CRAS for the foreseeable future.

# Forgotten Churches of Cochuah Province

Alberto G. Flores Colin and Adam Kaeding

*The saints of once proud churches stood exposed in their niches,*
*looking out on the verdant rubble of a collapsed roof, weathered by sun and rain,*
*forgotten except by some passing hunter who might stop to pray.*
*St. Peters and St. Sebastians became like the Guardians of the Wild Places,*
*sharing what piety came their way with other gods,*
*as these lost buildings shared the forest with other, much older ruins.*

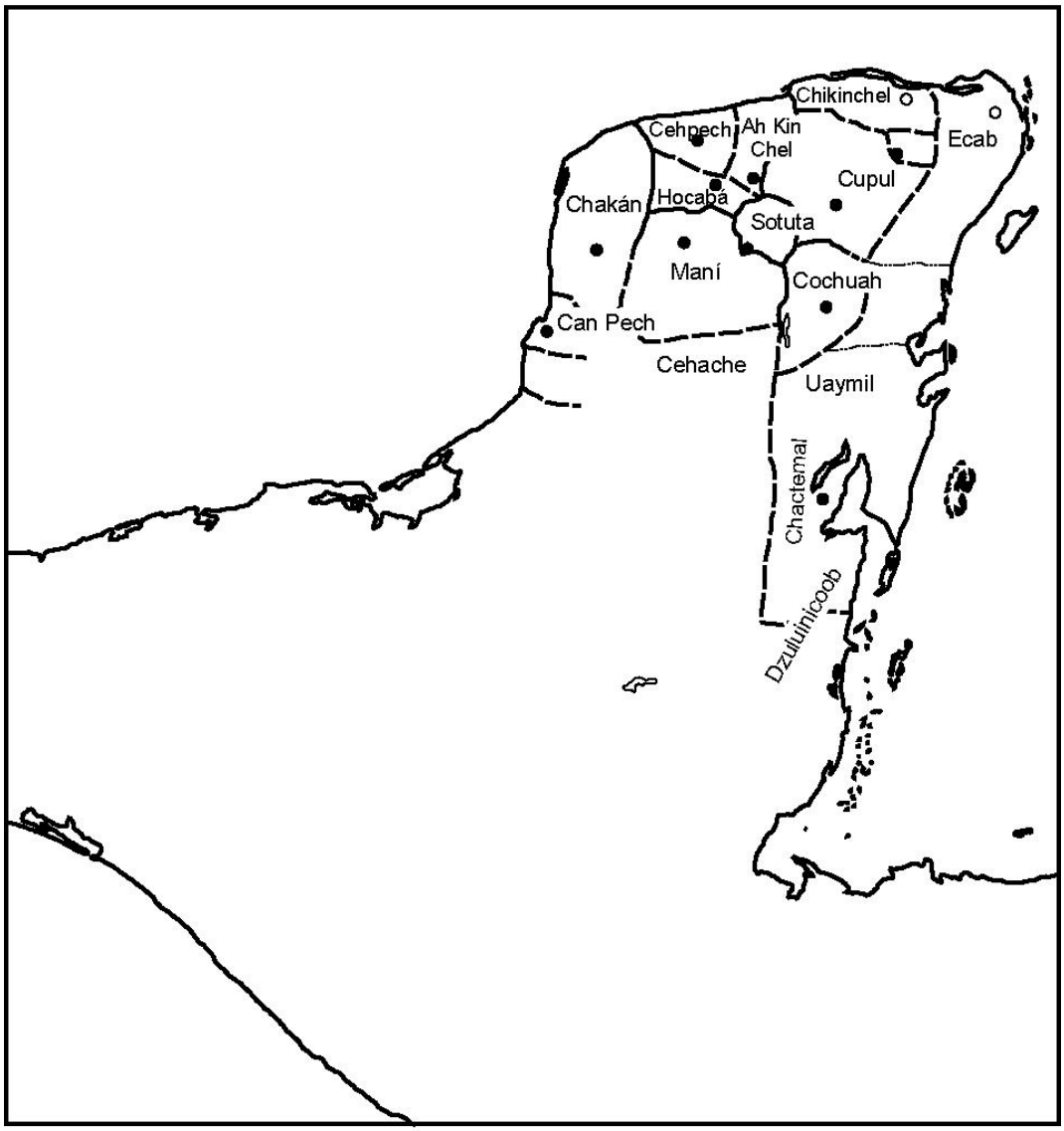
The Caste War of Yucatán
Nelson Reed (1964:180)

The CRAS Project's focus of study, in its two years of existence, lies in an area which has an occupation, not necessary continuous, from at least the Classic period to the present. In this area, several colonial buildings are located, among them, emphasized by their singularity, are religious constructions, churches and chapels. Without the intention of make an exhaustive study and motivated by the past of this historically unknown region, we tried to gather together some data, a little dispersed, with reference to the history of these constructions and, although our observations are based on brief and rather informal surveys, we wish to present here a short essay on the potential of that colonial and historical archeological investigations have in the area. A future study, including obtaining archeological materials including ceramics, will help to understand the history of these forgotten churches.

## Historical Context

When the Spaniards arrived in the Yucatan peninsula, they founded several organized political territorial entities called, in Maya, *cúuchcabal* and they designated them as provinces, which received their name in accordance with the last name of the ruling lineage. Furthermore, there existed a series of *batabob* or caciques (chiefdoms) that, until the Spanish invasion, ruled the population in an independent way. These independent groups of *batabob* are located in the regions named as Chakán or savannah, Chikinchel or east *monte* (forest), Cehache and Dzuluinicob (Figure 66). Although regional hegemonies and confederations existed prior to the Spaniards' arrival, these entities were a fragmentary force since there was no central power that unified them. Only a few places fulfilled the characteristic and proportions of cities, and, in general, settlements patterns were rural and dispersed with a low demographic density. The economy was based upon subsistence agriculture supplemented by collection activities. We should mention that some regions were dedicated specifically to salt, cacao, and fish production and exploitation (Gerhard 1991:4; Quezada 2001:26-27).

The organizations of the province consisted of three levels. *Cuchteel*, *barrio,* or *parcialidad* were shaped by a group of houses which joined up to six families that provided the work force and excess products to the elite. A *batabil* or




* Redrawn from Roys (1957), Gerhard (1991) and Quezada 2001. Locations are approximate.

**Figure 66. Politico-Territorial Organization of Yucatan During the Contact Period**

*señorío* (lordship) was under the dominion of the *batab* or *cacique.* Spaniards call this as *cabecera*. The function of *batab* was to politically administer the *cuchteel*; he received the production surplus and summoned the population to war, festivities and tutelage ceremonies. His jurisdiction didn't necessary include defined territorial limits since the population was linked only politically and in terms of its administration. *Batab* resided in one of these *parcialidades*. The last level within this hierarchy, was patrilineally inherited, and was represented by the *halach huinic*, which had his seat in the capital. The *caciques* were subordinates to him and his functions consisted of religious, militaries, politics and judicial duties. The Spaniards use the term of *cabecera* as well to designate the towns were this leader resides. Although, some authors use capital to designate these places and *cabecera* applies to the site where the *batab* lives (Quezada 1999:61-64, 81-83; 2001: 26-27).

*Cúuchcabal* Cochuah was located in the central eastern portion of the Yucatecan peninsula, between the provinces of Cupul to north, Sotuta and Maní to the west, Cehache's territory and Uaymil province south, and Ecab to the east. The exact limits are uncertain due the scarcity of documentation from this period (Roys 1957:135-136). Probably Cochuah controlled the Asunción Bay and its maritime trade (idem; Gerhard 1991:64). The meaning of the word Cochuah, according to its natives is "our bread food" (c-our, och-food, uah-bread), that has been interpreted as the "well fed province that has never found itself in need" (Relación de Tihosuco y Chikindzonot, RHGY 1983, II:198). The name also could be due a local god considered to be the patron of bread. Roys (1957:135) thinks the name could be an obsolete plant name.

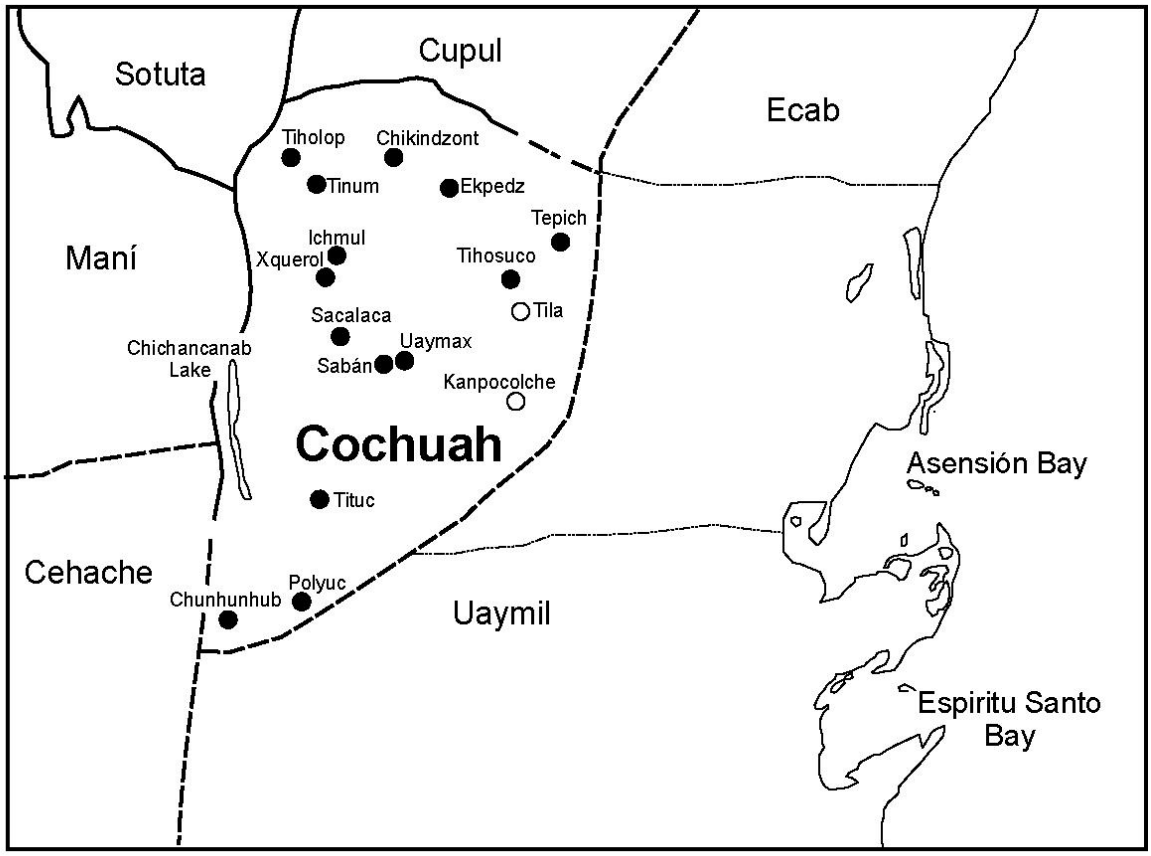
Following ethnohistoric documents, Cochuah was part of the Mayapán League, although surely with another configuration either politically as geographic (Quezada 1999:34-37). During the contact period, the province was ruled by Nacahum Cochuah, which probably was the *halach huinic*. At that time, his seat was in Tihosuco although it's difficult to say where this site was in prehispanic times since Tihosuco's population was relocated to another site by roughly 1559. Roys says that Cochuah's capital could be nearer the convent at Ichmul (Roys 1957:137) since the Spaniards established their religious *cabecera* there. The people of Tihosuco probably came from Tepich (Relación de Tihosuco y Chikindzonot, RHGY 1983, II:198). There are not many references about the conquest of this province, but we can suppose that, as in all of Yucatán, that it was harder than the Spaniards thought it would be in the beginning. Unlike central México, where exist a centralized power, the Yucatecan organization obligated the Spaniards to separately conquer each local chief and territory. Cochuah was visited by the first Spaniards in 1511. By 1528, a conquest expedition left Asunción Bay, moving towards the interior, exploring the western and most inhabited part of the Province. The Spaniards passed peacefully through the territory but by 1532 were violently expulsed. After several attempts to conquer Cochuah, finally Pacheco's expedition got them to submit in 1544-1546 (Gerhard 1991:62). Cochuah, Maní and Uaymil-Chetumal were considering by many Spaniards as the most densely populated provinces of Yucatán. Of these provinces, Cochuah's people were the most bellicose (Ojeda 1985:15-16). Cochuah cooperated with the Cupul and Sotuta provinces, those with which it

presumably had a friendly relationship, in the 1546 great rebellion (Roys 1957:137).

During most of the Colonial period, Yucatán belonged to the Audiencia de México passing, in the beginning, for few years through the Audiencia de los Confines and that of Guatemala. Colonial Spanish administration was organized in three levels: government, *cabildo,* and *encomienda*. The first one had either administrative or judicial functions in the designation and the distribution of the *encomiendas*. The *cabildo* served to rule the settlement and its jurisdiction in the local subjects. For Yucatán, there were four *cabildos*, established in the villages of Mérida, Valladolid, Campeche and Salamanca de Bacalar. The *encomienda* was an allotment of Indians and territory obligated to give tribute, service, or both to the *encomendero* (Roys 1957:170). The *encomendero* was obligated, at least in theory, to development of economic activity as well as the Christianization the population subject to him (Gerhard 1991:8). The *encomiendas* were either agricultural or livestock farms. An *encomendero*, in general, resided in the village seat of his *cabildo*. The *encomienda* respected, at least in part, the previous prehispanic organization and tried to take advantage of the indigenous authorities' prestige to easily collect tributes and personal service. Many of the caciques or *bataboob* were *encomendados* within their respective towns and population (Quezada 1997:125-130, 1999:65-72).

As a result of the prehispanic political territorial organization, as well as the traditional agricultural system, in addition to the ineptitude and excess of the conquerors, the indigenous population remained dispersed, a situation that was difficult to administer and evangelize, the main benefit and obligation of the *encomenderos*, authorities, and clergymen. In order to solve this, in 1552 the congregations, also named reductions or *juntas,* began. These consisted of displacing the indigenous population from the sites of the prehispanic *cabecera*s, since it was decided to join several town in one site (Farris 1978). This caused the proliferation of disease and an increase in mortality and, as consequence, a population decrease (Fernandez 1990:49-56; Quezada 2001:43-45). In demographic terms, the final result, in addition to other factors such as drought, was a decrease of 75 percent, and in some places up to 90 percent (Gerhard 1991:20). The religious leaders were responsible for carrying out these congregations, many times against the wishes of the indigenous people and *encomenderos*. To bring about these congregations, the friars visited each place, verifying the viability of the site and viewed the *parcialidades* subject to him. After that, a sketch of the town was made, that included spaces for the Church, the Royal House, and the Meson. Furthermore, the limits of the town were defined and it was dedicated to a patron saint. The friars had success since they attempted to joint the *parcialidades* with their respective *caciques,* and when more than two caciques were joined, they ensured that they belonged to the same prehispanic province or *cúuchcabal*, as well as the same climatic and linguistic affinity (Quezada 1997:138-142).

In some cases, where the site was practically inaccessible or was far away from any religious and administrative center, a place was elected in the middle of the forest that had a reliable water source (Quezada 1999:86). In Coahuah, the reductions created various towns (Figure 67), although there were a series




* Redrawn from Roys (1957) and Gerhard (1991). Locations are approximate.

**Figure 67. Religious Settlements in the Cochuah Province**

of small settlements classified as *ranchos* (Gerhard 1991:64-65; Roys 1957:137).

As Coahuah's territory was somewhat of a frontier zone, the indigenous people in the town were frequently tempted to flee in order to escape from the obligations and ill treatment imposed by the Spaniards. They went toward the mountains and the forest, regions where the Spanish presence was null (Gerhard 1991:64-65), since the congregations had left uninhabited the eastern part near the coast, where the forest extended almost indefinitely as a favorable place for the fugitives (idem; Sánchez de Aguilar 1987).

With the Borbonic Reforms, influenced by the ideas of the Enlightenment that consisted of modernizing and promoting the economic growth of the colonies, Cochuah joined together with a part of the *cúuchcabal* of Maní, a portion of the territory occupied by the Cehache, to form part of the Benificios Altos, one of the *subdelegaciones* that was formed by the new administration. This new division broke with the respected limits the prehispanic provinces, which until this had been respected by the Spanish administration. Later, in the Independent Mexico period, this province formed part of the district of Tekax, one of the five into which the Department of Yucatán was divided (Quezada 2001:91-139).

Due to its frontier situation that caused excessive abuses by the Spaniards and led to the constant escapes of Indian fugitives, towns located in the previous territory of Cochuah were the most affected, including Tepich and Tihosuco where the Caste War movement arose (Reed 1971:61-81). The main towns were attacked several times until these were abandoned around 1861 (idem, 149-158). Later, the federal army retook the towns, but the population never recovered and they remained abandoned until the first half of the 20$^{th}$ century when they were repopulated by inhabitants coming, mainly, from the state of Yucatán. Currently, the province of Cochuah belongs to the states of Yucatán and Quintana Roo (Caseres et al. 1998, II:219-220, III:356-357).

## The Evangelization of Coahuah

Until 1536, Yucatán belonged to the dioceses of Tlaxcala, to which it had been ascribed to since 1527, after passing through the jurisdiction of the Guatemalan dioceses. In 1545, it began to depend on Chiapas, a situation that lasted until 1562 when the Bishop Francisco Toral was formally named as the bishop of Yucatán (Ciceró 1979:104-108; Gerhard 1991:17; Quezada 2001:74-86). From the beginning the evangelization, Yucatán was attendant to the order of the Franciscans, which arrived to the peninsula by 1545. During the first years, availing themselves of the use of interpreters, they sought to convert the Maya and founded some schools. In 1549, organized as custodians, they name the jurisdiction as San José of Yucatán, which would depend on the Franciscan province of Santo Evangelio in Mexico. Yucatán and Guatemala were separated at the end of the 1550s decade and, in 1565, by decree of the *capitulo* of the order, it was decided to create San José of Yucatán as a province independent of Guatemala (Quezada 2001:82-83).

Since Yucatán did not contain mines, the Spaniards felt little attraction to the region, whose main economic activities were agriculture, apiculture, and the production of diverse types of cotton cloths, tasks not very remunerable for the Spanish ambition. Being a poor territory, the Hispanic population was scare and

concentrated in the large centers of Mérida and Valladolid. Even first bishop of Yucatán, Bishop Toral, mentioned the austerity of his dioceses. The indigenous population to convert, in spite of the decrease occasioned by the epidemics, was extensive and dispersed. In order to carry out the evangelization, the territory was divided into *guardianías*, which were jurisdictions that covered a group of towns called *visitas*, organized round another called *cabecera de doctrina* (Quezada 1997:131).

The criteria utilized by the religious to select the town of *cabecera* were political, symbolic, and demographic. Some places were elected because had been seats of the capital of the prehispanic provinces, for example Campeche, Maní, and Sací (Valladolid), others had been important religious centers, as in the case of Izamal, and also some towns, like Conkal and Maní, were chosen because they concentrated a dense population (Bretos 1992:15; Quezada 1977:131-134). Five large monasteries were erected (Mérida, Campeche, Maní, Izamal and Valladolid), and several modest and smaller convents were spread throughout the peninsula. Each one of these jurisdictions were attended by a friar or guardian, responsible for the evangelization of the towns of *visita* and for the administration of the sacraments, but without any doubt, the clergymen, as well as the Spanish population, were scarce. This caused the friars to begin to instruct a body of indigenous keepers that later would be called *ah cambesah* (singers masters), responsible for giving the religious doctrine and the sacraments in the *visita* towns, where there was not was a resident clergyman. The presence of these *ah cambesah*, formed just inside the Christian dogma, favored the rise of syncretism and the survival of the traditional forms of worship (Bretos 1992:10-12). For the last quarter of the 16$^{th}$ century and beginning of the 17$^{th}$, the secular clergy, that before had been minority, began to enlarge their presence, obtaining some *cabeceras de doctrina* that had been under the exclusive control of the Franciscans. Due to the increase of the clergy, either regular as secular, in the 17$^{th}$ and 18$^{th}$ centuries, the old jurisdictions began to be divided into districts in order to satisfy all the religious and the clergy, for whom many towns of *visita* became settled parishes. The towns that passed through this process were mainly them located along the *caminos reales* (colonial main roads). The *cabeceras* were centers where population was attracted, as well as foci of political, economic, and religious influence for the other towns that continued in the rank of *visita*s. In these, religious festivals were carried out and they were centers of commerce where products of diverse kinds were concentrated forming, sometimes, extensive commercial circuits (Quezada 1997:134-138).

## Convents, Churches, and Chapels of Cochuah

Although diverse classifications for these buildings exist, both functional as architectural, we can best utilize the ones that take more than style into account in their classification. It is important to use a system that includes temporal period, since constructions are built to suit specific needs that have changed through the years, thus modifying the form of the buildings. Generally, during the 16$^{th}$ century modest constructions were built, due to the general lack of resources, and the conception that the buildings would have a temporary character (McAndrew 1965:522). The Chapels are of rectangular shape, where the chancel and the

nave form a continuous space covered by a perishable roof material. These type of constructions will be called, following Andrews, *ramada* chapels (Andrews 1991:367). The churches of this time are evidence a generally T-shaped plan, oriented according along an east-west axis, since the head of Jesus, represented by the altar, must be oriented toward Jerusalem, the place of birth of the Catholic Messiah (Ojeda 1985:69). Bretos thinks that the slight variations in this orientation can be related to an intention to adapt to the prehispanic ideological orientation of the buildings as well as to the topographical morphology (Bretos 1992:14-16). They consisted, generally, of a vaulted chancel or presbytery, flanked by two rooms one of which was the baptistery or chorus, while the other functioned as sacristy or storage, as well as a provisional room for the minister during his *visita*s. Instead of naves of masonry, they had a base that functioned as the foundation of braces that supported a roof of perishables materials that has been called *ramada.* This was used to offer protection against the elements of the rain and the sun (Andrews 1991:367-368; Bretos 1987a:53-57). This term was used by some Spanish in the Colonial period for any construction roofed with this type of materials (see for example Ciudad Real 1979:330). These constructions have been denominated with several terms: open air chapels, Indian chapels, *visita* chapels and open *ramada* churches (Andrews 1991; Artigas 1982; Bretos 1987a; McAndrew 1965). Although our intention is not to discuss here the validity of each one of these terms, we can conclude that, for instance, the chapel classification can be discarded since these buildings were conceived as churches from the beginning, although for economic and practical reasons only partly made out of masonry (Bretos 1987a:57). In agreement with the Andrews' classification, we will call them open *ramada* churches. Chronologically, the following type of constructions would be that of enclosed *ramada* churches. Essentially, these they would maintain the form of the previous kind of church but perishable construction materials would be substituted for masonry. The walls of the nave had one or two doors and some windows. Additionally, given their more permanent character, architectural elements were added as decorative frames around the doors and windows, as well as *merlones* on the roofs, *espadañas,* and bells screens (Andrews 1991:368). These elements could also have been in the first kind of construction, but they would have been situated upon the rear part, presbytery, sacristy, or baptistery, while in the second they would be placed in the façade. The majority of the churches of the previous type were modified through time, becoming to the latter category. The last group, according to Andrews's classification would be that of indeterminate *ramada* churches, that consisted of buildings in which the *ramada* roof was substituted for a late vault, either barrel, *rollizos,* or tiled roof. Besides these types, there existed buildings that were elaborated and built in a single phase, and were conceived of as vaulted churches from the time the project was begun, although many times a previous *ramada* church or other prior construction was demolished. We will refer to these simply as churches or chapels. The construction of last four kinds of churches was developed during the 17$^{th}$ and 18$^{th}$ centuries, when the Spaniards were more established and economic stable. All the religious buildings in Cochuah conserve the east-west orientation. Also, in a general way, *espadañas* were substituted for bell towers and a Latin cross plan by the 18$^{th}$ century (Ojeda 985:67).

The churches' constructive efforts took advantage of the common indigenous work system that had a long prehispanic tradition. The Maya word for this activity was *mulmeyah*, which was carried out each Monday. The term refers to a collective production effort, which was controlled and directed by the indigenous elites. It can be literally translated as "a thing done for common benefit" (Bracamontes y Sosa 1996:116-122). The labor for the construction of the churches in urban zones was remunerated, although not always in a punctual way. The ability and the prestige of the clergymen and of the *cacique*, as well as a good relationship between them, were essential factors in obtaining the material resources and free workforce (Bretos 1992:16-20).

Roys mentions several plazas and present churches that occupy the centers of prehispanic settlements (Roys 1952). The occupation of these sites assured the access to the native population, as well as to the sources of water, a critical resource in Yucatán, and the material for the construction of the "new" towns (Bretos 1991:14-16). Several of these towns, either *cabeceras* as *visita*s, already had been ancient religious centers, such as Izamal, reconfirming their position as new religious centers arose (Quezada 1997:142).

The orders of López Medel of 1552 indicated that all churches should be built of stone within the following two years, adding that as new towns were created, they ought to be settlements in the Spanish style. However, this, like many orders in the colony, was not always applied (Bretos 1992:14-15; McAndrew 1965: 518-519). Most of the churches were built throughout the colonial period.

In the Cochuah province, religious activity was under the charge of the Fransiscans in the beginning and after that it was secularized. Ichmul and Tihosuco were erected as monasteries, the rest of the towns received churches, with the exception of one chapels. All of these constructions will be particularly described in the following section.

*Chinkindzonot*

The first mention of this church is in the 1579 when it was described with masonry walls and painted retable, as well as with chorus and sacristy. At that time, the church has two bells. Furthermore, it had houses for the priest (Relación de Tihotzuc and Chikindzonot, RHGY 1983, II:199). The town was reduced and settled in a new place around 1559. The name means "west *cenote*" and its dominion extended to north, until Cupul's border. We know that according to a 1582 list of churches, Chikindzonot belonged to Ichmul as a *visita* town (DHY 1938: 62). In a 1650 catalogue, the church is dedicated to La Asunción de Nuestra Señora (López de Cogolludo in Quezada 1997:231). By 1686, it was separated from Tihosuco, the town which has been its *cabecera* since 1636 (Gerhard 1991:64). During Bishop Padilla' visit (1755), the church was poor with stones walls and a perishable roof. The chapel was vaulted and the curial house was small and damaged, made with branches and *guano*. In 1760, the nave was built with a *rollizos* vault and masonry walls (Bretos 1987a:203).

The current church of Chikindzonot (Figure 68) is formed by a nave oriented on an east-west axis, that could be classified as an enclosed *ramada* church. However, we think that it could have been a chapel, due to the almost square shape of its chancel. The presbytery or chancel, raised on three steps, dates,

**Figure 68. Photo of Church at Chinkindzonot**

without a doubt, from an older period. The interior of the church is roofed by a barrel vault that we believe is of recent production. The chorus still contains part of the wood beams that supports it, the entrance to the presbytery or chancel is flanked by a framework of carved stone, which has representations of angels and mythological animals, such as a dog that presents an element in its mouth. It seems that the dog has a torch in its mouth, characteristic of the Dominicans' Order. Some Franciscan churches include the shield of the Dominicans out of consideration of their fellow order, although always close to the Franciscans', that were represented by a lamb (Chico 1987:24). The outside of the nave boasts two lateral entrances; the lateral and back walls are decorated by *merlones* and a banister with stairs (Figure 69). The lateral doorways are decorated by a carved outline in high relief. On back face of the presbytery roof exists a sort of *espadaña* that served to place the bells when the nave was only roofed by a *ramada*. The façade is composed of two symmetrical bell towers that culminate in a vault crowned by a *merlon*, framing a frontal panel finished by what looks like a semicircular crest. The central door is delimited by carved columns that include reliefs of suns, saints, and angels, as well as mythological Catholic animals. The door is encircled by a carved-vegetal brand. Upon the door there is a choral window that is also decorated and upon this is a relief *tarja* dedicated the Virgin of the Conception (Figure 70). Next to the baptistery are some rooms that serve as a sacristy that seem to be of more recent manufacture than the church. The entire complex is located upon a large 2-m-tall platform that is accessed by frontal and lateral stairways**.**

*Chunhunhub*

This town is known as the southernmost population of note in the Cochuah region. Its name means "at the foot of *huhub* tree". In 1579, *encomenderos* that reported the church only mentioned the existence of bells and the necessary implements to celebrate the Catholic cult (Relación de Tabi and Chunhunhub, RHGY 1983, I:164). The town was congregated with inhabitants of four prehispanic settlements, Polyuc, Haasil Chen, Tikuxubche, and Tinobonche. Only Polyuc appears mentioned in later documents (Roys 1957:141). By the 1582 list of churches, it was a *visita* of Bacalar (DHY 1938:63). In the 1650 Cogolluo town list, the church was dedicated to San Juan Bautista (López de Cogolludo in Quezada 1997:228). At the time, it was a *visita* of Ichmul. Due its frontier situation, the priest of Bacalar moved his order to Chunhunhub where it became a parish settlement. At that time, Chunhunhub was the center of missionary activity in the Bacalar and Chetumal zone, as well as in the indigenous land to the south (Gerhard 1991:64). In 1754, Polyuc and Tituc were its *visita*s, and the church had strong walls, although it was roofed with *guano* (Bretos 1987a:209). The site always had a certain importance, since was placed in the *camino real* to Bacalar, which was an important position for the Spaniards. However, its frontier situation left it exposed to attacks from rebel Indians and "baymen," also knowing as pirates (Dumond 1998:21)**.**

The structure at Chunhunhub is an enclosed *ramada* church dominated by an arched chancel at its eastern end. The chancel is only slightly higher than the level of the nave and is framed by a simple arch set on undecorated pilasters. It

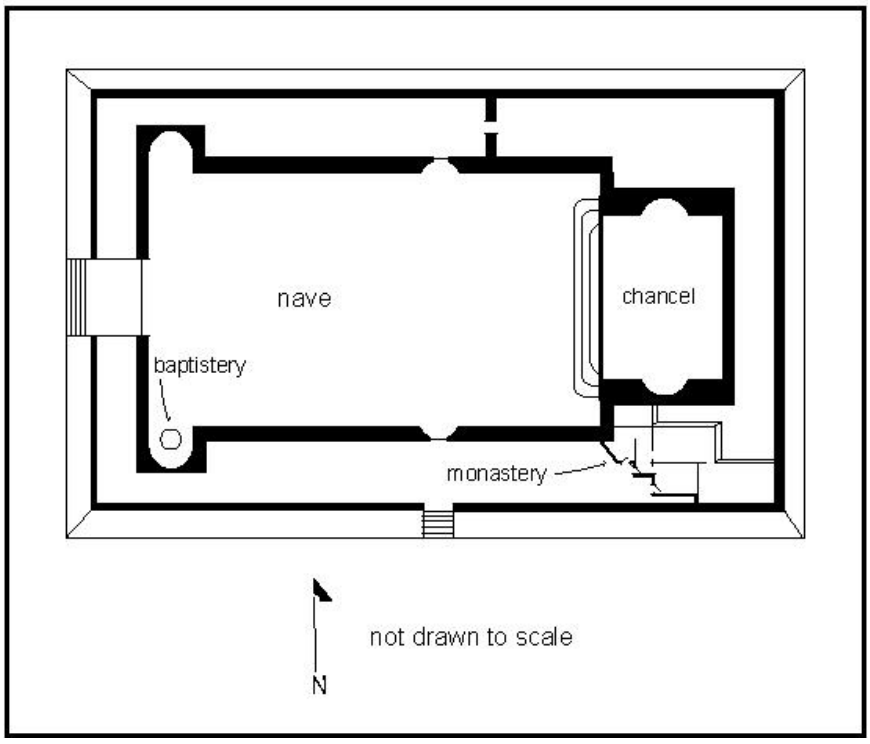



**Figure 69. Plan of Church at Chinkindzonot**

**Figure 70. Photo of Façade of Church at Chinkindzonot**

has only one doorway leading to the north. The complex to the north has obviously undergone recent renovation, as cinder-block construction is visible in some places, grafted directly onto the original stone masonry. The modern additions are elements of the active monastery, but it is likely that the original purpose of this northern door in the chancel was to access either a baptistery or sacristy. The nave extends to the west from the chancel ending in the main front entrance. The main entrance itself is a simple undecorated doorway set into a high-peaked, equally undecorated, frontal panel. There are two small windows with round tops flanking a large, square choral window in the center of the façade where the bell is currently suspended (Figure 71). . Only one of these windows, the one to the north side of the bell, actually penetrates the façade; the other is more of a niche in this respect. This is something of a false front, as the nave immediately behind the façade is roofless. At about the midway point between the front façade and the chancel begins a thatched roof that continues to the chancel itself. This is a high-peaked roof, mimicking the shape of the façade. It is currently supported by concrete rafters and wooden beams. This thatched roof covers the audience area, but the rest of the nave remains exposed where it is covered in a maintained grass lawn except for the center aisle. At the front, southwest corner is a large stairway, presumably built to access the bell or to a wooden chorus. The masonry walls of the nave are highlighted by a number of niches, which house carved and painted wooden saints (Figure 72).

Another interesting feature of the church area at Chunhunhub is the outdoor altar. This is located on the rear center of a raised platform and is accompanied by pews to accommodate the congregation. This platform is covered by a thatched roof on posts, but there are no walls**.**

*Ekpedz*

The name means "black trap or black incantation" which could be taken from an obsolete plant name (Roys 1957:139). In the 1582 catalogue of churches, it appears with the name of Xequepez as a *visita* of Ichmul (DHY 1938:62). Six years later, although Father Ponce passed one day in this town, he didn't describe the church (Ciudad Real, 1979:327). At that time, we can suppose that Ekpedz church was only a small *ramada* chapel. In the 1650 Cogolludo catalogue, the church is dedicated to San Laurencio (López de Cogolludo in Quezada 1997:226). When Bishop Padilla visited the region, the condition of the church was "poor with walls of stone and a straw roof". It was then a *visita* of Chikindzonot (Bretos 1987a:202). The town was abandoned during the Caste War in 1861 (Reed 1971:180-181).

The church at Ekpedz is located on the east side of the main town plaza. The structure at Ekpedz is typical of the enclosed *ramada* church, though it seems likely that it was originally an open *ramada*. The majority of the structure consists of an arched masonry chancel raised four steps above the level of the nave. The chancel is flanked on either side by two rooms, each with access to both the chancel itself and the exterior. One of these rooms is the baptistery, whose function is made evident by the cherub-decorated baptismal font located near the center; the other is presumably the sacristy. The nave, which extends westward from the chancel to the entrance, is enclosed by masonry walls but remains

**Figure 71. Photo of the Church at Chunhunhub**

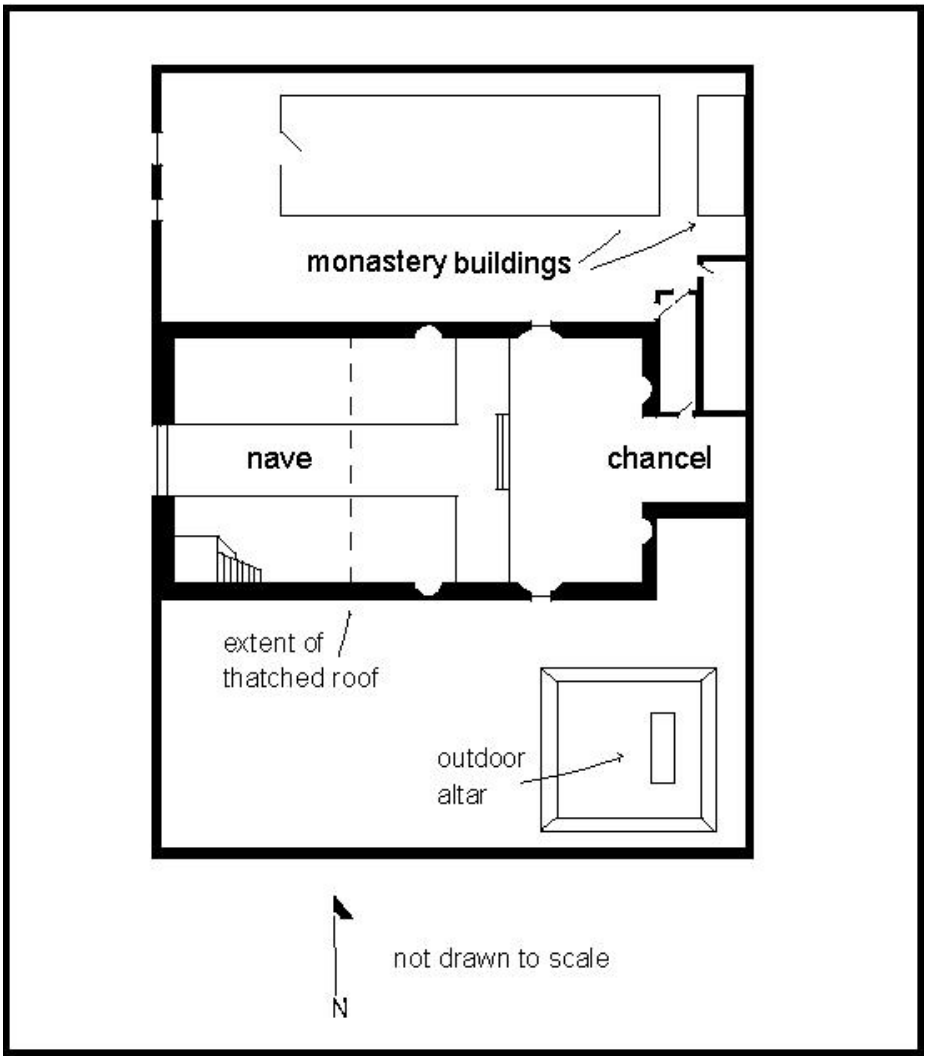



**Figure 72. Plan of the Church at Chunhunhub**

roofless. The church must have, at times, been covered by thatch. This nave was a later addition to the core chancel structure, as can be noted in the contact of the walls and the chancel (Figure 73).

The exterior architectural decoration of the church at Ekpedz is very simple. Both the front entrance and those on either side of the nave are undecorated arches topping simple square pilasters. The roof of the baptistery is capped with a simulated bell tower, while the bell itself is suspended by a wooden frame attached to the much lower level of the nave, next to the front entrance. The chancel itself seems to have been painted, possibly in frescoes, though it is difficult to determine whether the colored paint seen today represents the remains of the earlier decoration, or if these are the elements that are showing through the white covering coat.

*Ichmul*

This town was the core of missionary activity since beginning of the Colonial period, since the site attended to the entire Cochuah area (Gerhard 1991:63). Here, one of the first Franciscans monasteries was established. In 1579, the monastery had masonry of a "good size, modern, strong and well manufactured" (Relación of Ichmul and Tikuch, RHGY, 1983:298). In the 1552 list of churches, this town is indicated as the *cabecera de doctrina*, and included eight *visita* towns (DHY 1938:62). Father Ponce passed a night in this monastery in 1588. Although unfinished, it included masonry construction and had five rooms and a "room" where the sacraments were kept that at the same time would be for the chorus. Furthermore, it had a *huerta* and a *noria* (well) that communicated with a water reservoir in the same convent. Two friars resided in the monastery. (Ciudad Real 1979:328-329). During 1603, Ichmul was secularized and in 1636, the parish was divided in half, creating the parish of San Agustín Tihosuco (Gerhard 1992:63; Quezada 1997:136). By the 1650 town catalogue of Cogolludo, Ichmul was dedicated to San Bernardino of Siena (López of Cogolludo in Quezada 1997:227). In this monastery is where the miracle image of the Lord of the Blisters appears sometime during the 17$^{th}$ century. Ichmul's domain included some 20,000 inhabitants (Carrillo y Ancona 1979, I:495). Between 1657 and 1676, the image was removed from the town, which occasioned a descent in the prestige of the city. In 1737, the church was in a marginal condition and was declared as "worthy of repairing". The work of constructing the new church of Ichmul began in 1742 and by 1756 the building included "weak walls" and a *ramada* roof. The 1780- 1809 period seems have been the period of greatest construction activity in Ichmul. The façade of the parish church of Ichmul has the date of 1802 recorded on it (Bretos 1987a:196-198). The lintel over the entrance to the currently rotting remains of the stairway of the north tower has the date of May 29, 1765 recorded (Artigas 1982:187). In the *Archivo Histórico del Arzobispado de Yucatán*, a book of the building of Ichmul exists that covers from November, 1799 until March, 1819, the two decades in which the work was finished. Through this document, we know that it was the master craftsman Pascual Estrella who carved the baptismal *pila* and the Virgin medallion of the crest of the sanctuary of the Black Christ, which crowns to the building (Bretos 1992:145). Ichmul was abandoned during the Caste War, on Christmas Day of 1847 (Reed 1971:74-76). During the period of the conflict,

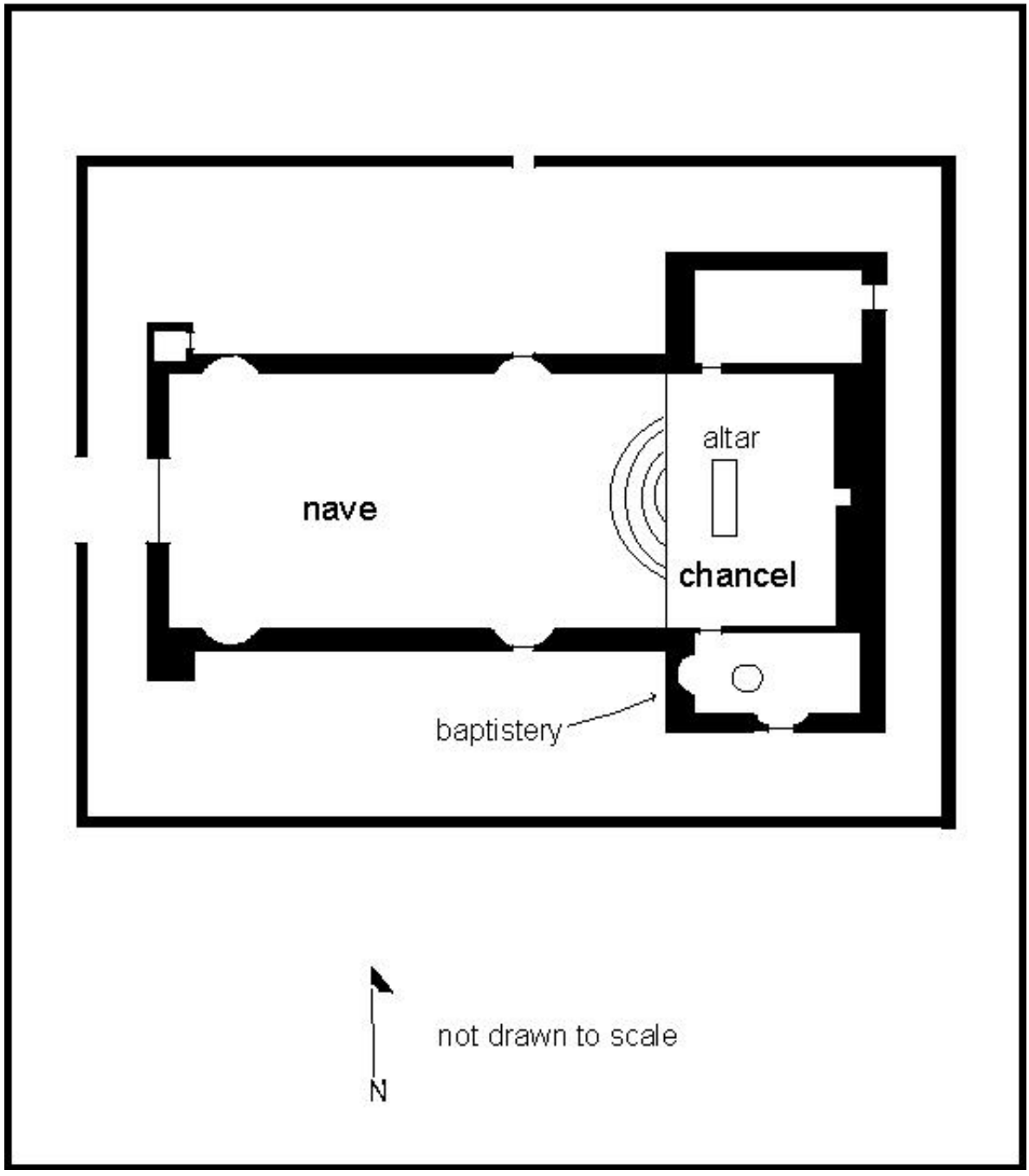



**Figure 73. Plan of the Church at Ekpedz**

Ichmul was occupied several times, by rebels and the federal militia. When the General Bravo stopped there in 1901, several photographs were taken (available in the library Cresencio Carrillo y Ancona, in Mérida, and published in some texts) that they are today a valuable testimony of this town (see Bracamonte 1994:116 144; Bretos 1992:141). In these images, the religious complex of Ichmul presents a similar appearance to the one that is found at present**.**

The religious complex of Ichmul is composed of three buildings, two churches and a sanctuary, which accommodates a modern replica of the Black Christ of the Blisters (Figure 74). The parish church seems to have been begun to be built during 1760. The temple has a cruciform plan and seems to never have been finished, either due to structural and economic limitations, or due to the political agitation of this period (Bretos 1987a:198, 1992:144). Additionally, as has been said before, the bell towers and the Latin cross plan, date on the 18$^{th}$ century (Ojeda 1985:67). The façade is formed by two unfinished towers and a frontal panel which was only finished with a little more than the choral window. Under this window is beautiful *ménsula* that in its vertices has a face. This *balconcillo* has certain similarities with that of the House of Montejo in Mérida (Bretos 1992:144-145). The frontal door is flanked by four columns that show off floral motives and angels. The columns finish in a cornice that starts a *tarja* that includes the inscription of 1802 and the name of the master Pascual Estrella (idem). The framework of the door is also decorated with plant motives. These same details appear on the door of the sacristy and in the cruisers of the cross plan, as well as in animal representations similar to those characteristic of the Dominicans Order's dogs (Figure 75) (Chico 1987:24), like those described in the Chikindzonot church.

Another building that composes the religious complex of Ichmul is the sanctuary of the Black Christ (Figure 25). The temple possesses an almost square shape. The presbytery is raised one step upon the general level of the nave. The south side of the presbytery contains a door which gives access to the monastery through the north side has a chapel. The altar includes a *retablo* painted with seven niches carved in the wall in a neoclassical style (Artigas 1982:195). The north side of the nave has other two chapels that are formed by the space left by the enormous *contrafuertes* required to maintain the vault, while in the southeastern extreme, for the same reasons, a baptistery was situated. Here, there lies an extraordinary baptismal *pila,* presumably created by the master Estrella (Bretos 1992:145). The beams that have maintained the wooden chorus for some time still are preserved fitted in the wall; some are decorated with diverse motifs. The facade is formed by two bell towers and a frontal panel with three entrances and three choral windows. The bell towers are finished with a vault in a crown form, giving the impression of a Moorish style, similar to the towers of the Saban church (see below), and they are crowned by a small *linternillas*. The frontal panel is finished by a crest that has seems to form a crescent moon or, perhaps, horns in whose center there is a cross, made using extraordinary workmanship. Under the cross is a medallion of the Virgin of the Conception, attributed to Pascual Estrella (idem), the Virgin that at some time possibly was their patron (Petty and Petty 2002:154-155). The summits of the lateral walls of the sanctuary are completed by a series of *merlones* that frame banisters that they seem to resemble crowns, like that of the crest of Saban. Artigas (1982:194)

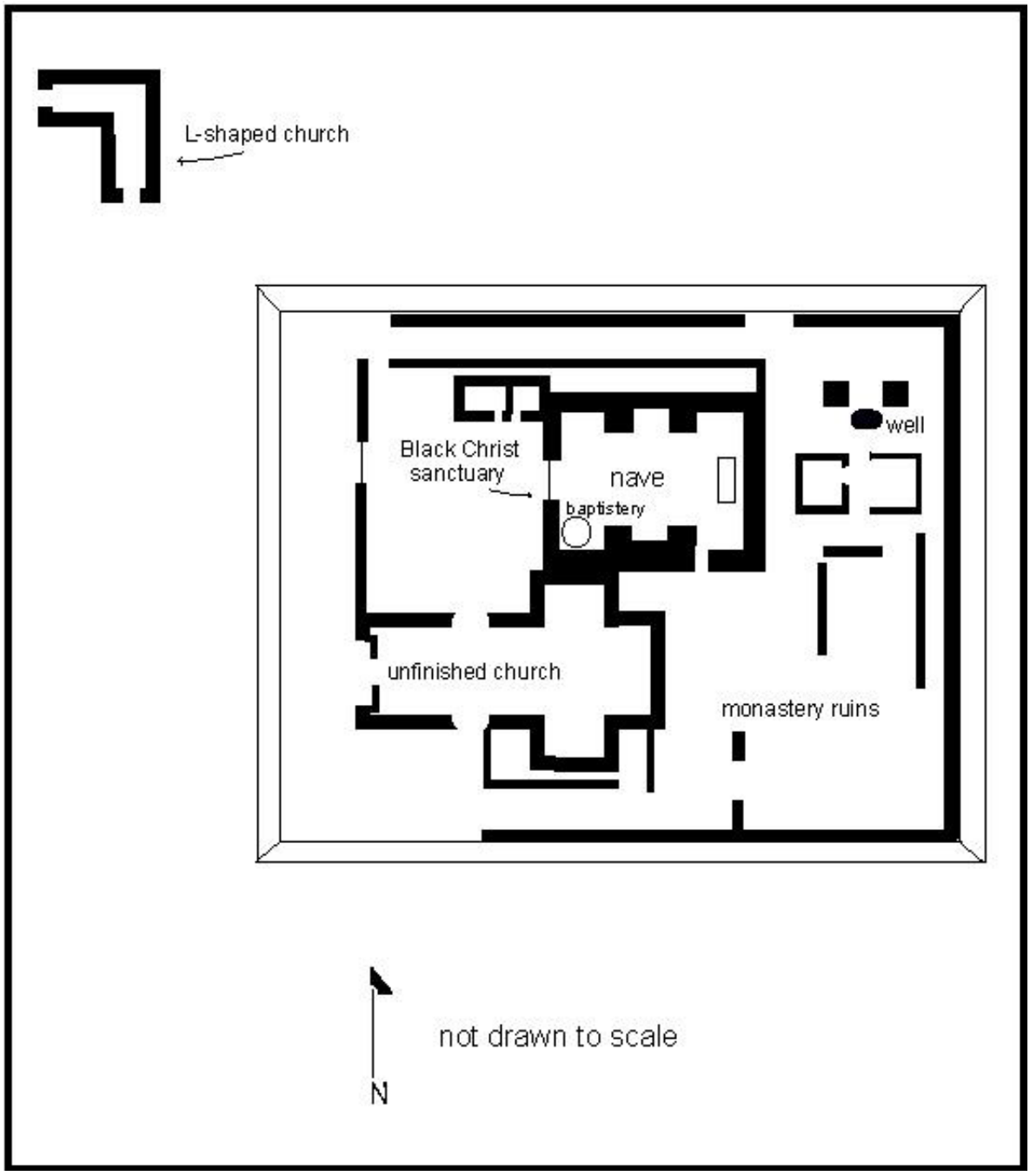



**Figure 74. Plan of the Religious Complex at Ichmul**

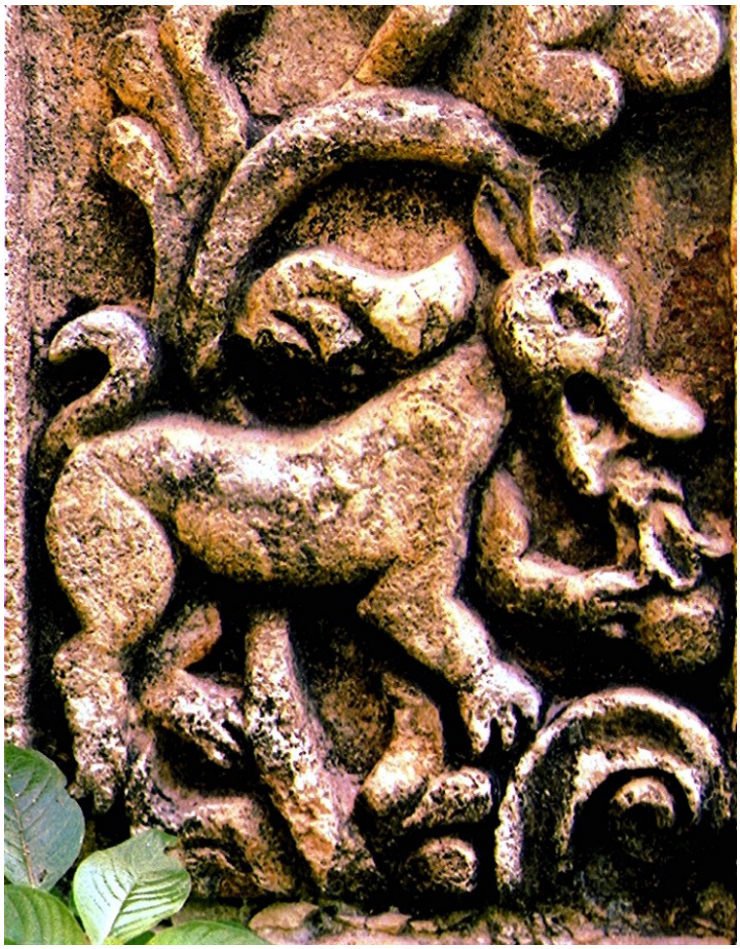


**Figure 75. Dominican Dog from Ichmul**

thinks that the large dimensions of the barrel vault seem to have been built by the false vault Maya system, in fact with horizontally superimposed stones. The front of the church is surrounded by an atrium, also almost square. On the north side are two rooms that possibly served as storage or as a curial house, while the south side is positioned upon part of the unfinished parish church. The construction of this sanctuary could be owed to the fact that it was impossible for the builders, either due to economic or technical reasons, to close the vaults of the parish church. For these reasons, a temple of smaller dimensions was constructed. The style of the work seems be of the first half of the 19th century, confirming the said supposition (Bretos 1987a:201-202). Artigas classifies this as an 16th century open chapel, but we, as well as other authors (Bretos 1992:146), have not found elements to support this position and we think that its construction dates to the 19th century.

The last building that forms part of the religious complex of Ichmul has been classified also as church, which presents a strange L-shape, unique in Yucatán (Artigas 1982:182-183). It has two entrances, in the south façade, as well as in the west. The first one seems to be the main entrance since opens toward the plaza. They are composed by a frontal panel, whose corners are finished by *merlones* and the center is crowned by a sort of *espadaña,* where at some time a bell was placed. In a 1901 photo, this building is labeled as the church of the Christ of the Blisters. The photo dates to the Caste War period, when it was occupied by the federal militia (Bracamonte 1994:116). It is probable that this was the place of the primitive sanctuary where the miracle figure carried out its apparition. The legend of the Christ of Ichmul mentions that the church had a "bell tower", where the presbytery Juan de la Huerta with his sacristan went up to appreciate the miracle of the tree that burned without consuming the carved image (Cervera 1975:157-164). Various authors have supposed that the apparition of this image is related to the change of regular-secular clergy (Carrillo y Ancona 1979, I:495-508; Negroe 1999), although possibly this "miracle" relates to an older syncretism (see Flores and Normark “All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region” this volume).

*Polyuc*

Certainly this town was the settlement of a prehispanic population or was nearby the actual settlement. Chuhhunhub was created through the congregation of this town and three others (Relación de Tabi and Chunhunhub, RHGY 1983, I:163-164). The name of this town means "head of deer" (Ciudad Real 1995:376-648). We could find the town on the list of 1582 but in the 1650 catalogue it is dedicated to San Juan Bautista (López de Cogolludo in Quezada 1997:226). In 1754, it was a *visita*, with Tituc, of Chunhunhub. Polyuc was attacked by the Mosquitos Indians and this made it necessary to move the religious instruments to its *cabecera* (Bretos 1987a:209). As in Chunhunhub, the town was in an exposed and risky situation, due its proximity to the independent indigenous communities and to the "baymen". This position resulted in a designation, in the 18th century, as a poor population level (idem).

At Polyuc, we find another T-shaped enclosed *ramada* structure, very similar to, yet a smaller version of, Chunhunhub. The chancel is framed by an arch

mounted on pilasters, set against a high-peaked masonry wall similar to the façade at Chunhunhub. The chancel is flanked by two rooms, presumably a sacristy and a baptistery that seem be a later adition. The rear wall of this presbytery is crowned by a bell screen.

This structure is roofless, though there is evidence that at some point beams ran across the top forming that would have been the basis for a low thatched roof. Today the open nave is covered by a maintained grass lawn on either side of the center aisle accompanied, in this case, by some shrubbery and a tree. There are doors on the north and south walls of the nave, just before reaching the chancel that lead into the church yard. The nave is not decorated, with the exception of two seemingly cruciform niches in the north and south walls, between the side doors and the chancel (Figure 76).

The front façade matches the peak and shape of the wall in which the chancel is set. It appears to have two low square windows and one choral windows above the door, but, upon further inspection, it turns out that the lower windows are not cut all of the way through the wall. The bell is now mounted in the central window.

*Rancho Guadalupe*

This chapel was reported in 2003 (Flores 2003). At that time, it was classified as a church. However, we now think that, due its shape and some valuable comments (Anthony Andrews, personal communication 2004), it is more similar to a chapel (Figure 77). It is situated upon a rectangular platform, oriented along a west-east axis. The eastern part is formed by a circular wall that marks the rear part of the chancel. The nave walls are collapsed remains only roughly 1.90 m tall. Between the chancel and the nave, there exists a wall whose function is unknown. A similar distribution was observed on a plan map of a Mixupip (Yucatán) *visita* chapel (Fernández 1945:465-466). The façade is collapsed, but we couldn't find evidence of collapsed stone due the reuse of these elements in *albarradas*. We think that the chapel was never roofed, or if it were, it was only with perishable materials. Also, it may have been unfinished. Low portions of the nave's walls show damaged traces of red square painted with half circles in the interior. Due its proximity to Sacalaca, around 6.5 km, we think that was a *visita* of this town. The 1723 Sacalaca parish has San Buenaventura Dzonotchel and San Luis Petul as *visita*s. The locations of these sites are uncertain (Gerhard 1991:61). It seems that Guadalupe was the chapel of a settlement that we could typify as *rancho* that could be included in the Spaniard conception of a town. We don't know how many people would have lived at the site due to the fact that, because of time constraints, we were unable to carry out an extensive survey, which would have allowed us to see traces of foundation braces. Another important fact is that, according to locals, Guadalupe is situated along the old road to Peto. The identity of this settlement in the past is unknown, but we don't rule out that its historic name could be located in the future.

*Saban*

The name Saban was probably a deformation of the Spanish word *sabana* (savannah) or was originated by a tree called *tzalam* (Brito 1978:116). Saban

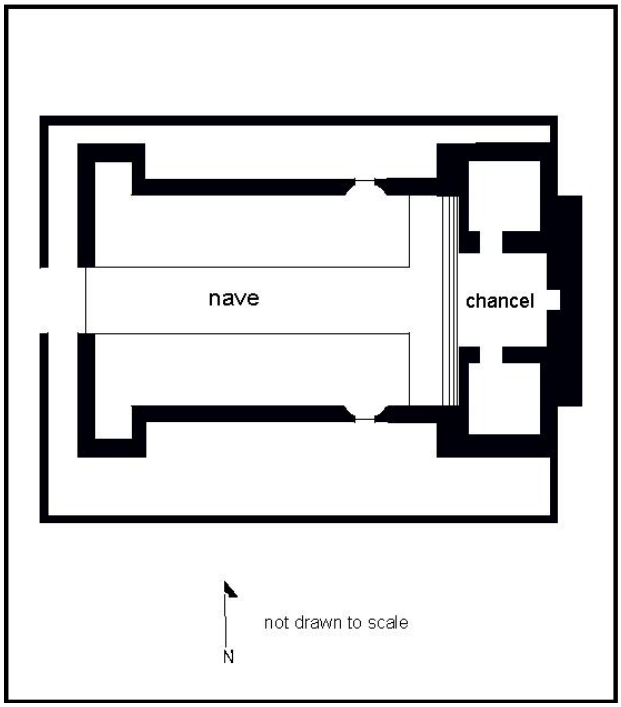



**Figure 76. Plan of the Church at Polyuc**

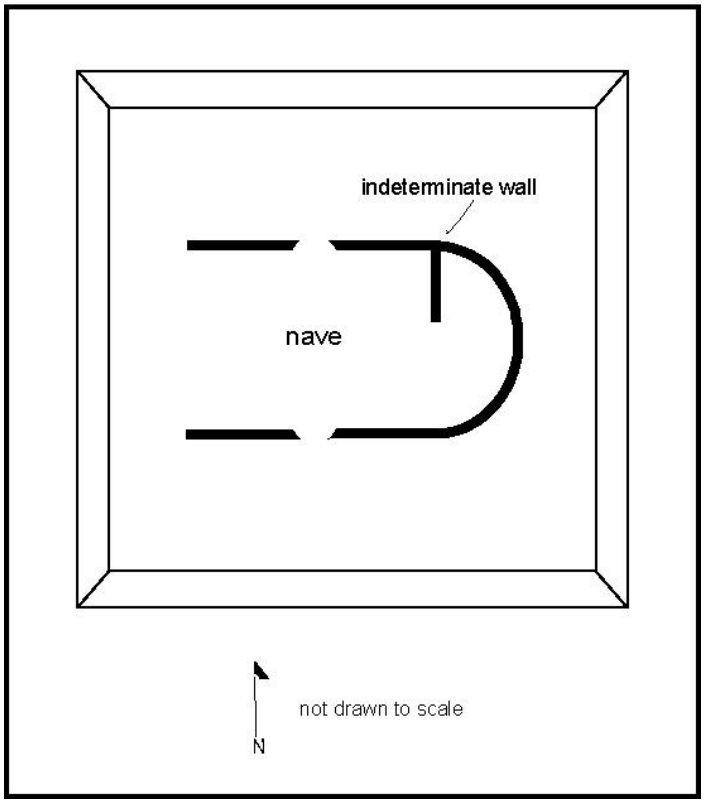



**Figure 77. Plan of the Chapel at Rancho Guadalupe**

doesn't appear until the 1650 Cogolludo catalogue dedicated to San Pedro Apóstol (López de Cogolludo in Quezada 1997:28). Until 1756, the church had a *guano* roof with weak walls. Saban was a *visita* of Ichmul. The actual church dates from this period, when the masonry of an earlier construction was reused to build a "modern church" (Bretos 1987a:96-202). The town would have been an important place during late colonial period due its handsome church and quarter (Roys 1957:142). During Caste War, the town was abandoned until 1861, although a short time afterwards was used as a headquarters by the federal militia (Reed 1971:181, 234). During its abandonment, the church was visited and described (Escalona 1943:28-31).

The church of Saban is composed of a presbytery and a sacristy, which are attached to a nave that surely is later in date. The presbytery or chancel has a barrel vault, as it is the one that has access to the sacristy. The nave has two lateral entrances, and near the entrance of the temple, to the south side, is the baptistery (Figure 78). The façade is composed of two towers and a frontal panel. These bell towers finish in a vault that resembles a crown with stars, very similar to the bell towers of the sanctuary of Ichmul. These also are completed by a *linternilla.* The door of the panel this flanked by decorated pilasters and the framework that is also carved with linear motives. The frontal panel is completed by a crest that resembles a crown (Figure 79). Above the door is found the choral window that includes a decoration that frames it. Upon this is a *tarja* worked in high relief with the representation of San Pedro, its patron, with its rooster and column. The use of *tarjas* is rare in Yucatán (Bretos 1987a:202). Recently, this building has been restored, fortunately by professionals of the INAH, to its original configuration. According to the architect responsible for the consolidation, it seems that the vaults of this temple never were closed due to structural defects in the building (Porifirio Mateos personal communication 2004). During this recent work, stars in the vaults of the bell towers were discovered. The church is seated directly upon the level of the plaza.

*Sacalaca*

The word Sacalaca could have two possible translations. One is *sac lac* which means "white *cajete*" or *sacal ac* that is "white grass" (Brito 1978:117; Roys 1957:141). In 1579, the church was described as a small building with a chapel of masony. The church was in charge of an *ah cambesah* or *maestro cantor* (Relación de Sacalaca and Tahmuy, RHGY, II:227). On the list of 1582, Sacalaca was a *visita* of Ichmul (DHY 1938:62). In the1650 catalogue, the church was dedicated to La Asunción de Nuestra Señora (López de Cogolludo in Quezada 1997:228). By 1686, it was separated from its previous *cabecera,* making a new parish (Gerhard 1991:64). In 1723, Sacalaca has two *visita*s, San Buenaventura Dzonotchel and San Luis Petul. The church, at this time, was enclosed by masonry walls but with a *guano* roof. Bishop Padilla makes reference to the fact that the church has "very good altars" and in 1748 a new "*camarín*" for the virgin was finished. This is one of the latest examples of the Yucatecan *camarín* (Bretos 1987a:204). During the Caste War, Sacalaca was abandoned until 1861, as were other nearby towns (Reed 1971:181).

The CRAS Project of 2003 worked in the core of the town on two

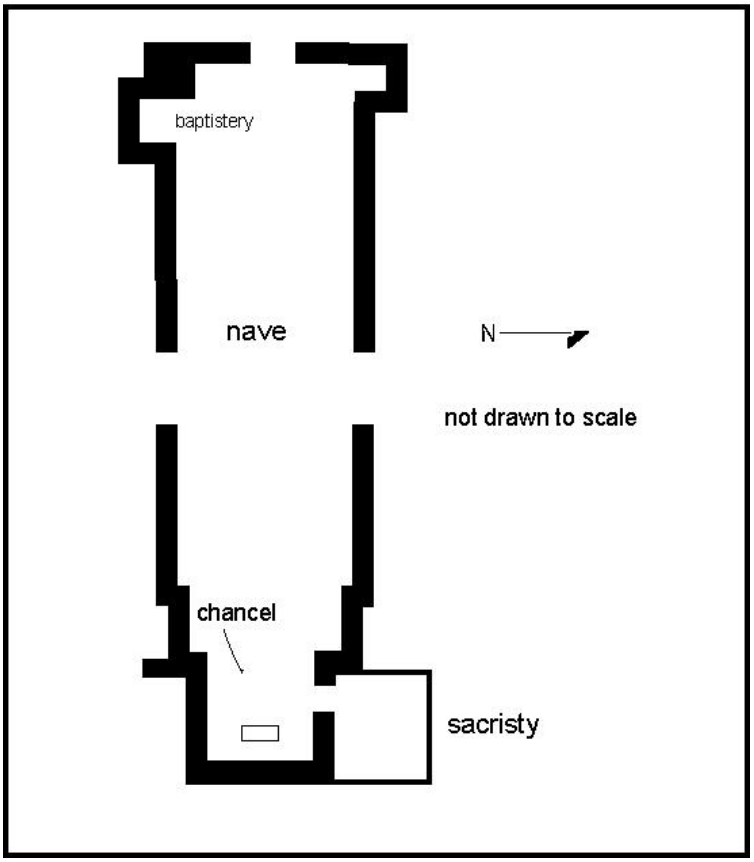



**Figure 78. Plan of the Church at Saban**

**Figure 79. Photo of the Church at Saban**

prehispanic buildings (see Shaw et al. 2003). The presence of these constructions make us suspect that Sacalaca was established near or in a prehispanic village, although an 1579 *encomenderos'* report mentions that the town had been relocated (Relación de Sacalaca and Tahmuy, RHGY, II:277). This *encomendero* refers to indigenous peoples who were moved to the *cabecera de doctrina*. Escalona Ramos visited, but did not describe, the church in the 1940s, when the town still abandoned (Escalona 1943).

Sacalca has two churches. One of these lies to the south of the town, and has recently been restored. The other, which is located on the eastern side of the main plaza, has received no similar attention. This north church is typical of the T-shape enclosed *ramada* churches with a large eastern chancel and a nave extending to the west from there (Figure 80). It has a north and south door along the nave walls. The front façade does not extend very high but runs fairly long north-to-south. On the north and south ends of this façade, there are simulated towers framing the standard arched openings. The pilaster-framed doorway is directly in the center of the façade. There are two rounded window niches on either side of the top of the door but extending higher and directly above the door and higher than the rounded niches is a square window. All three of these features are surrounded by some sort of floral relief carving that has suffered erosion damage. A niche housing an elaborately carved statue fits directly above the square window and below the crest of the façade. This figure stands raising its right hand on a pedestal supported by cherubs. This statue has also suffered the effects of erosion, so it is difficult to tell exactly what or who is being represented. Several statues like this are acodetes in an adjacent room of the Casa Ejidal, that the people call as "museum". To the south of the nave there are the remains of more walls and doorways, although these are no longer functional. There is no roof covering the nave.

The other church of this town is located south of the main plaza, and consists of a rectangular nave and attached sacristy. This it is the church that, at present, provides religious service to the town of Sacalaca. The reason for the existence of this second church is uncertain since we not have found data that indicate the presence of two religious buildings in the town. The presbytery is decorated with representations of San Francisco, present patron of Sacalaca. The nave contains three entrances, two lateral and one frontal. To the north side is attached a cylinder that contains the stairway that gives access to the chorus and the roof. The façade is simple and consists of a choral window. The church is crowned by an immense sort of crest that is more like an *espadaña*, whose extremes are finished in a raised point, giving the impression also, if one wants, of horns. Said *espadaña* contains six bell screens. To the sides of this, also in the *espadaña,* what seem to be stars have been perforated. The *espadaña* is finished with a cross, very similar to that of the Sanctuary of Ichmul. The entire building is situated upon a semi-natural platform that this enclosed by a lower fence, which forms a small atrium (Figure 81). This atrium has a frontal stairway that leads to the building level. In front of the church extends an immense plaza, in whose west extreme is found a well. This building was also included in the consolidation and restoration work carried out by the INAH in the 2004. A peculiar characteristic of

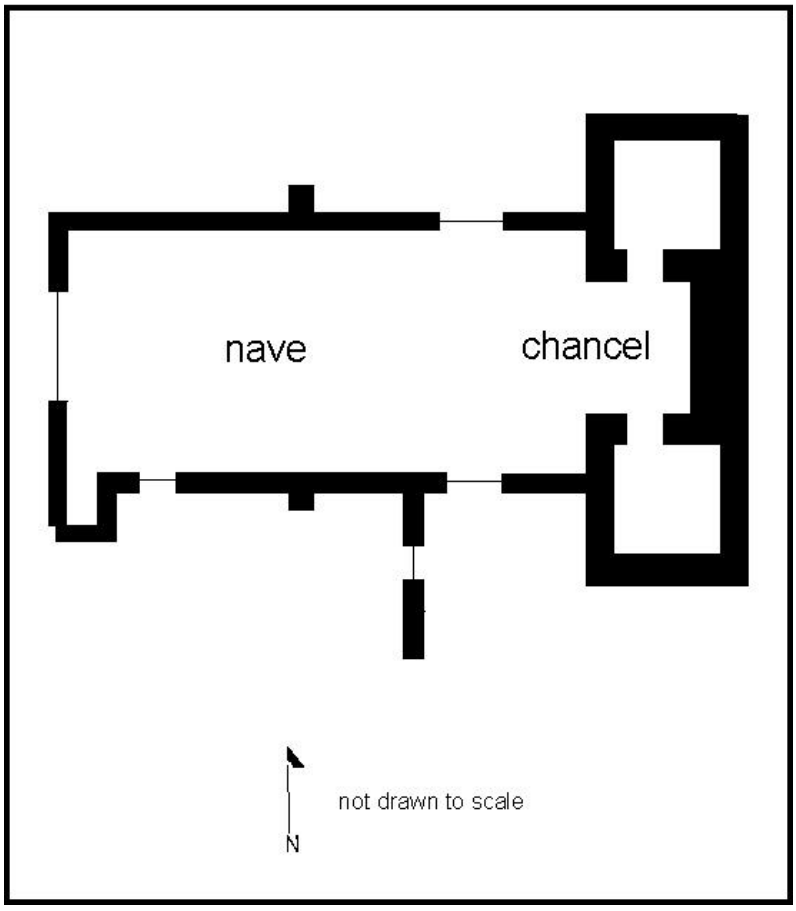



**Figure 80. Plan of the Northern Church at Sacalaca**

**Figure 81. Photo of the Southern Church at Sacalaca**

this building is that it includes a basement (Porfirio Mateos personal communication 2004).

*Tepich*

The name Tepich means "at the ear tree" in Maya. This town was congregated with Chikindzonot and Tihosuco during the decade of the 1550s (Roy 1957:137-139). We don't know much about this settlement since it is not mentioned in any list of churches. By 1688, it may be that Tepich depended politically upon Ekpeds (Gerhard 1991:65). During the Caste War period, we have much more information, because it was in this town where the movement arose. The church of Tepich was profaned by the *ladinos* (white inhabitants) in the beginning of this movement by 1847 (Reed 1971:68).

The church of Tepich is also on a pronounced rise (Figure 82). Again, it is not clear if the origin of this incline is natural or artificial. The structure is typical of the enclosed *ramada* style, with the chancel located to the east and the nave running westward from there. The chancel is flanked on either side by two rooms, as is the case with many of the churches of this style (Andrews 1991:368). In this case, though, it seems as that the room to the north may have originally been the second of two stories. Now this room is more of an open shaft with a door awkwardly placed halfway up the wall. The nave at Tepich is covered entirely by a corrugated tin roof, which rests on wooden crossbeams. The roof is pitched to mimic the peak of the chancel and the façade, though it does not match them in height. The front façade comes to a high central peak, which is flanked at the north and south ends by simulated towers. Both of these towers frame arched openings but they are not symmetrical. While the southern tower is rounded and topped with a rounded crest at its peak, the shape of the smaller northern tower is more flanged at its ends with a sort of a pedestal design in the middle. The bell is housed in the larger southern tower. The entire front façade is whitewashed without any further decoration except for the remnants of a carved geometric border along the upper crest and a small cross protruding from above the center of the doorway. There is a single square window above.

Also of interest here are the features of the churchyard. The walls of a cemetery extend north off of the walls of the church. On the north side of the church is a small outdoor addition (Figure 83). This is simply a frame of posts abutting the north wall that has been constructed to support a small corrugated tin roof. Underneath this shelter are a number of stones with evidence of frequent burning.

*Tihosuco*

Tihosuco means, in Yucatec Maya, "place of the five *parcialidades*" (Ojeda 1985:23). We can suppose that from 1561-1562, the church did not exist since the indigenous went to Sacalaca to hear *misa* (Ojeda 1985:67). The first mention of the church is in 1579, the year when Tihosuco is designated as a new town. The church in this time was made of masonry and was painted with frescoes. It further had a chorus and sacristy, in addition to two bells and their own ornaments for Catholic worship. As the cacique of Cochuah, Nacahum Cochuah, resided there, we have reason to think that it was the capital of the province (Relación de

**Figure 82. Photo of the Church at Tepich**

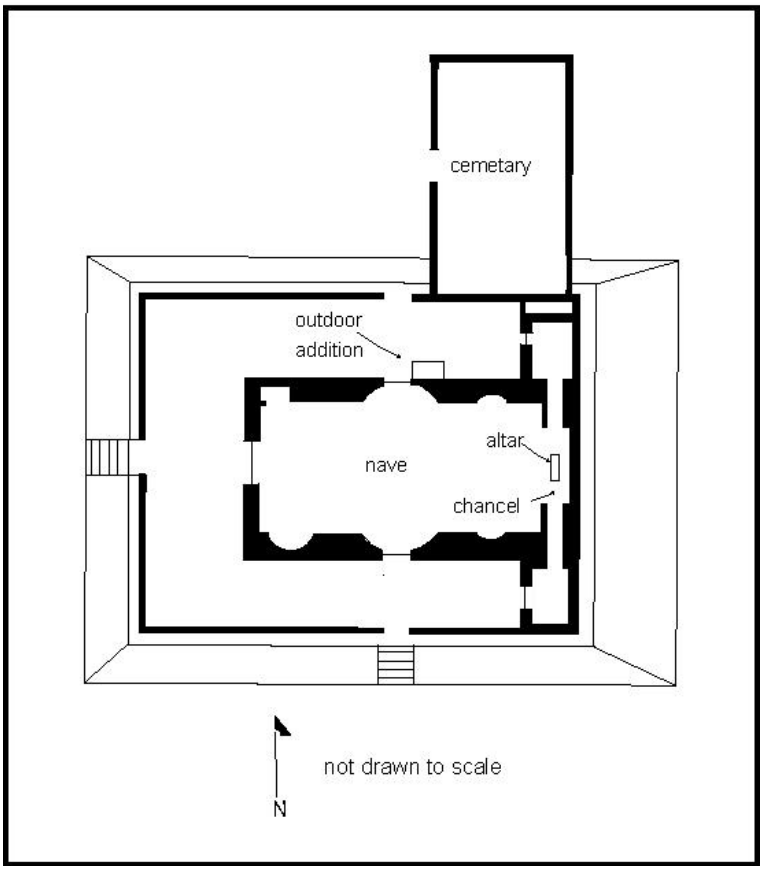



**Figure 83. Plan of the Church at Tepich**

Tihotzuc and Chikindzonot, RHGY 1983, II:198-199). During 1582, it was indicated to be one of the *visitas* of Ichmul (DHY 1938:62). In 1636, the parish of Ichmul, previously secularized, was divided, with a *beneficio* being established in Tihosuco (Gerhard 1991:63). By the 1650 catalogue of churches, it was dedicated to San Agustin (López of Cogolludo in Quezada 1997:230). In 1686, the pirates Lorencillo and Gramont attacked Tihosuco (Ojeda 1985:34). By the time of Bishop Padilla's visit (1755), the church was roofed, although not with a vault, and it was equipped with "good ornaments". Between 1745 and1755, it included the *visita* town of Chekubul, where various prehispanic mounds that were demolished to build the *visita* chuch (Bretos 1987a:205-209). This town has not been identified, but albeit may be Lalka, a site that has a *visita* church and ruined prehispanic mounds, situated near Tihosuco. Luis Alberto Martos (personal communication 2004), thinks that this place could be also the prehispanic Tihosuco and the first Spanish seat, before being congregated in the 1550s. In 2004, there was a plan to restore the site that, for various reasons, was not carried out (Porfirio Mateos personal communication 2004). It seems that in 1752 the sacristy and the curial house were repaired. Two masonry neoclassic *retablos* present dates of 1839. The baptismal *pila* attributed to the master Pascual Estrellar, who also worked in Ichmul, shows a date of 1786 (Bretos 1987a:205-209). Without a doubt, the church of the 18th and 19th centuries is very different from the primitive church, surely a typically 16th century T-shape. An 1806 map indicates that Tihosuco, together with Mérida, Valladolid, and Campeche, was one of the main cities of Yucatán (Ojeda 1985:109). Tihosuco was one of the protagonists' sites during the Caste War. The city of birth of the rebellious leader Jacinto Pat, Tihosuco was attacked and occupied in 1848 by Maya insurgents, where they established their headquarters. A year later, the city was retaken by the federal government that utilizes the "*maciza*" (strong and massive) church as an arsenal and *polvorín* (Reed 1971:82-85, 118-119). The façade of the church may have been destroyed during this movement, although this event is also attributed a merchant that used dynamite in trying to steal the bells (Ojeda 1985:53-55). The church remained for a time without a vault, but in last century, from 1950-1960, a new *rollizos* vault was placed by the new inhabitants (idem).

The plan of the church of Tihosuco seems to be a Latin cross; on the north side there are some rooms where the monastery was situated while to the south the cemetery (Figure 84) is located to take advantage of the winds (Ojeda 1985:67). It is difficult to know what occurred in the transformation of this church, for this reason, we classify it as indeterminate *ramada* church, although we do not know if it took advantage of a previous church or was built as a totally new one. The older part of the building seems be that of the present one baptistery. The presbytery is raised upon three steps and toward the north this communicates with the baptistery. The door of this access this carved with geometric motifs, while the altar presents representations of angels, similar to that of the unfinished church in Ichmul. It is possible that it had a *retablo* (Ojeda 1985:78). The lateral sides of the cruciform plan are chapels, which only rise to half of the height of the walls of the temple. The nave has two doors; of the one the north side is the one that at present provides access to the temple. The façade is almost totally collapsed and the remains of this lie on the south wall, near the entrance to the cemetery. The

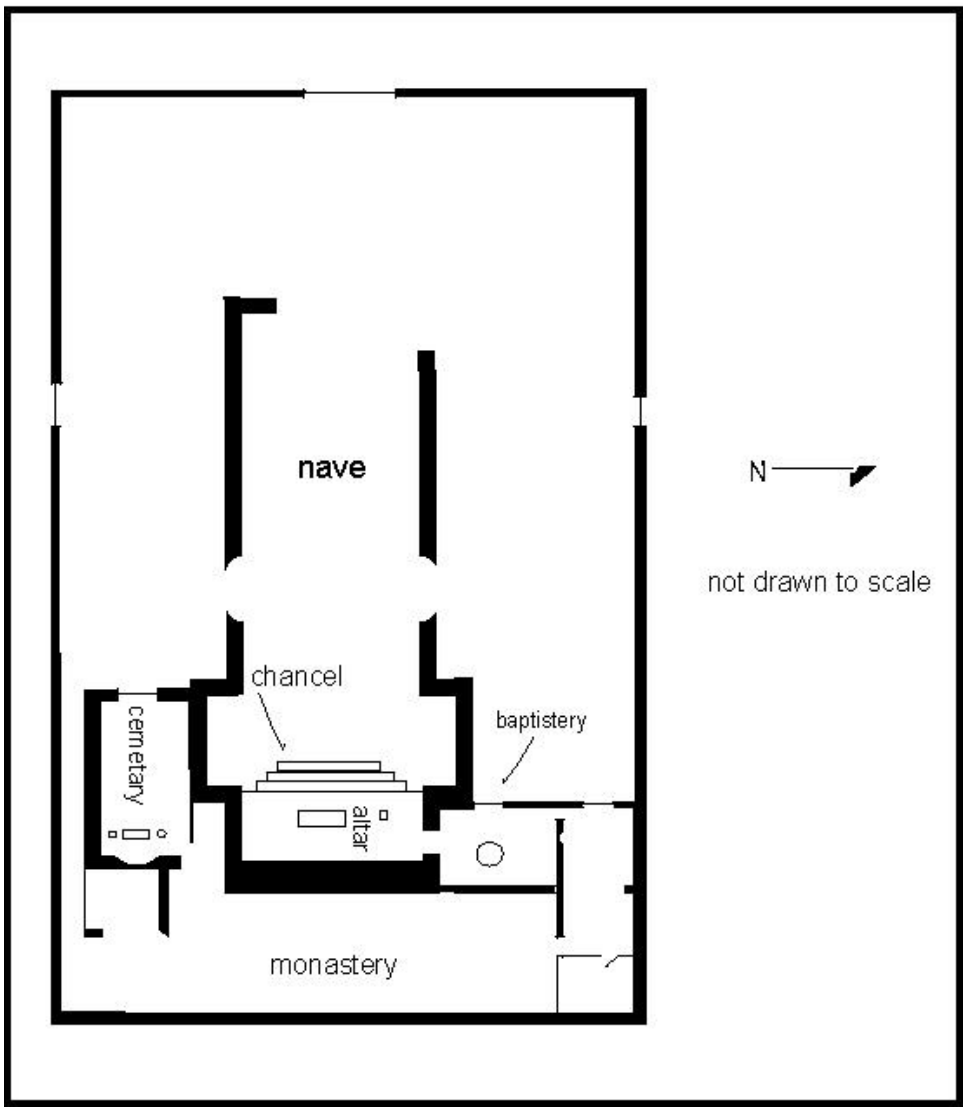



**Figure 84. Plan of the Church at Tihosuco**

door of the cemetery is finished with an *espadaña* and all of the walls are crowned by a banister that is similar to crest of the sanctuary of Ichmul. The façade even includes the remains of columns with flowers motifs. The space where once the door and the choral window were is lost (Figure 85). For this reason, we can't suppose what its form was. The roof of the building was partially vaulted, in recent history, while the lateral and rear walls are crowned by *merlones*. The temple is surrounded by an enormous atrium, which has been remodeled and raised in height. The monastery is located to the east and in it are several rooms and a garden, as well as a *noria* (well system), surrounded by a wall that is roughly 2 m high. This entire complex is situated at the plaza level. This building of Tihosuco is the "*cabecera"* of the priests that, at present, provide the Catholic worship in the region, the Order of the Legionaries of Christ. The chief priest of the place informed us that some men found a statue of San Agustín, the old patron of the temple. Its whereabouts are not known (personal communication 2004). At present, this parochial temple is dedicated to the Niño de Jesús.

*Uaymax*

The first certain mention of this church is in the 1582 list of churches under the name of Guaymax as a *visita* of Ichmul (DHY 1938:62). The prehispanic name was undeterminable because the town appears as several names throughout time: Uaymax, Baymax, and Guaymax. There are some archeological remains near the actual site that make us think this town was settled near or in a prehispanic settlement (Johnstone personal communication 2004). Gerhard (1991:63-65) thinks that Uaymax could be Samyol. If this is the case, from 1579-81 *encomenderos* report that Samyol has a masonry church (Relacion de Popolá, Sinsimato, Samyol, Txholop and Tixmukul, RHGY 1983, II:219). In the 1650 catalogue, Uaymax was dedicated to San Miguel Arcángel (López de Cogolludo in Quezada 1997:230). We don't found any other mention of the site until Caste War period when it was abandoned (Reed 1971:181). Escalona Ramos visited the place in 1943, when it was abandoned, recording an interesting description (Escalona 1943:25-27).

The church of Uaymax is composed of a presbytery or chancel, to which a room that seems function as sacristy is attached. The chancel has a barrel masonry vault. The long nave has two lateral entrances and two windows, and extends westward from the chancel to the entrance. It is enclosed by masonry walls and currently lacks of roof. The structure could be considered to be an enclosed *ramada* church, although it seems that it was originally an open *ramada*. The façade is formed by two false bell towers that frame a frontal panel. The false towers have three bell screens. The frontal panel is triangulated in a very sharp angle; it also has a window that presumably was for the chorus. Near the southwest corner is found the baptistery (Figure 86). The nave was probably roofed with a *ramada* that, due to the frontal panel's triangular shape, had a very pronounced slope.

*Xcabil*

This town is not mentioned in any documents that we have seen until now. The solitary reference that we have is from the Caste War, when Jacinto Pat, one

**Figure 85. Photo of the Façade of the Church at Tihosuco**

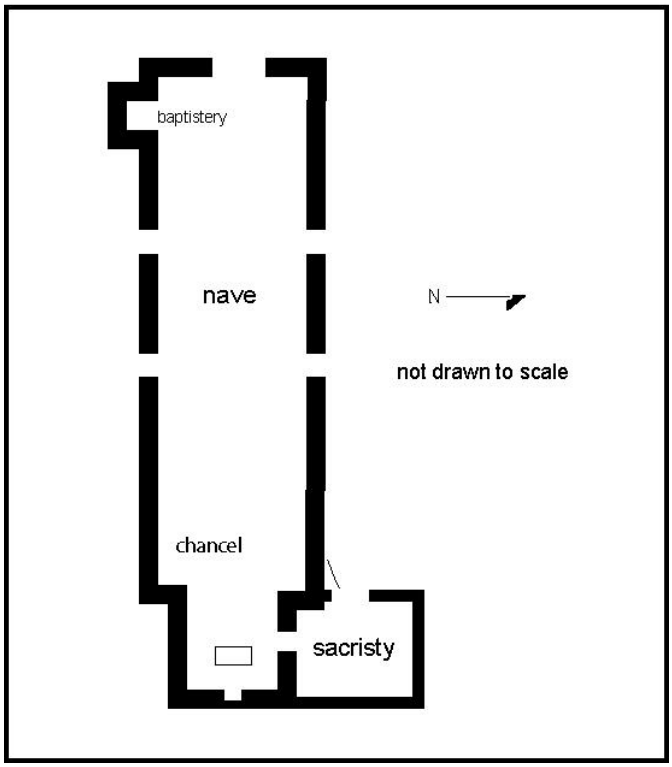



**Figure 86. Plan of the Church at Uaymax**

of the indigenous leaders, established his general headquarters there (Reed 1971:118). This absence of documentation could be explained if the town were perhaps called by another name, although it is possible that it had a small population, as it does today. Due to its proximity to Tihosuco, we suppose that it was its *visita,* but this is just a hypothesis. It is important to note that this building is different than the other churches in the region. Due the existence of several *contrafuertes* (buttress), it shares some similarities to the Balam Na (house of jaguar), the church of Chan Santa Cruz, the main headquarters of the Maya rebels during the Caste War, in the town that is currently named Felipe Carrillo Puerto. The Balam Na is the unique example of masonry churches built independently by the indigenous people (Bretos 1992:147-152).

Located on the east side of the plaza in Xcabil, the church is set atop a pronounced rise. It is unclear whether this increased elevation is natural or if the church is on an artificial platform. The structure at Xcabil seems to fall into Andrews' (1991:368) undetermined *ramada* church category. It seems likely that this was a *ramada* church at one point, but it is now topped with a barrel vault roof. Incidentally, contrary to the *ramada* model, the barrel vault extends over the chancel, which is separated from the nave only by a single-stair rise in elevation.

The narrow nave extends westward from the chancel to the entrance. There are doors on the north and south walls at about two-thirds of the distance from the entrance to the chancel. At about the halfway point, on the north wall, is a masonry bench on which a dressed, three-cross shrine sits. Also notable of the nave are its exterior walls where there are large buttresses running the length of the structure (Figure 87). These may have been added to increase the architectural strength of the walls, which would be further indication that the roof was a later addition (McAndrew 1965:157).

The façade at Xcabil is the only area of decoration. It extends higher than the roof of the church and is topped with a configuration of three bell screens, that form a sort of *espadaña,* two at the base and a smaller one above and in-between them. A bar runs through the lower level, and the bell is suspended from this bar in the northern opening. The door to the church is in the center of this façade and is undecorated, framed by an undecorated arch. Between the top of the door and the bottom of the roof decoration is a niche sheltering an image of the Virgin of Guadalupe, which is its patron (Figure 88).

*Xquerol*

This town was reported in the 1650 catalogue of Cogolludo as Celul, which was dedicated to San Buenaventura (López de Cogolludo in Quezada 1997:225), but we don't have any other reference to this town. Surely it was a *visita* of Ichmul due its proximity. As in Sacalaca, the CRAS project worked in this town during 2003, since there are some prehispanic archeological features. A 10-m-tall pyramidal structure, terminus of the Xquerol-Ichmul *sacbe*, lies north of the church (see Flores and Normark “All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region” this volume). The presence of these ruins make us think that perhaps this town was by the congregation of a nearby village, probably the site of Nohcacab, which has evidence of a Postclassic occupation. These ideas are uncertain, however.

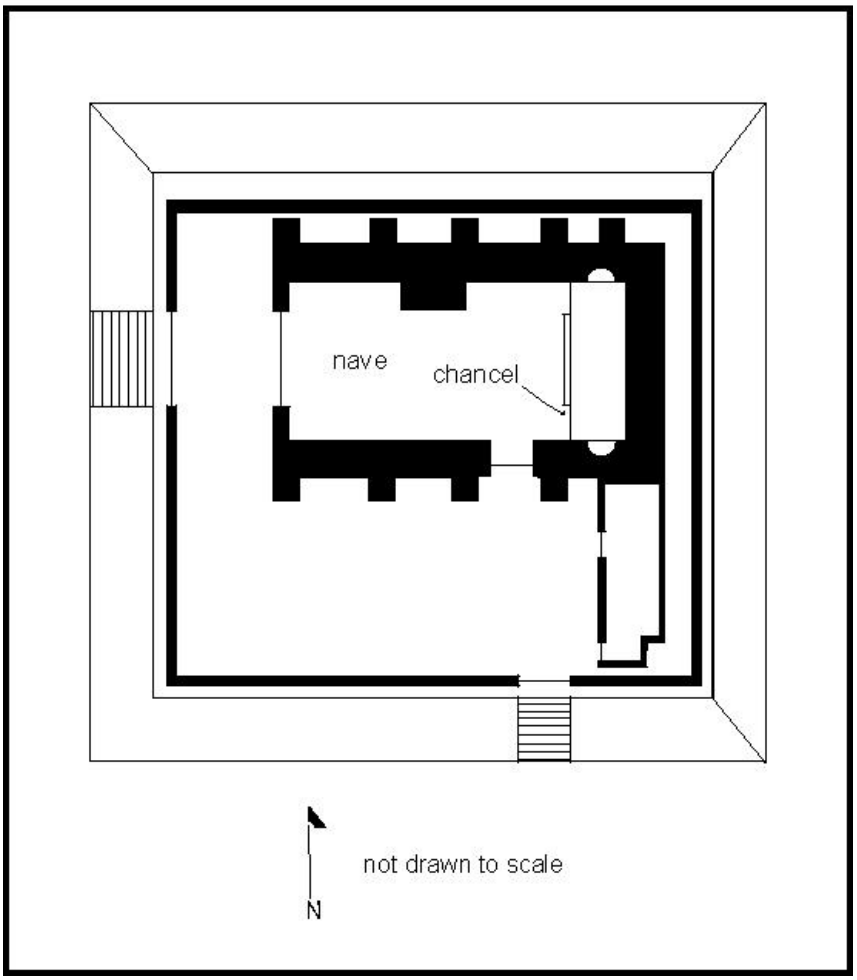



**Figure 87. Plan of the Church at Xcabil**

**Figure 88. Photo of the Church at Xcabil**

The Xquerol church is located on the eastern side of the main town plaza. The structure is a typical enclosed *ramada* church, although it seems likely that it was originally an open *ramada*. The chancel is roofed by a barrel masonry vault and it is raised upon two steps above the level of the nave. The chancel is flanked on either side by two rooms. One of these rooms perhaps was the baptistery, and the other is presumably the sacristy. The nave, which extends westward from the chancel to the entrance, is enclosed by masonry walls and is roofed by a corrugated tin roof metal, which rests on wooden crossbeams. This nave was a later addition to the core chancel structure as can be noted in the contact of the nave walls and the chancel (Figure 89). The Xquerol church exterior façade decoration is simple. The entrance is flanked by two small bell towers that culminate in a vault crowned by *merlones*. The frontal panel is finished by a triangular form that surely was related to the roof of a *ramada* that at some time was roofed. This frontal panel is completed by a small carved cross (Figure 90). The church is situated upon the level of the plaza and is surrounded by a small fence that delimits the atrium, which in each corner presents decorative *merlones*.

*Tiholop and Tinum*

Due to time constraints, reasons we couldn't visit the Tiholop and Tinum churches, but we found some interesting data that we decide present here in order to add more to what is known about Cochuah's churches. Tiholop was a frontier site of the province. It appears in the 1557 land treaty of Maní, the document through which the limits of that province were established. By the 1582 list of churches, it was mentioned as a *visita* of Ichmul (DHY 1938:62). Father Ponce passed through Tiholop in 1588, but doesn't describe any church in what, at that time, was a small town (Ciudad Real 1979:229). In the Catalogue of 1650, it appears dedicated to San Juan Evagelista (López de Cogolludo in Quezada 1997:230). In 1756, the church had a thin masonry walls and *guano* roof. The book describing the construction of Ichmul says that Juan de Rossa Montaivo made two *claxones* and a bell for this church in 1817 (Bretos 1987:196-201).

In contrast, Tinum is only mentioned in the 1650 catalogue of churches, dedicated to La Purisima Concepción de Nuestra Señora (López de Cogolludo in Quezada 1997:e230). It was a *visita* of Ichmul. As at Tiholop, in 1756 it was a church with masonry walls and a *guano* roof. The same artist, Juan de Rossa, worked in Tinum. Between 1803 and 1805, it was painted and a new altar was made (Bretos 1987:198-201). We know, through pictures observed in the Caste War Museum in Tihosuco, that these churches had appearances similar to that of the enclosed *ramada* churches of Sacalaca, Chunhunhub, and Ekpeds. A T-shaped plan, masonry nave walls, and vaulted chancel, flanked by the sacristy and the baptistery, compose the general form of these churches. Tiholop has been roofed again, and Timun is still without a roof.

## Churches of Cochuah: Past and Future

All the churches of Cochuah described here belong to the category of enclosed *ramada* churches. They passed through at least two constructive phases, during the first of which they remained like open *ramada* churches and surely they were transformed during the 17$^{th}$ and 18$^{th}$ centuries to their currently

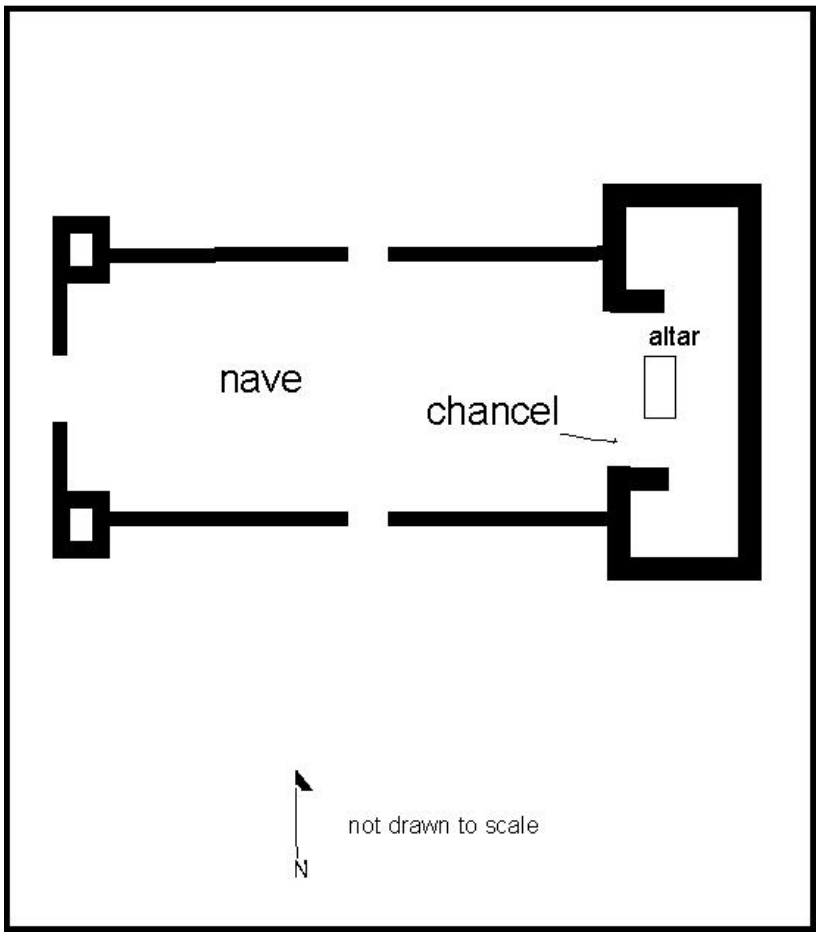



**Figure 89. Plan of the Church at Xquerol**

**Figure 90. Photo of the Church at Xquerol**

stage. It is necessary to note the exception of two places of great singularity, the chapel of Rancho Guadalupe and the complex sanctuary of the Black Christ. While both were built, perhaps, at different times and with totally different histories, they also differ from the architectural pattern of the rest of the area. One is abandoned in the forest, while the other was transformed into one of the better examples of provincial architecture of Yucatán. As one of Cochuah's two monasteries, Ichmul was abandoned and is presently not more than a *visita* town of Tihosuco, the "*cabecera"* of the Legionaries of Christ Order, which is in charge of giving Catholic worship to all of these towns, in what once was the Cochuah province. These priests are responsible for towns located as far away as beyond Lake Chichankanab.

Although these kind of churches are called "pocket churches" (Bretos 1987b:3), this term does not seem to be very accurate. We agree with Bretos and believe that his characterization of the churches is right, instead of that of "chapels," which has been applied by other authors (Artigas 1982; McAndrew 1965). The Indian chapel has been considered to be the largest and most original contribution of the American Spanish architecture to the world (McAndrew 1965:vii) However, we can concede that the Yucatecan chapels and churches were not as "open" as in the Center of México, where their function and conception were totally different. The Indians chapels or Open Chapels were a species of vaulted masonry presbytery without a nave where the Catholic cult or services for a large quantity of people could be celebrated (Bretos 1987b:12). In these buildings, the large atriums functioned as open air naves where the audience congregated for the Catholics rites. In Yucatán, due the dispersion of its inhabitants, the creation of large spaces was not needed to give the religion, except for in the large population centers, such as Izamal and Maní (Bretos 1987b). Because of this, the rural installation of churches of quick and cheap manufacture was the solution that was provided by the missionaries that, as they added to their congregations, expanded the faith into increasingly distant territories. The temporary character of these constructions was based upon the hope that someday, with more stability and sources, they would be properly completed and roofed, a situation that would not be carried out until the 17$^{th}$ and 18$^{th}$, or sometimes even 19$^{th}$, century. The Cochuah churches were not permitted to enjoy their "new", completed status for long, due to the sacking, robberies, and abandonment that were consequences of the Caste War**.**

As has been said before (Andrews 1981), historic archaeology in our country is currently found in a state of exploration and description. Although some detailed studies exist (Benavides and Andrews 1979; Folan 1970; Miller and Farris 1979), we concede that these types of investigations are scarce. While there are important colonial architectural studies (Artigas 1982; Bretos 1987a, 1992; McAndrew 1965), these are not as plentiful as the iconographic and historic investigations in the peninsula, that permit to learn and carry out investigations that go beyond the simple description. This can be owed in part to the lack of interest in these constructions, obscured by the sumptuousness of the prehispanic Maya ruins, or because the investigation of these religious buildings is frequently related to political and religious interests. We are conscious that we have only raised this descriptive level, and due to our limitations, only wish to present here an outline of

the potential of these buildings for historic investigation, as well as to accentuate their value, in order to motivate an admiration and respect for continuing their conservation. Authorities and specialists in conservation should intervene to conserve these monuments. Some churches, such as ones in Sacalaca and Saban, already they have been submitted to consolidation that will help to assure their existence.

Today, these proud churches are centers of their communities and religious celebrations, although their archaeological and historic value is generally forgotten. The study of these monuments would help to understand diverse questions about the daily life in these small rural towns, as well as the religious syncretism that emerged as a consequence of the contact among two cultures, and the processes of abandonment and reuse that these monuments passed through and are still going through many years after their construction.

## *Mulob* and Wells: Relations between Prehispanic and Colonial Settlements

Alberto G. Flores Colin

The CRAS Project, after two years of study in the region, has documented several sites in the *ejidos* of Sacalca, Xquerol, and Ichmul. These sites include present, Prehispanic, and colonial remains. This pattern, a bit unexpected, has motivated us to reflect about the nature of these relationships. The majority of the sites have been located due to the prior knowledge of local informants, including our local crew. Workers know about the existence of these places since they are near, or in, their agricultural fields, or apicultural plots. Furthermore, many of them have knowledge of the location of these archaeological remains through their constant hunting activities used to complete their diet. Also, the location of these owes to the oral tradition, since many of the first inhabitants were dedicated to the collection of the gum resin of the c*hicle*; the reason why they went far inside the forest was to recollect this resin. Since these people are not specialists in archaeology, many times they only recognize the Prehispanic structures of large dimensions, as well as the most characteristic features as the *sacbeob*. In the Yucatec Maya language, the word for the Prehispanic pyramidal structures is *mul,* or *mulob* in plural. The translation to the Spanish would be "*cerro hecho a mano*" (mound made by hand), that implies the supposition of being an artificial element. These informants referred the existence of *mulob* and wells in many places. The wells were related also to the presence of "old houses". Throughout the Cochuah area, this kind of relationship is a constant pattern. Many names of Prehispanic towns were known from the moment of Spanish contact, as well as through the establishment of many colonial settlements in the area (see Flores and Kaeding "Forgotten Churches of Cochuah Province" this volume for more information and for a context of the colonial period). Next, I will describe the sites with these characteristics (Figure 2).

*Xbalche*

This site is found southeast of Ichmul, and belongs to the *ejido* of Sacalaca. It is composed of the vestiges of a colonial and a Prehispanic group of constructions (Figure 91). A well (Figure 92) and four connected rooms (Figure 93) are settled upon a high platform. Around 40 m north of these lies the mouth of two twin wells that are now dry. Our informants say these were *cenotes*. To the west of these rooms is a fence that covers an extensive area that seems to have served like a corral. This corral has a door toward the west that was crowned by an arch, of which only the start of the north side remains standing (Figure 94). In the southeast corner of this corral lies a *pila* or water reservoir that served as a water trough for animals. Approximately 300 m south of this is the colonial group, which lies below the Prehispanic group that is formed by four small platforms, of roughly 20 x 20 m wide and 3 or 4 m high. The most southeastern structure, the largest of this group, includes a large looters' hole. *Albarradas* are dispersed throughout the area but, due to time restrictions, we couldn't see if those features form a particular pattern.

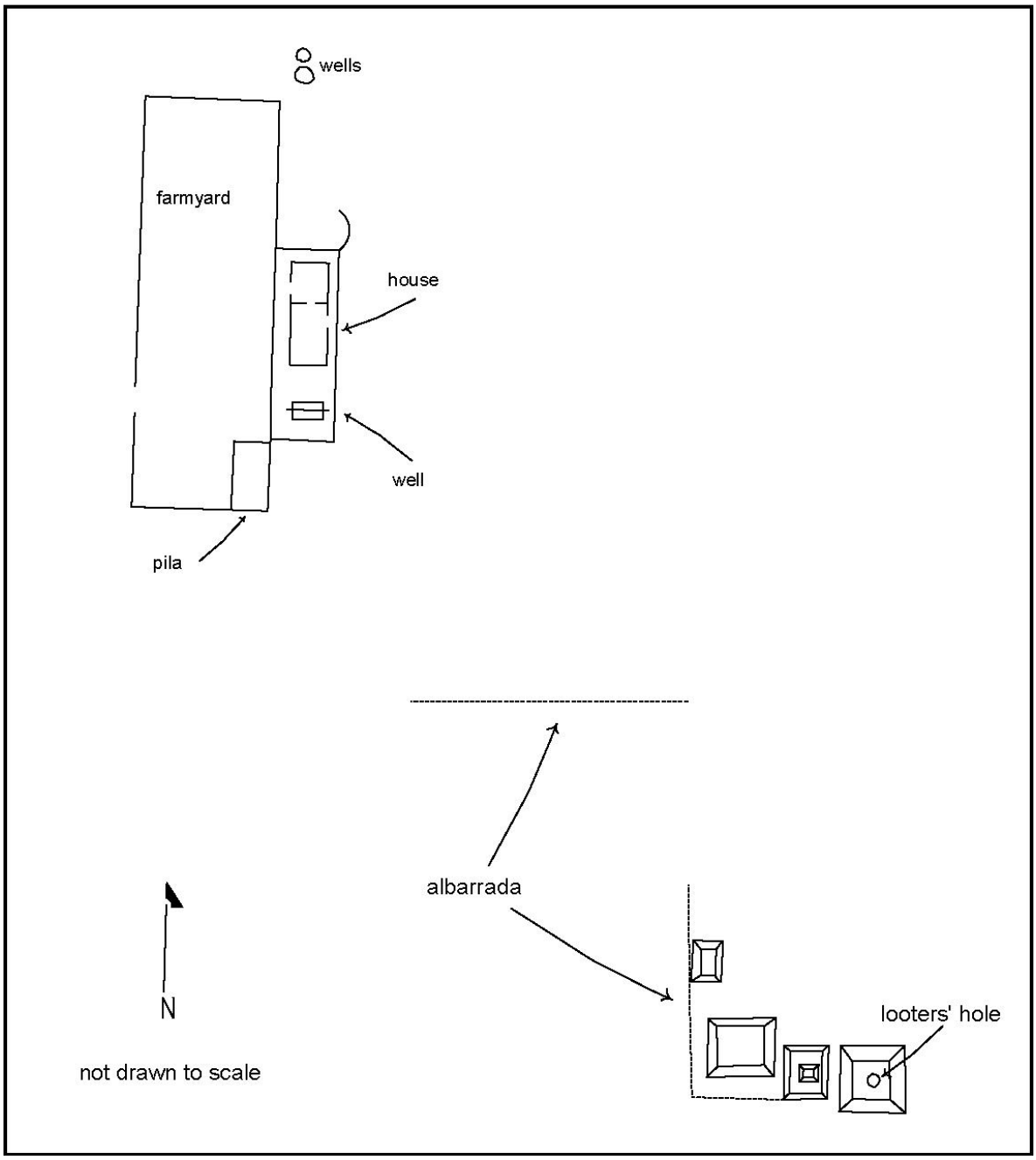



**Figure 91. Sketch Map of Xbalche**

**Figure 92. Photo of Well at Xbalche**

**Figure 93. Photo of Rooms at Xbalche**

**Figure 94. Photo of Corral at Xbalche**

Although our informants don't report the presence of more mounds, we cannot discount the possibility that more exist. We have not been able to locate historic references to this place, although we have located it on a Caste War period map (Reed 1971:65), signed as a "town" and under the name of *Balche*. It is this reference that makes us suppose that, at the time, it had a sufficient population to be catalogued in this town category. The name *Balche* comes from the name of a local tree from which the Maya manufacture a medical and ritual liquor. The site is called this due to the presence of various trees of the type at the site.

*Ramonal East*

Ramonal East is located northeast of the *pueblo* of Sacalaca, in lands of the same *ejido*. The site was visited last year (Shaw et al. 2003). In 2003, we could only observe some small platforms, but in the survey of this year, we were able to see a larger portion of the site (Figure 95). The northeastern part of the site includes a natural hill modified with attached platforms about 4 m high. Approximately 40 m to the northwest, there is the mouth of a well that is carved out of the natural bedrock. In the same area are some rooms and a series of *albarradas* that extend to the east, but we were unable to follow them due the density of the vegetation that exists at the site. About 60 m to the southeast is a partially collapsed *sascabera.* Two hundred m from this is a Prehispanic group that includes three pyramidal structures and two platforms. These structures are around 5 m high on average, while the platforms are smaller. The structure that lies at the eastern extreme of this group has on its summit two smooth architectural elements, a single *in situ* door jamb, and a lintel that lies down upon the soil. Although we couldn't survey the area surrounding the group due to time constraints, we cannot disregard the existence of more structures and/or platforms. The colonial room ruins and the well are of small dimensions and it is possible that they not have been finished. We suppose that the colonial occupation in this place was minimal and temporary in nature due, among other reasons, to the lack of water, since the well is dry and looks unfinished.

*Ramonal West*

This settlement lies to the southeast of the *pueblo* of Sacalaca, the *ejido* to which this site belongs. The site presents certain commonalities with Xbalche. This includes a pyramidal structure, Structure S1E1-1, which is 6 m tall and includes a looters hole on its summit. Approximately 150 m to the northwest exists a high well upon a circular platform (Figure 96), Structure N1W1-1, that includes a series of channels that they are directed to the water trough. To the west, lie the vestiges of a house in ruins (Structure N1W1-2) that has at least two rooms. An animal water trough is attached to the north wall of Structure N1W1-2. Due to time constraints, we could not continue with our map to the north, where the ruins of what seems to be a 300 x 300 m corral remain. On its eastern side, there is an entrance, flanked by beautiful cut wall stones (Figure 97). Our informants didn't know about the existence of more structures, either colonial or Prehispanic, but we can't ignore the possibility that the vestiges of some more exist. *Albarradas*

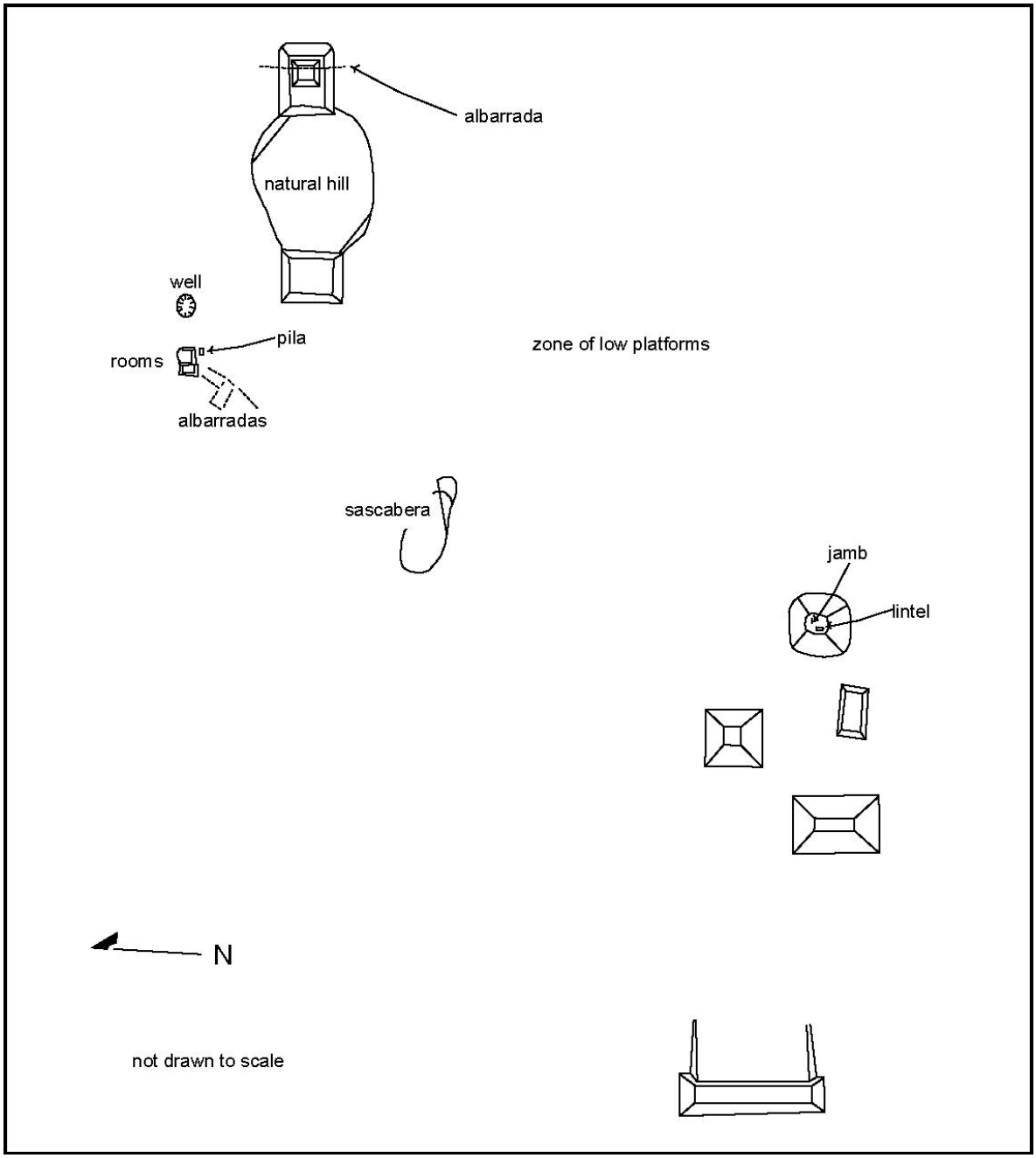



**Figure 95. Sketch Map of Ramonal Este**

**Figure 96. Photo of Well at Ramonal Poniente**

**Figure 97. Photo of Wall including Cut Stones at Ramonal Poniente**

are distributed in all directions from the area and we do not know if these form a specific pattern. A more detail study should be able to reveal similar patterns to that of the *solares* of the contemporary towns (Figure 98). These remains have been exposed to extensive damage since the local farmers extract water from the well, also giving access to their horses.

*Rancho Guadalupe*

This settlement has been described previously (Flores 2003; see Flores and Kaeding "Forgotten Churches of Cochuah Province" this volume), and is composed of a colonial chapel and a high well upon a platform that is attached to an animal water trough (Figure 99), as well as a 6-m-tall Prehispanic structure. The well currently has water and the remains of a water trough they are in poor condition; some stones originally from columns were also observed in the vicinity. Some 400 m to the northeast of the colonial group lie the ruins of the chapel and, about 50 m northwest, is a Prehispanic mound (Figure 100). As has been previously mentioned, we think that this settlement is of considerable dimensions, due to the presence of the chapel. Local informants also mentioned to us that the path that leads to the place is the same route that followed the old road that carried on to Peto. At present, this road has lost importance and is only traveled by local farmers and hunters. On some maps, we have observed the existence of this road that connected Sacalaca with Peto during the Caste War period, which leads us to suppose that this settlement already had certain importance at that time (Dummond 1998:112, 203, 222).

*San Juan*

This settlement is at the terminus of the San Juan-Ichmul *sacbe* (see Flores and Normark "All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region" this volume). The colonial remains are basically a water trough, a ruined room, and a well (Figure 101). This site is located around 500 m east of the area of the main structure of San Juan (Figure 49).

*San Andrés*

As at the previous site, this is the area of terminus of the Ichmul-San Andrés *sacbe* (see Flores and Normark "All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region" this volume). Approximately 400 m southeast of the terminus of the *sacbe* lie a series of masonry rooms, which seem to have been built in a recent epoch, but our informants assured us they are old. Our opinion is that these rooms are of modern appearance, at less in part, because the building is reutilized as a dwelling of the *ejidatario* that has his farm there. We are not able to say if this aspect is due to modifications or additions made by the new inhabitants (Figure 102). Our impression is that these remains belong to a relatively recent period, maybe very near to the beginning of the Caste War.

Our informants say that there are other sites that include colonial and Prehispanic structures, that is located around 4 km east ahead of Rancho Guadalupe. Locals affirm that the site also is placed on the old road to Peto. It

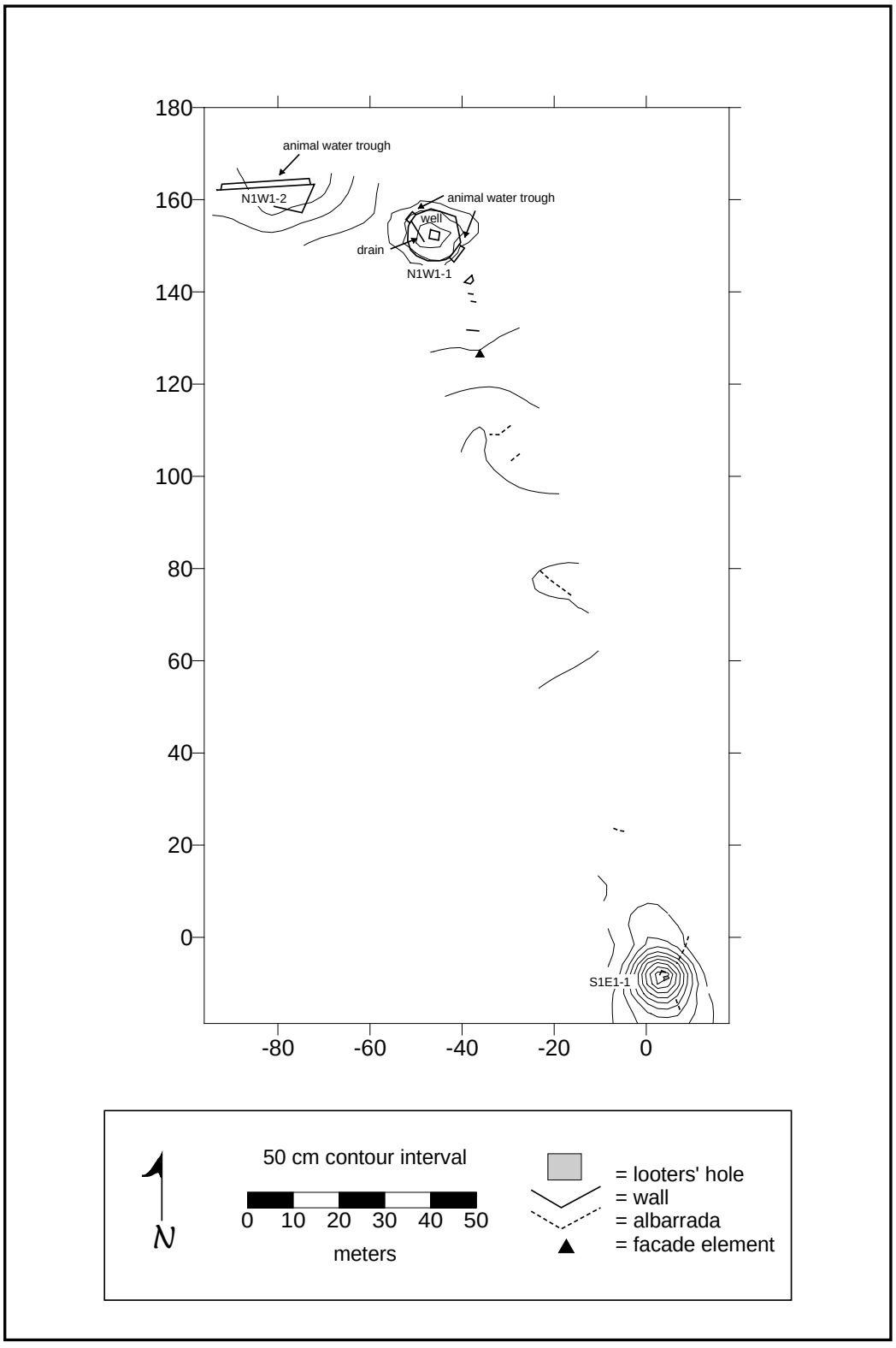



**Figure 98. Plan Map of Ramonal West**

**Figure 99. Photo of Well at Rancho Guadalupe**

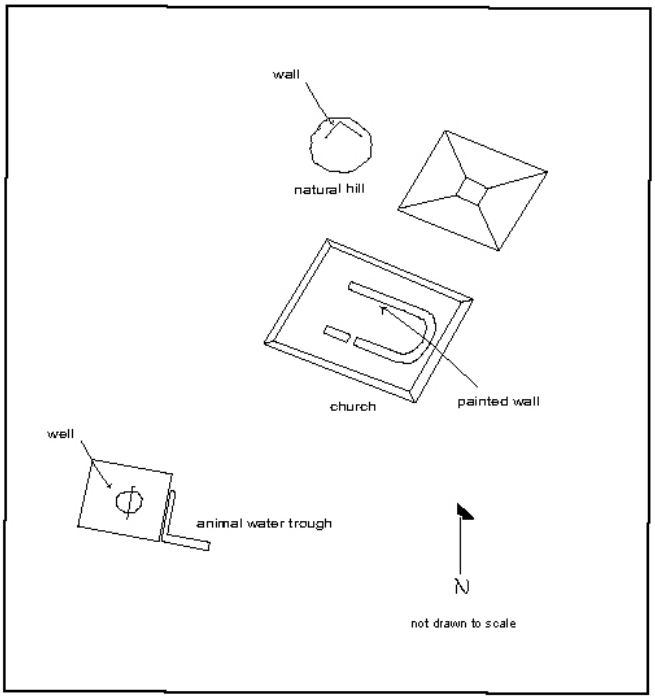



**Figure 100. Sketch Map of Rancho Guadalupe**

**Figure 101. Photo of Well at San Juan**

**Figure 102. Photo of San Andres *Rancho***

was not possible to visit these sites during this season. The archaeological remains of Xquerol, Sacalaca, and Ichmul (Figure 26; Shaw et al. 2003, Figures 2 and 16), that have been previously described (Shaw et al. 2003; see Flores and Normark "All Roads Lead to Ichmul: *Sacbeob* in the Cochuah Region" and Flores and Kaeding "Forgotten Churches of Cochuah Province" this volume) are in the core of the towns and they share the sites with churches and the colonial plan of towns, as well as with the modern inhabitants and the material impact of their activities. Xnicteil and Xlapak (Figures 32 and 36), although they are also in the center of considerably smaller towns, also include Prehispanic and colonial remains. These remains are not more than an animal water trough and a well in Xnicteil and a platform with walls of colonial origin. The function of this platform is unknown; perhaps it was the base for a chapel or house that never was built, or a perishable structure. Xlapak receives its name from these walls, since that Yucatec Maya word means "old walls". The archaeological site of Yo'okop, south of the town of Sabán, has similar remains to that of Xbalche, that, in the decade of the 1950s (Stromsvick et al. 1955) included some roofed houses and a well that is about 1 km north of Yo'okop's *aguada* (Shaw et al. 2000, 2001, 2002). Huay Max, the neighboring town of Saban, seems also to have Prehispanic and colonial ruins. The town has a colonial church (see Flores and Kaeding "Forgotten Churches of Cochuah Province" this volume) and some colonial house ruins. It appears that an archaeological site is situated at the outskirts of the modern town (Johnstone personal communication 2004).

*Classification of Historic Sites*

Of the sites previously mentioned, we can distinguish two types that we can designate as Prehispanic-colonial town sites (Xquerol, Sacalaca, Ichmul, and possibly Huay Max); these include Prehispanic remains, as well as colonial remains that are of large size, including churches and mounds that are at least 10 m high. In, or near, these towns' settlements Prehispanic villages that could have been reduced or congregated in these places may exist. The other kind would be colonial *ranchos*-Prehispanic rural settlements where the dimensions of the remains are comparatively smaller. In the colonial case, are rural settlements that perhaps grouped a number of families or where individuals only stayed for part of the day. The Prehispanic remains could be considered like Rank IV sites, with all the implications of this category (Velásquez et al. 1998:63-73), except Ramonal East that could be catalogued as Rank III. In the other cases, there are settlements of smaller dimensions. We do not know if in those sites there was a Prehispanic occupation at the time of contact, although we suppose that if no occupation existed, there still should be a knowledge of its previous location, and possibly, as many archaeological zones, they would have been visited by pilgrims to conduct rituals related to an ancestral cult.

We don't know what the exact function or date of the constructions was, since as far as we know, there has not been archaeological research to develop analytical categories of these elements. However, based upon their distribution, we suppose that these were a kind of *rancho* or *hacienda* that was dedicated to the agricultural production or farm animals. Due to the presence of what we interpret as corrals, we think that they were dedicated to the farm animals. The *encomenderos* resided in the Spanish towns, such as Mérida and Valladolid, and they only occasionally visited their *encomiendas*. Possibly these constructions were *ranchos* built for temporary visits of

the *encomenderos*, where they would be able to rest and attend to matters to the administration of their population and territory (see Flores and Kaeding "Forgotten Churches of Cochuah Province" this volume for more information on *encomiendas*). For certain, all the colonial constructions date prior to the Caste War, since they were abandoned in this period. We know that the region had a sugar boom for the second quarter of the 19th century that led to an increase in the Hispanic population in the area that until then had been predominantly indigenous (Quezada 2001:135-137; Reed 1971:15-57). We think that perhaps this was this time when they were built. Surely prior installations with similar functions existed that were built only with perishable materials that were substituted for masonry due to their greater availability. Another important aspect is the presence of the wells in these places. We believe, through references and personal observations, that many wells were built upon the mouths of *cenotes*. Although we couldn't verify this, is possible that the wells of these places were built and situated upon these natural sources. It is well known that, due to the lack of rivers, access to water is crucial and determinant in the life of Yucatán (Bretos 1991:23-24). If these wells were *cenotes*, this could be the critical factor, or one of the factors, that were utilized in the selection of the sites, criteria used by both cultures, indigenous and Spaniard, in two distinct periods. It should be noted that while there are sites in the area where there are not wells or *cenotes* present, such as the sites with caves (Normark 2003; also see Shaw "Sites with Caves in the *Ejido* of Sacalaca" this volume), these do not have colonial settlements. Although some caves include hydraulic sources, they are more difficult to access. Additionally, the occupation of these sites with water sources assured access to the native population and material for the construction of the settlements (Bretos 1991:14-16). These could also be, in addition to the hydraulic proximity, the fundamental reasons for the selection of these sites. The Spaniards also considered factors such as the fertility of the ground, existence of natural grass, and proximity to the forests, as well as access to water and the availability of building materials, conditions that were required by law, in the *Ordenanzas* and the Laws of Indias recompilation demanded, as well as by common sense and prior experience (León 1998-1999:203-206). These characteristics were necessary for the selection of the seat of towns and more rural settlements, such as the *ranchos*. In addition to the ideas already presented, it is necessary consider symbolic aspects as criteria of selection. As has been verified in Sacalaca, many of these sites would have been places where ancestral rituals were carried out, due the presence of fragments of chen mul modeled *incensarios* (Flores 2003:60). We know that the Spaniards selected the religious pilgrimage centers of T' ho and Izamal to establish their religious and civil centers (Quezada 1977:131-134). The reductions of towns followed these factors, but the interesting thing is that the pattern seems to extend to the small settlements, such as the *ranchos* like Xbalche and Ramonal West, where these colonial rural settlements, selected smaller, rural Prehispanic sites for their establishment.

We do not know, at present, of formal archaeological research that has been focused upon this type of colonial *rancho*, for which we lack much information about their temporal and spatial makeup. Our investigations in the area are based only upon brief surveys and maps of some of these sites, and thus they can't collect enough information for such a formal typology to be created. Future excavations and extended surveys should help to understand this rural Prehispanic and colonial pattern that will

help us to know about the archaeological processes of change and fusion that have taken place in these rural places through time.

# Rural Women Taking a Stand: Maternal Health Choices in the Central Yucatan Peninsula

Veronica Miranda and Sandra Weinstein Bever

## Introduction

In the Central Yucatan Peninsula, as in many other parts of rural Mexico, traditional midwives attend the majority of all births (Buekens et al. 1990). Yet, increasingly, midwives face resistance from the biomedical community in regards to their practice because their customs are seen as potentially unsafe to the mother and child. The establishment of rural clinics throughout Mexico was thought to be a "solution" to the perceived need for biomedical care during pregnancy and delivery. While these clinics are well attended for the prevention and treatment of many illnesses, many women choose additional or alternative care during their pregnancies. This paper shows that while Yucatec Maya women may seek some prenatal care at the local clinics, the overwhelming majority of women give birth at home with the assistance of a midwife. Below, we explain the attitudes and beliefs behind maternal health choices in the Yucatan Peninsula.

## Setting

This study took place in four Yucatec Maya communities: Saban, Huay Max, Xquerol and Ichmul, all located in the central Cochuah cultural region. The communities are located on the border between two states, western Quintana Roo and eastern Yucatan, Mexico. The region studied approximately covers a 12 kilometer area (Figure 2).

These small towns are all rural communities where the main economic activity is subsistence agriculture supplemented by migrant wages or other wage labor, such as participation in the CRAS archaeological project[1], weaving hammocks, or running small businesses. The ethnic makeup of all the communities is predominantly Yucatec Maya. The primary languages spoken are Yucatec Maya and Spanish. While Yucatec Maya is spoken in the home, the local market, and among acquaintances, Spanish is taught at school. Spanish is also the language used for all official transactions involving state and federal authorities. Most individuals are fully bilingual, yet there are a few residents, usually the older generations, who speak limited Spanish.

All four of the communities are laid out in a traditional grid system. At the center of each community there is a plaza in which a colonial Catholic church still stands. These churches show evidence of the passage of time, many being built in the eighteenth and early nineteenth centuries. Examples of this are seen in all the churches in the region, where the original roofs have been replaced because they were burned off during the Caste Wars (1847-1901). Today, the churches are still in use and are cared for by members of the community. Paintings done by local craftsmen adorn the crumbling walls and paper and fresh flowers fill the church altars.

[1] At the time of this research there was an ongoing international archaeological investigation taking place in the region. Its primary focus was the archaeological site of Yo'okop and its surrounding satellite communities. The project named Cochuah Regional Archaeological Survey (CRAS) employed local men from the four studied communities to help with the clearing of vegetation and with excavations.

*Saban*

The community of Saban is found along Highway 295, in the state of Quintana Roo. It is located approximately 85 km south-southwest of the city of Valladolid. A plaza is situated at the center of the town in which a large Catholic church and several merchant shops are located. There are several educational institutions in Saban. There is a kindergarten, elementary school, secondary school or junior high, and a newly built high school, which also is a trade school. The large archaeological site of Yo'okop is located 12 km southwest from Saban's town square. It belongs to the *ejido*[2] of Saban.

In a 2003 census conducted by Dr. Rafael Gerardo Davila Guerrero, the population of Saban consisted of 1,012 males and 972 females, with a combined total of 1,984 inhabitants. In Saban there are 433 women of reproductive age (15-44). Saban is the largest of the three communities in this study.

Saban has a medical clinic located off of its main square. It is the largest clinic in the surrounding area. The clinic houses a resident doctor on call at all times. There is a supervising doctor and two nurses who also work at the clinic. During the research, the primary field researcher (Miranda) was only aware of three practicing midwives living in Saban.

*Huay Max*

Huay Max belongs to the *ejido* of Saban; it is Saban's adjacent sub-community. It is a continuous settlement that is less than 2 km northwest of Saban's plaza. There is a plaza and a small Catholic church in the center of the town. A kindergarten and an elementary school are the only formal educational institutions in Huay Max. Most children attend the junior high and high school in Saban.

There is no clinic in Huay Max, partially because the clinic in Saban is only two kilometers away. There is an *Auxiliar de Salud* in Huay Max who is employed by the government. Her primary job is to be the town's first aid worker. Her job also consists of handing out vitamin supplements to expecting mothers and children under five and giving out medicines for internal parasites and fevers. The *Auxiliar de Salud* in Huay Max is also one of the local midwives.

According to the same 2003 census conducted by Dr. Davila, the population of Huay Max consisted of 586 males and 517 females, with a combined total of 1,103 inhabitants. Of those 517 female residents, 217 of them were of reproductive age (15-44).

*Xquerol*

Xquerol is located in the state of Quintana Roo, just 20 m from the Yucatan border. It is north-northeast of Saban and Huay Max. It can be reached through a secondary road off Highway 295 that passes first through the community of Sacalaca. Xquerol is a very small town encompassing approximately 23 different *solares*, or house lots. Based on the number of existing *solares*, it is estimated that the population is between 100-150 residents. Most residents are related in some way, either through

[2] The *ejido* is a system of communal land ownership established in Mexico in the 1930s to ensure farmland to *campesinos* (peasant farmers). Though the *ejido* system has been officially dismantled (see Stavenhagen 1993), the political organization remains rooted in this system.

blood or marriage. Everyone is considered family. There is a church and a small plaza in the center of the town.

There is no clinic in Xquerol, the closest clinics are in Sacalaca and Ichmul, approximately 3 km in distance to Ichmul and 7 km in distance to Sacalaca. There is also an *Auxiliar de Salud* in Xquerol. She is a local married resident in her early thirties. She works out of her home, which is directly off the plaza.

The elementary school located off the plaza is the only formal education available. Most of the children travel to Saban and Sacalaca for middle school and high school. Some usually stay for the week at either a family member's home or they stay at the small dormitory in Saban. The *comisario* (town elected representative) also drives some of the children daily to school; his pickup truck is like the town school bus.

*Ichmul*

The community of Ichmul is located in the state of Yucatan. It is found off the same secondary road veering from Highway 295 that first passes through Sacalaca, Xquerol and then the Yucatan-Quintana Roo border. Ichmul is approximately just over two kilometers away from the border.

There is a large plaza in the center of the town. Ichmul has three colonial churches and one convent situated next to the plaza. Colonial architecture in the community began as early as 1571. Two of the churches and the convent are in ruins and only some of their stone walls remain standing. Other remains of Colonial architecture are found sporadically throughout the town. There are also several pre-Hispanic archaeological structures in Ichmul. Two large mounds are found directly off the plaza. On top of one of the mounds the remains of a fort are found which was built during the Caste Wars.

There is a small clinic in Ichmul located adjacent to the plaza. It staffs a doctor and a nurse. The nurse lives in Ichmul and speaks fluent Spanish and Yucatec Maya. There is a kindergarten, an elementary school and a junior high school in Ichmul. There is currently no high school or technical school in the community. If children want to attend these schools they must commute to nearby communities.

## Available Medical Facilities in the Area

Health clinics known as *Centros de Salud* are found in the communities of Saban and Ichmul. The hours of operation for both clinics are Monday through Friday from eight in the morning until four in the afternoon. The closest hospitals (second level heath care facilities) in the area are in Felipe Carrillo Puerto, Jose Maria Morelos, Peto and Oxkutzcab. These towns and cities are located minimally 30 km away from the study sites.

Felipe Carrillo Puerto and Jose Maria Morelos are located in the state of Quintana Roo. Peto and Oxkutzcab are located in the state of Yucatan. Felipe Carrillo Puerto is approximately 80 km east of Saban, although it must be reached by going north and then southeast. Jose Maria Morelos is 32 km south-west of Saban. Peto is 30 kilometers west of Ichmul, while Oxkutzcab is 85 km west of Ichmul. Typically, women from Ichmul go to the hospitals in Peto and Oxkutzcab, while women from Saban, Huay Max and Xquerol go to the hospitals in Felipe Carrillo Puerto and Morelos. This is primarily because they must visit the hospitals in their own state.

## The Research Question

After a preliminary study in the community of Saban (Bever 2002a), the authors became aware of the existence of biomedical and traditional healing practices in the area. In particular, the primary author was intrigued with women's health. Why do women in this region choose to continuously see a doctor for prenatal care and then decide to have a midwife deliver their baby?

At the outset of the research, the principal author investigated whether cost of biomedical vs. midwifery care was the answer to the question. During a preliminary meeting with Dr. Arturo[3], the doctor in charge at the clinic in Saban, the doctor explained why money was not the issue.

The medical clinic in Saban is funded by the Mexican government. The care provided there is free to the public. When a woman has a baby at the clinic a donation of clean towels or sheets and a contribution of 150 *pesos*[4] is requested (in order to replace the limited supplies). The clinic, by law, cannot refuse service to a birthing woman if she cannot afford to contribute the 150 *pesos*. The clinic leaves it up to the family to contribute whatever they can. Midwives in this region, on average, charge from 150 *pesos* to 250 *pesos* to attend a birth.

After many more interviews with women and midwives in the region, it became clear that there is not just one simple answer for why women continuously choose to see midwives over doctors. Instead, there are multiple motivations for women to choose midwives. The reasons why women choose midwives over doctors have to do with several cultural distinctions between the two including differences in gender, ideology, and traditional customs.

## Methods

Ethnographic data was gathered by the principal author in the summer months of June and July, 2003 and 2004. The main form of data collection was through participant observation and interviews. All the interviews were non-structured and lasted between one to four hours each. Many follow-up interviews were also carried out. Data was also recorded through daily field notes. Throughout both field seasons the principal author participated in many local community events, such as graduations, birthdays, dances, *Quinceneras* (a girl's coming of age celebration), *Gremios* (town festivals honoring their patron saint), and *Primisias* (traditional offering ceremonies to God).

Except for the clinic doctors, all the informants were women living in the communities who had at least one child. The scope of the study was fully explained to each study participant prior to engaging in any formal data collection. Informed consent was obtained verbally from each individual. All the names in this report have been changed to protect the privacy of the informants.

In the summer of 2003 the principal author conducted a preliminary survey of women's health issues in Saban and Huay Max. The goal was to attain an understanding of Yucatec Maya maternal health choices in the area. Six women and

[3] The names of doctors, midwives, and patients are pseudonyms to protect people's privacy.
[4] During the time the research was conducted the average exchange rate was 9.5 pesos for 1 U.S. dollar (2003).

two doctors were interviewed extensively. The principal author focused her time on the establishment of six trusting informants. They consisted of two local midwives, two young local mothers and two doctors working in Saban's health clinic. Various members of the community were also interviewed. During that summer two life histories of local midwives were also completed.

In the summer of 2004 an in-depth survey was conducted in which 38 women and two doctors were interviewed in the four communities of Saban, Huay Max, Xquerol and Ichmul. The goal that summer was to organize a much broader sample of participants to further explain women's motivations behind choosing midwifery care over biomedical care at the time of delivery.

## Findings: Reasons Why Women Choose to See a Midwife

*No language barrier*

As mentioned earlier, Yucatec Maya and Spanish are the two languages that are spoken in the study area. Spanish is the official government language, while Yucatec Maya is the local native language. Since Spanish is the official language, it is taught in school. Children are discouraged by their teachers from speaking Yucatec Maya while in school. The idea behind this is that children need to master the Spanish language so that if they leave their rural communities they will have the resources to enable them to find work in the larger cities. While Spanish is spoken at school, Yucatec Maya is primarily spoken in the home and for many children it is the only language that they hear for the first years of their lives.

The majority of the women interviewed during this study spoke both languages. However, all the women interviewed stated that Yucatec Maya was their primary language and their preferred language. In fact, some women exclusively spoke Yucatec Maya and their Spanish was very limited. On occasion, an interpreter was needed in order to continue an interview.

The medical doctors in the area face the enormous challenge of trying to communicate with their patients in Spanish. The rural medical doctors in Saban and Ichmul are not local community members. They come from various parts of Mexico complete with a Mexican formal education and are unable to speak the local language of most rural communities. Not surprisingly, doctors working in rural areas tend to have difficulty communicating with their patients due to language barriers. During this study period, none of the doctors in Saban or Ichmul spoke Yucatec Maya. Yet, it is important to note that both clinics employed a bilingual nurse who spoke both Spanish and Yucatec Maya. The nurses were available only during the clinic's work hours.

Women in the communities expressed their frustrations with trying to communicate with the members of the medical staff in the clinics and hospitals. Many of them felt embarrassed and ashamed around the medical staff because they could not speak Spanish fluently and those who could speak Spanish had trouble understanding the medical language that was spoken in the clinics and hospitals. Also, even if the language is not a functional barrier, it is a social/cultural barrier that emphasizes the different backgrounds, ethnicity and class between the doctors and patients.

Contrary to the biomedical staff, every midwife in the area speaks Yucatec Maya. They consult their patients in Yucatec Maya and during the delivery it is the only

language that is spoken. When midwives speak to their patients in Yucatec Maya it allows them to feel comfortable and enables the birthing woman to relax. Women are able to focus on the birth experience itself, rather than struggling to find the right words to communicate with a healthcare professional. Women in these communities can easily understand and communicate with a midwife, which is one reason why they choose to see a midwife rather than a doctor.

***Birth seen as a social event***

At a hospital or medical clinic where women from the studied communities are taken to give birth, no family member is allowed in the delivery room. Women often feel alone and scared because they have no one to turn to except for the doctor or nurses who are complete strangers and are sometimes busy assisting other women. Not until after the birth of the child can the father come in and see his wife and baby. The other family members have to wait until visiting hours to see the mother and child. Even though this is not a set rule for government run hospitals, it has become standard protocol for most hospitals in the Yucatan Peninsula (Hunt 2002:111).

At a home birth, all adult family members who want to be present are gathered together in the same room as the mother during the birth. Typically, this consists of the woman's parents, her husband and his parents. At times, an older sister or a female cousin may be present during the birth. The family members are there to assist the mother in any way possible with both emotional and physical support (Jordan 1983; Press 1975; Sargent and Bascope 1996). During the birth the woman is never left alone (Davis-Floyd 2001:202).

The woman's husband is a key and central figure during the home birth. He is present at all times (Jordan 1983:24). He helps his wife keep focused and relaxed. The husband is the main person who provides the mother with physical support. At times, the woman's father or father-in-law also provide physical assistance. When it comes time for the actual birth of the child, the husband helps carry or hold the woman up while she is pushing (Cosminsky 1982:242).

Both midwives and women in the community emphasize the importance of the husband being present during the birth. Husbands should see "how a woman suffers" (Jordan 1983:24). This is a belief that has been present in the communities for many years. Women believe that by having men watch their wives give birth it will help give husbands a better appreciation and understanding of them. In the long run, men will have respect for their wives and treat them better. Both midwives and women in this study believe that there would be less physical and/or mental spousal abuse if husbands were allowed to be with their wives during the birth of their children.

Thus, a home birth centers on the interaction that takes place between the mother, the midwife and her family. With a strong supportive and nurturing network present during birth the woman does not feel abandoned or scared. During a home birth the woman feels as if she is assisted through the birth rather than doing it all on her own.

*More personal and physical attention*

Prenatal and postnatal massages have been documented all throughout the Yucatan Peninsula (Cosminsky 1982:240; Jordan 1983:19). They are a custom that

continues to be practiced in the study area today. These massages are referred to as *sobadas*. *Sobadas* are given by the midwife to the mother as part of a woman's prenatal care. The *sobadas* last about half an hour per session and cost an average of five or ten *pesos*. *Sobadas* are private and men are not typically allowed to be present.

One of the primary reasons that women choose midwives over doctors is because doctors do not give massages of any kind. Women tend to get *sobadas* if they feel any pain or discomfort during or after their pregnancy or if the baby needs to be moved (Jordan 1983:19-20). All women at some point during their pregnancy come to the midwife for a *sobada*. As one woman commented "we work very hard and we work a lot while we are pregnant, the baby moves around and we need the midwife to reposition it."

On average, most women while pregnant visit the midwife once or twice a month for a massage. During the *sobada*, the midwife is continuously talking to the mother. She will familiarize herself with the mother. The midwife will also use this time to talk to the mother about the birth, she will ask her questions about her tolerance for pain and who will be present during the birth. Therefore, the massage becomes more of a social encounter rather than just an exchange of services (Jordan 1980:20). *Sobadas* are also a form of postnatal care.

During prenatal care the midwife uses massage to check the baby's position, heart rate, size and growth. During postnatal care the midwife uses massage to help the woman's body heal from the birth. At this time, the midwife can also check to see how the woman is recuperating from the birth. The *sobada* helps stimulate the uterus to return to its original size (Jordan 1983; Sesia 1996). The midwife also massages the woman to expel any remaining afterbirth fluids.

Together with personal attention, women choose midwives over doctors because doctors and nurses do not offer a nurturing and supportive environment. Compared to midwives, most medical practitioners offer little encouragement during the birth. Women often feel that doctors are more distant and cold than a midwife. In addition, Yucatecan women have expressed that they are also treated badly by hospital staff members (Beyene 1989:44). Some women who had hospital births commented that they felt insecure and uncomfortable around the hospital staff because they sensed that some of the doctors and nurses looked down upon them do to their ethnic background.

One of the midwife's main purposes is to provide the mother with emotional support (Cosminsky 1982:240). The midwife is constantly encouraging the mother. She helps calm and relax the mother. During the birth she often massages the woman's legs, back and midsection to soothe her as well as to relieve some pain.

Women feel comforted by the constant attention that they receive from midwives. The midwife is there to offer them emotional as well as physical support, which is not always the case when a birth takes place in a hospital.

*Gender preferences*

Yucatec Maya women from the central Yucatan Peninsula are extremely conservative about their sexuality. From early on in their youth, Yucatec Maya women are brought up to be shy and soft-spoken. They do not usually carry out conversations with men outside of their family (Beyene 1989:80). The head doctor of the clinic in

Saban stated that before women come to the clinic for any health reason, they ask their husbands for permission to come to the clinic.

There is a strong cultural value placed on modesty among the Maya (Cosminsky 1982:240). Women tend to feel very uncomfortable if they have to see a male doctor, especially if he is going to perform a pelvic exam. Women in the community are very shy and embarrassed about allowing a male doctor to give them a check up. All the women interviewed said that if they had a choice between seeing a male doctor or a female doctor they would always prefer a female doctor. All midwives are women; therefore women are less likely to feel embarrassed or ashamed around them.

*Cultural traditions are upheld*

The practice of midwifery allows for local cultural traditions to be observed and practiced. Midwives understand and acknowledge cultural traditions dealing with the birth of a child. For centuries, women in this region have used the assistance of a midwife during the birth of their child. According to the two principal doctors from the clinic in Saban and the principal doctor from Ichmul, midwives deliver about 98 percent of all births in the four studied communities.

Midwives in the area know what foods and liquids associated with birth are considered taboo. During and after labor the woman's body is perceived as being hot in temperature. Because a woman's body is considered hot, any shifts in temperature are believed to be harmful (Sargent and Bascope 1996:233). During the birth the mother will be guarded from cold winds that are sometimes referred to as *mal viento*. She will have to be covered up, especially her chest, for the first eight days after the delivery of her child to protect herself from these cold winds. She will also not be allowed to take any cold baths or drink any cold liquids. Women will either be bathed or they themselves will take a bath after the birth with warm water.

The principal belief behind the idea of hot and cold dichotomies associated with birth is that the woman's body heats up when in labor because of the amount of energy and force that her body must undergo during birth. Therefore, a rapid, drastic change in temperature from hot to cold could bring illness to the mother (Sargent and Bascope 1996). One woman confirmed this belief by saying "if you drink cold drinks or take a cold bath after giving birth you could get really sick and maybe even die".

This strong belief in hot and cold dichotomies is often contradicted in the local hospitals. The women who had births at the hospital commented that the hospital staff only gave them cold water to drink and after the birth they were bathed with cold water. They stated that even if women refuse to be given a bath with cold water it is still done. The hospital staff tries to assure the women that there is no danger in taking a cold bath after giving birth, but even then many women do not feel comfortable about it. One woman who had a cesarean section said that she was terrified while she was being given a cold bath after her surgery. In her mind, she knew that there was a high chance of her getting sick from the cold temperature.

Another essential tradition that midwives continue to uphold is the proper disposal of the placenta. This is of vital importance because the placenta is thought to have a special relationship to the mother and child (Cosminsky 1982:243). Once the placenta comes out after the birth, it is taken outside and burned until nothing but ashes are left. The midwife will hand over the placenta to the woman's family and it is the husband who typically burns the placenta. The traditional understanding behind this

custom is that the placenta represents a source of heat that is connected with the woman, and if the placenta is allowed to get cold then the woman will suffer from intense abdominal pain.

The burning of the placenta is a custom that has been done for so many years that some members of the community do not remember or know why the placenta has to be burned. What they do know is that it is important to do so. As most women stated "It is something that we have always done". It is the midwives and h'men (shamans) who understand why the placenta has to be burned and they are the ones who tell the families to burn the placenta. They have become the authoritative guardians of their culture. All the women interviewed said that at every home birth the placenta was burned in the back of their *solar* by their husbands.

Midwives carry on and enforce the tradition of burning the placenta. On the other hand, many doctors in the area do not allow this custom to continue. Doctors do not allow the woman's family to have the placenta because they consider it a health hazard. The doctors claim to dispose of the placenta in a safe and uncontaminated way. They do this by dumping it in a hazardous waste bin, like they would any other medical "waste".

Another cultural tradition that midwifes continue to practice is the postnatal wrapping of the mother. Among the Yucatec Maya it is believed that the woman's body opens during labor (Sargent and Bascope 1996). Her bones widen and stretch allowing the baby to pass through the tight and narrow birth canal. It is believed that when the woman's body is open she is very susceptible to illness and the drying up of her breast milk. It is perceived that the only way that the body can return to its original state after birth is to tightly wrap it with cloths, therefore closing the body back up.

The midwife will return to the mother's home on the eighth day after the delivery to wrap her body. The woman's body is wrapped from head to toe starting with her feet. Cloths are tied tightly across her feet, calves, knees, lower and upper thighs, hips, abdomen, chest, shoulders, and head. The woman will remain securely bound for a few hours, after which the midwife will remove the cloths and the woman's body will then have been closed and returned to its original state.

According to many women interviewed, postnatal wrapping is also important because it allows the uterus to lift up and returns it to its natural place and size. Furthermore, there is the belief that by wrapping the woman's torso a form of birth control will be implemented. By lifting up the woman's uterus she will be preventing pregnancy during the first nine months because her husband's penis will not reach it as easily.

The cultural tradition of the postnatal wrapping of the mother is still practiced in the studied communities. Many women believe that if they do not get wrapped by the midwife they will suffer from severe back aches for the rest of thier life. A woman from Saban who had a cesarean section and was unable to be wrapped reinstated that belief by saying

> "Even up until today I have had bad back aches because my body was never closed properly. I am susceptible to many illnesses and my muscles often hurt."

All the women who had home births were wrapped by the midwife on the eighth day. Even women who had gone to the clinic or hospital for their births returned home and had the midwife wrap them. Only those women who had cesarean sections did not receive any form of postnatal wrapping. The postnatal wrapping is included in the midwife's initial fee, but if a woman has gone to the clinic or hospital for the delivery the midwife will charge her a smaller fee for wrapping her body.

In contrast to biomedical care, midwives continue to uphold traditional practices that are valued by the community members. This allows women to give birth in a way that they feel is culturally appropriate; this is yet another reason women choose midwives over doctors.

*Midwives are less controlling*

A midwife typically delivers a child in the mother's home or at the home of a relative of the mother. During the birth the woman automatically feels comfortable being in a familiar environment (Jordan 1983:17). By being in her own house the mother feels that she has some sense of control during the birthing process. She has more ownership of the birth.

The midwife will allow the mother to move around as she wishes. She can walk around, sit down, squat or lay in her hammock. The mother can also request something to eat or drink while in labor. For the actual birth of the child the midwife grants the woman the same sense of freedom and mobility that she has during the labor. The mother can choose to have her child lying down in her hammock, squatting, or sitting on top of a small *banquillo*, a wooden bench or stool. The midwife always encourages the most comfortable position for the mother.

This differs from a hospital birth where the woman is told that she cannot have anything to eat or drink until after the birth of the child (Davis-Floyd 2001:207). At a clinic or hospital birth the mother is more restricted during the birth. For most of the woman's labor, she will be told to lie down in a hospital bed. Lying and ultimately giving birth on a bed is very uncomfortable for Yucatec Maya women because they are accustomed to resting and sleeping in woven hammocks.

In order for labor to progress and allow the cervix to fully dilate, doctors or nurses will often have the mother walk around the hospital, even if she is tired and does not want to walk. Once she is ready to give birth, the woman will lay down on a bed with her legs open for the rest of the delivery. According to a doctor interviewed the correct medical position for a woman to deliver a child is lying supine on her back. He concluded that this was the safest position to labor.

According to a number of women in the community there have been instances were the medical staff of the hospital or clinic have tied the woman's arm and/or legs down for the delivery. The woman is tied to prevent her from closing her legs during the delivery or reaching down with her hands to touch the baby while it is coming out. The occurrence of this procedure was confirmed by the head doctor of the clinic in Saban, though he did say that it rarely happens. These situations are prime examples of how the mother has little-to-no control during a hospital birth.

Midwives give women freedom and mobility during the birth. The mother decides what she wants to do and when she wants to do it. At a home birth, a woman has full

control of the birth. Women value the freedom that they have during a home birth and this is why they prefer home births over hospital or clinic births.

*Importance of religion*

Religion is an important aspect of people's identity in the Yucatan peninsula. In the four studied communities there are currently seven different religious groups: Roman Catholic, Jehovah's Witnesses, Adventist, Presbyterian, Pentecostal, Evangelical, and God of the Prophesy. Unlike other areas in Mexico, religious diversity is accepted in the communities and all the religions thrive alongside each other. It is important to note that even though there has been an emergence of new religions in the area, Roman Catholicism continues to be the major and dominant religion.

Religion plays a key role during labor. Among many of the individuals living in Saban, Huay Max, Xquerol and Ichmul the birth of a child is considered to be one of God's miracles; it represents His glory. The outcome of the birth is completely in God's hands. Therefore, honoring God and asking for His blessings and guidance is crucial. During the course of the labor and delivery, God's benevolence is asked through prayer.

All the women interviewed stated that prayer was always carried out during their births, either by themselves, the midwife or their family. At times, all three parties pray together. The family members present provide religious support by continuously praying for God's grace, guidance and protection. They ask God to give strength to the mother and the child. Their prayer is either done out loud or in their hearts in silence.

Even if prayer is carried out by the family or the mother, the midwife is still the key religious figure. She will give *oraciones*, prayer offerings, to God on the mother and child's behalf. She will be the one who will be the closest to God. God will be working his miracle through her.

Prayer is very important to the midwife. She constantly prays to God throughout the labor and birth. Sometimes she will pray out loud and other times she will pray to herself. She gives *oraciones* asking God for his guidance and assistance throughout the labor. If the midwife is attending a difficult birth she will kneel down and pray for God's mercy and guidance. It is her hope that He will help by assisting her in delivering the child safely.

Some midwives will also oversee religious rituals that give offerings to God during labor. The midwife incorporates the mother and her family in these rituals by instructing them how and when to perform them. Typically, two candles would be lit and placed in front of holy images of God, the blessed Mary, Jesus Christ, or various saints as an offering. The candles are lit by the laboring mother or her family. It is their offering to God. After the candles are lit, the midwife will begin to give *oraciones.* The small altars will be placed in the adjacent corner of the room in which the mother is giving birth. If the birth turns out well, then two more candles will be lit as a sign of gratitude to God.

Prayer does not form a part of a birth in a biomedical setting. There is no one leading a prayer, no one to light candles and no midwife to intercede between the birthing woman and God. Women cited that the absence of prayer during a hospital birth is another reason why they choose a home birth.

*Fear and mistrust of the medical community*

There was a strong revelation of fear and mistrust in the medical community from almost all of the women interviewed. The main focus of their concern was the possibility of a cesarean section. Nearly all the women stated that they did not want to have a doctor deliver their child because they were afraid that if things did not progress to the doctor's standards then the doctor would perform a cesarean section. Many women declared that doctors have a reputation of doing cesarean sections primarily because the surgeries are much more convenient for the doctor. According to the women, many times there are no emergency medical reasons for doctors to perform cesarean sections.

The women interviewed stated that they did not want cesarean sections because they were extremely painful. They did not want to be cut open. Women know that cesarean sections take a long time to heal. Typically, it takes six to eight weeks for a cesarean section to completely heal. Many women stated that they could not have a cesarean section because if they could not move then there would not be anyone to take care of their family. Women cannot afford to have their movement restricted for long periods of time. They must be able to work around their homes in order to take care of all household duties. Yucatec Maya women are primarily responsible for cleaning the house, doing laundry, work on their gardens in their *solares*[5], preparing and cooking meals, taking care of young children, and feeding livestock (such as chickens, turkeys and pigs) (Bever 2002b).

## Discussion

*Unique Medical Support in the Community*

Dr. Arturo has been working in Saban's health clinic for the past three years. He is the head doctor of the clinic and oversees the staff. Dr. Arturo's main aspiration is to set up a medical clinic in Saban where all members of the community can feel comfortable attending.

Dr. Arturo's first step in fulfilling his goal is to establish a bond of trust between himself, his patients and the rest of the community. Dr. Arturo believes that building trust is the most important aspect of being a good doctor. He realizes that without trust there are no patients. He has made it a point to be an active member of the community in which he works. He has and continues to participate in many major social events such as school graduations.

Numerous members of the community have stated that, unlike other doctors who have worked in Saban, Dr. Arturo is very patient. He does not yell or reprimand people when they come into the clinic. He explains medical terms and procedures to his patients in ways that they can easily understand. At times, he uses analogies dealing with aspects of their every day lives in order to get his point across. Various community members have declared that they feel comfortable going and seeing Dr. Arturo at the clinic in Saban. An older woman commented

> "I like Dr. Arturo because he makes me laugh. He knows the customs of the town and knows the people well. He is a good and caring doctor. He

[5] A *solar* is designated property lot. *Solares* typically consist of a *huano* (thatched) house, *huano* kitchen, outhouse, chicken coop, and garden (filled with vegetables, fruits and herbs).

> explains things well to you and he understands what you are trying to tell him. He is always talking to you, unlike other doctors who never really talk to you. He is friendlier than the other doctors and that makes people feel comfortable".

Dr. Arturo recognizes that he must always be aware and understanding of the cultural traditions and practices of the community. He has been respectful towards some of the cultural traditions in the community. He has often said that if a woman gives birth in the clinic he will allow the woman's family to take the placenta home with them.

Dr. Arturo has chosen not to condemn the prenatal and postnatal massages conducted by midwives. He does not reprimand his patients for receiving *sobadas*. This attitude makes the women and the midwives of the community feel comfortable around him. They feel as though they have nothing to hide.

A midwife from Saban commented that a few years ago the local doctors were saying that prenatal massages done by the midwives were dangerous and that they should not be done. They condemned the procedure and said that the massages caused complications with the labor and delivery. The midwife rebutted their opinions by saying

> "that is nonsense [the perceived danger of *sobadas*] because midwives have been safely giving *sobadas* for a long time now. Every woman in the community wants to get massaged and they continued to go and have the midwives massage them. The prenatal massages are necessary because they position the baby down at the pelvic opening. This is so that the mother will have an easier and normal birth."

The disapproval of prenatal massages from the medical community has stopped since Dr. Arturo has worked in Saban.

Dr. Arturo has chosen to work in partnership with all the local midwives. He has fostered a good relationship with the local midwives because he has shown them respect and willingness to work with them. He understands the cultural importance that midwives have in the community and sees the trust that the community has in them. Dr. Arturo tries to maintain a good relationship with the local midwives, so that if anything ever goes wrong during a delivery, they will not hesitate to call upon him.

Dr. Arturo believes that to ensure better health in the community, all the midwives need to be properly trained in certain biomedical procedures. Dr. Arturo, the resident intern, and nurses give free workshops sponsored by the Mexican government in proper medical procedures dealing with delivering a baby to all midwives willing to attend. During the workshops, the doctors lecture on procedures that rural midwives can incorporate into their existing routines. The procedures are not costly and do not interfere with cultural traditions, yet they are significant enough to prevent contamination or spread of germs. The doctors will first lecture in Spanish and then the nurses will translate into Maya. The main purposes of these workshops are to "upgrade" midwives' skills and have the midwives learn to identify high risk pregnancies and deliveries and then refer those women to a medical doctor (Sesia 1996:123).

The workshops, called *platicas*, last anywhere from a few hours to a couple of days. The women sign in at the beginning of the *platica* and will receive credit for attending. At the end of a course of *platicas*, the midwives will be awarded a diploma stating that they are certified by the Mexican Institute for Social Security to practice midwifery. This certification becomes a status symbol among the midwives. Nearly all of the midwives in Saban and Huay Max have attended the *platicas* and received their diplomas.

Four of the midwives interviewed stated that they liked going to the *platicas* given by Dr. Arturo because they learned many things, which motivated them to want to learn more. They were grateful for the opportunity to attend his *platicas*. One midwife stated that the *platicas* had given her confidence in pursuing her midwifery practice.

Dr. Arturo hopes to continue to build trust amongst the midwives. Furthermore, Dr. Arturo has done something that most of his peers have not done—he has allowed midwives to be present during births at the clinic. He has done this so that both he and the midwives can work together to help the mother and child. It seems that all of Dr. Arturo's hard work is paying off. Today, all the midwives in Saban and Huay Max refer their patients to the clinic for prenatal treatment. Once the woman arrives at the clinic, the doctors give her a checkup and hand out vitamin supplements. The woman will return for a check up and receive vitamin supplements every two months.

In many parts of Mexico today, biomedicine has taken over childbirth and midwives are in a fast decline.

> "For centuries the primary birth practitioners in Mexico, traditional midwives were, by the 1970's, attending 43 percent of Mexican births. Between 1995 and 1996, traditional midwives attended less than 17 percent of births in Mexico" (Davis-Floyd 2001:192).

Government officials and doctors dismiss the importance of midwifery, stating that there are plenty of doctors and nurses in Mexico. The poor do not need to see midwives because they are entitled to the same health care as the middle class (Davis-Floyd 2001:192-193). The support and acceptance that Dr. Arturo has provided to the midwives is a unique approach that is quite uncommon among his peers.

## Conclusion

Yucatec Maya women are faced with the choice of receiving biomedical care or traditional midwifery care during pregnancy and birth. In the Central Yucatan Peninsula, they are choosing both options for different reasons. Biomedical care is sought to receive prenatal vitamins and to "confirm" that all is well in the pregnancy. But the main authority in regards to prenatal care and delivery continues to be the midwife. Moreover, there is no question in the minds of these women that they prefer a home birth attended by a midwife than a hospital or clinic delivery attended by a doctor. Only in the case of a medical complication do women choose hospitalization over a home delivery.

As these case studies demonstrate, "a mutual accommodation of the biomedical and indigenous systems" (Jordan 1983:135) is possible, though not commonplace. Due in part to Dr. Arturo's cooperation with midwives, midwifery has continued to thrive in

the Central Yucatan Peninsula because the practice is not being openly contested. More importantly, to the women in this study, there is greater risk placed on their health and their baby's health by having a hospital birth than a home birth. A lack of recognition by doctors of traditional illness models, cultural customs, and beliefs places great stress on mothers during and after their deliveries. In contrast, home births attended by midwives incorporate local beliefs and uphold local traditions. Home births include family, reinforce Yucatec Maya gender ideology, and involve a deep religious component. To these Yucatec Maya women, home births are the logical, safe choice for themselves and their babies.

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