

Results of the 2002 Valley of Peace Archaeology Project: Yalbac

Report submitted to the Department of Archaeology, Ministry of Tourism and Culture
Government of Belize

Permit No. DOA/H/2/1/02(10)
Accession No. 10105

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2003

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Table of Contents

Chapter 1

Exploring Maya Politics: Yalbac, Central Belize

Lisa J. Lucero.....1

Chapter 2

Residential Yalbac: Site 94E22N-14

Sean M. Graebner and Lisa J. Lucero18

Chapter 3

Residential Yalbac: Site 94E22N-18

Lisa J. Lucero and Sean M. Graebner42

Chapter 4

Spending the Roaring 20's in the Jungle: The Historical Record at Yalbac

Andrew Kinkella.....51

Chapter 5

Powerful Birth: The Impacts of Globalization on the Childbirth Experience in the Valley of Peace, Belize, a Refugee Village

Hollie Jo Fuhrmann58

Chapter 1

Exploring Maya Politics: Yalbac, Central Belize

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Introduction

The long-term goals at Yalbac include: 1) mapping the core features and immediate environs; 2) cleaning and profiling looters trenches; 3) collecting chronological information and any data that would situate Yalbac politically and socially; 4) mapping hinterland settlement; and 5) excavating comparable residences to those excavated at Saturday Creek in the 2001 season (see Lucero 2002). These goals are important for several reasons: results will provide a regional perspective on the development of political systems, and data will provide comparative ritual histories from centers in various material settings to assess degree of political power.

Yalbac translates either as 'small bone' or 'small egret' (Weldon Lamb, personal communication, 2002). While the exact history of the name is currently unknown, loggers named a logging camp nearby Yalbac Camp, and several historic villages also went by the name of Yalbac (Leventhal et al. 2000). At present, the site is on protected, private property owned by Yalbac Cattle and Ranch Company. Consequently, diverse flora and fauna are relatively abundant. Michael Plowey, General Manager, has given the Valley of Peace Archaeology (VOPA) project permission to conduct research at Yalbac. The land south of Yalbac Creek is owned by the Government of Belize, on which lies the village of Yalbac, which at present is inhabited by about 20 families.

In 2002, we excavated two small residences, cleaned two looters trenches, continued mapping core features, conducted survey north of Yalbac to the Cara Blanca pools, recorded three more looters trenches (for a total of 28), and tied Yalbac in to the regional archaeology map thanks to Dr. William Poe and Dr. Susan Hayes. We exported 2 carbon samples and the historic artifacts from 94E22N-14 (see chapter 4). Ceramic analysis will be conducted in summer 2003. Consequently, at this time we are unable to provide site chronologies, only architectural histories.

May 20 was the first field day of the season when the PI, two workers, and Sean Graebner visited Yalbac to meet with the guard, Mr. Thompson, to inform him of our plans. We walked through the core of Yalbac looking for additional looting; three new looter's trenches were found (see revised table in appendix). We then began to relocate two peripheral structures (sites 14 and 18) that were found during the 2001 survey. These structures will provide information on occupation history of Yalbac's hinterland settlement, as well as provide comparative ritual data with that collected from Saturday Creek. In addition, David Lee and Jennifer Piehl, consultants with the InterAmerican Development Bank, assessed Yalbac as a potential future ecotourist site in conjunction with the Department of Archaeology.

The 2002 field season was cut short due to the early onset of the rainy season. Heavy and consistent rainfall forced us to stop all fieldwork on June 21 instead of June 28. At one point all routes to Yalbac were either flooded or completely washed out. Our workers, who could reach the site from the Valley of Peace village, completed the backfilling. All open units were lined with plastic prior to backfilling.

2002 Season (May 20-June 21)

Staff

The 2002 VOPA crew consisted of myself (PI); field supervisors Sean M. Graebner (NMSU) and Andrew Kinkella (UC-Riverside, who came the last two weeks). The crew also included 8 New

Mexico State University field school students (Anthropology 488/522): NMSU graduate students Amanda Martinez, John Hunter, and Marcos Guerrero; Arizona State University graduate student Karl Seitz; Chair and assistant professor, Department of Anthropology, University of San Carlos, Cebu, Philippines, Jose Eleazar R. Bersales; NMSU undergraduate students Gabriel Silva, Rachel Saurman, and Andrea Streeper. Finally, VOPA crew included seven field assistants from the Valley of Peace Village; Cleofo Choc, Zedekiah Scott, Juan Antonio Lopes, Isabel Ascencio (Don Luna), Rene Penido, Jose Ernesto Vasquez, and Rafeal Magana. All of us participated in excavation, survey, and mapping.

In addition, I requested permission on behalf of one of my NMSU graduate students, Hollie Jo Fuhrmann, to live in the Valley of Peace Village to conduct a study on human birthing patterns for her M.A. thesis in anthropology. The title of her research project is 'Powerful Birth: The Impact of Globalization on the Childbirth Experience in the Valley of Peace, Belize, a Refugee Village.' While in the Valley of Peace, she lived with Maria, a midwife. Her experiences are detailed in chapter 5.

Funding and Expenses (US\$)

Funding for 2002 was provided by a NMSU Research Minigrant (\$2500), the Department of Sociology and Anthropology (\$1000), a private donation (\$4000), and personal funds (\$1880), for a total of \$9380. The below amounts include project and staff expenses only. NMSU field school students paid their own expenses (airfare, lodging, tuition, food, transportation, etc.). The total project amount spent in Belize was \$6646.81. Of this total, \$920 was paid to the Department of Archaeology for administrative and consolidation fees; \$3009 for labor costs; \$220 for social security; \$711.50 for fuel for the project F150 truck; \$201.75 for vehicle costs including insurance and repairs; \$685.26 for food for staff; \$613.07 for lodging at Cahal Pech Village for PI; and \$286.23 for supplies including internet, phone cards, field equipment, copying, etc. The remainder of funds was spent in the United States on equipment and supplies, as well as travel to Belize via Mexico (total \$ 2733.19).

Previous Research

Preliminary survey results from the first field season (June 1-July 10, 1997) in the Valley of Peace area demonstrated a dispersed settlement pattern located away from rivers, and more dense settlement along rivers (Lucero 1997; Lucero et al. in press). The major goals of the 1998 field season (May 23-July 7) were four, three of which focused in the Cara Blanca area: 1) survey for pools, caves and nearby settlement (Lucero 1999a); 2) test excavate a presumed ceremonial structure at the edge of a pool (Kinkella 2000); 3) explore a pool for offerings (Osterholtz 1999); and 4) map the river center of Saturday Creek (Lucero 1999b). The major goal of the 1999 field season (May 11-July 1) consisted of collecting chronological data from the river center of Saturday Creek through a test pitting program. In addition, a brief return trip was made to Cara Blanca, Pool #1 to collect additional chronological data (Kinkella 2000). We also continued mapping Saturday Creek. Finally, we did a quick pace and compass map of the core area of Yalbac. In 2001, I received a National Science Foundation grant (BCS #0004410) to conduct extensive excavations at Saturday Creek (Jan.19-May 5) (Lucero 2002). We excavated two small residences, a structure from an elite compound, and a temple ball court. We also spent 15 days at Yalbac, where we collected enough points to generate a preliminary map of the core area of Yalbac. We also surveyed the area in the immediate vicinity of Yalbac to evaluate hinterland settlement (Greabner 2002).

2002 Results: Yalbac

The major center of Yalbac (UTM 294.5E 1922.7N) is located in the uplands near pockets of good agricultural land along a perennial stream, Yalbac Creek, in central Belize (Figure 1.1)

Mapping Yalbac

Graebner completed most of the mapping of core features and nearby natural resources. He recorded new points within the site core at Structure 2G, and in Plaza 1 additional points on Structures 1B and 1D. We improved the geographic data for the north-south logging road that runs parallel to Yalbac's core structures, and collected new data on Yalbac Creek, the perennial stream south of the core. Rainfall prevented us from finishing mapping the creek, which we will do in 2003. All new data will be updated and plotted using GPS and GIS equipment and software. Drs. William Poe and Susan Hayes tied in Yalbac traverse points YG (and YD and YE) (Figure 1.2) to a temporary base station at Baking Pot, 21 km distant.¹ The corrected elevation for YG is 75.8 m asl, a difference of 15.6 m from the original elevation of 91.4 m. We also labeled the 21 individual rooms or structures of the acropolis, as well as the five plazas (Figure 1.3; Table 1.1).

Table 1.1. Yalbac royal acropolis (1A) room/structure heights

Str. no.	Height (m)
1aI	4.0
1aII	4.93
1bI	1.40
1bII	1.50
1bIII	1.87
1c	0.46
1dI	2.49
1dII	2.23
2a	1.51
2b	2.70
2c	3.02
2d	0.79
2e	2.88
3a	2.08
3b	0.44
3c	1.78
3d	1.82
4a	2.23
4b	0.67
4c	0.87
5a	0.85

Looters Trenches

On top of the acropolis (1A), the upper most looters trench (LT1) exposed a spine separating two rows of rooms. Preservation of the interior architecture on the west block of rooms, including an intact corbel arch and red-painted walls, is excellent. The east row of rooms over looks Plaza 1 below. A looters trench on the east side (LT2) has exposed what might be door jams and a bench.

LT8 is on the west side of Structure 3D (47 x 23 m), a temple located on the east side of Plaza 3. It was originally recorded in 2001 as 13 x 1 x 1 m; we either did not record dimensions correctly, or looters further expanded it. There are two looters trenches, an upper and lower (Figure 1.4). They are located c. 1.7 m from each other. They both have exposed several strata of limestone boulder fill and plaster floors (the latter difficult to see in the profile). The upper trench measures 5 m in length, from 1 to 3 m in width, and 1.5 m in depth; the lower trench measures 6 m in length, c. 1.3 m in width, and 3.1 m in depth. Also visible in the profile is a tiered facade, likely constructed with cut stone as several are visible in the profile of the north wall. During the process of cleaning the trench,

¹ Lamanai is 50 km distant, San Jose 18 km, and Saturday Creek 19 km.

field assistants recovered several items looters had thrown aside, including broken ceramics, human skull fragments, a slate disc fragment (perhaps the back of a mirror), and a marine clam (as well as sherds and chert flakes).

Upper trench strata:

- I. Topsoil; loose clay loam (10YR5/3) with pebbles, some cobbles, and a few small boulders
- II. Wall fall/collapse with cut stone in a matrix of loose silty clay loam (10YR6/2) with some pebble and cobble inclusions
- III. Clayey silt loam (10YR7/2) with some cobbles and a few pebbles
- IV. Moderately compact silty loam marl (10YR8/1) with some cobbles, pebbles, and a few small boulders
- V. 75% cobbles with 25% clayey silt loam (10YR6/2)
- VI. 80% boulder fill with 20% silt loam (10YR5/2)

Lower trench strata:

- I. Topsoil with roots, small pebbles, and clay loam (10YR5/3)
- II. Cut rocks, wall fall, matrix of silty clay loam (10YR7/2), pebbles, and roots
- III. Clay silt loam (10YR7/2) with some pebbles and cobbles
- IV. A possible mortar (10YR8/1) with marl, silty loam, cobbles, and pebbles
- V. 70% cobbles with 30% clay silt loam (10YR6/2)
- VI. 80% boulder fill with 20% silt loam (10YR7/2)
- VII. Silty clay loam (10YR5/2)

We also measured the volume of a concentration of chert microblades and microflakes, mostly pastel colored, that may have served as a specialized fill (offering). We took samples from: 1) a small pile south of the tree fall on the southwest corner of lower LT8; 2) a pile south of the tree fall; and 3) around the roots of the tree fall. We screened using 1/4" mesh, though there was not much soil to begin with. To determine volume, we filled a 5-gallon bucket (18.99 liters), screened out debris, and measured the remaining lithics in a graduated cylinder. The volumes were the following: 1) 1.2 liters (6.3% of bucket volume); 2) 4.56 liters (24%); and 3) 4.34 liters (22.9%). The tree fall and flakes were located on top of looters trench backdirt, indicating that wherever the lithics came from, that it was a relatively recent disturbance, most likely caused by looting.

LT16 is located on the top of the west side of Str. 2E and is 8.5 x 1.4 x 2.1 m in size. Exposed in the profile are four strata (Figure 1.5):

- I. Topsoil mixed with large boulders, cobbles, and clay loam
- II. Cobble with sandy clay
- III. Large boulders and cobbles with sandy clay
- IV. Boulders with limestone mortar

Strata II-IV might represent different construction phases, including possible cut stone facades. They, along with the topsoil (I) might also reflect collapse since the trench is so close to the top of the temple (which is 8 m high). No artifacts were noted.

Ball court

Archaeological investigation in the ballcourt was initiated, but not completed. An one-meter wide east-west trench was placed through the middle of the ballcourt, stretching across the ballcourt alley 13 m from structure 2B to structure 2C. We divided it in half and designated them units 2B and 2C. Our objective was to find the alley floor and perhaps a ball court marker. This trench was only excavated to a depth of 50 centimeters, and was also stopped due to unexpected rainfall. Artifacts recovered from 2B topsoil include ceramic sherds, a handle, and a chert blade and flake. From the topsoil of 2C, we found a chert flake, a core, and ceramic sherds. We were not able to get much beyond the topsoil due to rain, but we did begin to expose what looked like a bench with a floor or surface of some kind Str. 2C (Figure 1.6).

We covered the exposed area with plastic and backfilled. We plan to continue excavations in the 2003 field season. The majority of the soil removed in this trench consisted of limestone boulders and cobbles that resulted from structural collapse of both structures 2B and 2C.

Residential Excavations: 94E22N-14 and 94E22N-18

We cleared the two peripheral structures 94E22N-14 and 94E22N-18. The clearing of both structures, construction of screen racks, and stringing up the units and trenches for each structure consumed two full days, at which point the excavation commenced. Since some of the students were new to archaeology, we worked as one crew so that the students could learn and become comfortable with the methods and forms. The crew worked together for the remainder of the week at site 14, where Graebner served as the crew chief. The following week, the crew was divided into two smaller crews and excavation at site 18 was initiated, where Amanda Martinez served as crew chief.

We tied in sites 14 and 18 to the Yalbac core by cutting a straight line through the jungle from known points on the traverse (points YG and YJ). We were able to use the known location and elevations of these points to determine the location and elevations of the sites, as well as the elevation profile of paths from the site core to each site.

We bisected each structure with a 2 m wide trench that began at the base of the mound and proceeded up the sides in 2 m increments in order to expose the exteriors first, followed by horizontal exposure in 2 m units. The main goal was to reveal the depositional history of each structure (i.e., sequences of floors, caches, deposits, and burials). We excavated following natural stratigraphy and used the Harris Matrix method of recording stratigraphy to highlight depositional sequences (see Harris 1989). Figure 1.7 provides a key to the symbols used in chapter 2 and 3 site matrices. All features have been tied into one of the traverse points.

Excavated material was screened through 1/2" mesh except topsoil (101). All artifacts and ecofacts were collected and separated by class (ceramics, chert flakes and tools, bone, obsidian, etc.). At the VOPA field lab we cleaned, sorted, cataloged, and bagged artifacts. The Belize Department of Archaeology allowed us to curate diagnostic ceramics in Belmopan. The remainder of artifacts, particularly chert flakes, chunks, and body sherds were bagged and labeled, and returned to the units from which they came before they were backfilled. We also exported two carbon samples from Site 94E22N-18, and the historic artifacts from Site 94E22N-14 (see chapter 4).

Settlement Survey (most taken verbatim from A. Kinkella fieldnotes)

Andrew Kinkella, Sean Graebner, Rafilo Sansores (who was hired for the day, and usually works for Yalbac Cattle and Ranch Co.), and Cleofo surveyed the area between Yalbac and the Cara Blanca pools on June 19, where it basically rained the entire day. They walked north of Yalbac along the road to get a better idea of the settlement between Yalbac and the Cara Blanca pools. After about 1 km on the road, they turned east into the jungle. Overall, the path went in a northeasterly direction. There appeared to be many more mounds in the general vicinity than were seen in the 1998 and 1999 trips to Cara Blanca from the Valley of Peace Village. Some of the mounds were mapped in 2001, but many were not recorded. Most notably was a mound group about halfway between Yalbac and the pools (c. 4 km). Similar to Three Sisters (see Lucero et al. in press) in size (the largest structure being about 4 m tall) and general layout, the group (94.5E24.5N-1) has been heavily looted, and evidence for recent looting was present (food refuse and bed frames) (Figure 1.8). The mounds appeared to mostly have rubble fill (exposed in the looters trenches). There are about 10 structures total in this group. Eleven ceramic pieces were collected from the largest looters trench (catalog no. 608) and consisted of 2 bases, 2 body sherds, 2 rim sherds, and 5 handles. The GPS reading for the tallest structure on the north side was UTM 294.59E 1924.70N.

After mapping the mound group, they headed north to the pools. The pool, #7, was located at UTM 296.07E 1925.81N. It is oriented east-west (estimated 130 m) and is quite narrow (estimated 30 m), but larger than most of the other pools we have surveyed (Kinkella 2002; Lucero 1999). The water was greenish, but clear. There was a relatively steep ridge (c. 35 m high) on the north side of

the pool and reed plants grew at its edge. Near the side of the pool are stone formations that seem very canal-like, but they could also just be natural rock formations. The ‘canals’ are c. 70 cm wide, and 1 m deep. They curve back and forth near the pool, disappearing into the underbrush, and then appearing again.

They walked back to Yalbac, in about an hour’s time, along an old logging road that had mostly been reclaimed by the jungle.

Concluding Remarks

In the following chapters, VOPA crew describe the results in greater detail. In chapter 2, Graebner and Lucero describe the architectural history of Site 14, and Lucero and Graebner do the same for Site 18 in chapter 3. In chapter 4, Andrew Kinkella describes the historic artifacts recovered from Site 14. In the final chapter (5), Hollie Jo Furhmann discusses her preliminary results of human birthing patterns in the Valley of Peace Village.

Acknowledgements

I would like to thank the Department of Archaeology for their continued support, especially Acting Archaeology Commissioner George Thompson. Long-term support by Robert Vitolo is also greatly appreciated. I also want to thank Drs. William Poe and Susan Hayes for their help, advice, and friendship. I appreciate Michael Plowey and his team for their permission to work at Yalbac. Jane Arie Baldwin and Stuart Baldwin provided needed relief and assistance. We all would like to thank Angela Ayala of Yalbac Village for providing wonderful company and breakfast everyday. And none of VOPA field goals would have been possible without the friendship and support of our field assistants from the Valley of Peace Village—Mr. Scott, Clefo, Juan Antonio, Don Luna, Rene, Rafael, and Ernesto.

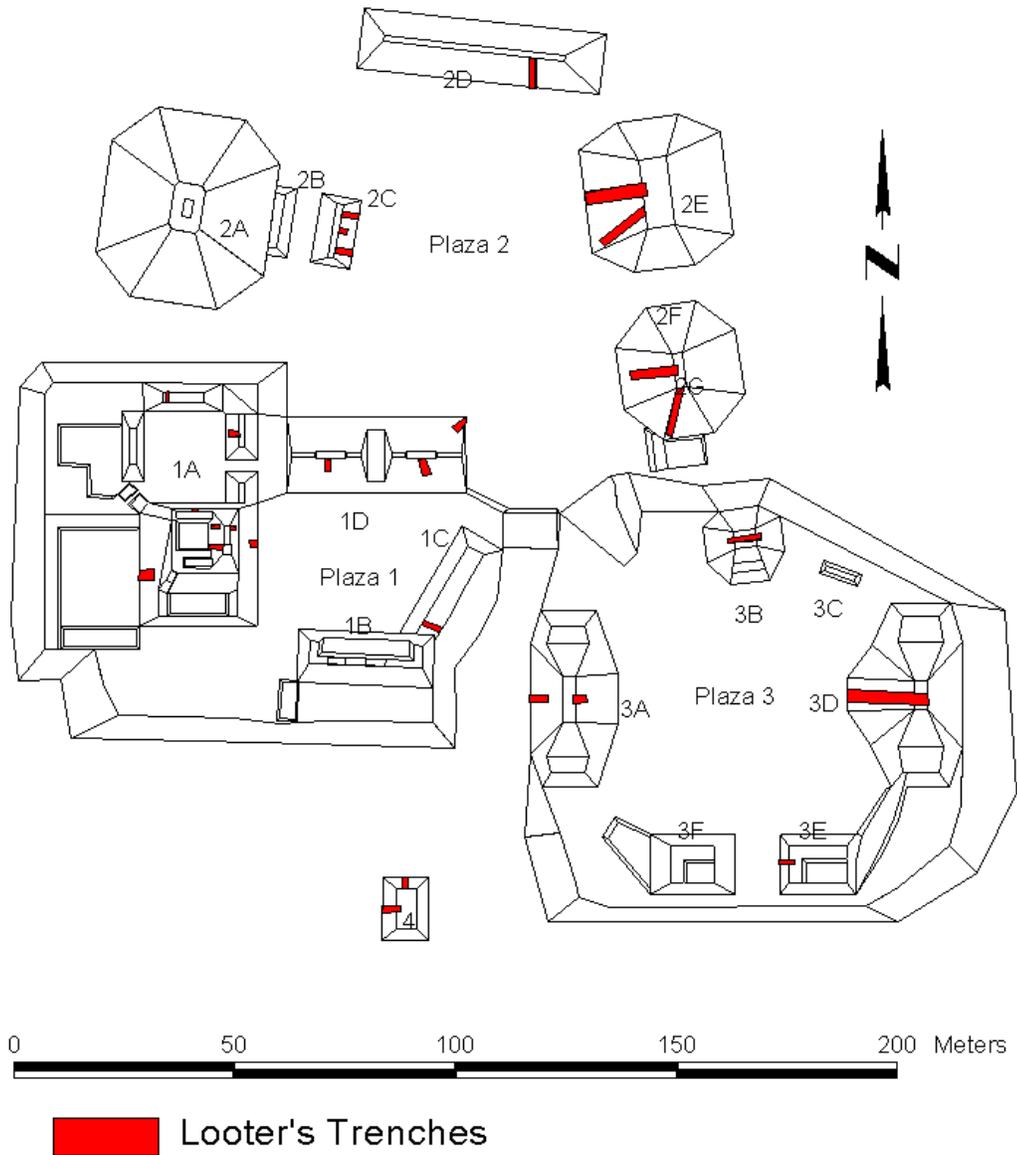


Figure 1.1 Yalbac

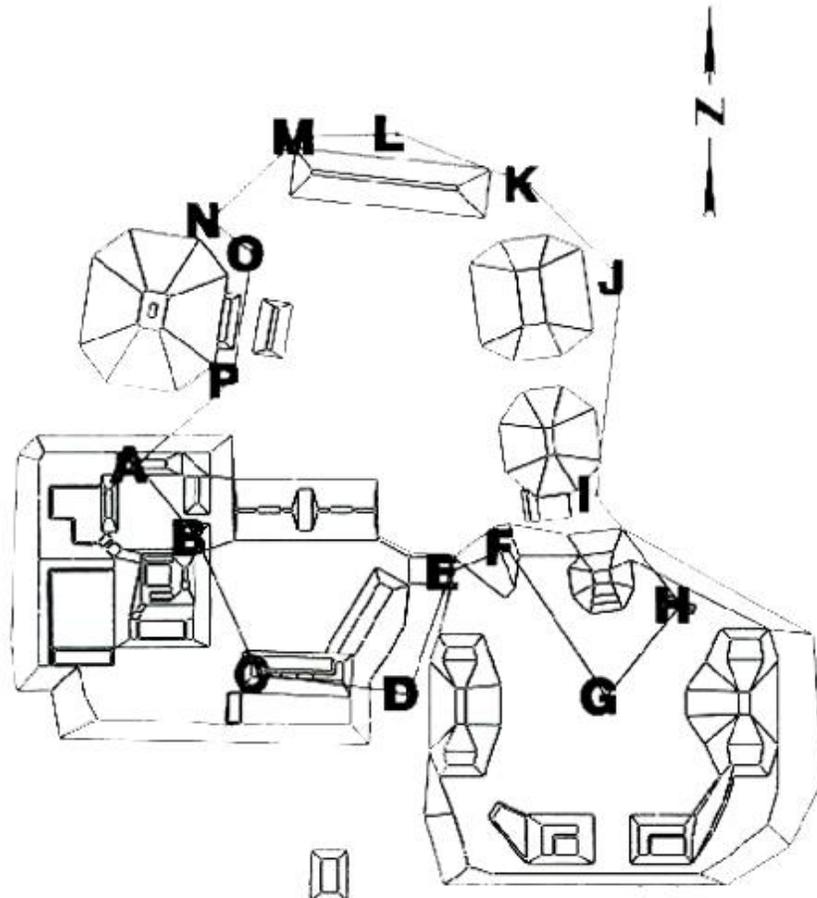


Figure 1.2 Yalbac with traverse points

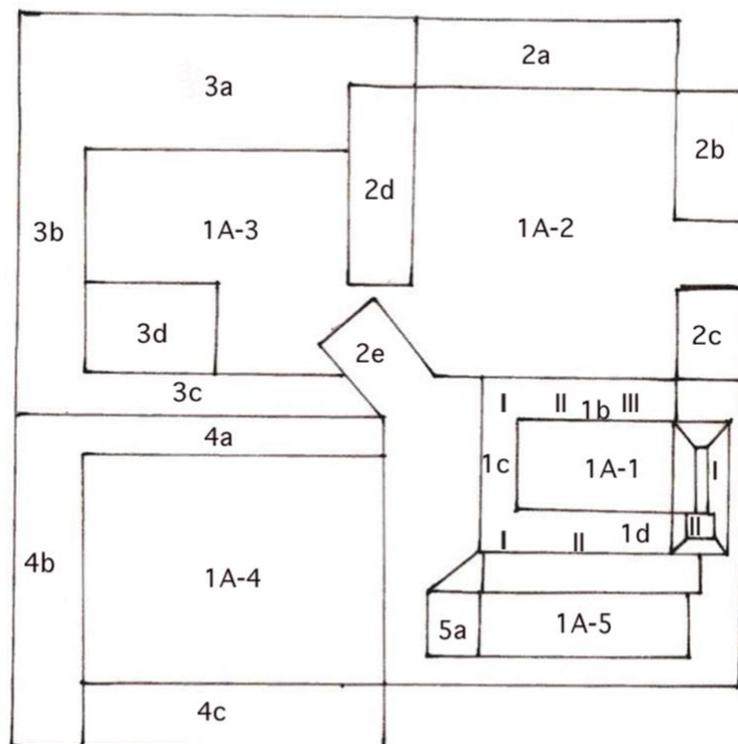


Figure 1.3 Schematic of top of royal acropolis (Str. 1A)

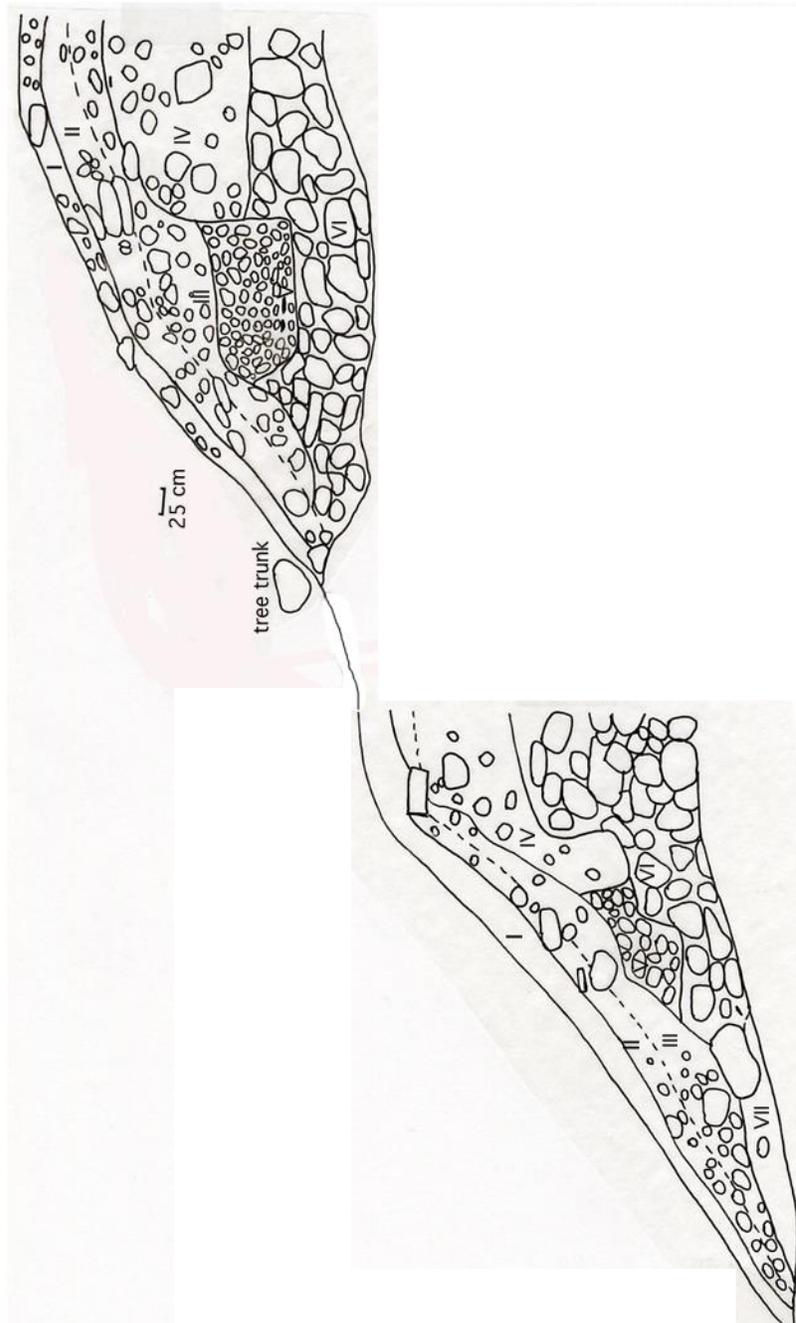


Figure 1.4 North wall profile, upper and lower LT8, Str. 3D

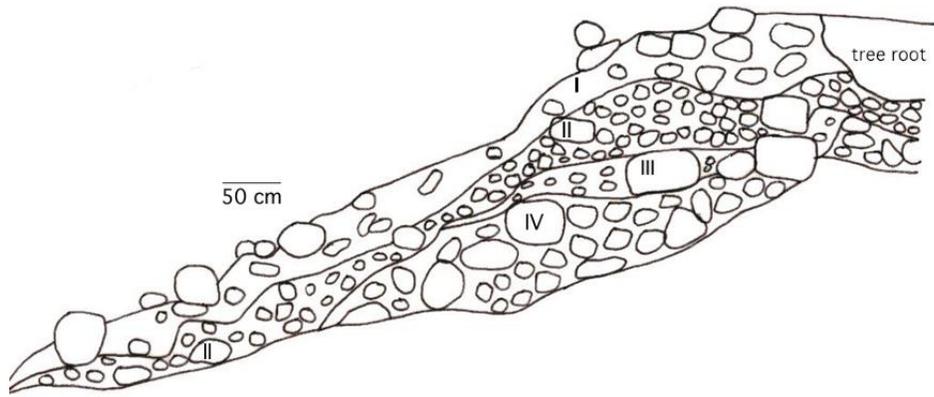


Figure 1.5 North wall profile, LT16, Str. 2E



Figure 1.6 Yalbac ball court test trench

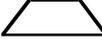
101	Clay/Soil
	Wall
	Fill/Building Collapse
	Floor/Surface
	Pit/Foundation Trench
	Feature/Cache §
	Burial §
	Enclosed, e.g., oven, tomb §
	Abutted Wall/Contemporary
	Superposition
	Bonded Wall/Equivalent Locus
	Possible Relation
	Adjoining through other strata

Figure 1.7 Harris matrix symbols

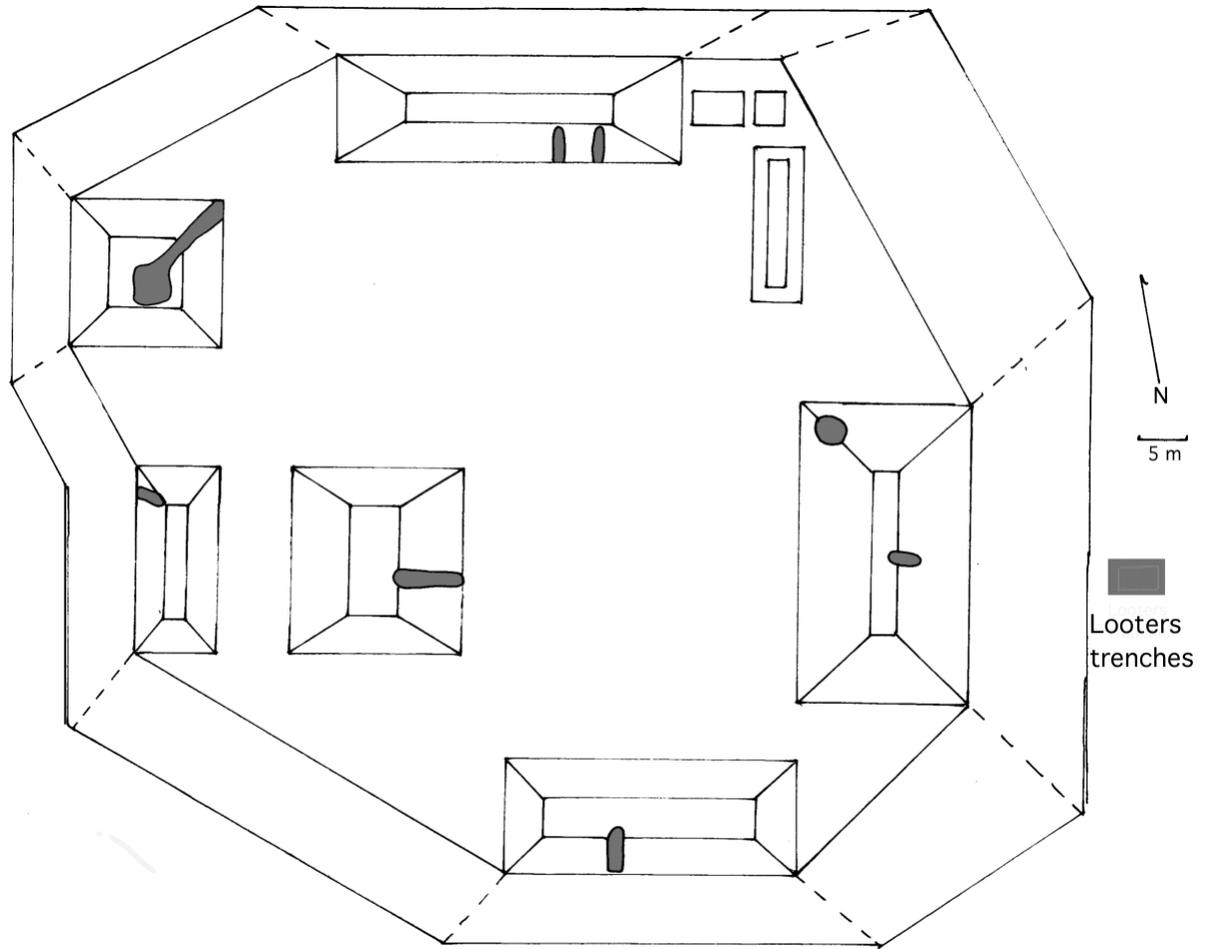


Figure 1.8 Site 94.5E24.5N-1

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Appendix: Looter's Trenches (revised from 2001 results)

LT Number and Structure	Measurement (L x W x H in meters)	Location	Construction Type
1 – 1A	4.70x3.50x2.40	Top of mound, west side, south end	Limestone boulder walls, plaster floor, corbel vault
2 – 1A	4.30x1.50x1.50	Top of mound, east side, north end	Limestone boulder walls, plaster floor, bench
3 – 1A	2.70x.75x.77	Top of mound, west side, north end	Limestone boulder walls with plaster
4a – 1A	1.50x.50x.40	Bottom of mound, west side, south end	Limestone boulder walls with rubble fill
4b – 1A	.90x.60x.30	Bottom of mound, west side, south end	Limestone boulder walls with rubble fill
4c – 1A	.80x.50x.80	Bottom of mound, west side, south end	Limestone boulder walls with rubble fill
4d – 1A	.30x.10x.20	Bottom of mound, west side, south end	Limestone boulder walls with rubble fill
5 – 1D	2.80x.80x.62	Bottom of mound, south side, west end	Limestone rubble, faced stone wall
6 – 1D	1.75x.60x.70	Bottom of mound south side, east end	Limestone boulder and rubble fill; plaster floor, faced stone wall
7 – 3A	11x1x1.70	Bottom of mound, west side, center; tunnel trench	Limestone rubble fill; at least 4 phases, 3 floors
8 – 3D	Upper: 5x3x1.5 Lower: 6x1.3x3.1	Center of mound, east to west, center	Limestone boulder; possible steps in lower LT profile
9 – 3B	11x1.4x1.15	Center of mound, east to west, west side	Limestone boulder and rubble fill; faced stone walls
10 – 2G	10x1x1.50	Bottom to almost top, south side, east end	Limestone and rubble fill
11 – 2F	14.5x2x1	Bottom to top, south side, west end	Limestone and rubble fill; faced stone walls
12 – 1A-2b	3x.70x2	North of SE corner, west end, east to west	Limestone boulder and cobble fill, lower construction phase, above plaster floor
13 – 1A	1.70x1.20x1.50	North side, north	Limestone plaster

		to south, west end	floor, boulder, cobble, and marl fill
14 – 1A	3.2x.90x1.8	North side, north to south, east end	Limestone plaster floor, cobble and pebble fill above, large boulder below floor
15 – 1C	.67x1.9x2.0	South side, top of upper tier	Limestone boulder
16 – 2E	8.5x1.4x2.1	SW corner, top to bottom, north to south	Limestone boulder fill, faced stone, plaster floor
17a – 1A	2.20x1.2x1.3	Bottom center of east side	Small, compact limestone pebble fill
17b – 1A	2.4x1.2x1	Bottom center of east side	Compact limestone boulder fill with small cobbles
18 – 2C	3.15x1.25x1.6	East side near end of structure, east to west	Compact limestone boulder fill with small cobbles
19 – 2C	1.4-1.8x2x1.9	East side near north end, east to west	Limestone boulder fill with cobbles
20 – 2C	3.5x1.5x1.4	East side at north end, east to west	Limestone boulder fill
21 – 2F	12x2.25x1.50	West side, from top to bottom, east to west	Limestone boulder and cobble fill; large faced boulder walls
22 – 4	2.92x.92x.92	North end of structure, north to south	Limestone boulder and cobble fill
23 – 4	6.1x1.4x1.95	West side of structure, SW to NE	Limestone boulder fill with plaster, faced cap stone lying in trench
24 – 3E	7x1x.65	West side of structure, east to west	Limestone boulder fill
25 – 3A	3.4x2.4x1.2	East side, top center	Boulder fill, possible vault/capstone
26 – 3D	6.4x1.4x1.5	East side, top; east-west	Boulder and cobble fill
27 – 1D	6.6x1.2x0.85	East side, bottom middle	Pebble cobble fill; possible wall?
28- 1D	7.6x2.7x1.5	NE corner, top	Boulder and cobble fill, walls

Chapter 2

Residential Yalbac: Site 94E22N-14

Sean M. Graebner and Lisa J. Lucero

Site 14 is located southeast of traverse point YG in Plaza 3 at a bearing of 133° and distance of 154 meters. It is a U-shaped structure oriented east-west that measures 28.5 x 18 meters and is approximately from 1.7 (north side) to 3 (south side) meters in height (Figure 2.1). Due to excavation strategies, we used two datum points, Datum A (46.99 m asl) and Datum B (47.2 m asl) (these elevations have been corrected based on Poe and Hayes results; we subtracted 15.6 m from the original datum elevations). The raised platform occupies the northern portion of the structure, while the two lower arms extend south from the eastern and western ends of the platform. Sean M. Graebner served as crew chief.

Site 14 was comprised of several construction episodes consisting of a series of standing walls, faced limestone steps, plaster floors, ballasts, and cobble fill (Figure 2.2; see appendix for stratum descriptions). Large cut stone was noted throughout the mound, especially in the southeastern area of the platform, likely resulting from the collapse of a superstructure. Ceramic artifacts were the most predominant artifact class recovered from Site 14; however, it appears that in general the artifact density is relatively low. At this time it is not possible to suggest a function for the site, but it was likely at least partially domestic.

We began excavation at Site 14 with a transverse axis (east-west) 2-m wide trench 10° west of north (aligned with the orientation of the mound) across the top of the structure and a primary axis (north-south) 2-m wide trench bisecting the structure. A total of 11 units were excavated at this structure (1-11), which exposed complex architecture comprised of a series of construction and occupation phases. All but units 10 and 11 (2 x 1 m) were 2 x 2 m. Unit 11 was the only unit opened off the primary structure to locate the platform edge, which we were unable to do (it is thus not depicted on the matrix). Unit 11 consisted mostly of topsoil (c. 90 cm deep) above a sterile, thick clay (140).

Throughout the structure there were a series of limestone plaster floors and faced walls with cobble fill used to increase the height of the structure (Figures 2.3 and 2.4). As we excavated, we realized that Site 14 began as a small structure with a hardened living surface, perhaps originally with plaster (142). The plaster floor was then lengthened and expanded westwards, and built up in different stages. As the structure increased in height and expanded west, a faced wall (146) was constructed with cobble fill (156), the latter topped with plaster floors (145, 136), creating a platform consisting of a lower and upper floor. The height of this structure was increased by another faced wall (150) with cobble fill (151) surfaced by plaster floor (141). Floor 141 was the most extensive floor of the site; the Maya had added a 2-meter thick fill (143) west of the western most wall (146), creating a level platform across the entire structure in an east-west orientation. The top of the structure/platform was covered by a possible bench (3.6 x 1.15 m) enclosed by walls 109, 104, 119, and 120 in a series of stages. On top of floor 141 within the bench walls was floor 127, upon which a fill (124) was added, after which another floor (117) was laid. Finally, floor 103 (and its ballast) was added, level with the tops of walls 104, 109, 119, and 120.

The primary axis (north-south) trench exposed a frontal staircase consisting of four plastered steps (106, 106a/b, 107, and 108), the top most of which (108) abutted plaster floor (141), as well as abutted and ran under the bottom of the foundation of the faced walls (104, 109, 109a) or substructure that supported the most recent and primary structure (Figure 2.5). This trench yielded fewer artifacts, but did expose important traces of structural collapse in its profile (102). The remains of a collapsed superstructure could be seen in the western and southern profiles of both trenches. Large limestone vault stones had apparently fallen southward when the superstructure collapsed. Several similar boulder-sized stones were removed when excavating the primary axis trench. Whether or not the

superstructure collapsed during occupation or after abandonment of site 14 is unknown—the presence of a noticeable amount of historic artifacts might indicate historic period destruction.

Artifact density at site 14 was low considering the size of the structure. The highest density of artifacts was found mixed within the thick level of cobble fill (143) found in the western portion of the structure that was used to increase its length and height. Ceramic sherds were by far the most common artifact class found throughout the structure. Within the first 40-50 centimeters of site 14, the topsoil (101), one jade bade and one ceramic bead were found. Obsidian blades were found, but were not common. A few pieces of groundstone (mano and metate fragments) were also present within the first 40-50 centimeters, but again were not common. From 101 we also recovered a large number of historic artifacts (see chapter 4), including metal objects and glassware. Historic occupants may have also robbed some of the stone.

While we were able to expose the earliest western section of Site 14, rain prevented us from revealing as much in the eastern section, where we had begun to expose a complex series of walls, floors, and fill (Figure 2.6). These strata are not described in the appendix since we could not collect enough information, but are represented on the site matrix. However, from the information we did collect in units 6, 7, and 10 (5 x 2 m total), we can say the following: from underneath fill 137 on the south side of units 7 and 10, we exposed what might be the north edge of a bench (157) (1.3 x .4 m). It likely abuts floor 147. To the north of the possible bench is a semi-circular wall (158) that abuts floor 159 (the latter is under fill 160). Wall 158 appears to surround floor 159, of which we exposed the southern part. The Maya dug a pit into floor 159 (and likely fill 160) and seemed to have deposited either a whole or broken polychrome vessel (Figure 2.7). The bench and semi-circular structure likely were built after living surface 142, but definitely comprise some of the earliest construction episodes. The next phase consisted of a room/structure (in the far north of units 6 and 7) with a single coursed-wall (153) with stones faced on the inside and a floor (152), both of which lie above a cobble fill/ballast (161). Wall 153 likely abuts with floor 147 as well.

No human remains were uncovered. However, we did recover what likely is a dedicatory offering at the base of the bottom step (107). Preliminary analysis indicates that it consists of a complete or nearly complete peccary (Figure 2.8). Evidence for termination rites consisted of burnt floors since burned surfaces were noted on nearly every plaster floor (e.g., 113, 117, 118, 123a, 127, 128, 141, 145). For example, a large burned area of approximately 60 x 30 cm was found on top of a plaster floor (145) likely indicating a termination ritual. Unfortunately, no ceramic sherds were recovered from the floor surface.

Ceramics from site 14 have yet to be analyzed, but we anticipate the most recent sherds to date to the Late Classic period (A.D. 800-900). Based on the material evidence from site 14 and its proximity (second closest structure) to the site core, this structure may have been an elite, or lesser elite, residence. There is very little evidence of food manufacturing, which might have been the responsibilities of non-elite residents.

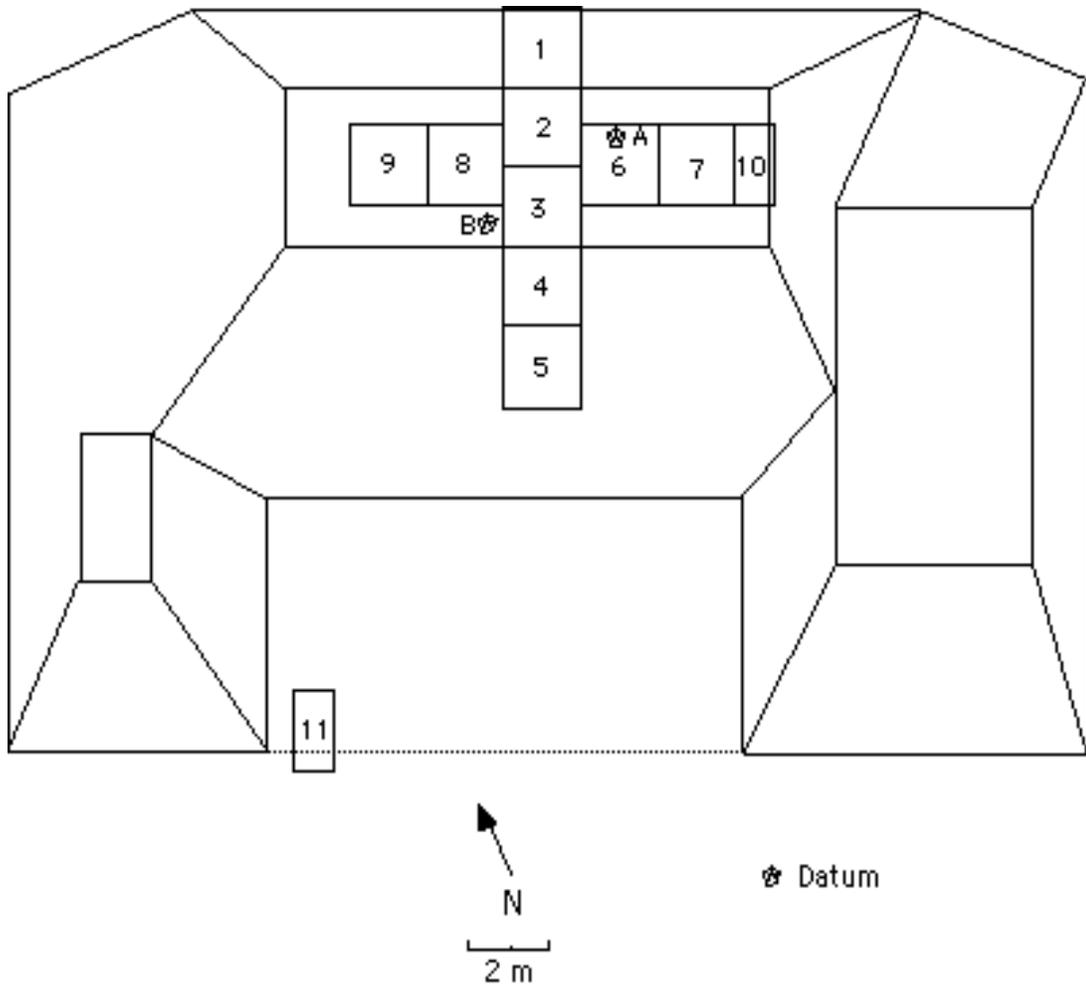
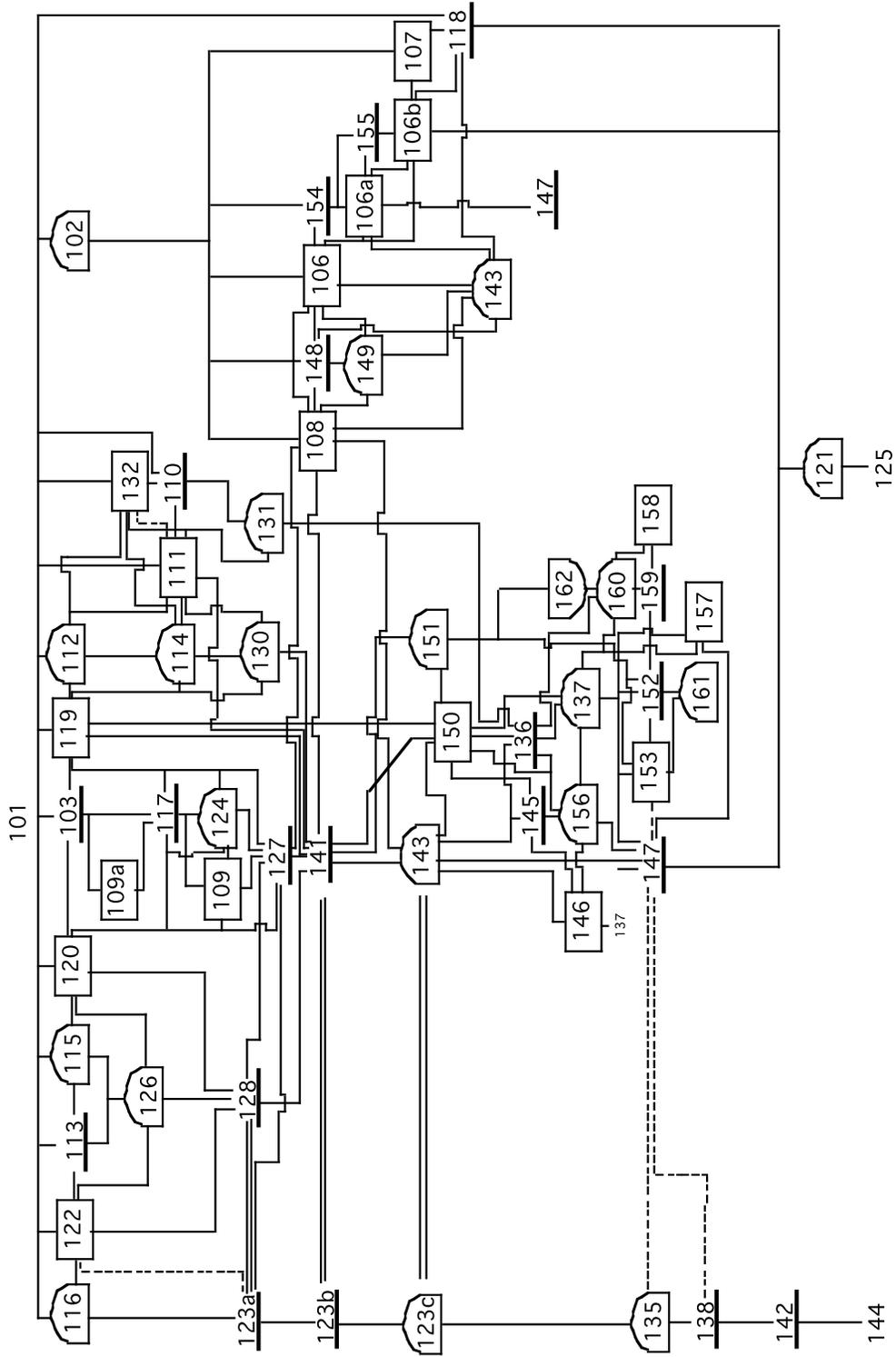


Figure 2.1 94E22N-14 planview



109 also abuts wall 119, fill 102, and step 108

104 is not included in the matrix because of its complex associations. It is below 101 and lies above floors 128, 127, and 123a. It abuts 103, 109a, 109, 111, 113, 115, 116, 117, 122, 124, 126, 119, 112, 114, 110, 131, 130, 120, and 132.

Figure 2.2 Site 94E22N-14 Matrix

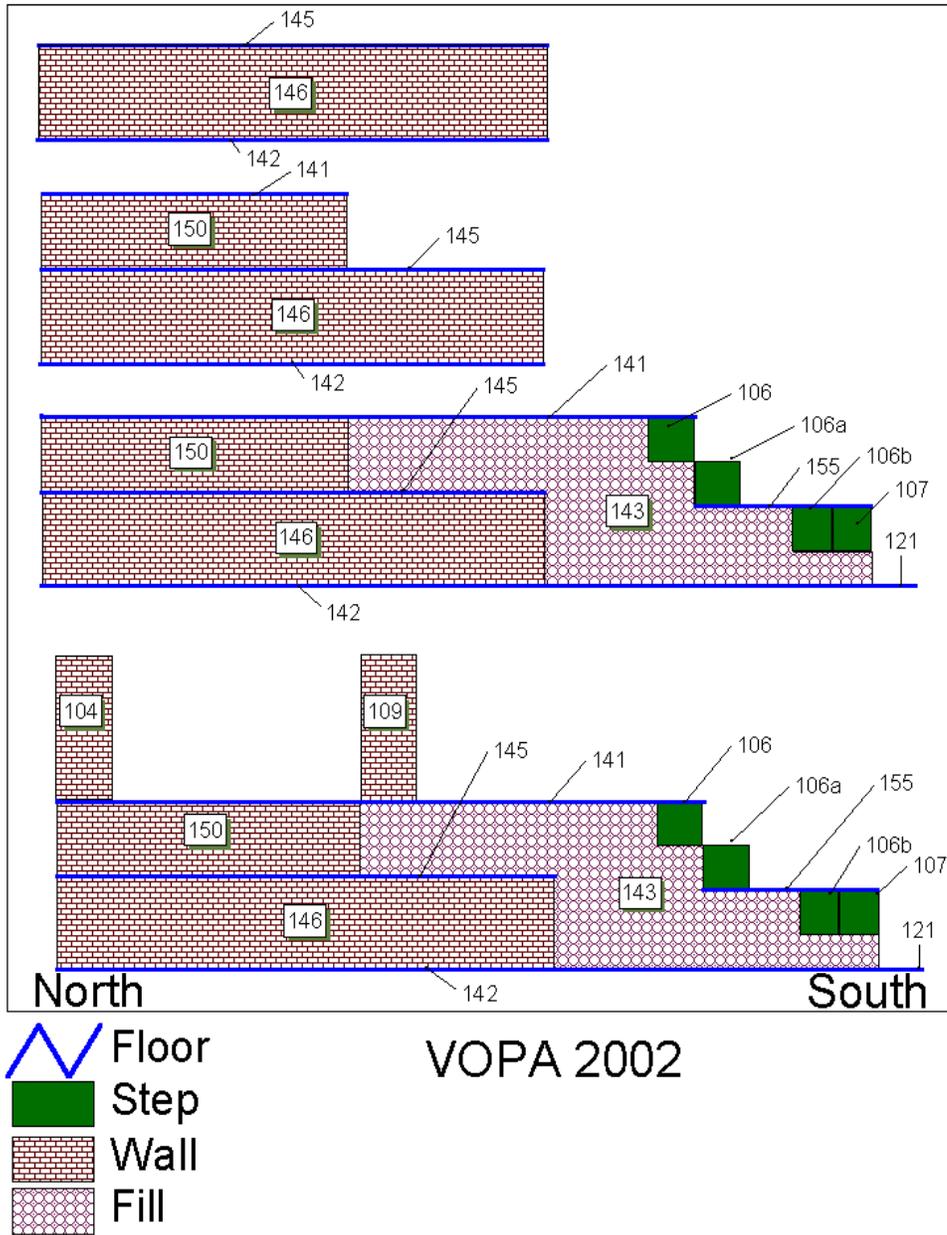


Figure 2.3 Schematic construction history, north-south profile

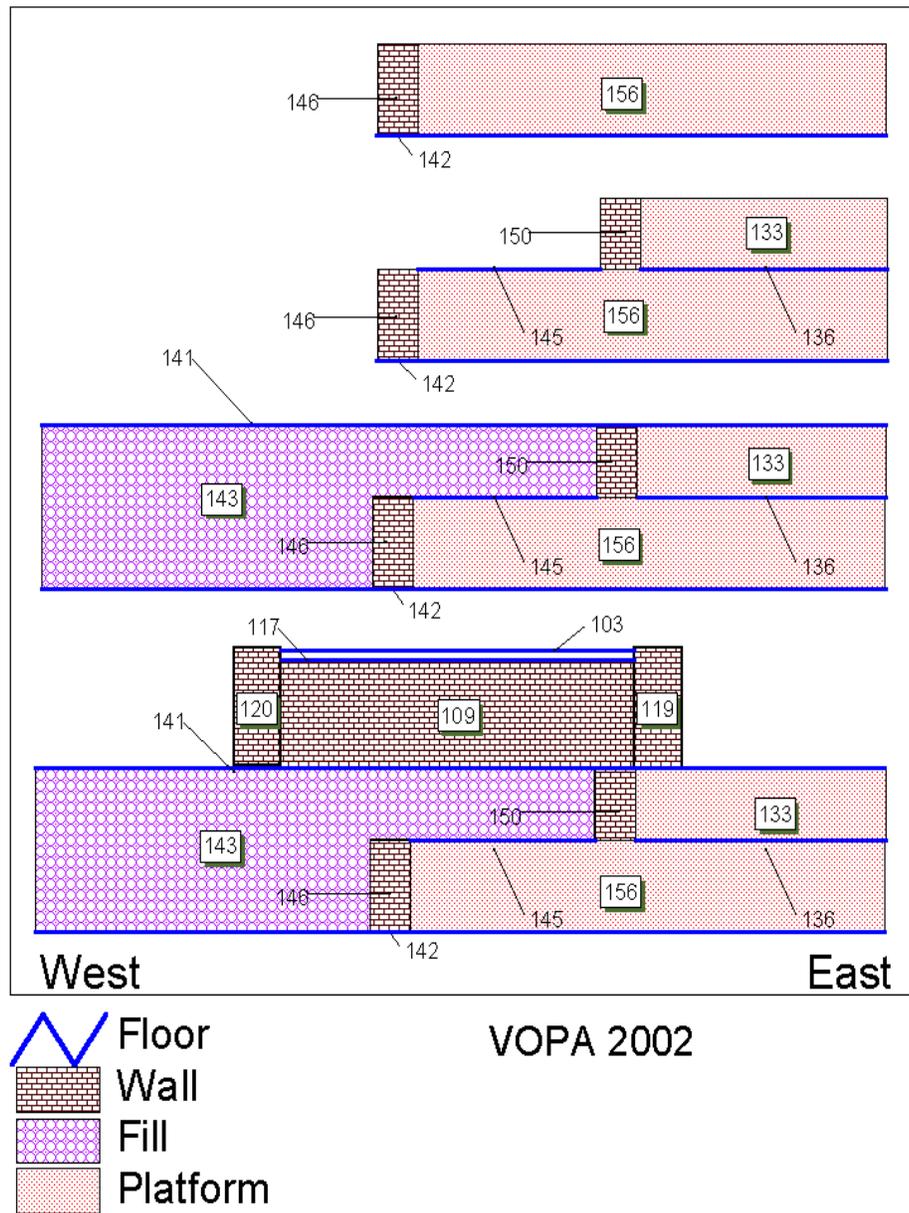


Figure 2.4 Schematic construction history, west-east profile



Figure 2.5 Staircase



Figure 1.6 End of season architecture

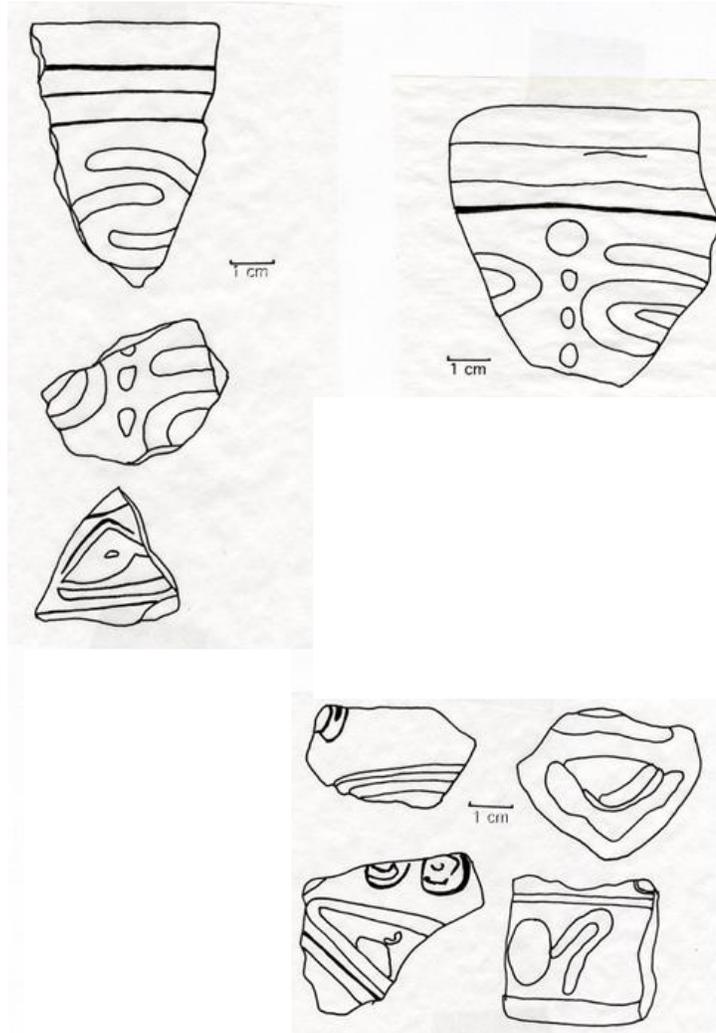


Figure 2.7 Polychrome sherds from pit 162. Drawing by Rachel Saurman.



Figure 2.8 Peccary offering

Appendix: Site 14 Stratum Descriptions

Stratum: 101

Type: Topsoil

Soil Texture: Clay loam

Dry Color: 10YR 2/2

Moist Color: 10YR 2/2

Inclusions (size, material, and volume): 80% clay loam, 20% cobbles, pebbles, and boulders

Description: This topsoil is a very dark brown, clay loam with many roots, cobbles, and wall collapse (cut and uncut boulders). The topsoil was interlaced with a large quantity of limestone pebbles and some cobbles. Large roots (up to 2 cm in diameter) and smaller roots were present throughout. Historical artifacts were found throughout 101. Some of the limestone cobbles and pebbles showed evidence of burning.

Thickness: 5 to 61 cm

Artifacts: We did not screen 101, but recovered many historic artifacts, including whole bottles, bullets, buttons, a padlock, porcelain sherds, bottle stoppers, metal nails, and metal scraps, shards, etc. We also recovered prehispanic ceramics (including a handle, cylindrical bead, pod, and a notched sherd), lithics (flakes, chunks, cores, possible burnishing stone, biface fragment), marine shell, snails, burnt plaster, a jade bead, obsidian, faunal remains, ground stone, a cylindrical bone bead, a slate fragment, and obsidian blades (2 out of 7 notched).

Found in Units: all units (1-11)

Stratum: 102

Type: Wall collapse

Soil Texture: Clay loam

Dry Color: 10YR 6/3

Moist Color: 10YR 6/3

Inclusions (size, material, and volume): 70% small to large boulders, 30% clay loam

Description: This collapse mostly consists of cobbles and boulders, some quite large (e.g., 67 x 40 x 12 cm). Upon excavation of the stone it became linear, possibly a collapsed wall. At the base of the wall collapse is a marl or possible plastered step (107); we found another step in the north of unit 4 (108). It also lies above floor 148, step 106, and floor 154. It is located 72 cm south of the northeast corner, and 6 cm west.

Thickness: 33 to 109 cm

Artifacts: Artifact density is low; marine shell, ceramics, lithics (2 biface fragments, chunks, blade, flakes), and obsidian blades (1 of 2 notched).

Found in Units: 3, 4, 5

Stratum: 103

Type: Floor and ballast

Soil Texture: Silt loam

Dry Color: 10YR 7/2 Light gray

Moist Color: 10YR 7/2 Light gray

Inclusions (size, material, and volume): 20% cobbles, 25% pebbles, 20% gravel, 35% silt loam

Description: Floor 103 is the uppermost floor in units 6, 2, and 3 under 101. It also includes ballast, which we were not able to separate during excavation. It was situated on top of floor 117 and ran over top of wall 109a to the south. Floor 103 abuts wall 119 on the east, wall 104 on the north, and wall 120 on the west. Together, floor 103 and walls 104, 109a, 109, 120 and wall 119 may have served as a bench inside a room (wall 122). Moderate root disturbance was present.

Thickness: 2 to 5 cm

Artifacts: Ceramics and a chert flake, as well as a few fire-cracked cobbles.

Found in Units: 2, 3, 6

Stratum: 104

Type: Wall

Soil Texture: NA

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): Boulders

Description: This wall was not excavated and is the same as 105 (which was changed to 104) and is below 101; it extends E-W (10° west of north) in units 9, 8, 2, 6, 7, and 10 (13 meters exposed in length). Some stones were shaped on the inside/south side. We only exposed a 2 m section on the north face in unit 1 and they are also largely uncut. It lies above floors 128, 127, and 123a, and abuts 115, 126, 109a, 116, 122, 113, 109, 103, 117, 124, 119, 112, 114, 110, 131, 130, 111, 120, and 132. In unit 9, we did expose the entire wall, which consisted of at least 8 courses of cut and uncut stone.

Thickness: c. 1.3 m (in unit 9)

Artifacts: NA

Found in Units: 2, 6, 7, 8, 9, and 10

Stratum: 106

Type: Step

Soil Texture: Silt loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 80% boulders (cut), 20% silt loam

Description: Step 106, below 102, is a step of cut stone abutting steps 106a and 106b and floor 154 to the south, step 108 to the north, and floor 148. It also abuts fill 119. It is above fill 143, and no plaster was seen beneath the cut stone of 106. Mortar is a loose lime-based loam. The majority of the stone is cut and it is laid in 1-3 courses. The west end of 106 had one vertical course of stones averaging 15 x 35 x 12 cm. The west side had 2-3 vertical courses with stones averaging 20 x 30 x 7 cm. One of the large cut stones was burned. One red-slipped rim sherd was collected from the mortar fill. A large metate fragment was found on top of the middle of the surface of step 106, as well as some sherds embedded in the plaster surface (that might be from a single vessel). The patch of burning noted on the edge of the step is c. 50 x 50 cm.

Thickness: 13 to 18 cm

Artifacts: One sherd from the mortar

Found in Units: 4

Stratum: 106a

Type: Step

Soil Texture: Silt loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 80% cut boulders, 20% silt loam

Description: Stratum 106a is a step of cut limestone boulders below floor 154 with a loose lime-based silty loam mortar. It abuts to the north to step 106 and to the south to step 106b. It is above floor 147 and abuts floor 155. The majority of the stones are cut and laid in 2-3 courses, with larger stones averaging 25 x 35 x 12 cm, and smaller stones 20 x 30 x 8 cm. To the north, fill 143 abuts the step (106 was atop 143), in effect making 106a a retaining wall for fill 143. It seems likely that 106a and 106 were constructed at the same time, with both possibly being later than 106a and 107.

Some root intrusion was present in 106a, and minimal evidence of burning was evident on cut stone.

Thickness: 31 to 37 cm

Artifacts: Ceramics in the mortar

Found in Units: 4

Stratum: 106b

Type: Step

Soil Texture: Silt loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 70% boulders, 10% cobbles, 20% silt loam

Description: This step was plastered with a 1 cm thick floor (155) and abuts floor 118. At some point, step 107 was added (abutted) to the south to form a wider 'landing' in combination with 106b. Step 106b may have been constructed at the same time as 106 and 106a, or it may have been earlier. Stones were mostly cut and laid in 3

courses averaging 25 x 35 x 13 cm. Excavation of step 106b was ended when fill 121 was reached on the east, but on the west cut stone had been laid at a lower level. Root disturbance was minor.

Thickness: 30 to 40 cm

Artifacts: Two ceramic sherds and one flake core from the mortar

Found in Units: 4, 5

Stratum: 107

Type: Step

Soil Texture: Silt loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 5/3 Grayish brown

Inclusions (size, material, and volume): 75% boulders (most cut), 25% silt loam

Description: Step 107 is a step of cut limestone with a lime-silt mortar below 102, and abuts 106b. It rests atop floor 118, and some of it sits on top of fill 121 (below floor 118) where floor 118 had deteriorated. Mortar is a lime-based loose silt loam. There appears to have been three courses of cut stone; larger stones averaged 25 x 40 x 15 cm and smaller stones 20 x 30 x 10 cm. The southernmost row of stone was in disarray and may have been a layer of fall from the northern coursing. Excavation was discontinued when we exposed a remnant of floor 118 to the north and fill 121 toward the south. The profile of step 106b was also exposed. One naturally round chert nodule was noted in the middle front of step 107 at the base of step 106. A burned area was noted c. 30 cm from the edge c. 25 x 25 cm in size.

Thickness: 22 to 25 cm

Artifacts: A relatively high density of artifacts (50+ sherds and a few lithics, mostly flakes) from the mortar

Found in Units: 5

Stratum: 108

Type: Step

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 98% boulders, 2% plaster

Description: This is a step with cut stone in unit 4 below 102. It abuts floor 141, floor 148, fill 149 and wall 109, and is above fill 143. It represents the upper most terraced step on the south side of the structure. Step 108 appears to be the same level as floor 127, but is on the other side of wall 109. In unit 3, step 108 appears to be below floor 127.

Thickness: 16 to 18 cm

Artifacts: A large ceramic sherd was found on the surface

Found in Units: 3, 4

Stratum: 109

Type: Wall

Soil Texture: Sandy clay

Dry Color: 10YR 8/2 White

Moist Color: 10YR7/4 Very pale brown

Inclusions (size, material, and volume): 80% boulders, 20% sandy clay

Description: This wall runs through units 2, 3, 8, and 6 and consists of at least 5 courses. The stones are inset in a thick layer of sandy mortar. Some of the large boulders are burnt underneath. The wall is below floor 117, abuts walls 104, 119, 120, as well as collapse 102, and is on top of floor 127. The southwest corner of 109 is bonded. The stones on the south side are cut, and the majority are 25 x 25 x 10 cm. The largest cut stone is 50 x 25 x 20 cm. They are stacked in uniform courses. A ceramic sherd was found near the largest stone. All large stones were found on the lowest course of south edge of wall.

109a consists of a single course of stones below floor 103 and on top of 117.

Thickness: 26 to 52 cm

Artifacts: Ceramics, lithics (flakes), and marine shell in the mortar

Found in Units: 2, 3, 6, and 8

Stratum: 110

Type: Floor and ballast

Soil Texture: Silt loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 65% silt loam, 10% gravel, 10% pebbles, 15% cobbles

Description: Floor 110, below 101 and wall 132, consists of a 0.5 to 1 cm plaster layer and ballast. Minor to moderate root disturbance was present. This floor might be contemporary to floors 129, 123 and 127 since elevations are similar. It lies above fill 131. Only one small cobble showed evidence of burning. Floor 110 is bounded by walls 132 to the south, 104 to the north, and 111 to the west.

Thickness: 7 to 12 cm

Artifacts: Ceramics, a fire-cracked chert core, and flakes from the top of the floor

Found in Units: 7, 10

Stratum: 111

Type: Wall

Soil Texture: Silt clay loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 80% cut boulders, 7% cobbles, 3% pebbles, 10% silt loam

Description: Wall 111 is a limestone boulder wall with 4-5 courses on top of floor 141 (where there was burning under the wall) in unit 7. Wall 111 is below 101 and abuts wall 104 on the north, but its relationship to wall 132 on the south is unclear since it was not excavated (though it may abut). It also abuts fills 114, 130, 131 and 112, and floor 110. Lower-course stones measure 25 x 40 x 20 cm. Root disturbance was minor.

Thickness: 46 to 59 cm

Artifacts: A red-slipped sherd

Found in Units: 7

Stratum: 112

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 6/3 Pale brown

Moist Color: 10YR 5/3 Brown

Inclusions (size, material, and volume): 40% cobbles, 20% pebbles, 40% clay loam

Description: Fill 112 is below 101 and consists of cobbles, pebbles, and clay loam. It is contained within an area bounded by four walls (104, 111, 119, and 132). It likely represents a fill used to expand the structure. It lies on top of fill 114. While burning was noticed on the wall on the northern side of the unit (wall 104), little or no burning was seen on cobbles and pebbles within the fill. Minimal root disturbance was present.

Thickness: 11 to 18 cm

Artifacts: A few ceramics and a chert blade

Found in Units: 7

Stratum: 113

Type: Floor

Soil Texture: Plaster

Dry Color: 2.5Y 8/2 White

Moist Color: 2.5Y 8/3 Pale yellow

Inclusions (size, material, and volume): 95% plaster, 5% pebbles

Description: Floor 113 is a compact plaster floor and ballast below 101 in unit 8 and above boulder fill 126. Wall 104 abuts it on north, fill 115 on the east, and wall 122 on the west. We noted burned plaster. We found 3 large metate fragments (from the same metate) on a burned part of the floor near walls 104 and 120.

Thickness: 8 to 21 cm

Artifacts: Ceramics, lithics (blade, core, chunks), and metate fragments

Found in Units: 8

Stratum: 114

Type: Fill

Soil Texture: Silt loam

Dry Color: 10YR 5/2

Moist Color: 10YR 4/2

Inclusions (size, material, and volume): 40% silt loam, 20% pebbles, 10% gravel, 10% burned cobbles and boulders

Description: This is the fill below fill 112 with gravel, pebbles, cobbles and small boulders. There were lots of burned material (rocks and plaster). Fill 114 is above fill 130 and is contained within 4 walls; to the north– 104, east – 111, west – 119, and south – 132.

Thickness: 18 to 35 cm

Artifacts: A few ceramics and lithics (flakes, flake tool, chunk, blades)

Found in Units: 7

Stratum: 115

Type: Clay loam

Soil Texture: Fill

Dry Color: 10YR7/4 Very pale brown

Moist Color: 10YR 5/3 Brown

Inclusions (size, material, and volume): 60% cobbles and boulders, 30% clay loam, 10% pebbles

Description: This fill is only found in the west half of unit 8 directly under 101. It lies above boulder fill 126. Burnt plaster was found. Floor 113 abuts fill 115 to the west, as well as abuts walls 104 and 120 where it ends in the southeast corner 13 cm from east wall and 40 cm from south wall.

Thickness: 4 to 9 cm

Artifacts: Ceramics and a chert core; three of the five sherds are burned on the inside

Found in Units: 8

Stratum: 116

Type: Cobble fill

Soil Texture: Clay loam

Dry Color: 10YR 7/4 Very pale brown

Moist Color: 10YR 6/4 Yellowish brown

Inclusions (size, material, and volume): 95% cobbles, 5% clay loam

Description: This fill is found below 101 and above floor 123a. Some of the cobbles are burned. It abuts walls 122 and 104.

Thickness: 4.5 to 17 cm

Artifacts: Ceramics

Found in Units: 9

Stratum: 117

Type: Floor and ballast

Soil Texture: Silt loam

Dry Color: 10YR 6/3 Pale brown

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 20% pebbles, 40% silt loam, 20% gravel, 20% cobbles

Description: Floor 117 is below 103 and wall 109a, and was removed along with its ballast. It lies above fill 124 and wall 109. It shows evidence of burning (stained areas, charcoal flecks) in the southwest and northeast corners. It abuts walls 104, 119, and 120.

Thickness: 12 to 17 cm (the plaster was about .25 to .5 cm thick)

Artifacts: Ceramics and lithics (chert core, flakes, and a flake tool)

Found in Units: 2, 3, 6

Stratum: 118

Type: Floor and ballast

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 2.5Y 8/6 White

Inclusions (size, material, and volume): 70% plaster, 30% cobbles and boulders

Description: Floor 118 (plaster and ballast) is below 101 and step 107, and above fill 121 (and abuts fill 143). About 50% of the floor was destroyed (possibly by wall collapse 102 and step 107). There appeared to be burning above and below the floor throughout 118. Floor 118 may be the earliest floor and may be under all of the steps (at the front of the structure). The floor is found in the southwest section of unit 5. We accidentally excavated through some of 118. However, it appears that the eastern section was destroyed and is not apparent in the profile. Floor in 118 was in poor condition.

Thickness: 4 to 10 cm

Artifacts: Ceramics

Found in Units: 5

Stratum: 119

Type: Wall

Soil Texture: Silt clay loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 80% boulders, 8% cobbles, 2% pebbles, 10% silt clay loam

Description: Wall 119 is below 101 and abuts wall 104 to the north, but its relationship to wall 132 is unclear. It was built atop floors 141 and 127. It abuts floor 117, wall 109, fills 112, 114, and 124, floor 103, and fill 130. Root disturbance was minor to moderate. The floor (127) area beneath wall 119 shows evidence of burning. While the majority of wall 119 is located in unit 6, a small portion was present in unit 7 (lower course stones). We exposed 6 courses, and many stones were shaped and averaged 30 x 25 x 15 cm in size. The mortar is a silty clay loam. The lower two courses of wall 119 seemed to be better shaped than the upper courses, which might indicate that the upper portion was added later in time, in conjunction with higher floors.

Thickness: 53 to 58 cm

Artifacts: Ceramics and lithics (flakes) from the mortar

Found in Units: 6, 7

Stratum: 120

Type: Wall

Soil Texture: Silt

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 80% boulders, 10% pebbles, 5% silt, 5% cobbles

Description: Wall 120 runs parallel to the east edge of unit 8. It has about 5 courses of boulders, some of which are cut and burned, and a silt mortar. It lies under 101 and above floor 128. It abuts walls 104 and 109, as well as fills 115, 124, and 126, and floor 117.

Thickness: 22 to 45.5 cm

Artifacts: Ceramics and lithics (flakes and a biface tip)

Found in Units: 8

Stratum: 121

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 5/2

Moist Color: 10YR 5/2

Inclusions (size, material, and volume): 50% cobbles, 30% boulders, 20% clay loam

Description: Fill 121 is below floor 118, step 106b, and floor 147, and above fill/sterile 125. An animal interment (probably peccary) was found in fill 121 on top of fill 125. This may have been placed as a dedicatory offering at the time of initial construction. It was placed centrally at the bottom of the initial step constructed.

It later became clear that fill 121 continues beneath floor 147, making 121 an earlier fill. Weather conditions made further excavation of fill 121 impossible, but it can be safely surmised that fill 121 continues well into unit 3 to the north of where excavation ended. At the point where step 106a had rested atop floor 147, 147 is 10-15 cm thick, and fill 121 is 20-25 cm thick. Thus it appears that fill 121 is thicker toward the apex of Site 14 as one moves north up the front terrace than the actual thickness recorded from the excavated portion. As seen during earlier work within unit 5, fill 125 lies beneath 121 and this interface determined the stopping point for

excavation of fill 121 in terms of depth. In sum, fill 121 served as a second layer (fill/sterile 125 was the first) of initial foundation fill for the entire set of front terrace steps (steps 107, 106, 106a, 106b, and 108), even though some of the steps were added during remodeling phases. Fills 125 and 121 were probably deposited at the same general time during primary construction of Site 14.

Thickness: 2 to 15 cm

Artifacts: A high density of artifacts. Ceramics (many burned; pod, figurine fragment, handle, large wide-orifice jar, etc.), a metate fragment, a broken reshaped mano, lithics (flakes, chunks, blades, cores), and shell.

Found in Units: 4, 3, 5

Stratum: 122

Type: Wall

Soil Texture: Sandy clay

Dry Color: 2.5YR 6/3 Light yellowish brown

Moist Color: 2.5YR 7/3 Very pale brown

Inclusions (size, material, and volume): 50% boulders, 30% sandy clay, 20% cobbles

Description: This is a large boulder wall with sandy clay mortar below 101. It is in the west side of unit 8 and east side of unit 9 and consists of 4-5 courses, and is faced on the east side. It abuts wall 104 and rests on top of floor 128. It also abuts floor 113 on its east side and fill 126, and fill 116 on its west side. There were some burned rocks, some of which were burned on the underside where they rested on floor 128. The collapsed section of wall 122 (on its west side) may have destroyed parts of floor 123a.

Thickness: 12 to 46 cm

Artifacts: Ceramics from mortar (including some burned), including a large rim

Found in Units: 8, 9

Stratum: 123a, b, c

Type: Floor/Floor-ballast/cobble fill

Soil Texture: Clay loam, plaster

Dry Color: Plaster: 10YR 8/2 White; soil: 10YR 7/2 Pale brown

Moist Color: Plaster: 2.5Y 8/6 White; soil: 10YR 7/3 Pale brown

Inclusions (size, material, and volume): 3% plaster, 97% cobble (under floor)

Description: This stratum turned out to be three different strata: 123a is a plaster floor; 123b is a possible second floor and ballast; and 123c is a cobble fill. Floor 123a is on top of 123b, which is on top of 123c. Floor 123a is below 116 and 104, and 123c is above fill 135. Floor 123a has charcoal staining and a visibly burnt broken ceramic vessel with charcoal staining underneath (91.5 x 28 cm) on the south end of wall 122. More sherds were found (including rims) amidst the burnt cobble (123c) underneath the floor. Floor 123a is likely the same as floor 128, and likely abuts it under wall 122; and floor/ballast 123b is likely the same as floor 141. Collapse from wall 122 may have destroyed parts of floor 123a.

Thickness: Floors 123a, 123b: 1 to 21 cm

Fill 123c: 72.5 to 76 cm

Artifacts: Top of floor 123a (within first 3 cm): obsidian blades, sherds, flakes, and a ceramic cluster of 36 sherds

Floor 123b (15-20 cm): sherds, flakes

Fill 123c: flakes, biface fragment, core, hammerstones, and ceramics (including a handle)

Found in Units: 9

Stratum: 124

Type: Fill

Soil Texture: Silt loam

Dry Color: 10YR 5/2 Grayish brown

Moist Color: 10YR 5/2 Grayish brown

Inclusions (size, material, and volume): 20% boulders, 15% cobbles, 10% pebbles, 10% gravel, 45% silt loam

Description: Fill 124 is below floor 117 and above floor 127. Root disturbance is minor. The fill was contained within walls 104, 109, 119, and 120.

Thickness: 36 to 38 cm

Artifacts: Ceramics, lithics (flakes), obsidian flakes and a blade (un-notched), and a marine shell

Found in Units: 2, 3, 6

Stratum: 125**Type:** Fill/Sterile**Soil Texture:** Marl**Dry Color:** 10YR 8/1**Moist Color:** 2.5Y 8/2**Inclusions (size, material, and volume):** 50% cobbles and boulders, 50% marl**Description:** The first 5 cm of fill 125 contained the cobbles and boulders. The lower part was sterile marl. There were a number of large uncut stones that appeared to be used as fill. As we continued to dig further, the stones got smaller. After 5 cm, we did not find any more artifacts. We dug a posthole to make sure it was sterile (c. 50 cm deep).

The remainder of fill 125 within unit 5 was excavated on a later date, and consisted of cobbles and pebbles, grading into sterile marl below. Excavation continued into unit 4 to the north, with fill 125 thickness remaining fairly consistent. Fill 125 continues beneath fill 121 moving northward up the front terrace, but weather conditions made further excavation to the north impossible. As with fill 121, fill 125 was excavated to the point where step 106a had been positioned on top of floor 147. Excavation of fill 125 was terminated when sterile marl and bedrock was encountered. This underlying sterile rises slightly as you move northward, indicating that the initial builders of Site 14 made use of a slight rise in topography for site selection. In sum, fill 125 was an intentional deposition of soil, cobbles, and pebbles to serve as a primary base layer for the terrace (south) side of Site 14. Fill 121 was likely immediately deposited over fill 125 during initial construction of the terrace platform.

Thickness: 20 to 31 cm**Artifacts:** From the first 5 cm, ceramics, an obsidian blade, and lithics (3 fire-cracked chunks, flakes). The peccary remains were found on top of 125 (see fill 121 description).**Found in Units:** 4, 5**Stratum: 126****Type:** Boulder fill**Soil Texture:** Silt**Dry Color:** 10YR 7/3 Very pale brown**Moist Color:** 10YR 6/3 Pale brown**Inclusions (size, material, and volume):** 70% boulders, 15% silt, 15% cobbles**Description:** Boulder fill 126 is under Floor 113 and fill 115. Wall 104 abuts it on the north, and wall 122 abuts it on the west. It also abuts wall 120. Several boulders were burned underneath. We found floor 128 underneath the boulders. Burned plaster was found in the fill.**Thickness:** 22 to 42 cm**Artifacts:** Ceramics, lithics (flakes, chunks), and a possible pulley stone**Found in Units:** 8**Stratum: 127****Type:** Floor**Soil Texture:** Plaster**Dry Color:** 10YR 7/3 Very pale brown**Moist Color:** 10YR 7/2 Light gray**Inclusions (size, material, and volume):** 100% plaster**Description:** This is a plaster floor below walls 104 and 119, fill 124, floor 128. It abuts floor 123a and is above floor 141. It appears to be the same level as floor/step 108 (but lies on top of step in unit 3), but is separated by wall 109.**Thickness:** 1 to 3 cm**Artifacts:** Ceramics**Found in Units:** 2, 3, 6, 7, 8**Stratum: 128****Type:** Floor**Soil Texture:** Plaster**Dry Color:** 10YR 7/3

Moist Color: 10YR 7/2 Light gray

Inclusions (size, material, and volume): 99% plaster, 1% pebbles

Description: Floor 128 is below walls 104 and 122, and fill 126, and is found only in unit 8. At certain sections it is on top of floor 127 (which was formerly labeled floor 129). It likely is the same as floor 123a. A sherd was imbedded in the floor, and in the floor under wall 122. Along wall 122, there was also a large amount of burned plaster.

Thickness: 2 to 8.5 cm

Artifacts: Ceramics

Found in Units: 8

Stratum: 130

Type: Fill

Soil Texture: Silt loam

Dry Color: 10YR 6/3 Pale brown

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 65% silt loam, 15% cobbles, 10% pebbles

Description: Fill 130 is below fill 114 and above floor 141. Some burning was evident in fill 130. Minor root disturbance was present. Fill 130 is completely contained within walls 132 to the south, 111 to the east, 104 to the north, and 119 to the west. Some shaped stone was found, which might have collapsed from wall 132 since it is only found on the south side of unit 7

Thickness: 13 to 18 cm

Artifacts: Ceramics and flakes

Found in Units: 7

Stratum: 131

Type: Fill

Soil Texture: Silt clay loam

Dry Color: 10YR 5/1 Gray

Moist Color: 10YR 5/1 Gray

Inclusions (size, material, and volume): 50% silt clay loam, 40% cobbles, 10% pebbles

Description: Fill 131 is a silt clay loam with cobbles and pebbles. It is below to floor 110 and above floor 136. Fill 131 is bounded by walls 132 to the south, 104 to the north, and 111 to the west.

Thickness: 16 to 27 cm

Artifacts: The artifact density was relatively high and included ceramics, lithics (cores, flakes, 2 biface fragments, chunks), animal bone, and a metate fragment. We also found 55 sherds (1 base, 54 body) made of the same thin-walled orange paste. These ceramics were found throughout the fill rather than in a concentrated area per se. And they might even be from a possible pit in floor 136/ballast 137.

Found in Units: 7, 10

Stratum: 132

Type: Wall

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 98% boulders, 2% plaster

Description: This is the south wall in unit 10 below 101 and above floor 110. It abuts fills 114, 130, 131, 112, and might abut wall 111. It was not excavated.

Thickness: NA

Artifacts: NA

Found in Units: 10

Stratum: 135

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 3/3

Moist Color: 10YR 3/2

Inclusions (size, material, and volume): 10% pebbles, 30% cobbles, 60% clay loam

Description: Fill 135 is below 123c and above a possible hardened living surface (138). It likely abuts floor 147. The clay portion is about 8 cm thick. It is possible that a pit had been dug into 135 on the southeast side, an area that contained a high density of artifacts.

Thickness: 9 to 16.5 cm

Artifacts: Ceramics and shell. Some artifacts have been labeled as top of 138.

Found in Units: 9

Stratum: 136

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 7/2 Light gray

Inclusions (size, material, and volume): 100% plaster

Description: Floor 136 is below fills 131 and 143 and was not excavated. Wall 150, above floor 136, separates it from floor 145. It is above fill 137 and fill 160. A pit might have been dug through floor 136, which had a high density of artifacts, especially sherds from two vessels (collected as part of 131).

Thickness: NA

Artifacts: NA

Found in Units: 7, 10

Stratum: 137

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 3/3

Moist Color: 10YR 3/4

Inclusions (size, material, and volume): 50% clay loam, 50% cobbles

Description: Fill 137 is below wall 150 and floor 136 (though it appears to abut the latter in some parts). It lies above floor 147 and abuts wall 158 and fill 160, as well as is above and abuts wall/bench 157. A burned area was found under the fill on the northwest side of wall 150 (20 x 30 cm).

Thickness: 22 to 59 cm

Artifacts: Lithics (flakes, a core) and ceramics

Found in Units: 6, 10

Stratum: 138

Type: Floor/ living surface

Soil Texture: Clay

Dry Color: 10YR 3/3

Moist Color: 10YR 3/2

Inclusions (size, material, and volume): 20% pebbles, 80% clay

Description: Stratum 138 is a compacted clay living surface with burnt ceramics, some decorated. Some ceramics were on the floor, as well as charcoal flecks. It is below fill 135 and above another living surface/floor, 142. It likely abuts floor 147.

Thickness: 3 to 8 cm

Artifacts: Ceramics and charcoal flecks from within floor. From on or near surface: flakes, fire-cracked chunks, a hammerstone, and ceramics.

Found in Units: 9

Stratum: 139

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 5/3

Moist Color: 10YR 5/2

Inclusions (size, material, and volume): 40% cobbles and boulders, 60% clay loam

Description: Fill 139 is located in the north 1/3 of unit 11 below 101 and above 140. It was called a different stratum than 101 because of the higher density of limestone rubble. It likely, however, is still topsoil. We

collected a soil sample from a feature consisting of a dark brown (10YR 2/1) clay loam soil. One piece of ceramic was found within the feature, which was entirely burnt.

Thickness: 25 to 86 cm

Artifacts: Ceramics (including several thick-walled sherds from a very large wide-orifice jar), lithics (flake, core, chunk), and a mano fragment.

Since Unit 11 was not on the structure, 101 (up to 78 cm thick) artifacts will be listed separately: ceramics, lithics (flake, core), and marine shell.

Found in Units: 11 (1 x 2 m)

Stratum: 140

Type: Sterile

Soil Texture: Marl

Dry Color: 10 YR 5/2

Moist Color: 10YR 5/3

Inclusions (size, material, and volume): 25% cobbles, 75% clay loam

Description: This sterile marl is below fill 139; we placed a shovel test probe 60 cm deep in the center and found hard limestone marl.

Thickness: 57 to 81 cm

Artifacts: A few ceramics

Found in Units: 11

Stratum: 141

Type: Floor and ballast

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 7/2 Light gray

Inclusions (size, material, and volume): 50% plaster, 50% cobbles

Description: Floor 141 and ballast (with small cobbles) is below floor 127, wall 119, wall 111, fill 130, and above fill 143, wall 150, and fill 151. It abuts step 108. Most of the burning on floor 141 was found on the north side. It was also burned below wall 119 and other areas. It is the same floor as floors 123b and was formerly 133.

Thickness: 2 to 4 cm

Artifacts: Obsidian

Found in Units: 2, 3, 6, 7, and 8

Stratum: 142

Type: Living floor/surface

Soil Texture: Clay loam

Dry Color: 10YR 6/1 Gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 99% clay loam, 1% pebbles

Description: This stratum appears to be a compact living surface with a few flecks of charcoal below another living surface (138). It terminates at 144 (sterile).

Thickness: 10 to 16 cm

Artifacts: Ceramics and a flake

Found in Units: 9

Stratum: 143

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 6/3

Moist Color: 10YR 6/3

Inclusions (size, material, and volume): 95% cobbles, 5% clay loam with some plaster

Description: Cobble fill 143 is found under floor 141 and below step 108 and fill 149. It is similar to fill 123c in unit 9. Fill 143 is on top of floor 145 in units 6 and 2, on top of and abutting wall 146 in units 2 and 3, and

on top of floor 147 in units 2, 3, and 8, and above floor 136 and wall 150. It also abuts floor 148, floor 118, and step 106a.

Thickness: 18.5 to 75 cm

Artifacts: Ceramics (including a lid and handle), obsidian blade (notched), shell, and lithics (flakes, cores, chunks, hammerstones)

Found in Units: 2, 3, 6, and 8

Stratum: 144

Type: Sterile

Soil Texture: Marl

Dry Color: 10YR 8/2 White

Moist Color: 10YR 8/3 Very pale brown

Inclusions (size, material, and volume): 100% marl

Description: Sterile, below 142 (living surface).

Thickness: Undetermined (we only dug a posthole 20 cm in depth)

Artifacts: None

Found in Units: 9

Stratum: 145

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 7/2 Light gray

Inclusions (size, material, and volume): 30% cobbles, 70% plaster

Description: Floor 145 has small limestone cobbles, and is below fill 143 and above fill 156. It abuts wall 146 to the west, as well as wall 150. It looks similar to floor 136 in unit 10, but is different due to separation by wall 150. There was a large area of burning on the floor approximately 60 x 30 cm directly next to wall 150.

Thickness: 3 to 4 cm

Artifacts: Ceramics and lithics (flakes, core, chunks)

Found in Units: 2, 6

Stratum: 146

Type: Wall

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 90% boulders, 5% pebbles, 5% plaster

Description: Wall 146 has 4 courses and is oriented east-west below fill 143. It is likely part of the earliest construction. It abuts floor 145. Wall 146 has a small sub-wall directly behind it, which was removed with the main wall. We terminated excavation of wall 146 when fill 137 was exposed on the east side of the wall. The sub-wall looked as if it was built to contain the limestone fill (156) that was east of wall 146.

Thickness: 34 to 36 cm

Artifacts: Ceramics

Found in Units: 2, 3

Stratum: 147

Type: Floor/surface

Soil Texture: Clay loam

Dry Color: 10YR 3/3

Moist Color: 10YR 3/2

Inclusions (size, material, and volume): 95% clay loam, 5% cobbles

Description: Clay loam living surface below fill 143, step 106a, fill 137, and fill 156; it is above fill 121; it is quite compact with some cobbles. It is very similar to floors/fills 135 and 136 in unit 9. It likely abuts fill 135, floor 138, and walls 153, 158, and 157. We were not able to excavate it.

Thickness: NA

Artifacts: NA

Found in Units: 2, 3, 4, and 8

Stratum: 148

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 7/2 Gray

Inclusions (size, material, and volume): 10% cobbles, 90% plaster

Description: Floor 148 is below 102 and above ballast 149. It abuts steps 108 and 106, as well as fill 143. It comprises part of the upper most terraced platform.

Thickness: 4 cm

Artifacts: None

Found in Units: 3

Stratum: 149

Type: Ballast

Soil Texture: Clay loam

Dry Color: 10YR 6/3

Moist Color: 10YR 6/3

Inclusions (size, material, and volume): 90% cobbles, 10% clay loam

Description: Ballast 149 is under floor 148, abuts step 108, and is above fill 143.

Thickness: 19 to 27 cm

Artifacts: Ceramics and lithics (flakes)

Found in Units: 3

Stratum: 150

Type: Wall

Soil Texture: Clay loam

Dry Color: 10YR 8/2 White

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume): 90% cobbles and boulders, 10% clay loam

Description: Wall 150 was found in unit 6 and is below fill 143, abuts floor 145 in unit 6, and is above floor 136 in unit 7. It is part of the earliest construction. It was built after floor 136 and used to step up to floor 141. It also abuts fill 151. It has 5 courses of cut stone, averaging 6 x 25 x 30 cm, with a clay loam mortar. It lies over fills 156 and 137.

Thickness: 30 to 34 cm

Artifacts: Lithics (celt) and ceramics.

Found in Units: 6

Stratum: 151

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 7/3

Moist Color: 10YR 7/2

Inclusions (size, material, and volume): 90% cobbles, 5% pebbles, 5% clay loam

Description: Fill 151 is below floor 141 and above floor 152 and wall 153. It abuts wall 150. We noticed burned soil and cobbles along the south wall of units 10 and 7.

Thickness: 20.5 to 27.5 cm

Artifacts: Ceramics, shell and lithics (flakes)

Found in Units: 10 and 7

Stratum: 154

Type: Floor and ballast

Soil Texture: Silt loam

Dry Color: 10YR 8/2 White

Moist Color: 10YR 7/4 Very pale brown

Inclusions (size, material, and volume): 20% cobbles, 80% silt loam

Description: Floor 154 is below 102 and above floor 155 and step 106a. Root intrusions were moderate. It is in unit 5 north of wall 107, and extends into unit 4 to the southern edge of step 106. Below floor 154 was another cut stone step, 106a. This floor was followed southward to the north edge of wall 107. A few of the cobbles in the ballast had evidence of burning.

Thickness: 1 to 26 cm

Artifacts: Ceramics, a flake, and a metate fragment

Found in Units: 4, 5

Stratum: 155

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2 White

Moist Color: 10YR 8/2 White

Inclusions (size, material, and volume): 100% plaster

Description: Floor 155 is a thin plaster floor on top of step 106b below floor 154. Floor 155 abuts step 106a to the north, making its construction later than 106a and after 106b.

Thickness: 1 cm

Artifacts: None

Found in Units: 4, 5

Stratum: 156

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 4/3

Moist Color: 10YR 3/3

Inclusions (size, material, and volume): 20% cobbles, 50% boulders, 30% clay loam

Description: Fill 156 is below wall 150 and floor 145. It is west (below) of wall 150 and east (abuts) of wall 146. It abuts fill 137 and is over floor/living surface 147.

Thickness: 3 to 27 cm

Artifacts: Ceramics and lithics (flakes, core)

Found in Units: 7, 10

Stratum: 160

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 7/2

Moist Color: 10YR 5/2

Inclusions (size, material, and volume): 40% clay loam, 60% cobbles

Description: Fill 160 is below floor 136 in units 10 and 7 and above floor 159. It abuts fill 137 and wall 158. A pit (162) was dug through fill 160 and floor 159, in which several fine, thin polychrome sherds were placed.

Thickness: 43 to 44 cm

Artifacts: Ceramics (many of which were decorated with glyph-like designs, and likely come from pit 162, cut into floor 159)

Found in Units: 10

Chapter 3

Residential Yalbac: Site 94E22N-18

Lisa J. Lucero and Sean M. Graebner

Site 18 is located east of traverse point YJ behind structure 2F near Plaza 2 at a bearing of 89° and a distance of 320 meters (UTM 293.93E 1922.64N). It is a square-shaped structure oriented north-south that measures 9.5 x 9.5 m and is approximately from 0.62 (north side) to 1.5 (south side) m in height (Figure 3.1). The site datum is at 71.4 m asl. Site 18 is associated with at least two other structures, located north and northwest of Site 18 within about 20 m that may be part of a small residential group. Amanda Martinez served as crew chief.

We placed a 2-m wide trench on the primary axis (north-south) to bisect the structure, and a smaller transverse axis (east-west) trench across the top of the structure. A total of nine units were opened (1-9). We exposed what appears to be a single room structure with a porch on the south side. Site 18 was smaller and more simply built than Site 14 (Figure 3.2; see appendix for stratum descriptions). Other than plaster floors, architectural remains were limited to a prominent 4-7 coursed faced walls (102, 103) on the south side that abutted a plastered step (108). Some of the small boulders were faced. The northern units did not expose comparable walls, though there may have been a rough wall of some sort (Figure 3.3). Nor does it appear that there were walls on the east side. We also started to follow the major floor, 104, west, but were prevented from finding its edge due to the onslaught of rain. Floor 104 in unit 9, the far west unit, however was starting to break up—different from the center of Site 18 where it was quite compact—and might indicate that we were getting close to the end of the floor and structure. There was not a step on the north side because it was unnecessary due to a difference in slope; basically there was not much of one. The slight slope on the south side, however, clearly required the construction of a step to level out the structure floor.

The plaster floor (104) north and inside of the faced wall was very compact and well preserved (1+ cm thick). The plaster floor did not appear to extend east or west and was isolated in the center of the platform indicating that the most recent structure was relatively small. It also was replastered (floor 110) and extended to the south, upon which the step (108 and fill 109) and walls (102 and 103) were placed. Although boulder-sized stones were removed during excavation, there is no definite evidence that this structure had a stone superstructure other than walls 102 and 103. However, it is clear that the substructure and foundation were constructed with boulders and cobbles (e.g., fills 106, 111, 105). Continued excavation east and southeast of the platform center uncovered earlier plaster floors (112, 116, 118) indicating that as the platform increased in height, it decreased in surface area. While excavating floor 116 in unit 8 (southeast of center), a possible chamber or chultun (121) was exposed. Floor 116 actually might consist of a seal for the chamber/chultun; it was much thicker (5-7 cm) and softer than a typical plaster floor. In addition, it was also located southwest of the steps, outside the structure. It took up about the eastern half of unit 8. Although unexpected rainfall prevented further investigation into the contents of this feature, we did see ceramic vessels inside (possible broken jars) that might indicate ritual activity or storage. The opening had been covered by a capstone that may have originally served as a vault stone. We also were able to see what either was coiled roots or a rope. Finally, the seal had prevented any debris from entering the chamber, and it was pristine inside, without even dirt noticeable on the ground surface.

Artifacts consisted primarily of ceramic sherds, lithics (chert cores, flakes, bifaces, and a few blades), shell, and obsidian (including a pachuca obsidian flake). Site 18 likely served a domestic function, perhaps for a family of farmers. Some ceramics (usually burned) were found on top of floors (e.g., 104, 112), as well as ceramic clusters (floor 110); these deposits might indicate termination rites. We are not able to provide dates since the sherds have not yet been analyzed.

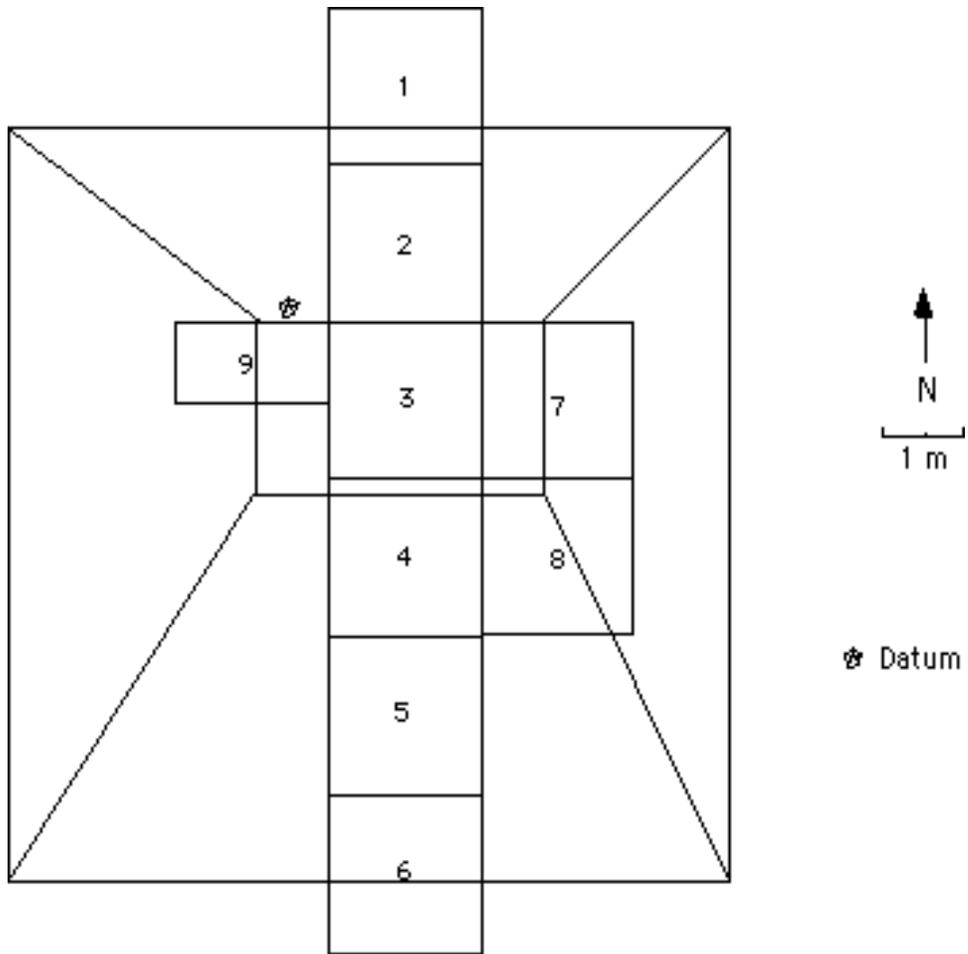


Figure 3.1 94E22N-18 planview

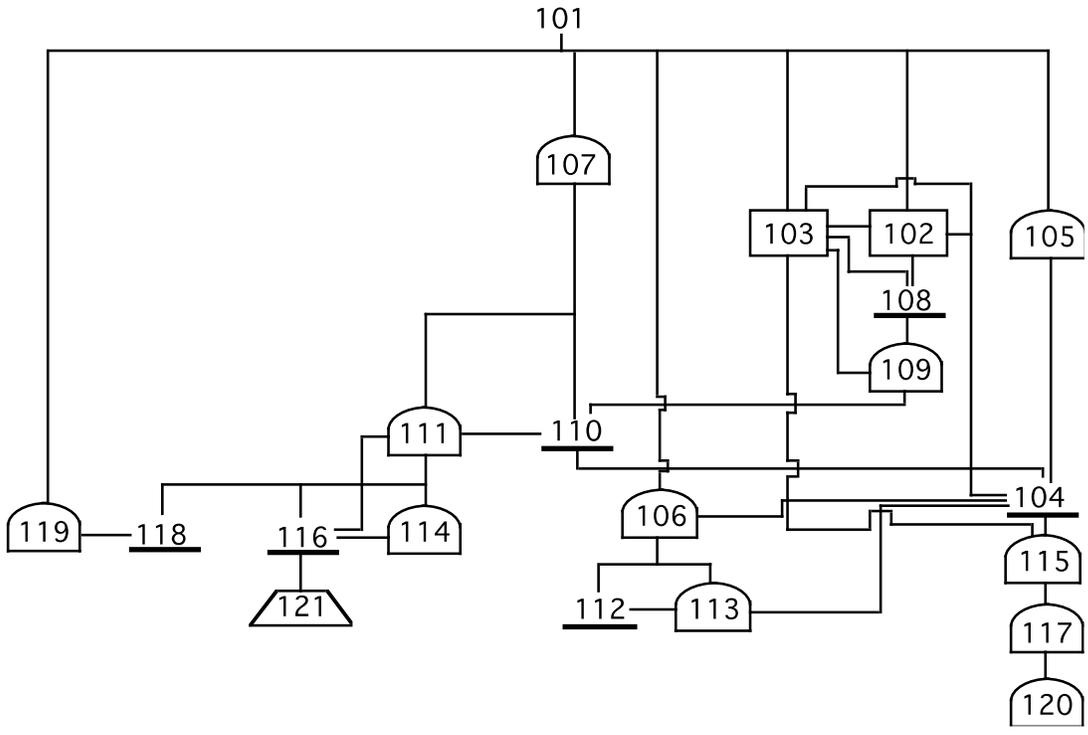


Figure 3.2 Site 94E22N-18 Matrix

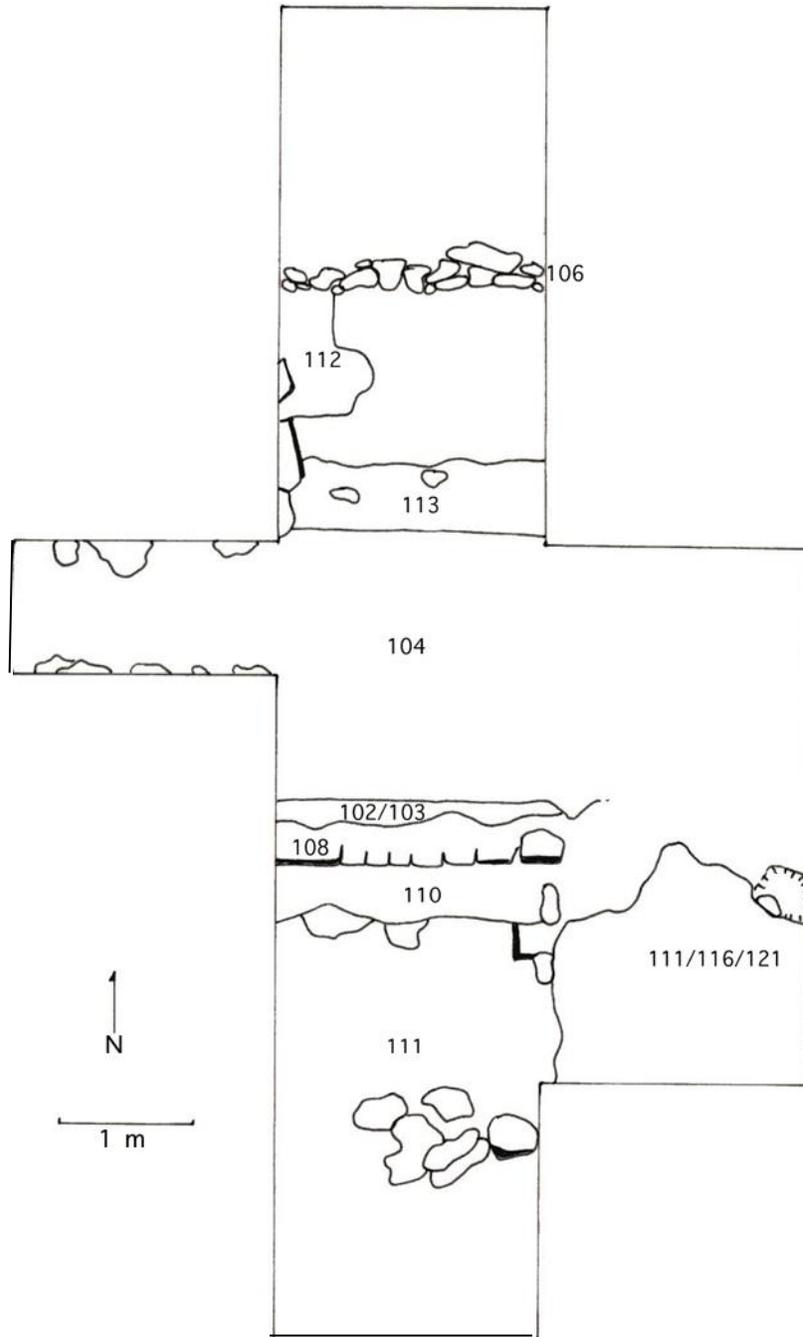


Figure 3.3 Site 18 planview

Appendix: Site 18 Stratum Descriptions

Stratum: 101

Type: Topsoil

Soil Texture: Sandy loam

Dry Color: 10YR3/3 Dark brown

Moist Color: 10YR 2/1 Black

Inclusions (size, material, and volume): 85% sandy loam, 15% boulders

Description: The sandy loam topsoil is found in all of the units, which we did not screen. There is a large amount of roots. In unit 1, 101 was terminated when floor 118 and fill 119 were found. In unit 2, we terminated 101 at floor 104 in the southern section of unit 2, and fill/collapse 106 in the remainder of the unit. In unit 3, 101 was terminated at floor 104. In unit 4, 101 was terminated when walls 102 and 103, and fill 107 were found. We did not finish excavating 101 in units 5 and 6 due to rain. In unit 7, 101 was terminated at floor 104; in unit 8, 101 was terminated at floor 104, wall 102, and fill 107, which is even with floor 104. In unit 9, we terminated 101 at floor 104. Unit 9 is a 2 x 1 m unit to the west of unit 3.

Thickness: 1 to 71 cm

Artifacts: Ceramics, some of which were burnt. We have recovered six notched sherds, a ceramic lid, a hatched sherd (possible grater), lithics (cores, midshaft of a biface, and a possible drill fragment), jute shell, burnt plaster, burnt rocks, obsidian blades (none notched), and cut rock.

Found in Units: 1, 2, 3, 4, 5, 6, 7, 8, and 9

Stratum: 102

Type: Wall

Soil Texture: Clay loam

Dry Color: 10YR 3/4 Dark yellowish brown

Moist Color: 10YR 3/3 Dark brown

Inclusions (size, material, and volume): Boulders

Description: This wall runs east-west in units 4 and 8, and was found below 101, and above plastered step 108. It was first found in unit 4, and we followed it into unit 8. It abuts floor 104. It is immediately adjacent to and south of wall 103, which also runs east-west. Walls 102 and 103 were located in the northern part of unit 4 and run parallel to each other. There were 4 courses of large stones that comprised this wall. Only some of the stones were cut. The average size of these stones ranged from 30-40 cm in length, 8-25 cm in width, and 5-15 cm in thickness.

Thickness: 10 to 59 cm

Artifacts: Ceramics from the mortar

Found in Units: 4, 8

Stratum: 103

Type: Wall

Soil Texture: Clay loam

Dry Color: 10YR 3/2 Very dark grayish brown

Moist Color: 10YR 4/3 Brown

Inclusions (size, material, and volume): 90% cobbles and boulders, 10% sandy clay loam

Description: This wall runs east-west in units 3 and 7 below 101. Floor 104 lips onto wall 103 on its north side. It abuts wall 102 to the south, which also runs east-west. It lies on top of ballast 115. The small and large boulders that comprised this wall were mostly cut boulders usually about 20-30 cm in length, 10-20 cm in width, and 10 cm or less in thickness. It has 7-8 courses; 7 where it was 37 cm thick and 8 where the wall was 59 cm. Most of the stones were cut and smaller in size than wall 102. The stones were more nicely stacked and the mortar was uniform throughout this wall, unlike in wall 102.

Thickness: 37 to 59 cm

Artifacts: Ceramics and a chert blade from the mortar

Found in Units: 3, 4, and 7.

Stratum: 104

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/3 very pale brown

Moist Color: 10YR 8/2 very pale brown

Inclusions (size, material, and volume): Plaster

Description: This well-preserved floor was found in unit 7 under fill 105 and over ballast 115. We have followed it into all of unit 3, parts of 2, and 8, and all of 9. There were ceramics found in the fill (105) over the floor (104) in great abundance. The floor continues into unit 3, where it is well built and preserved. In unit 9, the floor has been disturbed by roots in the south. It abuts collapse/fill 106 and fill 113, and lips onto wall 103. In unit 3, we noted a ballast or possible 2nd floor (110), which might indicate replastering. We also took a charcoal sample 111 cm from the west wall of the unit, 98 cm from the north wall, and 64 cm below the site datum. In unit 7 and 9, floor 104 was never excavated because excavation of Site 18 was halted by rain.

Thickness: 1 to 15 cm

Artifacts: Ceramics, including some on top of the floor

Found in Units: 2, 3, 7, 8, and 9

Stratum: 105

Type: Collapse

Soil Texture: Sandy loam

Dry Color: 10YR 5/3 Brown

Moist Color: 10YR 3/3 Dark brown

Inclusions (size, material, and volume): 70% large boulders, 10% small boulders, 20% sandy loam

Description: The collapse is located in unit 3 below 101 and above floor 104.

Thickness: 26 to 37 cm

Artifacts: Ceramics and lithics (flakes), as well as burnt plaster

Found in Units: 3

Stratum: 106

Type: Collapse

Soil Texture: Clay loam

Dry Color: 10YR 6/2 Light brownish gray

Moist Color: 10YR 5/2

Inclusions (size, material, and volume): 50% clay loam, 30% cut boulders, 20% cobbles

Description: Collapse 106 was found below 101, and has a number of boulders scattered throughout. These stones were both large and small, cut and uncut limestone, as well as cobbles. There were concentrations of broken and burnt pottery in the middle and along the north end of unit 2. A burnt plaster floor (112) was located in the north-east corner and 113 (fill). Stratum 106 is at the same level as floor 104 in unit 2. It might turn out to be a rough wall on the northern extreme of the structure.

Thickness: 1 to 26 cm

Artifacts: Ceramics (some burnt) and lithics (flakes, chunks)

Found in Units: 2

Stratum: 107

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 7/2 Light gray

Moist Color: 10YR 3/3 Dark brown

Inclusions (size, material, and volume): 80% clay loam, 20% cobbles and small boulders

Description: This fill is below 101 in units 4 and 8 and above floor 110. We have not found this fill in any other units, and have terminated it at fill 111 because 111 abuts floor 110 in unit 4 and is level with floor 104 in unit 8. We noted burnt limestone and ceramics.

Thickness: 20 to 37 cm

Artifacts: Ceramics (one notched), lithics (pachuca obsidian flake), and one shell

Found in Units: 4, 8

Stratum: 108

Type: Plastered step

Soil Texture: Plaster

Dry Color: 10YR 7/1 Light gray

Moist Color: 10YR 5/2 Grayish brown

Inclusions (size, material, and volume): 95% plaster, 5% pebbles

Description: This is a plastered step found directly under wall 102. It has a ballast (109). It also abuts wall 103. Step 108 and ballast 109 together comprise a step. It was not excavated due to rain. They likely rest on top of floor 110.

Thickness: NA

Artifacts: NA

Found in Units: 4

Stratum: 109

Type: Ballast

Soil Texture: Sandy loam

Dry Color: 10YR 8/2 Very pale brown

Moist Color: 10YR 7/3 Very pale brown

Inclusions (size, material, and volume): 90% cobbles and small boulders, 10% sandy loam

Description: This is the ballast under step 108. It abuts wall 103 and is next to and higher than floor 110. The stones in 109 are only cut on the surface facing south. Ballast 109 consists of one course and the average size of the stones is 10-20 cm in length, 10-15 cm in width, and 10 cm or less in thickness. This stratum was not excavated due to rain.

Thickness: NA

Artifacts: NA

Found in Units: 4

Stratum: 110

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 7/2 Light gray

Moist Color: 10YR 6/3 Pale brown

Inclusions (size, material, and volume):

Description: This plaster floor lips over floor 104. It was found under fill 107 and below ballast 109. It abuts fill 111. Floor 110 partially is a replastering of floor 104, but extends further south. Excavation was not possible due to rain.

Thickness: NA

Artifacts: A ceramic cluster was found on top of the floor (22 body sherds)

Found in Units: 4, 8

Stratum: 111

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 4/4 Dark yellowish brown

Moist Color: 10YR 4/5 Brown

Inclusions (size, material, and volume): 80% cobbles, pebbles and small boulders, 20% clay loam

Description: This fill was first found in unit 4 below 107 and above fill 114 as well as floor 118, which is similar to 110 in unit 8; it abuts floor 110, and abuts a thick floor 116.

Thickness: 10 to 46 cm

Artifacts: Ceramics, some of which were burned, lithics (flakes, cores, chert blade, un-notched obsidian blade), burned plaster, and shell

Found in Units: 4, 8

Stratum: 112

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 6/1 Gray

Moist Color: 10YR 6/2 Light grayish brown

Inclusions (size, material, and volume): Plaster

Description: This floor was found under collapse 106 and below and next to fill 113. It was an extremely burnt floor, charred throughout. It was only found in the northwest quadrant of unit 2, but we think it was present in the rest of the unit, but had disintegrated due to the amount of collapse (106) on it. The floor was not excavated due to rain.

Thickness: NA

Artifacts: Ceramics, some burned, were found above or on top of floor

Found in Units: 2

Stratum: 113

Type: Cobble fill

Soil Texture: Clay loam

Dry Color: 10YR 5/3 Brown

Moist Color: 10YR 5/2 Grayish brown

Inclusions (size, material, and volume): 70% cobbles, 30% clay loam

Description: This cobble fill abuts floor 104, and is below collapse 106 in unit 2. It also abuts floor 112. We almost finished excavating fill 113, but before a planview or pictures could be taken, it started to rain.

Thickness: NA

Artifacts: Ceramics and lithics (flakes, core tip)

Found in Units: 2

Stratum: 114

Type: Sterile

Soil Texture: Marl

Dry Color: 10YR 6/6 Yellow

Moist Color: 10YR 8/6 Yellow

Inclusions (size, material, and volume): 100% marl

Description: This is a yellow marl that is largely sterile in unit 4 and part of unit 6. However, we did not excavate this stratum because of rain. It was found under fill 111 and abuts floor 116. (At Site 14, yellow marl was sterile).

Thickness: NA

Artifacts: NA

Found in Units: 4, 8

Stratum: 115

Type: Ballast

Soil Texture: Clay

Dry Color: 10YR 7/2 Light gray

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 90% cobbles, 10% plaster/clay

Description: This is the ballast of floor 104, with a great deal of plaster between the cobbles. It is also below wall 103. The cobbles were evenly distributed. This stratum was terminated at a yellow marl (fill 117).

Thickness: 3 to 11 cm

Artifacts: Ceramics, lithics (flakes and chunks), shell. Most of the ceramics were found under the cobbles rather than from within it

Found in Units: 3

Stratum: 116

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2 Very pale brown

Moist Color: 10YR 8/2

Inclusions (size, material, and volume): 100% plaster

Description: This floor (or seal) is quite soft and thick below fill 111. We found a cist or chultun (121) under it, so it may have served to cover the opening. We never finished excavating this stratum because of the rain. It abuts fill 114.

Thickness: 5 to 7 cm

Artifacts: Shell, ceramics, and obsidian were found before we had to stop excavation
Found in Units: 3

Stratum: 117

Type: Fill

Soil Texture: Sandy marl

Dry Color: 2.5 Y 8/6 Yellow

Moist Color: 2.5 Y 7/4 Pale yellow

Inclusions (size, material, and volume): 30% cobbles, 70% sandy marl

Description: This fill was found under the ballast 115. It was above collapse/fill 120.

Thickness: 9 to 18 cm

Artifacts: Ceramics, shell, obsidian blade, and lithics (flakes, biface)

Found in Units: 3

Stratum: 118

Type: Floor

Soil Texture: Plaster

Dry Color: 10YR 8/2

Moist Color: 10YR 8/3

Inclusions (size, material, and volume): 100% plaster

Description: This plaster floor is level with fill 119 in unit 1 and is below fill 111. We only exposed a patch about 20 x 20 cm in size. It was not excavated due to rain.

Thickness: NA

Artifacts: NA

Found in Units: 1

Stratum: 119

Type: Fill

Soil Texture: Clay loam

Dry Color: 10YR 4/2

Moist Color: 10YR 3/2

Inclusions (size, material, and volume): 80% clay loam, 20% cobbles

Description: This fill is level with floor 118 in unit 1 and found below 101. It was not excavated due to rain.

Thickness: NA

Artifacts: NA

Found in Units: 3

Stratum: 120

Type: Collapse

Soil Texture: Sandy loam

Dry Color: NA

Moist Color: 10YR 6/2 Light brownish gray

Inclusions (size, material, and volume): 75% cobbles and small boulders, 25% sandy loam

Description: This stratum likely is collapse, found under fill 117. It was not excavated due to rain.

Thickness: NA

Artifacts: Ceramics and a flake

Found in Units: 3

Chapter 4

Spending the Roaring 20's in the Jungle: The Historical Record at Yalbac

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University of California, Riverside

The ancient Maya stone architecture that permeates the landscape of the Yalbac area will forever define it as the land of the ancient Maya. Although the impressive temples and acropoli may dissuade us, it is important to remember that the ancient Maya left Yalbac a thousand years ago. In the intervening years, the area has not lain dormant, but has been redefined by the various human groups that have since come to live at Yalbac. Since the arrival of the Spanish, the land and environs where Yalbac stands has been home to slaves, loggers, and even Confederate soldiers fleeing retribution from the American Government. Their stories are small in comparison to that of the ancient Maya, but just as important.

The collection of historic artifacts that I have analyzed from Yalbac is fragmentary and small, coming from the uppermost layer (101 or humus) of Site 14 (94E22N-14) near the Yalbac site core (see chapter 2, this volume). The collection consists of 17 glass, metal, and ceramic objects, with wine and medicine/liquor bottles and buttons being the most diagnostic (Figures 4.1, 4.2, 4.3). Because of the location of the artifacts in the humus layer, any sort of chronological control is impossible. Still, this collection of artifacts has yielded interesting questions, and I hope to pique the interest of all who work on ancient Maya sites in order to urge the collection of any historical artifacts that may be unearthed, as their analysis may lead to discoveries just as fruitful as those made for the ancient Maya (see Gasco 1992 for an example of historical archaeology in the Maya area).

Historical Background

Today, the archaeological site of Yalbac sits within the domain of the Yalbac Cattle and Ranch Company, on land that is used primarily for logging. The use of this land has not changed much since the British gained control of Belize over 200 years ago. In the late 1700's and early 1800's, this area was logged by slaves working for local owners. After the slaves were emancipated in 1838, the local owners congregated into powerful companies, the most powerful of which was the British Honduras Company, which changed its name in 1875 to the Belize Estate and Produce Company (ETF 1984).

Before the present owners (Yalbac Cattle and Ranch Company) took control of this land, the area was owned from 1875 until the 1970's by the Belize Estate and Produce Company (BEC). The BEC was an immensely powerful entity, owning one fifth of the entire country. They could never possibly use all of their landholdings at once, but they kept careful control over their land to keep local people dependent on their products. An example of the control exerted over the land by the BEC occurred in the Yalbac Hills in 1867, when a group of Maya villages that happened to be standing on BEC lands were destroyed by armed force. The same thing happened again in the 1930's to the village of Yalbac (along with agricultural villages at Lamanai and San Jose) which was totally destroyed at that time by the BEC (ETF 1984:36). This stranglehold that the BEC kept on this area for over 100 years has had an effect on the archaeological record, as it is ephemeral and understandably heavily related to logging!

One quirky bit of history that relates to the Yalbac area and the greater VOPA area (especially Saturday Creek – see Lucero 2002) concerns the attempt of an American Methodist Minister and a Confederate General to establish the town of 'New Richmond' in 1867 on land that is several kilometers east of Yalbac and north of Saturday Creek (where Labouring Creek and Cut-And-Throw-Away Creek come together) (Simmons 2001). This town (which is in the current VOPA survey area)

never quite made it, but the land still carries the name of the General; the area is simply called “McRae.”

Artifacts at Site 14

Based on the assemblage collected from Site 14, which consists mainly of bottles, ceramics, and buttons (see appendix), the ancient Maya site was probably re-used as a logging camp that was in existence at some point between the 1910’s and the late 1920’s. This time range comes from several lines of evidence, including a datable button and the fact that most of the bottles were made using a process that was popular during this time (see Fike 1987). The artifacts paint a picture of working class loggers working for the BEC, cutting mahogany and not forgetting to drink wine with their lunch (the large green bottle is almost assuredly for this). They also likely carried condiments for their food, and medicine (or more booze) for their ailments. They did not stay too long, but the amount of artifacts recovered says that they either stayed for more than a mere stopover, or came to the same spot many times (maybe this was a favorite lunchtime spot for a time)

It is important to note that this collection has been analyzed by an American archaeologist used to American bottle types and ages. There may be slight differences in the British bottles imported to Belize in terms of age and use. Also, the age of the artifacts may not represent the time of final discard (people often re-use objects for a time). Even with these slight inconsistencies, I am confident that we are looking at a pre-depression era archaeological site, and are making solid first steps to understanding a secondary use for the ancient Maya site of Yalbac.

Acknowledgements

I am indebted to Roberta Greenwood for her expert assistance with the attributes of the artifacts, and to Sybil Jorgensen for the artifact photography.



Figure 4.1 Site 14 bottles



Figure 4.2 Site 14 historic ceramics



Figure 4.3 Site 14 metal artifacts

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Appendix: Historical Artifacts from Site 14

Glass:

Object	Attributes	Age
Large olive bottle	Turn mold with applied blob finish.	1870-early 1900's
Larger aqua bottle	No. 2768. Cup bottom 2-pce mold, semi-automatic machine. Rounded ring finish for inset cap.	Approx. 1900-1930
*Smaller aqua bottle	No. 266. Cup bottom 2-pce mold, semi-automatic machine. Ball neck with collar and ring finish.	Approx. 1900-1930
*Smaller aqua bottle	No. 2 ½? Cup bottom 2-pce mold. Sidewall embossed for application of paper label. Ball neck with double collar finish.	Before 1930
Aqua bottle neck	Flat or packer finish. Long neck suggests use for oil.	Undetermined (probably before 1930)
Two aqua bottle stoppers	Larger one is appropriate size for Lea & Perrins, but no markings on either.	Undetermined

*The finishes on the two above are not typically seen in the U.S. on bottles of this shape. We typically see what's on 266 on large whiskeys. These could hold medicinals or condiments.

Metal:

Object	Attributes	Age
Button	2-hole sew through.	Undetermined
Padlock	Heart-shaped, keyed. Made with plates rather than cast.	Not terribly old (approx 50 yrs, but hard to determine).
Knife blade	Rusty and unidentifiable.	Undetermined
Fork	No identifiable marks.	Undetermined

Ceramic:

Object	Attributes	Age
Button	4-hole sew-through with depressed center. Probably a Prosser button.	Out of general use by 1900
Blue rim sherd (plate)	Hand painted under glaze. Earthenware.	Approx. 100 yrs old or more
Two tan fragments	Stoneware from crock or bottle.	Undetermined
Polychrome base fragment	Green/purple. Very coarse earthenware.	Undetermined
Tiny rim fragment	Earthenware. Rim of hollow form vessel.	Undetermined

Chapter 5

Powerful Birth: The Impacts of Globalization on the Childbirth Experience in the Valley of Peace, Belize, a Refugee Village

Hollie Jo Fuhrmann

The production of authoritative knowledge occurs when one knowledge domain gains power over the other or others (Jordan 1993). Globalization has given biomedical systems of knowledge the power to infiltrate and even replace ethnomedical systems of knowledge. This shift in authoritative knowledge has significantly impacted all levels of the childbirth experience in communities worldwide.

I define the childbirth experience as the complete complex of people and institutions involved in childbirth, with particular focus on the nature of their associations, interactions, and negotiations, which affect the decision-making process. Everyone involved in the childbirth experience is confronted with decisions that involve issues of power, oppression, authoritative knowledge, and tradition versus modernity. These issues significantly impact the childbirth experience, while having important implications for maternal health care programs globally. Thus, through an ethnographic study, I explore the impact of globalization on the childbirth experience in the Valley of Peace Village, Belize, a refugee village that largely consists of traditional agriculturalists.

Childbirth is a physiological event experienced cross-culturally, yet the manner in which it is managed varies greatly from one group to the next. As Wenda Trevathan (1996:146) states, “It is cited as one of the four universal life-crisis events that are recognized with ritual in cultures worldwide.” Also, childbirth integrates the social and political domains of culture. “Political dynamics are often revealed in a close examination of who has the ultimate decision-making power in the management of birth and the treatment of the mother and child after birth” (Trevathan 1996:146). In most societies, birth and the immediate post-partum period are considered to be a time of vulnerability for the mother and child – a time of ritual danger. In order to deal with this danger, people tend to produce a set of culturally specific practices and beliefs designed to manage this time of uncertainty (Davis-Floyd 1992). Thus, childbirth is an excellent phenomenon for understanding social patterning and social construction and, in this case, the effects of globalization on traditional societies.

Furthermore, maternal and child health is an issue of international concern. Anthropological studies of childbirth have much to offer to national and international policymaking and policy action. Although anthropologists have long acknowledged the impacts of culture on the effectiveness of health improvement programs, policymakers and policy enactors are just beginning to recognize the importance of cultural factors. The role of anthropologists is critical and continually evolving. There is a need for research on the impacts of globalization on the childbirth experience in traditional societies.

Although the effects of globalization on the childbirth experience have recently been intensively documented, the manner in which these particular dynamics unfold in a refugee village has yet to be fully examined. I expect that women and healthcare providers in the Valley of Peace, Belize are finding creative ways to combine the medicalization of birth with traditional beliefs creating a unique combination of complex interactions and processes. Research such as mine can help to form maternal and child health projects that will work to minimize the negative impacts of globalization while optimizing its positive impacts.

Pilot Study

During the summer of 2002 (May 14–June 24), I conducted a six week pilot study in the Valley of Peace, Belize investigating the impacts of globalization on the local childbirth experience. Permission was granted to conduct my pilot study by the Department of Archaeology, Government of Belize, under the Valley of Peace Archaeology Project, directed by Dr. Lisa Lucero, an Associate Professor at New Mexico State University. The pilot study consisted of exploratory research, determining the direction of future research, which will compose my master's thesis.

While conducting my pilot study, I lived with Ana¹, a certified village midwife, and her family. I conducted participant observation and interviews on a daily basis in Ana's home with her and the women she attended. Also, I interviewed Dona Juana¹, another village midwife once a week. On a weekly basis, I visited the village's rural health clinic as well as the hospital in Belmopan where I also conducted participant observation and interviews.

The Valley of Peace Village, Belize

In 1981, a joint venture by the Government of Belize and the United Nations High Commissioner for Refugees (UNHCR) established the Valley of Peace as a permanent refugee village. It is located in the heart of the Belizean jungle, off of the Western Highway, 15 kilometers from Belmopan, Belize's capitol. Based on the 2000 Belize census, the population of the village is 1,800. As its name suggests, it is a haven for refugees who have left nearby Central American countries in search of a better life. According to a UNHCR, "...the Valley of Peace is a symbol of the refugees' willingness to integrate. It is a unique undertaking, and the village now has an elected town council and enjoys all the rights of other Belizean villages" (Ferrero 1989:13).

In all, 230 families have settled the Valley of Peace (Ferrero 1989). Each of these families was given a house lot in the center of the village as well as several hectares of land outside the village. This land is mostly used to produce maize, beans, and corn for local consumption. Of the 230 families, 20 families are Belizeans who settled in the village to promote the refugees' integration into local society. There are also at least 70 squatter families who were not part of the original settlement.

The upheaval experienced by Central American countries in the 1980s has prompted the relocation of these families. Nicaragua, El Salvador, and Guatemala were experiencing three separate civil wars. In each of these countries, insurgency and counterinsurgency resulted in a huge loss of life and large-scale displacement. It is estimated that more than two million people in these countries were uprooted (UNHCR 2000). In response to the area's refugee crisis, many Central American countries adopted the Cartagena Declaration of 1984. Like the 1969 Refugee Convention of the Organization of African Unity, it broadens the definition of a refugee given in the 1951 United Nations Refugee Convention to include those persons who flee their country "...because their lives, safety or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order" (UNHCR 2000). The Belizean government has used the Cartagena Declaration as a guide for recognizing and managing refugees.

Most of the refugees in the Valley of Peace are mestizos from civil war torn El Salvador (Ferrero 1989). The second largest group of refugees are Maya from Guatemala where they experienced tremendous persecution during the 1980s. The village is also populated by people from other Central American countries, such as Honduras and Nicaragua, who crossed Belize's borders since its independence in 1981 in search of a better life. The Belizean government granted amnesty to its refugees in 1999.

Unlike most villages, the Valley of Peace is not located along a major creek or river where people can easily access water. Individual homes or living compounds recently acquired water pumps with a

¹ A pseudonym is being used in order to protect the midwife's privacy.

concrete trough. Previously, water was laboriously obtained from a village well or from rain water collected in holding tanks. There are two schools in the village, a state school and an Evangelical school. Both schools instruct students in English. There are also several churches: a Catholic church, a Pentecostal church, and an Evangelical church. A village clinic has been in and out of operation since 1985.

In this multi-ethnic refugee village, language sometimes serves as a barrier within the community, as well as between the village and national society. English is the official language of Belize, and it is the language used in the local schools. However, most of the villagers are recent immigrants from Spanish-speaking countries. Thus, most of the villagers' primary language is Spanish, but they may also be able to communicate in English. Those of Maya descent speak either Queche or Mopan; they may also speak English or Spanish, or both. Belizeans who settled in the village usually speak English, and may even speak Creole. Creole is the most common language in Belizean towns. Thus, on an individual basis, there may be a situation in which neighbors may not be able to communicate effectively, but when there is a number of people gathered, language capabilities will overlap and people will work together to communicate effectively. As discussed below, language has a tremendous impact on the childbirth experience in the Valley of Peace Village, Belize.

Although the Belizean government has made tremendous efforts to integrate the people of the Valley of Peace, the villagers still confront refugee challenges. "In anthropological terms, refugees are people who have undergone a violent 'rite' of separation and...find themselves in 'transition', or in a state of 'liminality'" (Harrell-Bond and Voutira 1992:7). This state of 'liminality' or 'transition' can be expressed economically, politically, socially, or psychologically. As discussed above, linguistic differences are a refugee challenge that can result in 'liminality' with economic, political, social, and psychological consequences. Thus, women in the Valley of Peace who are experiencing childbirth are in a doubly liminal state, which has been doubly impacted by the forces of globalization. Their childbirth experience is a complex negotiation that is telling about the lives of these women.

Childbirth in the Valley of Peace Village, Belize²

There are several healthcare options for pregnant women in the Valley of Peace. These healthcare options include village midwives, the rural health clinic, and the hospital in Belmopan. The village midwives utilize more traditional healthcare practices, but are incorporating biomedical practices more and more. Both the rural health clinic and the Belmopan hospital are biomedical institutions, with the hospital having the technology and staff needed to be fully indoctrinated into the biomedical matrix.

In the summer of 2002, there were at least two licensed midwives in the village. The midwives are refugees who speak Spanish and know little, if any, English. Both women I interviewed had received licensure from the Belize Ministry of Health by completing a two-week training course as well as follow-up courses. These midwives provide prenatal, labor and delivery, and postnatal care. They attend home births and, when necessary, transport women to the nearest hospital in Belmopan, which is 15 kilometers by an all-weather, dirt road which requires a ferry crossing. Neither of these women owns an automobile and must rely on the aid and generosity of other villagers. There are also buses servicing the trip from the village to Belmopan. The majority of women in the village give birth at home attended by one of the local midwives, but preferences are changing. Similar to what Cosminsky (2000) and Sesia (1997) found, both midwives incorporate traditional as well as biomedical practices into the healthcare services they provide. For example, Ana often prescribes *herbabuena* (a weed-like herb) when the mother's stomach is upset and still performs the *sobador* (a traditional massage), while at the same time checking the blood pressure of the mother and monitoring the fetus' heart rate.

² The following information was collected through participant observation and interviews conducted during the pilot study.

Although the Belizean government sanctifies their practice, there are restrictions on the kind of care they can provide and to whom they can provide care. Some of these restrictions include: midwives can only attend the second, third, fourth, and fifth delivery of a woman; midwives may not attend births in which the fetus presents in an abnormal position; and midwives should never administer injections to aid the delivery of a child. Despite the threat of losing their license, both midwives I interviewed violated these restrictions, because there are situations when they have no other choice in order to ensure the lives and health of mother and child. A lack of necessary support and infrastructure, such as transportation, good roads, or a much needed bridge, often forces the midwives to handle situations that are technically beyond the scope of the care they should be providing. In terms of support, the midwives receive little backing from the rural health nurse. Their relationship appears to be characterized more by antagonism than cooperation. This relationship is unfortunate since it adversely affects the childbirth experience in the village, limiting the scope of options for women and healthcare providers.

The rural health clinic in the village has been in and out of operation over the past twenty years. It is currently in operation and staffed by a Cuban doctor, a Belizean rural health nurse, and a local aide who is Maya and speaks Queche and English. The aide is responsible for various duties around the clinic, and also serves as an interpreter for the Maya population. The doctor attends to a number of illnesses and infections, and also performs minor surgical procedures. He is only available Monday through Friday. He travels to San Ignacio, Belize on the weekends. While conducting my pilot study, I established a relationship with the rural health nurse. The nurse lives in a small house next to the clinic and is available during regular clinic hours, Monday through Friday, and for after-hours emergencies. She allowed me to observe the care she provides to pregnant women and interview her on a weekly basis.

Wednesdays are maternal healthcare day. Each woman that visits the clinic for prenatal care is given a prenatal card. The prenatal card, which the pregnant woman keeps in her possession, is meant to serve as a mobile medical record that ensures consistent care during pregnancy and childbirth. Women who have complications are encouraged to see an obstetrical doctor at the hospital in Belmopan. She will carry her prenatal card between the differing healthcare providers so that there is an accurate account of her prenatal status and care. During the prenatal visit the nurse monitors the mother's weight, blood pressure, levels of protein and glucose in the urine, and uterine height. The fetus' heartbeat and position is also monitored. These variables, along with social and medical history, are documented on the prenatal card. At the time of the pilot study the clinic was not properly equipped for deliveries, only for normal healthcare and minor surgical procedures. According to the nurse, plans were being made so that she could attend deliveries at the clinic by 2003.

As mentioned earlier, the nearest hospital is in Belmopan, Belize. Belmopan is approximately 15 kilometers from the Valley of Peace, but travel time to the hospital may take in excess of an hour. Most of the drive is an all-weather, dirt road and requires a ferry crossing which may or not be in service depending on the level of the river. During the annual rainy season (June-December/January), it is possible that the ferry could be out for months. Weather permitting, the Belizean bus system regularly services the trip from the Valley of Peace to Belmopan. A walking bridge is also available that is rarely flooded, but transportation must be available on both sides of the bridge. Clearly, making the trip to the hospital in an emergency situation is difficult and will most likely involve obstacles. Consequently, women who are identified as having risks are encouraged to make the trip to the hospital days before they actually go into labor in order to avoid a dangerous situation.

I discovered during my pilot study that language plays an important role in the shaping of the childbirth experience. Maya women, who speak only Queche or Mopan, are most restricted in their childbirth options. Language barriers prevent them from obtaining healthcare at the Belmopan hospital where all of the healthcare providers speak English and perhaps Creole or Spanish. These women feel more comfortable receiving healthcare at the village clinic where there is an on-staff aide who speaks Queche. However, if this aide were not available, Maya women would be much more

reluctant to visit the health clinic. Many Maya women received healthcare from Ana. Ana lives in what is known as the Queche part of the village. Thus, although she does not speak Mayan dialect, she has established a rapport with these women, and they trust her with their and their child's health. Spanish-speaking immigrants felt more comfortable receiving healthcare from the clinic and the hospital. Some of these women did express some anxiety about visiting the hospital due to language barriers. English-speaking village women appear to be most comfortable receiving healthcare from the clinic and hospital. They are confident in their ability to effectively communicate with biomedical healthcare providers. However, they are the least comfortable receiving care from a village midwife, whom they are not guaranteed successful communication with and with whom they probably do not share similar cultural values. Women who speak English tend to be more indoctrinated into the biomedical system of knowledge, and tend to place more cultural value on modernity in the form of medical technology.

In most cases, women combine these various healthcare options in a unique manner. The women negotiate the varying systems of knowledge, sometimes making trade-offs, in order to optimize the health of the mother and child, while maintaining a culturally valued birth setting. Healthcare providers must also negotiate their identity, making diverging systems of knowledge complementary. Midwives, who are increasingly being marginalized by the medicalization of birth, must particularly recognize the limitations and strengths of both the biomedical system and her own system. She moves fluidly between these two systems in order to serve the women she attends. Davis-Floyd, Pigg, and Cosminsky (2001:113) describe the midwife as “a shapeshifter (she knows how to subvert the medical system while appearing to comply with it), a bridge-builder (she makes alliances with biomedicine where possible), and a networker.” This description is particularly true of midwives in the Valley of Peace Village, who are not only marginalized by biomedicine, but also by a nation who otherizes her because she is a refugee, and in this case cannot even speak their language.

Pilot Study Results

These results are based on interviews conducted during the pilot study with women who were currently pregnant or had had at least one child. I interviewed nine women from the Valley of Peace. With particular attention to language, these women reflect the ethnic diversity of the village. Of the nine women: five speak Spanish, one speaks a Mayan dialect³, one a Mayan dialect and Spanish, one speaks Spanish and English, and one speaks a Mayan dialect and English. Although the interviews covered a range of topics, ranging from the number of children they wanted to where they had previously lived, for the purposes of this proposal I will focus on the place of birth and type of prenatal and postnatal care preferred by the women and the reasons they gave for their preferences.

I asked the women where they prefer to give birth. Since at home with a midwife or in the hospital with an obstetrical staff are the only two options available to women in the village, all of the nine women said either at home or in the hospital. Six women responded that they prefer to give birth at home with a midwife, while three women responded that they prefer to give birth at the hospital attended by an obstetrical staff. While many factors influence a mother's birth setting preference, it appears to be linked to the language spoken by the mother. All of the women who speak a Mayan dialect said that they prefer to give birth at home (Table 1).

³ Either Queche or Mopan.

Table 1

N=9	Spanish (5)	S&E (1)	Maya (1)	M&S (1)	M&E (1)
Home Birth (6)	3	-	1	1	1
Hospital Birth (3)	2	1	-	-	-

S&E – Spanish and English

M&S – Mayan and Spanish

M&E – Mayan and English

Of the six women who responded that they prefer to give birth at home three speak Spanish, one speaks Mayan⁴, one speaks Mayan and Spanish, and one speaks Mayan and English. The woman who speaks Mayan and the woman who speaks Mayan and Spanish expressed that the hospital was uncomfortable and even frightening due to cultural and linguistic differences. However, the Spanish-speaking women and the woman who speaks both Mayan and English referred to other reasons for choosing a home birth. They cited convenience and the ability of their husbands to be there with them. As discussed earlier it is a costly and difficult trip to the hospital. Furthermore, both spouses cannot leave the home and their duties to go to the hospital. As observed during the pilot study, the husband rarely travels to the hospital with his laboring wife. Thus, birth in the hospital becomes a lonely experience without the support of a spouse, family, and friends. As mentioned earlier, a variety of factors influence a mother's decision about her birth setting; however, in the case of these women language not only influences the preference for a home birth, but also the reasons for that preference. Globalization has impacted the birthing options available to them as well as their linguistic ability to access those birthing options.

Of the three women who responded that they prefer to give birth in the hospital two speak Spanish and one speaks Spanish and English. All of these women did note the hospital's ability to handle complications that may arise during labor and delivery, while none of them expressed unease in the hospital setting. These women recognize biomedical knowledge and technology, and give it supremacy over traditional cultural values, such as birthing at home near family and friends. They have been influenced by globalization through the authoritative knowledge of biomedicine.

The same village women were also asked what prenatal and postnatal services they prefer. All of the women responded that they prefer the services of a midwife, the clinic, or both. None of the women chose the prenatal and postnatal services of the hospital, most likely since none of them can afford the money or time required to make regular trips to the hospital. Four women said they prefer to receive maternal healthcare from both a midwife and the clinic; three women said they prefer the services of the clinic; and, two women said they prefer the services of a midwife. Again, the healthcare preferences of the women are linked to the mother's language as well as the mother's birth setting preference (Table 2).

⁴ By Maya, I am referring to one of the two Maya dialects spoken in the village, Queche or Mopan.

Table 2

N=9	Spanish (5)	S&E (1)	Maya (1)	M&S (1)	M&E (1)
Both (4)	2	-	1	-	1
Clinic (3)	2	1	-	-	-
Midwife (2)	1	-	-	1	-

S&E – Spanish and English

M&S – Mayan and Spanish

M&E – Mayan and English

Of the four women who responded that they prefer the services of both the clinic and a midwife, two speak Spanish, one speaks Mayan, and one speaks Mayan and English. All of these women stated that they prefer give birth at home. These women acknowledged that the services of the clinic and a midwife are complementary. They can obtain biomedical treatment from the clinic that can improve the health of the mother and child, while still maintaining cultural values by receiving care from a midwife, such as a sobador. It is interesting to note woman who speaks Mayan and the woman who speaks Mayan and English also said that they prefer to combine the services of a midwife with those of the clinic, because they sometimes have difficulties communicating with the village midwives. Both of the village midwives speak Spanish only, and there is an aide working at the clinic who speaks Mayan and English.

Of the three women who responded that they prefer the services of the clinic, two speak Spanish, and one speaks Spanish and English. These were the same women who preferred to give birth in the hospital. This response further substantiates their recognition of biomedical knowledge and technology. They felt that the biomedical setting provides the best healthcare available for pregnant women, and often referred to these institutions abilities' to handle complications that may arise.

Of the two women who responded that they prefer the services of a midwife, one speaks Spanish, and one speaks Spanish and Mayan. Both of these women also responded that they prefer to give birth at home. They felt that a midwife is more patient and attentive. Also, their cultural values encourage them to regular receive a sabador, as well as other ethnomedical treatments not provided by the clinic. Here it is interesting to note that the woman who speaks Mayan and Spanish prefers the services of a midwife. Unlike the other women who speak Mayan her linguistic abilities allow her to communicate successfully with the village midwives.

This pilot study clearly shows that the childbirth experience in the Valley of Peace Village is a negotiated process that is strongly influenced by language and increasingly affected by globalization. More information is needed to better understand this process, and thus, improve maternal-child healthcare. I plan to accomplish this through future research.

Conclusions

Women, influenced by the authoritative knowledge of biomedicine, will opt for a more medicalized birth. They feel that birth in a hospital will ensure the health and safety of both mother and child. Interviews conducted during my pilot study pointed to a difference in attitude and preference based upon age and level of education. Through further research, a generational gap in beliefs and practices will most likely become evident. Younger mothers are more likely to have a higher education and to have more exposure to and to be indoctrinated by biomedical system of knowledge. There may even be a rejection of beliefs and practices that are considered backward or ignorant by the biomedical field. This tension between generations is further exacerbated by changes

life histories and experiences, which has diverged because of the family's migration to a new country with better opportunities.

Improved infrastructure will also significantly impact the childbirth experience in the Valley of Peace Village. It will result in easier access to hospital care. More and more villagers are buying automobiles. There is also talk of improving the road from the village to Belmopan as well as replacing the ferry with a permanent bridge. Although many of these improvements are in the distant future, there have been infrastructural changes in the last year that will affect the childbirth experience in the Valley of Peace Village. At this time, the obstetrical staff of the hospital relies upon the care provided by midwives, because of lacking infrastructure. Once the needed infrastructure is in place, those who possess power and authoritative knowledge (i.e., obstetrical staff at the hospital and the Belize Ministry of Health) may decide that a role for the midwife no longer exists. This change in beliefs and practices may already be in operation and must be documented to better understand the impacts of globalization on the childbirth experience in the Valley of Peace.

Local midwives are finding new ways to negotiate their identity in a changing cultural space. In order to ensure their role, midwives will have to invent creative manners to work with and against the biomedical system at the same time. This will be evident in the adoption of some biomedical beliefs and practices coupled with the refusal of other biomedical beliefs and practices.

Clearly, the childbirth experience in the Valley of Peace Village, Belize is an evolving process. The village itself is moving between tradition and modernity. Its inhabitants must make daily decisions that negotiate changing cultural values. Everyone involved in the childbirth experience is affected by this process. However, in a multi-ethnic, refugee village this process is particularly unique, and we need a better understanding in order to improve maternal-child healthcare in this setting and other settings that share similar characteristics.

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