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La Costa Escondida: Una Investigación Arqueológica Del Puerto Maya Vista Alegre, Quintana Roo, México

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LA COSTA ESCONDIDA:
UNA INVESTIGACIÓN ARQUEOLÓGICA DEL PUERTO MAYA VISTA ALEGRE, QUINTANA ROO, MÉXICO

Temporada de Campo 2008 y Análisis 2009
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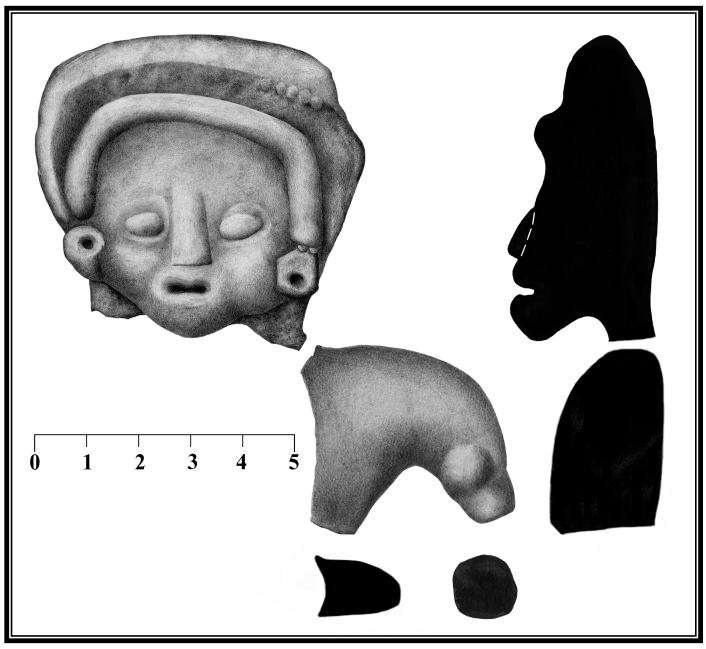

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CONTENTS

FIGURES

TABLES

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CHAPTER 1
INTRODUCTION
BY
JEFFREY B. GLOVER AND DOMINIQUE RISSOLO

The fieldwork conducted at Vista Alegre in May of 2008 (Oficio #C.A. 401-36/0823) and the subsequent laboratory work done in December of 2008 and continued into 2009 had three basic research questions tied to the function of this port site and the chronology of its occupation.

1) What was the lived experience of the inhabitants of this Maya coastal site and how did it change over time?
2) How did the site fit within the larger context of the Yalahau region (Glover 2006)?
3) What was its role in Terminal Classic and Postclassic circum-peninsular coastal trade networks as discussed by Andrews (1983, 1990) Chase and Rice (1985), Miller (1982), Sabloff and Rathje (1975), and Vargas Pacheco (1997)?

Our preliminary results, to be discussed in this informe, point toward the fact that this island site was long a desirable location for settlement, with ceramic materials extending from the Middle Preclassic (c. 800/700 BC) period up to the Protohistoric period.

To address the functional role of the site, we refer to Anthony P. Andrews' (1990) seminal work on Maya ports. In it he succinctly proposes a classificatory scheme based on the functional differences between four general and four specialized types of ports: 1) coastal communities, 2) religious coastal centers, 3) island necropoli, 4) specialized trading ports, 4a) ports of embarkation to offshore islands, 4b) ports-of-trade, 4c) coastal transshipment ports, and 4d) seaports of inland polities. It is important to note that these functional categories are not mutually exclusive, and as Andrews (1990:162) states: "it is impossible to assign any given coastal site to an exclusive category. Most fit into several, if not all, categories." Andrews' descriptions of the attributes of the various ports will serve as a comparative baseline and provide the material correlates for investigating the possible function(s) of Vista Alegre (see Chapter 11). By investigating the possible functions of Vista Alegre archaeologically, we are in a much better position to ask specific questions regarding its relationship with other sites at both the regional and peninsular scales.

Like all investigations of socio-political relations, regardless of scale, chronological control is critical. Although Sanders (1955, 1960) conducted excavations at the site, his work returned a slightly ambiguous mix of some slate wares, an abundance of Vista Alegre group materials along with Postclassic groups (Sanders 1960:191-192). His excavation of Trench 1 was the most productive, and

> [o]f interest is the heavy Tulum Period [Postclassic] representation in the superficial level with evidence of the same suddenness of appearance as at Tancah. The lower levels are dominated by Vista Alegre Striated. Certain trends can be seen from Trench 1. Vista Alegre Striated increases from top to bottom, markedly so from Level 1 to Level 2. Yucatán Slate appears in Level 2 and increases downward in frequency, Mayapan Black-on-cream decreases sharply in Level 3 [Sanders 1960:192].

These data do little to resolve the question of when the site reached its apogee. The presence of slate wares along with the dominance of Vista Alegre Striated is suggestive of a Terminal Classic apex, but Sanders (1960) only recovered 22 total slate ware sherds from a sample of 587. This minimal presence of slate wares is strikingly different than the situation at Isla Cerritos or at sites in the Chikinchel region where slate wares dominate the collections (Kepecs 1998; Robles Castellanos 1988). As will be discussed in Chapter 4, the six excavation units produced over 4,000 analyzable sherds that have begun to clarify the chronological picture as well as the site's position within regional and international networks.

SITE DESCRIPTION

The site of Vista Alegre is located on a small mangrove-shrouded island approximately 7.5 km east of the modern town of Chiquilá. Recessed from the main body of the Yalahau Lagoon, the ancient port lies along the northern coast of the Yalahau region of Quintana Roo (Figure 1.1). The site is defined by the natural topography of the island. Lagoons or deeper estuaries surround the majority of the island. However, the southeast and southwest are characterized by extensive areas of mangroves, estuaries, *tintales*, and tidal flats. The area that corresponds to the island consists of the elevated, forested area upon which the site was built. While some of this elevated area may be a product of centuries of occupational debris, it is more likely that this protected headland was always a bit higher than the surrounding terrain.

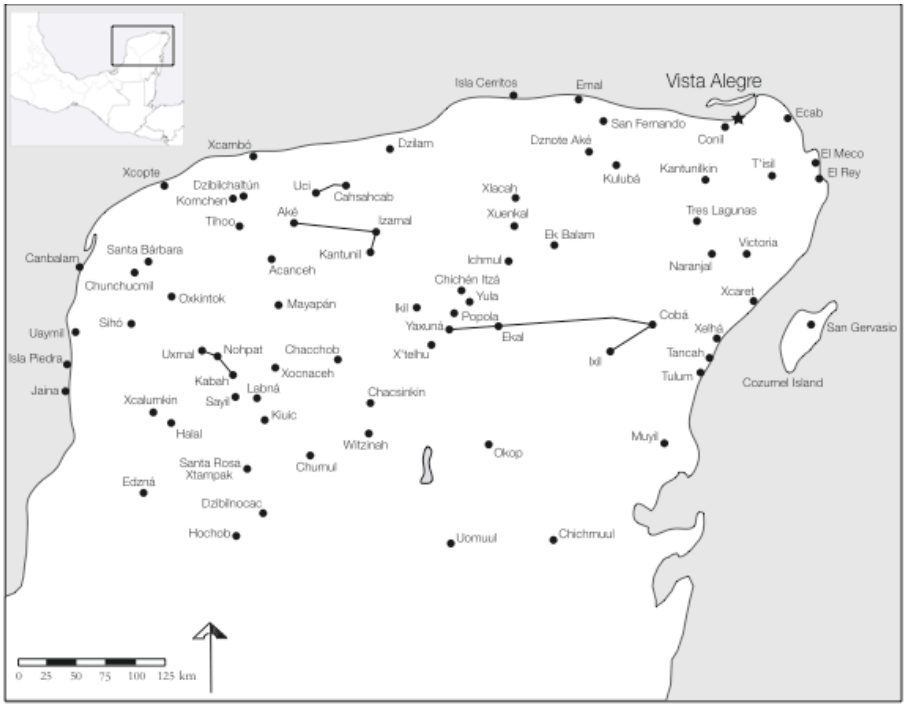

Figure 1.1: Location of Vista Alegre in northern Maya lowlands

The island measures approximately 385 m east/west by 630 m north/south and covers an area of about 16 ha (Figure 1.2). A total of 28 structures (Figure 1.3), including platforms, mounds, and a principle pyramidal structure, were registered and mapped by us in 2005 and 2008 (see below). They

were mapped with either the total station or their location was marked with a GPS point and a sketch map was made with a compass and Leica DISTO™ laser distance device. The GPS, DISTO, and compass were also used in concert to make notes on the island's boundary. In addition to the structures and the island margins, a sacbe and *andador* were recorded along with another temple structure on the mainland. The sacbe runs east/west across the middle of the island and is about 2 m tall at its highest. The *andador* is much smaller and heads south from the southern portion of the island 1.4 km and terminates at the collapsed, mainland temple structure, known as "Templo Perdido".

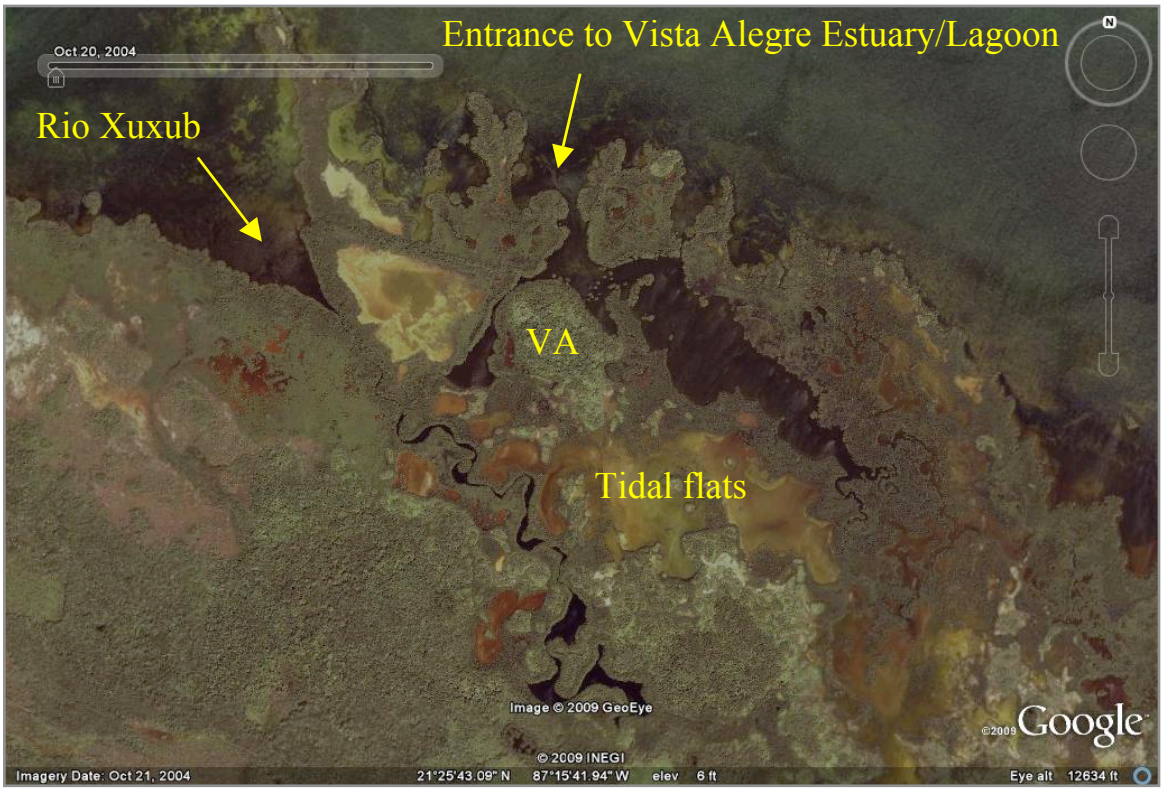

Figure 1.2: Map of Vista Alegre and surrounding area

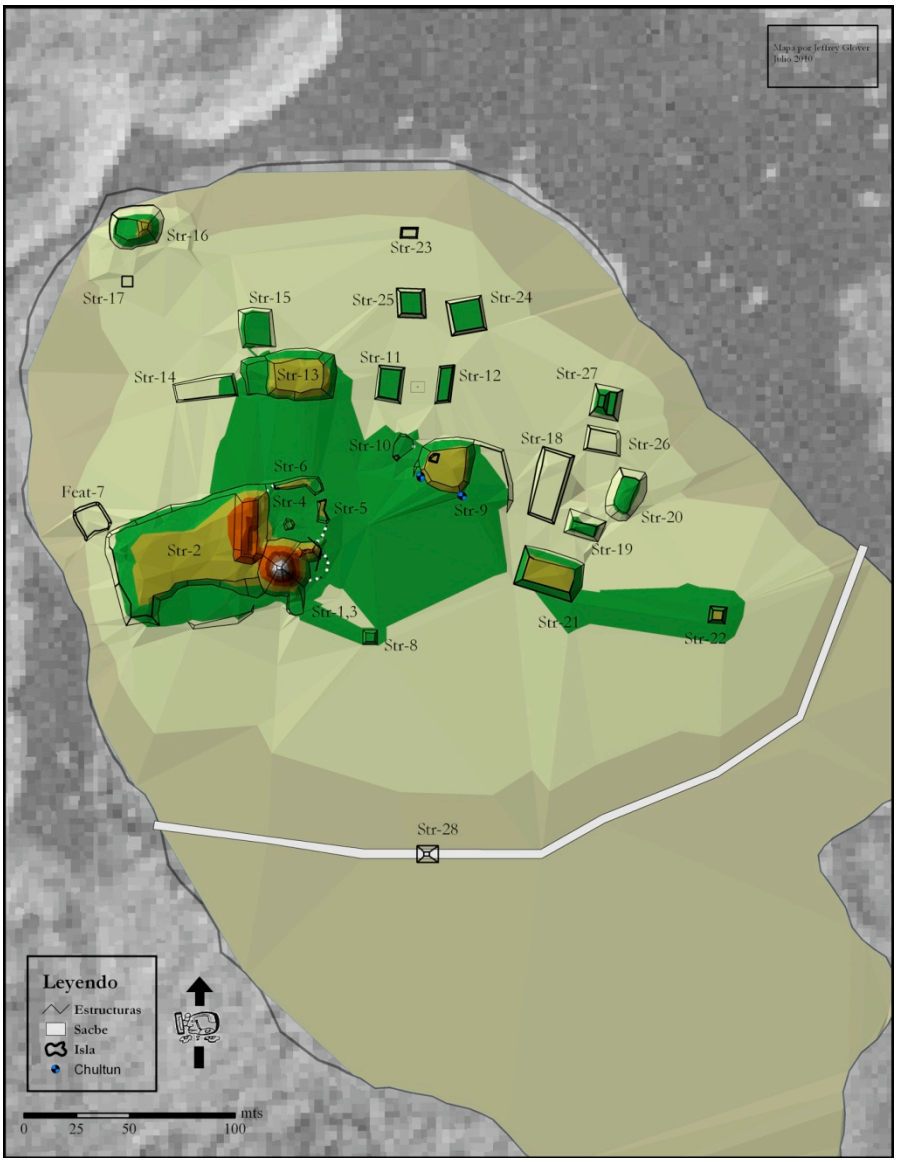

Figure 1.3: Site map of Vista Alegre

HISTORY OF RESEARCH

William Sanders was the first to visit the site in 1954 (Sanders 1955, 1960). During his brief visit, he made surface ceramic collections and excavated four test pits. The site was next visited by Jack Eaton, during his survey of the Campeche and Yucatán coast, who commented that "the overgrowth was too dense to appreciate its features" (Eaton 1978:45). Susana Gurrola and Eugenia Romero returned to the site as part of their investigation of the Yalahau Lagoon and coastal trade and registered the site with greater detail (Romero and Gurrola Briones 1995).

We first visited the site in 2002 during an exploratory trip of the nearby Sabana Zanja (Glover and Rissolo 2004). On the brief trip we recorded a carved serpent head monument at the base of the major pyramidal structure at the site (Figure 1.4). This discovery and the questions that it raised about the site's role in the circum-peninsular trade routes of the Terminal Classic and Postclassic

periods led to a short 2005 field season at the site conducted under the permission the Consejo de Arqueología (Oficio #C.A.401-36/1392). The 2005 field season was funded by FAMSI and led to the creation of the Proyecto Costa Escondida; the results of which were presented to the Consejo in January 2006 (Rissolo and Glover 2006b). As noted above, the primary focus of the field season was the generation of a detailed architectural map of the major cultural features along with a general reconnaissance around the island, although one test excavation pit was placed in the site center and limited ceramic materials were recovered (Rissolo and Glover 2006b).

Figure 1.4: Photo of carved serpent head at base of Structure 1

Canoe-based reconnaissance was undertaken in June 2006 to determine if any other Maya port sites may exist along the northern shore of Laguna Yalahau to the east of Vista Alegre (Figure 1.5). Our results indicate that Vista Alegre is in fact the only sizeable upland area that would allow for any type of settlement larger than a temporary camp. The vast majority of the north coast is dominated by extensive mangroves and flooded forests, which are less than ideal for habitation (see Appendix 1). It appears as though Vista Alegre is the first, or last depending on direction of travel, port along the north coast of the Yucatán peninsula, which, we believe, increases its significance in circum-peninsular trade routes.

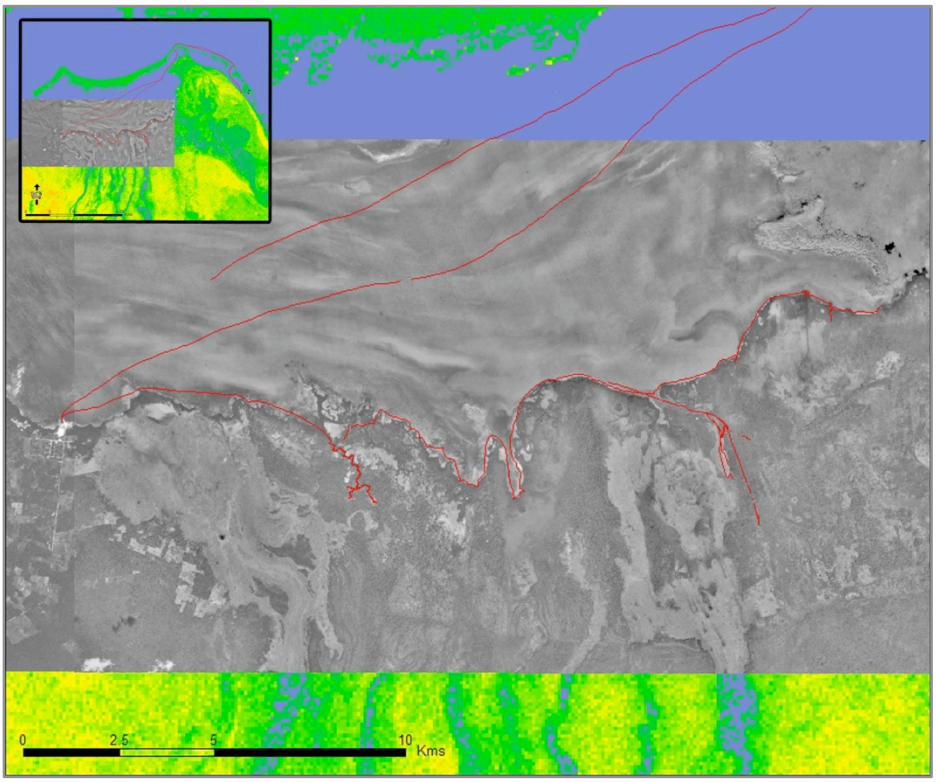

Figure 1.5: GPS track of canoe-based reconnaissance

METHODOLOGY

The 2008 field season had a survey and excavation component. The fieldwork was conducted in May of 2008 and the subsequent laboratory work was completed in July and December of 2008.

Survey

While the majority of the major architecture was mapped in detail with a total station in 2005, a few features were not documented as thoroughly as we would like. The first of these is Sacbe 1, the east/west sacbe that traverses the breadth of the island (see Figure 1.2). In 2005 it was extremely overgrown and GPS points were the only form of mapping possible.

Along with Sacbe 1, the eastern residential group (Structures 18, 19, 20, 26, and 27) was not mapped in great detail. Unfortunately our Leica Total Station was held at customs in Cancun for almost the entire length of the May 2008 field season. Despite pleas from INAH officials in Cancun and Chetumal, the customs officials would not release the Total Station until the end of May after a fee of over $10,000 MXN was paid. This unforeseen problem limited our ability to use the Total Station and we only had it at the site for the end of the project. In addition to the limited Total Station mapping, we cut *brechas* to the south of the sacbe as well as around Templo Perdido in order to identify any other architectural features. We also conducted reconnaissance south of the site in hopes of finding a permanent source of water. During this reconnaissance we also visited the historic site of Rancho Xuxub and produced a sketch map of the visible architectural remains (see Chapter 2).

Test Excavation Program

In accordance with our INAH permit, the test units were located off-structure so as not to cause any damage to any of the architecture or archaeological features at the sites. During the May 2008 field season we excavated six 1 m x 1 m test units (see Chapter 3). These units were located judgmentally in hopes of maximizing our recovery of various types of archaeological data.

Laboratory Analysis

The laboratory analysis was conducted at the project's field house in Kantunilkin, Quintana Roo. General cleaning and curation of materials was conducted on weekends in May and was completed along with initial counts and weights in July. We returned in December pf 2008 to Kantunilkin with the Drs. Joseph W. Ball, Jennifer Taschek and Fabio E. Amador where we completed our initial ceramic analysis and the analyses of the other archaeological materials.

GIS

All of the mapping and excavation data has been compiled in a Geographical Information System (GIS). The ability to view the field data for daily quality assurance makes GIS a powerful project management tool in the field, and an extraordinary timesaver when one considers the limited options available when waiting until the end of a field season to ascertain erroneous or missing data. Glover is competent with GIS software and has been working with ArcGIS, a specific GIS software package, in the management of the archaeological data from the Yalahau region (Glover 2006; Glover et al. 2004). Incorporating the Vista Alegre data into the Yalahau regional GIS database will provide the researchers access to a large inventory of regional data from which comparisons can be easily made. GIS will also be a great aid in the dissemination of data both to fellow scholars (Mexican and U.S.) via the Internet, and to the local community in the form of visually accessible maps and illustrations.

Community Involvement

While in the field we had representatives from the Chiquilá – San Ángel ejido with us daily. Along with the much-needed help the workmen provided, their presence also ensured a level of transparency for our project that we feel is critical. While we presented the community leaders with a copy of our INAH proposal and permit, we will make these present findings available to the community in Spanish as soon as possible.

SIGNIFICANCE

Andrews states that "less than .5% of all known coastal sites have been subjected to extensive excavation" (1990:160). The Proyecto Costa Escondida hopes to change that unfortunate statistic. We find ourselves in a unique position to integrate Vista Alegre into larger studies concerning regional economic and political organization. A more detailed understanding of this strategic ancient port will enable us to not only evaluate the linkages between the coastal and inland sites within the Yalahau region, but also determine the role Vista Alegre played within the context of circum-peninsular trade. This field season was an important step in this direction, and we feel it sets the stage for future more in-depth investigations that we hope to complete in the years to come with the continued support of INAH.

CHAPTER 2
SURVEY AND MAPPING
BY
JEFFREY B. GLOVER

The mapping and survey work were conducted both on-site as well as in the immediate vicinity of Vista Alegre. As mentioned above, the formal, total-station mapping was limited this field season due to issues with customs officials. The total station, however, was used to better define a few structures (Structures 20, 26, and 27) in the East Plaza group. In addition to these structures, one other small mound was identified (Structure 28) between the sacbe and main plaza area. This low, small mound was encountered along the *brecha* between the main plaza area and the sacbe. This structure measured approximately 2 m on each side and was less than .5 m in height. It appeared as though this structure was an isolated feature, but the vegetation in this portion of the site was quite dense. The mound's location was obtained through the use of a hand-held GPS unit (Garmin GPSMap 60Cx). The GPS unit was also used to create "tracks" of the *brechas* that were cut along with areas covered during the general survey. One of the main goals of the general reconnaissance was to identify possible freshwater locations for the inhabitants of Vista Alegre. During this reconnaissance, which was conducted in July, we also visited the historic site of Rancho Xuxub.

THE EAST PLAZA GROUP

The East Plaza group consists of Structures 18, 19, 20, 26, and 27 (Figure 2.1). During the 2005 mapping project, Structures 18 and 19 were mapped in detail while the others were only approximated. This season we were able to clear the dense vegetation covering this group and identified an additional structure, Structure 27.

Structure 20

This structure measures approximately 23 m north/south by 13 m east/west and stands about 1.5 m above the ground surface. It occupies the eastern side of the East Plaza group. There were no discernable superstructures atop the structure.

Structure 26

This low structure rises only about .5 m above the ground surface and measures 12.5 m north/south by approximately 17 m east/west. As on Structure 20 there were no identifiable superstructures.

Structure 27

As mentioned this structure was not identified in 2005 due to the dense vegetation in this portion of the site. The northeast of the structure is quite close to the mangroves and margin of the island. Measuring approximately 15 m north/south by 14 m east/west, Structure 27 has an elevated superstructure that occupies its western half. This superstructure stands about 2.5 m high while the rest of the basal platform is 1.5 m above the ground surface.

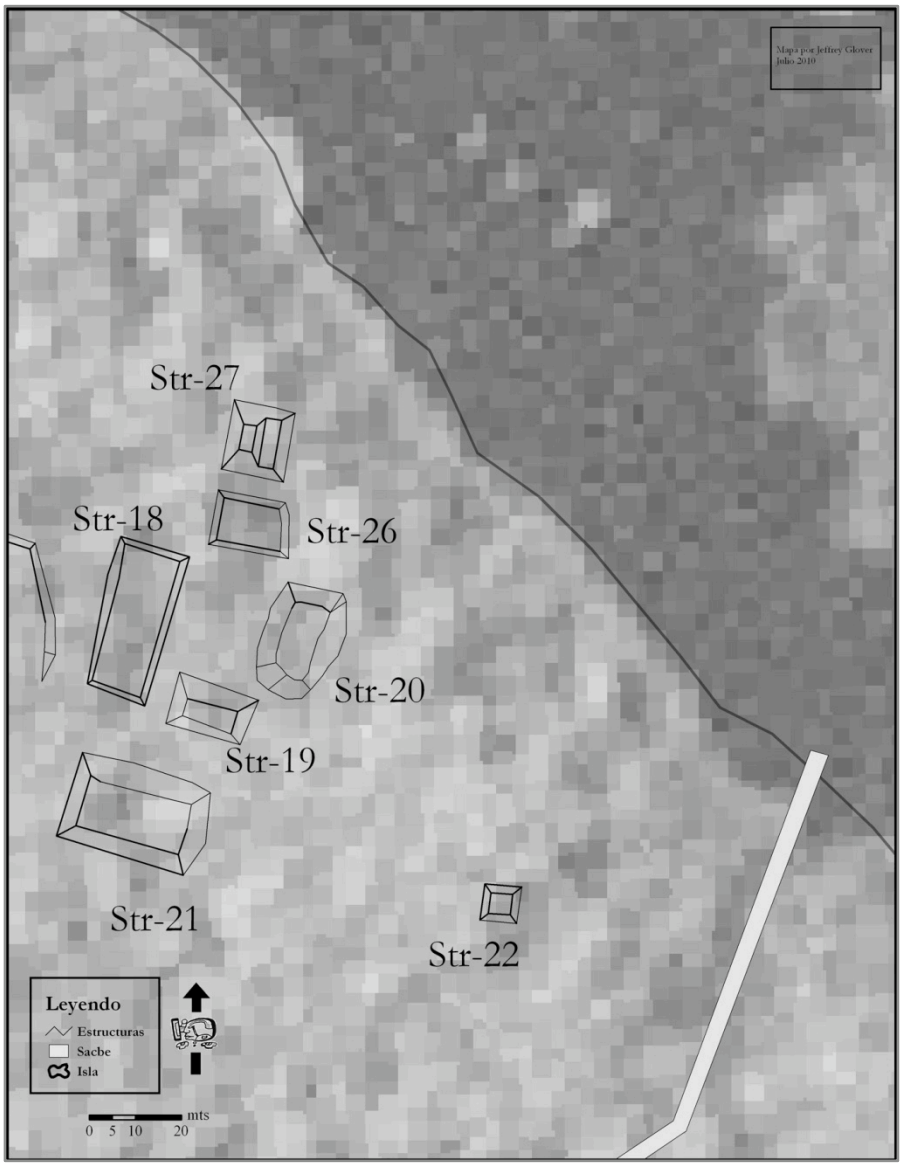

Figure 2.1: Map of East Plaza Group

BRECHAS

A series of *brechas* were cut in order to better understand the distribution of settlement on the island and the relationship between Vista Alegre and Templo Perdido. Although the researchers proposed cutting formal *brachas* every 50 m south of the sacbe on the island and around Templo Perdido, the openness of the area south of the sacbe and the application of the GPS "track" feature allowed for a more expedient survey method than the more formal *brechas*.

Survey of the Southern Portion of Vista Alegre

As mentioned, the area to the south of the sacbe, which corresponds to the southern portion of the island, was quite open and did not necessitate the use of formal *brechas*. No structures were identified although there were two potential archaeological features that warrant mentioning. These

features consist of linear arrangements of rocks and large conch and whelk shells (Figure 2.2). The shells and rocks appear to be regularly spaced and create a pavement that is between 1 and 2 meters in width. While it is very possible that these are natural features, their uniformity is certainly curious. Our thought is that these could have acted as small terraces as the land is slightly higher on one side of them and do not seem to be long enough to have constituted *andadores*. Conversely, because the land is slightly higher on one side of them this could be a natural place for these rocks and shells to accumulate.

Of additional note is that Glover could not locate the northern portion of the *andador* that was originally drawn on the maps in 2005. While this portion of the site is open in terms of vegetation, there is quite a bit of ground cover in the area where the *andador* should continue toward the sacbe. Where Glover identified the start of the *andador* there is a small stone feature connected to the west side of the possible terminus. This will need to be further investigated in future field seasons.

Figure 2.2: Photo of linear features with shells and rocks south of site

Survey around Templo Perdido

We conducted the survey around Templo Perdido in order to determine whether this area hosted a support community for the inhabitants of Vista Alegre. As mentioned, I used the "track" feature on the GPS unit as it proved to be more efficient. In total approximately 1 km of *brechas* were cut around Templo Perdido (Figure 2.3). Much like at Vista Alegre, Hurricane Wilma's impact was evident in the area around Templo Perdido. The area was densely covered with a plant locally known as *julubal* (Figure 2.4). This plant grows in disturbed areas and according to Abel Mendezaba Orduña and Alfonso Martinez Márquez (two of our *trabajadores* from Chiquilá), it is an indicator of good milpa land. Another clue to the rich potential of this area for agriculture is the depth of the soil. I hardly saw a rock in this area, which is exceptionally rare for the Yucatan Peninsula (Shattuck 1933). This evidence combined with the lack of settlement found in this area is strong, but not

conclusive, evidence that this area may have been the "bread-basket" for the inhabitants of Vista Alegre. Further survey and soil chemistry tests could help to more definitively support this idea.

The first *brecha* cut was an east/west baseline that extended to the east from the northeast portion of Templo Perdido. Given the density of the *julubal*, visibility was limited to approximately 1 to 2 meters on either side of the *brechas*. This *brecha*, labeled EB0, ran almost 350 m east of Templo Perdido. About 200 m east of Templo Perdido there was a small natural rise that may have supported a structure. The possible structure was poorly defined, but I mention it because it was the only possible archaeological feature found aside from Templo Perdido.

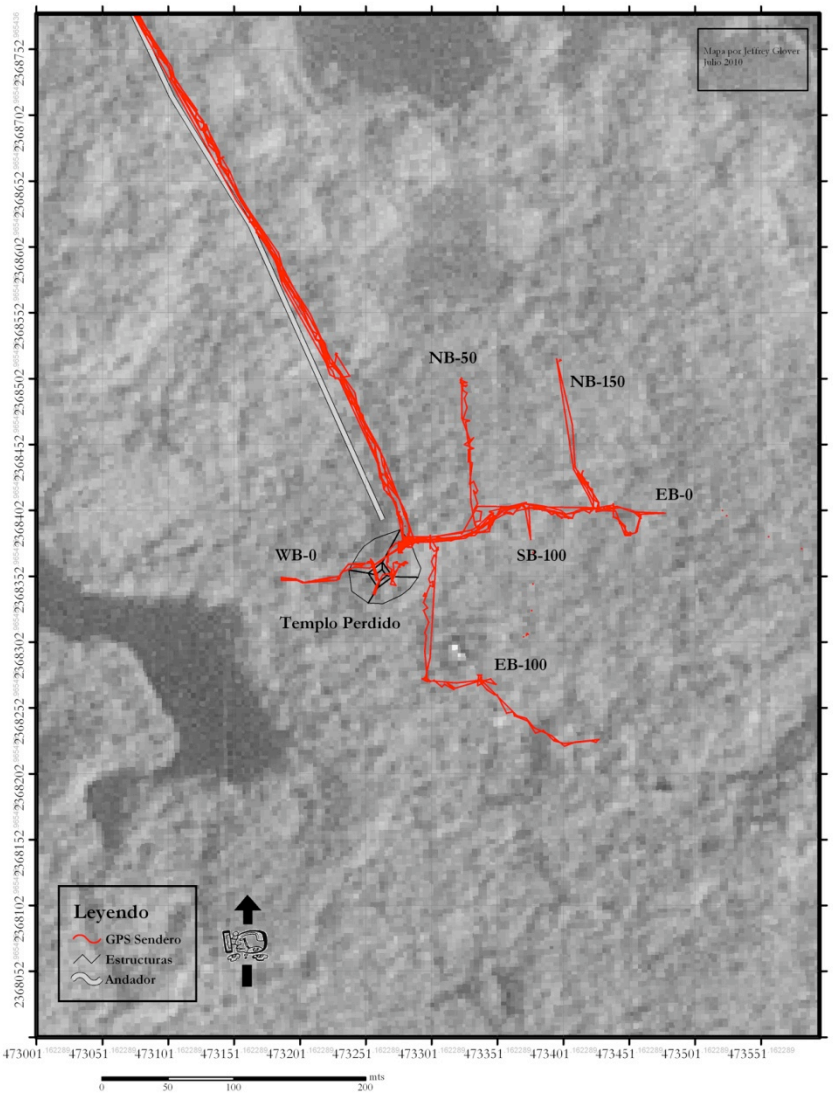

Figure 2.3: Map of *brechas* around Templo Perdido

Figure 2.4: Photo of *julubal* plant around Templo Perdido

Two *brechas* were cut north off of EB0 along with two south *brechas*. NB50 began about 50 m E of Templo Perdido and ran about 115 m north until we encountered a tintal area. The soil does appear to get thinner as one moves north toward the area of tintal and mangrove. NB150 started about 150 m east of Templo Perdido and extended about 120 m north until the same tintal area was encountered. The first south *brecha*, SB0, began at the edge of the natural mound that Templo Perdido sits atop and extended approximately 100 m south. SB100 started about 100 m east of Templo Perdido and also extended 100 m south of EB0.

Two other *brechas* were cut around Templo Perdido. WB0 extended from the northwest portion of Templo Perdido. Within approximately 50 m we encountered mangroves associated with the edge of Río Xuxub. The second *brecha* was EB100, which extended from end of SB0. EB100 runs about 40 m east and then approximately 100 m southeast. We headed southeast in an attempt to locate an apparent area of high ground. The high ground proved to be another low, natural rise with taller trees and there were no structures associated with it. From this area Sr. Marquez climbed a tree and spotted mangrove close to this area. We proceeded to see if this area held permanent water but it did not and was part of a larger mangrove island. This exemplifies the complex nature of this environment so close to the north coast (see Appendix 1).

Survey of Potential Raised Fields

The transects to the north of Templo Perdido crossed the strip of land that appeared on the INEGI aerial photographs as though it could be the remnants of drained fields (Figure 2.5). Although these raised areas were not visible on the ground, the type of vegetation present in this area, mangroves and *palo de tinte* and this area's close proximity to the saline tidal flats led us to conclude that this would not have been suitable land for agriculture. Even with the lower sea-level during the Preclassic, we contend that this area still would have been too close to the lagoon and estuary environments to have supported viable farming. We do, however, hope to gain a better

understanding of the area's hydrogeology (past and present), which will allow us to assess this in a more definitive manner.

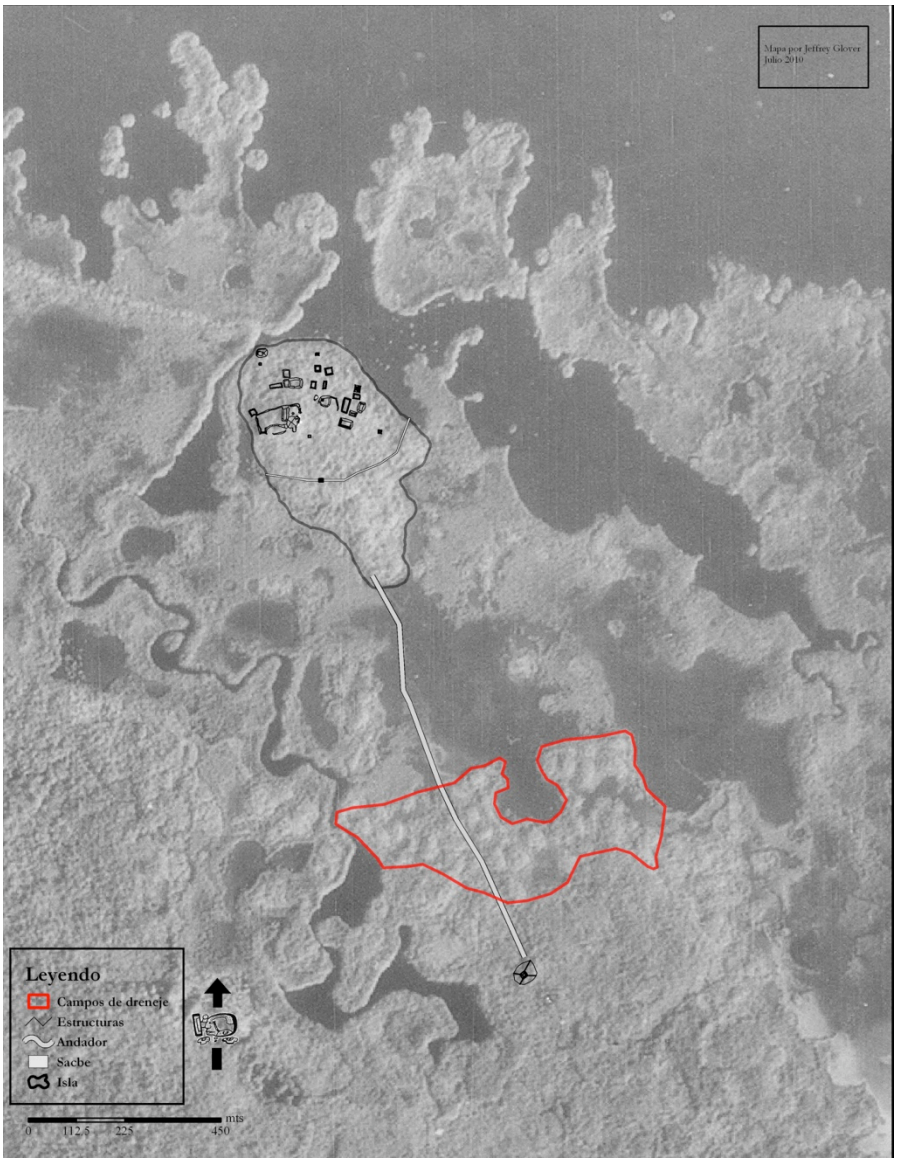

Figure 2.5: INEGI aerial photograph of potential raised fields

RECONNAISSANCE OF POSSIBLE WATER SOURCES SOUTH OF VISTA ALEGRE

One of the major subsistence questions that must be addressed is where did Vista Alegre's inhabitants obtain freshwater. Over the course of our investigations in the area we have recorded a number of *ojos de agua*. Freshwater from the aquifer is forced through these natural fissures in the limestone and on calm days small "boils" are visible in the Yalahau lagoon. The largest of these that we have visited is located 7.5 km to the west of Chiquilá, and while quite impressive (Figure 2.6) would certainly not have been a viable source of water for the inhabitants of Vista Alegre. The other *ojos de agua* are closer to Vista Alegre but are still 6.5 km away (Figure 2.7) from the site and are not sizable (Figure 2.8).

Dominique Rissolo and I had heard that there was a cenote south of Templo Perdido, and in July we attempted to locate this possible freshwater source. We enlisted the aid of Don Silvilio Noh Gasca and his son Anselmo Noh Olivar, both long-time residents of Chiquilá. Don Silvilio had moved to the area in 1960 and had spent time working and hunting in the forests of this area. We hiked approximately 1.4 km south from the end of Río Xuxub (Figure 2.9) and then headed about .5 km to the west. We found a total of four, very small cenotes in the area. Two of them were full of sediment but we were told that they could easily be cleaned out to provide access to freshwater. We could not actually locate one of them, but we found the flooded area around it. The fourth one had a diameter of about 1 m, and we saw a fish in it, indicating that it is connected to the underwater aquifer and not just a depression in the limestone filled with rainwater. While these supposedly provide access to freshwater year around and have been used by people as evidenced by the historic glass bottles and pots surrounding one of them (supposedly remnants of a *tintero* campsite), we are doubtful that these would have been the sole water source for Vista Alegre. Given that they are 1.4 km south of Templo Perdido, that makes them approximately 2.8 km from the main habitation areas at Vista Alegre. While it is conceivable that people were making this trip daily, we still believe that a closer, permanent water source must exist.

One possibility that we hope to pursue in future field seasons through collaboration with a hydrogeologist is to understand how the freshwater regime has changed over the millennia. As noted with the *ojos de agua* and the delta-like shape of Sabana Zanja, freshwater flows north from the inland *sabana* areas (Tulaczyk et al. 1993). We have also observed this phenomenon at the southern termini of inlets along the north coast (see Appendix 1). There are small freshwater streams at each of these inlets, and Río Xuxub is no different. The major question involves determining where the water becomes too saline for consumption and how the freshwater flows differ between the dry and wet seasons.

During our July trip with Don Silvilio, he commented on the past existence of Río Nuevo (Figure 2.10). Río Nuevo is not a traditional river but appears to be a freshwater outlet in Río Xuxub from the adjacent Sabana Zanja. A single river channel is not apparent in the INEGI air photos or any of the satellite imagery available to us but one can discern an area of low vegetation in Zanja that could be the result of flowing water. We are quite eager to follow this lead because of its proximity to a canal feature associated with Vista Alegre's western lagoon. During our 2006 canoe-based reconnaissance of the north coast, we actually canoed through this canal, after some clearing of mangrove branches, and exited into Río Xuxub. We could not determine if this was a natural or cultural feature or a natural feature that had been modified in the past, like the canal associated with Chunyaxche (Farriss and Miller 1977). The exit of this feature, though, is exactly were Don Silvilio said he used to be able and get drinking water (*agua dulce*) for at least six months out of the year. This is all circumstantial evidence at this point but certainly worth investigating in the future.

a. b.

Figure 2.6: Yalahau *ojo de agua* (a) west of Chiquilá and its outflow (b)

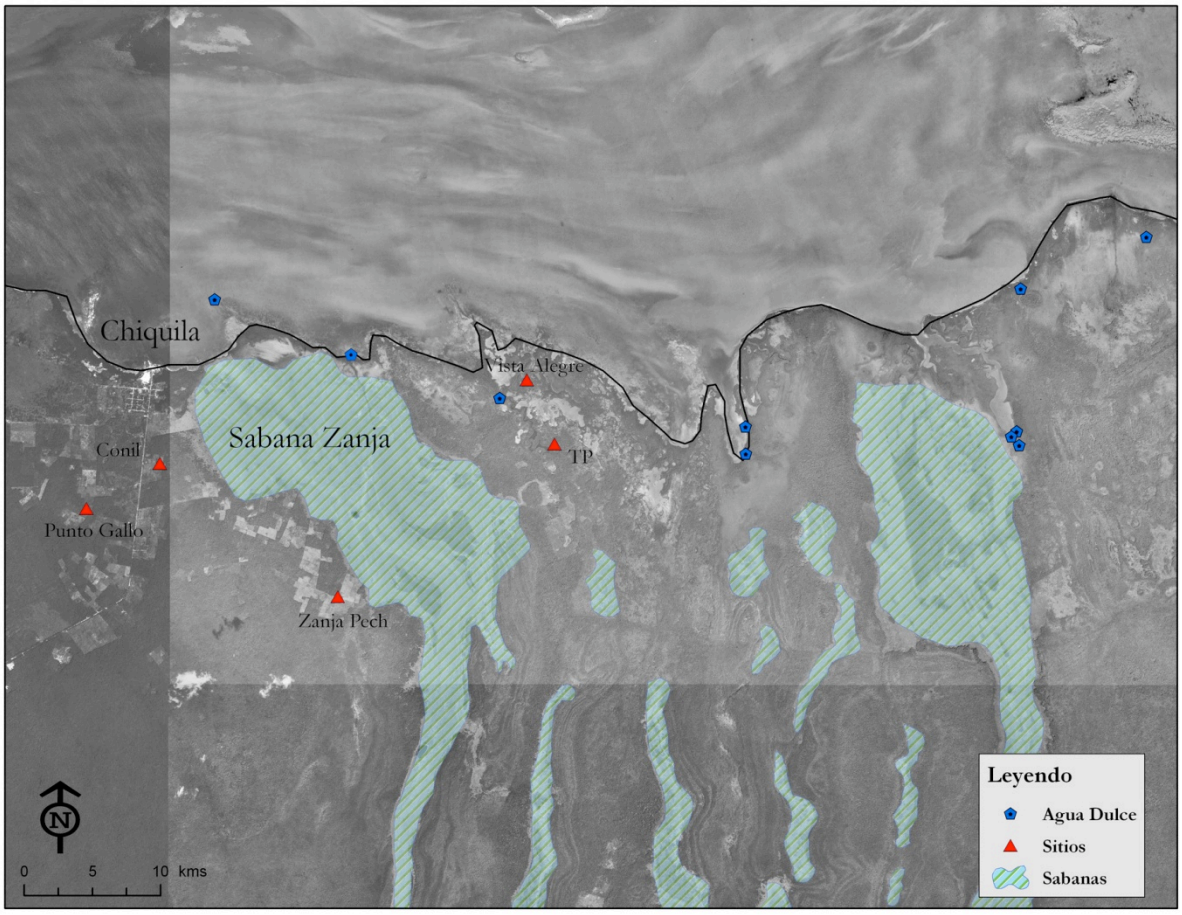

Figure 2.7: Map of souces of fresh water in Laguna Yalahau

Figure 2.8: Photo of *ojos de agua* in Laguna Yalahau

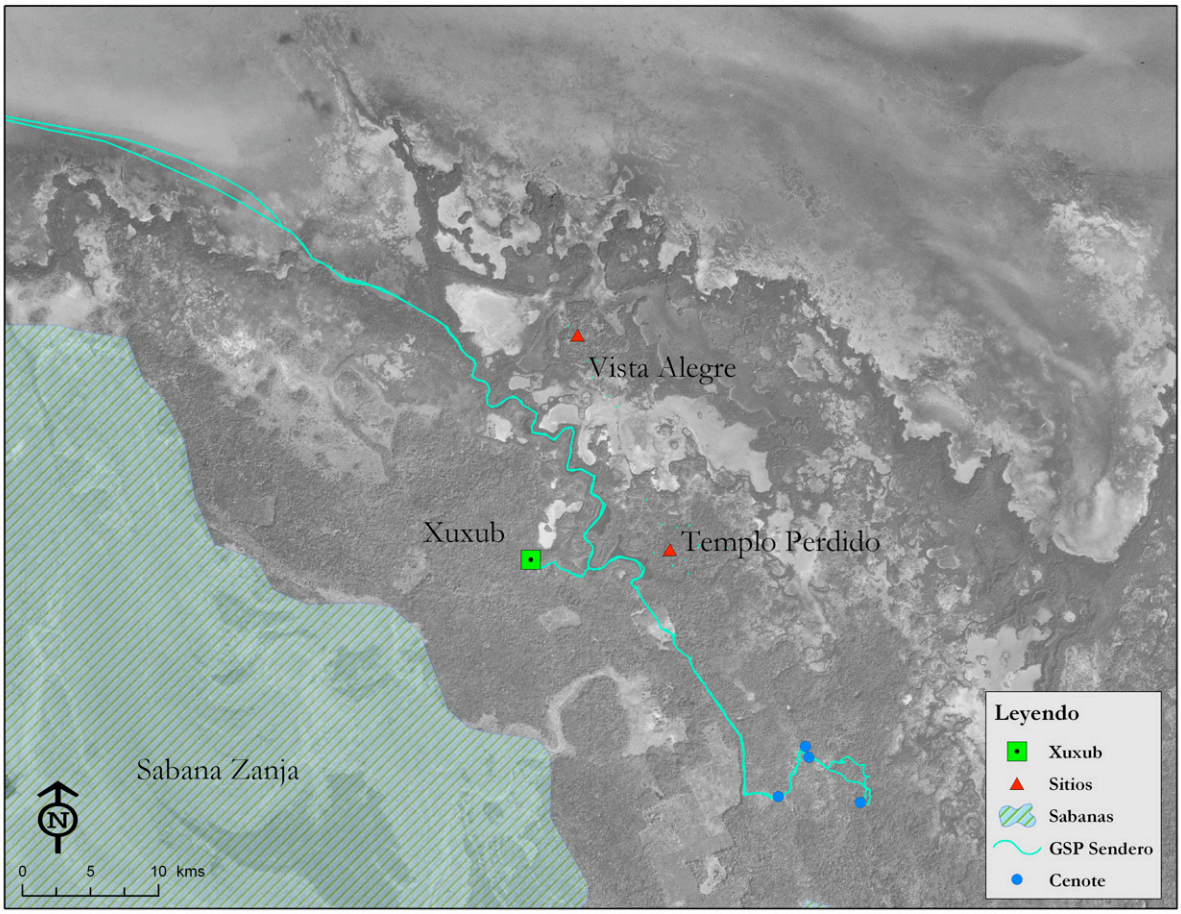

Figure 2.9: GPS track of area surveyed south of Templo Perdido

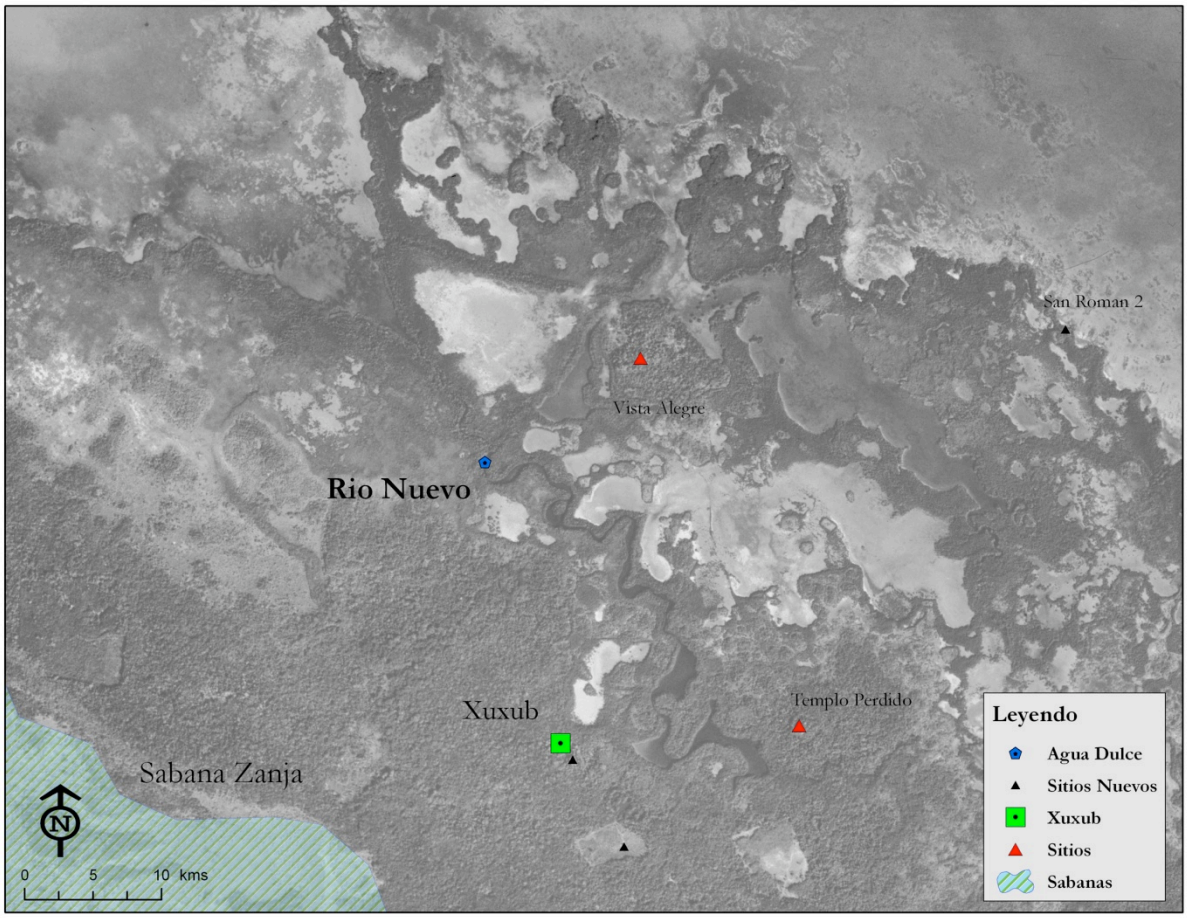

Figure 2.10: INEGI photo showing location of Río Nuevo

SURVEY OF RANCHO XUXUB

Don Silvilio was also able to lead us to the ruins of Rancho Xuxub (Figure 2.11). We had attempted to relocate this historic rancho in 2006 but only found a well and what appeared to be historic-era *metates*. As our luck would have it, Don Silvilio had lived at Rancho Xuxub with his family for a number of years and he was able to show us the ruins of the rancho. Ramón Aznar of Mérida purchased Rancho Xuxub in 1872 from Mauricio Palmero, who had only owned the property for a few years (Sullivan 2004:20-21). Aznar purchased this 769-acre ranch in partnership with the American Robert Stephens who was the manager. Robert Stephens, and Xuxub, are known infamously because of the murders that happened there in 1875. Stephens was the only American to loose his life during the Caste War (Sullivan 2004).

Today, the ruins of Rancho Xuxub sugar mill consist of a few remaining structures (Figure 2.12). There is a collapsed chimney connected to the kettle area by a heat flue. The walls of the building still stand about 1.7 m tall and there is an open room on the west side. In total these features measure about 15 m north/south. Immediately to the east is a low foundation (0.5 m) that measures 9 m north/south by 7 m east/west. This foundation is better preserved on the north side and there is a large guanacaste tree between this foundation and the chimney that had recently been struck by

lightning. Approximately 20 m to the southwest is another building. This building appears to have been used for storage, as there are no doors or visible entrances. It measures 4 m north/south by 6 m east/west and the intact walls are about 2.25 m tall. The north side has been damaged, most likely by a fallen tree. There are two associated construction elements. One is a small chamber connected to the south side of the storage building and the other, to the southwest, has low foundations that connect the southern feature with the remains of a solid pillar that measures a little under 1 m on a side and is less than 1 m from the southwest corner of the storage building (see Figure 2.12). The second well identified at the site is about 6 m north of the north side of the storage building. We hope to more fully investigate and document this historic site, along with others, in future field seasons.

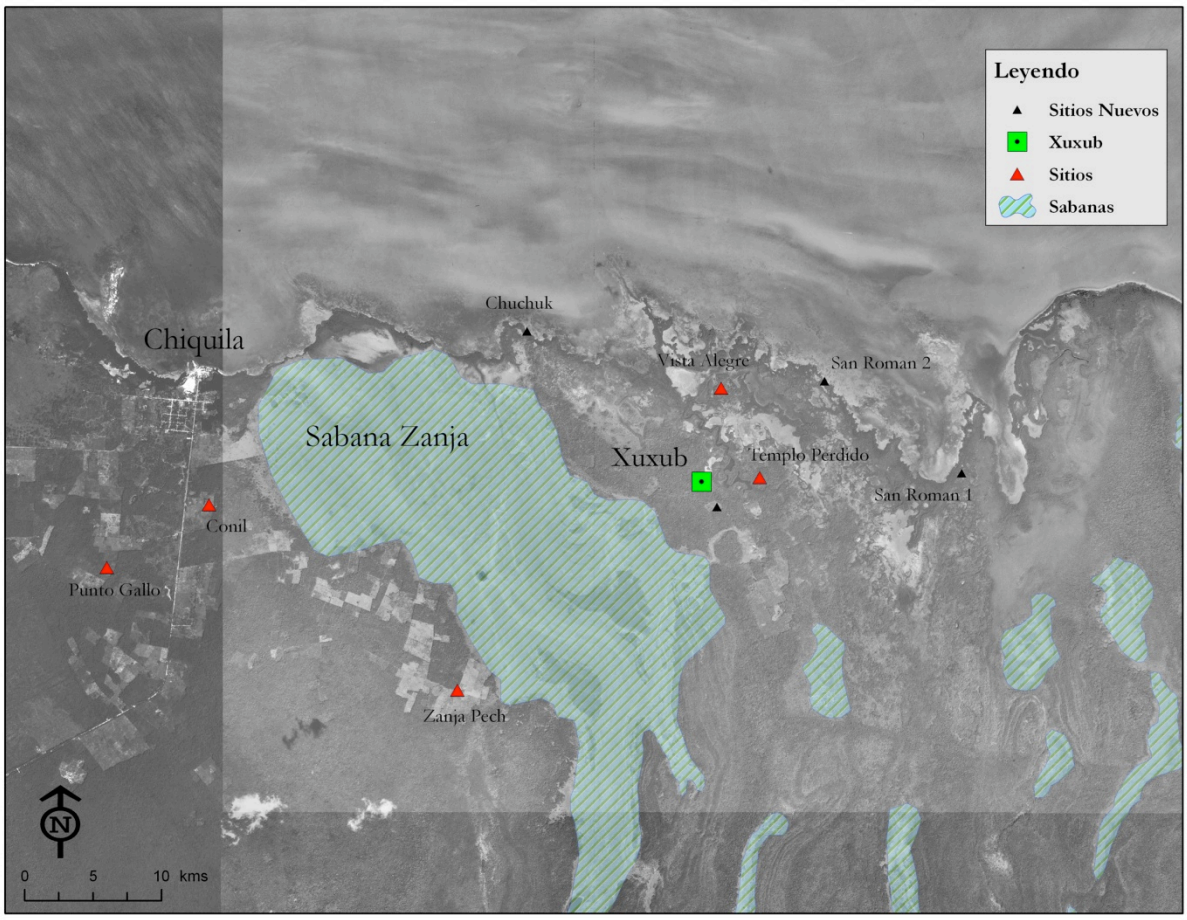

Figure 2.11: Map of location of Rancho Xuxub

Figure 2.12: Sketch map of ruins of Rancho Xuxub

CHAPTER 3
THE TEST EXCAVATION PROGRAM
BY
JEFFREY B. GLOVER

The main goal of the test excavation program was to obtain datable ceramic materials to help us understand the site's occupational history. The secondary goal was to obtain materials that would aid us in our interpretation of the subsistence strategies of the people of Vista Alegre (see Chapters 6, 7, and 10). While we proposed to excavate 10 or 11 units, time only allowed for the excavation of six units. The major reason for this was that all of the units went deeper than anticipated. We were hoping to find areas with deeper deposits but did not anticipate these being close to a meter in depth. Our miscalculation was based on our experience at inland sites where the majority of units averaged about 50 cm in depth (see Amador 2005). Units 3, 4, 5, and 6 were excavated in 10 cm arbitrary levels. Units 5 and 6 were in midden areas and bulk soil samples were taken each level beginning with levels 5 and 3, respectively. The analyses of these samples are on going. Units 2 and 7 were excavated with the explicit purpose of locating plaza floors and to that end the levels were typically deeper than 10 cm. All units used a local datum that was established 10 cm above the highest corner. All excavated materials were passed through a 5 mm screen. As no intrusive subsurface features were identified, the lots correspond to the levels of each unit (for example Unit 2 level 3 was labeled as lot 23). Not all units were excavated to bedrock due to time limitations but plastic tarps were used to mark where these units had terminated so that they can be continued in future field seasons. Each of these units will be discussed in greater detail below.

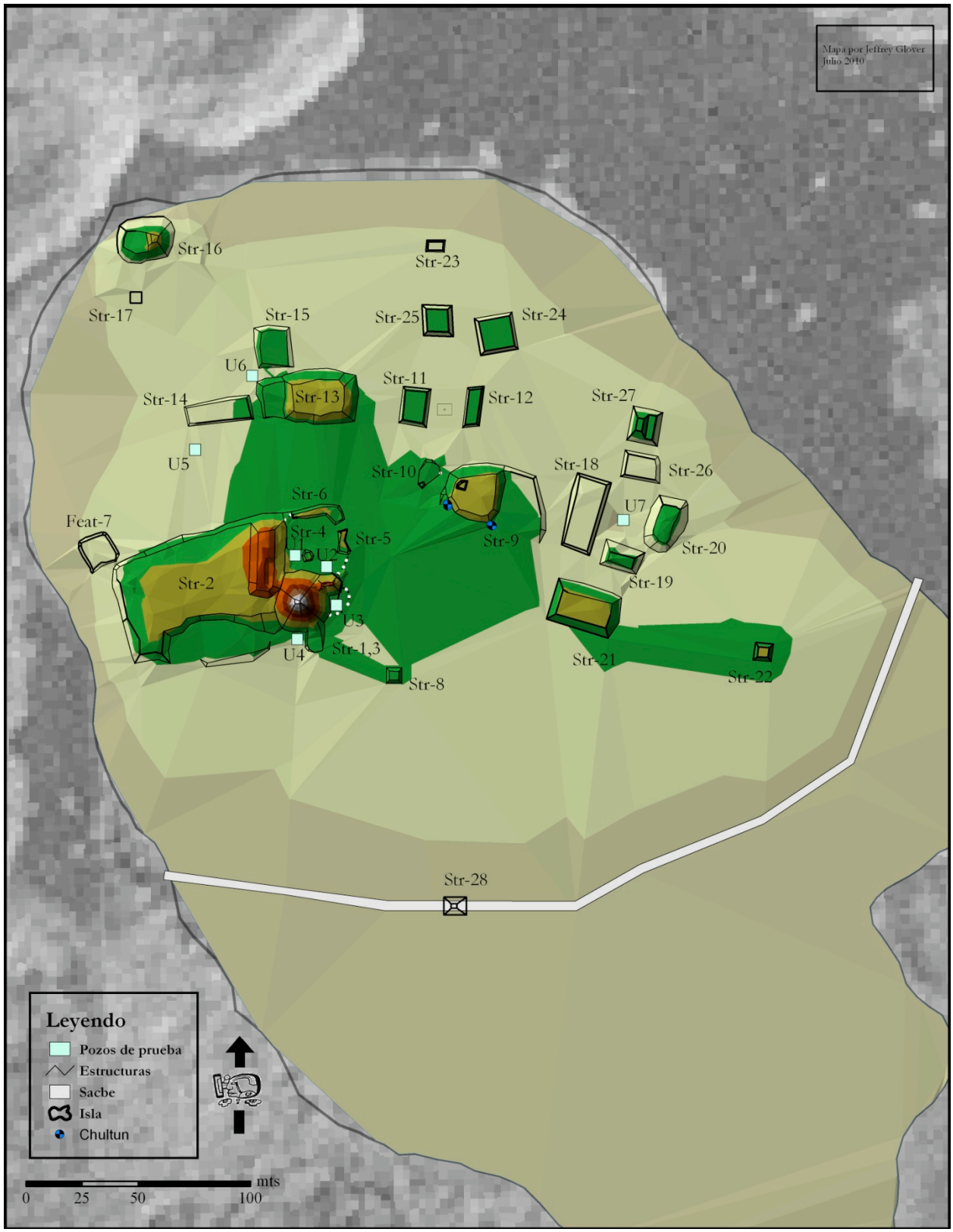

Figure 3.1: Map of Vista Alegre with location of excavation units

UNIT 2

Unit 2 was located to the north of Structure 3 in the site's central plaza area (Figure 3.1). We placed the unit here in hopes of encountering a series of well-preserved plaza floors that would yield stratigraphically significant deposits. In 2005, our only test unit at the site, located west of Unit 2, found a poorly preserved section of plaza floor 30 cm below the current plaza surface (Rissolo and Glover 2006b). We were successful and including the floor there were six strata identified in the profile (Figures 3.2 – 3.5). The first two appear to be associated with the collapse of Structure 3 and the uppermost includes the modern topsoil. This collapse sits upon a poorly preserved floor, the third stratum. The fourth stratum is the sub-floor ballast, while the bottom two appear to be natural strata with fewer cultural materials.

Level 1 (Lot 21)

Level 1 was excavated in an arbitrary 20 cm increment. The upper portion of the level was topsoil (7.5 YR 2.5/1) with some root disturbance. The number of sherds and rock increased toward the bottom of the level. Along with ceramics, some shell and stucco were recovered.

Level 2 (Lot 22)

Level 2 consisted of collapse from Structure 3 (7.5 YR 2.5/1). This collapse not only included construction fill but a large number of *incensario* fragments (see Chapter 4). This level was 10 cm and was stopped due to concern of missing a poorly preserved section of the floor. As in Level 1, more stucco fragments were found but they were not located in a horizontal position, as one would expect for a floor. In fact, one of the stucco fragments was a corner piece and confirmed the thought that these stucco fragments actually came from Structure 3. Along with the stucco and sherds, a small jade bead was recovered (see Chapter 5) as well as obsidian fragments, faunal remains, and shell.

Level 3 (Lot 23)

This level terminated at the plaza floor and ranged in depth from 1.5 cm to 7.5 cm where the floor was located and 8.5 cm in the middle of the unit where the floor was not found (Figure 3.6). The floor was best preserved in the northwest and southwest corners of the unit. Another section of the floor along the east side was inclined at about a 45 degree angle which is indicative of what has happened to this floor. The non-contiguous nature of the floor and its poor state of preservation, of course, calls into question the stratigraphic integrity of the lots below it; however, the ceramic evidence does point toward limited contamination of above-floor materials in the sub-floor levels (see Table 3.1). The color of the sediment above the floor changed slightly (7.5 YR 6/2 and 7.5 YR 5/1) but appeared to be more collapse from Structure 3.

Level 4 (Lot 24)

The floor and the sub-floor ballast were taken out as Level 4 (Figure 3.7). The floor was surprisingly thick for a Terminal Classic floor and more resembled a Preclassic floor (Jennifer Taschek, personal communication 2008). As will be discussed below, this is significant and relates to the reoccupation of the site during the Terminal Classic period when the greater Yalahau region appears to have been abandoned. On average this level was 30 cm. It was continued in hopes of finding an earlier floor, which was not encountered. The sediment directly under the floor was more compact, as would be expected and was of a similar color to the sediment directly above the floor. About 20 cm below the floor the sediment became much more homogenous, less compact, silty, and lighter in color (7.5 YR 7/2). Of interest, a spindle whorl was found in this level along with sherds, obsidian, faunal and shell remains. The sherds, however, appear as though they were deposited in an already eroded state

and there is a mix of Late Preclassic through Late Postclassic materials (see Table 3.1). This indicates that at least some of these materials were redeposited from a midden context. The minimal presence of Late Postclassic sherds below the floor is strong evidence that the sub-floor context was not sealed. This is not surprising given the poor state of preservation of this section of the floor and the fact that the floor had completely eroded in the middle of the unit.

Level 5 (Lot 25)

This was the final level of the unit and consisted of small and medium-sized rocks and very loose sediment. This had negative consequences on the sidewalls of the unit. Little cultural material was found in this level. The level terminated approximately a meter below the ground surface because the rocks could no longer be removed.

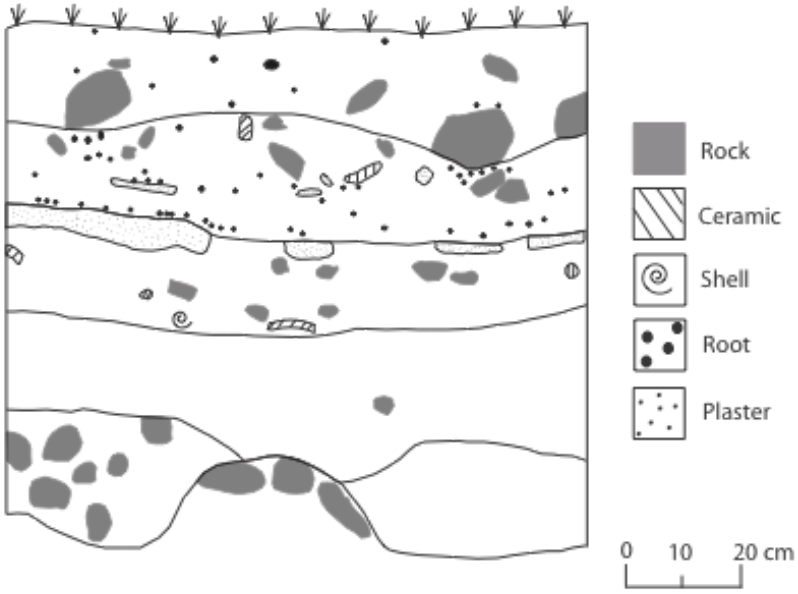

Figure 3.2: Drawing and Photo of Unit 2 north wall profile

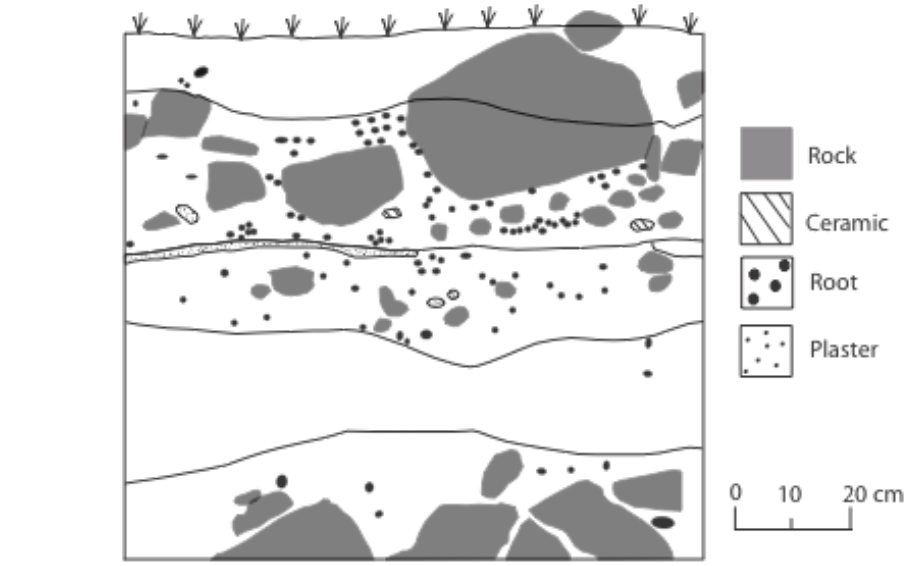

Figure 3.3: Drawing and Photo of Unit 2 east wall profile

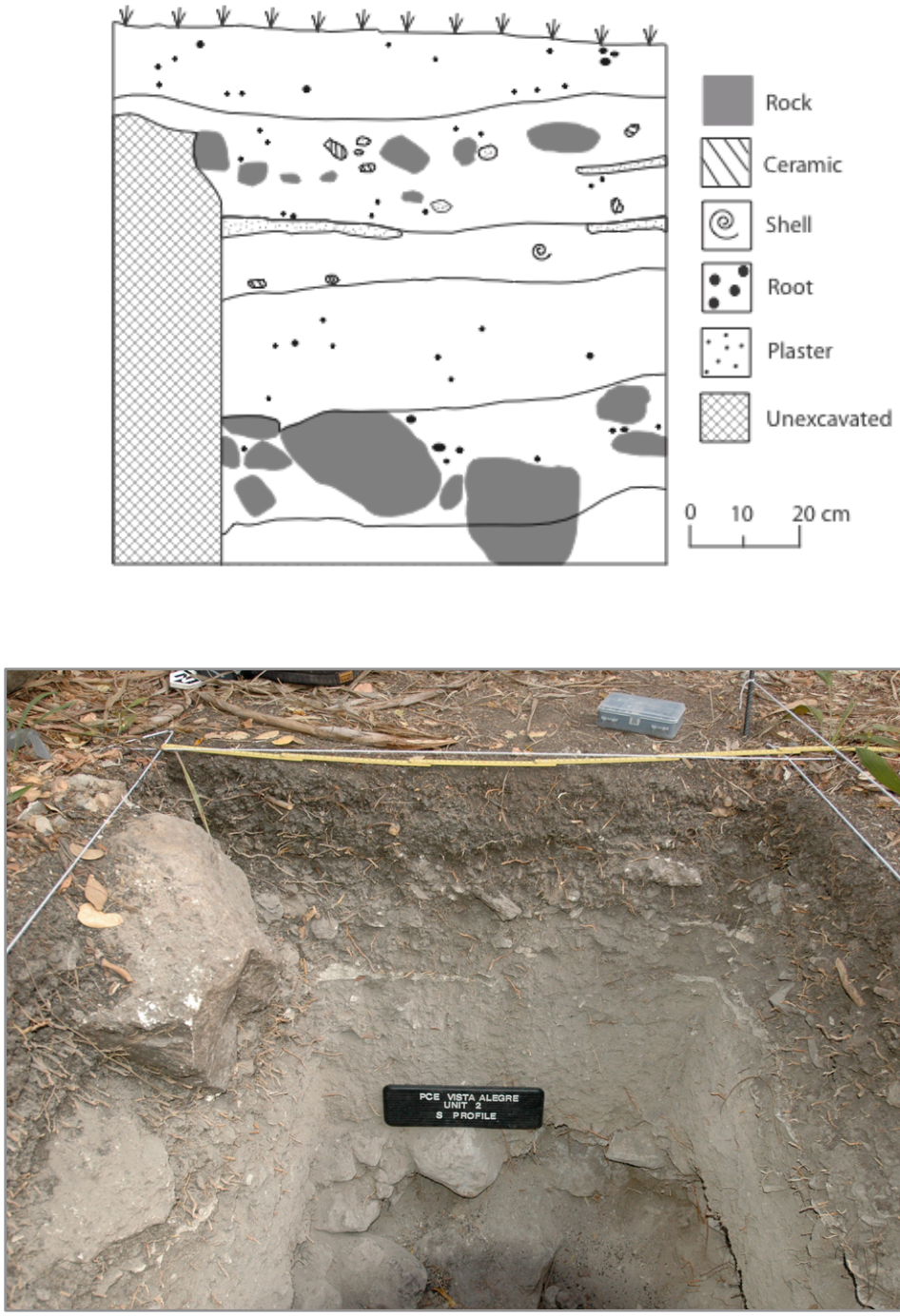

Figure 3.4: Drawing and Photo of Unit 2 south wall profile

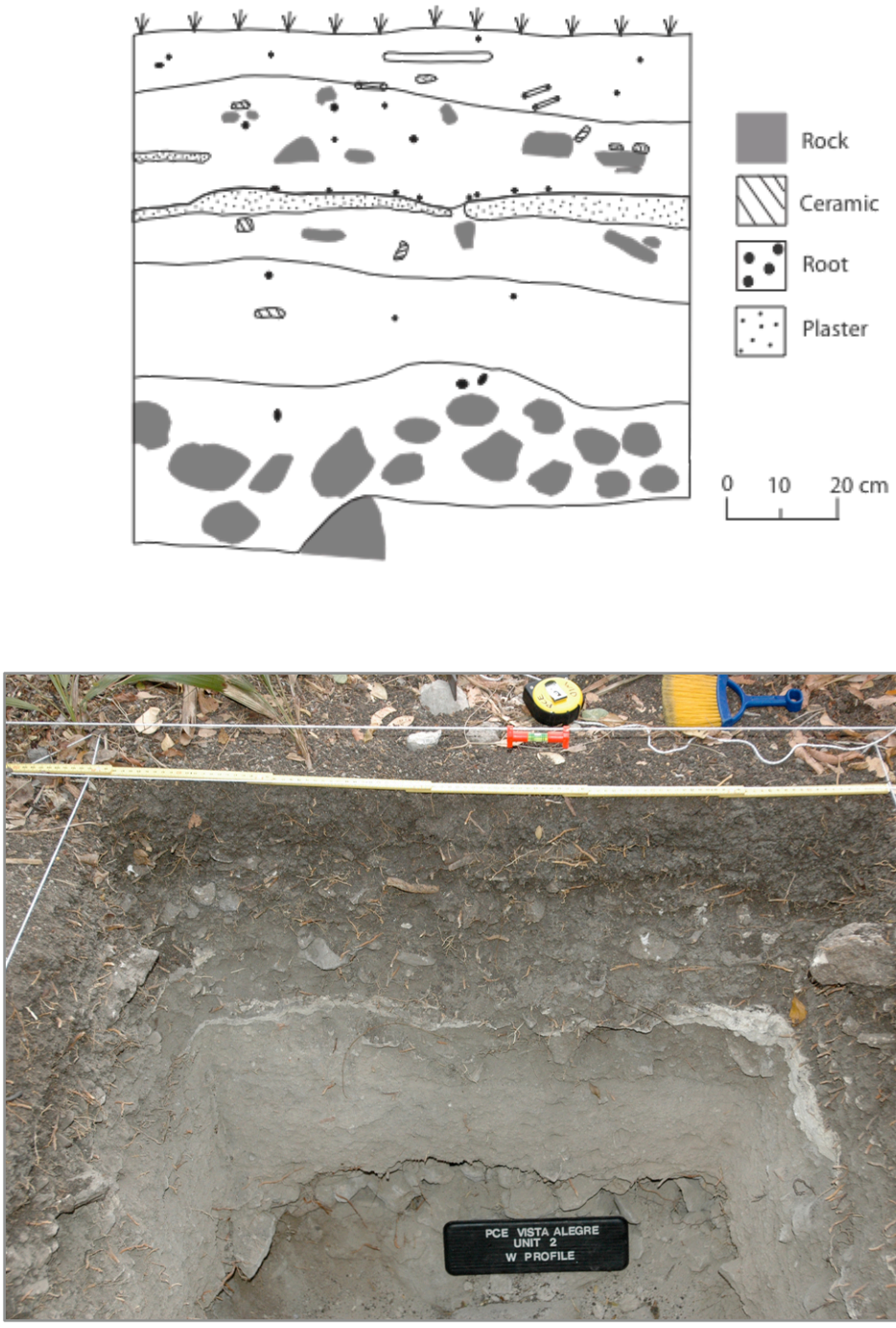

Figure 3.5: Drawing and Photo of Unit 2 west wall profile

Figure 3.6: Photo of poorly preserved section of plaza floor in Unit 2

Figure 3.7: Photo of floor and sub-floor ballast in Unit 2

Unit	Lot	Group	Type	Period	Count
2	21	Cumtun/C-H		Vista Alegre III/IV	2
2	21	Navulá	Chen Mul Modeled	Vista Alegre IV	2
2	22	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
2	22	Tancah		Vista Alegre II a	1
2	22	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
2	22	Cumtun/C-H		Vista Alegre III/IV	19
2	22	Navulá		Vista Alegre IV	1
2	22	Navulá	Chen Mul Modeled	Vista Alegre IV	17
2	22	Navulá	Navulá Burdo	Vista Alegre IV	6
2	22	Payil	Payil Red	Vista Alegre IV	1
2	23	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
2	23	no id.		Vista Alegre II a	1
2	23	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
2	23	Cumtun/C-H		Vista Alegre III/IV	23
2	23	Matillas	Matillas Fine Orange	Vista Alegre III/IV	1
2	23	Navulá	Chen Mul Modeled	Vista Alegre IV	7
2	23	Navulá	Navulá Burdo	Vista Alegre IV	14
2	23	Payil	Payil Red	Vista Alegre IV	2
2	24	Sierra	Sierra Red	Vista Alegre II a	2
2	24	Batres	Batres Red	Vista Alegre II b	1
2	24	Balantun	Balantun Black-on-slate	Vista Alegre III	5
2	24	Silho	Silho Fine Orange	Vista Alegre III	1
2	24	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
2	24	Cumtun/C-H		Vista Alegre III/IV	38
2	24	Navulá	Chen Mul Modeled	Vista Alegre IV	3
2	24	Payil	Payil Red	Vista Alegre IV	1
2	25	Cumtun/C-H		Vista Alegre III/IV	2
Unit 2 Total					**155**

Table 3.1: Ceramic materials obtained in Unit 2

UNIT 3

Unit 3 was placed to the south of Structure 3 and east of Structure 1 inside an area delineated by a single course rock wall (see Figure 3.1). This location was chosen in hopes of capturing off-structure refuse and was excavated in 10 cm arbitrary levels. On the surface Chen Mul *incensario* fragments were recovered. The unit was excavated until bedrock was encountered almost 1 m below the ground surface. Roots from the nearby palm trees proved to be an impediment to excavation for the majority of the levels. There were four strata identified in the profile (Figures 3.8 – 3.11). The first two appear to be associated with the collapse of Structures 1 and 3 while the bottom two appear to be natural strata with less cultural materials.

Level 1 (Lot 31)

This level consisted of modern topsoil as well as collapse from the adjacent structures. Few sherds or cultural materials were recovered.

Level 2 (Lot 32)

Cultural materials became more abundant in this level along with collapse and stucco from Structures 1 and 3. Chen Mul fragments were found along with six obsidian fragments. Four of these were blade fragments while the other two appeared to be pieces of debitage. In addition, one of the blade fragments was green while the others were the more common grey color (see Chapter 9).

Level 3 (Lot 33)

There was a slight sediment color change from 7.5 YR 2/1 to 7.5 YR 4/1 and a slight increase in the cultural materials found.

Level 4 (Lot 34)

An increased amount of shell was recovered in this level (.83 kg), an amount about equal to Lots 32 and 33 combined. In addition, a corner piece of stucco was recovered reinforcing the interpretation that the materials being recovered are collapse from Structures 1 and 3. There was also a very slight sediment color change to 7.5 YR 4/2.

Level 5 (Lot 35)

The greatest amount of shell (almost 1.5 kg) in Unit 3 was found in this level as well as the greatest amount of sherds. In addition, three grey obsidian blade fragments were recovered.

Level 6 (Lot 36)

The construction material and collapse began to decrease in this level along with the amounts of shell and sherds. The number of obsidian blade fragments, however, increased by one to four. All were grey in color. The roots from the palm trees finally began to be less of an impediment. There was also a slight sediment color change to 7.5 YR 5/2.

Level 7 (Lot 37)

There were significantly fewer cultural materials in this level. The sediment color changed slightly to 7.5 YR 6/3.

Level 8 (Lot 38)

There was another slight color change in the sediment to 7.5 YR 6/2 and similar amounts of materials as were found in Level 7.

Level 9 (Lot 39)

This was the final level of Unit 3 and bedrock was encountered. There were very few cultural materials found in this level and almost none after the first 5 cm were excavated. The sediment became moist and had a much higher sand content (7.5 YR 6/3).

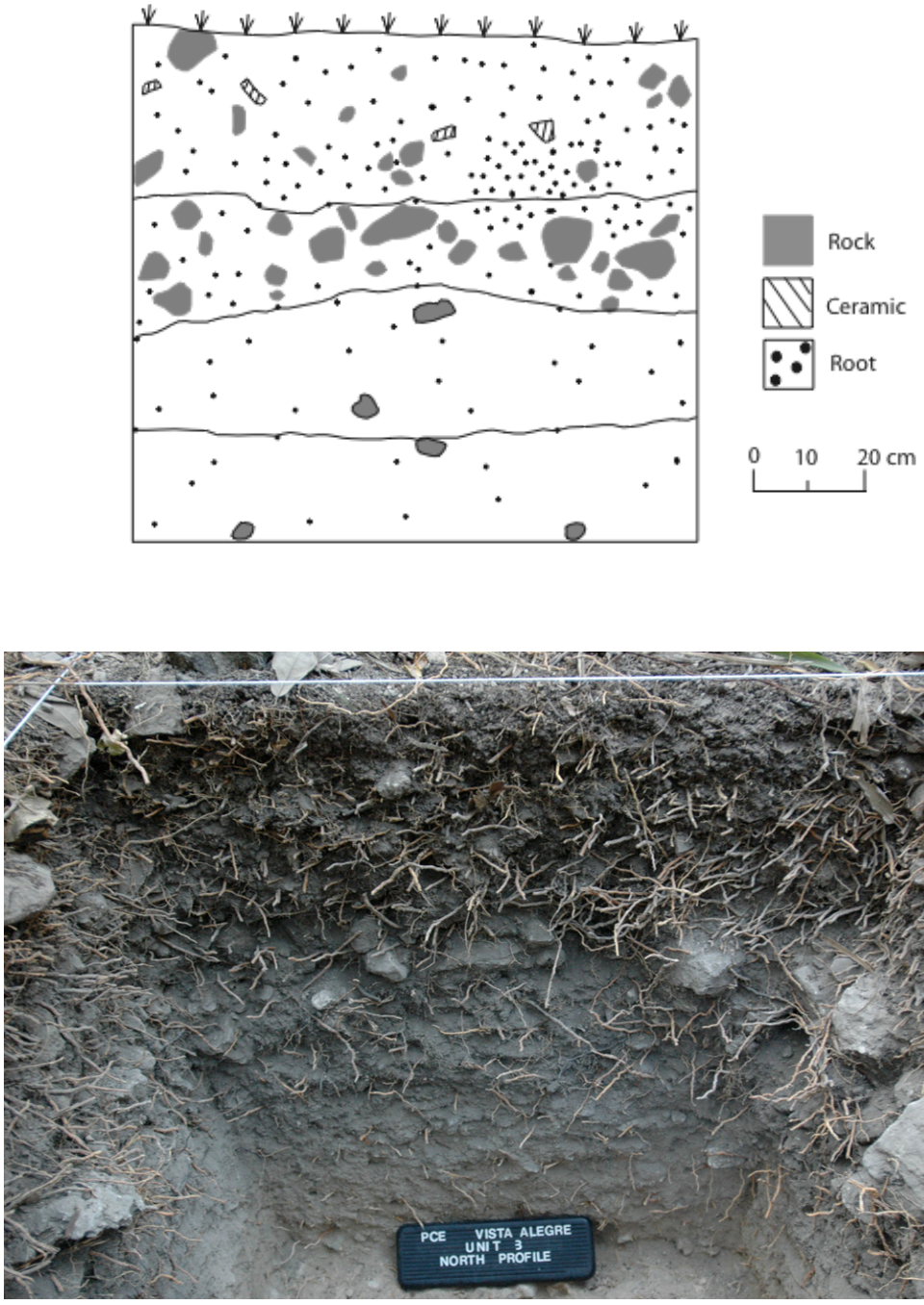

Figure 3.8: Drawing and Photo of Unit 3 north wall profile

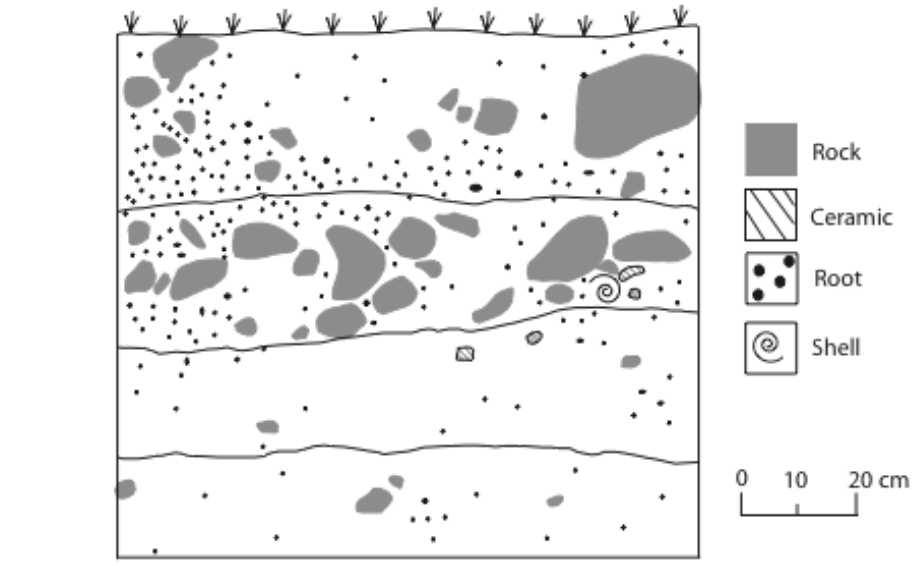

Figure 3.9: Drawing and Photo of Unit 3 east wall profile

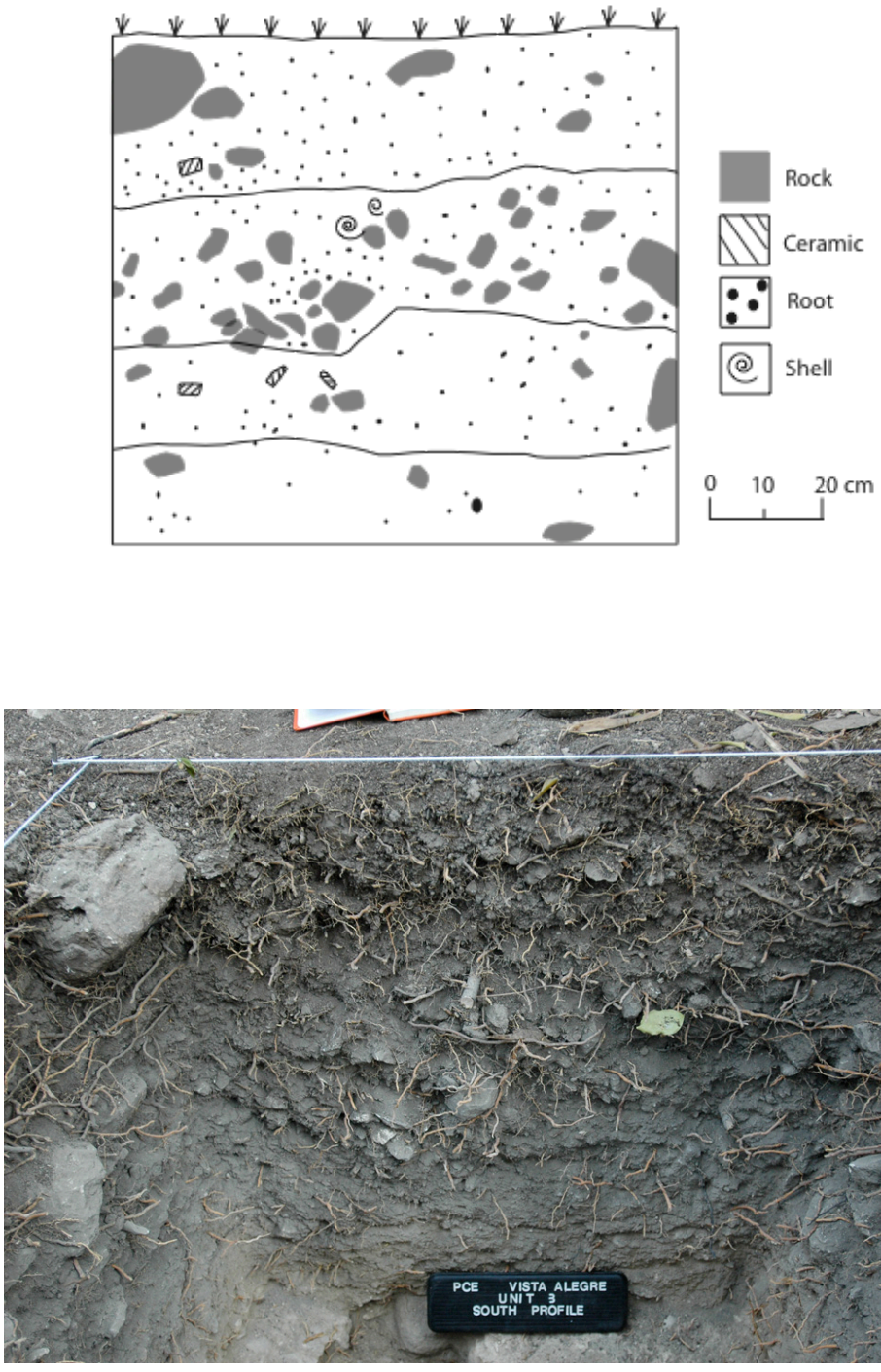

Figure 3.10: Drawing and Photo of Unit 3 south wall profile

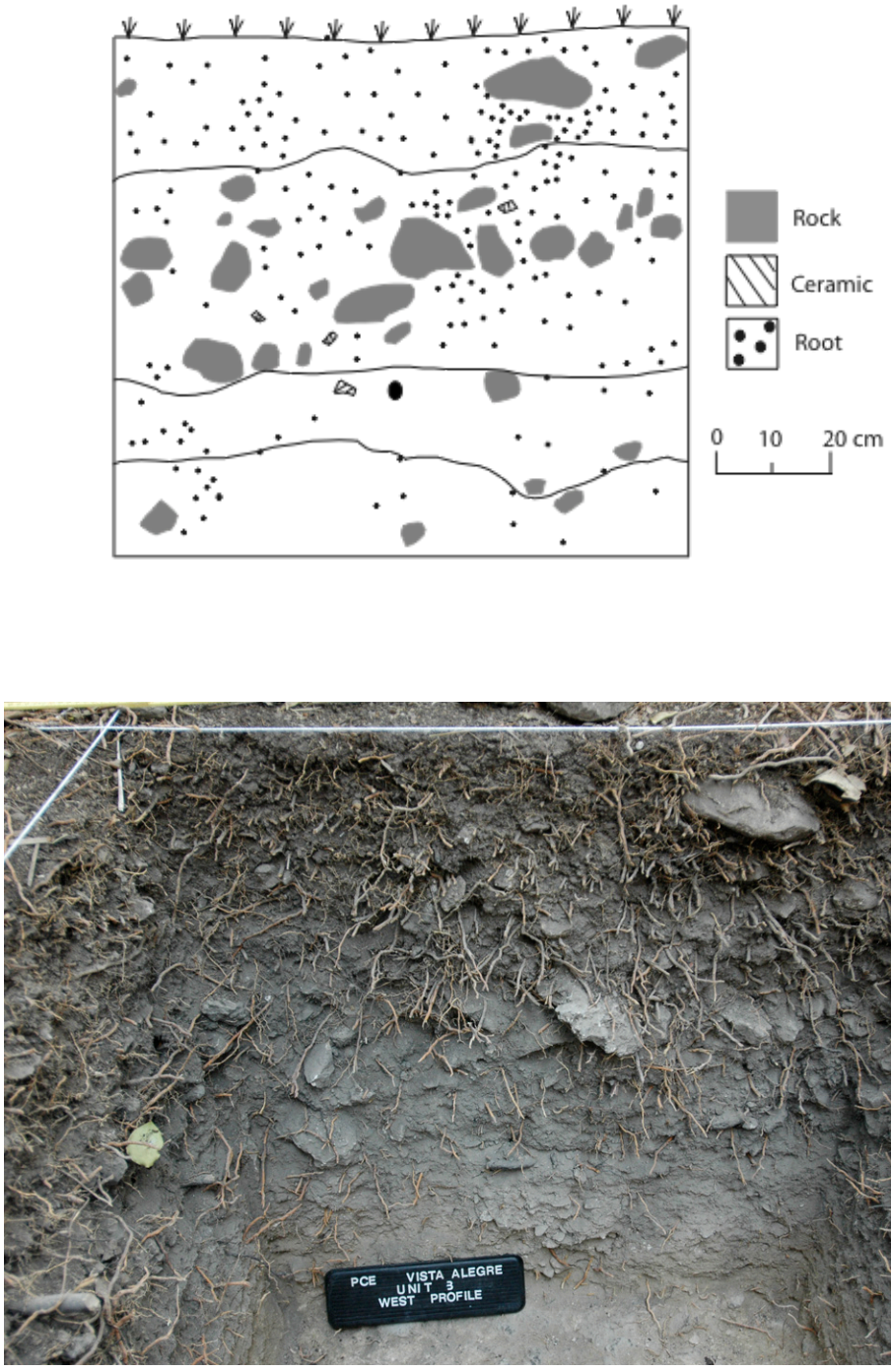

Figure 3.11: Drawing and Photo of Unit 3 west wall profile

Unit	Lot	Group	Type	Period	Count
3	30	Navulá	Chen Mul Modeled	Vista Alegre IV	3
3	31	Navulá	Chen Mul Modeled	Vista Alegre IV	1
3	31	Navulá	Navulá Burdo	Vista Alegre IV	1
3	32	Yuncu	Yuncu Unslipped	Contact	1
3	32	Joventud	Joventud Red	Vista Alegre I	1
3	32	Tancah		Vista Alegre II a	2
3	32	Baca	Baca Red	Vista Alegre III	1
3	32	Daylight	Daylight Orange	Vista Alegre III	1
3	32	Silho		Vista Alegre III	2
3	32	Silho		Vista Alegre III	1
3	32	Navulá		Vista Alegre IV	1
3	32	Navulá	Chen Mul Modeled	Vista Alegre IV	36
3	32	Navulá	Navulá Burdo	Vista Alegre IV	2
3	32	Payil	Payil Red	Vista Alegre IV	1
3	33	Joventud	Joventud Red	Vista Alegre I	4
3	33	no id.		Vista Alegre I	1
3	33	Flor	Flor Cream	Vista Alegre II a	1
3	33	San Felipe	San Felipe Brown	Vista Alegre II a	1
3	33	Sierra	Sierra Red	Vista Alegre II a	1
3	33	Tancah		Vista Alegre II a	2
3	33	Baca	Baca Red	Vista Alegre III	1
3	33	Baca	Nimun Brown	Vista Alegre III	2
3	33	Cumtun/C-H		Vista Alegre III/IV	2
3	33	Navulá		Vista Alegre IV	2
3	33	Navulá	Chen Mul Modeled	Vista Alegre IV	24
3	33	Navulá	Navulá Burdo	Vista Alegre IV	3
3	33	Payil	Payil Red	Vista Alegre IV	1
3	33	Payil	Payil Red	Vista Alegre IV	1
3	34	Yuncu	Yuncu Unslipped	Contact	1
3	34	Chunhinta	Chunhinta Black	Vista Alegre I	1
3	34	Joventud	Joventud Red	Vista Alegre I	2
3	34	Iguana Creek	Striated	Vista Alegre II a	1
3	34	Balantun	Balantun Black-on-slate	Vista Alegre III	2
3	34	Dzitas	Timak Composite	Vista Alegre III	1
3	34	Cumtun/C-H		Vista Alegre III/IV	2
3	34	Navulá	Chen Mul Modeled	Vista Alegre IV	4
3	35	Chunhinta	Chunhinta Black	Vista Alegre I	1
3	35	Joventud	Joventud Red	Vista Alegre I	1
3	35	Pital		Vista Alegre I	1
3	35	Iguana Creek	Striated	Vista Alegre II a	1
3	35	Tancah		Vista Alegre II a	2
3	35	Batres	Lakin Impressed	Vista Alegre II b	1

3	35	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
3	35	Baca	Baca Red	Vista Alegre III	1
3	35	Balancan	Provincia Plano Relief	Vista Alegre III	1
3	35	Balantun	Balantun Black-on-slate	Vista Alegre III	5
3	35	Dzitas	Timak Composite	Vista Alegre III	1
3	35	no id.	Molcajete	Vista Alegre III	1
3	35	Silho		Vista Alegre III	3
3	35	Cumtun/C-H		Vista Alegre III/IV	3
3	35	Navulá	Chen Mul Modeled	Vista Alegre IV	3
3	35	Payil	Payil Red	Vista Alegre IV	1
3	36	Chunhinta	Chunhinta Black	Vista Alegre I	3
3	36	Balancan	Provincia Plano Relief	Vista Alegre III	1
3	36	Balantun	Balantun Black-on-slate	Vista Alegre III	12
3	36	Silho	Yaltun	Vista Alegre III	1
3	36	Cumtun/C-H		Vista Alegre III/IV	2
3	36	Navulá	Chen Mul Modeled	Vista Alegre IV	2
3	36	Payil	Payil Red	Vista Alegre IV	3
3	37	Sierra	Sierra Red	Vista Alegre II a	1
3	37	Conkal	Conkal Red	Vista Alegre II b	1
3	37	Balantun	Balantun Black-on-slate	Vista Alegre III	2
3	37	Dzitas	Timak Composite	Vista Alegre III	1
3	37	Silho	Yaltun	Vista Alegre III	1
3	37	Payil	Payil Red	Vista Alegre IV	1
3	38	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
3	38	Tancah		Vista Alegre II a	3
3	38	Balantun	Balantun Black-on-slate	Vista Alegre III	15
3	38	Daylight	Daylight Orange	Vista Alegre III	4
3	38	Silho	Silho Fine Orange	Vista Alegre III	1
3	39	Balantun	Balantun Black-on-slate	Vista Alegre III	2
3	39	Balantun	Balantun Black-on-slate	Vista Alegre III	4
Unit 3 Total					**202**

Table 3.2: Ceramic materials obtained in Unit 3

UNIT 4

Unit 4 was located to the south of Structure 1 (see Figure 3.1). The south side of Structure 1 is the steepest, as one would expect of the temple's backside, and the purpose of the unit was to determine whether there was a plastered plaza area between Structure 1 and Sacbe 1 as well as to capture any possible off-structure debris that might provide insight into the activities conducted atop and around Structure 1. The unit, like Unit 3, was excavated in 10 cm arbitrary levels until bedrock was encountered about 1 m below the modern ground surface. There were three strata recorded associated with the topsoil, the collapse from Structure 1, and the pre-collapse, natural sediments (Figures 3.12 – 3.15).

Level 1 (Lot 41)

The first 10 cm level consisted of modern topsoil and some collapse from Structure 1. It yielded little cultural material. There were, however, plenty of roots.

Level 2 (Lot 42)

There was a marked increase in cultural materials and shell. Along with the sherds, three grey obsidian pieces were found, two of which were blade fragments and one was a piece of debitage. Root disturbance continued to be an issue and a possible animal burrow was noted in the southwest corner of the unit but this did not continue much into the next level.

Level 3 (Lot 43)

Of note in this level was the increase in plaster and construction material associated with the collapse of Structure 1. The quantity of sherds was similar to Level 2, although the amount of shell decreased by half.

Level 4 (Lot 44)

The greatest quantity of sherds (n=172) for the unit was recovered in this level. Of these 104 were retained for further study, almost twice the amount of any other level in the unit. In addition one grey obsidian blade fragment was found.

Level 5 (Lot 45)

In this level there was a slight change in sediment color from 10 YR 4/2 to 10 YR 5/2. This level also had the largest quantity, by weight, of shell in the unit (578.2 g), but this was minor overall when compared to the quantity of shell found in Unit 6 (see below).

Level 6 (Lot 46)

This level marked a change in sediment texture. The sediment became less compact and had a higher sand content.

Level 7 (Lot 47)

The sediment remained fairly homogenous and very few larger rocks were found. Root disturbance, while still an issue, decreased.

Level 8 (Lot 48)

The homogenous sediment continued in this level, and there was a marked decrease in the quantity of cultural material recovered.

Level 9 (Lot 49)

The homogenous sediment continued in this level, as did the decrease in cultural materials.

Level 10 (Lot 49)

The final level of the unit was combined into a single lot with the material from Level 9 as there was limited cultural material and they were clearly part of the same depositional process. The limited cultural materials found and the homogenous sediment that began in Level 6 led us to terminate the level although bedrock was not encountered.

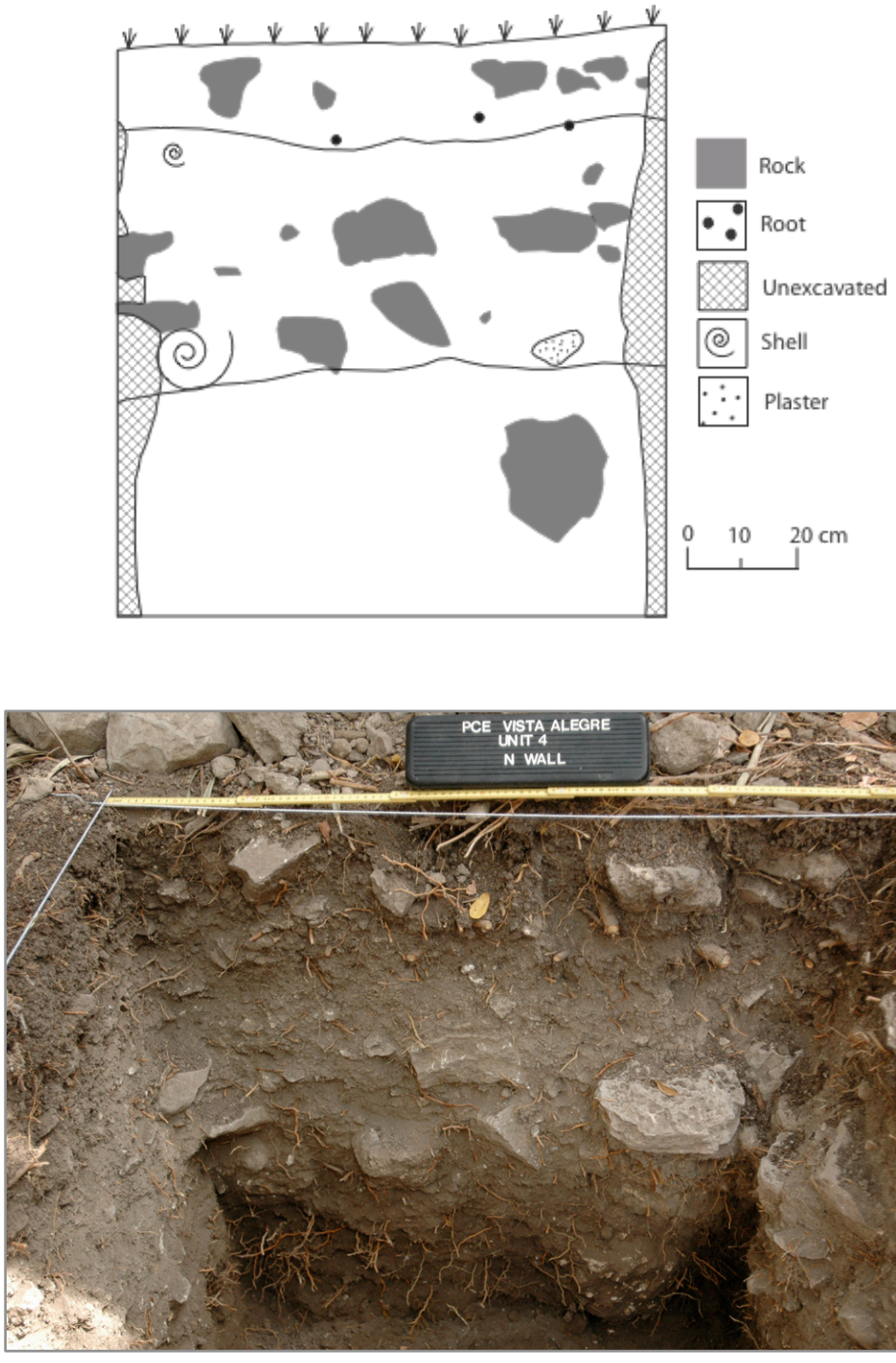

Figure 3.12: Drawing and Photo of Unit 4 north wall profile

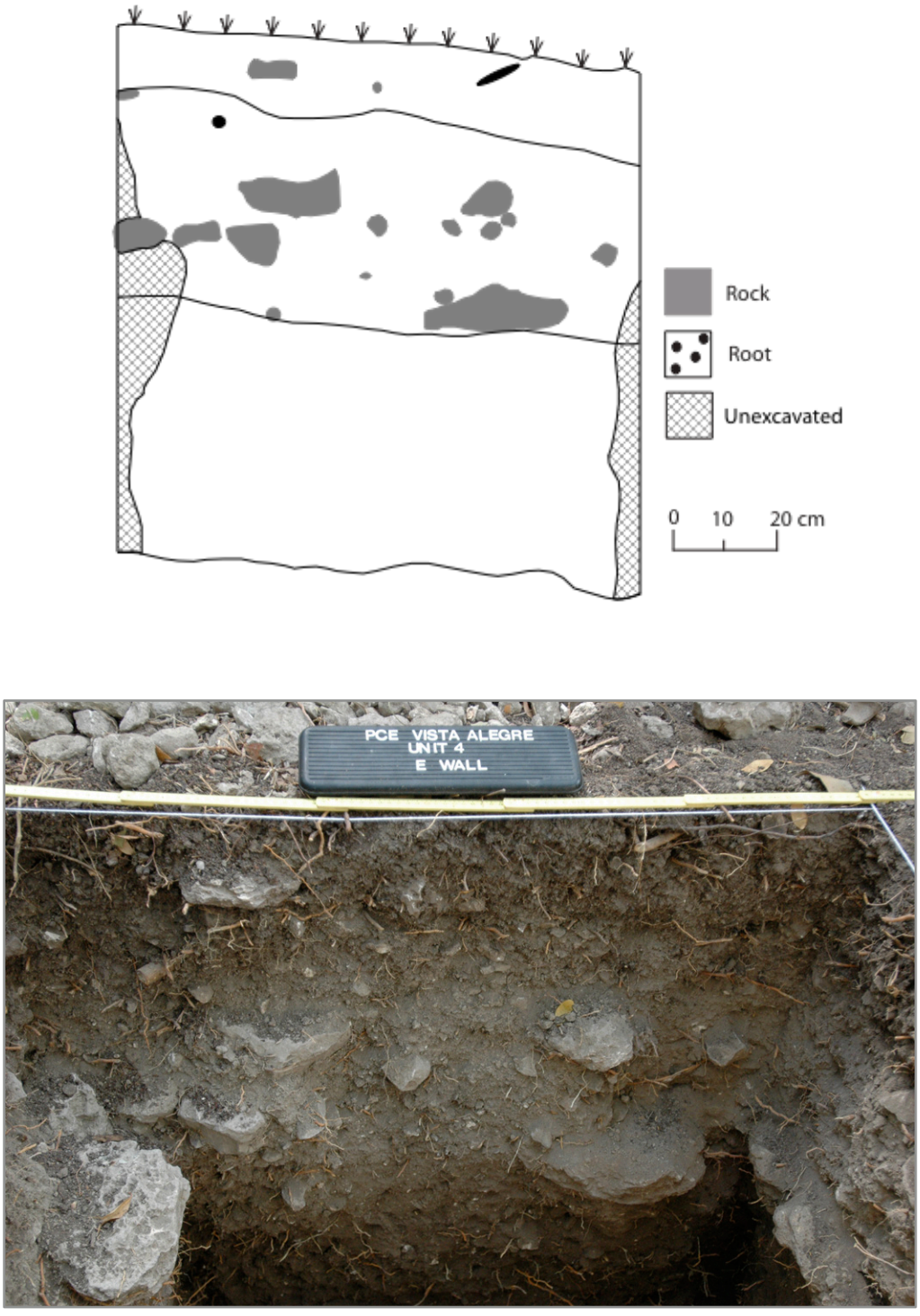

Figure 3.13: Drawing and Photo of Unit 4 east wall profile

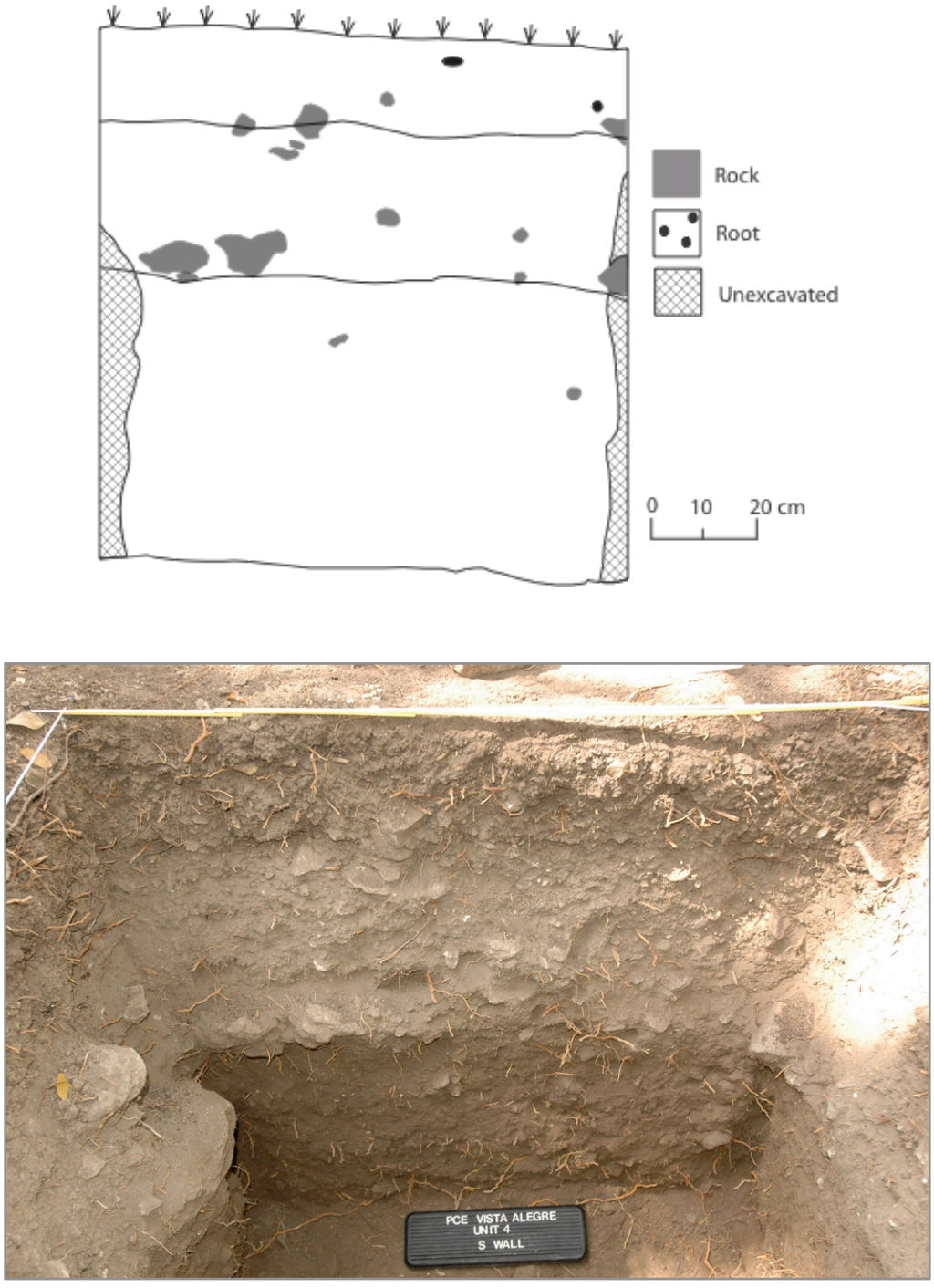

Figure 3.14: Drawing and Photo of Unit 4 south wall profile

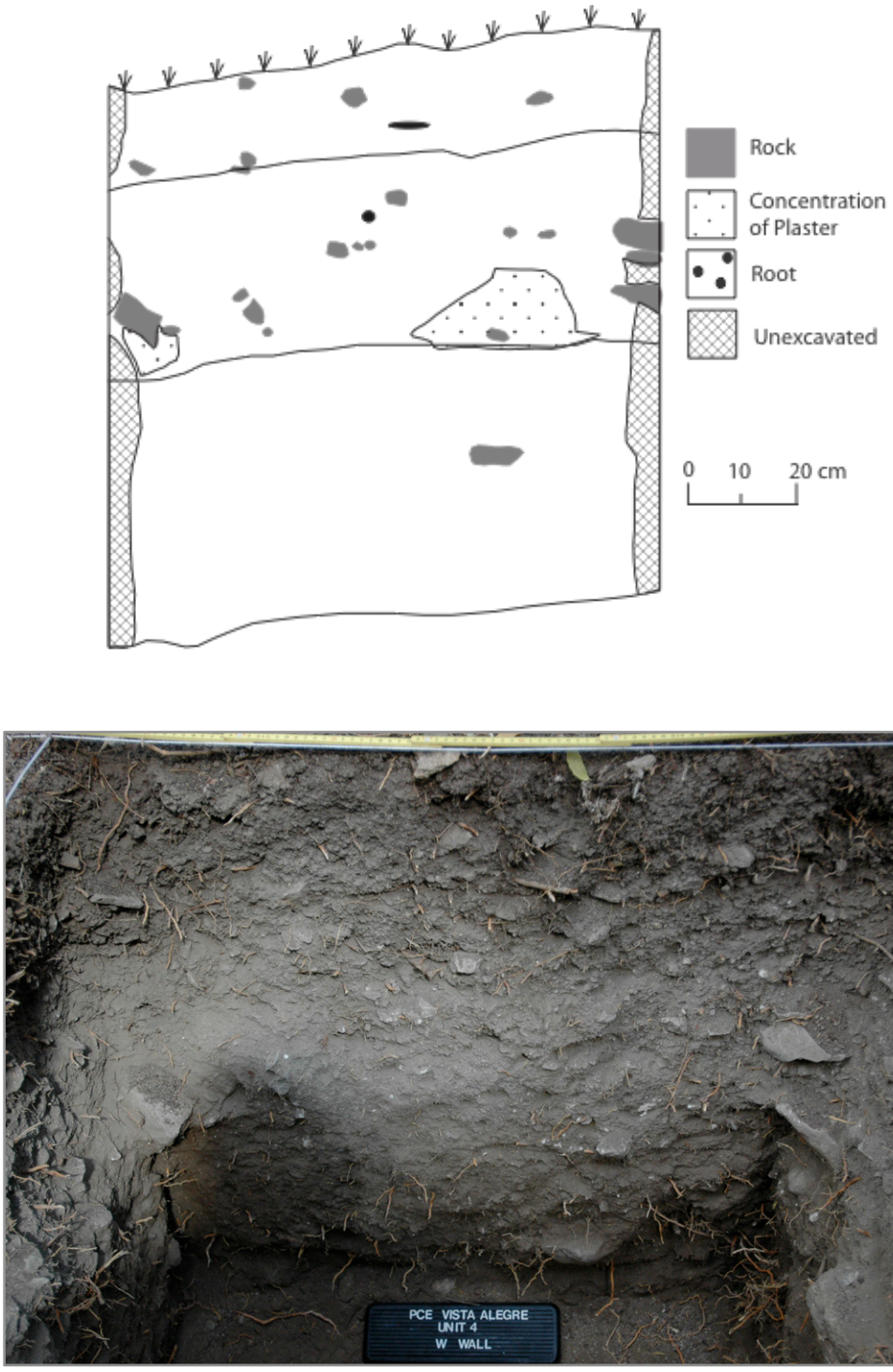

Figure 3.15: Drawing and Photo of Unit 4 west wall profile

Unit	Lot	Group	Type	Period	Count
4	42	no id.		Vista Alegre II a	1
4	42	Sierra	Sierra Red	Vista Alegre II a	1
4	42	Tancah		Vista Alegre II a	1
4	42	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
4	42	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
4	43	Chunhinta	Chunhinta Black	Vista Alegre I	1
4	43	Joventud	Guitarra Incised	Vista Alegre I	1
4	43	Joventud	Joventud Red	Vista Alegre I	1
4	43	no id.		Vista Alegre II	1
4	43	Sierra		Vista Alegre II a	1
4	43	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	2
4	43	Balantun	Balantun Black-on-slate	Vista Alegre III	1
4	43	Silho		Vista Alegre III	1
4	43	Ticul	Ticul Thin Slate	Vista Alegre III	3
4	43	Navulá	Navulá Burdo	Vista Alegre IV	1
4	44	Dzudzuquil	Dzudzuquil Cream-to-buff	Vista Alegre I	1
4	44	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
4	44	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
4	44	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
4	44	Flor	Flor Cream	Vista Alegre II a	2
4	44	Tancah		Vista Alegre II a	2
4	44	Baca	Baca Red	Vista Alegre III	2
4	44	Balantun	Balantun Black-on-slate	Vista Alegre III	11
4	44	Payil	Palmul Incised	Vista Alegre IV	1
4	44	Payil	Payil Red	Vista Alegre IV	1
4	45	Chunhinta	Chunhinta Black	Vista Alegre I	1
4	45	Flor	Flor Cream	Vista Alegre II a	1
4	45	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
4	45	Balantun	Balantun Black-on-slate	Vista Alegre III	2
4	45	Dzitas	Dzitas Slate	Vista Alegre III	1
4	46	no id.		Vista Alegre II a	1
4	46	Sierra	Sierra Red	Vista Alegre II a	2
4	46	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
4	46	Batres	Lakin Impressed	Vista Alegre II b	1
4	46	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
4	46	Dzitas	Dzitas Slate	Vista Alegre III	1
4	46	Ticul	Ticul Thin Slate	Vista Alegre III	1
4	46	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
4	47	Carolina	Carolina Bichrome Incised	Vista Alegre II a	2
4	47	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
4	47	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
4	47	Iguana Creek	Iguana Creek White	Vista Alegre II a	1

4	47	Percebes	Calamar Black-over-buff	Vista Alegre II a	1
4	47	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
4	47	Batres	Lakin Impressed	Vista Alegre II b	1
4	47	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
4	47	Dzitas	Dzitas Slate	Vista Alegre III	6
4	47	Payil	Payil Red	Vista Alegre IV	1
4	48	Chunhinta	Deprecio Incised	Vista Alegre I	1
4	48	Dzudzuquil	Tumben	Vista Alegre I	1
4	48	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
4	48	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
4	48	Flor	Flor Cream	Vista Alegre II a	1
4	48	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
4	48	Dzitas	Dzitas Slate	Vista Alegre III	1
4	48	Silho		Vista Alegre III	1
4	49	Dzudzuquil	Dzudzuquil Cream-to-buff	Vista Alegre I	1
4	49	Joventud	Joventud Red	Vista Alegre I	1
4	49	Joventud	Joventud Red	Vista Alegre I	1
4	49	Pital		Vista Alegre I	1
4	49	Flor	Flor Cream	Vista Alegre II a	1
4	49	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	3
4	49	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
Unit 4 Total					**93**

Table 3.3: Ceramic materials obtained in Unit 4

UNIT 5

Unit 5 was placed in an open area between Structures 2 and 14 (see Figure 3.1). This area was chosen due to the density of surface materials and it appeared to represent part of the midden area found in the northwestern portion of the site. We thought that the higher elevation of the area in which Unit 5 was located, in comparison to the midden area closer to the island's margins, would provide us with an opportunity to recover materials in a better state of preservation. This did appear to be the case judging from the human skeletal remains recovered in Lot 57 (see below and Chapter 8). The unit was excavated in 10 cm arbitrary levels. Time did not allow for the unit to be excavated to bedrock, but we plan to reopen and expand the unit in future field seasons. There were two strata identified in the profile (Figures 3.16 – 3.19), however the midden does not appear to be internally stratified due to bioturbation, an ongoing process that was visible in the sidewalls of the unit (particularly the western and southern walls).

Level 1 (Lot 51)

This level consisted of modern topsoil (10 YR 3/1) with few rocks. The level contained ceramic sherds, obsidian blade fragments, faunal remains, shell, and an ovoid-shaped net-weight (NW-1) (see Chapter 5).

Level 2 (Lot 52)

There was a slight increase in the amount of rocks present in this level. The level contained sherds, obsidian blade fragments, one piece of green obsidian debitage, faunal remains, shell, a ceramic bead, a modeled net-weight (NW-2), and a reused sherd net-weight (NW-4) (see Chapter 5).

Level 3 (Lot 53)

The Middle Preclassic arm and shoulder figurine fragment (FG-2), a net-weight, ceramic sherds, obsidian blade fragments, faunal remains, and shell were all recovered from this level. The level had the greatest quantity of sherds by weight and count and shell by weight of any level in the unit. The shell recovered weighed about 1.46 kg and included Tulip conchs and large whelks as well as an *Olivella* shell tinkler (See Chapter 5). The amount of rock present in the unit increased substantially in this level. At this time, we are not able to fully account for the presence of these rocks, which continue into the next level. They are not shaped or worked but most likely represent structural fill that has eroded out of buildings. This is not a completely satisfactory explanation given the presence of the human remains in Lot 57. Future test units located away from structures are needed to determine the distribution and concentration of these types of sediments. This will allow us to determine whether they are natural or cultural in origin.

Level 4 (Lot 54)

There was a slight change in sediment color in this level (7.5 YR 3/1) due to the increased moisture in the sediments. The general contents still appear to indicate a midden context, and a ceramic bead, sherds, lithics, shell, and faunal remains were recovered.

Level 5 (Lot 55)

This level contained very few rocks and no lithic artifacts. Ceramic sherds (some quite large), faunal remains, and a large amount of shell (c. 1.2 kg) were recovered.

Level 6 (Lot 56)

This level had decreasing numbers of sherds (some large), faunal remains, and shell, which included unworked *Olivella* shells. One net weight (NW-12) was identified (see Chapter 5). Like Lot 55, this lot had few rocks and no lithics.

Level 7 (Lot 57)

This level contained the remains of a young child (see Chapter 8). Finding human remains was unexpected as was the lack of evidence of an intrusive burial. This level also had faunal remains, shell, and human bone, along with the lowest number of sherds aside from Lot 51.

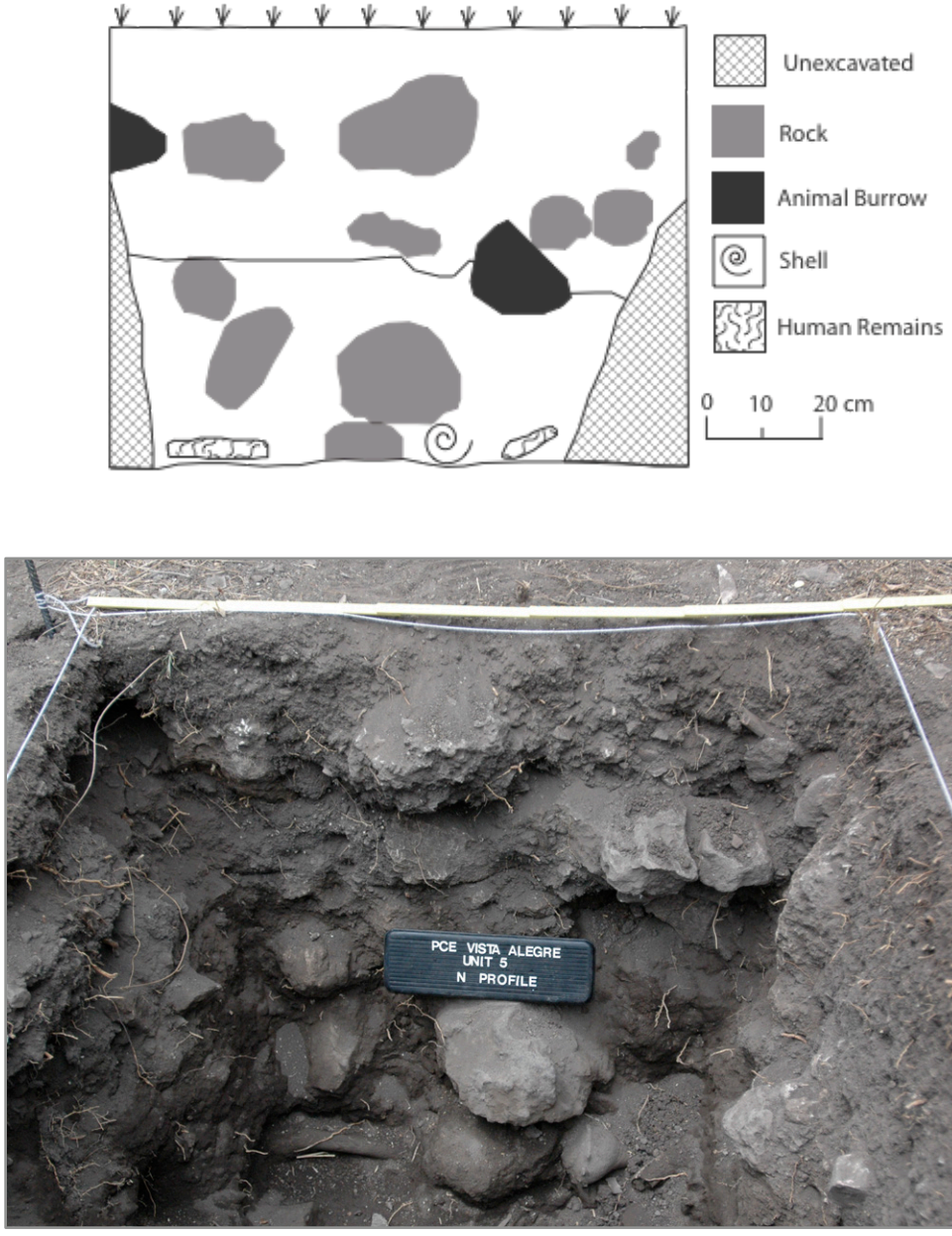

Figure 3.16: Drawing and Photo of Unit 5 north wall profile

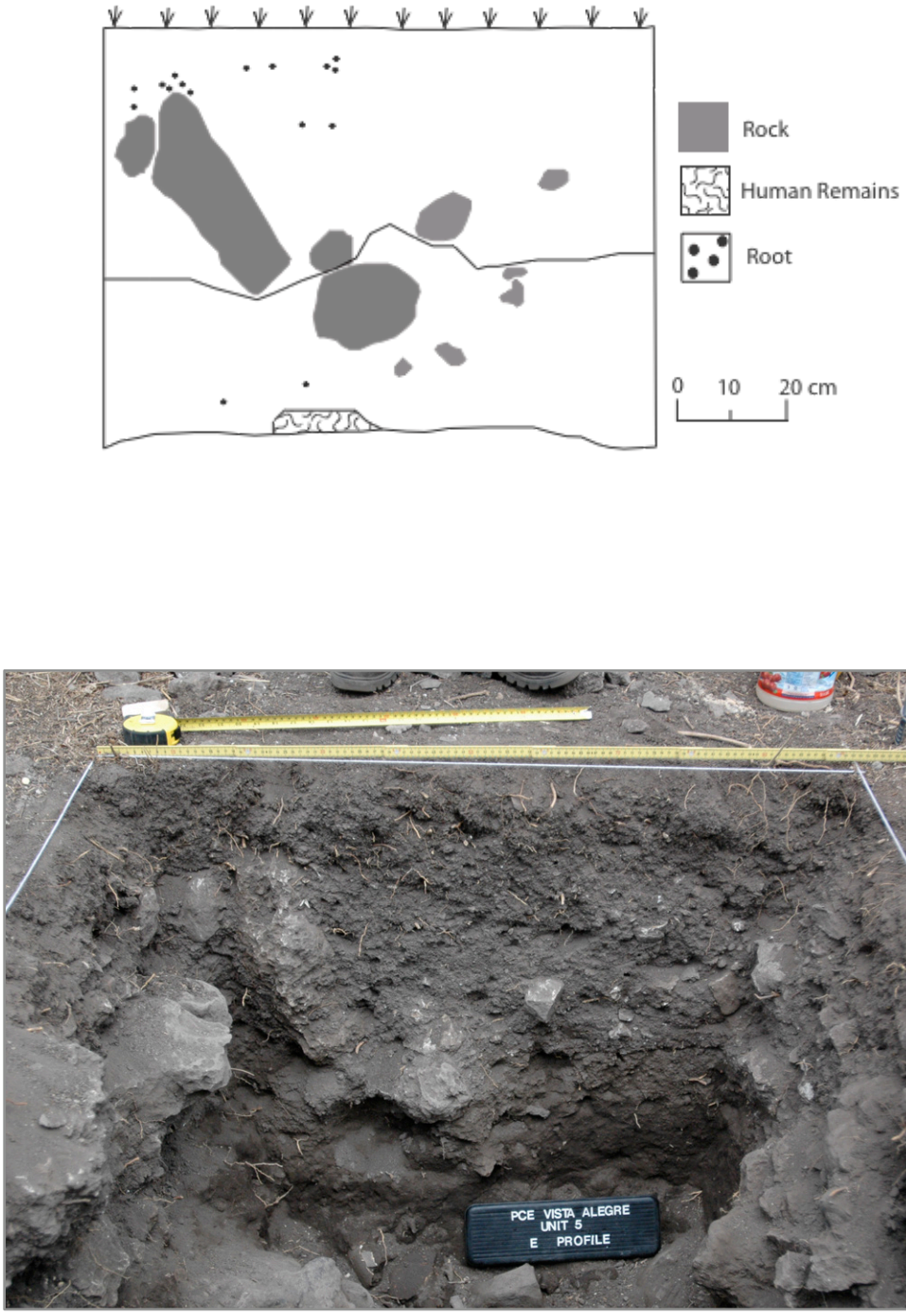

Figure 3.17: Drawing and Photo of Unit 5 east wall profile

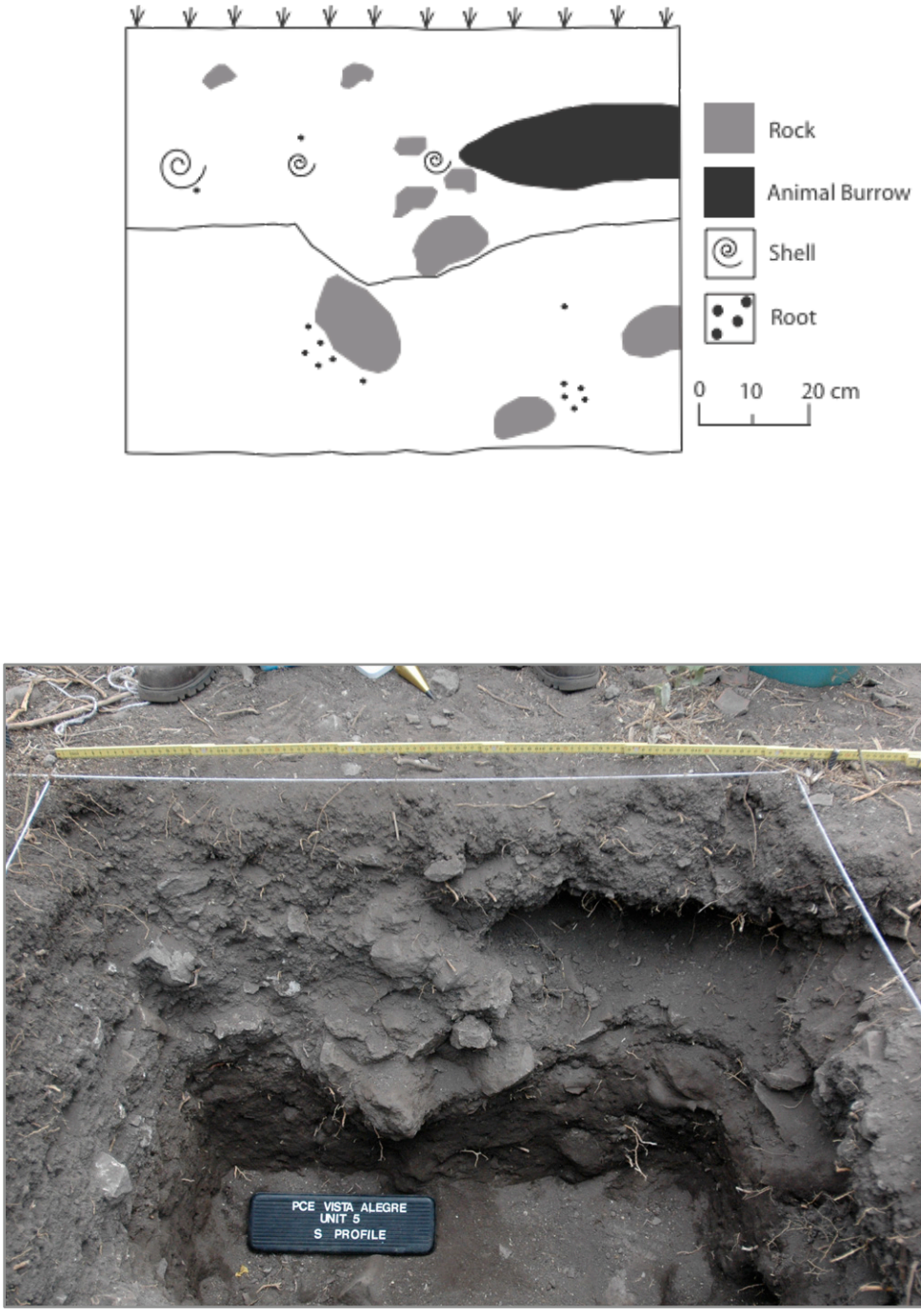

Figure 3.18: Drawing and Photo of Unit 5 south wall profile

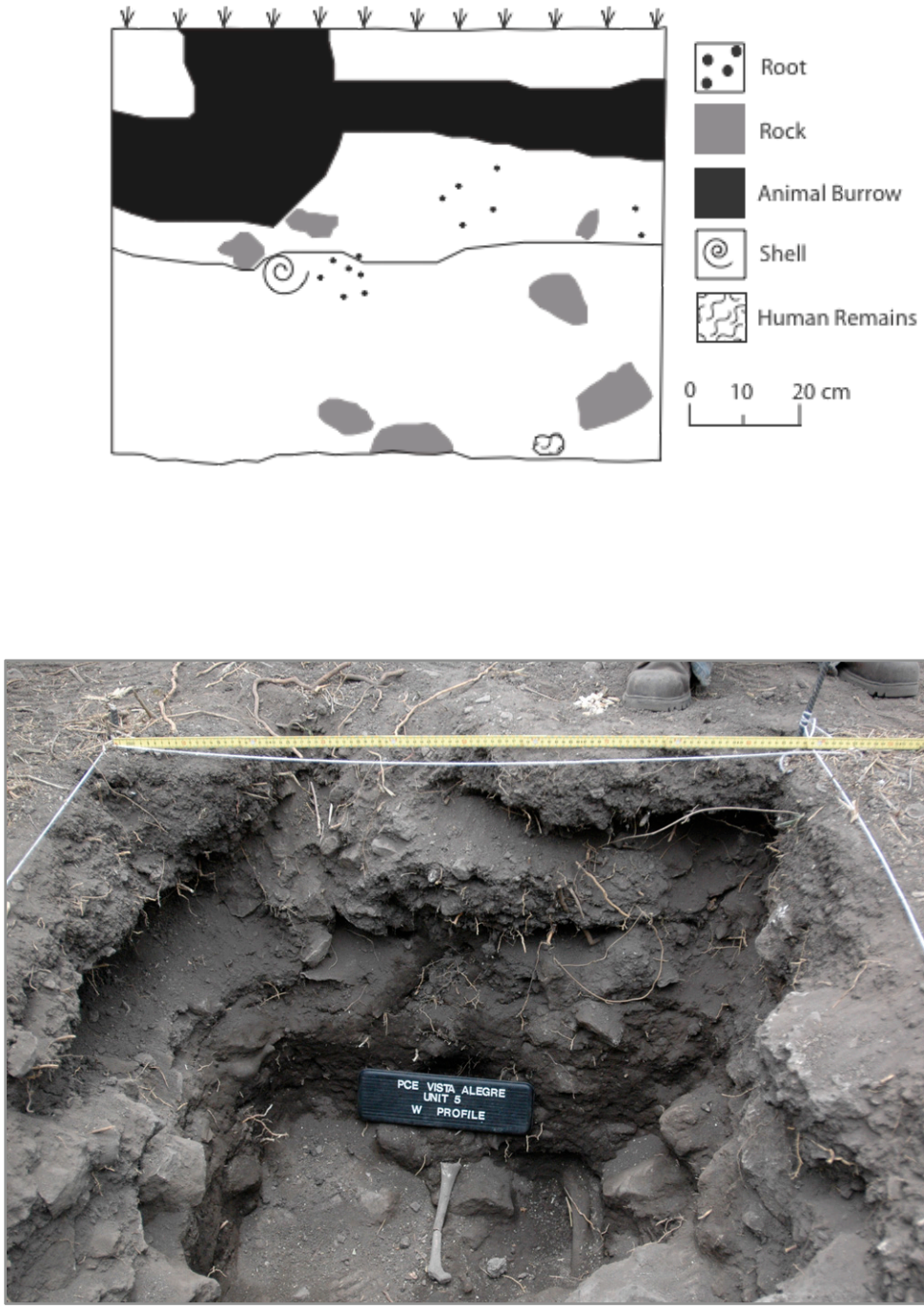

Figure 3.19: Drawing and Photo of Unit 5 west wall profile

Unit	Lot	Group	Type	Period	Count
5	50	Flor	Flor Cream	Vista Alegre II a	1
5	50	Xcanchacan	Xcanchacan Black-on-cream	Vista Alegre III/IV	1
5	50	Navulá	Navulá Unslipped	Vista Alegre IV	1
5	51	Cabro	Cabro Red	Vista Alegre II a	1
5	51	Dzitbalché	Dzitbalché Orange Buff	Vista Alegre II b	1
5	51	Balantun	Balantun Black-on-slate	Vista Alegre III	4
5	51	Silho	Silho Fine Orange	Vista Alegre III	1
5	51	Navulá		Vista Alegre IV	1
5	51	Navulá	Navulá Unslipped	Vista Alegre IV	1
5	51	Payil	Payil Red	Vista Alegre IV	1
5	52	Carolina	Carolina Bichrome Incised	Vista Alegre II a	2
5	52	Flor	Flor Cream	Vista Alegre II a	1
5	52	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
5	52	Balancan/Altar		Vista Alegre III	1
5	52	Balantun	Balantun Black-on-slate	Vista Alegre III	2
5	52	Chablekal		Vista Alegre III	1
5	52	Silho	Silho Fine Orange	Vista Alegre III	1
5	52	Matillas	Matillas Fine Orange	Vista Alegre III/IV	1
5	52	Navulá		Vista Alegre IV	1
5	52	Navulá	Navulá Burdo	Vista Alegre IV	1
5	52	Navulá	Navulá Unslipped	Vista Alegre IV	2
5	52	Payil	Payil Red	Vista Alegre IV	2
5	53	Achiote		Vista Alegre I	1
5	53	Achiote		Vista Alegre I	1
5	53	Chunhinta	Chunhinta Black	Vista Alegre I	1
5	53	Chunhinta	Chunhinta Black	Vista Alegre I	1
5	53	Joventud	Guitarra Incised	Vista Alegre I	2
5	53	Joventud	Joventud Red	Vista Alegre I	7
5	53	no id.		Vista Alegre I	1
5	53	no id.		Vista Alegre II	1
5	53	Carolina	Carolina Bichrome Incised	Vista Alegre II a	2
5	53	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	2
5	53	Flor	Flor Cream	Vista Alegre II a	3
5	53	Polvero	Polvero Black	Vista Alegre II a	1
5	53	Sierra		Vista Alegre II a	1
5	53	Sierra		Vista Alegre II a	2
5	53	Sierra	Laguna Verde	Vista Alegre II a	1
5	53	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
5	53	Balantun	Balantun Black-on-slate	Vista Alegre III	6
5	53	Silho	Silho Fine Orange	Vista Alegre III	2
5	53	Tohil	Tohil Plumbate	Vista Alegre III	1
5	53	Matillas	Matillas Fine Orange	Vista Alegre III/IV	2

5	53	Navulá	Navulá Burdo	Vista Alegre IV	2
5	53	Payil	Payil Red	Vista Alegre IV	5
5	54	Chunhinta	Chunhinta Black	Vista Alegre I	1
5	54	Joventud	Joventud Red	Vista Alegre I	1
5	54	Pital		Vista Alegre I	1
5	54	Chancenote		Vista Alegre II a	1
5	54	Huachinango	Huachinango Bichrome Incised	Vista Alegre II a	1
5	54	Iguana Creek	Iguana Creek White	Vista Alegre II a	1
5	54	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
5	54	Balanza		Vista Alegre II b	1
5	54	Balantun	Balantun Black-on-slate	Vista Alegre III	3
5	54	Dzitas	Dzitas Slate	Vista Alegre III	1
5	54	Silho	Silho Fine Orange	Vista Alegre III	1
5	54	Vista Alegre	Vista Alegre Striated	Vista Alegre III	2
5	54	Payil	Payil Red	Vista Alegre IV	2
5	55	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
5	55	Dos Arroyos	Caldero Buff Polychrome	Vista Alegre II a	1
5	55	Flor	Flor Cream	Vista Alegre II a	1
5	55	Huachinango	Huachinango Bichrome Incised	Vista Alegre II a	2
5	55	Iguana Creek	Iguana Creek White	Vista Alegre II a	1
5	55	Sierra	Laguna Verde	Vista Alegre II a	1
5	55	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	5
5	55	Balanza		Vista Alegre II b	1
5	55	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
5	55	Palmar		Vista Alegre II b	1
5	55	Baca	Baca Red	Vista Alegre III	1
5	55	Dzitas	Dzitas Slate	Vista Alegre III	1
5	55	Muna	Muna	Vista Alegre III	1
5	55	Ticul	Ticul Thin Slate	Vista Alegre III	2
5	55	Matillas	Matillas Fine Orange	Vista Alegre III/IV	1
5	55	Payil	Payil Red	Vista Alegre IV	1
5	56	Joventud	Joventud Red	Vista Alegre I	1
5	56	no id.		Vista Alegre I	1
5	56	Pital		Vista Alegre I	1
5	56	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
5	56	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	5
5	56	Flor	Flor Cream	Vista Alegre II a	1
5	56	Huachinango	Huachinango Bichrome Incised	Vista Alegre II a	3
5	56	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	4
5	56	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
5	56	Baca	Baca Red	Vista Alegre III	1
5	56	Dzitas	Dzitas Slate	Vista Alegre III	1
5	56	Muna	Muna	Vista Alegre III	2

5	56	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
5	56	Vista Alegre	Vista Alegre Striated	Vista Alegre III	2
5	56	Payil	Payil Red	Vista Alegre IV	1
5	57	Joventud	Guitarra Incised	Vista Alegre I	1
5	57	Joventud	Joventud Red	Vista Alegre I	1
5	57	Cabro	Cabro Red	Vista Alegre II a	1
5	57	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	2
5	57	Flor	Flor Cream	Vista Alegre II a	2
5	57	Huachinango	Huachinango Bichrome Incised	Vista Alegre II a	3
5	57	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	2
5	57	Uman	Uman Black	Vista Alegre II b	1
5	57	Baca	Baca Red	Vista Alegre III	1
5	57	Balantun	Balantun Black-on-slate	Vista Alegre III	1
5	57	Muna	Muna	Vista Alegre III	1
Total Unit 5					**158**

Table 3.4: Ceramic materials obtained in Unit 5

UNIT 6

Unit 6 was placed in the narrow gap between Structures 13 and 15 (see Figure 3.1). This location was chosen in hopes of capturing either off-structure refuse or a stuccoed floor between the two structures. In this case, a midden was encountered and was excavated in 10 cm arbitrary levels. Our interpretation of this unit as being placed in a midden is substantiated by the fact that it contained the majority of shell recovered from all six of the excavation units; a total of 27.8 kg, which represents almost 57% of the shell recovered by weight. Time did not allow for the unit to be excavated to bedrock, but we plan to reopen and hopefully expand the unit in future field seasons. There were two strata identified in the profile (Figures 3.20 – 3.23), however the midden does not appear to be internally stratified due to bioturbation.

Level 1 (Lot 61)

This level consisted of modern topsoil (7.5 YR 2.5/1) with abundant root disturbance, rocks (most likely fill from neighboring structures), and ceramic sherds. The level also yielded shell, faunal remains, and an obsidian blade. It was clear that we had encountered a midden from the start.

Level 2 (Lot 62)

There was not a noticeable change in the sediment color or texture from Level 1 to Level 2. Abundant whole shells were collected, and these continued to be present in large numbers in the rest of the unit. Of particular interest were a ceramic stamp (see Chapter 5) and a tip of an obsidian projectile point (see Chapter 9).

Level 3 (Lot 63)

There was not a noticeable change in the sediment color or texture from Level 2 to Level 3. Shell and faunal remains continued to occur in great abudance. This was particularly evident in the south profile. Of particular interest is a figurine fragment (FG-3) that was also recovered (see Chapter 5).

Level 4 (Lot 64)

The bioturbation due to root disturbance continued. Construction collapse was evidenced not only by limestone rocks but also by the presence of stucco. Materials collected consisted of shell, ceramic sherds, a Middle Preclassic figurine fragment (FG-1) (see Chapter 5), obsidian, and faunal remains. In fact, this level had the largest amount by weight and count of sherds in the unit.

Level 5 (Lot 65)

The sediments in this level had slightly higher clay content, but the color remained the same (7.5 YR 2.5/1). The root bioturbation and presence of fill continue. This was the first level in Unit 6 where obsidian was not identified. There was a concentration of marine shell in the south portion of the unit, but it did not appear to be a feature.

Level 6 (Lot 66)

The bioturbation due to root disturbance continued. The sediments continued to be the same color but beginning in this level they had a higher sand content. This level also had the largest amount of marine shell in the unit (8.3 kg). Along with the shell were obsidian blade fragments, faunal remains, and ceramic sherds.

Level 7 (Lot 67)

The color and texture of the sediments remained the same as in Lot 66. This level had two whole, large whelks and numerous shell fragments but relatively less than Lots 66 and 68. This level also had the least amount of ceramics recovered in the unit and no obsidian was found.

Level 8 (Lot 68)

There was a minor change in soil color (7.5 YR 2.1/1) but the texture remained the same. Once again, large amounts of marine shell, including numerous whole, large whelks continued to be recovered in this last level. Ceramic sherds and faunal remains were also found, but as in Level 7 no obsidian was recovered.

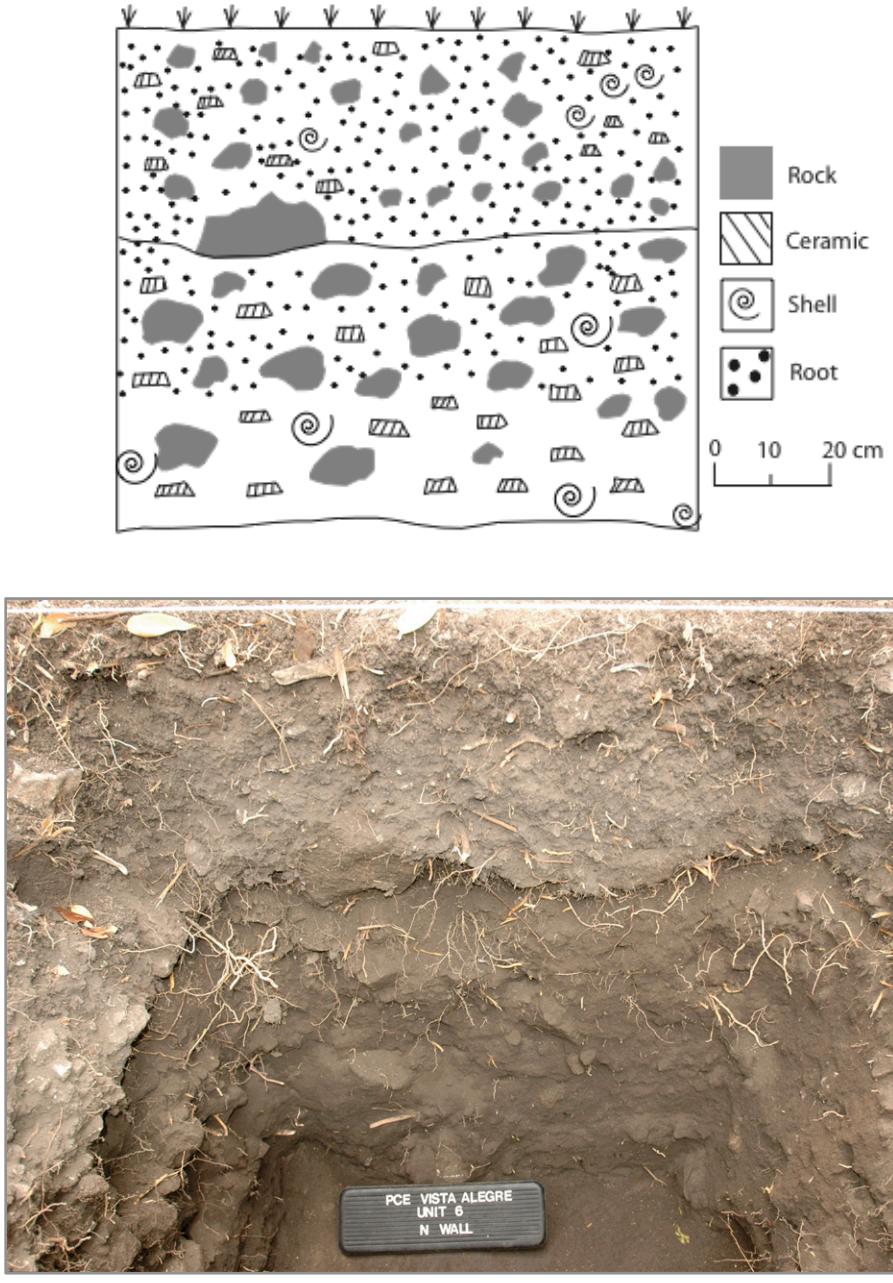

Figure 3.20: Drawing and Photo of Unit 6 north wall profile

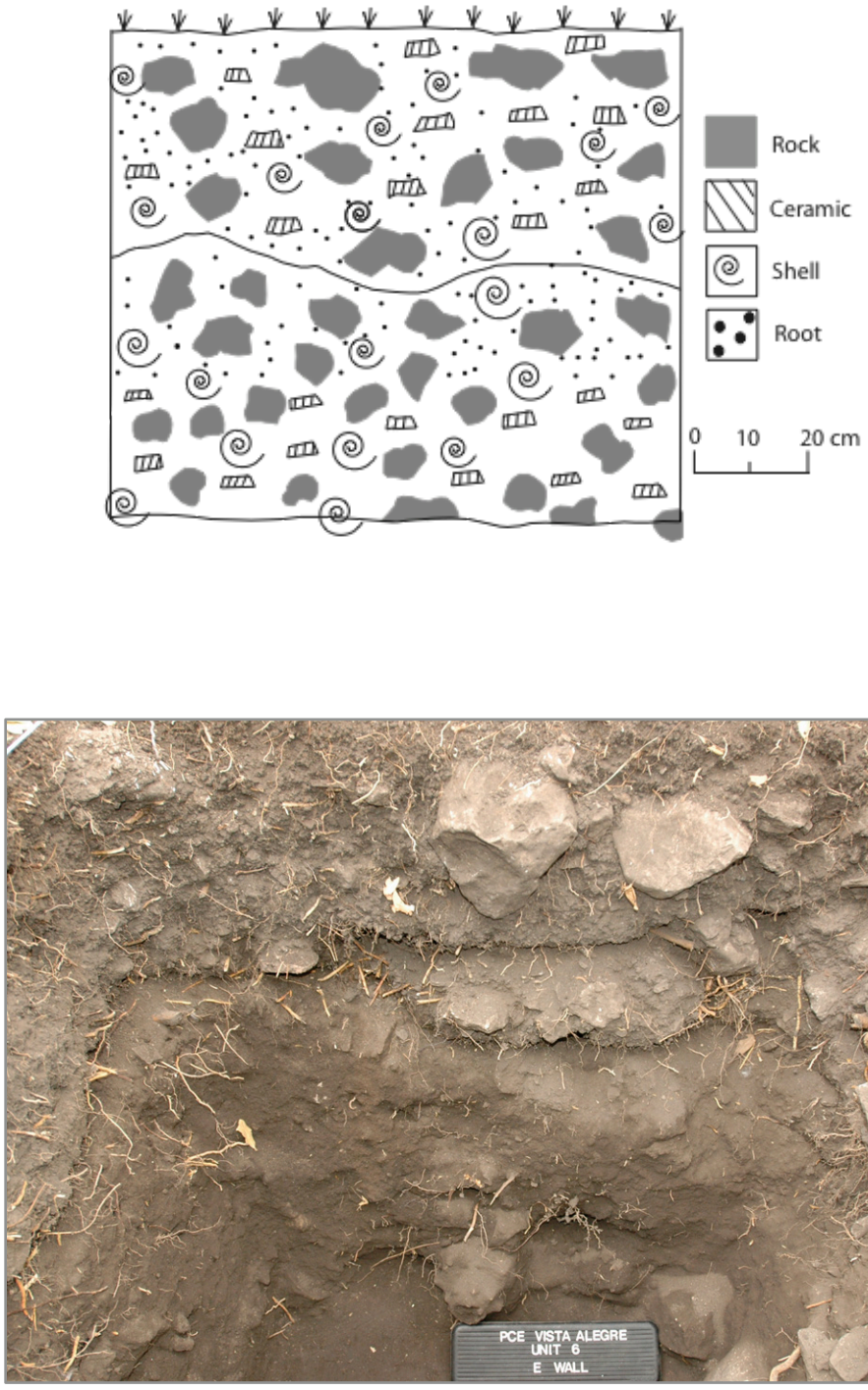

Figure 3.21: Drawing and Photo of Unit 6 east wall profile

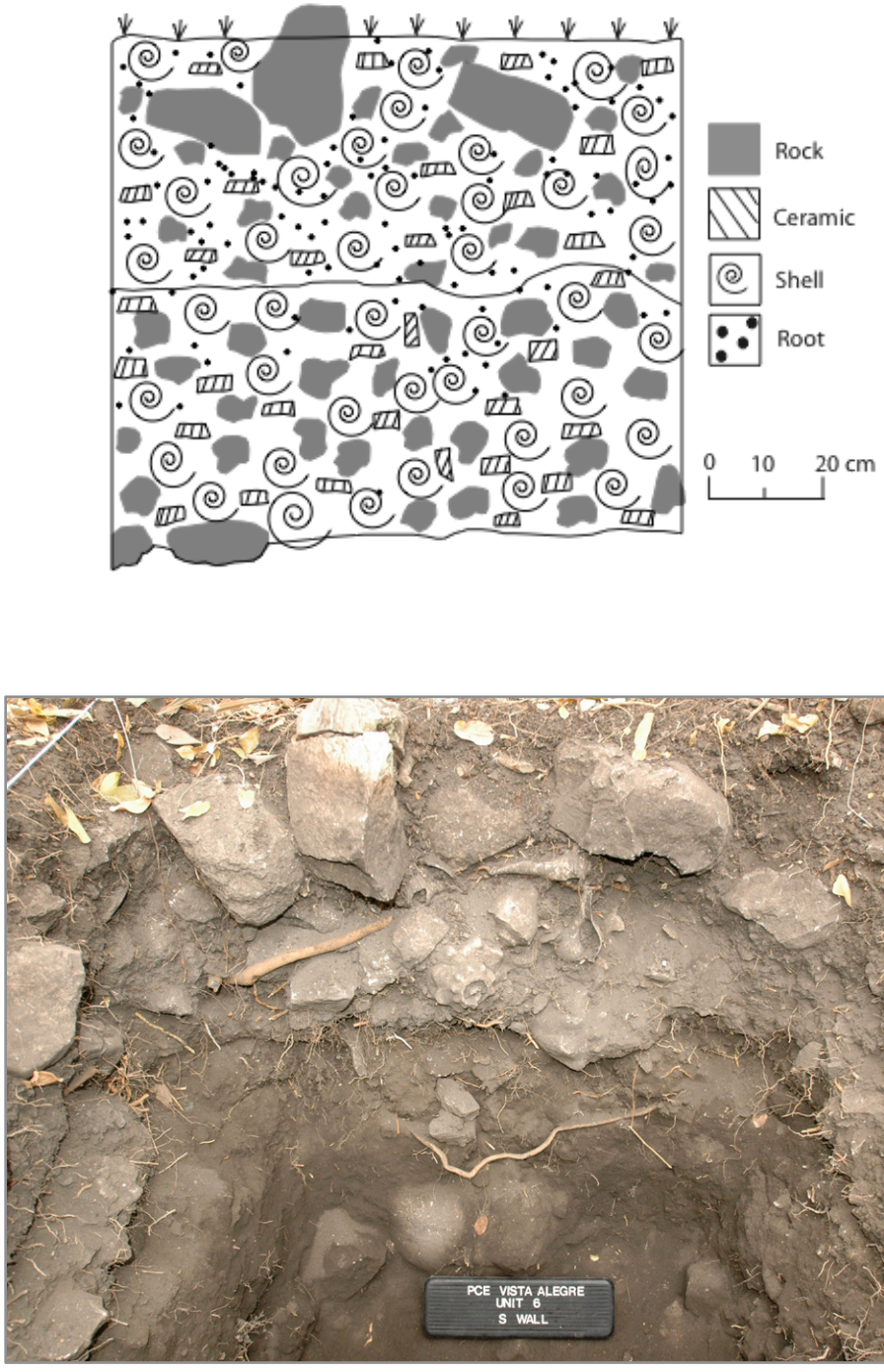

Figure 3.22: Drawing and Photo of Unit 6 south wall profile

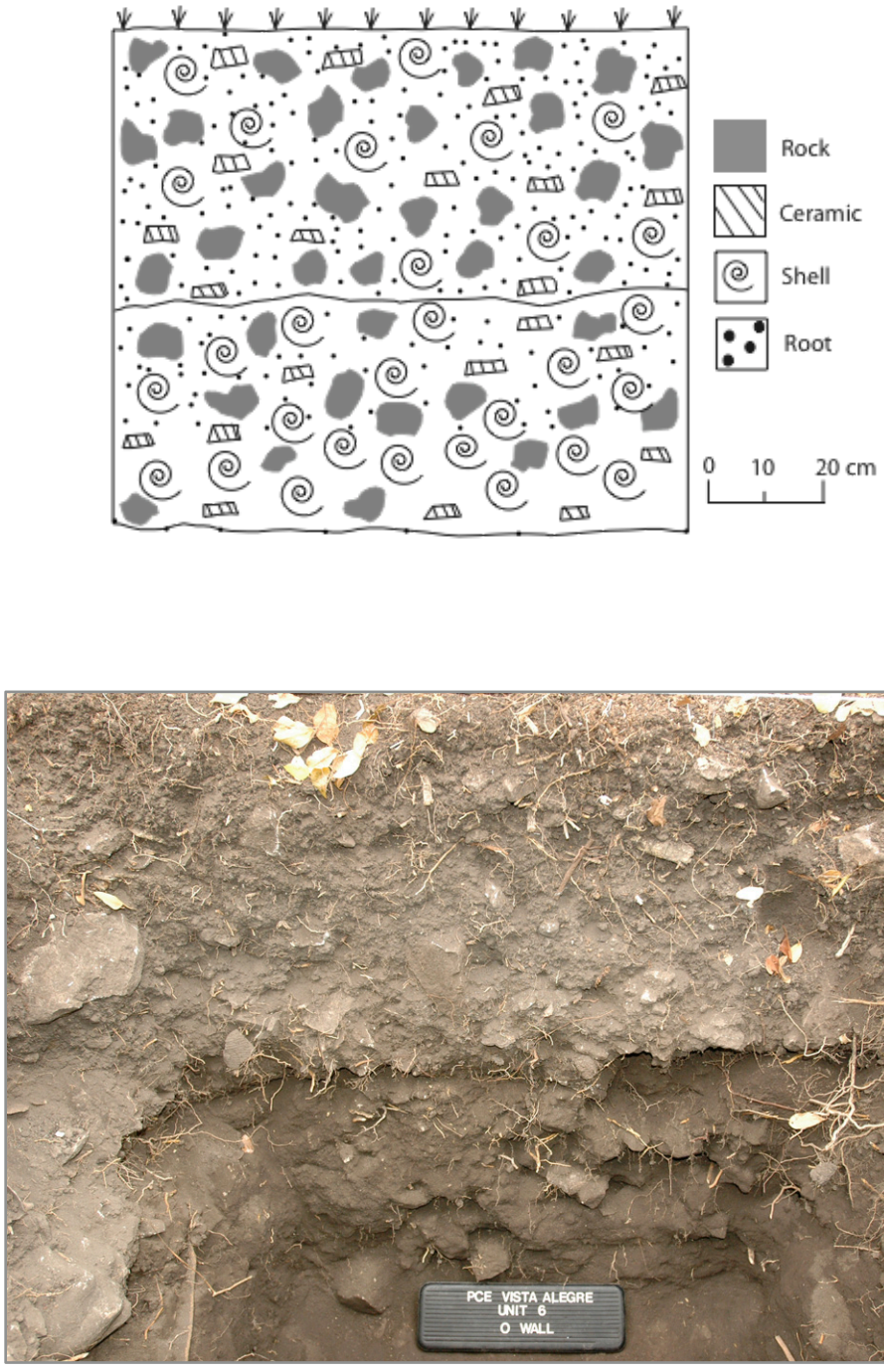

Figure 3.23: Drawing and Photo of Unit 6 west wall profile

Unit	Lot	Group	Type	Period	Count
6	61	Sierra	Sierra Red	Vista Alegre II a	1
6	61	Timucuy		Vista Alegre II a	1
6	61	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	2
6	61	Balantun	Balantun Black-on-slate	Vista Alegre III	1
6	61	Chablekal		Vista Alegre III	1
6	61	Ticul	Chencoyi Black-on-thin-slate	Vista Alegre III	1
6	61	Payil	Payil Red	Vista Alegre IV	1
6	62	Joventud	Calabasa Gadrooned	Vista Alegre I	1
6	62	Joventud	Joventud Red	Vista Alegre I	1
6	62	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
6	62	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
6	62	Flor	Flor Cream	Vista Alegre II a	3
6	62	Huachinango	Huachinango Bichrome Incised	Vista Alegre II a	1
6	62	Shangurro	Valladolid Bichrome Incised	Vista Alegre II a	1
6	62	Sierra	Sierra Red	Vista Alegre II a	2
6	62	Tancah		Vista Alegre II a	3
6	62	Timucuy		Vista Alegre II a	1
6	62	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
6	62	Balancan/Altar		Vista Alegre III	1
6	62	Balantun	Balantun Black-on-slate	Vista Alegre III	1
6	62	Silho	Silho Fine Orange	Vista Alegre III	2
6	62	Ticul	Chencoyi Black-on-thin-slate	Vista Alegre III	2
6	62	Payil	Payil Red	Vista Alegre IV	4
6	63	Joventud	Joventud Red	Vista Alegre I	1
6	63	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
6	63	Polvero	Polvero Black	Vista Alegre II a	1
6	63	Sierra	Sierra Red	Vista Alegre II a	1
6	63	Tancah		Vista Alegre II a	1
6	63	Balancan/Altar		Vista Alegre III	2
6	63	Balantun	Balantun Black-on-slate	Vista Alegre III	2
6	63	Dzitas	Dzitas Slate	Vista Alegre III	1
6	63	Muna	Chumayel Red-on-slate	Vista Alegre III	1
6	63	Muna	Muna	Vista Alegre III	1
6	63	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
6	63	Vista Alegre	Vista Alegre Striated	Vista Alegre III	3
6	63	Navulá	Chen Mul Modeled	Vista Alegre IV	1
6	64	Joventud	Joventud Red	Vista Alegre I	1
6	64	Savana	Savana Orange	Vista Alegre I	1
6	64	Carolina	Carolina Bichrome Incised	Vista Alegre II a	3
6	64	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	7
6	64	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
6	64	Flor	Flor Cream	Vista Alegre II a	1

6	64	Sierra	Sierra Red	Vista Alegre II a	1
6	64	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	8
6	64	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
6	64	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
6	64	Dzitbalché	Dzitbalché Orange Buff	Vista Alegre II b	1
6	64	Saxché	Saxché Orange Polychrome	Vista Alegre II b	1
6	64	Balancan/Altar		Vista Alegre III	1
6	64	Balantun	Balantun Black-on-slate	Vista Alegre III	2
6	64	Dzitas	Dzitas Slate	Vista Alegre III	1
6	64	Dzitas	Dzitas Slate	Vista Alegre III	1
6	64	Silho	Silho Fine Orange	Vista Alegre III	1
6	64	Ticul	Ticul Thin Slate	Vista Alegre III	3
6	65	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	2
6	65	Iguana Creek	Iguana Creek White	Vista Alegre II a	1
6	65	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	1
6	65	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
6	65	Balantun	Balantun Black-on-slate	Vista Alegre III	1
6	65	Dzitas	Dzitas Slate	Vista Alegre III	2
6	65	Muna	Chumayel Red-on-slate	Vista Alegre III	1
6	65	Ticul	Ticul Thin Slate	Vista Alegre III	1
6	65	Tinaja	Camaron Incised	Vista Alegre III	1
6	65	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
6	66	Chunhinta	Chunhinta Black	Vista Alegre I	1
6	66	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	17
6	66	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	4
6	66	Saxché	Saxché Orange Polychrome	Vista Alegre II b	3
6	66	Saxché	Saxché Orange Polychrome	Vista Alegre II b	1
6	66	Timucuy	Tituc Orange Polychrome	Vista Alegre II b	2
6	66	Baca	Baca Red	Vista Alegre III	2
6	66	Dzitas	Dzitas Slate	Vista Alegre III	1
6	66	Dzitas	Dzitas Slate	Vista Alegre III	3
6	66	Dzitas	Dzitas Slate	Vista Alegre III	1
6	66	Ticul	Ticul Thin Slate	Vista Alegre III	1
6	66	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
6	66	Payil	Palmul Incised	Vista Alegre IV	1
6	67	Joventud	Guitarra Incised	Vista Alegre I	1
6	67	Joventud	Joventud Red	Vista Alegre I	1
6	67	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
6	67	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	12
6	67	Balanza		Vista Alegre II b	1
6	67	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	3
6	67	Ticul	Ticul Thin Slate	Vista Alegre III	1
6	68	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1

6	68	Timucuy	Tituc Orange Polychrome	Vista Alegre II a	26
6	68	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	2
6	68	Saxché	Saxché Orange Polychrome	Vista Alegre II b	2
6	68	Saxché	Saxché Orange Polychrome	Vista Alegre II b	1
6	68	Timucuy	Tituc Orange Polychrome	Vista Alegre II b	2
6	68	Ticul	Ticul Thin Slate	Vista Alegre III	2
Total Unit 6					**197**

Table 3.5: Ceramic materials obtained in Unit 6

UNIT 7

Unit 7 was placed in the middle of the East Plaza group (see Figure 3.1). The objective was to locate another plaza floor area. Time allowed for two levels to be excavated and each of these was excavated in 20 cm arbitrary levels (Figures 3.24 – 3.27). No floor was identified nor was evidence of sub-floor ballast. A great amount of cultural materials came out of this unit, and we plan on returning and terminating this unit in the next field season.

Level 1 (Lot 71)

The first 10 cm of this level corresponded to topsoil. The quantity of cultural material increased dramatically in the second 10 cm of Level 1. In addition to 796 sherds, 9 obsidian blade fragments and large numbers of shell and faunal materials were also recovered.

Level 2 (Lot 72)

The quantity of cultural material increased in this level. Large, whole conch shells were recovered along with 19 obsidian blade fragments and over 1000 sherds. The sediment changed from 7.5 YR 3/1 to 7.5 YR 2.5/1 and had greater clay and organic content as well as being moister. This does not seem like a likely place for a midden, but this will be tested in the next field season. Medium to large-sized rocks were found across the level where it terminated (Figure 3.28).

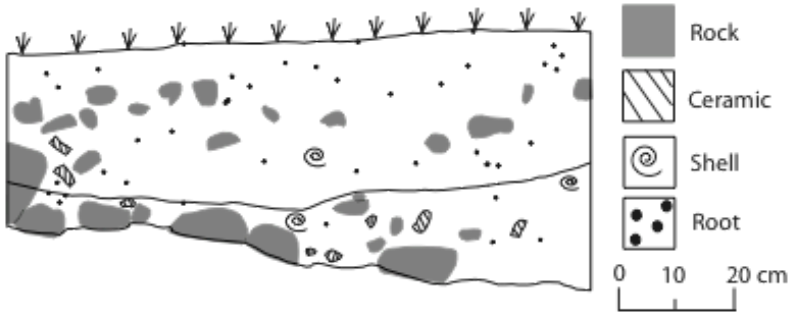

Figure 3.24: Drawing and Photo of Unit 7 north wall profile

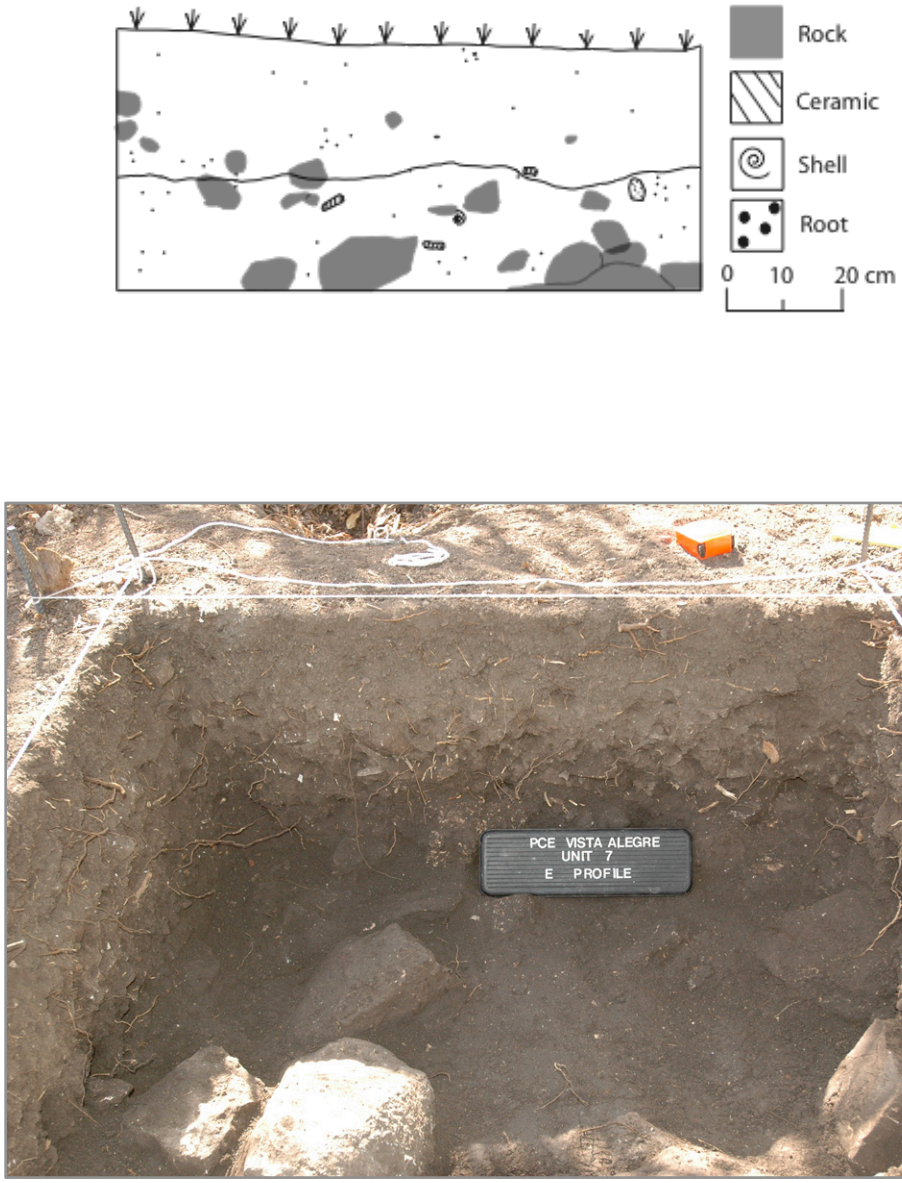

Figure 3.25: Drawing and Photo of Unit 7 east wall profile

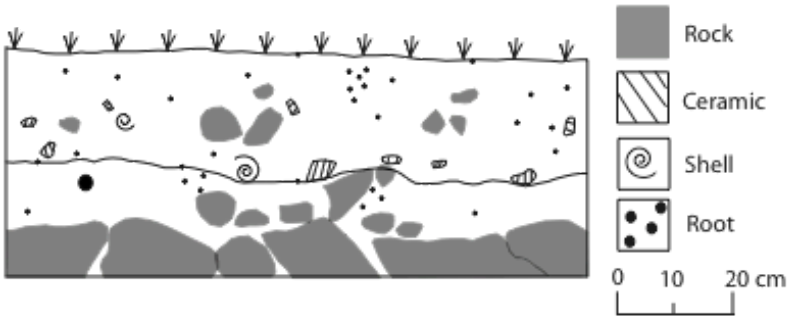

Figure 3.26: Drawing and Photo of Unit 7 south wall profile

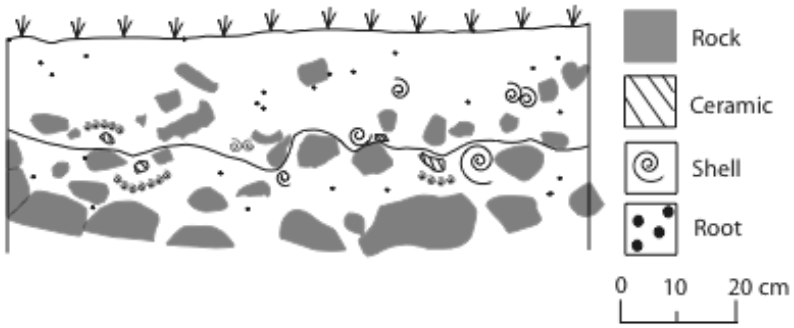

Figure 3.27: Drawing and Photo of Unit 7 west wall profile

Figure 3.28: Photo of bottom of level 2 of Unit 7

Unit	Lot	Group	Type	Period	Count
7	71	Chunhinta	Chunhinta Black	Vista Alegre I	2
7	71	Joventud	Guitarra Incised	Vista Alegre I	1
7	71	Flor	Flor Cream	Vista Alegre II a	1
7	71	Tancah		Vista Alegre II a	3
7	71	Cetelac	Cetelac Fiber Tempered	Vista Alegre II b	1
7	71	Saxché	Saxché Orange Polychrome	Vista Alegre II b	1
7	71	Balancan/Altar		Vista Alegre III	1
7	71	Balantun	Balantun Black-on-slate	Vista Alegre III	1
7	71	no id.	Molcajete	Vista Alegre III	1
7	71	Silho		Vista Alegre III	3
7	71	Silho	Cumpich Incised	Vista Alegre III	1
7	71	Silho	Silho Fine Orange	Vista Alegre III	3
7	71	Ticul	Ticul Thin Slate	Vista Alegre III	4
7	71	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
7	71	Navulá	Chen Mul Modeled	Vista Alegre IV	1
7	71	Navulá	Navulá Burdo	Vista Alegre IV	2
7	71	Payil	Payil Red	Vista Alegre IV	1
7	72	Chunhinta	Chunhinta Black	Vista Alegre I	1
7	72	Joventud	Guitarra Incised	Vista Alegre I	1
7	72	Joventud	Joventud Red	Vista Alegre I	1
7	72	Carolina	Carolina Bichrome Incised	Vista Alegre II a	1
7	72	Dos Arroyos	Dos Arroyos Orange Polychrome	Vista Alegre II a	1
7	72	Flor	Flor Cream	Vista Alegre II a	1
7	72	Sierra	Laguna Verde	Vista Alegre II a	1
7	72	Sierra	Sierra Red	Vista Alegre II a	1
7	72	Tancah		Vista Alegre II a	4
7	72	Baca	Baca Red	Vista Alegre III	1
7	72	Balancan/Altar		Vista Alegre III	3
7	72	Balantun	Balantun Black-on-slate	Vista Alegre III	1
7	72	Dzitas	Dzitas Slate	Vista Alegre III	3
7	72	no id.	Molcajete	Vista Alegre III	1
7	72	Silho		Vista Alegre III	3
7	72	Silho		Vista Alegre III	8
7	72	Silho		Vista Alegre III	2
7	72	Silho	Silho Fine Orange	Vista Alegre III	1
7	72	Teabo	Teabo Red	Vista Alegre III	1
7	72	Ticul	Ticul Thin Slate	Vista Alegre III	6
7	72	Ticul	Ticul Thin Slate	Vista Alegre III	1
7	72	Vista Alegre	Vista Alegre Striated	Vista Alegre III	1
7	72	Navulá	Chen Mul Modeled	Vista Alegre IV	1
7	72	Panaba	Panaba Unslipped	Vista Alegre IV	1
7	72	Payil	Payil Red	Vista Alegre IV	2
Total Unit 7					**76**

Table 3.6: Ceramic materials obtained in Unit 7

CONCLUSION

While these six test units represent a small fraction of the island's surface, they have been disproportionately informative, and we hope to expand on this initial work in the future to further our understanding of Vista Alegre's past inhabitants.

CHAPTER 4
CERAMIC ANALYSIS
BY

JOSEPH W. BALL, JEFFREY B. GLOVER, DOMINIQUE RISSOLO, AND FABIO E. AMADOR BERDUGO

From the total of 11,084 sherds (65,180.7 g) recovered from the excavation units and surface collection, 4,181 (47,868.3 g) were kept for further analysis. The 6,903 (17,312.4 g) sherds were discarded based on standard criteria; they were smaller than a thumbnail and had no diagnostic characteristics. Along with sherd counts and weights, we conducted preliminary analysis to shed light on the site's occupational history and its connections to other parts of the Maya area. This was not a typical ceramic analysis where all characteristics of the sherds, such as rim diameter and wall thickness, were recorded. We plan on conducting that type of analysis in the future, but at this stage of the project we were more concerned with taking a problem-oriented approach that would aid us as we develop future research questions while revealing clues regarding the role of Vista Alegre in broader regional and inter-regional political and economic systems. To this end, our first goal was to identify the ceramic group to which the sherds belonged, and if possible, the types and varieties. Based on our analysis, we can now define the ceramic/occupational sequence as comprising four separate, discrete episodes that future investigations may further amplify or even join into more continuous segments (Tables 4.1, 4.2). These episodes will be expanded upon below and are labeled with Roman numerals following the site's name (i.e. Vista Alegre I).

In addition to the standard Type-Variety typological approach, Ball created a complementary typological framework that allows us to clearly interpret the significance of the particular groups, types, and varieties. The five categories in this typology are based on varying levels of sociocultural and socioeconomic interaction. The five categories are:

1. general/multipurpose plainwares (*regional cultural macrotradition*) – unslipped plain/striated pottery
2. domestic utility wares (*community-level production/consumption spheres*) – slipped jars and basins/bowls
3. domestic and special purpose service wares/finewares (*local spheres of participatory interaction*) – plates, dishes, tripod plates, vases, etc. This group is indicative of influential interaction or direct influence.
4. true "exotics," high frequency/volume (*medium/long distance spheres of participation*) – these are the high volume imports that provide evidence of interaction, influential interaction, or direct influence.
5. true "exotics," low frequency/volume (*long-distance interaction networks, direct or indirect*) – these are the rare or unique exotics that provide evidence of the spatial extent of the trade networks in which the site is involved.

These categories can be applied to each of the occupational episodes but will mainly be discussed in the context of the Vista Alegre III period

Occupational Episode	Dates
Vista Alegre I	800/700 - 450/400 B.C.
Vista Alegre IIa	A.D. 100/150 – 400/450
Vista Alegre IIb	A.D. 400/450 – 625/650
Vista Alegre III	A.D. 850/900 – 1050/1100
Vista Alegre IV	A.D. 1100 – 1550

Table 4.1: Vista Alegre chronology

Period	Group	Count	Avg.
Vista Alegre I	Achiote	2	0.22%
Vista Alegre I	Chunhinta	15	1.68%
Vista Alegre I	Dzudzuquil	4	0.45%
Vista Alegre I	Joventud	36	4.03%
Vista Alegre I	no id.	3	0.34%
Vista Alegre I	Pital	4	0.45%
Vista Alegre I	Savana	1	0.11%
Total VA I		**65**	**7.27%**
Vista Alegre II	no id.	2	0.22%
Vista Alegre II a	Cabro	2	0.22%
Vista Alegre II a	Carolina	23	2.57%
Vista Alegre II a	Chancenote	1	0.11%
Vista Alegre II a	Dos Arroyos	25	2.80%
Vista Alegre II a	Flor	22	2.46%
Vista Alegre II a	Huachinango	10	1.12%
Vista Alegre II a	Iguana Creek	7	0.78%
Vista Alegre II a	no id.	3	0.34%
Vista Alegre II a	Percebes	1	0.11%
Vista Alegre II a	Polvero	2	0.22%
Vista Alegre II a	Pucte	1	0.11%
Vista Alegre II a	San Felipe	1	0.11%
Vista Alegre II a	Shangurro	1	0.11%
Vista Alegre II a	Sierra	21	2.35%
Vista Alegre II a	Tancah	24	2.68%
Vista Alegre II a	Timucuy	90	10.07%
Vista Alegre II a	Tipikal	1	0.11%
Vista Alegre II b	Balanza	3	0.34%
Vista Alegre II b	Batres	4	0.45%
Vista Alegre II b	Cetelac	35	3.91%
Vista Alegre II b	Conkal	1	0.11%
Vista Alegre II b	Dzitbalché	2	0.22%
Vista Alegre II b	Jabonoso	1	0.11%
Vista Alegre II b	Palmar	1	0.11%
Vista Alegre II b	Saxché	9	1.01%
Vista Alegre II b	Timucuy	4	0.45%
Vista Alegre II b	Uman	1	0.11%
Total VA II		**298**	**33.33%**
Vista Alegre III	Baca	14	1.57%
Vista Alegre III	Balancan	2	0.22%
Vista Alegre III	Balancan/Altar	9	1.01%
Vista Alegre III	Balantun	86	9.62%
Vista Alegre III	Chablekal	2	0.22%
Vista Alegre III	Daylight	5	0.56%
Vista Alegre III	Dzitas	28	3.13%
Vista Alegre III	Muna	8	0.89%
Vista Alegre III	no id.	3	0.34%
Vista Alegre III	Silho	42	4.70%
Vista Alegre III	Teabo	1	0.11%
Vista Alegre III	Ticul	28	3.13%
Vista Alegre III	Tinaja	1	0.11%
Vista Alegre III	Tohil	1	0.11%
Vista Alegre III	Vista Alegre	15	1.68%
Total VA III		**245**	**27.40%**
Vista Alegre III/IV	Cumtun/C-H	93	10.40%
Vista Alegre III/IV	Matillas	5	0.56%
Vista Alegre III/IV	Xcanchacan	1	0.11%
Total VA III/IV		**99**	**11.07%**
Vista Alegre IV	Navulá	147	16.44%
Vista Alegre IV	Panaba	1	0.11%
Vista Alegre IV	Payil	36	4.03%
Total VA IV		**184**	**20.58%**
Contact	no id.	1	0.11%
Contact	Yuncu	2	0.22%
Total Contact		**3**	**0.34%**
Total		**894**	**100.00%**

Table 4.2: Ceramic group count and percentage by occupational episode

VISTA ALEGRE I (800/700 - 450/400 B.C.)

The initial occupation of the site dates to the Middle Preclassic period, possibly as early as 700 to 800 B.C., but no later than 600 to 500 B.C. The materials from this early occupation phase correspond to 7.27% (n=65) of the total, analyzed collection. Given the ceramic data, the pioneering settlers clearly originated from the south, and were participants in the greater eastern Petén-Belize Mamom ceramic sphere; something that was not expected. This evidence comes from the fact that the majority of the Middle Preclassic sherds are Mamom waxy wares (Joventud, Savana, and Pital) (Figures 4.1, 4.2a-d) and not part of the Early Nabanche tradition (with its quintessential marker, Dzudzuquil Buff), which is typically found in the northern lowlands (Rissolo et al. 2005). This distinction is based on qualitative differences of the sherds' surface treatment (i.e. thickness, opacity, and texture of slip). In addition there is one example of a true Mars Orange ware (Savana Orange type: Savana ceramic group) (Figures 4.2a, 4.3a, b). Although this has been defined as an early trade ware in the southern lowlands (Sabloff 1975:74), it is the first of its kind, to our knowledge, found north of the Guatemala-Belize zone. Another exciting find is that of red-slipped (Joventud group) Middle Preclassic-style ceramic figurines. A head with a headdress (Figure 4.4) and a portion of the shoulder and arm of one or more figurines were recovered (see Chapter 5). While similar figurines have been found at Becán and Dzibilnocac (unpublished, INAH collections), nothing similar has been found anywhere near this far north. Although the slip and style appear to be Middle Preclassic, the lack of visible pupils is a bit incongruous with typical Middle Preclassic/Formative figurine eye treatments (see below). This may simply be the result of a local modification of more broadly shared stylistic canons.

How long the occupation endured is unclear, but the evidence indicates at least some minor interactions with the equally early Early Nabanche ceramic tradition. The Early Nabanche materials have been argued to correspond to the earliest ceramic-using populations in the Yalahau region (Rissolo et al. 2005). Their work was a modification of Andrews' (1990) earlier model, which posited that the earliest Middle Preclassic ceramic-using populations migrated into the western northern lowlands from the Usumacinta region and the western lowlands. This movement occurred sometime before 650 or 700 B.C. According to Andrews (1990), these Early Nabanche populations did not make their way east, and the earliest ceramic-using populations in the Yalahau region originated from the northeastern Petén-northern Belize region. This migration occurred sometime around or after 400 B.C. Rissolo and colleagues (2005:73-74), however, argued that these Early Nabanche populations did, in fact, make their way further east into the Yalahau region after 650 B.C. Their argument was based on similarities between the Middle Preclassic assemblage from Rissolo's Yalahau cave materials and that of the Komchen collection. While not disagreeing with Andrews (1990) argument that populations from the eastern southern lowlands made their way into the region after 400 B.C., their model made the important modification that these groups were not entering a region devoid of peoples.

The early date of the Mamom materials at Vista Alegre, however, presents a more complex picture than described by either Andrews (1990) or Rissolo and colleagues (2005). These new data from Vista Alegre indicate that populations with direct ties to the northeastern Petén-northern Belize region, and not just vessels, were present along the north coast at a much earlier date than thought. In addition, these new data may push back the early settlement of this area upwards of 150 years. This early evidence of potential interaction of Mamom-using populations and Early Nabanche-using groups is certainly a topic that warrants future investigation. We also feel that the rich mangrove,

estuarine setting of Vista Alegre would have made it particularly attractive to groups that were possibly leaving a similar ecological setting further to the south. Given this supposed coastal adaptive strategy, it is certainly possible that these populations did not venture inland from the coast, which would explain why these Mamom materials were not found further inland by Rissolo (2001; Rissolo et al. 2005) or Amador (2005). Future work will allow us to elucidate these tentative ideas about the Yalahau region's earliest, ceramic-using inhabitants.

Figure 4.1: Mamom-style Joventud sherds

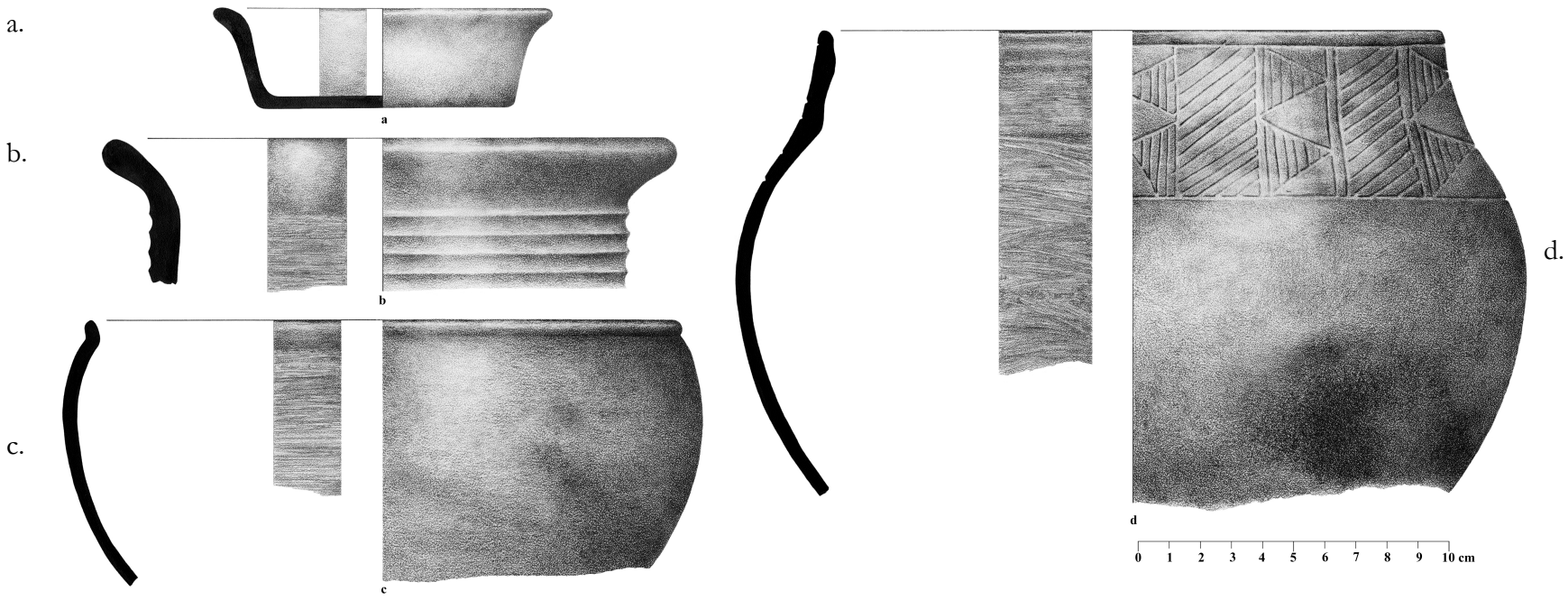

Figure 4.2: Drawing of Middle Preclassic Mamom-style vessels (by Jennifer Taschek) a. Savana Orange vessel, b. Joventud Red cuspidor, c. Joventud Red bowl, d. Guitara Incised (Joventud Red) wide-mouth jar

a. b.

Figure 4.3: Mars Orange ware – Savana Orange type (a. outside; b. inside)

Figure 4.4: Middle Preclassic figurine head

VISTA ALEGRE IIA (A.D. 100/150 - 400/450)

The following period is one of the two main occupational continua at the site. We tentatively suggest that this episode extended from a limited reoccupation sometime during the Late to Terminal Preclassic, ca. A.D. 100/150, through the full duration of "Early Classic I," that is, until about ca. A.D. 400/450. Ceramics dating to this span are well represented and include members of the Sierra, Flor, Polvero, and San Felipe groups along with the various Terminal Preclassic~Early Classic regional bichromes (Carolina; Huachinango) and redwares (Cabro Red; Tipikal Preslip-striated). In addition, the Tituc Variety of Tituc Orange-polychrome (Timucuy group) and various unspecified varieties of Dos Arroyos Orange-polychrome (including a single sherd of Caldero Buff-polychrome) were well represented (see Table 4.2). At least some of the heavily represented, mixed unslipped plain and striated materials, assigned to the Achiotes, Tancah, and Sabán groups, also pertain specifically to this interval, although such assignment really requires some solid stratigraphic associations to be certain as well as a thorough review of the unslipped groups and types in the northern lowlands. We feel as though there is greater variation than the current groups, types, and varieties capture.

All indications are of a broad northern-northwestern coastal plain and littoral affiliation, which is slightly different than the Yalahau regional materials (see Amador 2005). While the Tancah, Carolina, and Sierra groups are the most frequently represented groups in the Yalahau regional collection during this time period; this is not the case at Vista Alegre. At Vista Alegre, Carolina (Figure 4.5) and Sierra (Figure 4.6) both comprised less than 3% of the sample while the Timucuy group represented about 10% of the materials analyzed. This indicates to us that, although Vista Alegre is certainly connected to the inland sites, it is participating in much wider ranging networks. A good example of this is the presence of Iguana Creek White (Figure 4.7), which is a clear southern lowland product (see Ball and Taschek 2003). This, of course, is not unexpected for a coastal site.

Figure 4.5: Carolina Bichrome Incised sherds

Figure 4.6: Sierra Red sherds

Figure 4.7: Iguana Creek White sherds

VISTA ALEGRE IIB (A.D. 400/450 - 625/650)

Occupation of the site appears to have continued uninterrupted through the late 5th and 6th centuries and on into the early decades of the 7th century A.D. The diagnostic types associate with the Vista Alegre IIb occupation include the Camichin Variety of Tituc Orange-polychrome, Jabonoso Gray Dichrome, Cetelac Fibre-tempered; Saxche Orange-polychrome: Saxche Variety (an unquestionable Petén/southern Quintana Roo-Campeche import), Dzitbalché Orange-buff, Lakín Composite-Impressed (Batres ceramic group), Batres Red (Batres group), and possibly Maxcanu Buff (Maxcanu group), although the last might equally well be no more than firing variations, or misfirings, of Batres group vessels (see Table 4.2). The historical and cultural ramifications of the one versus the other are negligible, although Maxcanu group types are better represented farther west while the Batres group is strong at Cobá. At least some portion of the abundant unslipped Sabán group bolstered rim basins (*cajetes*) with incurving rims undoubtedly also pertain to the Vista Alegre IIb assemblage, but as previously noted above, some solid contextual/stratigraphic associations really are needed to confirm this.

Overall, the Vista Alegre IIb content reflects local continuities with increasingly well-defined ties across the northern littoral and coastal plain and down into the Cobá zone from the Terminal Preclassic through Early and early Middle Classic times. These are especially well documented by the Tituc, Cetelac, Lakín, and Batres types, and the one example of Conkal Red (Conkal ceramic group: Dzibilchaltún Ware). Circum-peninsular coastal interaction is definitively indicated by at least the late Early Classic (ca. A.D. 450/500 – 500+) by the presence of Jabonoso Gray Dichrome, a service fineware previously reported from Moho Cay at the mouth of the Belize River (Ball 1984), and from Holkotun on the Río Lagartos and Isla Jaina (Ball 1978, 1983). The Jaina linkage is reaffirmed and strengthened by the rare occurrence of Dzitbalché Orange-buff (Figure 4.8), now known to originate in the southern Veracruz-western Tabasco coastal plain and also heavily represented at Isla Piedras, Uaymil (Cobos 2003; Ruz Lhuillier 1969) and Acanmul along the central Campeche coast (Ball and Taschek in prep). Of particular interest is the form of the Dzitbalché Orange-buff. It is a small flared cup that seems to be the type of personal possession that an elite merchant might travel with to drink a toast with new hosts at various ports. The presence of this type also strengthens the case for occupational continuity at Vista Alegre into the first decades of the 7th century A.D., which is further supported by Robles' (1990) dating of the Lakín and Batres types. The one very fine example of Saxche Orange-polychrome: Saxche Variety glossware recovered would also date to this interval, and likely arrived at the site from far southern Quintana Roo-Campeche-Petén via the Petén-oriented Cobá community, a possibility previously suggested by Robles (1990:160-161) in his discussion of the type's occurrence at Cobá.

The end of the site's first major era of extended occupational use is marked by the absence of such widespread, pan-lowland decorated finewares of the mid to late 7th and 8th centuries as Petkanche Orange-polychrome, Moro Orange-polychrome, Egoista Resist, Chimbote Cream-polychrome, and Palmar Orange-polychrome, all of which are well to very well represented at occupied Middle and Late Classic northern coastal plain and eastern lowland sites. In addition, the low frequency of bulk-quantity Chablekal Fine Grey strongly suggests abandonment of the site by the mid to late 7th century. We also believe it significant that the ceramic diagnostics of the late 5th to 6th century occur in substantially smaller quantities than do those of the late 2nd through early 5th centuries, and that those indicative of a late 6th to early 7th century presence appear in even lower frequencies. While admittedly an impressionistic and subjective index, this nonetheless suggests the possibility of a

declining on-site population over the later part of the Early Classic and early Middle Classic, with complete abandonment of the site by no later than A.D. 650 at the very latest.

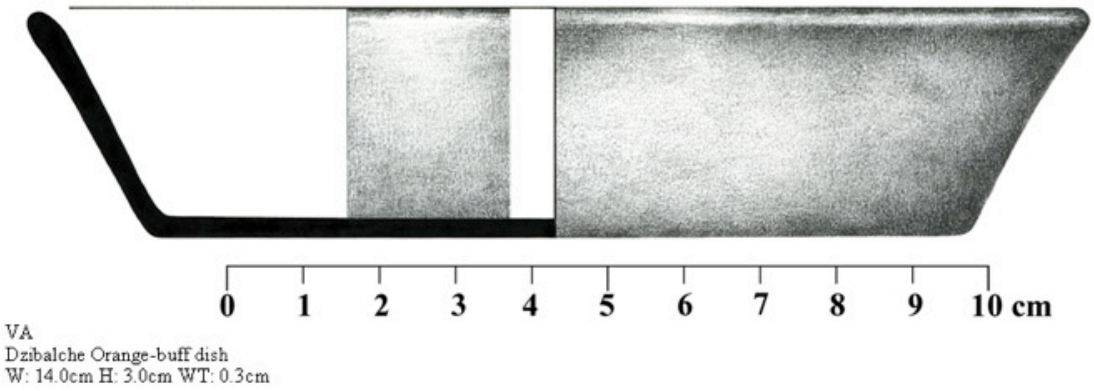

Figure 4.8: Drawing of Dzitbalché Orange-buff vessel (by Jennifer Taschek)

Such a late date for the abandonment indicates to us that Vista Alegre, along with a series of other small north coastal sites (Ball 1978), somehow escaped and survived the extensive catastrophic demographic collapse and depopulation apparently occurring farther inland to the immediate south during the late 3rd to 4th and 5th centuries A.D. (Amador 2005; Ball 1978; Glover 2006; Glover and Stanton 2010). While this preliminary occupational history needs to be confirmed by further study, this has important ramifications for the durability as well as viability of littoral settlements during times of general stress or crisis.

VISTA ALEGRE III (A.D. 850/900 - 1050/1100)

This period is the second major occupational continuum at the site (see Table 4.2), and the one most likely associated with the monumental public architecture of its core. The dating of this period is tricky as it is dependent upon the dating of materials from Chichén Itzá. Based on the Isla Cerritos data (Gallareta Negrón et al. 1989; Robles Castellanos 1987) and recent data from Chichén Itzá (Cobos 2004), we place the beginning date for Vista Alegre III in the late 9th century or first half of the 10th century A.D. The Sotuta materials began to appear on Isla Cerritos as early as A.D. 850, but as Cobos (2004:531-532) argues it was not until after A.D. 900 that Chichén Itzá began to have a more dominant presence on the Peninsula. Other scholars might push this date back at particular sites such as Peraza Lope (2005) who argues that the period of Itzá dominance at Cozumel began around A.D. 1000. We feel this temporal difference stands to reason based on the location of Cozumel relative to Chichén and the proximity of Vista Alegre to Isla Cerritos and Emal. The Vista Alegre III period of Itzá dominance may have extended until A.D. 1100 at which time Chichen's regional dominance is thought to have waned (Andrews et al 2003; Peraza Lope et al. 2006; see Ringle, Gallareta Negrón, and Bey 1998 for a slightly earlier end of the Sotuta complex).

The Vista Alegre III assemblage consists of a heavy representation of the well-known regional unslipped ware, Vista Alegre Striated (Figure 4.9). The Vista Alegre group is generally associated with the Eastern Cehpech ceramic sphere (e.g., Robles Castellanos 1990), and its ubiquity at Vista Alegre is not surprising given the fact that the group took its name from the site (Sanders 1960:248).

We do not yet have a count on this group, as we wanted to examine the striated unslipped wares of all time periods in more detail. In short, positive identification of the unslipped wares proved inherently problematic and a decision was made to shift our focus to those materials that were more diagnostic or readily identifiable for the purposes of the present study. In terms of quantity or frequency, the Vista Alegre Striated type appears to be followed by equally strong but progressively lighter quantities of Balantun Black-on-slate basins, bowls, and jars (n=86 or 9.62%) (Figure 4.10), and Dzitas Slate (Figures 4.11, 4.12) service wares (n=28 or 3.13%), which are found as tripod dishes, plates, and other light service forms. The latter are characterized by remarkably fine, clear, lustrous pearl grey to translucent cream slips completely unlike the milky white, flakey, opaque slips typical of Balantun Black-on-slate. Paste-fabrics between these types are also dissimilar; the Dzitas Slate pastes range from a medium textured very pale brown to buff and grey while Balantun pastes are a medium coarse to coarse textured pink or light red to brownish red. Unfortunately, temper types and attributes were not examined in the course of our initial analysis as no need to do so was then foreseen. As discussed below, we contend that Balantun Black-on-slate should be placed in its own group (Balantun) to separate it from the Dzitas group materials.

What of the dominant Vista Alegre III Class 2 domestic utility wares (Balantun group) and Class 3 domestic service and fine wares (Dzitas group)? Clearly they document participation by the site's occupants in the Chichén-related Sotuta ceramic production-circulation/consumption sphere. This is a situation not at all dissimilar to that found at Xcopte, a comparably small coastal center near the northwest corner of the Peninsula (Eaton 1978; Ball 1978). The question, though, is just exactly where were the village workshops located that produced the heavy basins and jars and lighter service forms present in the distinctive Sotuta Balantun and Dzitas slips, finishes, and pastes? How large was the local participant production-circulation sphere, or how far did vessels of one or the other or both groups have to be transported? These are questions that remain unresolved, and that provide interesting problems to be addressed by future survey and excavation.

In addtion we also have a few sherds from mocajetes, and as Bey and Ringle (2007:390) note "the adoption of grater bowls and comales indicates a major culinary shift for the inhabitants of Chichén Itzá and the surrounding Sotuta region, distinguishing them from their neighbors in the northern Maya lowlands." These provide further evidence of the strong connections between the inhabitants of Vista Alegre and those at Chichén Itzá.

There are also a number of "exotic" ceramic types (Class 4 and 5) identified during our analysis. These "exotics" have wide-ranging source locales and reinforce the site's participation in the long-distance circum-peninsular trade routes of the Terminal Classic. One interesting thing to note is that while most of the "exotics" are the ones typically associated with the Sotuta complex, some Cehpech materials were identified as well. We found 28 sherds (3.13%) of the Ticul group (Ticul Thin-slate) (Figure 4.13). We also have a single sherd of Akil Impressed (Muna group, Figures 4.14, 4.15), and at least one Muna Slate drum (Figures 4.16, 4.17, probably Sacalum Black-on-slate). These vessels, generally in the form of fine service wares, likely represent an import or gift from one of the Puuc Slateware producing communities to the south or the west. However, the light brownish to tan hues of the Class 4 Ticul Thin-slate and Akil Impressed vessels point to a Cobá Cehpech sphere origin rather than one farther to the west (Cobos 2004:524). The presence of Ticul Thin-slate has also been argued to be a marker of the Early Sotuta Complex (Bey and Ringle 2007). In addition to chronological data, these materials hint at relations beyond the immediate Vista Alegre production-circulation-consumption sphere with groups generally thought to have been in competition with the Itzá. We hope to explore the nature of these relations in future field seasons.

Figure 4.9: Vista Alegre Striated tecomates

Figure 4.10: Balantun Black-on-slate sherds

Figure 4.11: Dzitas Slate sherds

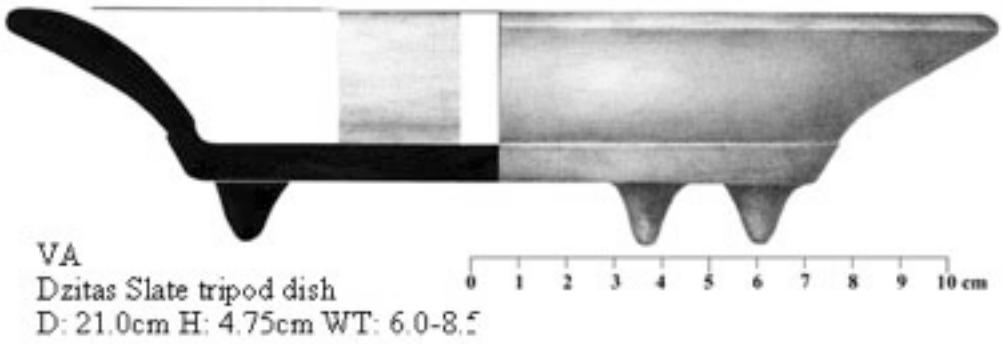

Figure 4.12: Drawing of Dzitas tripod dish (by Jennifer Taschek

Figure 4.13: Ticul Thin-slate sherds

Figure 4.14: Akil Impressed sherd

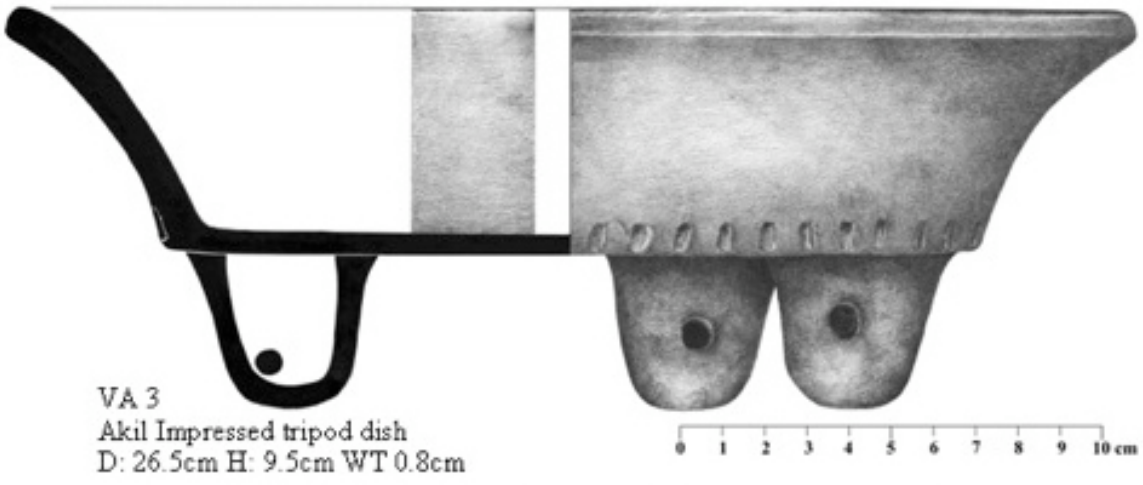

Figure 4.15: Drawing of Akil Impressed vessel (by Jennifer Taschek)

Figure 4.16: Muna Slate drum sherds

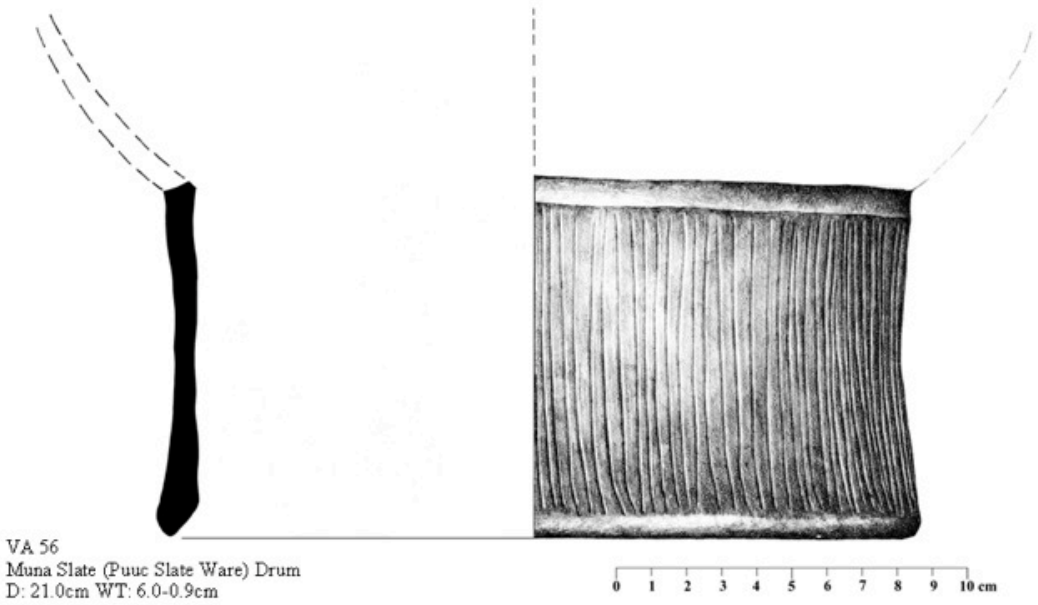

Figure 4.17: Drawing of Muna Slate drum (by Jennifer Taschek)

We also identified the typical fine paste-wares associated with the Terminal Classic: Chablekal Grey; Balancan/Altar Fine Orange; Silho Orange; Yalton Black-on-orange. The multiple low frequency fine-paste-wares (Chablekal Grey; Balancan/Altar Fine Orange) together affirm participation in a coastal movement network extending from the eastern coastal plain of Tabasco up the Campeche coast to the Dzibilchaltún zone and then eastward to Vista Alegre (Ball 1978; Bishop 2003; Brainerd 1958; Forsyth 2005; Ruz Lhuillier 1969). The comparatively higher volume Silho Orange group (n=42 or 4.70%) (Figure 4.18), which includes at least three examples of Yalton Black-on-orange (Figure 4.19), further affirms this west coastal peninsular engagement, and arguably signals stronger and more direct ties with Chichén Itzá itself (e.g., Bey and Ringle 2007:391), although as Stanton and Gallareta Negron (2001) have pointed out, this remains something to be tested and not assumed.

The Celestun Red ware (Baca Red) tripod dish fragment (Figures 4.20, 4.21) and other sherds (n=14 or 1.57%) ultimately originated from the northwestern corner of the Peninsula or even central coastal Campeche. More than likely, though, they did not come from too far afield, very likely arriving via a classic down-the-line movement pattern from the Chikinchel coastal zone. As Kepecs (1999:314) notes, "[a] surprisingly high quantity of Gulf Coast ceramics (mostly Celestun, with some Fine Gray) reached Emal in the Late Classic, indicating links in this period between Emal and the southern Campeche coast." We contend, however, that these wares continued to be traded into the early facet of the Terminal Classic, our Vista Alegre III period, given their association with other Terminal Classic groups discussed above.

The Daylight Orange: Daylight Variety dish (Figures 4.22, 4.23) (n=5 or 0.56%) is a good indicator of coastal links southward along the east coast to the Bahía de Chetumal and then up the New River, possibly as far as Lamanai where the group appears in its most elaborate and abundant

manifestations, probably indicating its most likely zone of origin (Ball 1983; Graham 1987; Masson and Mock 2004). The Tohil Plumbate sherd (n=1 or 0.11%) (Figure 4.24) could also have come by way of the east coast on its way to Isla Cerritos, Chichén Itzá, and beyond, or it might have come from Chichén Itzá. We hope to be able to address these more nuanced questions of trade patterns in future field seasons.

Figure 4.18: Silho group sherds

Figure 4.19: Yalton Black-on-orange sherd

Figure 4.20: Profile of Celestun Red – notice volcanic ash inclusions

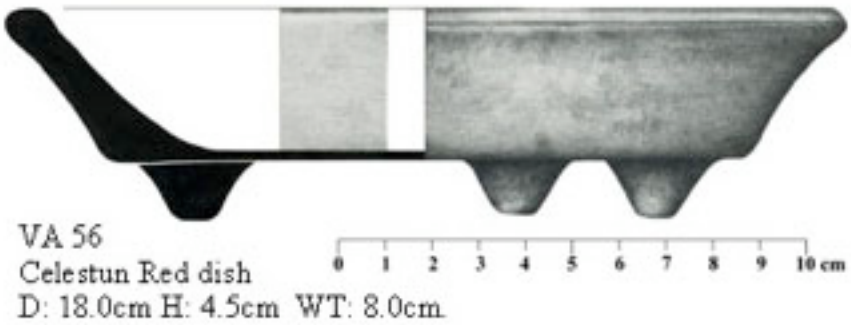

Figure 4.21: Drawing of Celestun Red dish (by Jennifer Taschek)

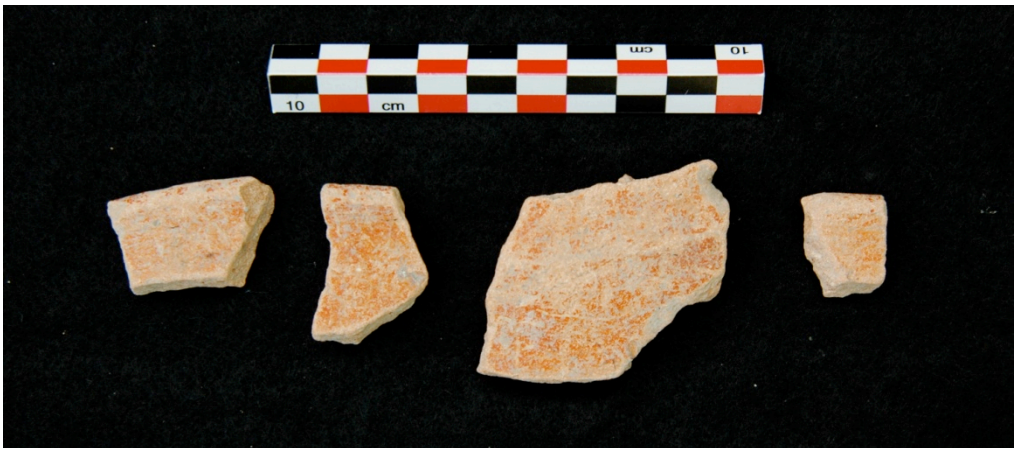

Figure 4.22: Daylight Orange sherds

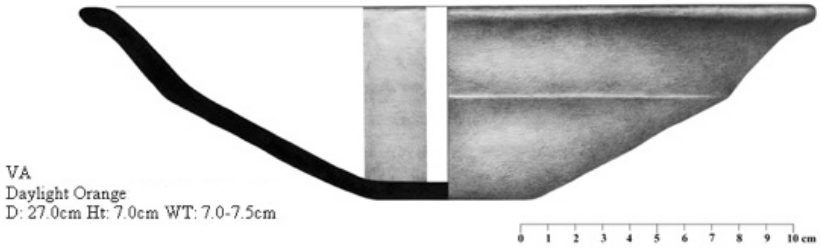

Figure 4.23: Drawing of Daylight Orange dish (by Jennifer Taschek)

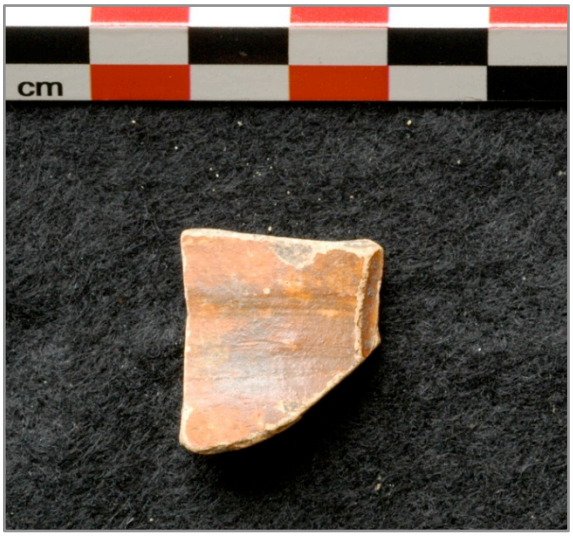

Figure 4.24: Tohil Plumbate sherd

Numerous filleted and otherwise appliquéd unslipped censer fragments of both the Cumtun (Chichén Unslipped) and Cehac-Hunacti (Mayapan Unslipped) Composite types were recovered from structural and post-construction contexts at the base of Structures 1 and 3, the principal architectural monuments at Vista Alegre. More than anything else, the apparent mix suggests a construction date and continued ritual usage of Structures 1 and 3 during and through Vista Alegre III and on into its immediate post-abandonment Vista Alegre IV phase, perhaps as the goal of individual pilgrimage visits from nearby (Conil) or afar by merchants (see below). The fragmentary condition of all recovered non-Chen Mul Modeled material makes secure determination of its classification as either Cumtun or Cehac-Hunacti unresolved at this time. It is clear that some examples of each, the Chichén Itzá-related Cumtun Composite censer type and the slightly later Mayapan-related Cehac-Hunacti Composite censer, are present, but both appear in (open) depositional contexts also peppered with Chen Mul Modeled fragments, as well as Balantun Black-on-slate sherds. We have elected to leave the question of their correct classification and chronology unresolved and open for the present, and have provisionally lumped them under the temporary category of "Cumtun/Cehac-Hunacti Composite censer fragments" (see Cumtun/C-H in Table 4.2). They will be reclassified into one or the other as further data make this possible.

Aside from the ceramic groups present at the site, the virtual lack of Peto Cream ware at the site is of particular interest. We identified only one Xcanchacan Black-on-cream sherd. This is of interest because it is heavily represented at Isla Cerritos where it comprised 13% of the Jotuto Sotuta complex materials; almost twice the quantity of Dzitas group sherds (7%) (Gallareta Negron et al. 1989). It is interesting, however, that Sanders (1960:191) identified a relatively robust sample of Mayapan Black-on-cream (now known as Xcanchacan Black-on-cream) in his trenches. We contend that he may have misidentified the Xcanchacan Black-on-cream for Balantun Black-on-cream given its abundance in our six test units and the shared trickle motif. In support of this interpretation, Sanders noted that the Mayapan Black-on-cream from the second level of Trench 1 (his most productive trench) might, in fact, be Yucatan Slate ware.

The low quantities of Xcanchacan Black-on-cream may help us refine the dates of Vista Alegre III, but more work needs to be done. Stanton and Bey (2006) argue that Peto Cream wares, of which Xcanchacan Black-on-cream is a member, become abundant during their 3rd stage of the time period between the Terminal Classic and the Postclassic (based on data from Kulubá and Xelhá). This is reinforced by the El Meco ceramic data (Andrews and Robles Castellanos 1986) where the presence of Peto Cream ware sherds is associated with a Sotuta-Hocaba complex. Although Peto Cream sherds may show-up with the early appearance of Sotuta modes, there is a dramatic increase in their popularity as the Sotuta-Cehpech modes continue. In addition, Peto Cream continues after the slatewares disappear. As Peraza Lope (2005:84) comments, Kukulá (Peto Cream ware) ceramics "are the most significant pottery for dating the last activities in Chichén Itzá before the city's political collapse."

The Balantun Group

One other topic we would like to address is a typological one. During our classification we initially misidentified the Dzitas for Muna slate types. This we feel is a result of a long-standing confusion stemming from Smith's (1971) reclassification of Brainerd's (1958) work into the type-variety system. In brief, Smith correctly and acceptably "typed" and grouped Brainerd's (1958:52-53) "Florescent Medium Slateware" into his own Muna group and Puuc Slate Ware based on available collections from several Puuc sites and Mayapán. In these, trickle-decorated basins, jars, bowls, and other forms shared the same slip, surface finish, and paste characteristics as did the "plain" types,

and Smith properly placed his Sacalum Black-on-slate and Chumayel Red-on-slate types together with Muna Slate, Tekit Incised, Akil Impressed, et al. within the broad Muna group. Turning to the materials available to him from Chichén Itzá, however, which represented Brainerd's (1958:55) "Mexican Medium Slateware," Smith came face to face with a typological quandary. The Chichén assemblage comprised a repertoire and range of forms comparable to that of Puuc Slate Ware, but the slip and surface finish characteristics as well as the paste fabrics of the domestic service wares and finewares – tripod dishes and plates; vases; cups; smaller bowls; et al.– what Smith christened, Dzitas Slate, Chacmay Incised, Tekom Gouged-Incised, and even Balam Canche Red-on-slate – differed significantly from those of the heavier, local, trickle-decorated domestic utility ware basins and jars – Balantun Black-on-slate. While he should have minimally separated these into distinct groups rather than types, if not wares, in the interest of systematic order and consistency, Smith appears to have decided to include the Balantun series within the Dzitas group. This was not merely an unfortunate but nonetheless trivial taxonomic error; it was a critically damaging blunder with respect to all subsequent analyses relying on the 1971 Smith typology in that it came to be the distinctive diagnostic features of Balantun Black-on-slate that are generally taken to characterize Chichén Slate Wares overall, and so the various members of the slate Dzitas series. This has, in fact, resulted in much confusion and conflation of actual Dzitas group material with Muna group material over the subsequent decades given the closer resemblance of Dzitas Slate and its decorated variants to Muna group types than to Balantun Black-on-slate. As is generally the case in such typological conflations, the results have been grossly inconsistent rather than consistent (mis)classifications from typologist to typologist, and at least some not inconsiderable part of the persisting uncertainties, problems, and controversies regarding the ceramic relationships of the Sotuta and Cehpech/Copo complexes and spheres and the various chronological models and relationship (overlap) schemas proposed for them over the last 40 years have been the result. Like many others, we fell into this very trap in classifying the Vista Alegre collection. One methodological improvement that we propose is removing the improperly placed Balantun Black-on-slate type and its variants from the Dzitas group to which Smith assigned it, and reassigning it to a freshly established "Balantun ceramic group," still situated within Smith's far too broadly defined "Chichén Slate Ware." We feel doing this would represent a real methodological contribution to northern lowland ceramic studies.

VISTA ALEGRE IV (A.D. 1100 - 1550)

The Vista Alegre IV assemblage is essentially *incensario*-based, albeit with trace components of Mayapan/Tulum wares more suggestive of casual occasional visitation for ritual observances and activities than of any meaningful residential occupation (see Table 4.2). The recovered censer sherds are of mixed Chen Mul Modeled and Cehac-Hunacti Composite types, the latter interfingering confusingly with earlier Sotuta sphere-affiliated Cumtun Composite censers (see above), also known from Cobá (Robles Castellanos 1990). The recent work of Peraza Lope and colleagues (2006) at Mayapan have pushed back the dates of Late Postclassic ceramic materials to around A.D. 1100. As stated these censer materials are heavily concentrated around the main pyramidal structure of the site. Along with the censers, we recovered Payil red and Palmul incised sherds (n=36 or 4.03%). Masson and Rosenswig (2005) place these types between A.D. 1050 to 1400 in coastal Belize and note the shared characteristics with Payil red vessels in Cozumel and parts of the Yucatan. These types and dates fit nicely into our model of a pilgrimage assemblage. This argument, we feel, is bolstered by the fact that no Mama red sherds were recovered. Mama red is more generally associated with household activities unlike the Payil and Palmul types. The significance of Vista Alegre as a pilgrimage center is something we plan to test in the future. It is interesting that the

carved serpent head (Figure 1.4) does not bear strong resemblance to those at Chichén Itzá but is more closely aligned stylistically with those from Mayapan. Did Vista Alegre serve as an important pilgrimage site for traders or was it used by the people from the sizable Postclassic and Contact period site of Conil (Andrews 2002; Andrews and Jones 2001), located 7 km to the west? The presence of continued ritual activities at the site into the Historic period is supported by the find of one coarse surface brownware censer/cup of probable Protohistoric (ca. A.D. 1450–1550+) age.

CONCLUSIONS

Our preliminary analysis of the ceramic data has begun to clarify our understanding of the occupational history of the island and presented us with some surprises. At the same time, there are still ceramic issues, in particular those associated with the non-slipped wares, that need to be addressed by future, detailed analyses. For example, the current group, type and variety classifications of the unslipped Achiote, Tancah, and Sabán ceramics do not appear to represent the diversity of the unslipped wares present during the Vista Alegre I and II (a and b) periods. Another issue that we hope to address in the future is one that we highlighted in the INAH proposal, that of the chronological placement of Vista Alegre's eponymous group. During this first stage of analysis, we were focused on those groups/types that were more telling of the site's inter-regional interactions. In addition, the occupational history of the settlement does not appear to lend itself to resolving the chronological issue as we presented it. While not denying that Vista Alegre Striated was present at sites during the Terminal Classic, our concern, and what we hoped to test, was whether Vista Alegre ceramics contined to be used into the Postclassic, something that Robles Castellanos mentioned based on his work at El Meco (Robles Castellanos 1986:100). Given that the site does not appear to have a residential population during the Postclassic, in contrast to the other sites in the Yalahau region, it does not appear to be a good place to test this hypothesis. Future investigations at Conil and other inland sites should prove to be better locales to address this question.

The Middle Preclassic Mamom materials were certainly a surprise. The presence of these ceramic groups completely alters our picture of the migration patterns associated with the settling of northeastern Yucatan. We are excited to further explore the implications of these findings in future field seasons. In addition the apparent resilience of Vista Alegre during the end of the Early Classic and into the Middle Classic was an interesting discovery to make. As we hopefully implement an interdisciplinary project in coming field seasons, questions of subsistence and resilience will be some of the first addressed. Finally, gaining a better understanding of the Terminal Classic and Postclassic occupational history at the site had been on the top of our list since our initial discovery of the carved serpent head at the site. Now, with some test excavations completed, we have a much better handle on these periods at the site. The seeming close ties between the site and Chichén Itzá was something that we had hypothesized, but we can now begin to explore that relationship in greater detail along with the subsequent relationship between Vista Alegre and Conil. We look forward to continuing to investigate these issues and others in future field seasons.

CHAPTER 5
ARTIFACT ANALYSIS
BY
JEFFREY B. GLOVER, DOMINIQUE RISSOLO, AND JENNIFER TASCHEK

The artifacts documented through excavations and surface collections provide insight into a number of different activities – economic, religious, and subsistence – that occurred at the site throughout its occupation. While preliminary, our analyses of these artifacts provide tantalizing clues for future research endeavors. These artifact classes include spindle whorls, net weights (or, as we will argue, loom weights), jade and ceramic beads, a ceramic stamp, along with figurines.

SPINDLE WHORLS

A total of six spindle whorls (Figures 5.1, 5.2) have been recovered to date from both the surface and excavations. While we acknowledge that this is not a large quantity, in terms of our sample size, these artifacts appear to be overrepresented; especially when compared with the two spindle whorls recovered from Isla Cerritos (Hernández A. and Peniche M. 2007). Given this apparent discrepancy between the two sites, we hope to investigate in future field seasons whether this is the result of a sampling error (i.e. we may not recover any more spindle whorls) or whether this discrepancy speaks to different activities being carried out by the inhabitants of Vista Alegre versus those of Cerritos. Spindle whorls were also rare at other coastal communities on the north coast judging from Eaton's (1978:56) coastal survey report. He recovered two "pottery disks made from unidentified wares and worked into roughly circular form…[with s]lightly off-center holes…drilled through them." While he does not identify them as spindle whorls, that seems like the most logical conclusion judging from the photo (Eaton 1978:fig. 28a). We have also recovered more spindle whorls than reported by Tashcek (1994:215) at Dzibilchaltún, where five complete examples were recovered. However, our sample pales in comparison to the 76 recorded during the excavations on Cozumel (Phillips 1979) and the 22 from Xuenkal, 17 of which came from Structure 129 (Ardren et al. 2009). We must, however, acknowledge that spindle whorls can be made of materials other than ceramic, as evidenced by the wooden spindle whorls from the Cenote of Sacrifice (Coggins and Shane III 1984:146), which could affect counts at particular sites.

As Hernández and Paniche (2007) demonstrate spindle whorls are not rare but do appear to increase through time in the northern lowlands. This may be linked to increased tribute demand by the Itzá and later by Mayapan, as well as the general increased rate of circum-peninsular commerce. Of these trade goods, salt and cotton *mantas* were the two dominant ones at the time of Spanish contact (e.g., Tozzer 1941) and the ethnohistoric documents recount that the northeast corner of the Yucatan was a major production zone for cotton (Kepecs and Boucher 1996:87). In support of the historic record, Kepecs and Boucher (1996:87) found pollen evidence of cotton (*Gossypium* sp.) at the coastal site of Emal, located about 80 km west of Vista Alegre. Something we will certainly investigate in future field seasons.

Another indicator that cotton thread was being produced on the island comes from the size of the recovered spindle whorls. As McCafferty and McCafferty (2000) note, the different dimensions (diameter, height, weight, and diameter of opening) of spindle whorls have important implications for what was spun (cotton v. agave v. feathers) as well as the quality of the thread. Our spindle whorls generally appear similar to the spindle whorls used to produce cotton thread at Cholula,

although they have a higher height to diameter ratio than those recorded at Cholula. It is not surprising to see differences over such a distance, but this ratio might indicate that these whorls were being used to produce a tighter twist (McCafferty and McCafferty 2000:46)

Of the six spindle whorls, two are "cupcake-shaped" (SW-1, SW-4), three are elliptical (Parsons 1972 uses the term hemispherical) (SW-2, SW-3, SW-5), and one appears to be a shorter version of the other "cupcake-shaped" ones (SW-6). These shapes are similar to the general shapes reported by other scholars (Andrews IV 1970; Taschek 1994). All but one (SW-6) have some form of surface decoration. As Ardren and colleagues (2009) describe, there are three design motifs common on spindle whorls, zoomorphic, geometric, and floral. Our collection contains at least one of each of these motifs. These design motifs and shapes are similar to spindle whorls recovered from Chichén Itzá (Bolles 1977; Kidder 1943), Balankanche Cave (Andrews IV 1970), Dzibilchaltún (Taschek 1994), and Xuenkal (Ardren et al. 2009). In fact, the raptor motif found on SW-5 bears the most striking resemblance to the other Terminal Classic spindle whorls mentioned. These stylistic similarities provide strong comparative evidence to place the Vista Alegre spindle whorls in the Vista Alegre III (Terminal Classic – see above) period.

The dating of these spindle whorls to the Terminal Classic when the site was apparently reoccupied raises important questions about who these people were, who reoccupied the site, and how they articulated with the political economy of the Itzá. The iconographic and ethnohistoric data from Mesoamerica indicate that weaving was women's work (Dumond 1997; Folan et al. 2001), and often the work of high status women (Halperin 2008; Hamann 1997). This gendered division of labor is evidenced by the link between weaving and spinning and the goddesses Ixik Kab and Chac Chel (e.g., Vail and Stone 2002). Future research will pay special attention to the spatial distribution of spindle whorls and other weaving-associated artifacts. To date, all of the spindle whorls recovered from an excavation context came from Units 2 and 3, two of the units at the site center. Was cotton production strictly an elite pursuit, or just controlled by the elite, and if so was the island, given its small size, mainly inhabited by a few elite families? Future work around Structure 2 (see Figure 1.3) – the broad, basal platform that occupies the eastern side of the central plaza area – might be revealing, as it resembles an *audencia* building where evidence of craft production has been found at other sites (2006:fig 12). The work by Ardren and colleagues (2009) at Structure 129 of Xuenkal provides a strong comparative dataset as we attempt to understand the role cotton production played in the island's domestic and political economy. Was cotton *manta* production part of the tax burden placed on Vista Alegre's inhabitants by the Itzá? Was cotton *manta* production one of the products created in order to trade, in a more entrepreneurial manner, with passing trade canoes? Or, was it some combination of these scenarios? We hope to address these questions in future field seasons.

SW-1
Provenience: Lot 24
Design: Floral
Shape: "Cupcake-shaped" with gadrooned sides
Size: 30 mm diameter, 13 mm height, 7 mm whorl opening
Figures: 5.1a, 5.2

SW-2
Provenience: Lot 34
Design: Floral

Shape: Elliptical
Size: 29 mm diameter, 15 mm height, c. 7 mm whorl opening
Figures: 5.1b, 5.2

SW-3
Provenience: Surface (Lot 2)
Design: Geometric
Shape: Elliptical
Size: 29 mm diameter, 15.5 mm height, c. 7.5 mm whorl opening
Figures: 5.1c, 5.2

SW-4
Provenience: Lot 35
Design: Geometric
Shape: "Cupcake-shaped"
Size: c. 24 mm diameter (we have less than half), 13 mm height, c. 7 mm whorl opening
Figures: 5.1d, 5.2

SW-5
Provenience: Lot 34
Design: Raptor
Shape: Elliptical
Size: c. 25 mm diameter, c. 14 mm height, c. 7 mm whorl opening
Figure 5.1e

SW-6
Provenience: Lot 22
Design: Plain
Shape: short "Cupcake-shaped"
Size: 31 mm diameter, 8 mm height, 9 mm whorl opening
Figures 5.1f, 5.2

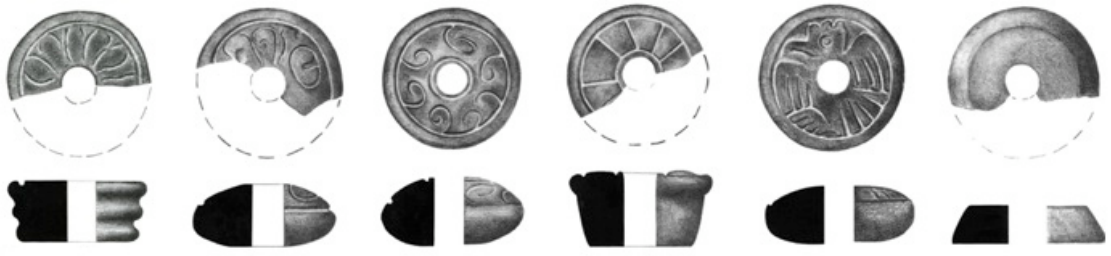

Figure 5.1: Drawing of six (a-f) spindle whorls recovered (by Jennifer Taschek)

Figure 5.2: Selection of spindle whorls and net/loom weights

CERAMIC DISKS

A total of three ceramic disks were recovered, all from Lot 22 (see Figure 5.2 – bottom row). These disks were made from sherds and were crudely ground into form. They are badly eroded and the group, type, or variety could not be determined. They vary between 24 and 27 mm in diameter and between 1.8 g and 3.2 g. One is concave in form, another is flatter but has a potential spindle depression in its center, and the final is also flatter and the most questionable. These disks could have been used for the supported spinning method that was used to produce finer cotton string, in contrast to drop spinning. While bowls are typically used (Anawalt 1981:13; McCafferty and McCafferty 2000), these disks could have served a similar function (Tasheck 1994:220-221). We must also acknowledge that given the context they could also be appliqué pieces from Chen Mul modeled *incensario* fragments.

NET/LOOM WEIGHTS

We recovered a total of 12 notched, ceramic artifacts (see Figure 5.2). Of these 12, three are ovoid in shape (Figure 5.3) and have been described as grooved oval sherds by Taschek (1994) while the other eight were clearly reused sherds. These grooved oval sherds have been found at other sites such as Cozumel (Phillips 1979:70-71), Dzibilchaltún (Taschek 1994:222-223), and Barton Ramie (Willey et al. 1965– Figs 258f-g; 260h, k – p.408-409). Phillips (1979:71) includes a more exhaustive list of sites where these modeled "net weights" have been found. Interestingly, at Buenavista del Cayo these artifacts were found in an intrusive feature with true Balantun Black-on-slate sherds (Joseph W. Ball, personal communicaton 2008), although they date to other time periods across the

Maya area (see Phillips 1979:71). The other eight are more common at Maya sites and have generally been recorded as net weights. Given the likely importance of fishing at the site, we have no doubt that these could have been used for this purpose, but we are also interested in exploring the possibility that these may have also been used as loom weights as has been observed at the site of Paquimé, Chihuahua (INAH collections, Museo del Sitio, Paquimé, Chihuahua).

The average weight of the notched, ceramic artifacts is 6.36 g. The weights range from a minimum of 2 g to a max of 14.7 g. The average is very close to the 6.6 g average that Phillips (1979) had from his sample of 528 notched, ceramic artifacts from Cozumel, although given his sample it is not surprising that he had greater variability.

Modeled Net/Loom Weights

NW-1
Provenience: Lot 51
Size: 15 mm long, 15 mm wide, 11.5 mm thick
Weight: 2 g
Figures 5.2, 5.3b

NW-2
Provenience: Lot 53
Size: 27 mm long, 17 mm wide, 10 mm thick
Weight: 5.1 g
Figures 5.2, 5.3c

NW-3
Provenience: Lot 53
Size: 23 mm long, 17 mm wide, 13 mm thick
Weight: 6.6 g
Figures 5.2, 5.3a

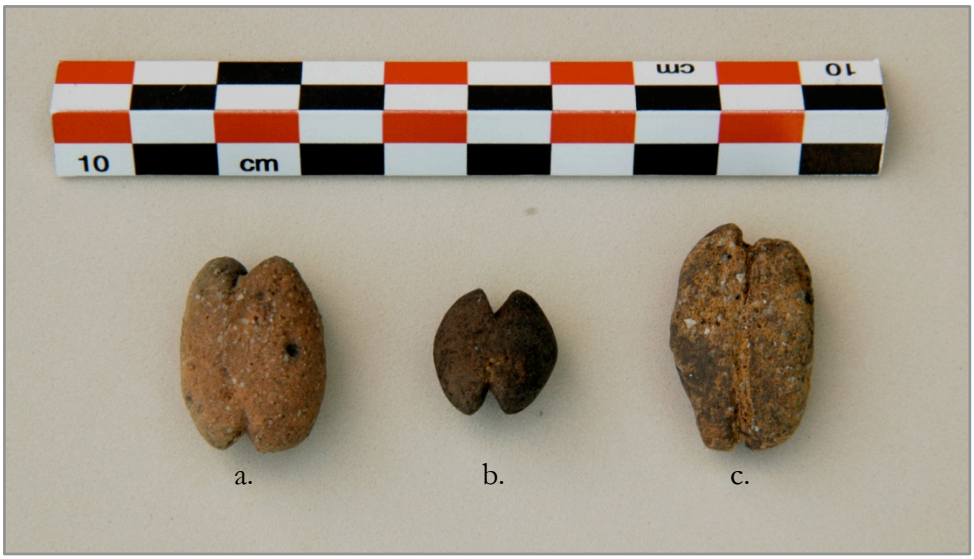

Figure 5.3: Three modeled net/loom weights

Recycled Sherds

NW-4
Provenience: Lot 52
Size: 27 mm long, 26 mm wide, 6.5 mm thick
Weight: 5.7 g
Notes: No slip but fine calcite temper
Figure 5.2

NW-5
Provenience: Lot 37
Size: 29 mm long, 25 mm wide, 12 mm thick
Weight: 8.7 g
Notes: No slip but gray paste with buff/cream surface
Figure 5.2

NW-6
Provenience: Lot 2
Size: 33 mm long, 19 mm wide, 5.5 mm thick
Weight: 5 g
Notes: Well defined notches with remnants of red slip
Figure 5.2

NW-7
Provenience: Lot 3
Size: 38 mm long, 31 mm wide, 9.5 mm thick
Weight: 14.7 g
Notes: Most massive weight, gray exterior of reused sherd with striations
Figure 5.2

NW-8
Provenience: Lot 3
Size: 24 mm long, 18 mm wide, 7 mm thick
Weight: 3.8 g
Notes: Reused rim sherd
Figure 5.2

NW-9
Provenience: Lot 35
Size: 26 mm long (broken), 25 mm wide, 6 mm thick
Weight: 4.5 g
Notes: Broken but has faint traces of red slip
Figure 5.2

NW-10
Provenience: Lot 34
Size: 47 mm long, 23 mm wide, 7 mm thick
Weight: 11.1 g

Notes: Longest weight in the collection
Figure 5.2

NW-11
Provenience: Lot 34
Size: 25 mm long, 20 mm wide, 9 mm thick
Weight: 4.4 g
Notes: Badly eroded and broken, it may just be a sherd (not pictured in Figure 5.2)

NW-12
Provenience: Lot 56
Size: 25 mm long, 22 mm wide, 5 mm thick
Weight: 4.7 g
Notes: Fine paste with broken corner
Figure 5.2

JADE BEADS

A total of two jade beads have been recovered to date. The larger, rectangular bead (Figure 5.4) was found on the surface in the middle of the plaza area of the East Plaza group. The smaller, subspherical bead (Figure 5.5) was recovered in Unit 2 (Lot 22) and was most likely originally associated with an offering in Structure 3 (see above).

Jade Bead 1
Provenience: Surface in the middle of the East Plaza group (Lot 1).
Design: Plain
Shape: Rectangular Bead
Size: 28 mm long, 23 mm wide, 16 mm deep, 5 – 6 mm opening
Weight: 21.5 g
Figure 5.4

Figure 5.4: Rectangular jade bead

Jade Bead 2
Provenience: Lot 22
Design: Plain
Shape: Subspherical Bead
Size: 14 mm long, 13 mm (max) wide, 9 mm (max) deep, 4 mm opening
Weight: 2.5 g
Figure 5.5

Figure 5.5: Subspherical jade bead

CERAMIC BEADS

Ceramic Bead 1
Provenience: Lot 54
Design: Plain
Shape: Large Tubular Bead
Size: 43 mm x 20-22 mm (holes are 6mm and 7mm in diameter)
Weight: 23.4 g
Figure 5.6 c

Ceramic Bead 2
Provenience: Lot 52
Design: 3 punctates on the sides (punctates are 2mm)
Shape: Small Subspherical Bead
Size: 8mm in diameter
Weight: 0.4 g
Figure 5.6d

CERAMIC STAMP

Provenience: Lot 62
Design: Plain
Size: Stamp end is 24 mm in diameter x 27 mm long
Weight: 11.3 g
Figure 5.6e, 5.7

The "stamp" is pestle-like with a concave end. Similar "stamps" were recorded at Dzibilchaltún (Taschek 1994:217, figure 58 c, d), although the examples from Dzibilchaltún have small, perforated holes on the concave end. Taschek (1994:217) comments that the term "stamp" is used even though the function of these artifacts has not been determined.

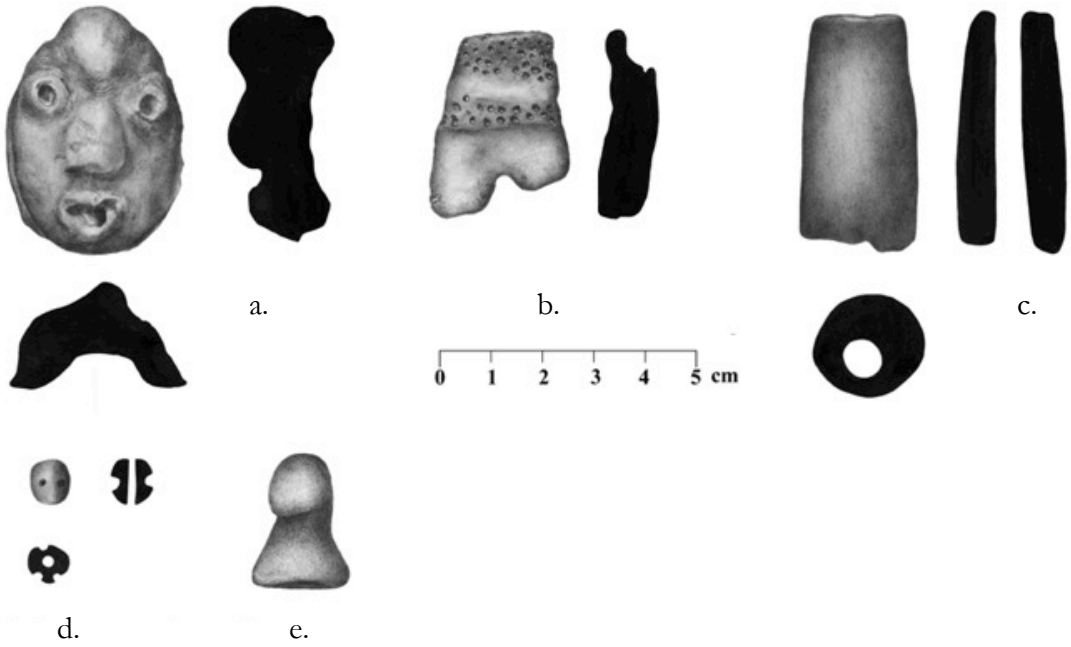

Figure 5.6: Drawing of assorted ceramic artifacts (a-d) (by Jennifer Taschek)

Figure 5.7: Ceramic stamp

SHELL ARTIFACTS

Olivella Tinkler 1
Provenience: Lot 72
Species: *Oliva* sp.
Size: 33 mm in length
Weight: 7.8 g
Figure 5.8

Olivella Tinkler 2
Provenience: Lot 53
Species: *Oliva* sp.
Size: 26 mm in length
Weight: 3.6 g
Figure 5.8

Olivella shell tinkers are common across the Maya area (e.g. Taschek 1994:42-43) and these examples both have transverse slit perforations (Figure 5.8) along with having the spires removed.

Figure 5.8: *Olivella* tinklers

MISCELLANEOUS

Appliqué Monkey Face
Provenience: Lot 53
Design: Monkey Applique Face
Size: 46 mm long, 34 mm wide
Weight: 25 g
Figure 5.6a, 5.9

Figure 5.9: Appliqué monkey face

FIGURINES

As mentioned in Chapter 4, we recovered two fragments of red-slipped (Joventud group) Middle Preclassic-style ceramic figurines. One fragment is an eroded arm and shoulder found in the midden context of Lot 53. The other is a head, broken at the neck, complete with a headdress that was also found in a midden context but in Lot 64. While similar figurines have been found at Becán and Dzibilnocac (INAH Ceramoteca collections, personal observation, 1974), nothing similar has been found anywhere near this far north. In fact, figurines dating to the Middle Preclassic are virtually absent from the northern lowlands (e.g., Rands and Rands 1965:536; Taube 1988:136).

Although the slip, style, and fact that it is not mold-made support the dating of the figurine(s) to the Middle Preclassic, the lack of visible pupils is a bit incongruous with typical Middle Preclassic/ Formative figurine eye treatments in the Maya area and adjoining parts of Mesoamerica (see Awe 1992; Cheetham 1995, 2009; Hohmann and Powis 1996; Lee 1969; Rands and Rands 1965; Taube 1988). Figurines typical have visible pupils (dual ovate impression with a central punctation – David Cheetham personal communication, 2010), and when these are not present, as seen in some Olmec figurines the eyes are either "puffy" or have slits (see Cheetham 2009). In addition the majority of Middle Preclassic figurines we have found in the literature also have visible front teeth. These too are stylistically absent from the Vista Alegre figurine head. While this may simply be the result of a local modification of more broadly shared stylistic canons, it is something we are continuing to investigate. It is interesting to note, however, that Johnston (2006: fig 12) and colleagues recovered a figurine head from a Mamom phase midden at the site of Itzan, in the Río de la Pasión region of Guatemala, with some shared stylistic attributes. The Itzan figurine does not have visible pupils and the nose and mouth treatment appear similar (from the drawing). Both the Itzan and Vista Alegre figurines have headdresses, however the Itzan figurine appears to have been made without ears. The only other examples that closely resemble the Vista Alegre and Itzan examples come from Palenque and Piedres Negras (Rands and Rands 1965: fig. 46, 47). The figurine "[h]eads are broad, fairly flat, and solid, with a squared headdress that frames the face, extending down to prominent circular earplugs" (Rands and Rands 1965:553). The sizes of the Palenque and Piedras Negras heads are roughly the same as the one from Vista Alegre and both come from early deposits, although how early is unclear. One other attribute that has stronger correlates during the Middle Preclassic than during later times is the fact that the shoulder and arm fragment appears to terminate without a hand. As Rands and Rands (1965:537) note, this is at times a characteristic of the Middle Preclassic figurines.

FG-1
Provenience: Lot 64
Part of Body: Head
Size: 52 mm in length x 56 mm at widest part of headdress
Weight: 79 g
Figures 5.10 a, b, c, 5.11

FG-2
Provenience: Lot 53
Part of Body: Shoulder and Arm
Size: 28 mm from tip of arm to outer bend, 24 mm from shoulder to outer bend.
Weight: 27.5 g
Figures 5.11, 5.12

FG-3
Provenience: Lot 63
Part of Body: possibly lower body
Size: 34 mm in length x 22 mm wide
Weight: 11.8 g
Figures 5.6b, 5.13

Glover dubbed the piece the "mermaid" due to its characteristics.

FG-4
Provenience: Lot 60
Part of Body: Eroded Face
Size: 41 m wide x 45 mm in length (broken)
Weight: 62.3 g
Figure 5.14

a.

b.

c.

Figure 5.10: Middle Preclassic figurine head

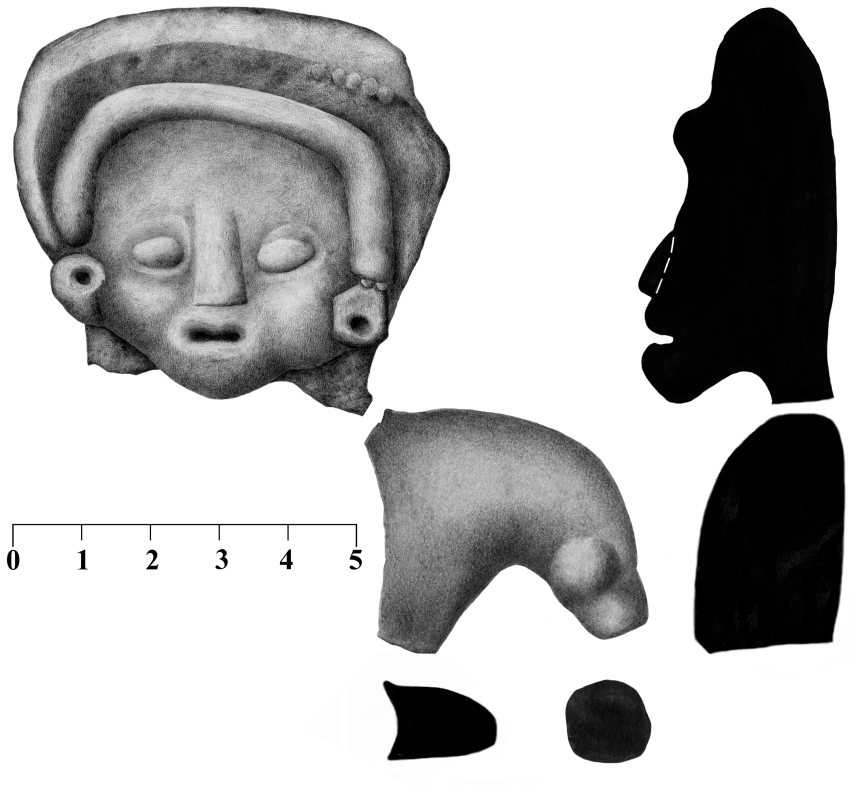

Figure 5.11: Drawing of Middle Preclassic figurine fragments (by Jennifer Taschek)

Figure 5.12: Shoulder and arm fragment of Middle Preclassic figurine

Figure 5.13: The "mermaid" figurine

Figure 5.14: Eroded face of possible figurine

CONCLUSIONS

The artifact collection, while small, has a wealth of information about the site's population, from the earliest settlers to the Terminal Classic (re)occupants. The Middle Preclassic figurines are of particular interest especially given the ceramic data from Vista Alegre I. Both of these data complement one another and point toward an initial population settling the island that had its recent origins in Belize or the eastern Petén of Guatemala. These data dramatically alter our understanding of the earliest settlers in northern Quintana Roo. Moving to the Terminal Classic materials, the apparent preponderance of spindle whorls has generated a number of research questions about the lives of the island's inhabitants and how they were engaged in the circum-peninsular trade and the type of interaction they had with the Itzá. We hope to be able to more fully address these questions in future field seasons with more systematic investigations.

CHAPTER 6
INFORME DE EVALUACIÓN PRELIMINAR DE LA MUESTRA FAUNÍSTICA DEL SITIO ARQUEOLÓGICO DE VISTA ALEGRE, QUINTANA ROO

POR
CHRISTOPHER M. GÖTZ Y JORGE HUMBERTO TOLEDO BARRERA

El sitio arqueológico de Vista Alegre se sitúa en la región de Yalahau, dentro de una isla de la laguna de Yalahau. Esta es una zona de mangles y lagunas localizada en la costa norte del estado de Quintana Roo. La isla, de 16 hectáreas de extensión, está rodeada por una laguna y estuarios, bosque de mangles, así como un bosque no inundado. Se considera que este sitio fue un puerto marítimo que tuvo fuerte participación en actividades comerciales alrededor de la península durante los periodos Clásico Terminal al Postclásico Tardío. Dentro de las investigaciones de Rissolo en 2005 fue localizado un *sacbe* que cruza toda la isla de este a oeste. Los extremos del *sacbe* se encuentran adentro de la laguna misma. Por esta razón, Rissolo y Glover considera que el *sacbe* posiblemente funcionó como embarcadero para facilitar el comercio hacia los sitios ubicados tierra adentro. Es importante mencionar que se recolectaron numerosas conchas de gasterópodos en los recorridos de superficie, previstas de perforaciones que resultan de la extracción de la carne del animal, utilizándola como alimento.

La muestra faunística del sitio de Vista Alegre fue analizada por el Br. Jorge H. Toledo Barrera, durante una estancia académica en el mes de junio de 2009, en el Taller de Zooarqueología de la Facultad de Ciencias Antropológicas de la Universidad Autónoma de Yucatán (UADY. El análisis del material arqueofaunístico que aquí se presenta, se basa en los restos de animales vertebrados únicamente. Éstos fueron evaluados de manera general, identificando así el perfil taxonómico general de la muestra, así como estableciendo la frecuencia esquelética (representación de partes anatómicas de los cuerpos) de los taxones representados. Desde que este informe presenta los resultados del análisis preliminar de la muetsra, no se incluyen datos específicos de la taxonomía y osteología de los especímenes.

LA MUESTRA ÓSEA

La muestra arqueofaunística de animales vertebrados consistió de 39 bolsas de especímenes esqueléticos de animales, provenientes de seis unidades (de la unidad 2 a la 7) excavadas por el Dr. Glover durante la temporada de campo de 2008 del proyecto Vista Alegre (ver Figura 3.1). Los materiales fueron almacenados en cajas y dejados en custodia del Taller de Zooarqueología de la UADY. Entre el material arqueofaunístico se encontraron también contados restos de esqueletos humanos, mismos que no se incluyen en las menciones de resultados en este informe.

El objetivo de excavar las unidades arriba mencionadas fue obtener material cultural que permita entender la historia de ocupación y las estrategias de subsistencia de los pobladores de Vista Alegre. Las unidades se localizan el en sitio de la siguiente manera: Unidad 2 al norte de la estructura 3 en la plaza; unidad 3 al sur de la estructura 3 y al este de la estructura 1; unidad 4 al sur de la estructura 1; la unidad 5 en un espacio abierto entre las estructuras 2 y 14; unidad 6 también en un espacio abierto entre las estructuras 13 y 14; y la unidad 7 en medio del Grupo Plaza del Este (ver Figura 3.1).

METODOLOGÍA DE ANÁLISIS

El primer paro de análisis consistió en la separación del material óseo humano,para después proceder a examinar los restos esqueléticos de animales. Éstos fueron agrupados por parte ósea y después se efectuó el reconocimiento taxonómico y osteológico de la muestra. En un principio solamente se estimó la cantidad de huesos diagnósticos, la parte anatómica representada del esqueleto y el tipo de animal representado para cada nivel y lote en cada contexto. Durante esta primera fase del análisis, no se consideró diferenciar la cantidad específica de cada hueso en lo que se refiere a la revisión de los materiales más abundantes, contenidos en las cajas 5 (que contiene la unidad 5 y los contextos 50-56), y la caja 6 (que contiene la unidad 3 con los lotes 32-39).

El método de análisis de la muestra consistió en identificar la parte anatómica y el tipo de animal al nivel taxonómico elevado (clase, orden), en cada contexto. También se registró de manera muy general la presencia de huellas de corte y hueso quemado. Debido al carácter preliminar del análisis, aún no se estableció ni el MNI (minimo número de individuos), ni el nivel taxonómico detallado (familia, género, especie), ni la tafonomía detallada de los especímenes. Una vez que la muestra arqueofaunística del sitio de Vista Alegre sea mayor y, sobre todo, estadísticamente más significativa, podrá procederse con dichos estudios detallados.

Cabe mencionar que para la identificación de las especies representadas en la muestra se utilizaron diversos manuales de referencia osteológica de fauna (e.g., Gilbert 1990; Gilbert et al. 1996; White and Folkens 2005), así como también, la colección de referencia osteológico del Taller de Zooarqueología de la Facultad de Ciencias Antropológicas de la Universidad Autónoma de Yucatán..

LA MUESTRA FAUNÍSTICA DE VISTA ALEGRE

La muestra faunística de Vista Alegre está compuesta en su mayoría por restos de animales marinos, tales como peces, tiburones, cangrejos, rayas y tortugas. También se encuentran representados animales terrestres, tales como perros, cocodrilos, pecarís, venados, roedores, iguanas, conejos y mamíferos no identificados de tamaño mediano y grande. En varios contextos, también fueron identificados restos de seres humanos. Las especies representadas en la muestra se distribuyen en cada contexto de la siguiente manera:

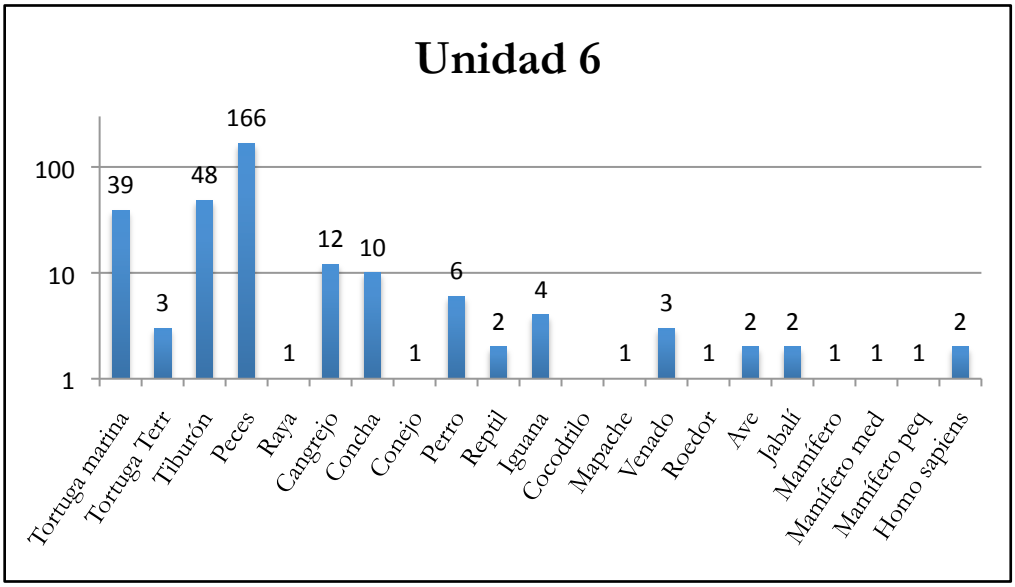

Figura 6.1: La unidad 6 contiene la mayor cantidad de especies representadas, sobresaliendo tortugas marinas, tiburones, distintas variedades de peces óseos, cangrejos y conchas.

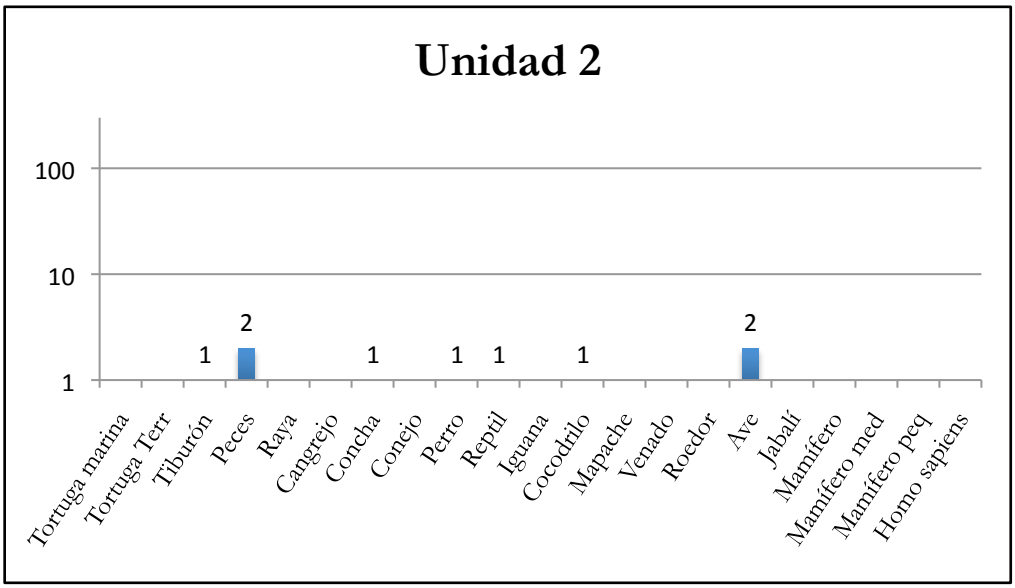

Figura 6.2: La unidad 2 tiene la menor variedad de especies representadas, únicamente se lograron identificar fragmentos de hueso de tiburón, especímenes de peces óseos, fragmentos de concha, huesos de perro, reptil y cocodrilo, así como de ave no identificada.

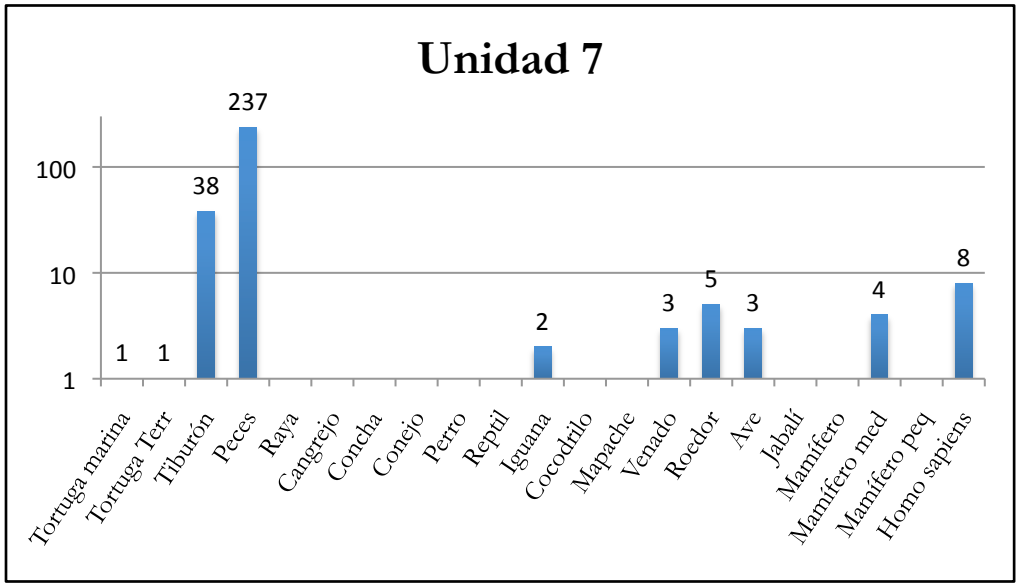

Figura 6.3: Los animales representados en la unidad 7 son tortuga marina y terrestre, iguana, mamífero y humano. Este es el contexto con mayor representación de tiburón y de peces óseos en la muestra.

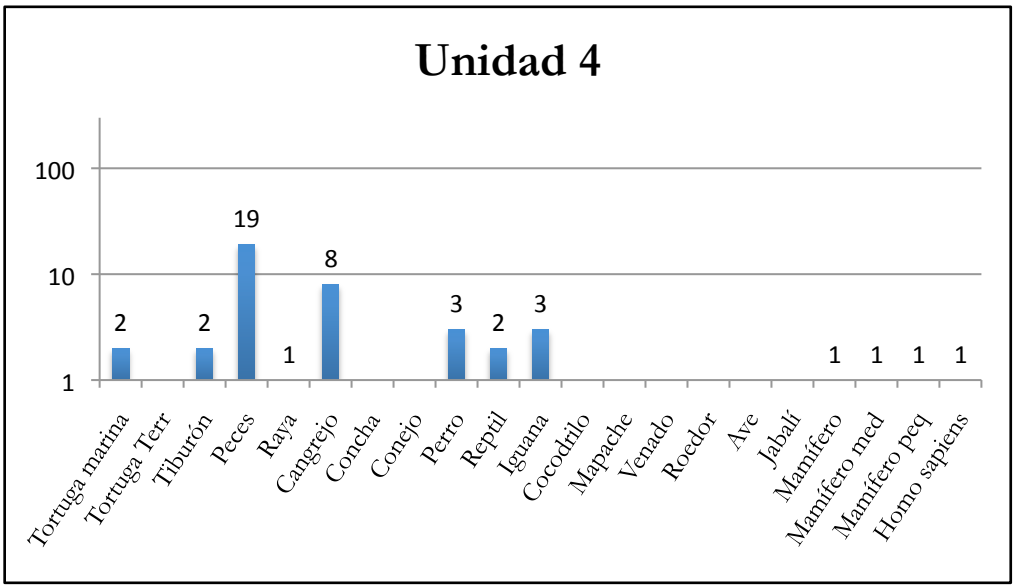

Figura 6.4: Las animales representados en unidad 4 son tortuga marina, tiburón, pez óseo, raya, cangrejo, perro e iguana.

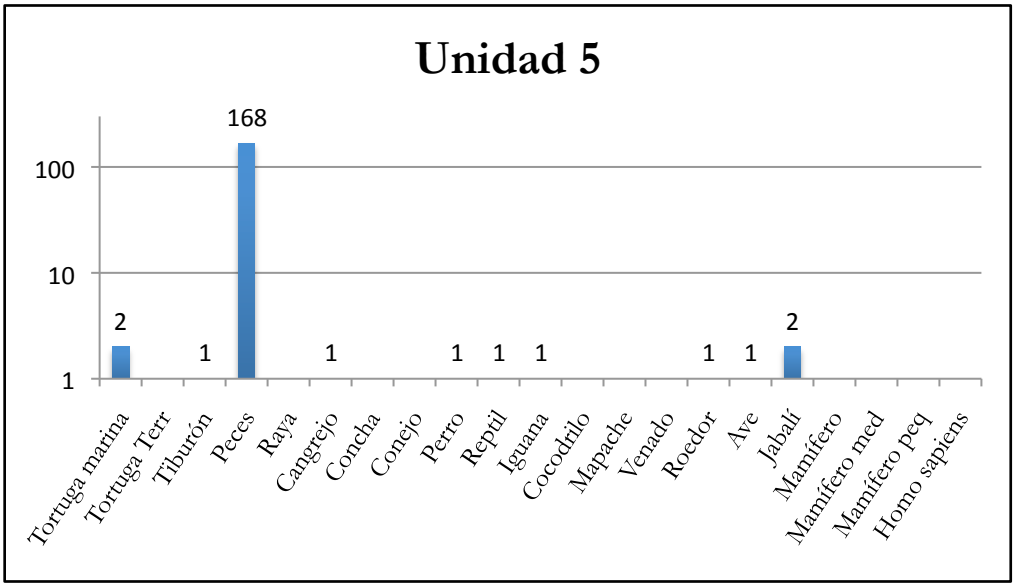

Figura 6.5: La unidad 5 presenta la segunda mayor cantidad de peces óseos de la muestra, mientras que una pequeña cantidad del material se distribuye entre tortuga marina y pecarí.

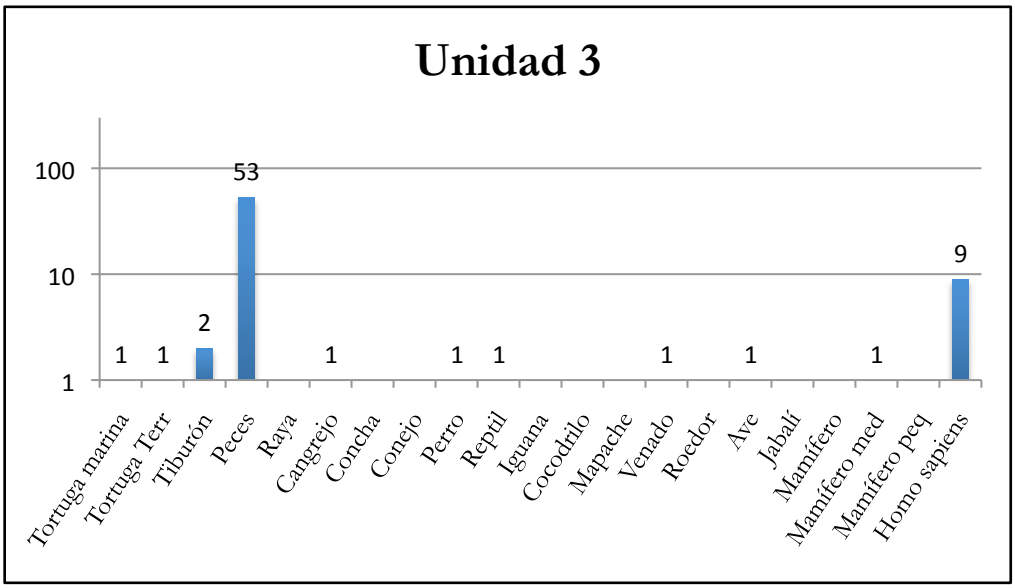

Figura 6.6: La unidad 3 corresponde al contexto con la tercer mayor cantidad de peces óseos de la muestra, además de especímenes de tortuga marina y terrestre, cangrejo, tiburón y mamíferos no identificados. Esta unidad también es el contexto con la mayor representación de huesos humanos casi completos (metatarsos y falanges).

	Tipos de animales identificados de la muestra arquefaunística de Vista Alegre, Quintana Roo, México							
		U 6	**U 2**	**U 7**	**U 4**	**U 5**	**U 3**	**NISP[1]**	**Porcentaje**
	Reptil n.d.	2	1	0	2	1	1	7	0.77%
	Tortuga marina	39	0	1	2	2	1	45	4.93%
	Tortuga terrestre	3	0	1	0	0	1	5	0.55%
	Iguana	4	0	2	3	1	0	10	1.10%
	Cocodrilo	0	1	0	0	0	0	1	0.11%
	Tiburón	48	1	38	2	1	2	92	10.09%
	Pez óseo	166	2	237	19	168	53	645	70.72%
	Raya	1	0	0	1	0	0	2	0.22%
	Cangrejo n.d.	12	0	0	8	1	1	22	2.41%
	Concha n.d.	10	1	0	0	0	0	11	1.21%
	Ave	2	2	3	0	1	1	9	0.99%
	Mamífero n.d.	1	0	0	1	0	0	2	0.22%
	Mamífero med. n.d.	1	0	4	1	0	1	7	0.77%
	Mamífero peq. n.d.	1	0	0	1	0	0	2	0.22%
	Conejo	1	0	0	0	0	0	1	0.11%
	Perro	6	1	0	3	1	1	12	1.32%
	Mapache	1	0	0	0	0	0	1	0.11%
	Venado	3	0	3	0	0	1	7	0.77%
	Roedor	1	0	5	0	1	0	7	0.77%
	Jabalí	2	0	0	0	2	0	4	0.44%
	Humano	2	0	8	1	0	9	20	2.19%
	Total	306	9	302	44	179	72	912	
	Porcentaje	33.55%	0.99%	33.11%	4.82%	19.63%	7.89%		100.00%

Tabla 6.1: Tipos de animales representados por contexto en la muestra faunística de Vista Alegre, Quintana Roo. La muestra de concha no es representativa, los especímenes malacológicos se separaron durante la temporada de campo y fueron analizados de manera seperada.

[1] El NISP (number of identified specimens per taxon) se refiere al conteo de especímenes esqueléticos por taxón,

Relación de contextos con material arqueofaunístico, sitio Vista Alegre, Quintana Roo			
Caja/ Unidad/ Nivel / Lote	**Estado de preservación**	**Quemado**	**Comentario**
1/ 6/ 1/ 61	Bien preservado	Sí	La epífisis proximal de una fíbula de ser humano.
1/ 6/ 2/ 62	Bien preservado	No	Epífisis proximal de una falange de un mamífero mediano.
1/ 6/ 3/ 63	Bien preservado	Sí	Hay dos epífisis y un fragmento de neurocráneo de bagre.
1/ 6/ 4/ 64	Bien preservado	Sí	Un fragmento de hueso largo modificado en un extremo. Hay un tiesto de cerámica del tipo *Becop*
1/ 6/ 5/ 65	Bien preservado	No	Un hueso largo de venado con estuco pegado en el canal medular. Una espina de bagre. Fragmentos de cráneo de mamífero pequeño posiblemente de roedor.
1/ 6/ 6/ 66	Bien preservado	No	Un premaxilar de pez globo.
1/ 6/ 7/ 67	Moderado	No	A un fémur de iguana le hace falta la epífisis distal.
1/ 6/ 8/ 68	Bien preservado	No	Solamente hay huesos de homo sapiens como metatarsos, falanges y un calcáneo.
2/ 2/ 1/ 21	Quebradizo	No	Solamente hay huesos de ave para identificar
2/ 2/ 2/ 22	Bien preservado	No	Un fragmento de hueso de cráneo de cocodrilo del pantano.
2/ 2/ 3/ 23	*	*	No hay hueso diagnóstico, solo son fragmentos de hueso (uno es parte de un hueso largo y el otro es parece ser parte de una tenaza de cangrejo.
2/ 2/ 4/ 24	Moderado	No	Una espina de pez bagre. Hay una figurilla de cerámica que asemeja un hueso. Un fragmento de concha de caracol.
2/ 2/ 5/ 25	Bien preservado	No	Un fragmento de hueso largo de reptil, posiblemente una falange.
3/ 7/ 1/ 71	Moderado	No	Las falanges de mamífero mediano posiblemente son de perro. Hay un fragmento de hueso largo tallado.
3/ 7/ 2/ 72	Bien preservado	Sí	Dos falanges mediales y una distal de venado. Un fragmento de epífisis distal de fémur de ave. Hay un fragmento de hueso que posiblemente es de manatí. Los huesos presentan huellas de corte. Hay un fragmento de humero derecho de tortuga marina.
4/ 4/ 1/ 41	Bien preservado	No	***
4/ 4/ 2/ 42	Bien preservado	No	Fragmentos de dientes del complejo carnicero de un carnívoro, posiblemente perro.
4/ 4/ 3/ 43	Bien preservado	No	Un fragmento de la parte proximal de un hueso articular de mano o pie de tortuga marina, posible falange. Hay fragmentos de hueso largo no identificado.
4/ 4/ 4/ 44	Bien preservado fragmentado	No	Hay un fragmento de diente que posiblemente es de mamífero.
4/ 4/ 5/ 45	Fragmentado/ Quebradizo	N/E	Uno de los centros de vértebra es de un pez muy grande. La falange de mamífero mediano posiblemente es de perro.
4/ 4/ 6/ 46	Bien preservado	No	Hay un hueso redondo con superficies articulares posiblemente un carpal de tortuga
4/ 4/ 7/ 47	Bien preservado	No	Dos vértebras posiblemente son de iguana, una de la cual es el áxis. Un molar humano.
4/ 4/ 8/ 48	Bien	Sí	Un axis posiblemente de iguana

	preservado		
4/ 4/ 9/ 49	Bien preservado	No	Uno de los fragmentos de tenaza de cangrejo está casi completo
5/ 5/ 1/ 50	N/E	N/E	Una epífisis de una falange de tortuga.
5/ 5/ 2/ 52	N/E	N/E	En total hay 98 fragmentos de hueso diagnósticos e identificables, 78 son centros de vértebras de peces.
5/ 5/ 3/ 53	Moderado	N/E	Hay una parte distal de un podio-meta-podio de un pavo. Hay fragmento de hueso de tortuga.
5/ 5/ 4/ 54	N/E	N/E	Hay en total 53 fragmentos de hueso diagnóstico. Hay una diáfisis de tibio-tarso de ave, posible pavo.
5/ 5/ 5/ 55	Bien preservado	N/E	Una costilla posiblemente es de cocodrilo. Aproximadamente 21 fragmentos de hueso diagnósticos.
5/ 5/ 6/ 56	N/E	N/E	Hay la parte proximal de un fémur y un calcáneo que posiblemente son de roedor. Hay un artefacto de hueso tallado que asemeja a un ser antropomorfo. También hay hueso esponjoso de ser humano.40 fragmentos de hueso diagnóstico.
5/ 5/ 7/ 57	Moderado	N/E	48 fragmentos de hueso diagnóstico.
6/ 3/ 2/ 32	Bien preservados	N/E	Una placa de hueso pleural de tortuga presenta estuco pegado. También hay hueso de ser humano.
6/ 3/ 3/ 33	N/E	Sí	Las espinas, centros de vértebras y fragmentos de neurocráneo son de bagre. 25fragmentos de hueso diagnóstico.
6/ 3/ 4/ 34	Quebradizo	N/E	Hay un diente del complejo carnicero posiblemente de perro. Una de las falanges es la distal. Hay un molar, un incisivo, posibles fragmentos de cráneo y costillas de ser humano. 27 fragmentos de hueso diagnósticos.
6/ 3/ 5/ 35	N/E	Sí	Hay huesos con marcas de corte visibles. Falanges y meta-podio de un mamífero mediano posiblemente perro. Espinas y un fragmento de neurocráneo de bagre. 48 fragmentos de hueso diagnóstico.
6/ 3/ 6/ 56	Moderado	N/E	Hay 24 fragmentos de hueso diagnóstico.
6/ 3/ 7/ 37	Moderado	N/E	En total 24 fragmentos de hueso diagnóstico. Los huesos tienen un tamaño muy pequeño.
6/ 3/ 8/ 38	Fragmentado/ Quebradizo	N/E	La falange de venado es la distal. Fragmentos de hueso largo posiblemente de mamífero.
6/ 3/ 9/ 39	Quebradizo	N/E	***

Tabla 6.2: Comentarios, tafonomía y estado de preservación del material óseo zooarqueológico de Vista Alegre, Quintana Roo.

Especies Zooarqueológicas de Vista Alegre, Quintana Roo, México

Contexto / Animales representados

Contexto				Tortuga marina							Tortuga Terr		Tiburón		Peces						Raya	Cangrejo	Cond	Conejo	Perro					
Caja	Unidad	Nivel	Lotes	Plaq cap	Fal	Carp	Pleu	Escápala	Hum	Vert	Plaq cap	Fal	Cent Vert	Diente	Cent Vert	Espi	Dent	Premax	Neucra fr	Vomer	Placa dent	Tenazas fr	Frag	Ulna	Maxilar fr	Diaf LB	Cost	Fal	Dent	Vert
1	6	1	61	15	1						2		8		13						1		3							
1	6	2	62	12									12		32							3	5		1	1				
1	6	3	63	Sí*	Sí*		1						19		29	6	2		1			5	2					2		1
1	6	4	64	Sí*								1	5		17	2	2		6	1		2		1 fr						
1	6	5	65	Sí*	1			1					1		5	3*			3			1						1		
1	6	6	66	1	1		1			1			1		4	1	1	1*	6											
1	6	7	67												3	3			3			1								
1	6	8	68										2		5	7	3*		7											
2	2	1	21																											
2	2	2	22																											
2	2	3	23	*	*		*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*		*
2	2	4	24											1		1*							1						1 fr	
2	2	5	25												1															
3	7	1	71	Sí*		Sí*							Sí*		Sí*	17														
3	7	2	72	Sí*					1 fr		Sí*		37	1	142	78			Sí*											
4	4	1	41												1															
4	4	2	42												1						1								3*	
4	4	3	43	2		1*									5							1								
4	4	4	44	1											1							1								
4	4	5	45	2											2*							2								
4	4	6	46			1*									1							1								
4	4	7	47	2											2	1						Sí*								
4	4	8	48	1									2		3							1								
4	4	9	49	Sí*											1	1						2*								
5	5	1	50		1																									
5	5	2	52	Sí*											78			Sí*												
5	5	3	53	*	*	*	*	*	*						54	Sí*														
5	5	4	54		Sí*										36	Sí*						Sí*								
5	5	5	55	Sí*	1										Sí*							Sí*								
5	5	6	56	Sí*	Sí*										Sí*	Sí*	Sí*					Sí*					1			
5	5	7	57	Sí*	Sí*								Sí*		Sí*	Sí*						Sí*								
6	3	2	32				1*						Sí*		Sí*															
6	3	3	33	Sí*							Sí*				8*	Sí*			Sí*			Sí*						Sí*	Sí*	
6	3	4	34		Sí*								Sí*	1	17														1	
6	3	5	35	Sí*	Sí*										24	Sí*			1*			1								
6	3	6	36	Sí*	Sí*										9	Sí*		Sí*												
6	3	7	37	Sí*									1		Sí*															
6	3	8	38												2															
6	3	9	39												1															

Contexto				Reptil			Iguana					Cocodrilo	Mapache	Venado			Roedor		Ave						Jabalí	Mamífero	Mamífero med		Mamífero peq			Homo sapiens							
Caja	Unidad	Nivel	Lotes	Vert fr	Cost	LgB	Vert	Fem	Mand	Fl	LgB	Craneo fr	Colmillo	Diaf. LB	Fal	Metcap/Tar	Fem	Hum	Hum	LgB	Fem	Pod-metp	Tarso-Meta	Carp/metca	Colmillo	LgB	Metapodio	Fal	Diáfisis	LgB	Cra fr	Fal	Cra fr	Ver fr	Sinf pub	Tib	Carp	Fib	Dent
1	6	1	61																																			1	
1	6	2	62					1 Epf. Px																				1*											1
1	6	3	63					1 Epf. Px					1																1										
1	6	4	64								1 fr			1*		1			1					1															
1	6	5	65											1*												1					Sí*								
1	6	6	66														1																						
1	6	7	67	2				1*																															
1	6	8	68																													Sí*						Sí*	
2	2	1	21																	2 fr																			
2	2	2	22									1																											
2	2	3	23	*			*	*			*	*	*	*		*	*	*	*	*		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*
2	2	4	24																	Sí*																			
2	2	5	25			1*																																	
3	7	1	71						1	1							1											4*											
3	7	2	72												3*		2	2		1	1*		1 fr																
4	4	1	41																											1									
4	4	2	42																							1fr													
4	4	3	43																																				
4	4	4	44																																				
4	4	5	45																									1*											
4	4	6	46																																				
4	4	7	47				2*																																1
4	4	8	48				1*																																
4	4	9	49			2																																	
5	5	1	50																																				
5	5	2	52																	Sí*																			
5	5	3	53																			1*			2														
5	5	4	54																	Sí*																			
5	5	5	55		1*																																		
5	5	6	56							1							1*																						
5	5	7	57																																				
6	3	2	32																																				
6	3	3	33																	Sí*													Sí*		1	1			
6	3	4	34	1																Sí*													Sí*						2*
6	3	5	35																	Sí*							Sí*	Sí*						Sí*			1*		
6	3	6	36																	Sí*																			
6	3	7	37																	Sí*																			
6	3	8	38												1																								
6	3	9	39																														1						

Tabla 6.3: Base de datos primaria de la muestra arqueofaunística de Vista Alegre, Quintana Roo, México.

CHAPTER 7
ARCHAEOLOGICAL MOLLUSKS
BY
DEREK M. SMITH AND DOMINIQUE RISSOLO

Scattered across the surface of the northwestern margins of the island (at the water's edge) are a large number of sun-bleached and weathered shells, a cursory sample of which consisted mostly of gastropods. The class Gastropoda (Cuvier 1797) is second only to the insects in its number of known species, examples of which have evolved and adapted to live in just about every habitat on the planet. More than two-thirds of the known species of snails and slugs live in the marine environment, with incredible diversity found in near-shore coastal and estuarine ecosystems. Given the abundance of large snails situated in the relatively shallow water along shorelines throughout the region, it comes as no surprise the residents of Vista Alegre routinely exploited these molluscs as a food source.

As previously mentioned, this portion of the site is characterized by extensive and apparently dense midden deposits. Nearly every gastropod we observed bore the telltale hole punched through the shell for the purpose of cutting or detaching the muscle and extracting the animal through the shell's aperture (Figure 7.1).

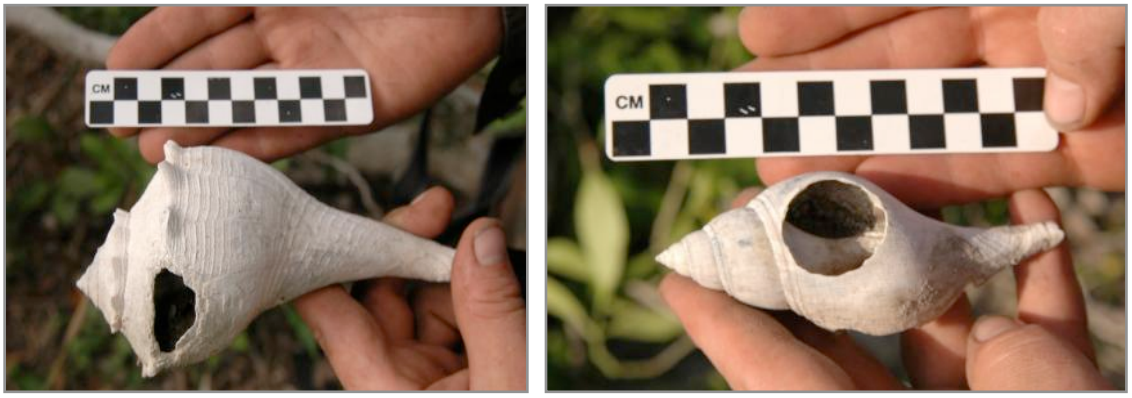

Figure 7.1: Holes punched to detach muscle for extraction.

No attempt was made at a systematic collection of surface (or subsurface) molluscs, though a few general observations merit reporting. Based on our observations, members of the family Fasciolariidae (true tulips and spindles) were quite commonly consumed. *Fasciolaria tulipa,* as well as spindles identified to be in the genus Fusinus, are abundant at the Vista Alegre site (Figures 7.2 and 7.3).


Figures 7.2 and 7.3: *Fasciolaria tulipa*, *Fusinus* sp.

The enormous Florida horse conch, *Pleuroploca gigantea* (also in the tulip and spindle family) can be found in the waters of the Laguna Yalahau and were readily observed at Vista Alegre (Figures 7.4 and 7.5).


Figure 7.4: Horse conch (*Pleuroploca gigantea*)

Figure 7.5: Horse conch (*Pleuroploca gigantea*), fourth from right; assorted whelks (exact species not identified).

Also abundant at the site are members of the Buccinidae family (the whelks). Lightning whelks, *Busycon contrarium,* are easily identified by their sinistral shell (Figure 7.6). There are a great number of whelk species at the site that remain to be identified, but turnip whelks and pear whelks appear to be included among them (Figure 7.7).

Figures 7.6 and 7.7: Lightning whelk (*Buscyon contrarium*) and pear whelk (*Buscyon spiratum*).

A few true conch species, which are found throughout the Caribbean and are still economically important today, have been identified at the site. Milk conchs, usually found living in seagrass meadows and sand flats, are easily identifiable by their pronounced flaring lip (Figure 7.8). Noticeably less frequent are queen conchs (*Strombus gigas*), which are ubiquitous along the east coast of the Peninsula. The north coast of Quintana Roo represents a biogeographical transition zone between the Caribbean and the Gulf of Mexico, and we suspect that the queen conch was more common in the waters east of Vista Alegre (e.g., Andrews IV 1969).

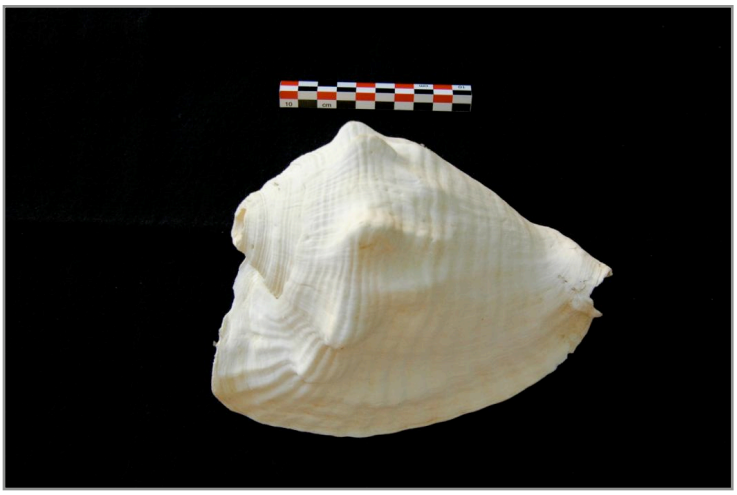

Figure 7.8: Milk conch (*Strombus costatus*)

In addition to gastropods, bivalve molluscs were also routinely foraged from the shorelines in the region. Clams in the genus Veneridae (Venus clams) currently make up a significant proportion of the world's fishery of edible bivalves, including the quahog found on the eastern shores of North

America. Samples documented from the Vista Alegre site can be seen in Figure 7.9. Cockles of the family Cardiidae are also a popular, edible shellfish today and are documented from the site (Figure 7.10).

Figure 7.9: Venus clams of the genus Veneridae

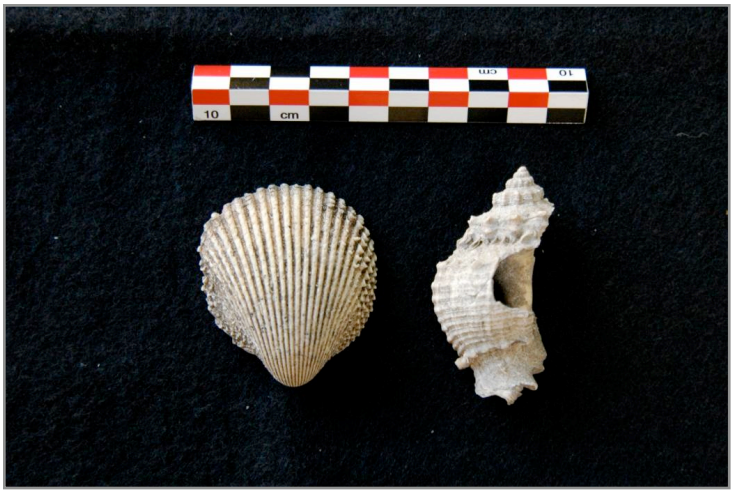

Figure 7.10: Cockle from the genus Trachycardium (left)

Studying the archaeological mollusc shells found at Vista Alegre can give us insights into the historical ecological use of gastropods and bivalves along this coastline. These quantitative data can be compared to current coastal populations in an effort to characterize possible changes in species diversity and abundance over time and increase our understanding of the impacts humans have had on this region.

CHAPTER 8
ANÁLISIS DE LOS RESTOS ÓSEOS Y DENTALES HUMANOS RECUPERADOS POR EL PROYECTO LA COSTA ESCONDIDA

BY
VERA TIESLER

Este reporte presenta los resultados obtenidos al evaluar los restos óseos y dentales humanos recuperados del sitio arqueológico Vista Alegre, como parte de las actividades llevadas a cabo durante la temporada de campo 2008 del Proyecto Arqueológico La Costa Escondida: Una Investigación Arqueológica del Puerto Maya Vista Alegre, Quintana Roo, México, a cargo de Jeffrey Glover de la Universidad Estatal de Georgia y Dominique Rissolo del Instituto Waitt.

La restauración del material y su estudio antropológico se llevó a cabo durante el mes de diciembre de 2008 y enero de 2009 en las instalaciones del Taller de Bioarqueología, Facultad de Ciencias Antropológicas, UADY, en Mérida, Yucatán. En este reporte se refieren las medidas de conservación y restauración, aspectos tafonómicos, el número mínimo de individuos, además de datos biográficos (sexo, edad, índices, patología ósea), así como algunas prácticas bioculturales. Un aspecto que motivó el estudio fue, además de los resultados biográficos, la reconstrucción tafonómica de las condiciones originales de la deposición de los restos o sus partes. La primera parte de este escrito se aboca a las técnicas y los procedimientos generales empleados en este estudio, en tanto que la segunda parte proporciona una descripción general de los restos y de sus condiciones generales de deposición.

TÉCNICAS DE ANÁLISIS

El trabajo de conservación, restauración y el estudio osteológico se realizó en las instalaciones del Laboratorio de Arqueología de la Facultad de Ciencias Antropológicas/ UADY. Los restos se limpiaron y restauraron por el Licenciado Julio Chi Keb, Técnico Académico del Taller. Fueron cepillados y lavados con agua purificada previa separación entre sí y de las muestras de tierra aledaña. Después se buscó identificar los fragmentos y piezas óseas correspondientes a cada individuo. Cuando se logró establecer relación ósea, los huesos y fragmentos fueron unidos con Mowithal diluido al 10% en acetona y las uniones reforzadas con cinta masking. La determinación del tono del hueso y del suelo asociado se realizó con una tabla Munsell® para suelos (® Munsell Soil Color Charts, Departamento de Agricultura, EEUU, 2000).

El estudio esquelético estuvo a cargo de la titular del reporte. Consistía en la medición y la observación macroscópica, complementadas con la microscopía de lupa. Se determinó el número mínimo de individuos a partir de los principios de duplicación y morfología. La presencia de partes anatómicas se graficó y cuantificó mediante la cuenta de fragmentos y de las unidades esqueléticas correspondientes, en tanto que el estado de conservación fue calificado a partir de los criterios de fragmentación, erosión de la superficie y constatar algunos agentes de deterioro natural, como son larvas, insectos, raíces y roedores.

Para la asignación del rango de edad se empleó el criterio de maduración dental y de la longitud diafisiaria en huesos largos (Buikstra and Ubelaker 1994; Steele and Bramblett 1988). Las patologías se describieron tanto para el material craneano, poscraneano como dental: se evaluaron posibles

hipoplasias, lesiones cariogénicas, traumatismos y fracturas, espongiohiperostosis, entesopatías, procesos de inflamación (osteomielitis y periostitis) postraumática e infecciosa. La deformación cefálica intencional se determinó en tipo, variante, grado, alteraciones secundarias, tales como las lesiones suprainianas, describiendo cada vez los planos de compresión. Para su clasificación empleamos la tipología propuesta por Dembo e Imbelloni (1938), Romano (1965) y Tiesler (1998, 1999).

DESCRIPCIÓN DE LOS MATERIALES OSTEOLÓGICOS

Se recibió una caja de plástico rígido que contenía 8 bolsas con material óseo embalado y etiquetado, además de una muestra embolsada de carbón. Se trata de los restos de un solo individuo de edad infantil representado de forma semi-completa al faltar notablemente los segmentos óseos correspondientes a las piernas bajas, la extremidad superior derecha y los segmentos correspondientes al hombro derecho. Los restos se encontraron empotrados de tierra compactada, revelando en algunos casos (como de las costillas y de las vértebras cervicales, véase la Figura 1) su posición anatómica. Las etiquetas lo identifica como Entierro 1 de la Unidad 5, Nivel 7 y Lote 57. Asociados hay fragmentos faunísticos y de concha.

Figura 8.1. Secuencia de primera a quinta vértebra cervical en posición anatómica.

El estado de conservación, reflejado en el estado de fragmentación, en la presencia de las partes anatómicas y la consistencia del material óseo, se determinó como "regular" siendo el resultado del tiempo de descomposición y las condiciones medio ambientales en que fue hallado. En su mayoría, las superficies óseas se encuentran bien diferenciadas, aunque hay afectación por la acción químico-mecánica de la meso y macrofauna (en particular se reconocieron las marcas de insectos, larvas y roedores). Su tonalidad, producto del grado de descomposición ósea, el modo de enterramiento (probablemente en espacio rellenado o diferido, Duday 1997) y el substrato de entierro (suelo con tonalidad gris obscura: 5/1, 10YR), varía de café natural a café grisáceo (7/4, 7.5YR). Ninguna parte estudiada se encontró cubierta con vestigios de pigmento rojo.

La osamenta pertenecía en vida a un individuo de segunda infancia (de 3.5 a 4 años de edad). No se observan afectaciones inflamatorias o traumáticas en el cráneo ni en el poscráneo. No hay vestigios

de hiperostosis porótica o cribra orbitalia en el extremo cefálico que fue modelado en vida. La deformación fue lograda mediante la compresión con tablillas libres, dando como resultado una forma tabular oblicua o mimética de la calota con notable reclinación de la frente. No hay evidencia de algún vendaje que haya reducido la anchura de la cabeza, la cual muestra una morfología braquicéfala. Tampoco existen pruebas de bandas secundarias, ya que el surco posbregmático que se observa encuentra su explicación en una respuesta fisiológica a los vectores de compresión. Cabe anotar que la deformación tabular oblicua predomina durante el periodo Clásico y casi no sigue practicándose durante el periodo Posclásico (Tiesler 1998, 1999), razón por la que inferimos que el individuo habrá vivido antes del cierre del Clásico Terminal. Cabe agregar que no hay señales de decoraciones dentales y tampoco se observan marcas culturales póstumas en las superficies observables.

En conjunto, los restos humanos descritos líneas arriba parecen derivar de un entierro primario infantil, depositado durante el periodo Clásico o inicios del Posclásico; el cual después pudo haberse perturbado y cuya posición original había sido sedente o flexionado lateral.

CHAPTER 9
LITHIC MATERIALS ANALYSIS
BY
ZACHARY X. HRUBY AND JEFFREY B. GLOVER

This chapter covers the preliminary lithic analyses conducted during the 2006 and 2008 field seasons. Hruby did a brief study of the surface materials at Vista Alegre during 2006 as well as a brief overview of tool stone availability in the Yalahau region. In addition to this work, we have begun the analysis of the lithic materials recovered during the 2008 test excavation program. The analysis focuses on the obsidian artifacts as they are more abundant than the chert ones and provide more direct information on long-distance trading patterns as they relate to Chichén Itzá. These preliminary observations have allowed us to formulate a number of research questions that will be addressed by more detailed analyses in future field seasons.

RAW MATERIALS

The nature of the limestone geology in the northeastern Yucatan is not well-suited to the formation of cherts, flints, and chalcedonies (i.e., chert): the typical chipped stone materials found in the Maya Lowlands. This is the likely reason there are not high percentages of chert found in archaeological contexts at sites in the Yalahau region. What is clear, however, is that other types of stone commonly were used throughout the northern Yucatan, namely silicified limestone. Silicified limestone is a limestone bed that has been saturated with silica and is thus more durable than normal limestone, and forms a cone fracture with some regularity. The problem with this material is that most field archaeologists and excavators do not recognize it for a number of reasons. First, silicified limestone tends to degrade or accumulate a white calcium-like crust, which tends to obscure flake morphology. In addition to the relatively irregular fracture pattern found in most silicified limestones, degradation and calcification further make field identification difficult. As a result, the majority of these artifacts are left uncollected, unanalyzed, and out of publication. Present research on *sascab* mining indicates that these mines may have served a dual purpose that included the collection of silicified limestone nodules or masses. Much more research, however, is needed to clarify the role of silicified limestone in Pre-Columbian societies.

FIELD OBSERVATIONS OF LITHIC ARTIFACTS

During a brief investigation of surface materials in the southwestern area of Vista Alegre, a small number of lithic artifacts were recovered and analyzed in situ. This part of the site appears to be an extensive midden and extensive bioturbation from burrowing crabs has caused dense objects to be brought to the surface, and among these objects were an array of ceramic, shell, and lithic artifacts. The lithic artifacts mostly consisted of eroded silicified-limestone flakes and chunks, which were difficult to positively identify in the field for reasons discussed above, but which were clearly modified by human hands (Figures 9.1 and 9.2). It appears that flake tools used for scraping and cutting were made out of this material, probably from systematically reduced flake cores. Nevertheless, it remains unclear whether there was a silicified limestone source in the area of Vista Alegre. Further exploration is required to identify local lithic materials.

Figure 9.1: Assorted silicified limestone flakes.

Figure 9.2: Silicified limestone biface fragment.

There were also at least ten different chert flakes of various colors and technological origins (Figure 9.3). Many of these appeared to be small biface resharpening flakes, and small percussion flakes. These types of flakes indicate that there were no local chert sources available, and that imported, small bifaces were rejuvenated or resharpened periodically in this part of the site. The general lack of large biface reduction flakes, suggests that other types of cutting tools were used on the island. There was a large uniface of medium to low quality chert, however, and it may have been used as a scraper, or perhaps was an imported blank to be transformed into a celtiform axe or other similarly large cutting or chopping tool. Of course, further excavation will be required to understand the basic tool trajectories at the site, and whether any sort of large-scale lithic reduction took place on Vista Alegre.

Figure 9.3: Assorted chert materials found on the surface at Vista Alegre

Finally, two obsidian prismatic-blade fragments were found in the midden area (Figure 9.4). Both of these blade fragments appear to be from the El Chayal source of highland Guatemala, although better light, a comparative sample, or XRF testing would aid in refining the source designation of the blades. Both are third-series blades, which came off late in the reduction of the original blade core, and thus, offer no evidence whether these were imported to Vista Alegre, or were produced locally.

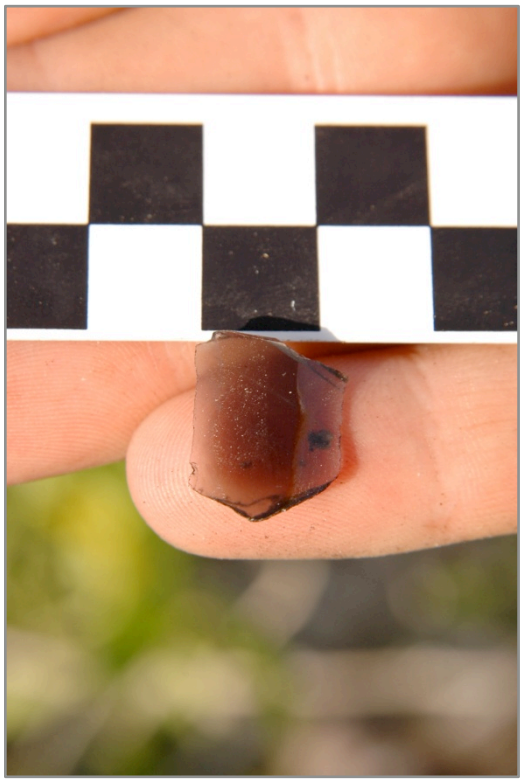

Figure 9.4: Third-stage obsidian blade fragment from surface of Vista Alegre

Along with these 2 blade fragments, 88 obsidian artifacts were recovered in 2008 (Table 9:1). Of these 88 pieces the majority (81) are blade fragments. While most were third-series blades like those identified by Hruby, at least one appears to represent an earlier stage of production (Figure 9.5). In addition to this larger blade fragment, there are four pieces of obsidian debitage and one small projectile point (Figure 9.6). The debitage indicates that some blade production may have been occurring at the site, and it is interesting to note that three of the four pieces of debitage were found around Structure 1, the pyramidal structure at the site. This is interesting for two reasons. One, the patterning of debitage does not match with the distribution of obsidian blade fragments. Of the 88 obsidian pieces, only 34.09% (n=30) came from Units 2, 3, and 4 (the units surrounding Structure 1) (Table 9.2). Two, the site center is generally associated with elite activities and the clustering of the majority of the debitage in this area may indicate that any obsidian production and by extension the obsidian trade was controlled by the local elite. To properly address the question of obsidian production future work must be done, including an investigation of the socio-political actors present at the site (see Chapter 11).

Lot #	Obsidian Count	Pachuca Count	Notes
3	1	0	
22	4	0	
23	2	0	
24	5	0	
32	6	1	Debitage (2)
34	1	0	
35	3	0	
36	5	0	Debitage (1)
42	3	0	Debitage (1)
44	1	0	
51	5	1	
52	7	1	Pachuca Debitage (1)
53	3	0	
54	2	0	
61	1	0	
62	3	1	Projectile tip
63	3	1	
64	3	0	
66	2	0	
71	9	3	
72	19	4	
Total	**88**	**12**	
Percentage	**100.00%**	**13.64%**	

Table 9.1: Count of obsidian artifacts by lot.

Unit Totals	Count	Percentage
Unit 2	11	12.50%
Unit 3	15	17.05%
Unit 4	4	4.55%
Unit 5	17	19.32%
Unit 6	12	13.64%
Unit 7	28	31.82%
Surface	1	1.14%
Total	88	100.00%
Non-Site Center (Units 5, 6, 7)		**64.77%**
Site Center (Units 2, 3, 4)		**34.09%**

Table 9.2: Percentage of obsidian sample based on location

Figure 9.5: Large obsidian blade fragment

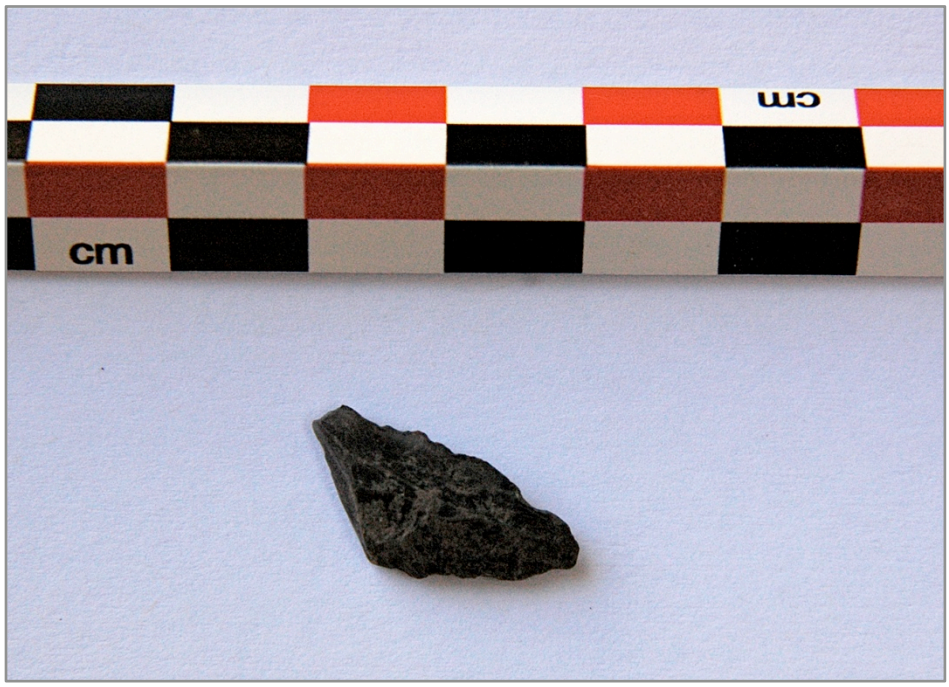

Figure 9.6: Tip of an obsidian projectile point

In addition to the question of production, source data is critical if we are to fully explore the role of Vista Alegre as a trading port. Of the 88 obsidian artifacts collected in 2008, we were able to visually source 12 (13.64%) of the blade fragments to Pachuca, Hidalgo given their characteristic green color and translucence (e.g., Andrews et al. 1989). The presence of Pachuca obsidian at the site is another strong indicator of Vista Alegre's connection with the Itza. While green obsidian is found in the Maya area during the Early Classic period (e.g., Andrews et al. 1989:359), it most likely dates to the Terminal Classic given the ceramic and architectural data at the site (see above).

When trying to understand the patterning of trade, the Isla Cerritos materials serve as an important comparative dataset. Of the 65 blade fragments from Isla Cerritos sampled through visual sourcing, X-ray fluorescence (XRF), and neutron activation analysis (NAA), 82% came from Central Mexican sources. The two most common sources were the Pachuca, Hidalgo source, which represented 48% of the total sample, and the Ucareo, Michoacán source, 28% of the total (Andrews et al. 1989). These data are similar to those recovered at Chichén. More than 60% of Chichén's obsidian came from either the Pachuca or the Ucareo source (Schmidt 1998), both of which are thought to have been under the direct control of Tula during the Terminal Classic period (Andrews et al. 1989; Diehl 1981; Healan et al. 1983).

The preponderance of Central Mexican obsidian is not common in the Maya area as the majority of obsidian found in the Maya Lowlands comes from the Guatemalan highland sources of El Chayal and Ixtepeque. The obsidian data from Isla Cerritos and Chichén Itzá reflect "a clear break with the traditional obsidian trade networks of the Maya Lowlands, which had previously been dominated by the Guatemalan obsidian trade" (Andrews et al. 1989:361). In the case of Isla Cerritos only 17% of the sample originates from the Guatemalan highlands. Of this 17% the El Chayal source represents 14% while the remaining 3% came from the Ixtepeque source. The Ixtepeque material is generally thought to have entered the Maya Lowlands through the Motagua River valley, which empties into the Caribbean at the Gulf of Honduras. The El Chayal material, on the other hand, is thought to have entered the lowlands through the Usumacinta basin and into the homeland of the Putun traders often credited with the founding of Chichén. As scholars have noted, however, this neat bifurcated pattern, outlined by Hammond (1972), does not conform to the data (e.g., Healy et al. 1984; McKillop 1996).

We hope to conduct XRF analysis of this sample in future field seasons with the goal of determining the sources of the remaining 86% of our sample. This is critical if we are to understand the role of Vista Alegre in the circum-peninsular trade routes during the Terminal Classic and whether it continued to be a port of trade during the Postclassic, contrary to the our preliminary ceramic data. Gaining an understanding of the proportion of Guatemalan to Central Mexican materials will be useful in a number of ways. If there were a high percentage of Central Mexican materials (as at Isla Cerritos), it would suggest that Vista Alegre was more tightly integrated into Chichén's trading, since Central Mexican materials would have to pass through Chichén or Isla Cerritos before arriving at Vista Alegre. This would be in contrast to more autonomous trading ports, such as Wild Cane Cay (e.g., McKillop 1986), where one would expect a wider diversity of obsidian sources represented than at a port site tightly controlled by a centralized polity. In addition to shedding light on the nature of socio-political and economic relations between Chichén and Vista Alegre, the proportion of Ucareo to Pachucha obsidian may have chronological implications. Bey and Ringle (2007:417) contend that Pachuca only becomes heavily represented during the Late Tollan phase (post-A.D. 950) at Tula which is after Chichén's apogee. Building on this, they argue that the proportion of Ucareo to Pachuca obsidian at Chichén is more similar to the ratio found at Tula during the

Terminal Corral/Early Tollan phase (A.D. 850 – A.D. 950). This is also similar to the obsidian ratio present during the Chacpel Cehpech (A.D. 700 – A.D. 900) period at Isla Cerritos, not the subsequent Jotuto Sotuta period (A.D. 850 – A.D. 1150/1200) when Pachuca obsidian is dominant at the site. The chronological implications are something we would like to investigate in future field seasons.

If, however, the majority of the non-green obsidian turns out to be from Guatemala then another set of questions arise involving both directionality and chronology of trade. If the majority of non-green obsidian is from El Chayal, the more common source during the Late and Terminal Classic periods (e.g., McKillop 1996:55), then the question becomes whether this material was entering the site from via trade along the Carribean coast or coming through Chichén and sites to the west. Following McKillop (1996:54) and others (e.g., Sheets and Muto 1972; Sidrys 1976) the cutting edge to mass ratio (CE/M index) can provide evidence of blade conservation. If all of the obsidian materials were entering the site via Chichén or its port of Isla Cerritos then the CE/M index should be similar for all of the obsidian. If, however, the El Chayal material is passing through Vista Alegre before arriving to Isla Cerritos or Chichén, then one would expect the CE/M index to reflect less conservation of the El Chayal materials in comparison to the Central Mexican materials. If the majority of the non-green obsidian is from Ixtepeque, then we must readdress our notion that the site was largely abandoned during the Postclassic as the Ixtepeque source was more commonly used during that time period (e.g., Barrera Rubio 1985:52-53; McKillop 1996). In terms of the Postclassic occupation at the site, it is interesting to note that obsidian arrowheads (see Figure 9.6) are generally associated with this time period, although more work needs to be done to confirm that.

CONCLUSIONS

While the analysis of the non-obsidian materials is still in progress and hindered by their general paucity in the surrounding region, the obsidian artifacts provide an important independent dataset with which to compare our ceramic data. To date, although preliminary, the obsidian data support our interpretation that Vista Alegre was closely connected with Chichén Itzá. The abundance of Pachuca obsidian is a strong indicator of this connection. It is not only the presence of green obsidian but the presence of these quantities of obsidian in general that are a marked departure from the lithic data found inland at other Yalahau sites. The six test pits excavated in 2008 produced more obsidian than all of the interior Yalahau sites combined. That alone is an indicator that Vista Alegre was an important trading port with much different connections than those of the inland sites. We hope to explore and begin to better understand these different connections in future field seasons through XRF or NAA analysis along with further excavations.

CHAPTER 10
PRELIMINARY REPORT ON STARCH ANALYSIS OF SOIL AND CERAMIC SHERD SAMPLES FROM VISTA ALEGRE, QUINTANA ROO, MEXICO

BY
LUCIA GUDIEL

This study reports preliminary results of the presence of starch granules extracted from soil and ceramic sherd samples excavated from Vista Alegre, Quintana Roo, Mexico. Unfortunately, only 14 samples out of a total of 29 were analyzed due to the limited amount of time available at the University of Missouri Paleoethnobotany Lab. Soils from eight contexts were processed for starch and all samples were analyzed. One ceramic sherd from each context was chosen for processing. Sherds that were larger in size, diagnostic (*molcajete*, base), promising for the presence of starch residue (encrusted charcoal), or striated (lodging of starch) were sampled. Artifact washes were used to sample the sherds yielding 21 samples from the seven sherds, but time only allowed for two sherds, yielding 6 samples, to be analyzed (see below).

Soil Context	Starch Sample #
Lot-55	SVA08-001
Lot-56	SVA08-002
Lot-57	SVA08-003
Lot-64	SVA08-004
Lot-65	SVA08-005
Lot-66	SVA08-006
Lot-67	SVA08-007
Lot-68	SVA08-008

Ceramic Context	Sherd Type	Starch Sample #
Lot-55	base	SCVA08-009
Lot-56	body sherd	SCVA08-010
Lot-57	body sherd	SCVA08-011
Lot-64	body sherd	SCVA08-013
Lot-65	*molcajete* fragment	SCVA08-014
Lot-67	body sherd	SCVA08-015
Lot-68	body sherd	SCVA08-016

Table 10.1: Contexts of Potential Starch Samples

METHODS

Starch extraction was carried out using the MU Paleoethnobotany Lab Procedure, which involves three steps: dispersion, oxidation, and flotation. The first step was the dispersion of three grams of soil per sample using disodium ethylene diamine tetra acetate (NaEDTA) which releases the electrical and chemical bonds that hold the starch granules to soil particles. This step is followed by disaggregation in a reciprocal shaker. The second step serves to dissolve any organic material that may continue to hold starch granules in the soil. The soil samples are treated with 6% solution of hydrogen peroxide for ten minutes, washed by adding distilled water and centrifuging a total of three times. The supernatant is discarded after each wash. The soil samples are treated with hydrogen

peroxide for only ten minutes to avoid damaging the starch granules. Finally, cesium chloride (CsCl), prepared to a specific gravity of 1.6, is added to float the starch granules from the remaining sediment pellet. The starch solution is then washed and centrifuged a total of three times. The washed starch sample was mounted on a microscope slide under a coverslip with glycerine. Starch samples were analyzed with a Nikon transmitted light microscope under standard and polarized light at 400x and slides were scanned in their entirety. Only bodies with extinction crosses were identified as starch granules.

Ceramic sherds were sampled using a method adapted from published methods for extracting starch granules from stone artifacts (Chandler-Ezell and Pearsall 2003). Ceramic sherds were received unwashed and provided for the collection of three types of samples which were brushed (sediment 1), scraped (sediment 2), and sonicated (sediment 3). Sediment 1 samples were collected by lightly brushing the entire surface of the sherd into a clean container. A new, clean toothbrush, container and powder-free latex gloves were used for each ceramic sherd and sample collected. In order to ascertain the function of the vessels sediment 2 samples were collected by light scraping and wet brushing the interior of the sherds. The scalpel was sterilized with heat between each sample collected to avoid cross-contamination of samples. Finally each sherd was placed into a clean resealable bag with distilled water and sonicated for ten minutes to dislodge any remaining starch granules from the sherd. After obtaining all the samples they were then processed using the same procedure described above.

RESULTS

Five of the eight soil samples did not contain starch (Lot 56, 64, 65, 68, 67, and 66). The remaining samples (Lot 55, 57, and 65) contained one starch granule each of what may be maize, *Zea mays*.

Six samples from two ceramic sherds were analyzed. SCVA08-013 sediments 1, 2, and 3 were obtained from a body sherd and did not contain any starch. SCVA08-014, a molcajete fragment, contained a total of three starch granules.

Sample	Present/Absence	Type of Starch
SCVA08-014, sediment 1	Absent	
SCVA08-014, sediment 2	Present	1 damaged *Zea mays* granule
SCVA08-014, sediment 3	Present	2 damaged *Zea mays* granules

Table 10.2: Results of starch grain analysis of molcajete sherd (SCVA08-014)

Maize starch granules are characterized as simple with central to slightly eccentric open hilum. Their shape range from spherical to oval-spherical to polyhedral and many granules have a distinct and continuous double outline. Size ranges from 4-24 microns (Pearsall et al. 2004:430).

DISCUSSION

It is difficult to discern any significant patterns with so few samples analyzed but recommendations would be to create and analyze more slides per context and/or increase the amount of soil processed to increase the possibility of recovering starch. Starch recovery was very rare within samples.

It is interesting to note that the sample (SCVA08-014, sediment 1) taken from the outer surface of the *molcajete* fragment did not produce any evidence of starch granules while samples SCVA08-14 sediment 2 and sediment 3 yielded three maize starch grains which may suggest that the starch grains recovered are a product of use as opposed to the transfer of starch from associated sediment.

CHAPTER 11
CONCLUSIONS AND FUTURE PLANS
BY
JEFFREY B. GLOVER AND DOMINIQUE RISSOLO

The Proyecto Costa Escondida is beginning to shed light on this little known part of the Maya world. As outlined in Chapter 1, the objectives of the 2008 field season were to address questions surrounding the site's chronology as well as its role in broader political, economic, and social systems, and towards these ends we feel we have been successful. One of the more interesting revelations to come out of the 2008 field season was how the waxing and waning of settlement did not directly mirror that of the surrounding Yalahau region. In certain respects, we believe this speaks to the attractiveness and resilience of coastal sites through time, a phenomenon in no way unique to the north coast of the Yucatan Peninsula. This chapter synthesizes the data presented above and outlines our future plans that we hope to begin implementing in 2011.

CHRONOLOGY

As we have discussed earlier (Rissolo and Glover 2006a, b), the iconographic and architectural data do little to reconcile whether the major occupational period was during the Terminal Classic or the Postclassic. The serpent-head balustrade (see Figure 1.4) is part of a northern lowland tradition that began at Chichén in the Terminal Classic but continues into the Postclassic and is found at Mayapan, Tulum, El Meco and San Ángel. Of those four sites, El Meco is the only one with minimal Itzá influence. In addition, the style of the Vista Alegre serpent-head appears to be consistent with Postclassic serpent-head representations as seen in the Madrid Codex (Karl Taube, personal communication 2006). The architectural features at the site also combine Terminal Classic and Postclassic elements. According to Joseph Ball (personal communication 2005) the use of concrete fill and the beveled facing stones present at Structures 1 and 13 are similar to other Terminal Classic constructions in the northern lowlands (Figures 11.1 and 11.2). The presence of columns and east coast-style architecture on other structures, however, is more indicative of Postclassic architectural traditions. Given the ambiguity of these data sets, we implemented the test excavation program, which we feel was successful in providing a clearer picture of the site's occupational history (see Chapter 4).

Figure 11.1: Concrete construction fill of Structure 1

Figure 11.2: Bevelled facing stones of a room associated with Structure 1

Vista Alegre I (800/700 - 450/400 B.C.) – The First Settlers

While we were not surprised to find Middle Preclassic materials at Vista Alegre, it was a surprise to find Mamom materials in place of sherds associated with the much more common Early Nabanche tradition. Most striking was the presence of the Savana Orange (Mars Orange ware) sherd along with the Joventud-slipped figurine fragments. Examples of these, to our knowledge, have not been found in the northern lowlands. This alone is exciting, but more so are the implications in terms of Middle Preclassic population movements. It is clear that goods were traveling long distances during the Middle Preclassic (e.g., Ball and Taschek 2003; Garber et al. 2004; Pool 2007), however the combination of the ceramics and the figurines do not point toward trade being the mechanism by which these objects arrived at the site. Formative figurines, in particular, are proposed to have ritual significance at the household or community level during this time (Blomster 2009:120; Lesure 1997), and therefore, would not have been items to be traded (although see Cheetham 2009 for contradictory evidence in regards to Olmec figurines). The Vista Alegre materials provide evidence of people settling the site from the southern lowlands, most likely the eastern Petén-Belize area given the ubiquity of the Savana Orange group in this area. It seems likely that this initial population was attracted to the site because of its natural attributes and would have left a similar environ to the south. As we discussed above (see Chapter 4), the movement of populations from the eastern Petén-Belize area into the Yalahau region does not fit any of the current models proposed for the region's earliest settlers (Andrews 1990; Rissolo et al. 2005; Stanton and Ardren 2005) and pushes the initial settlement of the region back by as much as 150 years. In future field seasons we hope to better define this earliest component of the site's history. This, in turn, will allow us to better understand if and how these earliest settlers interacted with inland Early Nabanche-using groups.

Vista Alegre IIa (A.D. 100/150 - 400/450) – Yalahau Connections

As one can see, there is a gap in our preliminary chronology between the Middle Preclassic occupation of the site and the Terminal Preclassic occupation. At this early date we cannot say whether this is due to a sampling error, a result of our coarse ceramic chronology for the region, or representative of an actual depopulation. There is, however, one group, the Iguana Creek, that poses a problem to our initial chronology. This is not a local group, but like our Mamom materials comes from the eastern Petén-Belize zone. Ball and Taschek (2003) firmly place this group in the initial Late Preclassic Umbral complex as well as the early Late Preclassic Xakal 1 complex. These complexes have been assigned dates ranging from 400 B.C. to 100 B.C. The earliest dates could fall at the tail end of our Vista Alegre I period; however, our Mamom materials appear to be earlier than

that. Another possibility is that these were heirloom pieces that came to the site after their period of use in the eastern Petén-Belize zone. Of course, we must also entertain that the Iguana Creek materials are the only evidence found to date of an early Late Preclassic occupation at the site.

Regardless of how the Iguana Creek White issue is resolved, it is clear that there was a robust settlement at the site during the Vista Alegre IIa period. This is not surprising given the dense inland populations at this time (Amador 2005; Glover 2006). While it is clear that people at the site were interacting with inland populations given the broadly shared use of Carolina, Sierra, and Tancah ceramics (the three dominant groups found at inland sites during this time period), it is evident that Vista Alegre was part of broader interaction networks. The Caribal and San Felipe groups, for example, are present in our collection but are not found inland. These groups not only indicate connections with sites to the south where they were most likely being produced, but they are also present at other coastal sites to the west (Ball 1978).

A major site immediately to the west is Conil (refered to as Chiquilá by Sanders [1955, 1960]), and we must better understand the relationship between Vista Alegre and Conil during this time period. According to Sanders' (1960) work at Conil there was a major Terminal Preclassic and Early Classic component during which the majority of the architecture was constructed. Given the size of the largest structure at the site (Structure 1 or The Great Platform [Sanders 1955:189-190] measures 93 m north/south by 76 m east/west and is 6 m tall), all signs indicate that this would have been a powerful center during the Vista Alegre IIa period. Was Vista Alegre a satellite settlement of Conil during this time period, or was it linked to an inland site, possibly to the east of Sabana Zanja? We hope to address this question by implementing a test-pitting program at Conil in coming field seasons. By expanding our test-pitting program to Conil, we would also be able to determine if the heavy representation of the local polychromes (Timucuy group, Tituc Orange-polychrome: Tituc Variety) at Vista Alegre, as compared to the inland sites, is also present at Conil. The prevalence of the Timucuy group continues into the next period and is evidence of the resilience of the Vista Alegre population in the face of what seems to be a major regional depopulation of inland sites during the Early Classic (Glover 2006). Was Vista Alegre alone in this resilience or did Conil share its good fortune?

Vista Alegre IIb (A.D. 400/450 - 650) – Coastal Resilience

The continued occupation of Vista Alegre is evidenced by the continued presence of the Timucuy group (Tituc Orange-polychrome: Camichin Variety) along with trade wares from the western and southern lowlands (Jabonoso Gray Dichrome, Dzitbalché Orange-buff, and Saxche Orange-polychrome: Saxche Variety). These trade wares indicate not only continued occupation of the site but that the site was part of the broad, elite interaction networks. Of particular interest is the Dzitbalché Orange-buff vessel fragment, which appears to be part of small flared cup that elite merchants may have traveled with to drink a toast with a host or fellow traders (Jennifer Taschek, personal communication 2008). As mentioned above (see Chapter 4), our impression is that the later materials, late 6th to early 7th centuries, are present in lower percentages than the earlier materials and indicate the possibility of a declining on-site population during the later part of the Early Classic and Middle Classic periods. When combined with the absence of pan-lowland decorative finewares (Petkanche Orange-polychrome, Moro Orange-polychrome, Egoista Resist, Chimbote Cream-polychrome, and Palmar Orange-polychrome), we contend that the site was abandoned by A.D. 650 at the latest. As we continue work at the site, it will be interesting to further

document how life continued on the island, possibly for a couple of centuries, in the absence of surrounding populations.

Vista Alegre III (A.D. 850/900 - 1100) – Itzá Influence

After an apparent hiatus of around two hundred years, a group of people resettled the island during the Terminal Classic period. But, who were these people, where did they come from, and how did they articulate with the burgeoning circum-peninsular trade networks? Our preliminary data provide some clues to these questions but raises many more.

We know from previous research that control of portions of Yucatan's north and east coasts was critical to Chichén's rise to prominence in the Terminal Classic, as it allowed the site to become a major player in the circum-peninsular trade routes that ran from Veracruz down to the Gulf of Honduras (Kepecs 1999; Kepecs et al. 1994; Robles Castellanos and Andrews 1986). Evidence of Chichén's important role in trade is well documented, exemplified by the long-distance elite artifacts found during the dredging of the Sacred Cenote (Coggins and Shane III 1984; Tozzer 1957). The Itzá's interest in the central north coast is attributed to the presence of the largest salt pans (*salinas*) in the Maya area and the specialized salt producing communities located along the margins of the *salinas* (Andrews 1983; Andrews and Mock 2002; Eaton 1978; Kepecs 1999; Kepecs et al. 1994). The archaeological correlates for this control have been attributed to the presence of ceramic types ascribed to the Sotuta sphere, green obsidian from the Pachuca source in Hidalgo, Mexico, and certain iconographic and architectural elements (e.g., Kepecs 1999; Kepecs et al. 1994; Smith 2003). While the political implications of the presence of Sotuta ceramics are complex (e.g., Stanton and Gallareta Negrón 2001), at sites where the Sotuta materials almost completely replace earlier Cehpech materials and are found in association with Pachuca and other central Mexican obsidian, Chichén control is strongly implied.

One classic case study of Chichén control comes from Isla Cerritos, a small island site along the north coast at the mouth of the Río Lagartos estuary, home to the most lucrative *salinas* in the Maya world. Isla Cerritos is roughly 200 m in diameter and is situated only 500 m off Yucatan's north coast. It was the focus of archaeological investigation in 1984 and 1985 by Anthony P. Andrews and others (e.g, Andrews and Gallareta Negrón 1986) and more recently by Rafael Cobos (Cobos 2006, 2007) of UADY. Located approximately 90 km north of Chichén, the site is in an advantageous position to control traffic in and out of the estuary; an ideal situation for a group looking to control the salt trade. While settlement at the site dates from the Late Preclassic, the majority of construction and period of greatest population occurred during the Late/Terminal Classic period. The beginning of this phase, marked by the Chacpel ceramic complex (A.D. 750 - 900), corresponds to the presence of Cehpech ceramic material, a few imported goods (including Silho group Fine Orange Ware), and simple, domestic constructions. Building at the site and its population, explode during the second part of this phase. Accompanying this growth is the replacement of the Cehpech material with Sotuta ceramics, which comprise 48% of the total sample (the Jotuto complex, A.D. 900 - 1200), and the bulk of the imported obsidian. The radiocarbon assays obtained at the site cluster between A.D. 860 and A.D. 1020 (Andrews et al. 1988) and, as mentioned above, provide an important chronological correlate for Chichén's growth. The fate of the island's inhabitants seemed tied to those at Chichén, and as the great city's power waned so did the importance of Isla Cerritos.

While the data from Isla Cerritos provide an important comparative dataset for our research at Vista Alegre, we are certainly in agreement with Stanton and Gallareta-Negrón (2001) who caution against uncritically equating the presence of Sotuta ceramics at a site with a sign of Chichén Itzá's

dominance. We do think, however, that given the particular assemblage at Vista Alegre, such an argument is sound. When a non-local ware appears as the domestic utility ware (in this case Balantun Black-on-slate) at a site during a time when there appears to be few if any local people living in the area, then we feel confident in concluding that actual people with close ties to Chichén were the ones who resettled the island during Vista Alegre III times. This argument is bolstered when the other Sotuta materials (Silho, Tohil, and Dzitas) are taken into consideration along with our preliminary obsidian data. We have not only recovered more obsidian than all of the interior sites combined, but we have the only examples of Pachuca obsidian (14% of our sample) in the area.

While it is possible that the site was reoccupied as a state-sanctioned outpost to monitor trade as it rounded the northeast corner of the Peninsula (see Kepecs 1999:420 for discussion of Itzá-sponsored settlement between Chichén and Cerritos and Emal), there are certainly other possibilities that we will explore as we move forward with our investigations. In another scenario, entrepreneurs from other coastal or inland sites to the west recognized a gap in the circum-peninsular trade route and reestablished the community. Or, does this repopulation start out as an independent venture that soon fell to Chichén's expansionistic ambitions? In addition to where this population originated from, why was Vista Alegre chosen over Conil, which was home to a much larger Terminal Preclassic and Early Classic settlement? Was it the shelter of the harbors or the presence of possible springs? These too are questions that we look forward to addressing with our future investigations.

Based on our preliminary ceramic data, we are inclined to look west toward the Chikinchel region for the seed population and not to Chichén itself. The reason for this is that we do not have the complete ceramic assemblage found at Chichén. While the abundance of the Balantun Black-on-slate and Dzitas slate wares are strong indicators of close ties with the Itzá, we do not have any evidence of the Sisal (the Sotuta non-slipped domestic utility ware) or Dzibiac (the Sotuta slipped service ware) groups, both of which were abundant at Chichén and Cerritos (see Cobos 2007:86). It appears that the Vista Alegre Striated group materials take the place of the Sisal group and that Ticul Thin Slate might replace the Dzibiac materials. Both Vista Alegre and Ticul Thin Slate, given the brownish slip in our collection (see Robles and Andrews 1986), are generally associated with the eastern Cehpech sphere (Robles Castellanos 1990:178-179) and might indicate connections to the south of Vista Alegre, possibly the area around Cobá. Vista Alegre, however, is also found at the major coastal sites of Cerritos, Emal and El Cuyo to the west of Vista Alegre along with Balantun and Dzitas (Ball 1978:114-115; Robles Castellanos 1987:103-104). Ticul Thin Slate, on the other hand, is quite rare at Isla Cerritos (Cobos 2007:89) and Emal (Ball 1978:116) and has not been identified at El Cuyo or other coastal sites in the Río Lagartos area (Ball 1978:120).

While the ceramic data paints a complex picture in regards to Vista Alegre's external relations, there are a number of parallels between the site layout of Emal and that of Vista Alegre that turn our focus back to the west when looking for the population that resettled the island. The wall on the south side of Emal is much like our sacbe/wall feature (see Figure 1.3) and there are other general similarities in the site layout (Kepecs 1999:Fig. 9.10) that we hope to explore in the future.

While the initial repopulation of the island is an interesting question, it is only one component of our research that endeavors to better understand what life was like for the inhabitants of this coastal port during the Terminal Classic. Regardless of who resettled the island, it is clear that the community was integrated into the political economic network centered at the Itzá capital. Our work will hopefully provide further insight into this complex issue and will complement the recent work done by Cobos on Isla Cerritos as well as the work being done around Yaxuná and at Xuenkal.

In so doing our future research strives to provide insight into Chichén's expansionistic strategies, how these either took advantage of or repressed the growing entrepreneurial spirit emerging along the coast during the Terminal Classic, and eventually failed (as evidenced by our Vista Alegre IV materials).

Vista Alegre IV (A.D. 1100 – 1521) – Pilgrimage Locale

As discussed above, Vista Alegre appears to have been abandoned by its residential population at the close of the Terminal Classic or early portion of the Postclassic period. Although abandoned, the site maintained its ritual significance for coastal inhabitants and traders as evidenced by the pilgrimage ceramic assemblage (Chen Mul modeled *incensario* fragments and Payil Red vessels) and the presence of the carved serpent-head balustrade. Once again understanding the relations between Vista Alegre and Conil become paramount. As the Itzá's grip on coastal trade weakened did the people of Vista Alegre reestablish themselves at the Terminal Preclassic site of Conil? Was this a prehispanic form of "rebranding"? Or, did some of the growing inland populations reoccupy Conil in direct competition with those at Vista Alegre or to fill the gap left by the abandonment of Vista Alegre? These are complex questions and a tighter control on the chronology of both sites is a critical first step if we are to begin to understand these past processes.

We know from previous research that the reoccupation of sites within the Yalahau region was a common practice during the Postclassic (Glover 2006; Hoover 2003; Lorenzen 1999). Of the inland sites, San Ángel evidences the strongest connection with east coast sites during the Postclassic as seen in its murals and architecture (Gallareta Negrón and Andrews 1988). As we have discussed elsewhere (Rissolo and Glover 2006a, b), Sabana Zanja may have been a corridor linking San Ángel to the north coast. This evidence simply shows that people with connections to the east coast were making inroads towards the north coast, but what impact if any this had on Vista Alegre remains to be discerned.

What we do know is that Conil was a sizable community at the time of contact (Gallareta Negrón and Taube 2005) and that circum-peninsular trade continued to grow in its significance from the Terminal Classic until the time of contact. Given the supposed size of Conil during the Postclassic it does not make sense to have two ports of trade located just 7 km apart from one another. With our preliminary ceramic data this overlap does not seem to have occurred, but that does not resolve the question of who was visiting Vista Alegre during the Postclassic to make these offerings. We know that traders visited coastal shrines as they made their way around the Peninsula (e.g., Andrews 2002; Andrews IV and Andrews 1975; Freidel and Sabloff 1984:90). Did Vista Alegre become one such large shrine site, an important part of the sacred landscape and a reminder to travelers of a haven that their ancestors once used? If this was the case, how was the shrine site of Yuukluuk (Sanders 1955) integrated into this sacred maritime cultural landscape? Or was the site more commonly visited by local populations who were making offerings to their past ancestors or deemed the site significant due to its past ties with the great city of Chichén Itzá? While these scenarios are purely speculative, an understanding of the spatial patterning of the Postclassic materials as well as looking at sources for the ceramics are two avenues of investigation that we hope to pursue to better understand Vista Alegre's continued allure; while abandoned it was not forgotten.

Vista Alegre, the North Coast, and the Historic Era

Like the Pre-Columbian occupational history, the historical era is dynamic and is characterized by ebbs and flows of populations as outside forces as far away as Europe exert varying influence over the region. The north coast of Quintana Roo witnessed the impact of Spanish contact from its

earliest moments. The "official discovery" of the Yucatan is attributed to Francisco Hernández de Córdoba who, on 1 March 1517, landed near the site of Ecab on the northeastern tip of the Peninsula. Bernal Díaz described the site as the "Gran Cairo," although subsequent archaeological reconnaissance has yet to find a site worthy of that description in the area. In 1518, Juan de Grijalva briefly visited Cozumel and the north coast site of Conil, but did not spend much time on the mainland. Hernán Cortés also stopped by Cozumel and Conil in 1519 on his way to Veracruz and his conquest of the Aztec empire (Scholes and Roys 1948:figure 578). The Spaniards' attention was diverted from the Yucatan by the conquest of Central Mexico, until the expedition of Francisco de Montejo between 1527 and 1529. Montejo stopped at Cozumel before making his first mainland camp near Xelha, which he named Salamanca de Xelha. His group of *conquistadores* marched up the east coast visiting the sites of Xamanha (Playa del Carmen), Polé (Xcaret), Moc-chi (Mulchí) and Belma. They then moved along the north coast stopping at the site of Conil. From Conil they moved into the contact province of Chikinchel, reaching the city of Loché before returning to Salamanca de Xelha (Andrews 1985:213; Prager 2001:140). While this attempt failed, Montejo's nephew and son were eventually successful in "conquering" the Peninsula with the establishment of Mérida on 6 January 1542 amidst the ruins of the recently sacked Maya city of Ti'ho (Andrews 1985:140; Chamberlain 1948:213) and by 1544, the Peninsula had been "secured" by the Spanish forces (Chamberlain 1948:234).

With the pacification of the Peninsula, *encomiendas* (land grants given to Spaniards) were established, as was the practice of the Spanish. The *encomienda* system was brutal, oppressive, and led to a violent reaction by the Maya inhabitants of the Peninsula. In 1546, the Great Revolt began, initiated by Maya in the eastern parts of the Peninsula, who were further from the capital's control. While these Maya rebels met a harsh end, by 1547, the Spanish stranglehold on the region was damaged (Restall 1998:237-252). "The great revolt had reduced the eastern and southern provinces to a state of chaos exceeding anything that had existed heretofore" (Chamberlain 1948:251). Combined with the massive depopulation occurring from European introduced diseases, the northeast portion of the Peninsula was hard hit. From an area that had been densely settled during Montejo's first *entrada*, the area appears to have lost about 90% of its population in the century following contact (Chamberlain 1948:140). There were only six *encomiendas* in northern Quintana Roo (Kantunilkin, Conil, Ecab, Polé, Zama [Tulum/Tancah], and Cozumel), none of which were terribly successful due to their meager populations (see Andrews 1985 and Andrews 1985 for a discussion of the decline in population estimates). In terms of assessing the continued importance of the coast in the early phase of the historic period, it is important to note that all but one (Kantunilkin) of the *encomiendas* were located on the coast.

The depopulation and relative poverty of the area, however, led to looser Spanish control on the area. This, in turn, made the northeastern tip of the Peninsula an ideal place for budding pirates to call home (Andrews 1985; Roys 1957:140). There are numerous accounts of pirates burying their booty on the east coast islands and mounting offenses from the Cabo Catoche area (Andrews and Jones 2001:192; Apestegui 2002). The pirates also turned to extracting *palo de tinte*, known as dye-wood or logwood, from the area around Ecab by the middle of the 1600s (Edwards 1957:152-154). The dye was used in cloth manufacturing in Europe, and the tree grew well in the ubiquitous wetlands of the area. There is even a discussion of mid-19th century pirates establishing small sugarcane farms along the north coast (Le Plongeon 1889). "Unable to govern, protect, and attend to the spiritual needs of the dwindling population of northern Quintana Roo, the Spanish decided to abandon the region in the mid-17th century" (Andrews 1985:140). From a Spanish perspective, the region became a backwater, only inhabited by small groups of "wild, pagan Maya" and a home for

numerous pirates marauding the ships of the Caribbean. The region did not factor prominently in the following two and half centuries of Yucatecan history, yet this is just another example of the changing maritime cultural landscape as new populations interact with the land and sea of this region.

It was not until the 1847 outbreak of the Caste War that northern Quintana Roo reentered the history books. The centuries of frustration harbored by the indigenous Maya against their position in the new "world order" finally reached a boiling point (Stephens 1962[1843]). Beginning on the eastern frontier of the settled territory, the war began rapidly and raged intensely for two years. There were massive losses on both sides. The department of Valladolid lost about 75% of its population between 1846 and 1850 and Yucatan, in general, lost almost 40% (Reed 2001:141). By 1850, a stalemate had begun; the eastern frontier had been mostly secured and the rebellious Maya established an independent territory in the untamed forest of the East.

With the threat of hostile *indios* generally lessened in the northeast corner of the Peninsula, development began in the form of large land grants that replaced smaller land holdings such as Xuxub, where the American Robert Stephens was supposedly killed by a group of Cruzob Maya in 1875 (Reed 2001). The Mexican government issued two such grants that covered northern Quintana Roo. These land grants were part of a larger plan by the Mexican government to regain some economic and political control over the area. The government was eager to exploit the riches waiting in the forest of Quintana Roo, such as lumber and *chicle*, the sap from the chicozapote tree (*Manilkara zapota*). *Chicle* was the main ingredient used in chewing gum production until World War II, when it was replaced by artificial products (Mathews 2009; Sullivan 2004:347). While wanting to bring the rebel Maya under State control, the government was also tired of seeing the British from neighboring British Honduras (modern Belize) pilfer lands that were the property of the Mexican State. While Yucatecos lobbied that the two substantial land grants should still be considered part of Yucatan State, their pleas fell on deaf ears, and on 24 November 1902, President Porfirio Díaz created the Territory of Quintana Roo (Fedick 2003:303; Reed 2001:141-145).

One of the grants was given to La Compañía Agrícola El Cuyo y Anexas in 1876 and covered a total of 1,800 km², including the area along the southern shore of Laguna Yalahau. La Compañía Agrícola established offices at the indigenous town of Labcah, now known as Solferino, along with their offices in the port of El Cuyo, Yucatan. Along the north coast, the company focused on sugar cane production and constructed a sugar processing plant at San Eusebio, about 3 km inland from the port of Chiquilá and about 10 km northeast of Solferino. The plant was the most modern of its kind on the Peninsula, and it was principally non-Yucateco Mexicans, Afro-Caribbean peoples, and Koreans who were harvesting the cane under the direction of Cubans (Careaga Viliesid 1990:288; Reed 2001:126-127). Edwards (1990:175) claims that the real source of wealth for the company was through the administration of salt pans near the port of Chiquilá on the shore of Laguna Yalahau. Andrews (1957) in his authoritative volume on Maya salt production mentions small, historic salt pans on Isla Holbox but none near Chiquilá. We would be inclined to believe that Edwards (1957) had his facts crossed as La Compañía Agrícola had offices in El Cuyo, which is still the hub of major salt production on the Peninsula. Yet, if there were productive salt pans near Chiquilá, which is the location of the contact period port of Conil, then that has obvious implications for the pre-Hispanic economy of the region. The company was also involved in the production of cacao, bananas, and cotton, logging, cattle ranching, as well as *palo de tinte* extraction and constructed a railway connecting Solferino and Chiquilá (Andrews 1983:182; Sanders 1955:8:352). It may have been during this time when a canal was dug at the north end of the wetland Sabana Zanja and a logwood processing plant

constructed on the north coast a couple kilometers to the east of Chiquilá (Anthony P. Andrews 2002, pers. comm.).

The second land grant was first given to Faustino Martínez in 1889, a businessman from Mérida. Due to his fear of hostile Maya, he did nothing with his grant, and it was acquired by La Compañía Colonizadora de la Costa Oriental de Yucatán in 1896, a part of the Banco de Londres y México, the first private bank in Mexico (Xacur Maiza et al. 1998:126-127). La Compañía Colonizadora had a tract of land stretching from Cabo Catoche to Ascension Bay. They established bases in Puerto Morelos, Colonia Santa María (modern Leona Vicario), Yalikin, El Meco, Porvenir, and Las Vegas (Andrews 1985:126-127; Careaga Viliesid 1990:140-141). The company constructed narrow-gauge railways across the Peninsula, which were used to transport lumber and *chicle* from camps in the bush to the bases and eventually to the coast for shipment.

Jennifer Mathews, co-director of the Yalahau Regional Human Ecology Project, has been conducting historical archaeological investigations on the 40 km stretch of railway connecting Colonia Santa Maria and Puerto Morelos (Mathews 2009), one of the ports used by La Compañía Colonizadora. She now has hopes to join our project and conduct research on the rich, historical archaeological record along the north coast. Her proposed research will focus on the exploitation of sugarcane and dyewood along the north coast and include the sites of Rancho Xuxub, Rancho Yalikin, and Puntachen, a "speck of coastal settlement" (Sullivan 2004:21) located a few kilometers to the east of Chiquilá. In addition, other cultural features such as the *tranvia* lines, canals, and historic campsites (see Appendix) will be investigated.

EVALUATION OF ANDREWS' (1990) PORT TYPES

In Andrews' (1990) seminal work on ancient Maya ports, he outlines the characteristics of four general and four specialized types of ports. After the 2008 field season we are in a position to begin to address how Vista Alegre fits into this functional typology and how its roles have changed through time. Like all typologies, our ability to assign the site to any given type is not the objective, but Andrews' work provides us with a starting point to ask more nuanced questions about the changing life of Vista Alegre's inhabitants

1) *Coastal Community*

This is the most common and most broadly defined category (Andrews 1990:162). These communities main prerogative was the exploitation of local marine and coastal resources, although some certainly engaged in trade at varying scales. During Vista Alegre I and IIa and IIb the coastal community description seems to fit best. As will be discussed below, the site, during Vista Alegre III and IV times, appears to be better characterized by other descriptors. There is no doubt that the people at Vista Alegre were engaged in long-distance trade during these earlier time periods, as evidenced in the ceramic record, although the nature of that trade and the site's relation with the sizeable center of Conil remain important research questions in the future. In addition, we hope to better understand these past subsistence practices of those living at Vista Alegre. Towards this end we have enlisted an interdisciplinary team (see below) that we hope will allow us to explore adaptive subsistence strategies at the human-coastal interface.

2) *Religious Coastal Center*

It is possible during the Postclassic that Vista Alegre became a special religious center. The ceramic data point toward a pilgrimage assemblage and almost no Postclassic domestic wares have been

identified. What makes this more interesting is the presence of the carved serpent-head balustrade. Iconographically this is similar to Postclassic representations like those found in the Madrid Codex (Karl Taube, personal communication 2006) and would appear to postdate the Vista Alegre III period of occupation. If our interpretation of the ceramic data is correct then we have people visiting the site on a regular enough basis to warrant the creation of the carved balustrade (it was most likely part of a pair although we have yet to identify the second one). This seeming incongruity between these two data sets raises many questions surrounding the role of the site during Vista Alegre IV times that we hope to address in future field seasons.

3) *Island Necropoli*

While we have found one interment (possibly adjacent to another), two sets of human remains does not a necropolis make. Nor do these appear to be formal burials, and the one individual (see Chapter 8) did not have any grave offerings.

4a) *Specialized Trading Ports: Port of Embarkation to Offshore Islands*

While it is possible that Vista Alegre served as a port of embarkation for Holbox – an argument Andrews (1990) makes for Conil – there is very little evidence of settlement on Holbox aside from some shell middens (Eaton 1978:45). There is the small shrine of Yuukluuk across the laguna from Vista Alegre (Sanders 1955), which we have not had a chance to visit ourselves, but the shrine appears isolated and not part of a larger settlement. Taking these factors into consideration, it seems unlikely that this was an important role for the site.

4b) *Specialized Trading Ports: "Port-of-Trade" / Entrepot*

Specialized "ports-of-trade" or entrepots in the Maya area is an Old World concept that Mayanists have attempted to apply to a handful of Yucatecan coastal sites (Cozumel, Tulum, and Xelhá) (Careaga Viliesid 1990; Miller 1982). In general, they are central places where disparate groups meet to exchange non-local goods but differ from the other categories of trading ports because of their political independence and the lack of basic resources to support the resident population (Andrews 1990; Rathje and Sabloff 1973). Rathje and Sabloff (1981:222), in designing their research on Cozumel, outline four attributes that ports-of-trade should possess:

> (1) Location at transitional zones, created by seasonal and/or geographic factors that require resupply or transshipment facilities, on a trade-transport route; (2) location among small political units at a distance from power resource control centres; (3) populations in excess of both local food production and mineral resources so that significant quantities of basic materials are imported; and (4) little retail distribution in the center's surrounding area of the total volume of products exchanged.

From our preliminary data analysis, we cannot necessary rule this out as an option when trying to understand the role the site played in circum-peninsular trade. Although we do not deny Andrews (1990:165) statement that "[t]o define a site as a port-of-trade, one must have detailed knowledge of the subtleties of the economic and political structures and an understanding of how they operated." These subtleties are obviously lacking at this stage of our research but we would briefly like to address Rathje and Sabloff's (1973) four attributes.

The first attribute -- the location of the port at a transitional zone -- is a possibility. Vista Alegre could have been a location for traders to wait-out the *nortes* that blow periodically. The distance between Vista Alegre and El Cuyo is approximately 44 km, 30 km of which would have been

unprotected along the north coast. At El Cuyo it appears as though traders could have portaged a short distance and begun to use the protected waters of the Río Largartos estuary to arrive at Emal (33 km from El Cuyo) and Isla Cerritos (34 km from Emal). Traveling in the other direction, Vista Alegre is about 40 km from Ecab and based on our preliminary reconnaissance (see Appendix 1) most of the coastline consisted of flooded mangrove forest; making Vista Alegre the first or last (depending on direction of travel) viable port along the north coast.

The second attribute is also a possibility. There do not seem to be powerful local polities occupied at this time and the site is located at a distance from Chichén Itzá. But, as we have discussed, we are still investigating the relationship between Chichén and Vista Alegre. The question of the importation of basic food resources is a tricky one. While Vista Alegre, like many Maya sites, was not rich in mineral resources, it would have been rich in marine resouces (see Chapters 6 and 7) that might have compensated for the lack of expansive milpa lands. But as Gudiel's, Smith's, and Götz's and Toledo Barrera's chapters demonstrate, there is much more information that needs to be gathered before we have a more complete picture of the diets of Vista Alegre's inhabitants. The final attribute is also a possibility if the regional settlement history is correct. There may not have been many people in the area during the Terminal Classic so retail distribution of goods may not have been much of an option.

4c) *Specialized Trading Ports: Coastal Transshipment Ports*

This is a more general category than "Port-of-trade" as Andrews (1990:165) notes and certainly seems to apply to Vista Alegre. While its connection to inland sites and populations is a question that remains open, the artifact assemblage clearly demonstrates that the site was fully engaged in the circum-peninsular long-distance trade of the Terminal Classic and earlier periods as well. Given this, we contend that Vista Alegre was an important node of coastal trade and can certainly be considered a transshipment port.

4d) *Specialized Trading Ports: Seaports of Inland Polities*

The final functional category listed by Andrews (1990) is that of a seaport for an inland polity. While there is no evidence for polities during the Middle Preclassic in the Yalahau region, the Terminal Preclassic (Vista Alegre IIa) represents the apex of population and political development in the region. Currently it is not clear how Vista Alegre articulated with large inland sites. This is complicated by the large monumental architecture and presumed large population at Conil, just 7 km to the west. Did Vista Alegre provide coastal access to an inland polity that had antagonistic relations with Conil? In future field seasons this is something we plan to investigate. As discussed above, the continuation of occupation at the site into the Vista Alegre IIb period is of particular interest and points toward the fact that Vista Alegre must not have been too closely tied to any of the inland polities, which appear to have suffered a massive depopulation during this time period. Another nagging question is whether Conil continued to be occupied into the Early and Middle Classic periods (VA-IIb). According to Sanders (1955, 1960) that is not the case, which makes Vista Alegre the lone coastal outpost along this section of the north coast. Once again, future investigations at Conil and the inland Yalahau sites will allow us to better address these issues. The question of whether Vista Alegre was a seaport of an inland polity during the Terminal Classic is an interesting one. Given that there does not appear to be much of a population directly inland, Vista Alegre does not appear to be a traditional port site for an inland polity, like Isla Cerritos or Emal. However, if people from Chichén Itzá or another site repopulated the island, then we may have a situation that resembles the more traditional relationship between a center and its port. As

discusses above, who resettlend Vista Alegre and how the island site articulated with the Terminal Classic political economy is a major focus of our future research.

FUTURE RESEARCH

There are many avenues for future research that we hope to explore in future field seasons. We must refine and continue our ceramic analysis, especially of the non-slipped types, and gather a more representative sample. While the ceramic data go a long way towards helping us understand past trade patterns, conducting XRF analysis on the obsidian data would provide an invaluable complement to the ceramic data. In addition, we must better understand how those at Vista Alegre interacted with their neighbors. To do this we would like to begin work at Conil as well as continue to build on the regional survey work of Glover (2006). From our preliminary work we know that Vista Alegre and the north coast have a long history of human occupation and we are aware that this occupation did not end with the arrival of the Spaniards. By teaming up with Jennifer Mathews, we plan to explore the archaeological evidence of the rich historical era occupation along this often forgotten stretch of coast.

Finally, we hope to begin an interdisciplinary project focused on understanding the past ecology, hydrogeology, and geology of the coast and how this impacted the past peoples who made a living there. We feel we are in a strong position to make important inroads into our understanding of Quintana Roo's north coast, both its cultural and natural history. Future investigations will continue to focus on Vista Alegre and will address topics ranging from the island's first inhabitants to the site's articulation with circum-peninsular trade and the Itzá. In addition to the scholarly research, a driving force behind our project is the opportunity to contribute to an indigenous ecotourism initiative, associated with the Yum Balam reserve, a protected area of animals and plants established in 1994 by CONANP. We strive to make scientific research in the region relevant to local Maya communities and to enhance their ability to more effectively manage their rich natural and cultural resources.

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APPENDIX 1 – REPORT TO EXPLORER'S CLUB
BY
JEFFREY B. GLOVER

The Costa Escondida Expedition was undertaken in 2006 with the goal of exploring a section of the Quintana Roo's complex north coast in search of ancient Maya and historic settlements. The expedition was part of the larger Costa Escondida project, under the direction of Dominique Rissolo and Jeffrey Glover, which was established in 2005 to place this understudied part of the Maya world in its broader context (Rathje and Sabloff 1973; Robles Castellanos 1981). Previous investigations (e.g., Rissolo and Glover 2006a) had focused on the ancient Maya port site of Vista Alegre, which lies on the southern shore of the Yalahau lagoon, and lands west (Figure A.1). The goal of this project was to explore the coastline east of the site. Given the complexity of the coast, we decided to conduct a canoe-based reconnaissance in order to experience the coastal environs in much the same way as the ancient Maya. Unlike the ancient Maya, however, we were equipped with digital elevation model (DEM) data from NASA's Shuttle Radar Topographic Mission (SRTM), which we are using to direct our survey efforts. Once geo-referenced and brought into a Geographic Information System (GIS) environment, the SRTM image served as a useful base map. The DEM data pointed to a couple of areas of higher ground adjacent to the two large inlets in the Yalahau lagoon that looked like promising locales for ancient or historic settlement (Figure A.2). The project team consisted of Dominique Rissolo, Jeffrey Glover, and Zachary X. Hruby.

RESULTS

We arrived to Chiquilá in the evening and paid a visit to the *comisario* of the community, Carlos Mendoza, to inform him of our intentions as well as to present him with the results of our 2005 fieldwork at Vista Alegre. We departed early the following morning with Roberto Echevaria Diaz's *lancha* fully loaded (Figure A.3) and were dropped off at the eastern end of the Yalahau lagoon (just east of Punta Nuctunich).

Our first day was spent investigating 9 km of coastline. We paddled up a few small "rios" that did not continue inland for any great distance. We also hiked out to an area of apparent higher ground according to the DEM, but it turned out to not be high ground as hoped. Instead the higher elevation signal on the DEM was the result of taller mangroves and swamp forest. This was a recurring theme during our investigation, as will be discussed. We arrived at our first camp, a *palapa* that was newly constructed by the Chiquilá community, in the late afternoon (Figure A.4). This would serve as our base camp for the next few days. The *palapa* is a little over 1.5 km west of the mouth of the Yalikin inlet where we had information on an historic *tranvia* line and its associated ranch. We found the landing area, complete with a few remaining dock pilings (Figure A.5), along the east side of the inlet. The landing appeared to be artificially built-up and there were historic artifacts including glass bottles and corroded rail line segments (Figures A.6, A.7). We quickly found the intact *tranvia* line and began to follow it south (Figures A.8, A.9). We diverted to the southeast to investigate another area of high relief on the DEM. This area was a narrow ridge of slightly higher ground but most of it consisted of taller mangrove trees in a flooded forest; not an ideal place for settlement. We returned to the canoe and explored the rest of the Yalikin

inlet which is approximately 3.5 km north/south. The inlet was shallow and rich in tannins from the unusually high concentration of mangrove leaves that had accumulated after the 2005 hurricanes battered the northeast corner of the Yucatan Peninsula. At the southern terminus of the inlet were two powerful outflows of freshwater (Figure A.10). This is a general trend along the north coast where the water from the large aquifer is forced out of the local wetlands. There are even a few examples of freshwater outlets offshore, known locally as *ojos de agua*.

The next day we returned to the Yalikin inlet to more fully investigate the *tranvia* line and hopefully locate the Yalikin ranch associated with it. We traveled down the rail line for approximately 3.5 km, which took about four hours (Figure A.11). The forest was denuded as a result of the hurricanes, and while this allowed for great visibility, it made travel difficult due to the numerous deadfalls (Figure 12). After four hours of slow progress we were low on water and still had to return to the boat. While not finding the Yalikin ranch, we certainly learned a great deal about the topography of the coast and its inland area, which consists mainly of mangroves and flooded forest.

We packed up camp early the next morning and continued heading west. The day's paddle would take us to the site of Vista Alegre, but in the process we explored the margins of the San Román inlet (see Figure A.2). There was a linear feature that we had spotted on recent Google Earth imagery that we were interested in investigating. We thought it could be another *tranvia* line, a canal, or even a *sacbe* (an ancient raised Maya road). As it turned out, it was the property line (*mensura*) dividing the territory of two of the local *ejidos* (Figure A.13). We did, however, document a couple of small camps from the historic and Prehispanic periods (see descriptions below) (Figure A.14). On the eastern side of the San Román inlet were two small mounds (5 m x 5 m and 8 m x 4 m in basal area) that served as the foundations for perishable house structures. Along with the mounds were a few sherds of associated Prehispanic pottery. The other site was located on the western side of the inlet on a small headland with a few *chit* (*Thrinax radiate*) palms, which seem to indicate higher, better-drained soils. There was an historic *metate* fragment, glass bottle fragments, a few eroded pieces of pottery, and a low mound (Figures A.15, A.16). One of the pottery sherds appeared to have a basal flange, a diagnostic characteristic that dates to the Early Classic period (A.D. 200 – A.D. 600). Those were the only two sites identified east of Vista Alegre.

At Vista Alegre we spent the afternoon and morning assessing the damage to the site from Hurricane Wilma. While the forest on the island was badly damaged, the archaeological site itself appeared to have weathered the storm well. Along with an inventory of the damage, we spent time investigating the artifacts in the midden around the shoreline of the island. In particular, Zachary Hruby examined the lithic materials on-site (see Chapter 9). In addition, we were interested in identifying a linear feature on the air photo directly to the west of Vista Alegre. The feature turned out to be a canal that transected the peninsula to the west and would have saved time entering or exiting the site, and would have limited the time spent in the open water of the Yalahau lagoon. Generally speaking, straight features do not occur naturally, and its association with the site provides strong evidence that the ancient inhabitants of Vista Alegre created it.

Further to the west of the site is a meandering "rio," and in conversations with Tony Andrews (2005, personal communication), he reported that the historic ranch of Xuxub was

located close to this "rio" (Figure A.17) (see Chapter 3). The site of Xuxub is of particular interest as it was the location of the only American citizen killed during the Caste War (Rissolo and Glover 2006c). While looking for the site we identified another small mound with Prehispanic ceramics to the west of the Xuxub "rio." We also identified the foundations of an historic building adjacent to a dock feature. The historic date was indicated by the pottery fragments found in association with the foundations (Figures A.18, A.19). Further inland we found another historic *metate* fragment along with a well (Figure A.20). The well was located in an overgrown area with many large *guanacaste* and fruit trees that are indicative of an historic settlement. We did not find the fallen chimney, but as mentioned, the field was badly overgrown. Upon talking with a local from Chiquilá, he confirmed that we had indeed located the historic settlement of Xuxub. Upon leaving the "rio," we encountered one final small site just south of Punta Chuchuk (see Figure A.14). The site, which consisted of the fragments of two Prehispanic vessels (Figure A.21) set inside one another, was located on a rocky headland with *chit* palms.

The following day we visited the historic ruins of Ecab, known locally as Boca de Iglesia (Gurrola Briones 1988) (Figure A.22). This is the location where Francisco Hernández de Córdoba first made landfall on the Yucatan Peninsula on March 1, 1517, and the one that Bernal Díaz described as the "Gran Cairo." While a large archaeological site to match that description has never been located, there is an impressive 16th century church (Figures A.23, 24) that is still largely intact. The site of Ecab is the next documented Prehispanic coastal site east of Vista Alegre, and we felt it important to gain a first-hand appreciation of the physical setting of the site. One of the most striking factors in contrast to Vista Alegre and the rest of the north coast is the immediate topographic rise as one heads inland from the coast. This would have provided significant natural protection from flooding associated with storm surges, which can have devastating consequences as seen with Hurricane Wilma last year 45 km south at Cancun.

CONCLUSIONS

Overall, we felt that this short exploratory trip was a success. While we did not identify a new ancient Maya port, we gained a rich and first-hand understanding of this complex coastal landscape. The coastline to the east of Vista Alegre is less rocky and is dominated by large expanses of mangrove and flooded forest. The limited topographic relief does not lend itself to settlements of any size along the coast. This is important negative evidence to have when trying to understand Vista Alegre's role in the circum-peninsular trade routes of the ancient Maya. This expedition also allowed us to ground-truth our DEM images and we learned that areas that appear to be of higher topographic relief are more commonly areas with taller mangroves and swamp forest. This is a result of the radar not penetrating the forest canopy. The areas that were slightly higher were separated by such a distance of flooded mangrove and swamp forest that they would not have been good locations for sites. Once again, this is important information for future fieldwork in the area. In addition, our timing of the trip was actually ideal. While the deadfall from the hurricane made passage difficult at times, the skeletal mangroves allowed for much greater visibility than would normally be the case. The short trip provided Rissolo and Glover with invaluable knowledge of this little investigated coastal area that will benefit future field seasons.

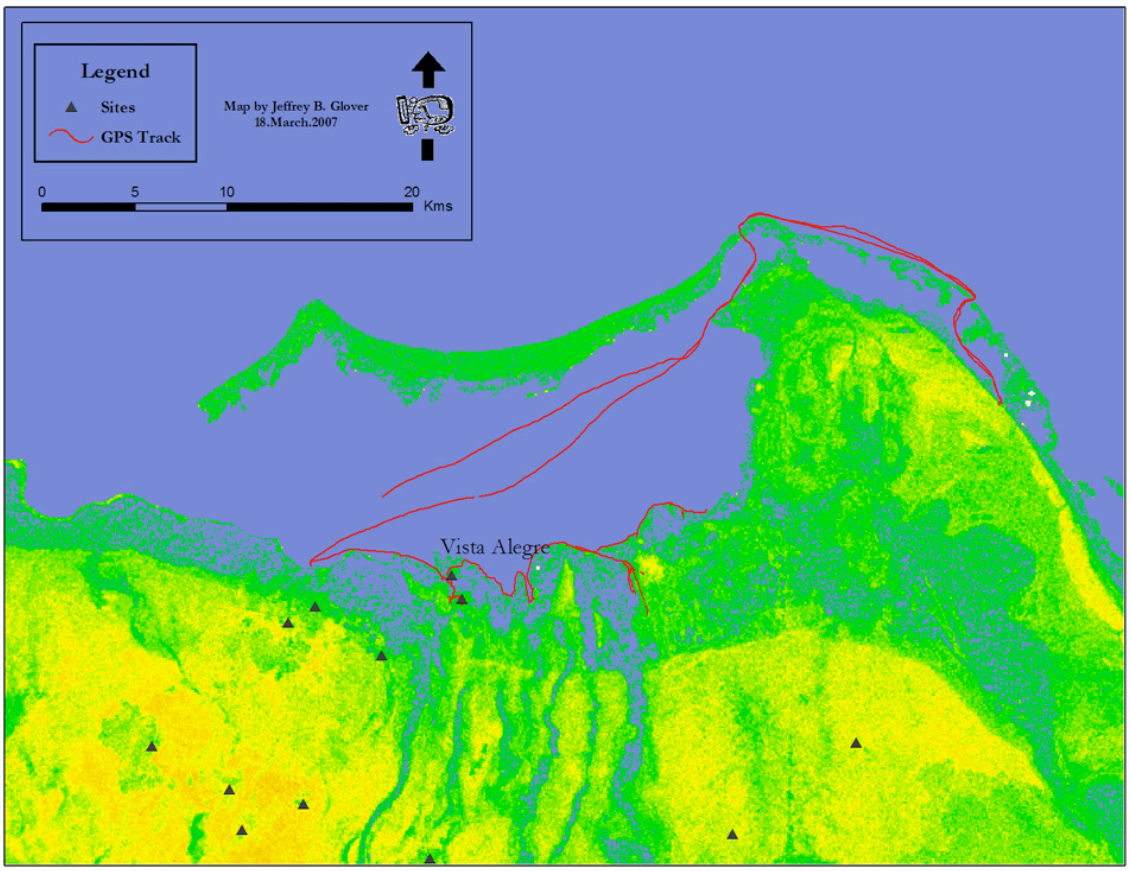

Figure A.1: SRTM image of north coast with site of Vista Alegre and GPS track

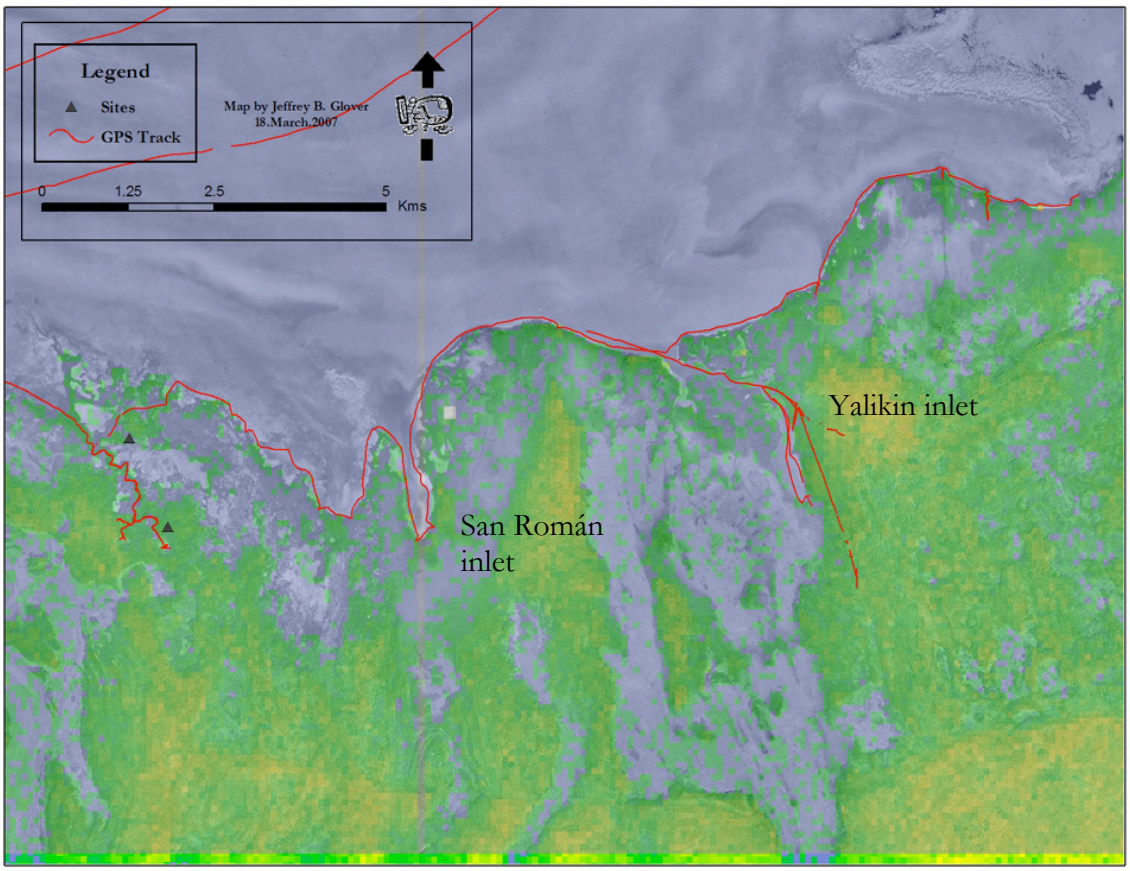

Figure A.2: Map of north coast section intensively surveyed during exploration. This map is a result of an aerial photo overlaid on the DEM generated from the SRTM image. The yellow color on the DEM corresponds to patches of higher elevation.

Figure A.3: Roberto Echevaria's loaded *launcha*

Figure A.4: The community *palapa* that served as base camp

Figure A.5: The Yalikin landing area with intact dock pilings.

Figure A.6: Historic bottle documented at Yalikin landing area.

Figure A.7: Corroded rail line segments at Yalikin landing area.

Figure A.8: Submerged *tranvia* line in the mangroves.

Figure A.9: Close-up photo of intact cross-tie of *tranvia* line.

Figure A.10: Fresh water outflow at south end of Yalikin inlet.

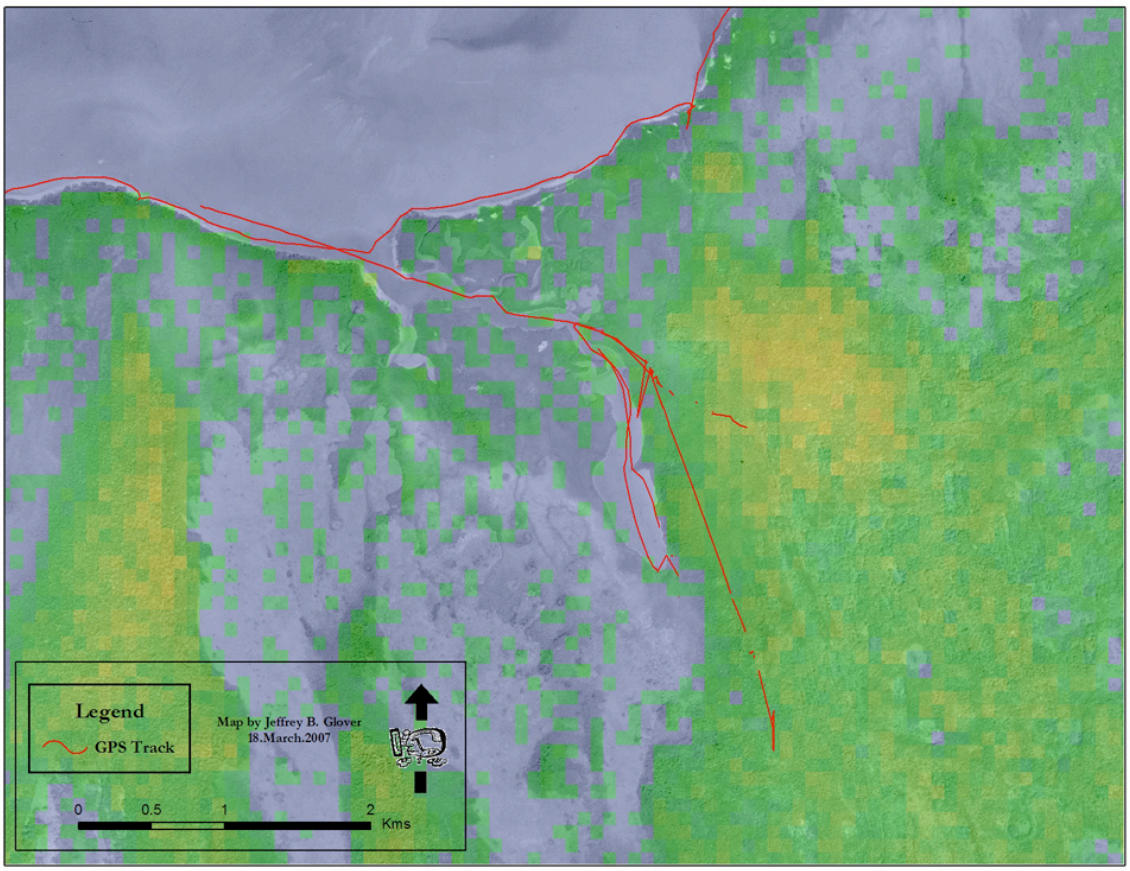

Figure A.11: Close-up map of Yalikin area.

Figure A.12: Dominique Rissolo and deadfall in Yalikin area.

Figure A.13: An *ejido* boundary originally spotted on Google Earth.

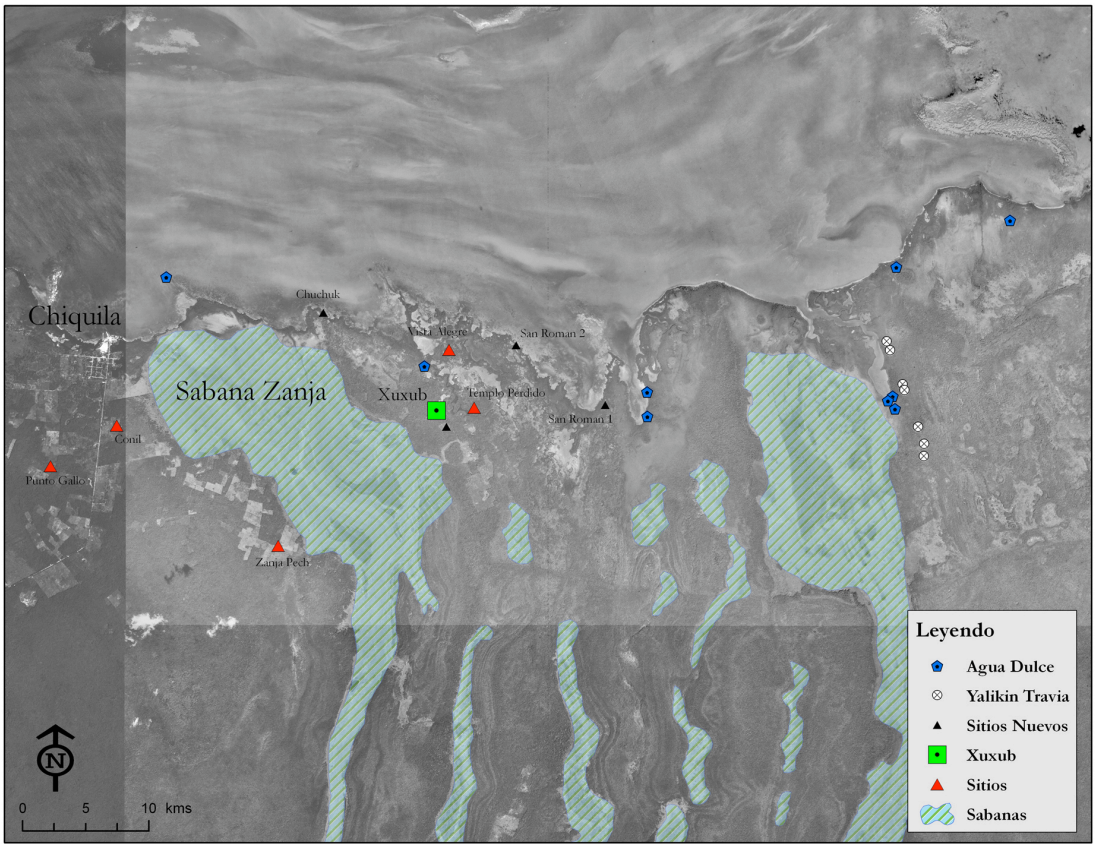

Figure A.14: Map of sites documented during reconnaissance

Figure A.15: Historic metate fragments recorded on western side of San Román inlet.

Figure A.16: Historic glass bottles recorded on western side of San Román inlet.

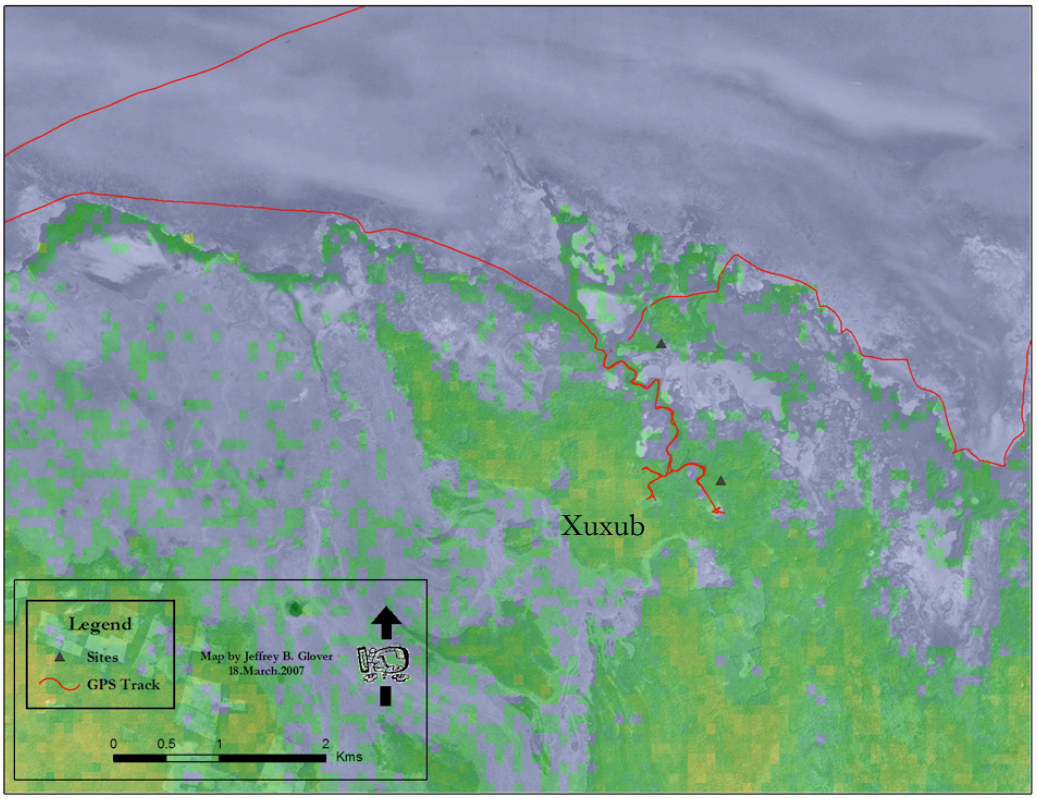

Figure A.17: Map of *rio* near Xuxub. The GPS track follows the *rio*.

Figure A.18: Historic building foundation near *rio* at Xuxub.

Figure A.19: Historic ceramic fragment documented at Xuxub.

Figure A.20: Historic metate fragment found at Xuxub.

Figure A.21: Nested prehispanic ceramic vessels at Punta Chuchuk

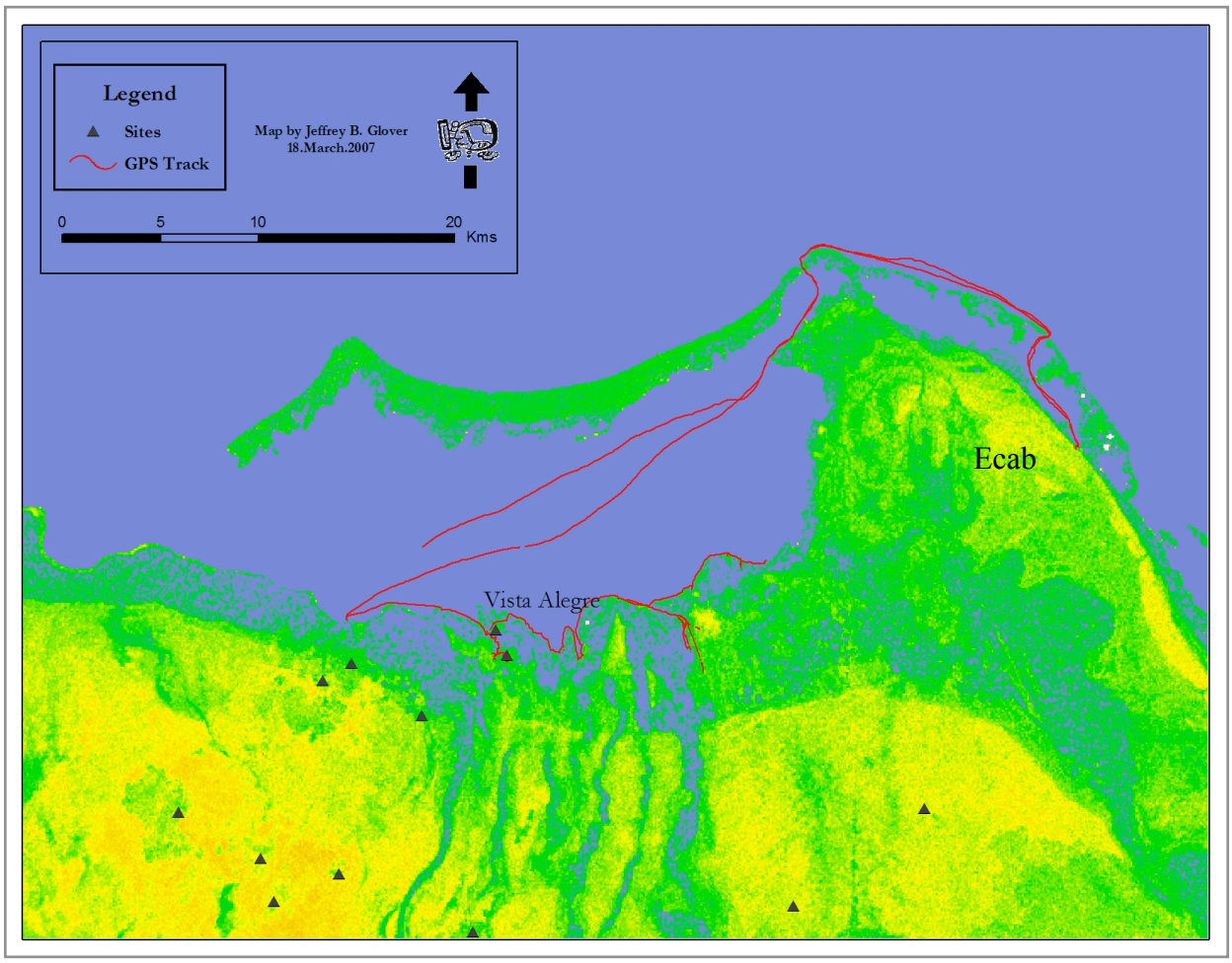

Figure A.22: Map of northeast corner of Yucatan peninsula. Ecab is at end of GPS track.

Figure A.23: The exterior of the intact 16th century church at Ecab.

Figure A.24: The interior portion of the church.