The Sibun-Manatee Karst is one of eight karst regions which, taken together, cover about half of the surface area of Belize (Miller 1996: 103). It is characterized by towers (steep-sided hills of Cretaceous limestone) and cockpits (interior valleys) — a landscape that resembles an egg-carton (Miller 1996: 113). In the central portion of the Sibun River Valley, this cone karst dots the southeastern side of the river and extends roughly 20 km from east to west and 15 km from north to south. On the northern side of the river, the riparian forest gives way to flat pine savannah. The tower karst rises up to 200 m creating a dramatic contrast to the flat valley floors that sit at sea level (Miller 1996: 113). As the river meanders in wide oxbows towards the Caribbean Sea, the caves end near the village of Gracy Rock, and the land eastward is characterized by mangrove swamps.

Survey and mapping of caves in this portion of the river valley were conducted in three areas during the 2001 field season — the Gracy Rock Cave District located at the northeasternmost end of the Sibun-Manatee Karst, the Tiger Sandy Bay Cave District near the site of Balam Ha, and the Glenwood Cave District across the river from the site of Yax P’otob (Figure 1.1). The Tiger Sandy Bay Cave District was extensively explored during the 1997 and 1999 field seasons (Isaza et al. 1999; Peterson 2002). The 2001 season marked the first exploration in the Gracy Rock Cave District. Future fieldwork should be conducted in both the Gracy Rock and the Glenwood Cave Districts in order to study a larger sample of the countless caves used by the Xibun Maya. The following description of cave research carried out during the Spring of 2001 includes Arch Cave, Usrey Cave, Metate Cave, and K’in Rockshelter.

**Gracy Rock Cave District**

**Arch Cave**

Arch Cave is situated near the northernmost edge of the Sibun-Manatee Karst near a landmark called Gracy Rock, which is located in Transect 4. The main entrance is sheltered by a high, arching limestone ceiling that gives the cave its name. Although the entrance is located in this open “breezeway” at the top of a steep hill, access to the cave has been restricted by the construction, presumably in Maya times, of an artificial wall. The wall is composed of breakdown, or limestone rubble, which partially seals off the entrance and effectively blocks all but a small stream of light from entering the first chamber. Perhaps the entrance was completely sealed at one time, but it was accessible through a narrow opening in 2000 when nearby villagers, Gilford Hoare and Lance Usher, discovered the cave. Despite considerable efforts to conceal the entrance in antiquity, the entrance floor was paved with flat speleothems that actually aid passage over what appears to have been a natural crevice. One must crawl into the opening and then side-step with hands pressed against a boulder and a flowstone shelf to navigate the entrance. This is the only known entrance to Arch Cave that is accessible to humans. Small openings, only large enough for bats and rodents to enter, allow light and air into the cave in a few places deeper within the cavern.
The artificial wall is most visible from the interior of the cave where it extends southwestward down a slope leading into the main chamber. The ceiling appears to be crumbling in this small entrance chamber. The breakdown rubble used to build the wall could have been easily collected from the entrance itself and from the talus slope leading up to the cave.

The entrance is located on the easternmost side of the cave (Figure 9.1). Once inside, the main chamber opens to the west and then curves to the north. While there are a few narrow side chambers, one upper level and one lower level chamber, and several small recessed alcoves — this wide, flat, north-south oriented chamber allows easy passage from one end of the cave to another.

![Map of the entrance to Arch Cave.](image)

Arch Cave contains over 29 complete and reconstructable vessels — Vessels 57-85 (see Betzenhauser, Chapter 21, for a discussion of these vessels). Many passages containing artifacts and whole vessels were not discovered until weeks after mapping and exploration of Arch Cave were underway. For instance, the “assassin bug chamber” — so named for the ubiquitous cone-nosed beetle *Pselliopus* spp., or assassin bug — was previously unknown to the guides and local residents of the nearby village of Gracy Rock. Once Gilford Hoare discovered the hidden room, which is reached by crawling down a narrow tunnel in the southernmost end of the cave, we found at least fifteen complete and reconstructable vessels (Vessels 71-85). The vessels are distributed more or less equal distances from each other in the central
portion of the room, which measures approximately 9 m in width and 6 m in length (Figures 9.2 and 9.3). There are a total of ten *ollas*, six of which are inverted, and four of which are laying on their sides. All of the *ollas* have been ritually “killed.” Many large rim sherds on the floor between the vessels are also from jars. Five bowls had also been deposited in the chamber; only one of the bowls is inverted and all five have been “killed.”

In this chamber, the ceiling is low (no more than 1 m above the floor), covered with small stalactites, and has many bat roosts. The floor is littered with hundreds of sherds laying on top of cave pearls and covered with bat guano. All pottery vessels were mapped and photographed *in situ*, but due to time constraints (and the fear of a bite from the so-called assassin bugs, known to carry Chagas’ disease in other parts of the American tropics) the vessels in the “assassin bug chamber” were not drawn or extensively recorded. The confined space, combined with the infestation of assassin bugs, made this a difficult area to document. The seemingly undisturbed contents of the chamber made the task worthwhile.

A tiny entrance is visible in the southernmost end of the chamber, letting in a small amount of light and air. Gibnuts have been using this entrance as evidenced by the presence of feces, leaves, and cohune nuts.

The “assassin bug chamber” is located at the southern end of a narrow chamber named “sherd alley” because the floor is littered with sherds and rubble (Figure 9.3). The main concentration of sherds is located at the entrance of the crawlspace leading to the ”assassin chamber,” where a honey-colored chert biface with a tapering hafted end was discovered. “Sherd alley” runs roughly north to south. Stalactites and stalagmites line the chamber’s low ceiling; some are presently active. A large depression, leading to a small chamber underneath the floor, contains a broken granite *mano*, sherds, and rubble.
A mandible of a small to medium mammal, a large rodent incisor, and other mammal bones were located in the center of the floor among sherds and rubble. At least some of the animal bones may be natural, although they are associated with artifacts. There is evidence of gibnut habitation in the form of cohune nuts, feces, small nests, and leaf litter. A tiny entrance accessible only by small animals lies at the end of the chamber letting in a noticable stream of light and airflow. The opposite northern end of “sherd alley” opens onto a low balcony or ledge overlooking the main chamber.

There are charcoal markings on some of the stalactites and columns and near the opening of “sherd alley” onto the balcony. Sherds, an inverted red rimmed olla with a large kill hole at its base (Vessel 60), reptile vertebrae (possibly snake), and the distal fragment of a triangular prismatic obsidian blade (just over 3 cm long and 1 cm wide) were found along the balcony. The obsidian is cloudy with some darker bands.
and one side shows some chipping from edge wear. The blade was found near the 24 small vertebrae which are scattered along a narrow portion of the ledge.

Back in the main chamber, an alcove located across from the balcony contained two noteworthy vessels and a possible “altar” (Figure 9.4). Vessel 58 is a huge wide-mouthed jar, over 58 cm in height, located near an “altar” composed of flat speleothems. The vessel was upright when we first saw it, but we were told that it was discovered on its side. Upon careful inspection, we could see a lack of calcification on the side of the vessel that originally laid on the ground before being moved. We returned the vessel to its original position. Vessel 58 is 51 cm in diameter and contains small mammal bones (most likely rodents). The pedestal base of a red bowl (Vessel 59) was situated on the floor in front of the altar approximately 1 m away from Vessel 58. Vessel 59 is associated with a large group of red sherds, which may be from the same vessel.

Figure 9.4 Map of the main chamber of Arch Cave including the alcove containing Vessels 58 and 59.
A similar arrangement was discovered deeper in the cave where an alcove contained another very large jar (Vessel 65) and another large red pedestal-based bowl (Vessel 67) positioned next to an “altar” (Figure 9.5 and 9.6). Vessel 65 is similar to Vessel 58, but is slightly smaller, measuring 56 cm in height with a rim diameter of 47 cm. Vessel 65 is complete, although large cracks, visible on the interior and exterior of the vessel, radiate from the base. The body of the large jar is calcified and fire-clouded, and the rim is slipped red. Vessel 67, the large bowl with pedestal base, was found to the southwest of Vessel 65 on the opposite side of the small alcove. The bowl was inverted and a kill hole was located in the center of its sagging base, inside the ring of the pedestal. Vessel 67 is covered in calcite. A large “altar” (about 0.75 m wide) made of rubble is located between the jar and the bowl. The “altar is covered with large sherds, including fragments of Vessel 66.

Vessel 66 is a partially reconstructable reddish black bowl. Large fragments of the vessel were found on a rock 5 cm away from the large jar (Vessel 65). Sherds of the same vessel were also located on the “altar” 2 m away. The bowl has a ring base (1.5 cm in diameter) and is roughly broken in half. There is a small mend hole located on the edge of the break.

Figure 9.5 Map of the main chamber of Arch Cave including the alcove containing Vessels 65 and 67.
The northern end of the cave is completely dark with a damp, relatively level floor. In the chamber adjoining the alcove containing Vessels 65-67, the ceiling is flat and smooth, but the ceiling of the alcove is covered with stalactites. The ceiling in the chamber is just high enough to stand, but in the alcove the ceiling drops a bit and one must crouch to enter.

![Figure 9.6 Vessels 65 and 67 with stone altar (photo by Patricia A. McAnany).](image)

Within the chamber adjoining the alcove containing Vessels 65 and 67 are three partial vessels (61, 63, and 64) and several piles of rubble containing sherds. It seems as though some of the rubble was placed intentionally on top of sherds as though they were tiny “altars.” A fragment of a brown banded shell was discovered in a rim stone dam on the floor near the vessels. Vessel 61 is a small reddish brown *olla* with fire clouding and calcification. It is inverted and the bottom is almost completely missing. Vessel 63 is located 2 m away from Vessel 61. It is a dark grey *olla* with a large kill hole that has removed approximately 75 percent of the body. The entire rim remains intact and inverted. The rim is slipped red with some evidence of fire clouding. Vessel 64 is located approximately 2 m from Vessel 63. It is the top portion of a red restricted-neck jar.

During the month of April (the “dry” season), the stalactites were actively dripping onto a floor of stalagmites in the northern end of the cave. The floor is almost entirely covered with rubble and cave pearls of various sizes. A cockle shell, *jute* (*Pachychilus indiorum*), terrestrial snail shells, animal bones, sherds, and a distal fragment of a banded grey chert biface were discovered among the limestone formations scattered on the floor. Some of the animal bones are from a small unidentified mammal with grooved canines. There are a series of low alcoves scooped out by water action along the western wall of the chamber. A small niche in the low ceiling on the western side of the chamber contained a wooden splint (possibly an unburned torch). Small fragments of the wood were collected for species identification and C14 dating.
Vessel 68 is located in a niche on a flowstone ledge above the main chamber (Figure 9.7). The ceiling is lower in this part of the cave and the ledge is accessible by climbing up a large flowstone formation that is growing upwards from the cave floor. There are many large olla sherds on the floor below this upper chamber and in nearby alcoves. Vessel 68 is a small, complete, inverted olla. It is black in overall color with reddish orange swirls and striations across the body (possibly as a result of plant growth on the surface). It is not associated with any other vessels. There is another smaller niche directly above the niche containing the vessel. A small mouse was seen in this niche and probably lives in the cave.

Vessel 70 is located in the westernmost corner of the northern end of Arch Cave (Figure 9.7). It is an inverted red bowl, with less than half of which remains intact. It is calcified to a rock, suggesting that it is in situ. Several other shattered vessel fragments litter the surrounding area. Vessel 70 is located below the area where Vessel 69 is situated, beneath an overhang that undercuts the cave wall. If one crawls under this overhang, one reemerges in "alcove peligroso," so named because this is where Kevin Acone took a 12 foot fall.

The "peligroso alcove" is formed by flowstone with a slippery coating of "moonmilk" or damp calcite. One must climb barefoot up to a balcony with a sloping floor to see Vessel 69, which sits atop a small pile of rocks (Figure 9.7). Vessel 69 is a small, black ring-based bowl. It is highly calcified, and does not have any signs of being ritually “killed.” The bowl is associated with a large sherd situated about 1.5 cm away on the sloping balcony.

There are charcoal marks on the flowstone wall beneath the "alcove peligroso." The alcove curves around to the west, where a large sherd of a red bowl (possibly of the Roaring Creek Red type) is located high up in a flowstone niche. Rubble covers the floor beneath this niche and air can be felt entering the cave at this location, suggesting a small opening to the outside, although none was found.

Continuing along the cave floor to the west, past Vessel 70, one can crawl into a small narrow chamber where there are many sherds (mostly complete olla rims), arboreal snail shells, and charcoal. The alcove at the farthest end of this chamber contains an olla rim that is almost completely buried.

Jaguar teeth were discovered in three separate contexts throughout the cave. The distribution of these canines throughout the cave, and their deposition in cultural contexts, suggests that they are not part of the natural cave fauna. One jaguar canine was discovered on the floor under a rock lining the path in front of Vessel 59. Another jaguar canine was found near the entrance to the “assassin bug chamber” among leaf litter from a gibnut-sized opening to the outside. A third jaguar canine was discovered along with seven molars and several bone fragments (including a long bone) in the main chamber near the cave entrance. These jaguar teeth and bone were deposited underneath a low ceiling that had been blackened by smoke. Small torches were discovered deeper in the cave cached in a niche in the low ceiling. Perhaps torches like these or incense were used in the ritual deposition of the jaguar teeth. Other notable faunal remains included the possible snake vertebrae from the balcony near “sherd alley.” Marine shells (including a large cockle shell) and freshwater jute (Pachychilus indiorum) were also discovered in several locations throughout the cave. Living animal residents of the cave currently include a large mouse, a porcupine, two types of bats, and gibnuts.
Neither the complete vessels nor any of the artifacts were collected from Arch Cave in order to preserve it for others to experience. Since 2001, Discovery Expeditions has brought 12-20 people per week (during the winter months) on tours of the cave. The tourists are from cruise ships and only spend a half an hour at most in the cave. The tour guides are very conscientious and knowledgable about caves and of Maya culture and do not let anyone touch anything (they all stand outside of the alcoves and observe the vessels from afar). This is an excellent example of cultural patrimony. The villagers of Gracy Rock are guardians of the cave because looting of its contents would be less beneficial than preserving it as a cultural site for tourism. It is a win-win situation.
Tiger Sandy Bay Cave District

Usrey Cave

Usrey Cave, formerly known as “No Man’s Reach” (Isaza et al. 1999: 56), was renamed for Steve Usrey who was able to free-climb to a ledge containing four vessels. This cave was shown to the Xibun Archaeological Research Project team in 1997, but was not mapped until the 2001 season with the aid of a laser rangefinder (Figure 9.8).

The cave has two entrances — the main one is accessed by walking and climbing up a gradual slope and the other is accessed by crawling through a small partially walled entrance into a lower chamber. The lower entrance is visible from above, where one can stand on a ledge inside the main chamber of the cave and look across a vertical drop (approximately 8 m high and 5 m across) to a ledge containing four ollas. Both entrances of Usrey Cave open to the north into Usrey Valley. The cave is quite dry, containing stalactites and stalagmites which are inactive, at least during the dry season. Usrey cave is shallow but fairly dark inside and home to bats.

Figure 9.8 Map of Usrey Cave.
The main entrance to the cave is accessed by climbing up a steep flowstone shelf. The cave floor slopes upward to the south and then the chamber turns east a short distance, ending in a steep-sided depression, the bottom of which is accessible by the small second entrance. A flowstone ledge on the far side of the depression has stalactites and stalagmites which frame a shelf containing four *ollas* (Vessels 51-54; Figure 9.9). There is a large column in the center of the shelf near the edge of what appears to be a separate column standing behind it to the north. These columns divide the shelf into two separate sections to the north and east. On the northern side of the flowstone shelf, there are two large inverted jars with red rims and striated bodies (Vessels 51-52). Neither of these *ollas* are complete, but both exhibit intact rims. To the east of Vessels 51 and 52, there are two more large inverted *ollas*, one gray (Vessel 53) and one black (Vessel 54). These jars have also been “killed,” but are more complete than Vessels 51-52. Vessel 54 has a small kill hole in the base and a broken off stalactite that lies in front of it. The ledge upon which these vessels have been deposited is visible from, but unreachable via the chamber accessed by the main entrance. Steve Usrey, and later Bruce Cullerton and Matthew Miller, free-climbed the cave wall from the bottom of the depression and entered the ledge from an opening underneath and behind the vessels. The ledge could be accessible via a very large ladder. The walls of Usrey Cave are smooth limestone with many water-sculpted pockets which make good handholds for climbers. Overall, cave features appear to have been formed by water erosion more than by dripping water, although there is flowstone in many parts of the cave. There is a rock overhang at the entrance with large stalactites.

![Figure 9.9 Ledge containing Vessels 51-54 (photo by Patricia A. McAnany).](image)

A small alcove is located on the wall directly above the main entrance to the cave. The alcove is part of a flowstone shelf that hangs over the sloping part of the main entrance approximately 8 m above the valley floor and about 3 m from the chamber floor. The ceiling of the alcove is high enough to sit beneath but not to stand. There are broken soda straws above the entrance to the alcove, but the broken ends cannot be found in the alcove and were likely removed from the cave. Inside the alcove there is a depression containing two small *ollas* with red-slipped rims and striated bodies (Vessels 55 and 56).
55 was found on its side, but may have been moved in recent times. A broken stalagmite (30 cm long, 13 cm thick, and 6 cm wide) lies behind Vessel 56. It appears to have been broken off a stump near Vessel 55, since they fit back together when joined. The niche containing the vessels is 1.22 m long and 0.44 m wide. Arboreal snail shells were found within the alcove. Sediment samples were collected from the interiors of these vessels for pollen and botanical analysis.

The lower entrance to Usrey Cave leads to a small room at the base of the steep-sided depression located beneath the shelf containing the four *ollas*. The entrance is merely a small crawl-space from the outside, which was probably once sealed by an artificial wall that has since fallen and is now a pile of limestone rubble. The room is dry but the walls are covered by *acteno mycites* (a fungus) and feel slightly damp. Assassin bugs inhabit this room.

There is a large boulder about 3 m from the rock face that conceals the lower entrance from the rest of the valley. Between the exterior cave wall and the boulder there are several smaller boulders embedded in the ground and stones from an artificial wall that probably once covered the small entrance. Many arboreal snail shells were found between the boulder and the rock face. Several species of freshwater and terrestrial molluscs had been deposited near the lower entrance to the cave (see Stanchly, Chapter 27, for a description of a sample of collected shells). Sherds and shells including *jute*, *Pomacea*, and *Nephronias* were also found in the alcove between the exterior cave wall and the small boulders (Figure 9.10). The western side of the lower level entrance is narrowly accessed due to the presence of a huge boulder. Dense deposits of terrestrial snail shells are located between the cave wall, the artificial wall, and the boulder.

![Figure 9.10 Freshwater and terrestrial shells from the entrance to Usrey Cave (photo by Patricia A. McAnany).](image)
*Metate Cave*

Metate Cave was investigated and mapped during the 1999 field season (Peterson 2002: 49-51). During 2001, Dr. John Jones conducted an analysis of pollen from the surface of a *mano* and *metate* that revealed the presence of ramon, fig, and other insect-pollinated tree species (see J. Jones, Chapter 34, for a complete list of species). This evidence comes from a pollen wash of a *mano* and *metate* discovered in a narrow upper chamber of Metate Cave. The cave was mapped in 1999, but the opportunity to analyze the pollen from a *metate* located in an upper alcove prompted us to return to the cave in 2001. The *metate* was inverted and was thus chosen for this particular analysis in order to determine what was ground on the stone before its final deposition in the cave. Further palynological analysis of sediments collected from complete vessels may reveal what they once contained.

*Glenwood Cave District*

*K’in Rockshelter*

Robin Brockett, a local primatologist, led us to a rockshelter where she had found an obsidian blade near a stone located just under the dripline (Figure 9.11). K’in Rockshelter has one narrow tunnel that extends a short distance into the interior of the limestone hill, but sunlight reaches all parts of the otherwise shallow rockshelter, hence it was given the Mayan name k’in or “sun.” Large sherds of *ollas* were discovered in the tunnel.

![Figure 9.11 Map of K’in Rockshelter.](image)
Artifacts were concentrated in areas on the floor delineated with pebbles. Two species of jute were found in these deposits — *Pachychilus glaphyrus* (identified by its characteristic sculpturing) and *Pachychilus indiorum*. Chert flakes were also discovered on the floor of the wide entrance.

It appears that more lithic debris is found in rockshelters and in pass-through caves — areas illuminated by natural sunlight — than in dark portions of the caves. The presence of expedient tools and obsidian blades may thus indicate a difference in activities performed in these areas (such as preparation for hunting or the use of natural overhangs as blinds, areas of temporary refuge, or possibly as areas of sacrifice or bloodletting).

**Summary**

Over the past three field seasons, XARP teams have mapped the floor surfaces of eighteen caves, identified the location of artifact clusters, point-plotted the location of eighty-five pottery vessels, and completed surface collections of over 8,000 artifacts from over 100 locations within sixteen caves. Detailed analysis of the data are to be presented as part of my forthcoming dissertation on the Xibun Maya utilization of caves. XARP is one of a few ongoing projects that combine the study of settlement patterns in a large region with an investigation of how the Maya perceived of and used their landscape.

Understanding the ideologically significant role of caves and other features of the landscape is an integral part of ancient Maya settlement studies, as recognized by Norman Hammond (1981: 176-177) over twenty years ago and now widely accepted by other scholars (Awe 1988; Brady and Ashmore 1999; Brady *et al.* 1997; McAnany 1998; Rissolo 2001). This proposition certainly rings true for the Xibun area where ancient Maya inhabitants deposited impressive amounts of cultural material in caves, most of which are located across the river from the settlements. Visitors to this subterranean world also brought speleothems back to their settlements and incorporated them into the construction of shrines, burials, and residences. Stalactites, stalagmites, and flowstone formations from the caves have been excavated in burials and other ritual contexts at settlements in the Xibun (see Parks, Chapter 19) as well as at other sites in the Maya region such as Tumben-Naranjál (Lorenzen 1999: 102). Ethnographically, cave formations have been recognized as symbols of fertility that are brought into Mixtec homes to promote fertility (Ravicz and Romney 1969: 394). This modern practice suggests one possible interpretation, but a contextual analysis of cave formations found at surface sites may yield alternative reasons for the secondary deposition of speleothems.

**Recommendations for Future Study**

Future research should be directed in the Gracy Rock Cave District, where preliminary reconnaissance has resulted in the location of several caves of interest. The karst around Arch Cave revealed evidence that the caves of this area have been used from ancient Maya times to the Colonial period. Colonial-period artifacts in caves of the Gracy Rock District include kaolin pipes, mold-made glass bottles, and wheel-made pottery sherds. There is great potential for continued research in this northernmost part of the Sibun-Manatee Karst.

Another interesting cave that merits future exploration was discovered by Robin Brockett in the Glenwood Cave District. It was named Actun Maax (“Howler Monkey Cave”) because it was the last
place where Robin, a primatologist, sighted her group of rehabilitated howlers. The cave contains polychrome sherds and a ceramic ear spool. A cache of small eggs, possibly from a reptile, were discovered in a small niche in the low ceiling of the cave. Time did not permit a more detailed investigation, but future fieldwork in the Gracy Rock, Chanona, and Glenwood Cave Districts promises to yield valuable information on Xibun Maya cave utilization.

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A dispersed settlement located in the middle reaches of the Sibun River, Pakal Na was the focus of mapping and excavation efforts during the 1999 and 2001 field seasons. The site is situated within the Belize Gravel and Mining Company (BGMC) concession and is located between the Sibun River and the Western Highway (near mile 35). Positioned on an escarpment that gently slopes upward from the nearby river, the collection of single and clustered mounds, mapped during the 1999 field season, form a linear pattern that extend over one kilometer in length along the north side of the Sibun River (Morandi and Norris 2001:7; see Map Sheets 2 and 8, also in the 2001 report for a complete map of the site).

During the 1999 field season, two plaza groups were the focus of investigation at Pakal Na. Operation 13 was situated on Structure 127, a possible shrine structure located within a small plazuela group in the southwestern part of the site (see Harrison 2001). Little artifactual material was recovered from the excavation, with the exception of a prominent pit cache that contained a deteriorated comal-like vessel, along with a large greenstone tubular bead and several nearly complete obsidian blades. Investigations also were carried out within the largest plaza group located in the northwestern part of Pakal Na. The layout of this main plaza group has been described elsewhere (see Harrison 2001; see also Map Sheet 8). Investigations entailed the partial clearing and test-pitting of select areas in and around Structure 130, the largest mound identified at Pakal Na. The excavation of Operation 16, located along the southern edge of Structure 130, was performed during the 1999 field season. The excavation exposed a rich midden deposit that offered insight into the household and ritual activities of the leading members of the Pakal Na community (see Harrison 2001). Operations 14 and 22 (Square A), positioned along the eastern side of Structure 130, revealed three phases of building modifications associated with the structure, referred to as Phases 1, 2a, and 2b (Figure 10.1). In addition, several pit features were exposed in these two operations that were suggestive of important ritual events carried out among the elite inhabitants of this large household group (Figure 10.2). Excavations defined a portion of a pit feature indicative of a ritual burning event, that had been dug into the surface of a large burial cut located along the central axis of Structure 130 (referred to below as Burial 1). Time, unfortunately, did not allow for the complete excavation of the burial during the 1999 field season and it was carefully covered over with back fill.

During the 2001 field season, the expansion of Operation 22 was prompted by the finds of Burial 1 in Square A during the 1999 season. Square B, a 2.5 m square, was laid out directly to the north of the original unit of Operation 22 (referred to below as Square A). The total excavation unit extended 5 m north-south by 2.5 m east-west (including a small 1 x 1 m area in the southeast corner which represented the western end of Operation 14; Figure 10.3). Operation 22 was positioned on the central axis of the eastern (front) side of Structure 130. Excavations during the 1999 field season ultimately revealed that Structure 130 was cardinally oriented. However, Operation 22 followed the orientation of Operation 14, laid out at 20 degrees east of north (a common building orientation found in the Sibun Valley that initially was thought to apply to Structure 130).
Figure 10.1 South wall cross-section of Operations 14 and 22 (drawing and inking by Kevin Acone and Eleanor Harrison).

Figure 10.2 North wall cross-section of Operation 14 (excavated during the 1999 field season, drawing and inking by Kevin Acone).
The three phases of construction (1, 2a, and 2b) are reviewed below, along with their associated features, with special attention given to the prominent burial pit (Burial 1) and an assemblage of grave goods that accompanied this interment. Following this overview, a description of each zone and the associated finds from Squares A and B of Operation 22 are provided, grouped by their associated architectural phase.

An Overview of Structure 130: Construction Phases and Associated Deposits

The first phase of construction (Phase 1) for Structure 130 consisted of a platform made of packed, mottled clay containing at least three distinct colors. The mottled construction fill shows signs of basket load stratigraphy and indicates the construction technique employed. Basket loads of clay material, likely mined from various clay beds originating in the nearby Sibun River, were transported to this area of the site for the initial construction of Structure 130. The substantial earthen mound may have stood over 2 m in height. The mound was then covered with a layer of river cobbles and possibly contained retaining walls built of cut stone. Excavations of Phase 1 in Operation 22 during the 2001 field season revealed a cache deposit (Zone 10), comprising several different smashed vessels. The ceramic deposit was found deep within the core fill with no signs of an intrusive pit and appear to have been interred directly into the construction fill during the building process. All sherds from the cache have a reddish-colored slip and several contain post-
firing incised designs. This type of incised design is a stylistic quality present in a number of ceramic phases and remains difficult to classify with any certainty, but appears to correlate to the Late Classic-Terminal Classic period (S. L. López Varela, personal communication, 2001).

In addition to the cache deposit, a burial (Burial 2 - Zone 21) of a single individual in an extended position was found interred within the Phase 1 construction fill. Like the cache deposit, Burial 2 was not placed within an intrusive pit, but rather was likely interred as the construction fill of the Phase 1 platform was consolidated. Burial 2, oriented with feet to the north, was cut into and partially destroyed by a later burial (Burial 1). The skull and right half of the torso, right arm bones, and right femur were missing from Burial 2. The lower legs of the individual were intact and crossed. A smashed cylindrical vessel with a waxy reddish-brown slip with black flecks has been placed where the skull would have been had it survived excavation in antiquity of the overlying intrusive burial pit. A preliminary analysis of the cylindrical vessel, which appears to be complete, suggests a Late Classic-Terminal Classic date (S. L. López Varela personal communication, 2001), coeval with the preliminary dates assigned to the Zone 10 cache. The cache deposit and disturbed burial found within the Phase 1 construction fill not only suggest the importance of ritual and ancestral worship at this central locale of Pakal Na, they serve as critical temporal markers and indicate that the initial occupation of the site began squarely within the Epi-classic period.

The later burial interment (Burial 1) is affiliated with Phase 2a, which constitutes the second construction phase of Structure 130. Phase 2a entailed building up the facade of the platform with earthen construction fill retained by large, shaped limestone blocks that may have formed as many as five terraces along the eastern (front) side of the platform. The terrace construction had collapsed considerably and therefore the front facing of the structure is difficult to reconstruct. However, it seems likely that the eastern facade may have contained a central staircase leading up to a superstructure where presumably a perishable structure once stood. The large stone-faced terraces created a façade that probably was meant to simulate the monumental stone masonry buildings of larger Maya city centers and suggest that the family living in this plaza group had gained significant status within the community by this time. The fill of the terraces consists of a thick layer of compact gray clay capped with a layer of gravel-size river cobbles and a thin surface of smaller limestone pebbles.

Although the deep pit containing Burial 1 intruded into the earlier Phase 1 clay-filled platform structure, it is clearly associated with the Phase 2a construction episode described above. The cut of the large burial pit was discernable in the surrounding gray clayey fill of the Phase 2a terrace construction, located directly on the central axis of the structure just east of the mound’s summit. The large burial pit was in-filled with the same material that it had been removed, a mixture of the construction fill of Phases 1 and 2a. A large but shallow pit feature that showed some signs of burning was dug into the surface of the burial pit fill (Figures 10.2 and 10.4). Burning is not intensive, and there is a general lack of utilitarian debris, suggesting a ceremonial function. Considering the position of this secondary pit feature directly overlying the burial cut, the fire pit may represent a burning ritual associated with the burial event. The secondary fire pit and large burial appear to have been capped with a poorly constructed cobble and pebble surface which sealed the features and created a surface flush with the surrounding Phase 2a terrace. The rough cobble and pebble surface suggest that Phase 2a continued to be used for some time, perhaps temporarily until Phase 2b was initiated. Excavations revealed that when the inhabitants of Structure 130 dug the large burial
pit, a portion of the Phase 2a terrace construction was dismantled and appears to have been rebuilt during the subsequent Phase 2b architectural modification. The Phase 2b modification rebuilt the upper terraces directly over the top of the earlier construction and mirrored its configuration. The look and feel of Structure 130 was modified only slightly, raising the overall height of the structure by less than half a meter.

**Excavation techniques**

Operation 22, which entailed the investigation of the eastern upper facade of Structure 130 at Pakal Na, utilized two datum stakes for the duration of the excavation. During the 1999 field season all elevations were measured from Datum B, which was positioned near the southwestern corner of Square A and measured 39.5 cm below ground surface. During the 2001 field season all elevations were taken from Datum C, which was positioned near the interface of Squares A and B along the western side of the excavation unit and measured 11.5 cm below ground surface. The two datum stakes, placed in the ground proximate to the edge of the unit in both cases, were used for relative measurements that offered quick and precise elevations during excavation. These elevations were computed into absolute elevations above sea level as measured by the Total Station. In an effort to glean a maximum level of information, one hundred percent of all soil excavated was screened through a quarter-inch screen, unless otherwise specified. When necessary, sediment from Burial 1 was brought into the lab and carefully screened for small finds through a finer mesh screen. Also, a series of soil samples were collected throughout the excavation for various sediment analyses. Trowels were primarily used in the excavation, with picks and shovels being used infrequently. Trowels were utilized to define the surface of architecture and *in situ* deposits, with the exception of Burials 1 and 2, where dental tools and bamboo sticks were used to define the skeletal material and associated grave goods.

**Overview of the Findings from Zones 1-21 of Operation 22**

As a whole, the unit provided the extensive vertical and horizontal exposure necessary for understanding the three construction episodes in the context of the large burial pit (see Figure 10.4), which extended over four meters in length (north-south) and over two meters in width (east-west). The following presents an overview of Zones 1-21, excavated in Squares A and B of Operation 22 over the course of two field seasons, with a description of the subsequent findings from each zone grouped according to their associated architectural phases (1, 2a, and 2b).
Figure 10.4 Planview of Zone 4 in Square A of Operation 22
(drawning and inking by Eleanor Harrison).

Phase 2b

Zone 1

In Squares A and B, Zone 1 consisted of the topzone that is comprised of a loose, dark matrix containing a high density of root mass and a light density of artifacts. At the base of Zone 1, the surface of a limestone cobble wall appeared running north-south along the western edge of the unit in Square A, approximately 25 cm below ground surface. This line of stones represents a retaining wall of an upper terrace, the surface of which is west of the excavation unit and was, therefore, less evident in Square B due to the orientation of the excavation unit, 20 degrees east of north. Only a small portion of this upper retaining wall (Wall 1) was exposed in Square B in the northwestern section of the unit. Limestone tumble located on the western side of the unit was defined at the base of the zone in Squares A and B and likely represented tumble from this upper terrace along the western edge of the unit. Both squares yielded only a light density of artifacts relative to the size and depth of the zone; therefore, only fifty percent of the sediment removed from Zone 1 was screened.
Zone 2 consisted of the tumble and silty clay matrix that had fallen from the east side of Structure 130. The tumble comprised a medium density of limestone cobbles and cut stones, presumably collapsed from part of the upper terrace retaining wall (Wall 1). At the base of Zone 2, Wall 1 (a two-course retaining wall) was exposed in its entirety along the western edge of the excavation unit. Wall 1 rested on a deteriorated packed surface consisting of a clay fill with a layer of small river cobbles topped with a thin surface of limestone pebbles. Wall 1 and its associated lower terrace represent the final Phase 2b modification (Figure 10.3). The Phase 2b terrace surface slopes downward somewhat and extends out to the east about a meter before it interfaces another retaining wall (Wall 2). Wall 2 is one to two courses high and sits on a lower terrace surface, which was exposed in the eastern half of Squares A and B. This lower terrace surface is associated with the Phase 2a construction and runs underneath the upper Phase 2b terrace (Figures 10.1 and 10.5). The east wall of the excavation unit cuts off a third retaining wall (Wall 3), but several larger stones in the eastern edge of the pit suggest a lower retaining wall in this location.

If the pattern holds, terraces appear to have been about 40 cm high, comprised of one to two courses of stone, and spaced about a meter apart. The low height of the terraces suggests that they also may have functioned as stairs, likely leading up to a perishable structure perched on top of the mound. If evenly spaced, there may have been as many as five terraces along the eastern façade of Structure 130 (Figure 10.3). The height of the structure and use of cut stone masonry, including a number of large limestone slabs that were noted along the lower portion of Structure 130 in Operation 14 (see Harrison 2001), give the impression of a monumental platform structure reflective of a high status household group.

There is a significant increase in artifact density in both squares of Zone 2. Artifacts include animal bone, debitage, chipped stone tools, obsidian blade fragments, sherds, and several mano fragments. Due to the increase in artifacts, one hundred percent of all soil was screened in Zone 2. The artifact assemblage suggests a residential function for Structure 130, arguably the home of the community leader of Pakal Na. Notably, a net weight was found in the cobble construction fill layer at the base of Zone 2, within the southwest corner of Square B. A number of similar net weights were recovered from the Phase 2a cobble surface in Operation 14. The repeated appearance of such artifacts is suggestive of a purposeful placement, perhaps serving as dedicatory offerings placed within the cobble fill during construction (see Harrison 2001). A complete chert biface also was found near the western side of Square B, resting on the upper Phase 2b terrace surface. The biface appears to be associated with the terminal occupation of Structure 130, rather than part of the terrace construction fill. Numerous ceramic sherds were found lying flat on both of the two terrace surfaces that were exposed at the base of Zone 2, primarily on the lower of the two terrace surfaces. Several diagnostic sherds were noted, which ultimately may provide a date for the terminal occupation of Structure 130. A soil sample (FCB # 938) of the terminal debris, which comprised a high density of charcoal and other organic material, was collected from Square B for future sediment analysis and flotation.
Zone 3

A shallow pit feature, illustrated in Figure 10.3, was defined on the surface of the Phase 2b upper terrace at the base of Zone 2. The pit did not appear to contain any discrete deposit and was excavated as part of Zone 3. The position of this pit feature, however, is potentially meaningful with regard to its location on the central axis of Structure 130, directly above a shallow fire pit feature and the cut of Burial 1 that were found associated with the Phase 2a construction. Together, the placement of two consecutive pit features in this locale may have served a ritual function in connection with the burial interment.

The upper terrace surface and an underlying associated gray clay construction fill also were removed as part of Zone 3. Excavation of Zone 3 was entirely associated with the Phase 2b construction, and entailed dismantling Wall 2, which essentially bisects the unit of excavation and runs in a north-south direction (Figure 10.3). The upper terrace surface retained by Wall 2 consisted of a thin layer of small limestone pebbles with an underlying layer of small river cobbles. The matrix of this packed surface was intermixed with a compact silty-clay soil. The underlying gray clay-filled construction material (approximately 35 cm in depth) also was removed. In contrast, the compact, gray clay construction fill
contained only a light density of inclusions. Overall, artifact density was light, consisting of domestic refuse similar to Zone 2, including another groundstone (mano) fragment.

**Phase 2a**

**Zone 4**

At the base of Zone 3, the earlier Phase 2a terrace surface was exposed and was found running underneath Zone 3 (Figure 10.4). Unlike the Phase 2b terrace construction, Phase 2a in Operation 22 revealed only a partially intact terrace wall and an inconsistent surface of river cobbles and limestone pebbles that were removed as part of Zone 4. The disturbed Phase 2a construction appears to relate to the two intrusive pit features that were dug into the Phase 2a terrace (Zones 4 and 5). The Phase 2b terrace construction appears to have capped and rebuilt the upper terraces that were dismantled as a result of the large, intrusive burial interment. The subsequent Phase 2b architectural modification affected the rebuilding of the Phase 2a terrace by adding another course to the existing upper terrace walls and heightening the top portion of the structure by less than half a meter.

Following the infilling of the large burial pit, a shallow fire pit was dug into the surface of the southern end of the large burial cut (Figure 10.5). As noted, the location of the pit and lack of utilitarian debris suggests that it may have served a ritual purpose, rather than simply a domestic function, such as a cooking hearth. This secondary pit, confined to Square A, showed evidence of burning that extended throughout the shallow intrusive feature. The pebble fill consists of a high density of fire-cracked rock and the soil that is significantly darker and more reddish in color, appearing rich in organic remains in comparison to the remnants of a surrounding gray, clayey construction fill (Zone 5) associated with the Phase 2a terrace construction. Both C-14 and sediment samples of the Zone 4 pit matrix were collected. The large burial and secondary fire pit features both appear to have been roughly capped with a cobble surface, indicating that the surface of Phase 2a may have been continued use prior to the construction of Phase 2b. Due to the disturbance of the large burial pit feature, the remains of the Phase 2a construction were difficult to discern. However, the north wall cross-sections of Squares A and B (Figure 10.5) offer a clear illustration of the construction sequence and relative positioning of the large burial pit that is associated with the Phase 2a structure.

In addition to the shallow fire pit feature, Zone 4 included remnants of the Phase 2a terrace wall and a thin cobble surface that was exposed at the base of Zone 3. In Squares A and B, the remnant wall and cobble surface was removed with the exception of a small area in the northwest corner of Square B (measuring 145 cm north-south by 50 cm east-west). This area appears to be the eastern corner of a raised platform, possibly the superstructure positioned on the uppermost platform tier of Structure 130, where a perishable structure may have existed. This area of construction remains difficult to reconstruct due to the western limits of the excavation unit.

At the base of Zone 4, the cut of the burial pit feature was clearly definable in the compact, gray clay construction fill of Phase 2a (Figure 10.4). The gray fill was removed as part of Zone 5, along with the top portion of the burial pit fill. The cut of the burial, located approximately 75 cm below ground surface, appeared extremely large and encompassed almost the entire 2.5 × 5 m unit. Subsequent excavations revealed that the pit was much wider on the surface and gradually tapered down toward the base of the pit. Two small speleothems were found associated with the upper surface of the burial pit, located around the central area of cut in Square A. The weathered pieces fit together, and represent a stalactite cave formation. The cave deposit seems to have been purposefully placed in association with this important interment. An
additional larger speleothem was found deeper in the burial pit, at the north end of the burial in Square B in association with the skeletal remains that are reviewed below. The finds of cave formations associated with the burial of an important individual from Pakal Na suggest that the interred was likely involved in ceremonial pilgrimages to caves within the Sibun River Valley, where ancient ritual activity has been well documented (see Peterson 2001; Peterson, Chapters 3 and 9). Cave formations also have been found in association with two circular structures excavated at other settlements within the Sibun, including Pechtun Ha (see Harrison and Acone 2001) and Oshon (see Harrison, Chapter 16). The finds suggest that the inhabitants of the Sibun settlements sought to physically and spiritually link themselves with these powerful attributes of the sacred landscape.

Zone 5

Zone 5 is the top portion of fill for Burial 1 and surrounding gray clay fill associated with the Phase 2a terrace construction (Figure 10.4). The cut was defined in the gray clay fill, which contained few artifacts. The pit was found to be considerably wider at the top and to extend just beyond the east and west walls of Operation 22. Therefore, little of the Phase 2a terrace construction remained intact along the middle of the eastern and western sides of the unit, seemingly disturbed in antiquity during the excavation of the burial pit. Tree root disturbance also was noted along the northern side of Operation 22 (Figure 10.5). As excavation continued, most of the cut appeared well defined. The eastern and western edges became more clearly defined in Zones 6 and 7 as the pit tapered inward. Zone 5 further defined the cut and removed the first 25-30 cm of the interior pit fill. The zone ended arbitrarily and Zone 6 continued the removal of pit fill.

The pit fill cuts through the Phase 2a construction and intrudes into construction fill of Phase 1, which is a compact mottled clay-filled matrix. The pit fill consists of a mixture of re-deposited construction fill from both contexts. The fill is a semi-compact soil with gravel-sized limestone and river-derived inclusions. Artifact density is light, but there is a significant density of fire-cracked rock in the fill. Flecks of charcoal and some burned sherds were noted and a C-14 sample was collected. In addition to the discrete fire pit feature identified on the surface of the burial cut (Zone 4), it is possible that additional burning activity accompanied the infilling of the burial and was an important part of the ritual event. A flotation sample (FCB #960) was collected from the pit fill that was excavated in Zone 5 of Square B. A relatively high density of charcoal was noted and other organic material may be identifiable when the soil is floated.

Zone 6

At this lower level, the matrix of the burial pit fill is rich in cultural material, including sherds, debitage, animal bone, obsidian, groundstone fragments, and unworked shell. In Zone 6 of Square B a five gallon bucket of pit fill from Burial 1 was collected for flotation (FCB #966). Like the Zone 5 sample, it contains a high density of charcoal and other organic remains. An interred individual, found buried adjacent to the large burial cut (described as Burial 2 below), was associated with the Phase 1 construction. Burial 2 (Zone 11) evidently was disturbed by this later burial deposit and it is possible that some of the skeletal material from this earlier burial was re-deposited with the infilling of Burial 1. A human cranial fragment was found higher up in the fill of Zone 5 and a human tooth was found in the Zone 6 pit fill.

A large portion of a red-slipped serving platter (Vessel 1), associated with the burial deposit, was positioned at an angle in the pit fill where Squares A and B interface (Figure 10.6). The vessel, recovered in pieces, perhaps broke apart when the heavy fill buried the deposit. Large pieces of the vessel were found dispersed throughout the matrix and it is conceivable that the vessel was smashed ceremonially when it was
interred. If this was the case, the vessel was broken before or as it was being deposited into the pit fill and was perhaps purposefully placed at different levels in the pit fill. The broken vessel was removed over the course of Zones 6, 7, and 8 in Squares A and B. In Square A, portions of the platter were recovered at around 200 cm below ground surface and the bottom portion of the platter was found at around 220 cm below ground surface. When Square B was excavated in 2001, additional pieces of the large serving platter were found in the vicinity of the other sherds (approximately 204 cm below ground surface). The pieces of the large vessel, which has an incised design on its exterior, appeared for the most part in an upright position in the pit, directly over a portion of the burial referred to as Burial 1-B (refer to Figure 10.6) after at least 20 cm of fill had been deposited over the human remains. At the base of Zone 6, the pit fill continues, but the cut of the pit is increasingly restricted, tapering considerably toward the base of the pit.

Zone 7

Zone 7 comprised the burial pit fill at the base of the pit. The goal of the zone entailed defining the top of four vessels, which were initially identified at the base of Zone 6 in Square A. Vessels 2, 3, and 4 were ultimately removed as part of Zone 8. As noted above, a portion of Vessel 1 also was removed in Zone 7 of Square A. A large and heavy speleothem also was defined at the base of Zone 6, along with a large ceramic sherd. These two items, removed as part of Zone 7 in Square B, appear to have been purposefully placed as grave goods directly above Burial 1 in the vicinity of Burial 1-D. A whole vessel (Vessel 5) was defined and removed as part of Zone 7, but is described in Zone 8 below, along with four other vessels found in the same area.

Figure 10.6 Planview of Burial 1 (drawing by Steven Morandi and inking by Kevin Acone).
Phase 2a: Skeletal Remains of Burial 1 and Associated Grave Goods

Zone 8

Elevations indicated that the level of Zone 8 in both squares A and B were roughly equivalent. Zone 8 consisted of the bottom fill of the burial pit where a series of skeletal groupings were defined. In addition to the primary articulated interment (Burial 1-A), three clusters of bone were recognized at the base of Zone 8, referred to as Burials 1-B, 1-C, and 1-D. These discrete groupings of skeletal remains were entirely defined in Zone 9. Preliminary analysis indicates that the bone from the four skeletal groupings in Burial 1 represent several different individuals (see Hauksdottir and Morandi, Chapter 26). Overall, there is a very high density of burned wood coming out of the burial pit fill, including a great deal of fire-cracked rock. In addition, the fill contained a medium density of river gravel (likely the remains of Phase 2a) and a mixture of mottled clay (the remains of the Phase 1). A number of flotation samples from the Zone 8 pit fill (in Square A: FCB #973 and in Square B: FCB #981, 982, 987). Zone 8 also produced a number of notable grave goods. Four vessels were found situated in a line running north-south, positioned directly over the body of Burial 1-A, the main interment (see Figure 10.6). In addition, several fragments of incised human bone, seemingly part of a single cranium, were recovered in both Zones 8 and 9 from the vicinity of Burial 1-C (Figure 10.7). Zones 8 and 9 also yielded a number of perforated dog and jaguar canines. These finds are described below.

Figure 10.7 Photo of incised bone found in Burial 1, associated with Burial 1-C
(photo taken by Patricia A. McAnany).
Vessels 2, 3 and 4 were defined, drawn and photographed at the base of Zone 7 in Square A and removed as part of Zone 8. Vessel 2 appears to be a highly eroded polychrome bowl, inverted over Burial 1-A and placed furthest to the south in the line of vessels (see Figure 10.6). A sediment sample (FCB #923) and two C-14 samples (FCB #920), found sealed underneath the inverted vessel, were collected in Zone 8. A third vessel (Vessel 3) was found just north of Vessel 2 (Figure 10.8). It is a badly burned Chichen Redware; a type found further to the north in Yucatan, Mexico (see López Varela, Chapter 20). Vessel 3 contained a pair of incised lines, one running below the rim and the other above a pedestal base. There are also a series of incised “X” markings and large, impressed dimples along the body of the vessel. Vessel 3 was placed upright over Burial 1-A. The pyriform vessel, dubbed the “Apollo Vessel” by the XARP team, suggests that it may have functioned as a drinking cup, perhaps reserved for special ritual feasting events involving pulque or cacao. The fourth vessel (Vessel 4) was found just to the north of Vessel 3 and was also placed upright over the main interment. The pedestal-based vessel appears to be another Chichen Redware type, with a similar form, and also displays a badly burned, blackened surface.

Figure 10.8 A burned, Chichen Redware vessel (Vessel 3) associated with the main interment, Burial 1-A (photo taken by Patricia A. McAnany).

A fifth vessel (Vessel 5) was defined north of Vessel 4 in Square B. It was located directly beneath Vessel 1 and was slightly lower in the pit than Vessels 2-4. This inverted bowl was poorly preserved. The interior red slip was almost entirely eroded with much of the slip remaining on the sediment underneath the vessel. Although the other three vessels further to the south in Square A were removed as part of Zone 8, Vessel 5 was removed as part of Zone 7 in Square B. Upon removal of Vessel 5, several sediment samples were collected from the soil trapped underneath the inverted vessel, including a pollen/phytolith sample (FCB #975) and a large botanical sample (FCB #976/977). The inverted bowl was situated roughly where the head of the main interment was thought to have existed. When Vessel 5 was removed, it was discovered that the head of the primary individual was missing. The remainder of the skeleton was articulated, indicating that the head may have been removed prior to the deterioration of the body’s soft tissue, and was perhaps the cause of this individual’s death.
A number of additional grave goods were recovered at the base of Zone 8 in Square A, including two large jaguar teeth that are perforated at the proximal ends and were likely strung as a necklace. Adjacent to the two jaguar teeth, a concentration of red, granular material that appears to be cinnabar was collected; this material, if heated, turns to mercury. The concentration of cinnabar was clearly part of the burial assemblage and was possibly placed in a basket or other perishable container. Both the jaguar teeth and cinnabar appeared to be associated with Burial 1-B, a smashed and disarticulated skull and mandible situated to the east of Burial 1-A (Figure 10.6). Four perforated dog canines also were recovered around Burial 1-C. They were found relatively dispersed within this locale. Two were found at the base of Zone 8 and the other two were identified in Zone 9. Both the jaguar and dog teeth were photographed and drawn.

Figure 10.9 Incised human mandible with cartouches showing two distinct zoomorphic images (drawing and inking by Kevin Acone).

An incised human cranial fragment in the form of a mat design also was found in Square A, along the northern end of the unit. The incised fragment rested on a mano fragment, just south of Vessel 1. The bone may be associated with Burial 1-B, but more likely was part of the skeletal grouping referred to as Burial 1-C where several additional incised cranial fragments were found (Figure 10.7). This discrete cluster of bones, located along the eastern side of the burial cut primarily in Square A, was further excavated in Zone 15 and is described in greater detail below.

A flotation sample (FCB #986) high in charcoal, was collected from the east side of the burial cut, in the vicinity of Burial 1-C. Three seeds were found in a small portion of sediment from inside a series of
stacked and inverted human cranial fragments that were not incised but were associated with Burial 1-C. These stacked cranial fragments were later identified by osteologist Rebecca Storey as the missing cranium of articulated Burial 1-A. Associated sediment was collected for a flotation sample (FCB #988) for future archaeobotanical analysis.

In sum, five broken but seemingly complete vessels were recovered from Burial 1, primarily in association with the main interment (Burial 1-A). Vessel 1 was found about 20 cm above the skeletal remains, hovering in the fill roughly at the interface between Squares A and B. Vessels 2, 3, 4, and 5 were located directly above the main interment, placed on a relatively level surface along the centerline of the body. The bottom elevations of Vessels 2-4 were within a centimeter of one another. The vessels were found resting directly on a thin layer of sediment, about 5-10 cm above the skeletal remains of the primary interment (Burial 1-A). It is conceivable that the body of the main interment was once wrapped, perhaps in cloth that has since deteriorated, and the vessels were then placed on top of the wrapped body. Vessel 5, the northernmost vessel, was positioned about 5 cm lower than Vessels 2-4, where the head of Burial 1-A ought to have been. Only a small amount of the pit fill was removed from below Vessels 2-5. The zone was then changed arbitrarily to Zone 9, which comprised the last 10-15 cm of fill around the skeletal material.

Zone 9

Zone 9 involved the removal of the burial pit fill surrounding the human remains found beneath the ceramic vessels and other grave goods. High densities of charcoal were noted throughout the pit fill and several C-14 (FCB #992 and 995) and botanical samples (FCB #989 and 992) were collected from Zone 9. Sediment directly above the human bone was significantly darker in color than the surrounding pit fill. A sediment sample of this dark organic-rich soil (FCB # 993) was collected from directly above Burial 1-D in Square B. A number of miscellaneous bone fragments from around Burial 1-C (FCB #989) and Burial 1-D (FCB #992, 995) were collected from Square B in Zone 9. A substantial deposit of cinnabar was found adjacent to Burial 1-B, to the north of the skull and proximate to the two large perforated jaguar teeth, and a large sample (FCB #991) was removed from Zone 9.

As previously mentioned, the burial consisted of four discrete deposits of human bone, demarcated as Burial 1-A, 1-B, 1-C, and 1-D (Figure 10.6). Each discrete grouping of skeletal material was removed as a separate zone. Zone 16 comprised the primary interment (Burial 1-A). Burial 1-B consisted of a smashed and disarticulated skull and mandible. The remains of the skull appear to have been positioned face-down. Burial 1-C consisted of an elongated cluster of bones running along the eastern edge of the burial pit, situated at the interface between Squares A and B. The skeletal material in Burial 1-C comprised mostly cranial and mandibular fragments. Burial 1-D, the northernmost cluster of bones, consisted primarily of the fragmentary remains of a torso, arm bones and a pair of long bones.

A series of large sherd fragments lined the southern end of the burial pit and ran underneath the lower legs of Burial 1-A. Several good samples of charcoal were found next to the tibia bones of Burial 1-A. The sherd-lined areas were removed separately as Zones 13 and 14. Zone 15 comprised a portion of an orange-slipped vessel that contained nubbin feet and was situated just to the west of the primary individual’s right shoulder. Zones 13-19 are described individually below.
Zone 13

Zone 13 consisted of a sherd-lined area on the eastern side of the burial pit at the southern end of the main interment (see Figure 10.6). The sherds lined an area under the lower legs of Burial 1-A and were clearly positioned prior to the placement of the primary interment. The deposit contained 10-15 cm of ash and charcoal underneath the concentration of ceramic material, mixed with a semi-compact silty clay. Little to no inclusions were found in the fill surrounding the vessel fragments. The ash and charcoal provided a good quality C-14 sample (FCB#601) and two botanical samples (FCB#602 and 615). Sherds were blackened, as if severely burned. The evidence of burning appears to be associated with a ritual event that took place just prior to the interment of the primary individual, and may be the remains of a fire ceremony like those described by Stuart (1998). He emphasizes the frequency of inscriptions involving fire-related ceremonies, pointing to its paramount role in ancient Maya ritual behavior. Stuart (1998:396-399) has deciphered one particular phrase, och-i-k’ak’ t-u-muk-Il, as “the fire or smoke enters his/her tomb,” which may apply to the burning found in Burial 1. Stuart (1998:417-418) notes that the heat of fire is still equated today with strength, vitality, and soul by numerous Mesoamerican groups, including the Maya. Bringing fire and smoke into Burial 1 perhaps was seen as vivifying and imbuing the resting place of an important deceased ancestor with sacred power. Other references to smoke and fire are found in the context of the incised skull fragments recovered from the vicinity of Burial 1-C and are a point of discussion returned to in the final section of this chapter.

Zone 14

Zone 14 consists of a large grouping of sherds seemingly of the same vessel, smashed and positioned to cradle the lower legs on the west side of the primary interment (Burial 1-A). There was a rim sherd wedged between the lower legs. The soil matrix was a semi-compact silty clay with little to no inclusions. Unlike Zone 13, there was no charcoal or ash found underneath the sherds. The sherds were part of a red-rimmed olla. The ceramic material was blackened like Zone 13, presumably through intense burning activity. The ceramic fragments from Zone 14 were significantly larger than those found in Zone 13. At this time, it is unclear whether Zones 13 and 14 comprise more than one vessel; however, they were positioned within the southern end of the burial pit at about the same time. The sherd concentrations from both Zones 13 and 14 were clearly deposited prior to the interment of the main individual for the lower leg bones overlaid the ceramic material. Only the southern portion of the pit in the vicinity of the lower legs was sherd-lined. All whole and partially reconstructable vessels, including those recovered in Zones 13 and 14, were directly associated with the main interment (Burial 1-A) and indicate the special treatment of the primary individual.

Zone 15

Zone 15 consists of a partially reconstructable vessel, placed upright in a small niche carved out of the western side of the large burial pit feature within Square A. The niche in which the vessel was placed had been dug into the compact, mottled clay fill associated with Phase 1, but appeared to be part of the Burial 1 deposit. The partially intact vessel was positioned on the same surface as the primary individual, roughly 260 cm below ground surface. The upright orange-slipped vessel contains small nubbin feet and is similar to a Terminal Classic vessel form from Lamanai in northern Belize as illustrated in Graham (1987:
The small vessel was situated just to the west of the primary individual’s right shoulder and, like all other vessels in Burial 1, appears exclusively associated with the main interment. A single fragment of an obsidian blade was found to the east of the partially reconstructable vessel, in the vicinity of where the head of Burial 1-A ought to have been, and was removed as part of Zone 15.

Zone 16

Zone 16 consisted of the bones of Burial 1-A. The skeletal material of the primary interment appeared dark brown and somewhat soft and decomposed in certain areas (e.g., the ends of long bones and other areas where cortical bone is thin). Overall, the bones were extremely well preserved. All skeletal material from Burial 1 was drawn, photographed and catalogued with unique numbers that can be traced to specific locations noted on a planview drawing (not published in this report). A separate log itemized the numbers assigned to each bone or grouping of bones that were removed, which corresponds with the aforementioned planview drawing. When discernible, skeletal identifications were recorded. Preliminary osteological analysis of the pelvis indicated Burial 1-A represented a robust adult male. A pollen/phytolith sample (FCB #600) was collected from below the sacrum and a C-14 sample (FCB #612) was collected from Zone 16 for future analysis.

The individual was lying in an extended position, oriented with feet to the south. The individual’s right leg was crossed over the left leg and the right arm appeared bent across the chest. The bones of the feet were intact; however, several of the phalanges were exposed in the western end of Operation 14 and had been disturbed by vandals during the 1999 field season (see Harrison 2001). These bones were salvaged and subsequently removed during the excavation of Operation 14. The majority of the individual lay within Square A (Figure 10.6). The bones of Burial 1-A were fully articulated and mostly intact. However, the individual noticeably lacked certain anatomical parts, including the left arm and skull. The skull is entirely missing and does not seem to be the result of deterioration; rather, the head of the individual appears to have been removed prior to interment. Based on the articulation of the skeletal remains, the body contained soft tissue when it was buried. It is conceivable that the primary individual’s skull is among the three other discrete clusters of disarticulated bones within Burial 1. The alternative, however, is that the individual was never buried with his head. One possibility is that the head was cut off and kept above ground, perhaps as a form of ancestral worship not uncommon during the later Postclassic period. Another possibility is that the individual died violently through decapitation and the head could not be recovered upon burial. The missing arm lends support to the latter conclusion of a violent death, perhaps mutilation during a battle of some kind. More thorough osteological analysis of all bone material from Burial 1 may clarify this issue. In either case, the wealth of grave goods and three bundles of human bone that accompany this individual suggest that the primary interment held exceptionally high status within the community of Pakal Na.

Zone 17

Zone 17 contained Burial 1-B (Figure 10.6), a crushed and disarticulated skull situated to the east of the main interment (Burial 1-A) and to the west of Burial 1-C, discussed below. The bones are extremely fragmentary. The remains of the skull were accompanied by a mandible, which was positioned slightly to the west of the skull. Both the skull and mandible appear to have been placed in the burial pit upside down, with the back of the head oriented to the north. There were seven human teeth exposed on the surface of
the deposit, within the vicinity of the mandible, but many more were found when the bulk of the deposit was excavated and cleaned in the lab. None of the teeth appears worked.

The skull and mandible were found in the semi-compact pit fill, which contained a light density of gravel-size limestone inclusions and a few sherds that were associated with the deposit. Most notably, there were two large jaguar teeth and a significant deposit of cinnabar found in association with Burial 1-B (refer to Figure 10.6). The two jaguar teeth were placed around the cinnabar deposit, which was about 20 cm across and roughly 5-10 cm thick. A number of samples of cinnabar were collected in Zones 8 and 9 of Square A. The two jaguar teeth contain drill holes that suggest they were originally part of a necklace. Found at the interface of Zones 8 and 9, the jaguar teeth were removed as part of Zone 8.

**Zone 18**

Zone 18 consists of Burial 1-C (Figure 10.6), a cluster of skeletal remains found along the eastern edge of the large burial pit. The deposit appears to be a discrete collection of human bone, primarily skull and mandibular fragments belonging to at least two different individuals. In addition, several arm bones were identified. The skeletal material of Burial 1-C appears clustered together, as if once bundled and wrapped, perhaps in cloth. The elongated bone deposit measures about a meter in length and was oriented north-south. Although disarticulated cranial fragments found in the southern end of the deposit were inverted and stacked, they clearly represent a single skull. In addition, four perforated canine dog teeth and a core of a marine shell, possibly a West Indian Crown conch, were found associated with Burial 1-C (see Figure 10.6). The exterior portion of the conch shell, typically used for shell production, was missing, and only the interior spiral of the shell remained.

Of the numerous cranial and mandibular fragments identified in Zone 18 of Burial 1-C, several contained incised designs and a series of drill holes. A high level of scratch marks on the surface of the incised bone suggested that the soft tissue did not naturally decay, but was purposefully removed, likely with the express goal of carving the skull and mandible shortly after death. The fragments of worked human bone were clustered at the southern end of the bone deposit. Several fragments contained a mat design with a series of drillholes at the intersection of the mat weave. The mat design, located on the parietal area of the skull, was roughly square in shape and resembled lattice (Figure 10.7). One large incised bone fragment contained a *k’ak* glyph or smoke sign positioned roughly in the center of the frontal bone just above the eye sockets. Various cartouche designs, including the head of a snarling canine or feline, were found on the mandible, which was recovered in two pieces (Figure 10.9). Three drillholes were found on the mandible, perhaps in order to keep the lower jaw tied to the skull. Other fragmentary portions of the cartouche designs containing similar zoomorphic imagery line the parietal and temporal zone of the skull, around the edges of the mat design.

The fragmentary remains of the incised skull, recovered in Zones 8, 9 and 15, were found in various places within the Burial 1-C skeletal grouping. A preliminary analysis of the incised remains indicates they represent a single human skull (S. Morandi, personal communication, May 2001). Evidence of burning on several of the cranial fragments suggests that the incised skull may have functioned as an incense burner. One example of a human skull used as an incense holder comes from the Cenote of Sacrifice at Chichen Itza (Coggins and Shane 1984). Though this specimen was not incised, the parietal section of the skull was
cut and fashioned into a lid. Alternatively, osteologist Rebecca Storey suggests that the incised skull may represent a trophy of a sacrificed individual, perhaps a captive taken in warfare. She notes that this example resembles other specimens recently uncovered from a series of tombs at Copan in Honduras (R. Storey, personal communication, August 2002).

Zone 19

Zone 19 consists of another cluster of bones in Burial 1, labeled Burial 1-D. The bones consist primarily of a pair of long bones and torso that appears to represent a single individual. A preliminary analysis of the skeletal material suggests that the body was interred after the soft tissue had decayed, yet bones were roughly in their correct anatomical position. This implies that the bones were either placed in such a way as to reconstruct the original positioning of the body or they were bundled together when the body was still intact, only shifting somewhat over time as the soft tissue decayed. No grave goods were directly associated with Burial 1-D; however, a large smashed serving bowl (Vessel 1) found about 25-30 cm above Burials 1-A and 1-B could have some association with this individual.

Phase 1: A Dedicatory Offering and Burial 2

Zone 10

Zone 10 consisted of a portion of the compact clay construction fill of Phase 1, confined to the northwest corner of Square A, which contained a discrete cache deposit. The mottled matrix contains basket-load stratigraphy and is the same construction fill that was encountered in Operation 14 (see Harrison 2001). It comprises the core fill of Structure 130, which was topped with a surface layer of river cobbles. The Phase 1 construction underlies the Phase 2a terraces, with which Burial 1 is associated. Zone 10 contains a very light density of inclusions and yielded a small quantity of artifacts. When a concentration of stacked sherds was encountered, it was clear that the ceramic material represented a discrete deposit. The dedicatory offering contained no intrusive pit, but was deposited directly in the fill of Phase 1 as the initial platform was under construction. The cached vessel had been smashed and was relatively localized within the compact clay construction fill. After further analysis in the lab, the ceramic material from Zone 10 appeared to represent more than one vessel, possibly two or three partially reconstructable vessels. The concentration of sherds, however, was referred to as Vessel 6 in the excavation notes. The sherds are thin-walled and contain a reddish-orange slip and several pieces exhibit post-firing incising. Notably, several of the sherds contained calcite deposits similar to ceramics recovered from cave contexts in the Sibun Valley. The ceramic material may have been purposefully moved to this location and secondarily deposited as a dedicatory cache because they were thought to have been imbued with power in a sacred context of a cave.

Zone 11

Zone 11 comprised the fragmentary remains of a single reconstructable vessel (Vessel 7) and surrounding fill in an area directly below Zone 10 in Square A. The fill consisted of compact clay with some
organic material, including charcoal and possibly seeds. Two botanical samples of the organic material were collected (FCB #962, 963). Both limestone and river gravel were lightly dispersed throughout the matrix. The vessel was smashed up against a large river cobble, measuring approximately 27 cm (Figure 10.10). The ceramic fragments appear to be part of a fine-paste cylindrical vessel with a waxy reddish-brown slip with black flecks, presumably produced during the firing process. The vessel deposit is associated with the southern end of a second burial recovered in Operation 22 (Burial 2). A portion of a humerus protruded out of the northern wall of Square A, extending from a skeleton (Zone 21) lying further to the north in Square B underneath a thick layer of Phase 1 fill, which was excavated as Zone 12.

Figure 10.10 Planview of Burial 2, a single extended individual deposited directly in the construction fill of Phase 1 of Structure 130.
Zone 12

Zone 12 consists of a thick layer of mottled clay fill placed directly over the remains of Burial 2. The Phase 1 fill contained a light density of firecracked rock and limestone, as well as a few river gravel inclusions lightly dispersed throughout the fill. The mottled clay reflects the basket-load stratigraphy found throughout the Phase 1 construction fill. Toward the base of Zone 12, the fill immediately surrounding the skeletal remains of Burial 2 consisted of a loose brown soil with a higher concentration of limestone and river gravel inclusions. A sample (FCB #620) of this loose soil was collected for sediment analysis. In the fill directly above the skeletal remains, a tooth, possibly from an iguana, was found and appears worked; otherwise, artifact density in Zone 12 was generally light. While the fill surrounding the burial appeared slightly different in color and texture, there were no clear signs of an intrusive pit. Burial 2 appears to have been interred early in the construction of the Phase 1 earthen platform. Like the Zone 10 ceramic cache, Burial 2 perhaps served to dedicate the new construction and indicates the importance of ancestral veneration during the initial occupation of this central locale of Pakal Na.

Zone 21

Zone 21 comprised Burial 2 (Figure 10.10), which lay directly below the overlying fill of Zone 12. Excavations revealed that the individual was placed directly within the Phase 1 basket-load fill during the early stages of the building process. The feet of the extended individual were positioned to the north (the opposite orientation of Burial 1-A). An associated vessel (Zone 11) was smashed and placed in a disarticulated fashion to the south of the skeletal remains, where the head of the individual ought to have been. A drilled fish vertebrae, possibly fashioned into a bead, was found in Zone 21 and is perhaps another associated grave good. Burial 2 was disturbed by the large cut of Burial 1, which deeply intruded into the Phase 1 construction and severed the right side of the skeleton. The skull and right half of the upper torso and right femur were missing. Cranial fragments and a drilled tooth with a missing inlay were found within the upper portion of the pit fill of Burial 1, and appear to be part of the skull from Burial 2 (R. Storey, personal communication, August 2002). Both of the feet and the tibia and fibula of Burial 2 were found intact and crossed. Overall, the bones of Burial 2 were less well preserved than the skeletal material found in Burial 1 and the lack of grave goods suggest a lesser status than the primary interment of Burial 1.

Zone 20

Zone 20 comprised a small portion of the Phase 1 mottled clay construction fill along the eastern side of the excavation unit in Square A, adjacent to the large cut of Burial 1. Toward the base of the zone, a dark lense of sediment was encountered containing a small bone deposit. The light density of bone consisted primarily of deteriorated human cranial fragments and several other fragments of unidentifiable bone. The sediment directly around the bone was a dark sandy matrix and a sample was collected for future analysis (FCB# 618). Zone 20 appears to be associated with the Phase 1 construction and may represent the remains of another early burial that was disturbed when the large pit of Burial 1 was excavated in antiquity. Due to the small quantity of bone, the skeletal remains were not given a burial designation. No other associated artifacts, with the exception of a few sherds, were found within Zone 20.

Zones 20 and 21 marked the final excavation activity for Operation 22 during the 2001 field season. Following completion of in situ recording, all skeletal material and associated deposits in the operation were carefully removed and documented for laboratory analysis.
Concluding Remarks

The Zone 10 cache and Burial 2 represent two important ritual deposits in the context of the earliest construction phase of Structure 130. They provide important critical temporal markers that indicate the initial occupation of the central area of the site began squarely within the Epiclassic period (ca. AD 750-900). The large pit of Burial 1 intruded deeply into the compact, mottled clay construction fill of Phase 1, but is clearly associated with the following Phase 2a construction. At this stage, Structure 130 was transformed into a multi-tiered platform structure, with at least five terraces flanking the eastern side of the structure. A central stairway likely led up to where a perishable building once stood, perched on top of the structure. Although the interior was filled with earth, rather than stone, large limestone slab retaining walls provided the look of a monumental facade, similar to large, all-stone masonry structures found in elite contexts at numerous Maya city centers. The architectural changes on Structure 130 suggest that the family living in this plaza group had gained significant status within the community by this time.

The large burial pit and wealth of grave goods accompanying the primary interment in Burial 1 lends support to the notion of a high status family housed in this locale. Burial 1-A, a single robust male individual lying in an extended position, was accompanied by a number of important grave goods, including six ceramic vessels. Vessel 1 was found somewhat higher up in the pit fill, while Vessels 2-5 were situated over the center of Burial 1-A running in a north-south line. Vessels 2 and 4 appear to be Chichen Redwares, characteristic of ceramics produced in northern Yucatan which date to the Terminal Classic period (see López Varela, Chapter 20). If ultimately comparable, the distinctive ceramic material may shed light on the time depth of occupation at Pakal Na and offer insight into what appears to be pre-established ties with powerful northern city centers during this time. All of the vessels from Burial 1 are special wares, perhaps an assemblage of pieces reserved for elite feasting rituals. Their forms suggest specific consumptive activities; for instance, Vessel 1 is clearly a large serving platter and Vessels 2 and 4 were arguably used for the consumption of beverages, such as *cacao* or *pulque*, which were staples in ancient Maya ritual ceremonies.

A smashed skull and mandible (Burial 1-B) lay directly to the east of the primary interment. Two other discrete clusters of disarticulated bones were revealed to the east and north of the primary interment (Burials 1-C and 1-D, respectively). They represent sacred bundles of venerated ancestors, sacrificial victims or war trophies. Their disarticulation suggests they were intentionally curated for an extended period of time. Also, a relatively large number of highly prized grave goods were found associated with the bundles, including two perforated jaguar canines, four perforated dog teeth, the inner spiral of a conch shell, one large speleothem, fragments of an incised human skull (or trophy head), along with a large quantity of cinnabar. Together, the data suggest that the primary individual (Burial 1-A) was clearly of elite status and the accompanying individuals were highly revered and perhaps ritually charged, transforming into prized grave goods for the interment of this important individual.

Burial 1-C presented no obvious concern with the anatomical positioning of the bones. The tight bundle of skeletal material (some possibly animal bone) appears as if it were once bundled and wrapped in cloth. The bones are mostly cranial fragments of at least two individuals, one of which represents the skull of the main interment. The four perforated dog teeth, conch shell, and incised skull fragments were associated with this skeletal grouping.
In contrast, Burial 1-A clearly represents a single individual with bone articulation that suggests the individual was interred prior to the deterioration of the body’s soft tissue. The headless state of the primary individual prompts several immediate questions. Did this individual die from decapitation or was his head removed and kept above ground as part of a venerating rite on the part of the living? Both of these scenarios are documented for the ancient Maya and are entirely possible, the latter explanation tending to be more of a Postclassic phenomenon. The individual also appears to be missing his left arm, which hints at the former explanation of a violent death. Preliminary analysis of the ceramics suggests a Terminal Classic date for the interment and, stylistically, the ceramics indicate ties with northern Yucatan during this time.
Structure 136 at Pakal Na was not originally atypical in size or shape, but almost half of the mound had been destroyed by a bulldozer about 25 years ago, according to the local landowner. It was decided to clear the slumped sediment from the bulldozer cut in order to investigate the construction sequence of the structure so that we could learn about the methods and date of construction as well as whether earlier structural phases existed beneath the final one.

Zone 1 consisted of slumped sediment along the bulldozer cut of Structure 136. This sediment was considered to have been disturbed by the bulldozer and was removed until a layer of loosely distributed limestone cobbles was encountered. Square A was established after this initial cleaning of the cut and was extended to the northeast past the intact edge of the mound by 50 cm (Figure 10.1). The final dimension of Square A was $2 \times 4.8 \text{ m}$. No apparent internal differentiation of Structure 136 was seen after the bulldozer cut was cleared. No artifacts were found in this zone.

Zone 2 consisted of the topzone matrix along the intact edge of the mound on the northern side of Operation 36 (Figure 10.2). This layer was a semi-compact 10YR 4/4 dark yellowish brown sandy clay containing a shallow root mass. No artifacts were recovered from this zone.

Figure 10.1 Profile drawing of the west wall of Operation 36.
Figure 10.2 Profile drawing of the north wall of Operation 36.

Zone 3 was located directly beneath Zone 2 in the 50-cm wide margin of Operation 36, Square A. The matrix had the same texture as Zone 2, but was lighter in color, a 10YR 4/6 dark yellowish brown, and had a few small pebble inclusions. After about 20 cm of excavation, this zone was arbitrarily ended. Zone 4 was a continuation of the same matrix as Zone 3, differentiated for stratigraphic control. At the bottom of Zone 4, on a surface of limestone cobbles of medium density, a few baked clay nodules and several artifacts were found, including sherds and the distal portion of a chert blade. The small cobbles and associated sediment of Zone 5 appeared to represent tumble from the eroded surface of Structure 136.

Beneath the limestone cobbles was a compact layer of mottled sandy clay (Zone 6), consisting of three colors: 10YR 6/6 brownish yellow, 2.5YR 5/8 red, and 10YR 5/4 yellowish brown. Artifacts were found in very low density in this zone. Zone 7 was a continuation of Zone 6, arbitrarily differentiated for stratigraphic control. It contained only a few ceramic sherds. Zone 8 was a continuation of Zones 6 and 7, again differentiated for stratigraphic control. It was ended after about 20 cm, and a posthole was extended into this surface. The same matrix continued for about 85 cm (Zone 15), followed by a change to a strong brown sandy clay (Zone 16).

Zone 9 is a compact sandy clay (10YR 4/6 dark yellowish brown) with a few limestone blocks in it, and may represent the same matrix as Zone 5, but was located off the slope of the bulldozer cut. Zone 10 is a compact sandy clay with several types of pebble-sized inclusions. The top course of a partially collapsed retaining wall (Zone 12) was revealed upon the removal of this matrix. South of the retaining wall, under Zone 10, there was a mixture of semi-compact gravelly sediment (10YR 4/4 dark yellowish brown) and large limestone blocks that had tumbled from the wall, denoted Zone 11. By the pattern of tumble, it was clear that at least three courses of the wall had fallen when Structure 136 began to collapse.

The retaining wall of Structure 136 exposed by the removal of Zone 10 was designated Zone 12 (Figure 10.3). The wall consisted of four intact courses of limestone blocks up to 15 × 30 × 50 cm in size. The wall had a bearing of 340°, and originally was composed of at least six courses, reaching a height of at least 1 m. The blocks were cut so that the horizontal edges were parallel but the sides tapered from the front to the back of the block (toward the inner side of the wall). Unfortunately, time constraints did not allow for the extension of the operation in order to follow out the wall and delineate corner positions.
Below Zone 11 south of the retaining wall there was a continuation of the same matrix which was designated Zone 13. At the bottom of the zone were traces of decomposing limestone or possibly a very eroded prepared surface, found only in close proximity to the base of the wall. At this point, the matrix changed in color and texture to a semi-compact 7.5YR 4/6 strong brown sandy clay. A posthole driven 75 cm into this zone revealed no change in the matrix and the depth of this stratum remained unknown. This zone is the same as Zones 15 and 16 (described above), and probably is the original ground surface upon which Structure 136 was built.

Several important points became apparent through excavation of Operation 36. First, the construction of the platform likely occurred in one phase, with undifferentiated sediment surrounded by a basal retaining wall. How the upper part of structure was built remains somewhat speculative, as no well-cut blocks were recovered. Also, the majority of Structure 136 still remains buried a meter below the current ground surface. An intact retaining wall likely exists around the entire base of the structure. Furthermore, surprisingly few artifacts were recovered from the excavation of Operation 36. The timing of construction of Structure 136, therefore, may be difficult to determine unless some of the few eroded sherds can be typed.
The following section presents interpretations from the areas around two mound groupings at the site of Pakal Na. The surveyed areas in and around the site center at Hershey are discussed in Chapter 2.

Pakal Na: Structure 130 Survey Areas

The most intensive work of the Xibun Archaeological Research Project (XARP) geophysical survey was carried out at two mound groups at the site of Pakal Na. Both mound groups are located in an orange grove and although the trees presented some challenges to survey layout, their presence did not significantly impede the survey. The first group is a cluster of structures, the largest being Structure 130 (Figure 12.1).

![Figure 12.1 Pakal Na Structure 130 group survey areas.](image)

It is located in a mature orange grove, but the areas immediately surrounding the mound are clear. Structure 130 is a steeply sloping mound approximately 5 m in height. The steep sides of Structure 130 make it impossible to survey; however, associated Structures 131 and 132 are low relief mounds with gently sloping sides and were partially surveyed.
Prior excavations during the XARP 1999 season had located a burial in Operations 22 and 14 and a burned clay layer in Operation 16. McAnany posits that this layer might have been a surface for drying and processing cacao and that its close proximity to monumental architecture may reflect strong elite control over the production of this valuable resource (McAnany, personal communication, 2000). Magnetic survey was thus attempted to define this feature and to locate any other features around the mound group. At the time of the survey, an extensive excavation was underway at Operations 22 and 14 to uncover the burial discovered in 1999 and to further define the mound construction.

Five areas around Structure 130 and one area atop Structure 132 represent a total surveyed area of 1,315 m². Arbitrary survey grips were laid out in such a way as to maximize coverage of the clear areas, and although the orange trees were planted in straight rows, their large size made effective survey between them impossible. Survey area corners were linked together whenever possible in order to relocate them more easily; those corners were also tied into the site grid by XARP surveyors. No permanent corner markers were left in the ground. All areas were surveyed with the equipment configured in gradiometer mode with a sensor separation of 0.75 m. Readings were taken every 0.1 m along transects spaced every 0.5 m.

Area 1

Area 1 is a 15 × 7 m grid located near the junction of Structures 130 and 132. Operation 16 was reopened at the time of survey and its location in the survey grid can be seen as the solid enclosure in Figure 12.2. As Figure 12.2 shows, an area of very volatile readings surrounds the excavation. This area is enclosed by a dashed line. Many of these are paired positive-negative flux dipoles. The fact that the two isolated readings at coordinates 0.5, 2.5 and 3.4 are not oriented toward magnetic north

Figure 12.2 Pakal Na Area 1 with indicated anomalies.
shows that they likely are objects that were not magnetized *in situ*. They may indicate the presence of single objects such as cobbles of buried basalt or large fragments of a fired clay surface. The area enclosed by the dashed line shows the limits of the volatile area. Within it are some dipoles such as the one at 1.5, 7, as well as some single strong positive or negative readings. A possible explanation for this volatile area is that it is the location of the scattered remains of a large burned area or several smaller hearth areas. First of all, aside from the dipoles, the volatile area is generally more highly magnetic, as would be the case if fires increased magnetic qualities of the iron-rich, clayey sediments. Second, the extreme readings are organized into a rough ring, with a magnetic low occurring just to the south of excavation unit. Figure 12.3 more clearly shows the “ring” as well as the volatility of the area. This could be caused by scattered, highly magnetized stones at the edges of a firepit of a fired surface. Although the “ring” is some 5 m in diameter, a scattering of the stones could exaggerate the observed size of feature. Furthermore, the extreme magnetic values affect readings over a large area and thus the anomaly could give the impression that the feature is much larger than it is in reality. The fact that the center of the area is a magnetic low may indicate that the bottom of the burned lens is too deep to detect and that the material of that depth might be non-magnetic, such as ash.

**Area 2**

Area 2 was a thin 20 × 4.5 m strip oriented so as to cover the entire clear area southwest of Structure 130. It was also placed so that the grid northwest corner was the grid southwest corner of Area 1 (Figure 12.4). This area was magnetically quiet with two notable exceptions. The first is the area
Figure 12.4 Pakal Na Area 2 with indicated anomalies.

enclosed by the circle. Modern burning was noted in this area during the survey, and the elevated readings paired with the lows may indicate this. However, the burning seemed to be confined to the area indicated, and this suggests that the anomaly to the west of the circle may not be the result of the burning. More testing is needed to be sure. The other significant feature is the linear anomaly noted with the line. This feature may be the result of water runoff from the mound. This area was noted as being at a lower elevation with respect to the rest of Area 2. Strong water runoff would disturb the chemical and magnetic properties of soil by stripping some of the topmost layer and would appear as a low magnetic value.

Area 3

At 31.5 × 20 m, Area 3 is the largest single survey grid at the Structure 130 mound group. The area was low and relatively flat, though some shallow furrows were present. In comparison to all other areas, Area 3 was magnetically quiet. Figure 12.5 shows the shaded contour map of the area with some indicated anomalies. Note that the scale runs from +12 to −11, while on the Area 1 maps, the scale runs +/ - 80. The grid southwest corner was linked to a corner from Area 2 with tape and compass in order to make relocation of anomalies easier. On Area 3 figures, Structure 130 is just off the southern edge of the grid. On Figure 12.5 a dashed circle encloses a discrete low magnetic area. This anomaly may be too large to be the signature of a pit feature, but nevertheless should be investigated with excavation. The area of
diffuse elevated values shown by the lighter grays and whites along the southern edge of the grid (from X=5 to X=20) may simply be a “halo” of organic material eroded from the mound surface by sheet wash.
Intrusive metal seems to have been present in the southwestern portion of the grid and is shown most clearly in Figure 12.6 as the sharp peaks surrounded by solid enclosures. The contour-wireframe overlay map (Figure 12.6) also better highlights the low anomaly (dashed circle). Based on this survey, there seems to be very little of interest in Area 3, though there is always the possibility that magnetics did not detect some of the features.

**Area 4**

Area 4 is a 20 × 10 m area located on the northeastern edge of Structure 130 (Figure 12.7). The actual surveyed areas of this grid fall on either side of a 4.5 m swath formed by a row of orange trees. Because of the trees, this central swath was not surveyed. The southern three-quarters of the grid are located on a low, flat area that slopes gently to the top of Structure 131. This area was not so steep as to necessitate unidirectional survey, though care was taken during the survey to keep the sensors at a constant distance from the ground surface at all times.

![Figure 12.7 Pakal Na Area 4 shaded contour with indicated anomaly.](image)
While the actual surveyed area of this grid was rather small, a very interesting anomaly was noted in the grid northeast corner. This anomaly is shown on Figure 12.7 with a circular, dashed enclosure. The roughly rectangular shape is formed by extreme values and is reminiscent of a structure’s floor plan, so much that it was nicknamed the “structure feature.” Identification of discrete anomalies atop archaeological mounds is extremely difficult as there is often a great deal of background noise associated with the actual mound construction or other anomaly-causing features buried within the mound. In contrast to unmodified terrain, mounds are often not made up of a homogenous background matrix from which anomalies stand out. However, a number of contributing factors prompted the identification of this anomaly as a possible structure. First of all, it has a regular, rectangular shape. A geometric pattern is the most compelling evidence that an anomaly is archaeological, as nature does not often produce such regular shapes. Furthermore, the anomaly is located on the top of Structure 131, and it is logical to assume that the mound would have served as a platform for some sort of construction, and that construction would have been placed at the crest of the mound. Finally, the anomaly seemed to resemble the expected magnetic signature of a burned wattle and daub structure. As a wattle and daub structure is burned, the walls will become slightly fired like a crude ceramic. These collapsed walls should thus be detectable with magnetics. This anomaly was the only one to be tested by excavation.

**Test Excavation: Operation 37**

Operation 37 was originally a 1 × 2 m test unit sited to test the “structure feature” noted in Area 4. The unit’s southwestern corner was at 7, 17 on the Area 4 map and ran 2 m to the grid north and 1 m to the grid east (Figure 12.7). It was placed to straddle what appeared to be the collapsed wall of the structure. During the course of excavation, it was expanded 2 m to the grid north.

The excavation came down on top of a limestone retaining wall that had been built in a roughly east-west direction (Figure 12.8). The wall has five courses of cut limestone blocks with the top two courses showing signs of weathering. The wall’s location and orientation closely resemble the anomaly but the problem was that limestone is non-magnetic, and this anomaly is a magnetic high, so the wall itself did not cause the anomaly. The photograph in Figure 12.8 shows the “front” of the wall with a very smooth appearance. Excavation on the other side of the wall revealed that some of the stones were placed with their long axes perpendicular to the wall course. This was apparently done to anchor the wall and the obvious conclusion is that the side of the wall seen in Figure 12.8 was visible. The Operation was subdivided into Square A (grid south or behind the wall) and Square B (grid north or in front of the wall).

Square A contained a large amount of fire-cracked rock, charcoal, and burned sherds. A lens of charcoal with fire-reddened clays below it was found in the grid southwestern corner and is visible in the profile (Figure 12.9). The lens, combined with the scattering of fire-cracked rock, could have easily caused the elevated readings. Furthermore, the burning reddened the already iron-rich clays and concentrated the weakly magnetic minerals in them. The linear appearance of the anomaly and the fact that it seems to follow the orientation and location of the limestone results from the non-magnetic limestone wall acting as an insulator. It effectively blocked the heat of the fire from spreading into Square B. On Figure 12.7, the grid north side of the anomaly, Square B, exhibits a much more pronounced drop-off in magnetic intensity than Square A. This is due to the diffused reddened clays, fire-cracked rock, and burned clay nodules that are scattered throughout Square A. Square B seems to have been unaffected by these burning events.
Square B did contain some slightly eroded sherds and a large quantity of lithic debitage. The artifacts did not appear to be deposited through flooding as they did not show signs of rounding or any other damage from natural transport. There was no evidence of burning in this Square or of anything that would have produced a magnetic anomaly.

Interestingly, the geophysics did not directly detect the wall. If the sediments surrounding the wall were homogenous, the possibility is strong that the wall would have been noted as a lower magnetic anomaly surrounded by iron-rich clays. The burning event in Square A elevated values throughout the area and essentially overshadowed the non-magnetic limestone. The wall prevented the fire from cooking the sediments on the front side of it, thus creating a contrast which mirrored the location and direction of the wall.

Figure 12.8 Limestone wall of Operation 37.
Area 5

Area 5 measured 20 × 4 m and was the smallest area surveyed around the Structure 130 group (Figure 12.10). The reason this area is so narrow is that there was minimal open space between Structure 130 and the thickly planted orange trees. It is located a few meters to the southeast of Structure 130 and is flanked to the north by Structure 131 and to the south by Structure 132, but no part of either of these mounds fell within Area 5.

Despite the fact that this area was small in size, it contained several interesting anomalies. The first is the dipole noted on Figures 12.10 and 12.11 with a circular, dashed enclosure. This anomaly is likely caused by a single object, though it is impossible to tell whether it is archaeological or a broken piece of modern agricultural machinery. It is interesting to note, however, that the location of this anomaly is almost directly in front of Operations 22 and 14. This excavation contained a carefully prepared and capped burial that, based on the preparation and grave goods, seemed to be a high-status adult (see Harrison and Acone, Chapter 10). Due to the fact that this anomaly appears to be in the right location for a marker and also because it is apparently caused by a single object, it should be tested with excavation.

Figure 12.11 shows the same area with a contour-wire frame overlay and highlights the more volatile northern area of the grid. While there are no pattern features in Area 5, the fact that the readings in this grid seem to vary so much in the northern area while remaining relatively stable in the southern area is interesting and should also be tested with excavation.
Figure 12.10 Pakal Na Area 5 with indicated anomalies.

Figure 12.11 Pakal Na Area 5 wire frame map with contour overlay.
This $20 \times 10$ m grid was placed to cover some of the cleared area around and atop Structure 132. Although the slope of this structure was slightly steeper than that of Structure 131, it was not so steep as to significantly impede the survey. Figure 12.12 shows two plots of this area; one of a shaded image map, and the other of a shaded contour.

![Figure 12.12 Pakal Na Area 6 with indicated anomalies.](image)

The most immediately noticeable feature of this area is the linear anomaly formed by a string of low readings that run roughly east to west. This feature follows the approximate contour of the structure, and may indicate a retaining wall made up of cobbles of non-magnetic limestone that contrast with the iron-rich clay sediments. The feature is further highlighted in Figure 12.13, along with the other interesting anomaly in this grid, the area of elevated readings at the western edge of
As there is no corresponding magnetically low area visible, this anomaly does not appear to be a dipole. However, we do not have full coverage of the feature and it is possible that if the anomaly is a dipole, the negative portion of it was missed. Due to the aerial extent of the anomaly, the possibility that it is a dipole, and thus caused by a single object, is small. More likely, this area represents a burned feature and should be tested with excavation.

**Pakal Na: Plaza de las Naranjitas Survey Areas**

The seven 50 × 20 m grids placed in and around this mound group make up the largest continuous area surveyed with geophysics during the 2001 season (Figure 12.14). This area may have been recently leveled with bulldozers to plant orange saplings, so geophysics was done to see if any remaining features could be detected. The mounds themselves appear flattened, so much so that the small western one is difficult to spot unless one walks over it.

The survey procedures for this group were different from those used during the Structure 130 group survey. Rather than surveying a ring around the plaza group, transects were simply oriented in the same direction as the rows of orange saplings. The trees were small enough so that only one or two meter swaths were missed. Also, even though the mounds were fairly flat, some grids had a portion of their area on one of the mound slopes. These grids were surveyed with transects running in one direction only, rather than the
usual, faster zigzag pattern. This was done to ensure that the distance of the sensor to the ground surface was constant. Finally, since maximum coverage of the area was desirable, transects were surveyed every 1 m along the X-axis as opposed to every 50 cm. While this does mean that these areas were surveyed at a lower resolution than the Hershey site or the Structure 130 group, the change was an effective compromise between survey resolution and time. Along each transect, measures were recorded at 10 cm intervals. Each survey grid was processed and interpreted independently, though adjacent grids were also examined if it appeared that a feature might extend into another grid. Each grid was treated independently to ensure that peaks that may occur in one area of the dataset did not overshadow unrelated features. The seven grids made up a total surveyed area of 7000 m².

North 0 East 0

Figure 12.14 Plaza de las Naranjitas survey areas.

Figure 12.15 N0 E0 shaded contour plot.
This survey grid contained a small, low relief mound (Structure 129) that is part of the four-mound grouping which makes up the plaza area. The mound is noted with a dashed circle. There is a large area of higher readings atop this structure and that may be evidence of burning. There is a right angle noticeable within the anomaly at X=35, Y=10 (Figure 12.15). This may be the signature of a structure corner, and the generally elevated readings (whites and light grays) around the high area may be the result of greater humic input to the sediment from habitation. However, excavation is needed to be sure. The rest of this area appears magnetically quiet save for several areas near to the northern edge of the grid. These three areas do not appear to have any specific pattern to them and, given the recent disturbances of the sediments, these readings are likely the result of modern debris or physical changes to the sediments that altered their magnetic qualities through mixing.

North 20 East 0

This area contained the large, fairly steep Structure 126 as well as a long mound (Structure 127) along the northern edge of the grid. These mounds would have made zigzag survey problematic, so this grid and N40 E0 were surveyed with transects running in one direction only. The XARP survey team had driven a steel “rebar” survey point into the center of the mound, and its influence on the local magnetic field can be clearly seen in the shaded contour depiction (Figure 12.16). The location of the marker is shown by a solid gray dot; the extreme positive/negative values in that immediate area are caused by the rebar. It is impossible to be certain of the degree of influence the rebar had over the local area. There are no noticeable patterns on the mound, so hard interpretation of the anomalies on top of the mound is not possible. There is also a dipole feature at X=42, Y=26. This anomaly is isolated and is likely a piece of modern debris.

Figure 12.16 N20 E0 shaded contour plot.
This grid contained the rest of the mound that was partially surveyed in N20 E0, and was also surveyed in one direction only. The most interesting aspect of this survey area is the cluster of anomalies that appear just to the north of the mound (Figure 12.17). Of all of these clustered anomalies (indicated by a dashed circle), there appear to be two dipoles located at coordinates 34, 48 and 22, 52. These are likely the signatures of single objects, and it is impossible to be certain if they are the result of modern metallic agricultural debris or archaeological material. The two highly magnetic areas in the grid northwest section of the cluster (24, 52 and 25, 55) have no corresponding negative components and may be the signatures of hearths. The fact that these anomalies are clustered alongside a mound is also compelling, and this area should be explored with excavation.
This area is located just to the grid southeast of the plaza group and does not contain many strong anomalies (Figure 12.18). The several isolated high spots throughout the western portion of the grid do not appear archaeological and may simply be high areas of the linear geologic feature that seem to run grid northwest to grid southeast. This linear anomaly may have been caused by a physical alteration to the subsurface such as compaction or stripping of the sediments with bulldozers, or it may be as ephemeral as changes in soil chemistry over the area. One such anomaly is noted with a dashed line.

One area which may be archaeologically significant, however, is located at coordinate 81, 13. The two highs and an associated low are placed just to the grid northeast of a roughly circular grouping of moderate highs, which is approximately 5 m in diameter. While not an overwhelmingly definitive anomaly, this area should be tested if time is available.

Instrument error is also evident along several transects (X=65-68) and may have been the result of metallic debris around the orange saplings which caused the sensors to momentarily go haywire.

North 20 East 50

This grid contained the eastern most mound of the group, Structure 128. The mound was not so steep as to require single direction survey. Its location is noted on Figure 12.19 with a solid enclosure. A large anomaly can be seen atop the center of this mound, and unlike Structure 126, is not caused by a rebar survey marker. The anomaly does not have a clearly discernable shape, but this is understandable considering the fact that mound-tops are often locations of habitation which raise the magnetic qualities of

Figure 12.19 N20 E50 Shaded contour plot.
soil through humic input. This area should be investigated through excavation. Another interesting area lies to the west of the structure. It is an isolated high anomaly and may be the location of a hearth or, because its influence is felt over a wide area, an intensely burned feature.

*North 40 East 50*

A portion of Structure 128 from the N20 E50 sample unit extends into the southwestern corner of this grid, though it does not appear to contain any interesting anomalies (Figure 12.20). There are several areas of lower readings enclosed with dashed circles which, while they are rather large to be pit features, should be investigated.

In the upper right section of Figure 12.20, the dashed black circle encloses a cluster of anomalies which could reflect a burned area or the remains of a burned structure. This interpretation is based on the shape of the anomaly; as the section immediately adjacent to this anomaly was not surveyed, we cannot be sure if the entire anomaly is visible. Murphy’s “Law of Geophysics” states that interesting anomalies will tend to fall on grid edges.

![Figure 12.20 N40 E50 Shaded contour plot.](image)
Conclusions and suggestions for further research

At Pakal Na, a total of 8,315 m² were surveyed with magnetic gradiometry at a very high sample resolution. The survey provided the XARP with continuous maps of the magnetic qualities of the subsurface over several large areas. The fact that the soil in the area is rather iron rich likely hindered the identification of more ephemeral anomalies, such as those which may result from shallow pit features or concentrations of ceramics, but in general, the area proved to be well suited for magnetics. The sample units were all located on farms and plantations, which lessened the chance of interference from modern metal or power lines. The survey identified a number of signal anomalies and areas that should be tested in future seasons. While the overall effectiveness of the geophysical survey cannot be fully evaluated until more of the anomalies are tested through excavation, the survey seems to have been a success based on preliminary results.

Magnetic gradiometry worked well in the Sibun area. Other geophysical techniques which have great potential for this area include electrical resistivity and EM conductivity. While both measure the same physical property, they have some complementary aspects. As both depend on some degree of soil moisture, surveys should be undertaken as soon as possible after the end of the
rainy season. These techniques could locate areas of packed sediment and pit features which may be useful in locating off-mound structures. The other commonly used technique, ground-penetrating radar, should not be attempted in this area because the high clay amount in the soils would not allow good transmission of radar energy.
In 2001 the Xibun Archaeological Research Project (XARP) began studying ancient settlements and caves in the area demarcated as Transect 4. Efforts focused on initial reconnaissance and survey of the area within this transect. Two local residents, Lance Usher and Gilford Hoare, both from Gracy Rock, proved invaluable as our guides and field assistants. Through our efforts we ultimately were able to locate four settlements and two large cave systems. All sites were mapped, and one test excavation was conducted at Cedar Bank. One cave system was explored and mapped (see Peterson, Chapter 9). Initial exploration of Transect 4 revealed evidence of Maya settlement and use of caves that, while similar to evidence collected from Transects 1, 3, and 5, differed in very important ways as discussed below.

An invaluable tool in our mapping and locating efforts was our mapping-grade GPS system (see Morandi et al., Chapter 2, for description). The GPS enabled us to map the paths to the sites. Once on site we were able to establish UTM coordinates and map some of the cultural features. The use of GPS was especially useful in areas where access was restricted by terrain and geography.

In this chapter, the four settlements located in Transect 4 are summarized with maps provided. Also see Peterson, Chapter 9, for description of Arch Cave.

Cedar Bank

The site of Cedar Bank is the largest known site located in Transect 4. It is located downriver, east of the community of Gracy Rock, adjacent to the Gracy Rock feeder road. The main group at the site is a quadrangular plaza group with four mounds. A smaller plaza is located to the north, and a series of smaller house mounds are scattered on both banks of the river. The large rectangular mounds of the main group form a closed quadrangle with a north-south orientation. The largest mound is positioned on the north; the southern and western mounds have been damaged by plowing. While the mounds form a plaza, there is no raised plaza platform supporting the mounds. We located a test excavation (Operation 40) on the southern side of the largest (northern) mound at the contact between the mound and the ground surface. (See Morandi, Chapter 14, for description of the early Colonial artifacts collected from this excavation.) The plow damage and the excavations lead us to conclude that the mounds were rubble and dirt-filled structures. Large dressed-limestone blocks were used as retaining walls and to construct what appears to be a staircase that led up the southern face of the northern mound. The artifacts from the excavation revealed that Maya occupation was capped by colonial materials. The mixing of colonial and Maya wares may indicate that this site was occupied during the 16th to 17th centuries.

The smaller group to the north of the main group is made up of three mounds: a large rectangular mound to the west and two low rectangular mounds to the east that form an “L” shape. The northern mound of the “L” formation has a small platform perched on its eastern end. The opening of the “L” faces away from the western mound. To the east of these groups are a number of smaller mounds that are scattered across the river terrace on both sides of the river. The remaining mounds occur as isolates; the two groups are the only plaza configurations.
GPS point location data were collected on each mound. Dimensions across the long and short axes of each structure were estimated using a Laser Range Finder and stadia rod, as well as tape-and-compass. Distances between the middle point of structures within the primary site center and the adjacent plaza were taken using the Laser Range Finder. Dimensions of mounds on the southern banks of the river were estimated by simple pace-and-compass. A rectified map of the primary site center and adjacent plaza was created from these data and is shown in Figure 13.1.

![Figure 13.1 Rectified map of Cedar Bank site.](image)

**Freshwater Creek**

Freshwater Creek is a small tributary that drains the karstic and coastal plain region to the south of the Sibun River. The creek ultimately drains into the Northern Lagoon. The settlement of the same name is located between the Sibun River and Freshwater Creek along an access road built by Hiwatchy, Ltd. The site sits in a broad, flat valley ringed by karst and contains five structures that form a plaza that is oriented north-south. The largest western mound and the second largest eastern mound are complemented by two small mounds in close proximity to them. The two smaller mounds appear to be connected to each other by
a wall, and the eastern mound appears to be linked to the smaller mound to its southwest. The overall impression is of a plaza group closed on the southern side by a wall that faces a northern mound. A looter’s hole on the western mound revealed inner cobble-fill construction.

Coordinates for these mounds were collected using the GPS rover antennae collecting satellite data for one minute per location. Data were obtained from no less than five satellites during each session. Distances between the center point of the five structures in the Freshwater Creek plaza were measured using the Laser Range Finder, insuring that the range finder was held along a horizontal line by using an attached bubble level. Long and short axes of these structures were measured using the range finder and a stationary target, with distances taken relative to the center point each mound. Structure height was estimated using the laser range finder and stadia rod. Figure 13.2 shows the rectified map of the site.

![Figure 13.2 Rectified map of Freshwater Creek site.](image)

**Butcher Burns**

The Butcher Burns area is located downstream (east) of the Gracy Rock/Cedar Bank communities, positioned on the opposite bank of the river from the access road to the Butcher Burns community (mile 26, Western Highway). The site is situated on a peninsula of land bordered on three sides by an omega-shaped meander bend in the Sibun River. The site contains nine mounds that were surveyed during the 2001 season. Structures 1 through 5 are situated in a semi-linear fashion trending NE-SW along what is potentially the ancient riverbank leading to the oxbows Juana Pond and Long Juana Pond. The mounds range in height from 0.25 to 1.25 m with surficial areas ranging from 54 to 260 m². North of this group of five platforms are four structures built on top of a raised plaza. The plaza is elevated about 1 m above the current ground surface and covers an area of approximately 900 m². Although no test-pits were placed in the plaza, the construction appeared to contain river cobble and earthen fill. No limestone construction
material was visible on the surface. The four mounds situated on the raised plaza created a ringed formation with an opening facing the east. Location information as well as approximate areal coverage of these mounds was determined using the point and area functions of the Sokkia GPS unit. A rectified map of the site was not made in 2001.

**Juana Pond**

Juana Pond site is also located near the community of Butcher Burns, directly opposite the terminus of the Butcher Burns access road to the Sibun River. The site contains four large mounds situated in a ring-formation with an opening to the west. Adjacent to the site is an oval water hole or *aguada* with a diameter of 30 m. Possibly man-made, five steps lead down to the *aguada* from Juana Pond Structure 4. The largest mound in the plaza is located to the north; the eastern side of the plaza is closed by the four structures that comprise this group. The plaza which is open to the west points to the meander of the Sibun River. The overall appearance of the groups is one of being closed off to the east by structures and to the west by the river.

Coordinates of the four Juana Pond structures were established by GPS satellite data that were collected for one minute from the center of the structure. Dimensions of the structures and their spatial relationship with each other was obtained using the Laser Range Finder and stadia rod. The data for Juana Pond were used to produce the rectified map shown in Figure 13.4.

![Rectified map of Juana Pond](image)

*Figure 13.3 Rectified map of Juana Pond.*
Discussion

The exploration of Transect 4 in 2001 was extremely successful. We located four sites that appear to be the largest and probably most significant ones in the area. In addition to these larger plaza groups there are numerous house mounds scattered across the entire area. Transect 4 shows similar locational patterns as the other transects explored by XARP. Sites are set on high banks next to the Sibun or along streams that feed into the river. While Cedar Bank is the largest site in the area it does not contain any pyramidal structures or any obvious ceremonial structures. The other common trait the area shares with sites in Transects 1 and 3 is the fact that the settlements are located proximate to caves that were modified and visited by the ancient Maya. None of the sites in Transect 4 are comparable in size to the sites of Samuel Oshon, Pakal Na, or Hershey. This could indicate that the sites of Transect 4 were lower in the hierarchy of the region and may have been under the jurisdiction of the Samuel Oshon site, which is only a short distance away by canoe.
Cedar Bank is a site located in cohune forest near the village of Gracy Rock on the north side of the Sibun River. It contains some of the largest architectural features of the Maya sites investigated in the lower and central sections of the valley. Four large platforms are arranged in a plaza group in the southern part of the site center. Three other structures, including two long, narrow platforms are located just north of this group. Three other small platforms are known to exist outside the site center, though no intense ground reconnaissance has been completed to identify other possible structures. The relatively open area under the canopy of the cohune forest was used as a cattle-grazing area at the time of excavation. One of the structures at the Cedar Bank site contained small concrete foundations from an earlier apiary that, according to local villagers, was constructed there in the recent past.

Operation 40, a 2 × 2 m cardinally oriented excavation unit, was located on the southern edge of the largest mound, Structure 351, and included large cut limestone slabs that formed the lowest tiers of the structure. It was designed to investigate the final occupational phase of Structure 351, as well as to recover diagnostic artifacts that would help determine the time of use of the structure.

Upon immediate commencement of excavation at the Cedar Bank site, we were struck by the deep, rich, dark soil that had formed in the area. In fact, two local men who helped with the excavation removed some of the soil from the backdirt pile for their home gardens. If the same soil-forming conditions had operated in the past, this location would have been ideal for growing many types of foods.

The topzone of Operation 40, Zone 1, contained many cohune nut fragments, and several arboreal snail shells (Figures 14.1 and 14.2). The sediment of the zone was a 10YR 3/2 very dark grayish brown clay loam. A few limestone inclusions between 1 and 5 cm were found in this matrix. Many of the nut fragments were burned, indicating that the area had been cleared by fire at least once in the recent past. A line of cut limestone blocks, below those visible from the ground surface, was revealed by the excavation of Zone 1.

A mixture of historic period and prehistoric artifacts was found in Zone 1, including a clay pipe stem fragment and many faunal remains. Also, pottery sherds, obsidian blade fragments, chert debitage, unworked shell, and a chert tool fragment were found.

Zone 2 is a continuation of the Zone 1 matrix, separated for stratigraphic control. Again, historic and prehistoric artifacts were recovered from this zone. Speleothem fragments also were found. Zone 2 was continued until a high density of smooth limestone cobbles was encountered.
Zone 3 contained several irregular limestone cobbles and associated sediment, and represented a continuation of the pattern of mixed historic and prehistoric artifacts. An oval feature was exposed in this zone, a fragmented turtle shell. Historic period artifacts recovered in Zones 2 and 3 included a metal knife, bottle glass, two types of glazed ceramics, and unglazed wheel-made ceramic vessel sherds.

Zone 4 was a lens of very dark (10YR 2/1 black) organic-rich clay found beneath Zone 3 along the eastern wall of Operation 40. No artifacts were recovered from this zone, but a sediment sample was taken for flotation.

The removal of Zones 1, 2, and 3 exposed a large limestone block leaning against the basal tiers of Structure 351, designated Zone 5. The size of the block was approximately $9 \times 49 \times 52$ cm (Figure 14.1).

Zone 6 was comprised of four cut limestone slabs, two from the basal retaining wall and two from the retaining wall of the next ascending terrace. The dimensions of the stones were not entirely known because each was partially buried, but they were generally 10 to 30 cm wide, over 40 cm high, and up to 2 m long.

Zone 7 consisted of a 10YR 3/3 dark brown matrix with a high density of pebble and cobble-sized limestone inclusions. It was excavated only in the southern half of the excavation unit to preserve some of the existing surface near the basal limestone blocks of Structure 351. Zone 7 may have been the upper layer of plaza floor construction fill. The zone continued until a layer of very large limestone blocks was encountered, and the matrix color changed. Few artifacts were found in this zone, and all were prehistoric.
The layer of limestone blocks beneath Zone 7 was designated Zone 8. Some of the blocks were cut squarely while others displayed irregular margins. All were set closely in a dense layer along with smaller inclusions. The associated sediment was 10YR 4/3 brown. Relatively few artifacts were recovered in Zone 8, mostly pottery sherds.

Beneath the Zone 8 layer of limestone blocks was Zone 9, a semi-compact 7.5YR 4/6 strong brown silty clay with no inclusions. A light density of well-preserved sherds was recovered from this zone.

Zone 10 (Figure 14.3) was a continuation of the Zone 9 matrix, but was excavated as a posthole probe into the bottom of the excavation unit. The upper part of Zone 10 contained a light density of artifacts that tapered off quickly at greater depths. The matrix did not change even after excavation to one meter below the bottom of Zone 9.

Preliminary data analysis at Cedar Bank has revealed some interesting results that will be explored further in the 2003 field season of the Xibun Archaeological Research Project (XARP). A tape and compass map of the Cedar Bank core shows that though it is not the largest site in the Sibun Valley, it contains some of the largest structures of any of them. The facing stones of Structure 1 are the largest seen in the valley (except, perhaps, for one found at Structure 1 at Pakal Na).

Furthermore, the site may have been occupied over a longer period of time than any other in the valley. The size, shape, construction method and layout of structures in the site core indicate that it was constructed during the Classic period. Structure 1, the largest at the site, contained a homogenous sediment core faced by large cut limestone blocks. The same technique was used for the majority of the Classic period structures identified in the Sibun River Valley to date.
Analysis of artifacts recovered off the southern edge of Structure 1, however, indicate a later, Spanish colonial occupation at Cedar Bank. Several pottery sherds have been tentatively identified as Sevilla Blue on Blue or Columbia Plain types, Spanish majolicas common in the late sixteenth and early seventeenth centuries (Deagan 1987: 56-57, 63-64). Additionally, a small, perforated copper alloy star like those found at other sixteenth century Spanish sites was recovered in the excavations (Deagan 2002: 84-85, 178-179). Sherds of wheel-made pottery, likely from olive jars, were found as well, indicating European contact.

The only known ethnohistoric sources that mention the Sibun area (Jones 1989) indicate that a visita, or frontier mission church, was built at the town of Xibun, probably in the late sixteenth century. That church was abandoned around 1631, when the Maya living in the town sought refuge from Spanish intrusion. According to one record, they took the church bell and ornaments with them when they left, indicating that a relatively substantial structure was present at the site. Whether Cedar Bank represents the colonial town Xibun or not remains open to speculation at present.

Occupation of the area also occurred during the British colonial period in Belize (Daniel Finamore, personal communication). Clay pipe stems recovered from Cedar Bank are the only evidence of this occupation to date. Clay pipes are rare in Spanish colonial contexts, however, and so are likely to indicate a later period. In fact, the only clay pipe fragments recovered have been from the topzone or from the Sibun River.
Several questions remain to be answered at Cedar Bank, including the following:

1) Does the Spanish colonial occupation at the site represent the town of Xibun mentioned in ethnohistoric sources?
2) Does a Late Postclassic phase of occupation exist at Cedar Bank, given the common pattern of reuse of Postclassic sites by Spanish colonial societies?
3) What is the material culture inventory of the Spanish colonial occupation at Cedar Bank, and how does it compare with that of sites such as Tipu or Lamanai?
4) What was the function of Cedar Bank during the Spanish colonial period? How did it function in relation to Spanish economic changes in the area, such as the implementation of the tribute-based encomienda system?

Such questions and others will be addressed during the XARP 2003 field season and XARP 2004 analysis season.

References Cited

Deagan, K.


Jones, G. D.
During the latter part of the Xibun Archaeological Research Project (XARP) 1999 field season, a small cluster of structures on the property of Augustine Obispo, later named the Obispo Site, was mapped. The Obispo site was one of four identified in the Hattieville area of the Sibun River Valley. Though the Obispo site was one of the smallest encountered in the Sibun River Valley, it contained two of the four known stone monuments (the other two are located at the much larger Oshon site less than 2 km away). During the XARP 2001 field season, the site was visited again with the purpose of completing two excavation units, Operations 30 and 31.

A small plaza group of four mounds, along with three outlying structures, comprise the total known architecture at the Obispo site. The four structures of the plaza group were constructed in a square arrangement. The northern mound, the largest at the site, was designated Structure 475. Two very low stone platforms on the east and south sides of the plaza (Structures 479 and 480, respectively), had stone monuments placed in front of them.

**Operation 30**

Operation 30, a $3 \times 4$ m excavation unit, was centered on a broken stone monument (Monument 1; Figure 15.1) located on the southwestern side of the main plaza group. The monument was found in several large pieces off the north side of Structure 480, a very low platform barely discernible on the current ground surface. The purpose of the operation was to determine when the monument was set in place, its purpose, and its possible relationship with Structure 480. Initially, the monument was thought to be the top portion of a toppled stela, though excavations indicated that it may have functioned as an altar.

![Figure 15.1 Plan view of Operation 30 showing the fragments of Monument 1.](image-url)
Zone 1, the top layer of sediment in Operation 30, was a semi-compact 10YR 4/1 dark gray silty clay. Several large, partially articulated stone fragments of Monument 1 (designated Zone 3) protruded through this surface layer. A medium density of sherds and debitage were found throughout Zone 1, including cylindrical ceramic fragments around the monument and in the southwest corner of the unit. The removal of Zone 1 revealed a line of small cut limestone blocks on the southern side of the unit (Figure 15.1).

Zone 2 also was a semi-compact silty clay. The artifact density of Zone 2 was heavy and included obsidian blade fragments and chert debitage. Among the many sherds recovered from this zone there were several with small “nubbin” feet or appliqué designs. Zone 2 ended in a dense layer of limestone and chert cobbles in the western half of the excavation unit and a yellowish-brown silty clay on the eastern side of the unit. The majority of the artifacts were recovered from the western half of the operation. An archaeobotanical sediment sample, field collection bag (FCB) #4015, was collected during the excavation of this zone.

Monument 1, the broken stone feature in the center of Operation 30, was designated Zone 3. The monument was broken into four large fragments and numerous smaller pieces. Each of the largest fragments of stone was roughly 20 cm thick, with a flat parallel top and bottom side. One edge of each fragment also had been shaped into a flat surface, and the other edges showed a rough, randomly fractured surface.

Zone 4 appeared to be a one-course wall built of cut limestone blocks. This feature ran almost parallel to the southern edge of Operation 30, and may have been the edge of a low structure south of Monument 1, barely visible from the surface.

A thin margin of sediment, Zone 5, was exposed between the south side of Zone 4 and the southern edge of Operation 30. If Zone 4 was indeed a retaining wall for a structure, Zone 5 would represent construction fill. Zone 5 was a light yellowish-brown semi-compact silty clay. The few artifacts were recovered from Zone 5 consisted of sherds and debitage.

Zone 6, a layer of limestone and chert cobbles, extended from the western edge of Zone 4 to the northern wall of Operation 30. Ceramic sherds were found in medium density in this zone, along with two medial obsidian blade fragments and a fish vertebra. Due to time constraints, only a portion of Zone 6 was removed, revealing a compact brown silty clay surface beneath.

Excavations of Operation 30 yielded important information about the nature of Monument 1. First, a complete removal of surrounding sediment indicated that Monument 1 was a nearly complete, rounded stone feature. No carving was apparent on the top surface of the monument. An attempt to move parts of Monument 1 proved impossible due to its weight, so the other side remained unobservable. The relatively high number cylindrical ceramic fragments and sherds with nubbin feet indicated that several “ladle” incense burner vessels had been used near the monument. As a result of these observations, it is possible to hypothesize that Monument 1 functioned as an altar in front of a low structure on the southern side of the main plaza group. The ladle-handled incensarios may have been used when the monument was whole, or perhaps as part of a termination ritual involving its destruction.
Operation 31

Operation 31, on the opposite side of the plaza from Operation 30, was undertaken to investigate the inset southeastern corner of Structure 475. The placement of this operation mirrors that of Operations 18 and 20, located at the inset corner of Structure 401 at the Oshon site in 1999. These “deep corners” were recognized not only for their high concentrations of midden materials, but also as areas containing well-preserved architecture. Operation 31, a 3 × 3 m square unit, was oriented cardinally on the southwest corner of Structure 475. It was placed such that it would cover both the edges of the inset corner of the structure, as roughly indicated by surface features, as well as the adjacent plaza surface.

The top stratum, Zone 1, included a thin root mass and associated sediment. It was semi-compact silty clay with a color of 10YR 4/1 dark gray (Figure 15.2). This thin zone ranged in depth from about 2 to 10 cm and had only a light density of artifacts, consisting primarily of eroded ceramic sherds. Several cut limestone blocks were revealed in the northwestern two-thirds of the unit, scattered in such a way that suggested tumbled architectural components of Structure 475. Along the northern and western margins of the unit, cut limestone blocks were arranged in a more linear fashion that delineated the edges of the inset corner.

![Figure 15.2 Profile drawing of the west wall of Operation 31.](image)

Zone 2 consisted of a sandy clay matrix containing several types of pebble-sized inclusions. These inclusions became increasingly dense as the bottom of the zone, a very compact layer of chert and limestone cobbles, was reached. Upon retrospection, this zone was found to be the eroded surface of the plaza, more disturbed as distance from Structure 475 increased. In the best preserved portions of this zone, a plaster surface was still intact (Zone 7). From these well-preserved areas, it was possible to ascertain that Zone 2 probably consisted of an upper matrix of pebble-sized inclusions, a middle matrix of large chert flakes, and a lower matrix of limestone pebbles.

Zones 3, 4, 5, and 6 represent the remains of Structure 475 that spilled out upon the plaza surface as it eroded over time. Zone 3 included the tumbled cut limestone blocks from Structure 475 which
extended down a slope from the northwest corner to the southeast corner of Operation 31. Immediately below this zone there was a semi-compact layer of 10YR 5/4 yellowish brown silty clay, called Zone 4. A few tumbled limestone blocks were found in this zone. Artifacts in this zone included ceramic sherds, several obsidian blade fragments, and a small triangular piece of carved and polished jadeite. Zone 5 was a continuation of Zone 4, differentiated for stratigraphic control. Artifacts included sherds, obsidian blade fragments, and several animal bones including many fish vertebrae.

A dense aggregation of cut limestone blocks, denoted Zone 6, was found beneath Zone 5 in the northern part of Operation 31. The location and roughly linear arrangement of the tumbled blocks indicate that they were part of a retaining wall from the inset corner of Structure 475 that had fallen as it eroded. The position and number of cut blocks suggested that the original wall consisted of several courses of cut stone, each 5 to 8 cm thick. The tumbled limestone blocks from Zones 3, 4, 5, and 6 likely made up several upper courses of this retaining wall. Several sherds and animal bones were recovered from this zone, although no obsidian was found in this context. The removal of Zone 6 revealed the remaining portion of the eroded plaza surface covered by the debris of Structure 475.

When Zone 6 was removed, however, the deepest part of the inset corner of Structure 475 yielded an unexpected, small, feature – well-preserved plaster of the plaza surface (Zone 7). A sample of the plaster was taken as FCB #4117. Zone 7 consisted of a few patches of plaster approximately 2 cm thick that overlaid the same Zone 2 matrix found in the rest of the unit.

The removal of Zones 3, 4, 5, and 6 uncovered not only the eroded plaza surface adjacent to Structure 475, but the intact lower courses of cut limestone blocks that comprised the walls of the inset corner. The blocks in the wall on the west side of the excavation unit were oriented at roughly 20°. These well-shaped stones ranged in size from approximately 10 × 10 × 5 cm to 20 × 40 × 60 cm and were laid upon each other without any apparent mortar in between. The three lowest courses of the wall were the best-preserved, but there are still some blocks displaced by erosion and tree roots.

Zone 9 represented the retaining wall on the northern section of the inset corner which faced southward (Figure 15.3). Again, only three courses of this wall remained partially intact, with most of the existing wall consisting of only one or two courses of cut limestone blocks. The lowest course continued in a row of nine consecutive blocks along the northern margin of Operation 31. The orientation of the wall is somewhat speculative due to the largely displaced courses of stone, though a rough compass reading gave a bearing of 110°. Such a reading makes sense in that the Zone 8 and Zone 9 walls would form a right angle, and the Zone 9 wall would be parallel to the front edge of Structure 475.
Interestingly, the Zone 8 limestone blocks appeared to be shaped differently from those of Zone 9. Those of Zone 8 were larger, more varied in size, and had roughly squared edges on all sides. Conversely, Zone 9 blocks were generally smaller and more uniform in size. The front faces of the stones were squared, but they tapered in the back to form a rounded edge.

Zone 10 simply may be an extension of Zone 2 beneath the Zone 9 retaining wall of Structure 475. Its composition, however, seemed slightly different, with fewer inclusions in the sediment matrix. The matrix itself seemed to be composed of pure clay, as opposed to the sandy clay of Zone 2. It was not excavated, but a chert “chunky biface” that was protruding from this zone was collected.

Beneath the eroded surface cap and topmost construction layers of the plaza (Zones 7 and 2) a substantial layer of fill (Zones 11 and 12) was found that provided a stable foundation for everything built upon it. Due to time constraints, only a 1 × 1 m area of the plaza fill was excavated in the southeastern corner of Operation 31.

The removal of Zone 2 had revealed a surface of well-shaped limestone blocks and irregular limestone and chert cobbles arranged compactly in a 10YR 4/4 dark yellowish brown silty clay. Excavations showed that the Zone 11 matrix was about 10 to 15 cm thick; several well-preserved ceramic sherds were recovered.

A stratum of semi-compact, 10YR 4/4 dark yellowish brown, silty clay with a low density of charcoal, baked clay nodules, and limestone pebbles, denoted Zone 12, existed below Zone 11 (Figure 15.4). Several types of artifacts were recovered from this zone in medium density, including ceramic sherds, stone tool fragments, and faunal remains. The density of charcoal and artifacts suggests that this layer may represent reused fill from other areas at the site. Zone 12 was approximately 20 cm thick.
Zone 13, directly below Zone 12, was composed of a 10YR 4/4 dark yellowish brown semi-compact silty clay matrix, but contained no inclusions. Additionally, only a few artifacts were found close to the top of the zone. Zone 13 appeared to be sterile with regard to artifacts; the few that were recovered from this zone may have worked their way into the top few centimeters of sediment from Zone 12 above. A posthole excavated in the center of Zone 13 revealed no changes in matrix for at least another meter in depth. Thus, Zone 13 appeared to represent an existing layer of naturally transported sediment upon which the plaza and other overlying structures were built.

Figure 15.4 Plan view of Operation 31 after completion of the excavation.

Overall, the construction sequence of the plaza structures at the Obispo site was quite complex, conveying both a concern for long-term durability and access to, and control of, skilled laborers even at the smallest sites in the Sibun Valley. Plaza construction revealed in Operation 30 was much more complex than anticipated, consisting of several prepared layers of different materials, and capped by a plaster surface.

Operation 31 yielded artifacts unknown from any other part of the Sibun River Valley to date. The ladle incensarios and appliqué design pottery are diagnostic of the Postclassic period, and represent the first solid evidence of Maya activities in the Sibun River Valley during that time period.
Chapter 16
A Circular Shrine and Repostioned Stelae at the Oshon Site (Operation 24)
Eleanor Harrison

The Oshon site is located in the Freetown District within the lower reaches of the Sibun River Valley. The site is situated south of Hattieville (at mile 18 on the Western Highway) and northwest of Freetown, a small village of about 70 people. The site is named after the previous land owner, Samuel Oshon Sr., who planted a few banana and avocado trees on and around the structures of the site. During the 2001 season, the property had recently been sold and the area around the excavation had been cleared for vegetable gardens. As the largest site within the lower and middle reaches of the Sibun, the Oshon site certainly holds the position of a main ceremonial center within this portion of the river valley. Positioned proximate to the Caribbean Sea and the outlet of the Sibun River, the Oshon site may have functioned as a gateway community for the Sibun Valley, navigating the interactions between coastal and inland trade (McAnany et al. 2002). The site was mapped during the 1999 field season (Morandi and Norris 1999), at which time the survey team identified a total of thirty-seven structures: two main plaza groups located at the center of the site and several outlying groups comprised of one to five mounds (see Map Sheet 9).

The two main plaza groups, A and B, are diagonally offset from each other, with Plaza A located northwest of Plaza B. Both are about 200 meters north of the current path of the Sibun River, and although Plaza A is situated on slightly higher ground than Plaza B, the latter group contains the largest structure (Structure 406) within the site. Both groups comprise five structures which are positioned around all four sides of two large central patios. Thus far, Plaza A has been the focus of excavation carried out during the 1999 and 2001 field seasons. The initial investigations of the site were performed in and around Structures 401 and 437 in Plaza A, two adjacent structures situated on the southern side of Plaza A. Midden debris found between these two structures produced evidence of an elite occupation in this locale dating to as late as the Terminal Classic period (Morandi and Thomas 2001). In the following 2001 field season, investigations entailed the clearing and partial excavation of Structure 402, located along the western side of Plaza A. A 5 x 5 m square unit was positioned cardinally along the northeastern quarter of the structure and excavations revealed a portion of a circular stone structure with two, still-standing plain stelae situated along the front or east side of the structure. The purpose of the excavation was to expose what appeared to be a special-purpose building that could offer insight into the ritual behavior of the ancient inhabitants, as well as provide a time depth of occupation for the Oshon site.

Reconstruction of Structure 402: An Overview of Construction Phases

The cardinally-oriented 5 x 5 m unit was divided evenly into four squares (A-D), each measuring 2.5 x 2.5 m. Figure 16.1 shows the relative positioning of all four squares. Excavations exposed the northeastern quarter of the building and revealed three construction modifications of the circular structure, referred to as Phases 1a, 1b, and 2. Two plain stelae were situated just to the east of Structure 402 and appear to be associated with or postdate the final Phase 2 construction. Stela 1 is situated roughly in the center of Square B and Stela 2 is positioned to the south, roughly in the center of Square D.

The initial construction, Phase 1a, consisted of a round building with an interior circular room (Figure 16.1). A low, 20 cm high plinth ran around the outside perimeter of the structure (Figure 16.2), breaking only where a central doorway, located along the east side of the structure, allowed one to enter the interior room of the structure. Excavations revealed the northern half of this central doorway, which faced the main plaza. Finely cut masonry was used to construct the thick walls of the Phase 1a building, which comprised an interior and exterior three course high limestone wall sandwiching a core of limestone cobble construction fill.
In all likelihood, the low wall held a wattle and daub structure that would have enclosed the interior room. A plaza floor, associated with the Phase 1a construction, also functioned as the initial flooring of the interior room, running underneath the Phase 1a construction and obviously pre-dating the building’s construction.

16.1 Planview of Structure 402 during Phase 1a.

16.2 Cross-section of northeastern side of Structure 402 in Square A during Phase 1a, showing 20 cm high plinth running along the exterior of the structure.
During the Phase 1b construction, the building was modified slightly. Approximately 20 cm of construction fill covered the original floor of the interior room and flagstones were laid down over top of the fill to produce a slightly elevated interior floor surface. The height of the new floor was roughly equivalent in elevation to the exterior plinth that was constructed during Phase 1a. The low plinth and outer wall of Phase 1a were covered over at this time with a new exterior wall. The plinth stones acted as the first course for the Phase 1b wall, with three more courses of cut stone positioned over top. This building modification added about 50 cm of thickness to the existing Phase 1a wall, however, the height of the wall appears to have remained the same (Figure 16.3). Like Phase 1a, the low wall undoubtedly held a wattle and daub structure that would have enclosed the interior room. The interior wall, constructed during Phase 1a, appears to have been maintained during Phase 1b and, with the exception of the new elevated floor surface, the interior room does not appear to have changed dramatically during this time. The same weathered floor continued to be used as the exterior plaza surface during Phase 1b, though it probably was repeatedly patched and repaired over time. The Phase 1b modifications effectively elevated the interior room from the surface of the plaza and, overall, made the building appear somewhat larger, perhaps to emphasize its growing importance as a shrine structure and place of worship within the site.

![16.3 Planview of Structure 402 during Phase 2. Note the two stelae positioned to the east of the structure, tentatively associated with this final phase of construction.](image-url)
The final phase of construction, Phase 2, constituted the infilling of the interior room with large, elongated limestone slabs that retained construction fill comprised of large limestone cobbles and boulders. The grandiose size of the interior fill lacks the finesse of the previous building techniques. The new emphasis seems to have been placed on the expedience of the building process. Although considerably disturbed by root action, an upper terrace surface is discernible, but appears poorly constructed. A decline in construction and overall maintenance characterizes the Phase 2 construction. The Phase 1b exterior wall was maintained during this time, however, smaller cut limestone blocks, which appear to be recycled construction materials perhaps robbed from other parts of the site, were added to the exterior construction. Phase 2 transformed the circular building into a multi-terraced circular platform structure. Presumably, the new surface of the platform structure held a perishable building, though poor preservation allows for only a speculative reconstruction (see Figure 11.3c).

It is theorized that the two uncarved stelae situated to the east of Structure 402 were scavenged from another location and repositioned in this locale during or some time after this final phase of construction (see Figure 11.5). Both are surprisingly still standing, inserted into the ground at a shockingly shallow depth of less than 15 cm. They barely intrude into the plaza surface and are mostly held upright by a surrounding 10 cm thick matrix that overlies a portion of the original plaza surface. The matrix resembles a midden, containing a considerable amount of refuse with few stone inclusions, heaped up against the eastern side of Structure 402. The decline of maintenance and construction technique evident in and around Structure 402 expresses a significant change in the political, economic and religious organization of the Oshon site during this phase of occupation. Based on the shoddiness of the stelae erection and the decline in building technique noted in the Phase 2 construction, it does not seem unreasonable to temporally link these two developments, however, it is conceivable that the stelae post-date the Phase 2 construction. Ceramic analysis from both contexts may clarify this aspect of the chronology. Clearly, the architectural style and building quality of Phases 1a and 1b, which both appear to be associated with the original plaza surface, are markedly different from the Phase 2 modifications. I predict that further analysis of the associated ceramic debris from all contexts will discern a clear chronological break between Phases 1 and 2.

Excavation techniques

Excavation of Operation 24 entailed the detailed investigation of the northeastern quadrant of Structure 402 and the plaza area to the east of the structure where the two stelae are situated. Two datum stakes were placed in the ground proximate to the unit and used for relative measurement during the excavation. Datum A, located along the west side of Operation 24 where Squares A and C interface, was measured at 36 cm above ground surface. Datum B, located around the northeast corner of Square B, measured 16 cm above ground surface. Datum B was used for the elevations of the northeast corner of Square B, while Datum A was used for all other elevations within the unit. These datum stakes offered quick and precise measurements during excavation and were later correlated with absolute elevations above sea level with the Total Station. In an effort to glean a maximum level of information, one hundred percent of all soil excavated was screened through a quarter-inch screen. Trowels primarily were used in the excavation, with picks and shovels being used infrequently. Trowels (and dental tools when necessary) were utilized to define the surface of architecture and in situ deposits.

Overview of the Findings from Operation 24

Previous investigation at the Oshon site by Morandi and Thomas (2001) suggested a substantial Terminal Classic occupation. As Graham (1987: 75) notes, “evidence for Terminal Classic or later occupation associated with small structures is usually revealed only by extensive exposure of these structures, as several centuries of use can often be represented by only thin scatters of debris.” Therefore, all four squares (A-D) were excavated during the 2001 field season, providing a broad horizontal exposure necessary for understanding the time depth of occupation, the aforementioned construction sequences and associated
monuments. The following presents an overview of Zones 1-10 excavated in Operation 24 and a description of the subsequent findings from each zone.

**Zone 1**

Zone 1, excavated in Squares A-D, consisted of a dark humic layer or topzone with a root-filled matrix. There is a medium density of limestone cobbles and gravel inclusions in the soil. The density of inclusions increases at the base of Zone 1. The limestone tumble found on and sloping off of Structure 402 along the north and east sides of the structure was defined at the base of Zone 1 and excavated as part of Zone 2. Evidence of the exterior wall of a circular platform (Phase 2) was roughly defined in Squares A, B, and D at the base of Zone 1. The subsequent findings from each square are described below.

In Square A, the goal of Zone 1 was to define the northern side of Structure 402, whose exterior wall curves around and into the northwest corner of the unit. In Square A, a partially intact conch shell was found lying on the surface of Structure 402, likely associated with the final Phase 2 construction. The *in situ* findings of marine shell may indicate the original placement of others found just off the northern side of Structure 402 (see Square A, Zone 2). In addition, Zone 1 of Square A yielded a light density of ceramic sherds and lithic debris, some animal bone and a single human tooth, along with a piece of worked shell. The latter appears to be a worked shell bead, resembling a miniature earflare, and was found near the surface in the southwest corner of Square A, around an area of root disturbance caused by a large Corrozo palm on the top of the mound. Similarly shaped earflares were found in the Cenote of Sacrifice at Chichen Itza, although these were made of wood and intricately carved with depictions of ballplayers (Coggins and Shane 1980: Figure 40). While Coggins and Shane (1980: 60) note their resemblance to earflares, they admit that the purpose of these objects is not clearly understood. Seldom are they found in true pairs; “nor are objects of this shape represented as worn in Mesoamerican art, which includes abundant and detailed representations of costume” (Coggins and Shane 1980: 60). Among the oldest wooden objects found in the Cenote, they date them to the Terminal Classic (AD 800-1000). Although the earflare from Oshon appears to be associated with the final Phase 2 construction, it is conceivable that the growth of the large palm may have pushed the shell piece up from lower levels. The root depth of Corrozos, however, is quite shallow.

Like Square A, Zone 1 in Square B encountered the topsoil matrix and collapse debris. The 2.5m x 2.5 m unit is superimposed over only a small portion of the northeastern side of Structure 402 which was partially exposed at the base of Zone 1. A heavy density of artifacts was recovered from Zone 1 in Square B, primarily because the bulk of the unit comprises an off-mound area to the east of the structure. The bottom of Zone 1 in Square A contained tumble and terminal artifactual debris that had fallen from the northeastern side of Structure 402. This debris contacts the surface of a midden-like deposit, found packed against the side of the structure and surrounding the two stelae. In addition to ceramic sherds and debitage, notable finds from Zone 1 of Square A included six obsidian blade fragments, a high density of animal bone, namely mammal and fish bone, as well as a large metate foot and other groundstone fragments. Most importantly, however, were finds of several hollow-handled ladle censer fragments, diagnostic of Terminal Classic and Early Postclassic contexts, which may provide a temporal framework for at least the final phase of Structure 402. The latest deposits, which appear to date to the Terminal Classic or Early Postclassic, were found at a shallow depth, on both the surface and within the first 5-10 cm of the matrix. As Graham (1987: 75) notes, thin layers of Terminal Classic debris may, in fact, represent several centuries of occupation, which can only be discerned through a careful analysis of the material. The finds of ritual paraphernalia suggest that this area was an important ceremonial locale through its final phase of occupation, although utilitarian debris such as the groundstone fragments suggest elements of residential use in the terminal occupation.

In Square C the topsoil of Zone 1 is located entirely on-mound and yielded an interesting assemblage of artifacts that may shed light on the ritual behavior of its ancient inhabitants during the final phase of site occupation. A potentially diagnostic foot of a ceramic vessel was found just below ground surface around the northwest corner of Square C. In addition, sixteen pieces of unworked marine shell fragments and also
landsnail shell were found in Zone 1 of Square C. The fact that Square A also yielded an intact marine shell on the surface and that concentrations of conch were identified along the northeastern edge of the structure in Zone 2, primarily in Square A, suggest that the shell deposits held a special ritual significance in the context of the all-stone circular structure. Although only limited excavations have been performed elsewhere at Oshon (see Morandi and Thomas 2001), testpits investigating two neighboring Structures (401 and 437) in Plaza A did not yield a comparably high density of marine shell. Only scattered light densities were noted and one intact conch was identified on the surface of Structure 401. The debris, found in relative abundance on Structure 402, may point to this structure’s special function, possibly representative of caching behavior or used as a decorative element covering portions of Structure 402 in its final phase. In either circumstance, the symbolic importance of marine conch shell seems undeniable, known for its strong associations with fertility, the underworld, and the deity Quetzalcoatl—the conch shell pectoral is one of his signature traits (Nicholson 2000). The feathered-serpent is also strongly tied to circular architecture (Ringle et al. 1998)—a religious theme that is further discussed toward the end of this chapter.

In Square D, the topsoil was removed and the base of Zone 1 exposed the top portion of the eastern wall of Structure 402. This area yielded a high density of artifacts, including a number of diagnostic ceramics. Several appliqued pieces and hollow-handled ladle censers were noted and mentioned above as diagnostic of the Terminal Classic and Early Postclassic. A heavy density of lithics was recovered from Zone 1 of Square D with an assemblage that appears to represent every stage of tool production. Similar high densities of lithic material also were noted by Morandi and Thomas (2001) for Structures 401 and 437, located nearby in Plaza A. The data indicate the presence of a local chert source proximate to the site which was mined in antiquity, but the source presently is unidentified. An obsidian blade fragment and two pieces of groundstone were also collected. Notably, a piece of coral and two fragments of unworked marine shell were also found, adding to the significant marine assemblage found throughout Zones 1 and 2. A high density of animal bone, namely mammal and fish bone, were collected. Like Square B, the off-mound area to the east of the structure at the bottom of Zone 1 represents a combination of collapse debris and the surface of the midden-like material that overlies the plaza floor surface and was packed against the side of the structure and surrounding the two stelae. The latest deposits from Square D lend further support to a Terminal Classic or Early Postclassic date for the final construction phase.

Zone 2

Zone 2 comprises the collapse debris and midden-like fill found along the exterior of the structure, therefore Square C which is located entirely on-mound was not excavated as part of Zone 2. The debris underlies the Zone 1 topsoil in Squares A, B, and D and the matrix in this zone appears to represent a combination of collapse debris and a midden-rich deposit overlying the plaza floor surface. Zone 2 yielded the highest density of artifacts excavated from any zone in Operation 24. The Zone 2 debris, consisting of a light density of small stones and a high density of artifacts, was found heaped against the eastern side of Structure 402 and surrounded the two plain stelae that stand just to the east of the structure within the plaza. As noted, the midden debris may have been purposefully placed in and around the stelae in an effort to secure and support the two monuments. Due to the limits of the excavation, the north-south extent of the midden heap could not be defined, but appears localized around the perimeter of Structure 204 for the debris clearly slopes downward to the east and tapers out toward the eastern edge of the operation. The Zone 2 debris also contains a number of larger, cut stones, which suggests that at least a portion of Zone 2 represents collapse debris from Structure 402. Unlike the underlying plaza floor, the midden fill excavated in Zone 2 does not resemble any kind of formally prepared surface.

At the base of Zone 2 a well-preserved rounded facing wall was exposed in Squares A, B, and D. Most of the wall comprised a two-course high wall, but in some places three and four courses were preserved suggesting that the original height of the wall was at least that high in antiquity. It also became clear at the base of Zone 2 that the two stelae were positioned in shallow pits and small to medium sized limestone cobbles were placed around their bases, presumably to reinforce their upright position. The shallow
positioning of the monolithic stone monuments has caused the large stones to shift slightly, one forward and
the other backward (Figure 16.3). The two stelae pits cut into the plaza surface only slightly and the stones
positioned around the bases of the stelae protrude above the level of the floor. The majority of the stones
were left in position during the excavation process for the sake of stability.

The evidence suggests that the two stelae are perhaps coeval with the phase 2 architecture, but
certainly post-date the final plaza surface, indicating the monuments were a late addition to the plaza group.
Stelae erected during the Late Classic period are typically found to penetrate quite deeply under the plaza
surface so as to stabilize the monument. Symbolically, the stelae or stone trees were considered to be planted
in the earth (Freidel and Schele 1988; Stuart 1996). The lack of a prepared surface associated with the two
stelae and the shallowness of the stelae pits at the Oshon Site suggest that the monuments were brought from
somewhere else and perhaps reused and, in essence, re-dedicated within this ritual context. The lack of
formal preparation speaks of a later date, perhaps coinciding with the Early Postclassic period. The evidence
suggests that this particular locale held a ceremonial importance through the final occupation phase and
further analysis may show periodic visitations following the abandonment of the site.

Zone 2 in Square A yielded a high density of artifacts, including animal bone, ceramics and lithic
material. One chipped stone tool fragment, as well as a groundstone tool fragment and five pieces of
obsidian were recovered. As noted above, Square A also yielded a high concentration of marine shell,
mostly whole and a few fragmentary conch, primarily found along the exterior of the structure in Square A,
although some were also identified in Square B (see below). The marine shell debris was found in the
collapse and midden-rich fill that surrounded the exterior of the structure. The high density of marine shell,
brought down river from the coast, appear to have been prized goods, even among the Maya of the Oshon
site who were only slightly inland from the sea. In the context of the all-stone circular structure, the high
concentrations of conch suggest a ritual significance, possibly representative of a ceremonial offering or a
ritual feasting event. As proposed above and discussed in greater detail below, the marine shell may have
been placed on and around Structure 402 as a means of further identifying this structure’s special function
within the community, perhaps as a shrine dedicated to the deity Quetzalcoatl. As the marine shell bead
from Zone 1 attests, shell was also fashioned into personal adornment that may have signified an elite status,
if finds are found to be restricted to the site core. Another notable find from Square A was a fragment of a
limestone bark beater, adjacent to the northern edge of the circular Structure. To the extent of this author’s
knowledge, this is the first bark beater found in the Sibun Valley and may represent a limited paper-making
industry within the region that was maintained through Terminal Classic and Early Postclassic times.
However, the fragmentary state of the bark beater and its placement within the midden deposit suggests a
secondary context and dating of its actual use is problematic in this case. Nonetheless, the artifact introduces
the possibility that paper books or codices painted by literate scribes, known to be produced from Classic to
eyear Post-conquest times, were also produced in this region.

Like Square A, Zone 2 in Square B contains the terminal occupation debris directly below the Zone
1 humic layer and directly above the plaza floor. Throughout Operation 24, Zone 2 appears to have yielded
an even heavier density of artifacts than Zone 1, including ceramics, lithics, animal bone, eight pieces of
obsidian, and a piece of human bone. Notably, fragments of ladle censers, ceramic appliqued elements, and
marine shell were found, further suggesting this area was an important ritual locale until the site’s terminal
occupation. As noted above, the excavation of Zone 2 in Square B revealed a collection of limestone
cobbles surrounding the base of Stela 1, positioned within the plaza floor in a very shallow pit. The plaza
floor is considerably deteriorated and remnants of a plaster surface surround only the first 20-25cm of floor
surface around the perimeter of the exterior facing wall of Structure 402, where presumably collapse debris
protected the surface from erosion over the years. A soil sample was taken of the deteriorated mortar and
plaster debris that was associated with the northeastern side of Structure 402, which also was exposed at the
base of Zone 2.

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In Square D, a similar combined collapse and midden-filled matrix was excavated as Zone 2. At the base of the zone, more of the exterior wall was exposed and an associated plaza floor, albeit considerably deteriorated, was defined in this area. Similar to Square B, the excavation of Zone 2 in Square D revealed a collection of limestone cobbles surrounding the base of Stela 2, positioned within the plaza floor in a very shallow pit. Like Squares A and B, a high density of ceramic sherds, animal bone, and lithics were recovered from the collapse and midden debris. Notably, at least five fragments of chipped tools were identified within the lithic assemblage. In addition, ten pieces of obsidian and more unworked marine shell were found within the zone.

Zone 3
Zone 3 comprised the tumble that covered the platform surface, the final architectural phase of Structure 402. At the base of Zone 3, lines of small cut stone blocks were noted on the surface of Structure 402. Although poor preservation limited an accurate reconstruction, traces of a platform construction containing at least two terraces could be discerned (refer to Figures 13.3 and 13.5). The general surface topography suggested that there was both an upper and lower terrace retained by remnant small, stacked cut stones that formed a two-tiered, circular platform structure. There appears to have originally been as many as four courses of stones making up the exterior circular retaining wall, however, the third and fourth courses were not well preserved. This wall (originally built during the Phase 1b construction episode) functioned as the exterior wall for the lower terrace surface, which was built up slightly with the addition of small stacked stones during Phase 2. The lower terrace interfaces another retaining wall, which steps up at least one course to an upper terrace surface. This upper retaining wall was also built of lines of small stacked stones, but both the wall and terrace surface are considerably deteriorated. At the base of Zone 3, Square A revealed the northeastern quadrant of the lower terrace, Squares B and D defined portions of the eastern side of the lower terrace, while traces of the upper terrace were strictly found in Square C (Figure 16.3).

Excavation of Zone 3 involved the removal of collapse debris in an effort to define these two deteriorated terrace surfaces that were primarily located in Square C. The poor preservation and total lack of a prepared surface, such as plaster or packed earth, made it difficult to discern the collapse from the construction fill of the platform (ultimately removed as Zone 9, see below). Therefore, while the majority of artifacts retrieved from Zone 3 represent surface remains from the terminal occupation of the platform, some of the artifacts may reflect debris included within the construction fill of the platform. Both contexts, however, yielded only a light density of artifacts (for a full description of artifacts recovered from the fill of the phase 2 platform see Zone 9). Throughout all squares, artifact density dropped off significantly in Zone 3, likely due in part to the shallowness of the zone (roughly 10cm in depth) compared with the deeper levels excavated in Zones 1 and 2. In addition, the lower artifact densities may indicate the relative paucity of on-mound debris at the time of abandonment or that post-depositional processes, such as flooding and run-off, caused debris to transmigrate to the lower areas around the perimeter of the structure.

Zone 3 in Square A entailed the clearing of collapse debris off the northerneastern end of the circular platform structure to expose the lower terrace of the Phase 2 structure in this area. Only a light density of artifacts were recovered, including ceramics, lithic material, and animal bone. No obsidian or chipped stone tools were identified and heavily eroded sherds were noted, which suggest the surface of the platform structure was exposed to the elements for a considerable amount of time. Notably, a stone which may possibly be a speleothem was found during the excavation of Zone 3 in Square A, perhaps incorporated as part of the architectural construction. Cave formations were found incorporated into another circular stone structure at Pechtun Ha, a site located in the middle reaches of the Sibun River Valley that was documented during the 1999 field season (see Harrison and Acone 2001). The possible significance of speleothem use in circular architecture is discussed in a final section of this chapter (see below).

Only a small portion of the eastern edge of the exterior facing wall of Structure 402 was exposed in Square B. This small area of the lower circular platform surface (an area measuring roughly 50cm-x-50cm)
was exposed in the southwestern corner of the square and excavations yielded an extremely light density of artifacts (n=2 pieces of chert debitage). The section of wall exposed in Square D was beautifully preserved, presenting four courses of stone on its exterior facing.

The majority of the platform exposed in Operation 24 existed in Square C, therefore, Zone 3 covered the entirety of this square and artifact density was somewhat higher than Zone 3 in Squares A, B, and D. Excavations entailed clearing down the collapse debris on the surface of the lower and upper terraces exposed in Square C. The density of artifacts were still relatively light and included a small amount of ceramic sherds, lithic material, unworked shell, and animal bone, as well as one fragment of groundstone. Two fragmentary pieces of stone, possibly speleothems, were also collected for further study. Notably, excavations uncovered one piece of worked limestone. The piece of limestone is a small square block, about 8 x 8 cm, with incised horizontal and vertical lines. Initially, it was theorized that the piece was a fragment of a utilitarian object, such as a barkbeater, or part of a game board. Although the incised lines on this piece do not have the characteristic markings of either, Elizabeth Graham (1985) has found a number of *Patolli* board fragments from several sites in the adjacent Stann Creek Valley, specifically from the Mayflower group, and indicates that they date to the Terminal Classic and Early Postclassic periods. Alternatively, the piece may be part of a sculptural element. The design resembles elements of the carved limestone turtle sculptures from Postclassic Mayapan, specifically their stylized carapaces with the horizontal and vertical lines. Interpretations, however, remain speculative until further comparative analysis is performed.

In Square D, Zone 3 entailed clearing the collapse debris from the surrounding eastern edge of the lower terrace surface of Structure 402. Overall, artifact densities were light, and although animal bone was noted throughout Zones 1-3, none was recovered from Zone 3 in Square D. Excavations revealed a nicely preserved three course-high wall in this area. The wall in the southern end of Square D was the only area of the wall that appeared to be collapsed, exactly where the central axis of the platform structure was located. Further excavation in this locale revealed an earlier construction phase which included a small doorway positioned where the small section of collapse was found in Square D (see Zone 5, Square D below).

**Zone 4**

Zone 4 consists of the remains of the plaza floor to the east of Structure 402, which was only selectively excavated in Square D in order to test the construction fill of the plaza floor surrounding Stela 2. All of the plaza floor area in Square D, with the exception of a small portion of the floor in the southwest corner of Square D (see Zone 7 below) and an area around the stela (roughly 120 x 120 cm), was excavated roughly 20 cm in depth. The section of the plaza floor surrounding Stela 2 was left intact for the sake of stabilizing the large monolithic stone that was submerged beneath the ground surface by less than 15 cm. The goal of excavating through the floor construction was to gather diagnostic ceramics with the hopes of dating the initial construction of the plaza floor. Furthermore, excavations were aimed at revealing any earlier construction sequences associated with Structure 402. Excavations ultimately showed that only a single plaza floor was built within this area of the plaza group and the fill of the floor was constructed of a clay-filled matrix, presumed to be a modified natural earthen layer. The survey conducted during the 1999 field season (see Morandi and Norris 2001) noted that Plaza A was positioned at a slightly higher elevation than Group B. The 2001 field excavations revealed that this area of the site appears to be situated on a natural rise that was presumably modified somewhat with the initial construction of the site (see Zone 6 below).

Cross-section drawings show that the Zone 4 plaza floor construction is roughly 15-20 cm thick, including the minimal remains of plaster surface and thick construction fill. The fill overlays the natural clay-filled earthen layer and consists of small to medium-sized limestone inclusions that created a relatively level surface. The fill was then covered with a layer of plaster that has almost entirely deteriorated, with the exception of 20-25 cm perimeter around the exterior facing wall of Structure 402. While the fill of the plaza floor yielded a relatively high density of lithic debris and at least two obsidian blade fragments, very few sherds were recovered. Fortunately, a number of large, potentially diagnostic pieces of ceramics were found.
in a relatively localized area to the east of Structure 402 (Square D), around the central axis of the building directly in front of the doorway. It is possible that these sherds represent the remains of a dedicatory cache. Future analysis of the ceramics will determine whether they are wholly or partially reconstructable. A preliminary analysis of the pieces suggests that they are largely fragmentary, possibly representing less than half of a single vessel, although the southern limit of the excavation unit may have cut off a portion of this deposit and the remaining fragments may lie further to the south. Nevertheless, the sherds may provide a date for the initial construction of the plaza group. Additionally, a sizable charcoal sample was recovered from the modified earthen layer (Zone 6), sealed beneath the floor construction, and may help to determine a more exact date for the initial construction.

Zone 5

Zone 5 consists of the removal of the entire retaining wall and construction fill of the Phase 1b exterior wall of Structure 402 that was defined in Square A at the base of Zone 2. In addition, a roughly 1 x 1 m area in the vicinity of the Phase 1b wall was removed in the southern end of Square D as part of Zone 5. Due to the state of collapse noted in both areas, these two portions of the Phase 1b wall were chosen for probing in an effort to expose any earlier construction episode(s). The excavation of Zone 5 in both squares revealed an earlier construction phase (1a), and shed light on the building techniques employed for Phase 1b, which involved the addition of about 40 cm of interior cobble and gravel fill sealed with an outer wall of finely cut stones. The new construction episode (Phase 1b) echoed the same circular shape of the earlier building. Construction effectively expanded the exterior walls of the structure outward by about a meter in diameter, but did not alter the overall dimensions of the interior room and maintained the central doorway that was exposed at the base of Zone 5 in Square D.

Excavations of Zone 5 in Square A revealed that the Phase 1b wall was constructed of finely cut masonry stones which retained tightly packed cobbie construction fill. The Phase 1b masonry wall and associated construction fill measured about 50 cm in thickness. Behind this later construction another finely built wall was defined and identified as part of the initial Phase 1a construction episode. As noted above, the later Phase 1b wall mimics the circular shape of the earlier structure, and utilizes the first course of stone offered by the low plinth that circled the perimeter of the Phase 1a structure. Zone 5 in Square A appeared to be a combination of collapsed wall debris and in situ wall construction laid down during the Phase 1b construction episode. In much of the Phase 1b wall fill, the matrix of the construction fill was densely packed with limestone cobble and gravel fill and the gravel seemed to act almost as mortar, holding the larger cobbles together. Both the earlier and later walls are relatively intact, however, a small portion of both appears partially collapsed at the same location in Square A. This gap, noted for both walls is about a meter wide and was initially thought to represent another doorway or entrance into the interior of the structure associated with both Phases 1a and 1b. Upon further excavation, however, a substantial portion of the inner construction fill and interior facing wall of the Phase 1a wall was found intact further to the south (see Zone 8 below), measuring about a meter in total width. This discovery ruled out this notion of a second entryway (Figure 16.1). Thus far, excavations at Structure 402 have revealed only one location for entering the room of Structure 402. It is located along the central axis of the structure as is defined in Zone 5 of Square D.

Artifact density in Square A was relatively light and included ceramics, animal bone, and lithic material, as well as one identifiable chipped stone tool fragment, and, notably, another 14 pieces of unworked marine shell from the vicinity of the collapse where it was likely associated with the concentration found in the same area along the exterior of the structure in Square A.

Unlike Square A, Zone 5 in Square D appeared to consist entirely of collapse debris. Excavation exposed the plaza surface running through a central doorway opening into the interior room of Structure 402. The cross-section of the northern side of the doorway, exposed at the base of Zone 5 in Square D, clearly defines the initial Phase 1a construction and the later addition of the Phase 1b outer wall and flagstone flooring in the interior room of Structure 402. Zone 7, located directly below Zone 5, confirmed that no earlier construction phases for Structure 402 existed below the plaza surface. Excavations of Zone 5, a roughly 1 x
1 m area in Square D revealed about half of the central doorway opening, the remainder was cut off by the southern wall of the excavation unit. A relatively high density of artifacts, including ceramics, lithic material, animal bone, and unworked marine shell were found within the collapse debris, which consisted of a number of cut limestone blocks and a mixture of cobbles and gravel material. Due to the position of the zone in the entranceway of the building, material probably represents artifacts from a mixture of contexts, primarily from the terminal occupation debris within the interior room and the midden-like material overlying the floor of the plaza.

The entranceway to the interior room was left open during Phases 1a and 1b and if a later wall was constructed for the building of the Phase 2 platform, no clear signs of the construction remained. Presumably, when the interior room was filled during Phase 2, a central doorway was no longer needed. It is possible that the structural integrity of this modification was weaker than the earlier construction phases, which would be commensurate with the overall declining construction technique evident at this time, and perhaps the wall covering the door gave way following the abandonment of the structure. Alternatively, perhaps an exterior Phase 2 wall covering the doorway was purposefully removed by ancient looters following the abandonment of the site. Evidence uncovered inside the interior of the room may support this hypothesis. Disturbance of the Zone 9 Phase 2 construction fill and underlying Phase 1b flagstone flooring (Zone 10) was noted during excavation of the southern end of the unit in Square C, directly in line of the entranceway. While the lack of homogeneity in the Zone 9 fill made the disturbance difficult to discern, the large portion of the flagstone flooring right at the entranceway into the room was clearly purposefully removed. Initially, the partial dismantling of the flooring was assumed to have occurred during the Phase 2 infilling process, but the selective stone removal from the area only in the vicinity of the entranceway suggests that the missing stone masonry and disturbance in the fill may be related to an ancient post-abandonment activity. Furthermore, the presence of a high density of artifacts in the small 1 x 1 m zone in Square D, compared to the relative paucity noted for Zone 5 in Square A, lends support to the notion that the doorway was left unsealed, allowing for the terminal debris to infiltrate this area. Until further excavation is undertaken, the above theory remains purely speculative. Nonetheless, excavations of Zone 5 in both squares proved crucial for confirming the three structural modifications (Phases 1a, 1b, and 2), reviewed at the beginning of the chapter.

Zone 6

Zone 6, restricted to Square D, consists of an earthen layer of compact, clayey sediment with little to no inclusions that is likely a natural deposit underlying the plaza surface. This matrix appears to part of a natural rise that was modified somewhat to allow for the building of Plaza Group A. It lies directly below the plaza floor (Zone 4), which contains a layer of gravel-filled construction fill topped with a plaster surface. The size of Zone 6 mirrors the layout of Zone 4 in Square D, comprising the entire square with the exception of a 1.20 x 1.20 m area around Stela 2, which was left intact for the sake of stability, and a small area of the plaza floor and earthen layer in the southwest corner of the square which was excavated as Zone 7. Square D presented an area of the plaza surface that could further elucidate the association between the construction phases of Structure 402 and the surrounding plaza surface. Stela 2, positioned in Square D, was submerged about 10 cm into the plaza floor and does not appear to protrude into the Zone 6 earthen layer that lies about 20 cm below the plaza surface. The plaza floor construction and the Zone 6 earthen layer both run underneath Structure 402 and clearly pre-date the building. The light density of artifacts found embedded in this earthen surface suggests that the area was occupied for some time prior to the formal construction of a plaza surface and the building of Structure 402. No further excavation was performed below this area in Square D. Notably, a piece of obsidian and a chipped stone tool were recovered, along with a charcoal sample which may provide a more exact date regarding the initial occupation and construction of Plaza Group A at the Oshon site.

Zone 7
Zone 7 also was restricted to Square D, and is an area measuring about 80 cm (east-west) x 100 cm (north-south). The zone consists of a small portion of the plaza construction and some of the underlying earthen layer (equivalent to Zones 4 and 6) that is directly below the Zone 5 collapse debris of the Phase 1b wall. Positioned in the southwest corner of Square D where a portion of the central doorway of Structure 402 is found. Zone 7 consists of the gravel fill of the plaza floor and some of the modified earthen layer that underlies the floor construction. Unlike Zone 4, artifact density is relatively high considering the small size of the zone. The goal of the excavation of Zone 7 was to better understand the construction sequence of the plaza and associated construction phases of Structure 402. Excavation reinforced the notion that the plaza surface ran underneath the building and acted as an initial floor surface for the interior room during Phase 1a, which was later covered over by about 20 cm of fill and capped with large flagstones during Phase 1b. The cross-section in Figure 16.3 best illustrated these two construction episodes. No earlier construction was found beneath this single floor surface and, therefore, the circular structure post-dates its construction.

Zone 8

Zone 8, excavated within Squares A and C, consists of the cobble-filled construction core within the center of the Phase 1a wall. The probe into the central core construction was restricted to the area that appeared to be partially collapsed, a one meter wide gap in the Phase 1a wall that was noted at the base of Zone 5 in Square A. The matrix of the fill was semi-compact overall and contained a high density of tightly packed limestone cobbles ranging from 10-20 cm in size. In Square A, the construction fill contained very few artifacts and consisted mostly of limestone gravel and cobbles. The fill of the wall is consistent throughout both Squares A and C in terms of texture, color and size of inclusions. At the base of Zone 8 in Square C, several large flagstones were noted underneath the fill, serving perhaps as the base of construction on which the Phase 1a wall was initially built. They are roughly the same elevation as the exterior plinth and interior flagstone flooring. Initially, the stones were thought to represent an earlier construction phase associated with the plinth, which would have comprised simply a one course 20 cm high and 1.5 m thick wall on which a perishable structure would have been placed. However, the presence of flagstones running underneath the core construction fill of the Phase 1a wall is inconsistent throughout the zone, and suggests that they functioned as part of a bin construction for the base of the wall and do not actually represent an earlier phase of construction. The Zone 8 probe stopped at the same level of the flagstone plinth that runs around the exterior of the Phase 1a building. A light density of artifacts were recovered in the fill of the wall in Square C, and only a slightly higher density were noted in Square A.

Zone 9

The infilling of the interior room of Structure 402 during the final Phase 2 construction episode was the matrix excavated as Zone 9. The fill inside the room, excavated in Squares A and C, contains a high density of root disturbance, especially in Square A due to the large Corrozo Palm that stands adjacent to the unit. In addition to roots, the matrix contains a high density of limestone gravel and cobbles that varies in size from 80 cm to 7.5 cm. The sediment surrounding the inclusions is a relatively loose silt. The artifact density in Square C is very light, only one piece of obsidian and a botanical sample (which may be associated with the modern intrusive Corrozo Palm) were collected from the fill that was removed. In Square A, artifact density increased slightly, and included at least ten animal bone fragments, a piece of groundstone, one obsidian blade fragment, eight unworked shell fragments, and three botanical samples (also likely associated with the modern intrusive Corrozo Palm).

This final phase of construction involved the positioning of large, upright limestone slabs against the interior wall of the room; large stone slabs also were stacked upright against one another. A number of these long, pointed stones were evident prior to excavation, protruding roughly 5-10 cm above the ground surface. Either no prepared surface was laid down on the upper platform terrace during the Phase 2 construction or a considerable amount of sediment that comprised the surface had washed away following the abandonment of the structure. The long stones were around 20 cm thick and a meter in length and rested directly on the disturbed remains of an elevated floor surface constructed of flagstones during the Phase 1b construction.
The Zone 9 fill is topped with several lines of stone (described earlier in Zone 3 of Square C), which may represent multiple terraces. Together, the Phase 2 construction effectively raised the overall elevation of the structure only slightly and transformed the building into a solid, multi-tiered circular platform, possibly with a perishable structure mounted on top.

The Phase 2 construction is problematic for several reasons. As noted earlier, the doorway that existed during construction Phases 1a and 1b, does not appear to have been properly filled in and walled off. Presumably, if the structure was transformed into a platform structure, a central doorway would no longer be necessary. Theories that possibly explain this lack of construction over the doorway are proposed above (see Zone 7, Square D). By the time the interior was in-filled, construction techniques appear to have changed considerably. The fill does not contain tightly packed stones of a consistent size like the fill defined in Phases 1a and 1b, rather, the construction materials are somewhat haphazardly thrown together and appear to be recycled materials perhaps robbed from another area of the site. The fill seems to be the result of an expedient in-filling process, rather than a thorough and careful construction procedure. While at least one upper terrace surface appears to have been constructed, it is extremely deteriorated, mainly due to large tree disturbance, and it is therefore difficult to reconstruct. Overall, the quality of construction seems considerably diminished in comparison to its precursors. Other evidence suggesting expedience over quality workmanship is reflected in the shallow placement of the two plain stelae to the east of Structure 402. While clearly associated with Structure 402, this dedicatory act appears to have been a late addition that has very little sense of permanence, and perhaps corresponds temporally to the final Phase 2 structural changes that considerably altered the associated architecture. Judging from this drop in construction quality, the Oshon site (or at least a portion of it) appears to have undergone some degree of collapse, perhaps a reflection of a significant weakening in the overall organization of the community and a gradual collapse in the governance of public affairs.

Zone 10

Zone 10 consists of a layer of construction fill lying below Zone 9, which was markedly different than the Phase 2 fill. The fill was associated with the flagstone floor surface that was built during the Phase 1b construction episode. Only the southern portion of the exposed interior flooring was removed, where the majority of flagstones were already missing. It is possible that the flagstones were purposefully removed during the in-filling of the building and reused either as part of the Zone 9 fill or for another secondary use. Alternatively, as noted above, the stones may have been removed during a later disturbance that occurred post-abandonment (see Zone 7 above). The flagstone flooring found intact in the northern portion of the exposed interior room were left in situ during excavation (see a drawing of their cross-section and the underlying fill of Zone 10 in Figure 16.4). About 20 cm of the associated underlying fill was excavated in Zone 10. The subfloor fill consists of mostly gravel-size limestone inclusions as opposed to the boulder-size rocks that made up the bulk of the interior room fill of Zone 9. This 20 cm-thick subfloor fill was laid directly over the remains of the plaza floor, which appears to run underneath Structure 402. The subfloor fill and flagstones cover the entire first course and portions of the second course of stones that comprise the interior facing wall of the room. The finely cut facing of these first two courses suggest that they were originally exposed in the initial construction phase of Structure 402 (Phase 1a), with the plaza floor serving as the initial floor for the interior room. Interestingly, the disturbed portion of the Zone 10 floor in the southern section of Square C contained a high density of chert ranging in size from 5-15 cm and an area of semi-compact reddish clay, possibly a burned area, which is suggestive of a possible termination event in this locale. The feature appears to extend beyond the excavation, further to the south and west of the unit. Future excavations may expand this area of excavation to reveal the full extent of the anomalous feature.
Discussion

The investigation of Operation 24 uncovered a portion of a circular structure that undoubtedly held religious significance within this ancient community perhaps for the duration of site occupation. Associated ritual deposits, such as the hollow handled ladle censors, appliqued pieces, and what appear to be spiked *incensario* fragments found associated with Structure 402 suggest a Terminal Classic (AD 800-1000) date for the final occupation of this structure. Circular structures similar to this type also appear to date solidly to the Terminal Classic in other parts of the Maya area. While future excavations may reveal a Late Classic component at the Oshon site, no other circular structure in the lowlands pre-dates the Terminal Classic, casting doubt on the assignment of an earlier date to even the first phase of Structure 402. Below, comparisons with other circular constructions found in different areas of the Maya lowlands are discussed in an effort to trace this pervasive Terminal Classic pattern. The chronological terminology for the Classic-Postclassic transition remains a hotly contested issue and, as Bey and his colleagues (1997) note, the use of a pan-lowland terminology may not be appropriate. Patterns of building activity and decline from the northern lowlands and the chronology attached to these changes (spanning AD 800-1100), however, may be potentially applicable to sites, such as Oshon, in the southern lowlands. A review of the chronology associated with findings in northern Yucatan (Bey et al. 1997; Ringle et al. 1998) presented below offers a chronology that is potentially useful in understanding the Terminal Classic building phases and subsequent decline at the Oshon site. Following a review of the chronology, the special significance of circular architecture and its possible links to religious themes centered on the worship of the god Quetzalcoatl are discussed. The data suggest a strong connection with northern lowland sites such as Chichén Itzá during this time.

Large temples of circular form often are interpreted as “a non-Classic Maya architectural form introduced at Chichén Itzá (e.g., the Caracol)” (Kowalski et al. 1996: 281) and the presence of this form in the southern lowlands often presumes a northern interaction. Examples of circular structures have been reported from numerous sites throughout the Maya area (Pollock 1936), including Uxmal (Kowalewski et al. 1996), Becan (Harrison 1979), and San Gervasio on Cozumel (Freidel and Sabloff 1984) in the northern lowlands and Nohmul (Chase and Chase 1982), San Juan (Guderjan 1995; Guderjan et al. 1989), and Seibal (Smith 1982; Sabloff 1973) in the southern lowlands. Recent finds from settlements in the Sibun Valley contribute to this ever-growing Terminal Classic architectural pattern. In addition to Structure 402 from the Oshon site, a two-tiered all-stone circular structure (Structure 100) was also found at Pechtun Ha (see Harrison and Acone 2001), a site located within the middle reaches of the Sibun River Valley. Another unexcavated structure at Obispo, a site located less than 5km from the Oshon site, may also represent an example of circular architecture and similar data, including ladle handle and spiked censers, recovered during excavations in the 2001 field season (see Morandi, Chapter 15) suggest an active Terminal Classic occupation at this nearby site as well. Together, the architectural data on circular structures appears to represent a broad spatial pattern occurring throughout the lowlands that functions as a solid Terminal Classic marker and may indicate a strong northern presence in the southern lowlands during this time.

Numerous comparisons can be drawn between other round structures found in the Maya lowlands and Structure 402 from the Oshon site. A circular structure from Nohmul, Structure 9, and Structure 402 are strikingly similar in form. Although significantly larger in diameter, Structure 9 (see Chase and Chase 1982: Figure 2) contains a substructure with a 40 cm high and 10 cm deep plinth surrounding the perimeter of the structure, comparable to the exterior design of Structure 402 during Phase 1a. Like Structure 402, the superstructures of both Structure 9 and a round structure from Uxmal (see Kowalski et al. 1996: Figures 1, 2, and 3) contained exterior walls constructed of squared “veneer” type facing stones that were roughly three to four courses high with a central doorway into a large circular room. All of these circular buildings appear to have been covered with a wattle and daub perishable structure. Although Structure 402 does not contain a substantial substructure or central staircase like the others, these differences are likely reflective of differential site size; Nohmul and Uxmal represent major ceremonial centers while the Oshon site represents
a minor one. The upper exterior course on the outer wall of both Structure 402 and the Uxmal circular structure may have been capped by a projecting, beveled cornice, although this remains more speculative for Structure 402 due to the limited preservation of the upper (fourth) course of stone.

The two-tiered platform of Structure 3 from San Jan (see Guderjan 1995: Figure 3), a site located on Ambergris Caye along the northern coast of Belize, is comparable to both the size and platform configuration found on Structure 402 in its final Phase 2 construction. As a two-tiered platform, the lower terrace of Structure 3 measured 9.2 m and the upper terrace measured 6.2 m, dimensions that are closely comparable to the overall size of Structure 402. The size and two-tiered terrace configuration also share a strong resemblance to the circular platform structure found at Pechtun Ha (see Harrison and Acone 2001). The Nohmul, Uxmal, and San Juan circular structures, as well as the earliest phase of the Caracol at Chichén Itzá all appear to date to the Terminal Classic. The structural similarities, combined with the diagnostic ceramic material found associated with Structure 402, strongly suggest that the round structure at the Oshon site even in its earliest Phase 1a form does not predate the Terminal Classic. The data compared with artifactual and architectural evidence from Obispo and Pechtun Ha suggest that a substantial Terminal Classic occupation may have existed at these sites as well.

In some instances, round structures are believed to have functioned as administrative buildings, specifically for the conduct of trade (Chase and Chase 1982), in other instances the circular structures are interpreted as both administrative and residential in function (Guderjan 1995), and still others suggest their emphasis was focused on ritual and that they may have served as shrine structures (Ringle et al. 1998). In all cases, however, the structures are associated with the elite sector of society. Arguably, the function of circular structures in all areas of the lowlands may not have remained static, but changed as political, economic, and religious transformations took place throughout the lowlands during the Terminal Classic and Early Postclassic periods (AD 800-1100). Bey et al. (1997: 250) argue that changes in architecture and in the use of space were the result of a variety of sociocultural transformations that took place throughout many centers during the Terminal Classic and indicate that “the canons covering the traditional use of space were breaking down” during this time. Areas of a site that were once used strictly for administrative or religious purposes were sometimes later transformed into a residential space and therefore a mixture of ritual and utilitarian deposits should be expected. The accumulation of midden debris around the outside of Structure 402, for instance, exhibits a mixture of ritual material and utilitarian debris such as groundstone tools and suggests a marked decline in the upkeep of the area. The evidence indicates that the traditional use of space was breaking down at the Oshon site by the final episode of occupation. At this time, the area seems to have been used differently, incorporating both ritual and residential activities in a space once strictly assigned to the former. Such data reflect the complexity of the decline following the Classic period and suggest that the abandonment of southern lowland sites was a gradual process of depopulation and reorganization.

The transitional boundary, typically referred to as the Classic-Postclassic transition, is poorly understood and remains debated among scholars studying different areas throughout the lowlands. Ceramic and occupational evidence from southern lowland sites such as Lamanai (Pendergast 1981, 1986), Laguna de On (Masson 1997), San Juan (Guderjan and Garber 1995), and sites in the Stann Creek Valley (Graham 1985) represent continuity across this blurred boundary and indicate the need for a clearer definition of the time period between AD 800-1100. Further investigation of the data from these sites, as well as the Oshon site and others in the Sibun Valley which span this tumultuous period of time, are slowly bringing this transitional period into greater focus.

Bey et al. (1997) present data from northern Yucatan that may be potentially applicable to the changes taking place at southern lowlands sites during this time. The authors attempt to clarify the Classic-Postclassic transition in their descriptions of building patterns at Ek Balam in Yucatan, which they argue reflect no strong transitional indicator in the ceramic spheres at the end of the Terminal Classic (the Cehpech sphere continues relatively uninterrupted from as early as AD 800 until AD 1100). They argue that the
decline in the quality of construction techniques characterizes the beginning of the Terminal Classic, which they suggest began around AD 925 and lasted until about AD 1100 in the northern lowlands. Typically, this time period is associated with the Early Postclassic in the southern lowlands (Chase and Rice 1986), along with the previous century, and the Terminal Classic is left unmentioned or undefined as a time period. While a pan-lowland terminology may not be applicable, patterns of occupational resurgence during AD 800-925 are apparent in the northern lowlands and need to be reassessed in the southern lowlands, where previous evidence of only scattered finds in this area has traditionally defined the resurgence following the Classic period collapse as a minimal occupation at best. Seibal is the best documented example of a major center that seemingly flourished during AD 800-925, but others are now coming to the surface, including Nohmul, Caracol, Xunantunich, Altar de Sacrifíciós, and Tikal, among others. While the scale of these sites diminishes significantly in comparison to their earlier Classic counterparts, the evidence of occupation should not be unnoticed. An accumulation of finds from smaller settlements, especially along the coast of Belize, also make up a large portion of the Terminal Classic occupation in the southern Maya lowlands. More recent finds from the Stann Creek (Graham 1985 and 1987) and Sibun Valleys are now offering more information on inland settlements within Belize during this time.

According to Bey et al. (1997), from AD 925 to 1100 many northern sites witnessed a cessation of new building projects with the only construction during this “postmonumental” phase involving reused stones from earlier structures. This pattern of decline may also apply to sites in the southern lowlands, such as Oshon where the final phase of Structure 402 appears diminished in scale and effort and may suggest a temporal relationship with the north, perhaps beginning, as they suggest, around AD 925. As noted above, the infilling of the interior room of Structure 402 appears rushed and lacks the building quality apparent in earlier stages of construction. The building materials for the exterior of the new multi-terraced platform are limited to small cut stones that appear to be recycled, similar to the patterns noted for Ek Balam and other northern sites.

While details of the chronology still need to be ironed out, preliminary evidence from the Sibun lends support to a model presented by Ringle and others (1998) that describes the introduction of a new religious organization in the Maya lowlands during the Terminal Classic period (AD 800-1000). Overall, the data from Oshon, Obispo, and Pechtun Ha strongly suggest that this new religious order, which centered on the worship of the god Quetzalcoatl, infiltrated the southern lowland area and likely spread from major centers in the north, stemming perhaps from the Terminal Classic superpower of Chichén Itzá. The introduction of circular architecture and a new assemblage of diagnostic ceremonial paraphernalia, including hollow-handled ladle censers, appliqued ceramics, and spiked incensarios, found in and around Structure 402 shed light on the changing ritual behavior taking place in the lowlands during the Terminal Classic period. These diagnostic ceramics are described by Ringle and his colleagues (1998) as signature wares of the so-called “International Style” of the Epiclassic, a span of time dating to AD 750-900 when much of Mesoamerica witnessed profound changes following the collapse of Teotihuacan, Monte Albán and many of the Classic Maya city centers. The data from Oshon suggest that this site stood strong during the Epiclassic transition, perhaps due to their active assimilation of a foreign religious ideology. While the finds from Oshon, including new forms of architecture associated with ritual deposits of speleothems, conch shell and censer fragments offer insight into new religious themes introduced during this time, the data also reflect strong continuity of cultural tradition among the Epiclassic Maya.

The use of speleothems at both Pechtun Ha and Oshon emphasized the continued importance of caves, home to the ancestors and sources of water and fertility, for the Maya. These themes of water and fertility that were played out in association with circular architecture offer insight into a religious ideology that appears to have become a focus of ritual behavior during the Terminal Classic period. Importantly, water and fertility, as well as circular architecture, are themes associated with the Feathered Serpent, briefly discussed in the beginning of this chapter. Postclassic depictions found in the Mixtec Codex Nuttall, which likely root in the Epiclassic, emphasize the importance of ancestor worship as part of cave ritual, a persistent
facet of Mesoamerican religion. The Postclassic documents also indicate the prominent role of the Feathered Serpent in the context of ancestor rituals and the deity’s direct association with circular architecture. On the bottom of page 18 of the Mixtec codex in the context of a series of placemaking events related to dynastic origin (which Ringle et al. [1998:185-186] argue show the cult expansion of Quetzalcoatl), an underwater or cave scene is presented. An important Mixtec leader, 4 Vulture, wears a feathered-serpent headdress and pays homage to the woman 3 Flint “Shell Mantle,” a venerated Mixtec ancestor who sits in the mouth of the cave wearing a “monster-maw” headdress. Also on this same page of the Codex Nuttall, an iconic representation of a crenellated circular structure represents the body of a Feathered Serpent with a serpent tongue that appears to be one-half of a ballcourt (another architectural feature prominent in Epiclassic contexts). Ringle et al. (1998:186) suggest that the image is an overt display of this deity’s connection to these architectural elements. The Postclassic documents offer insight into the potential significance of circular architecture and also shed light on the meaningful incorporation of cave formations to the round structures of Pechtun Ha and Oshon, perhaps meant to symbolize man-made caves where prayers for water and fertility were made to the ancestors. The karstic hills of the Sibun are riddled with cave systems and cave ritual is well-documented (Peterson 2001, see also Peterson, this volume) with clear evidence of Terminal Classic debris identified among the ritual deposits (Pendergast 1974). The material evidence from the caves, as well as settlements where selective use of speleothems with circular structures are found, reflects an important relationship possibly linking the ritual contexts found in caves and circular architecture of the Terminal Classic with the worship of the god Quetzalcoatl.

The concentration of whole and fragmentary conch found in and around Structure 402 also highlights the special function of this structure and may illustrate further ties to the Feathered Serpent. As previously noted, the concentrations of conch shell may represent a religious offering, or perhaps the remains of decorative elements that once covered the shrine structure in antiquity. In either circumstance, the importance of the deposit lies in what it conceptually symbolized for the Maya during this time. Similar to cave formations, marine shell has a long history in Maya religious tradition. Marine shell symbolized the watery underworld from which they came, which were interpreted as vital passageways for divine communication with the world of the living (Taube 1992). Marine shell, specifically conch, has strong associations with the Feathered Serpent and representations of the shells frequently accompany depictions of this deity. One of the best known examples comes from the Feathered Serpent Pyramid at Teotihuacan, where shells signifying the watery realm are carved along the base of the stone façade (Sugiyama 1989). The sliced conch shell pectoral “is a standard item in the insignia of Ehecatl Quetzalcoatl” (Nicholson 2000:147), which is found in some instances in the iconography at Teotihuacan, but appears more frequently in Epiclassic and Postclassic iconography, especially during Aztec times.

While a full description of Quetzalcoatl and what the god symbolized to the ancient Mesoamericans through time is beyond the scope of this report, the pronounced importance of the Feathered Serpent during the Epiclassic is apparent and manifestations of the god, seemingly incorporated into the local Sibun ideology, are found throughout broad areas of Mesoamerica during this time (Ringle et al. 1998). Evidence pieced together through a variety of artifactual and architectural data suggests that the religious ideology within the Sibun emphasized Quetzalcoatl through its own local lens that blended new and traditional belief systems. A number of scholars argue that increased trade and militarism during the Epiclassic period prompted the spread of the “cult of Quetzalcoatl” and the affiliated “International Style” (Ringle et al. 1998; López Austin and López Luján 2000). Fortunately, evidence for this distinct artifactual and architectural assemblage associated with the “International Style” is clearly identifiable in the archaeological record and seemingly present within the Sibun Valley during Terminal Classic times (AD 800-1000).
Concluding Remarks

The excavation of Operation 24 proved highly effective in reaching the initial objectives of the research design. A clearer understanding of the construction sequence and dating of Plaza Group A with regard to Structure 402 were gained though our investigations. Excavations confirmed that the heightened position of Plaza A, noted by surveyors in 1999 (see Morandi and Norris 2001), is due to a natural rise that appears to have been modified somewhat prior to the construction of the plaza surface. Artifacts found embedded in this natural earthen layer indicate that the natural surface may have been occupied for some time prior to the construction of the plaza group. Evidence of the plaza floor running underneath Structure 402 confirms that the floor pre-dates this construction and may indicate that the five structures which surround the plaza surface were not built all at once, but rather, developed in an accretional fashion over several centuries or more. Further testing, however, is necessary for a clear understanding of the chronology of these structural developments.

Excavations and the comparative analysis outlined above offered further insight into the dating of Structure 402. Preliminary data suggests that the final phase of the structure dates to the Terminal Classic or perhaps as late as the Early Postclassic and is likely coeval with the final occupation of Structures 401 and 437 (see Morandi and Thomas 2001). Investigations revealed that Structure 402 was an all-stone circular building, which appears to have undergone at least three architectural modifications during the history of its use at the Oshon site. During Phases 1a and 1b, the circular building maintained an interior room accessed through a central doorway and was constructed of finely cut stone masonry. Although slight modifications were made during the subsequent Phase 1b construction episode, it was only in its final construction phase (Phase 2) that the structure underwent significant transformation and developed into a solid, circular platform. More importantly, the Phase 2 changes are characterized by a decline in construction techniques and indicate the overall political, economic and religious changes taking place during this time.

Further investigations may illuminate a more substantial Terminal Classic occupation in the southern lowlands than was previously thought. Moreover, careful testing of southern lowland sites for architectural configurations, such as round, C-shaped, or patio-quad structures, (characteristic of Terminal Classic northern architectural styles) may bring into focus the extent of northern influence. More intensive analysis of archaeological remains and further sampling at Oshon and Obispo sites, with a close eye on the final occupational phase, is planned for a future field season in 2003. Investigations likely will clarify what appears to be a differential distribution of material remains associated with circular ceremonial architecture and certain symbolic media that appear linked with a distinct form of ritual activity tied to the worship of Quetzalcoatl. These future investigations promise to reveal information regarding the historical particularities of the political and ideological arrangement in the Sibun as compared with the broader patterns found throughout Mesoamerica.

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(Endnotes)

1 Bey et al. (1997) refer to the period from AD 925-1100 in northern Yucatan as the “Terminal Classic” and retain the term “Late Classic” for the period dating from AD 800-925 because they argue building activity continued during this time, which infers that economic and political stability was maintained. It is only after AD 925 that a decline in building activity is evident in the northern sites and therefore the use of the term “Terminal Classic” which implies a decline in fluorescence is more appropriate. These chronological trends, though potentially parallel in the southern lowlands, have not been adequately defined for this area. While there are a growing number of finds in the southern lowlands to suggest a similar resurgence in occupation and building activity during AD 800-925, it remains scattered throughout the area and may reflect more localized trends, rather than a regional period of growth like that of the north. Thus, until further data from the southern lowlands suggests otherwise, the traditional use of the term “Terminal Classic,” referring to the dates between AD 800-1000, will be used by this author.

2 Portable-size speleothems also were found in the context of the Pakal Na burial (see Harrison and Acone, this volume), relating the primary interment to cave ritual during life and indicating his status of venerated ancestor in the afterlife. Additionally, the selective use of cave formations in this burial, which also appears to date to the Terminal Classic, offers insight into the ceremonial life of this local community and their possible affiliations with northern lowland centers, such as Chichen Itza, and the cult of Quetzalcoatl.