

REPORT OF THE THIRD SEASON (1990) OF
INVESTIGATIONS AT CAHAL PECH, BELIZE

EDITED BY JAIME J. AWE & MARK D. CAMPBELL

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TRENT UNIVERSITY, PETERBOROUGH, ONTARIO

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* Special thanks to the Belize Department of Archaeology and Belize Tourism and Industry Association (B.T.I.A.) for their continued support and assistance.

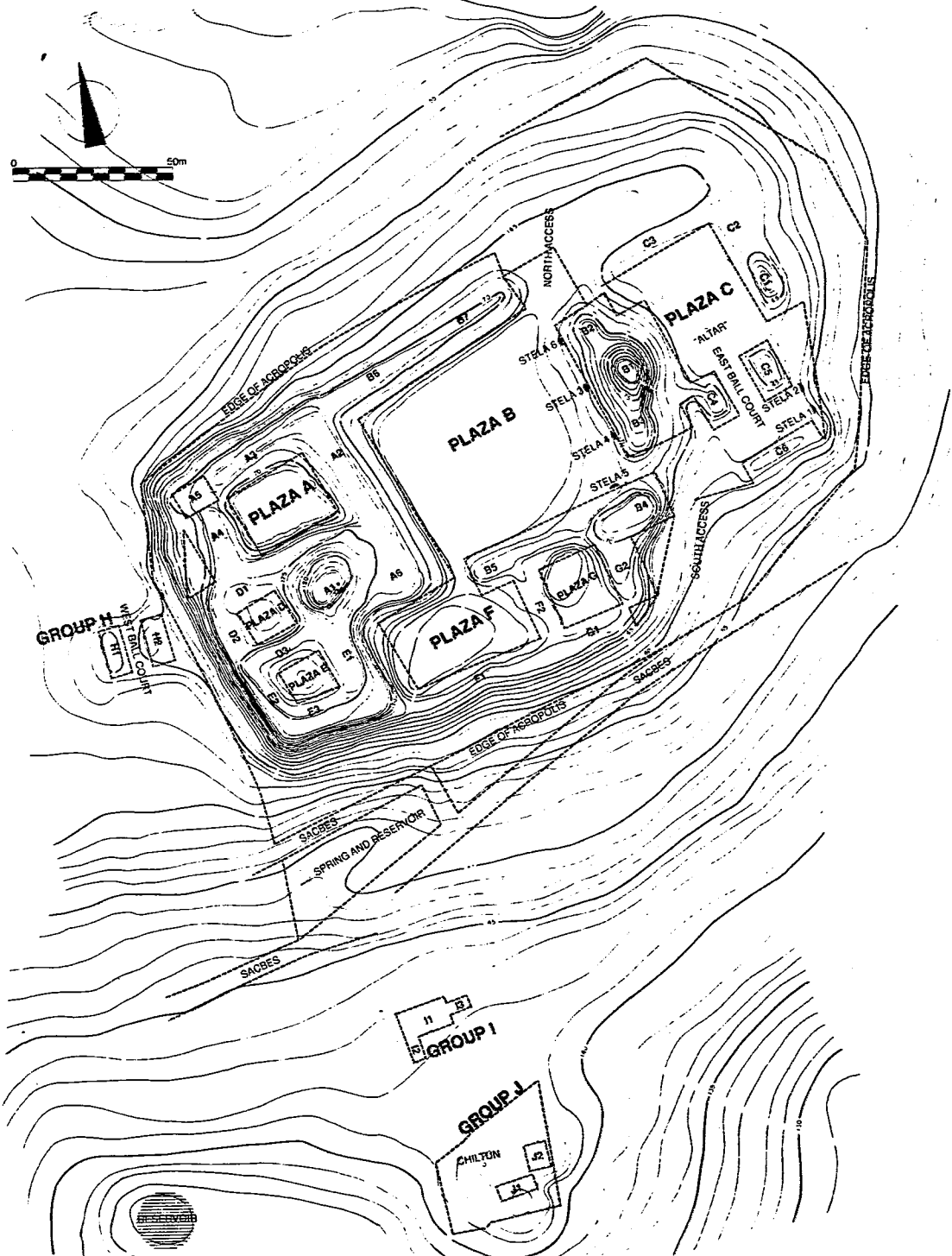
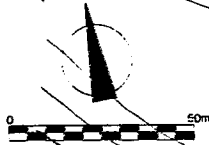


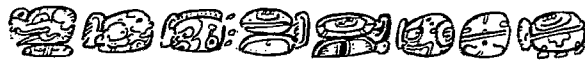
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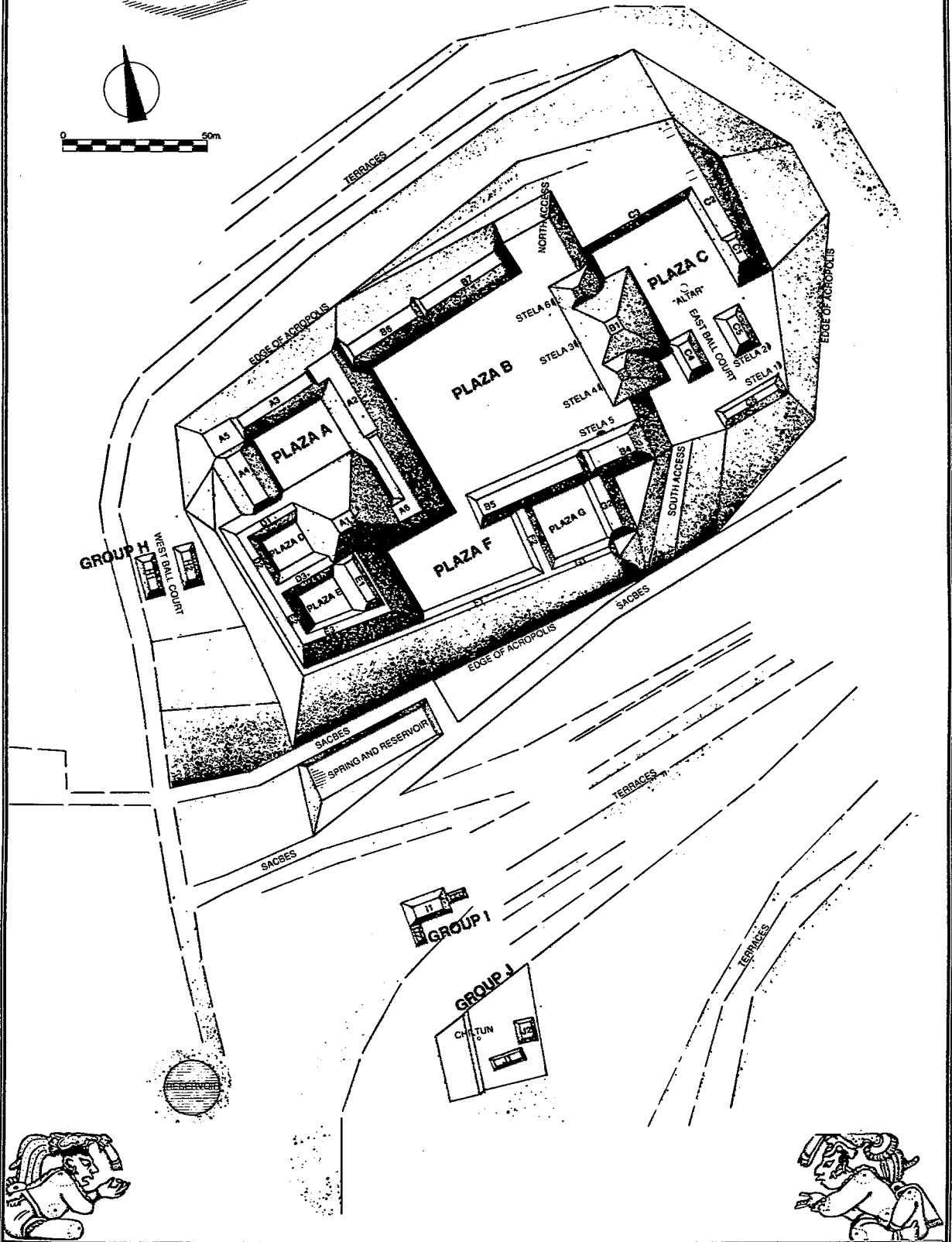
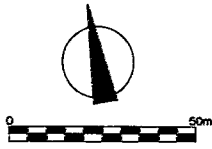




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SUMMARY OF THE 1990 FIELD SEASON AT CAHAL PECH, BELIZE

BY

JAIME J. AWE & MARK D. CAMPBELL

INTRODUCTION

The third season of investigations at Cahal Pech was conducted during the summer of 1990, and funded jointly by the Central Research Fund of the University of London and the Department of Anthropology at Trent University. Like the previous year, the research objectives of the 1990 season focused on the Formative period of occupation at Cahal Pech, and on the recording, mapping, and testing of settlements in the site's immediate periphery.

Investigations concerning the first objective were primarily conducted in the site core, and particularly on Str. B-4. This research is briefly described below and in the section by J. Dale and R. Stanchly on the preliminary analysis of animal remains from the earliest levels within that structure.

Our settlement survey concentrated on the southern and western periphery of the site core, complemented by visual reconnaissance to the north in the area now covered by the modern housing of San Ignacio Town. Excavations in this sustaining area were very limited in the 1990 season, and focused exclusively on a large plazuela designated as the Cahal Tzinic group. Since a detailed description of these investigations is provided in the section by J. Conlon and J. Awe they will not be described below.

SITE CORE INVESTIGATIONS

Within the site core we placed an excavation unit in each of the seven plazas and continued excavating unit 4 in Str. B-4. The main purpose of the Plaza units was to ascertain the

construction history of each courtyard in order to determine the evolutionary development of the site core. Unit 4 in Str. B-4 was continued because we were unable to excavate to sterile level the previous year, and because the unit had produced some of the earliest evidence for occupation at the site.

Following the completion of the Plaza units, and a preliminary analysis of the associated ceramic artifacts, we believe that the configuration of plazas and structures within the site core at Cahal Pech reflect a gradual sequence of development that spans from the Formative to the Late Classic period. The earliest courtyards with plastered surfaces were Plazas A and B. It is also possible that when these courtyards were first constructed (during the Late Formative period) both formed a single large plaza with several civic and domestic structures around their perimeter.

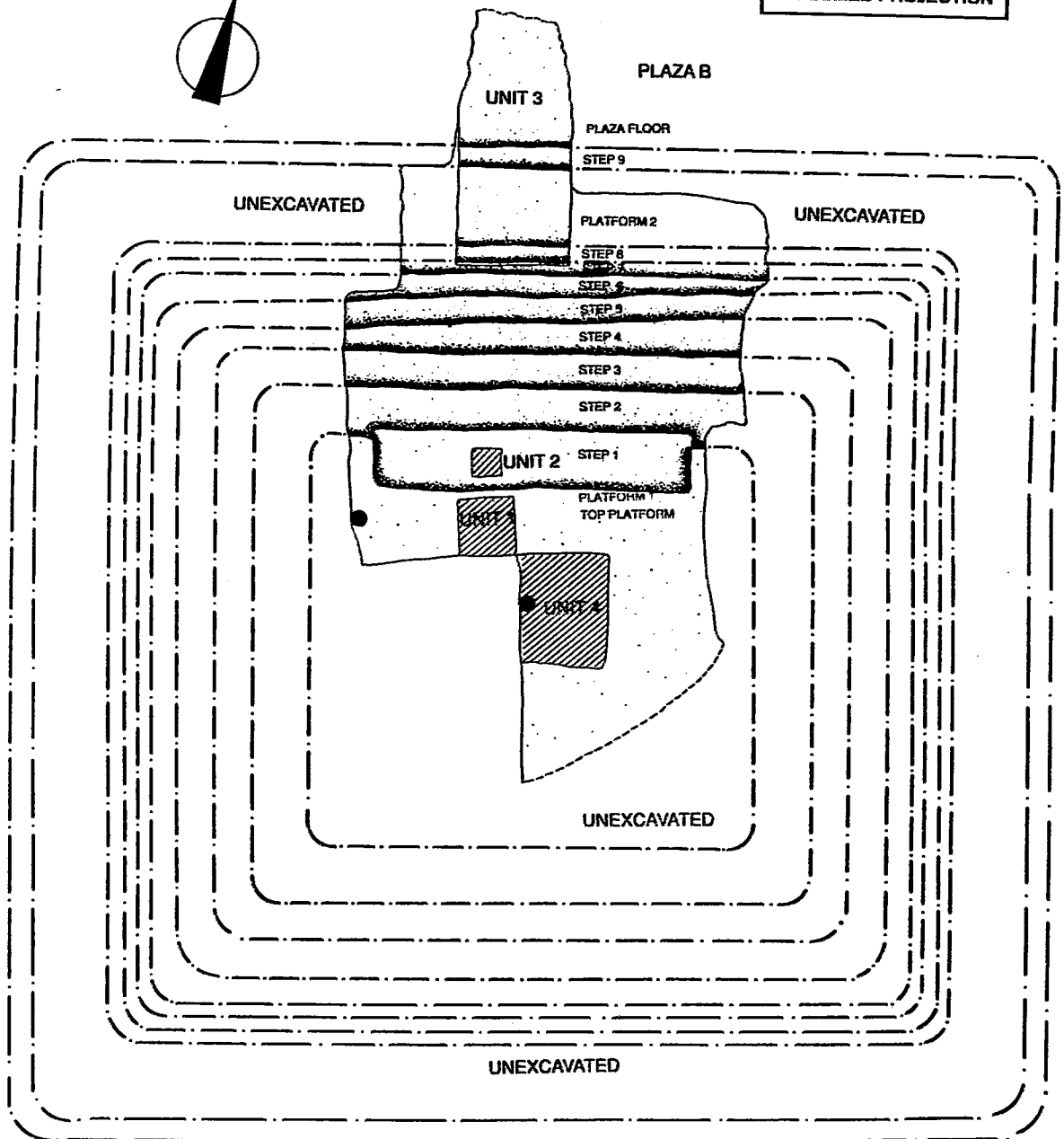
The plaza floor excavations at Plazas B, C, F, and G reached a depth of approximately 1.5 metres to bedrock revealing two discernable plaster floors in Plaza C, two discernable plaster floors in Plaza B, four discernable plaster floors in Plaza G, and six discernable plaza floors in Plaza F. Whereas, the plaza floor excavations at Plazas A, D, and E reached a depth of: 2.5 \pm meters to bedrock at A, 3.5 \pm meters to bedrock at Plaza D, and greater than 6 meters at Plaza E (bedrock was not reached). Although, these plaza excavations reached great depths only four discernable floors were revealed in Plaza A, three discernable floors were revealed in Plaza D, and 5 discernable floors were revealed in Plaza E. The plaster floors in Plaza A, D, and E, were, generally, well preserved, noticeably thicker (than the floors in Plazas B, C, F, and G), and were separated by deep layers of large to fine rubble which allowed for excellent drainage. This is in contrast to Plazas B, C, F, and G, in which plaster floors were generally not well preserved, overlying floors were separated by shallow layers of medium to fine rubble,

TOP PLAN, STRUCTURE B4, SUB 4
CAHAL PECH 1990 MDC 1781

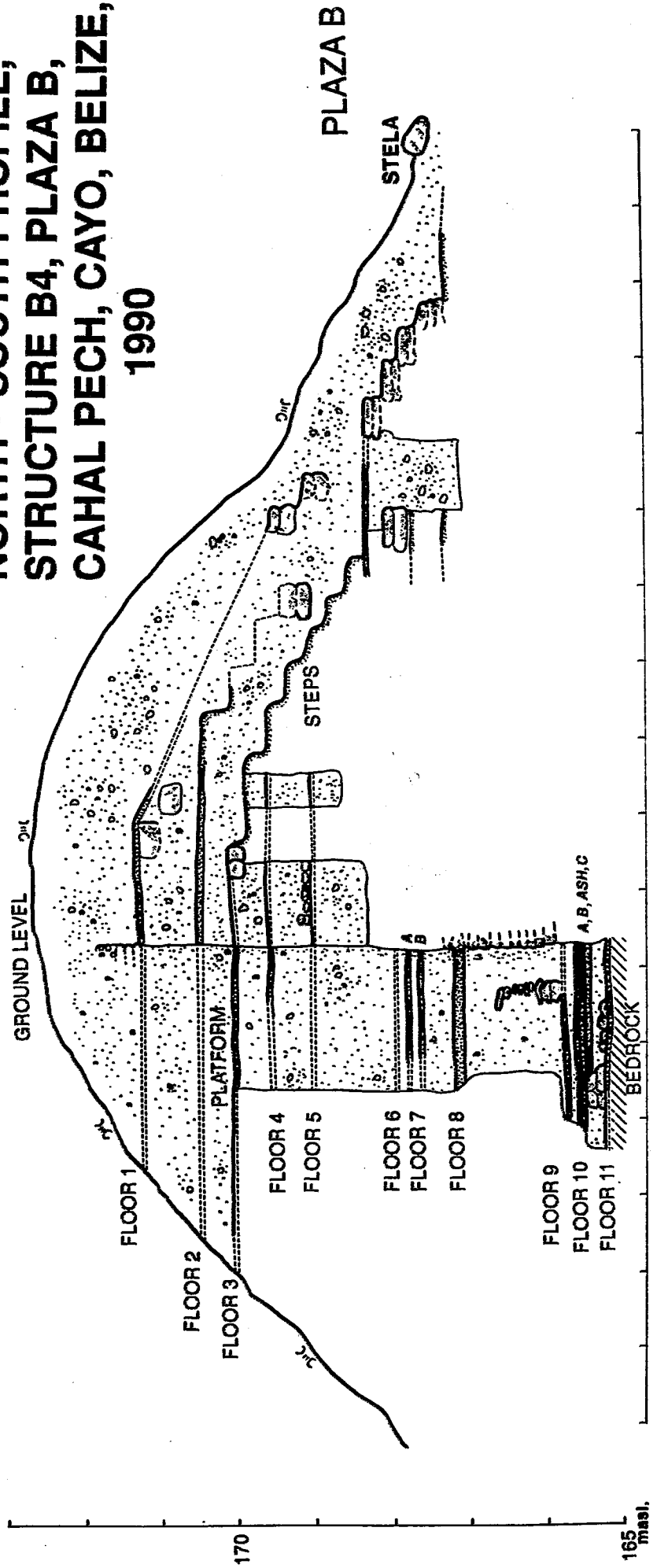


LEGEND

- ▨ INTRUSIVE EXCAVATION
- ⊙ PLASTER SURFACE
- POST HOLE
- ASSUMED PROJECTION



NORTH - SOUTH PROFILE, STRUCTURE B4, PLAZA B, CAHAL PECH, CAYO, BELIZE, 1990

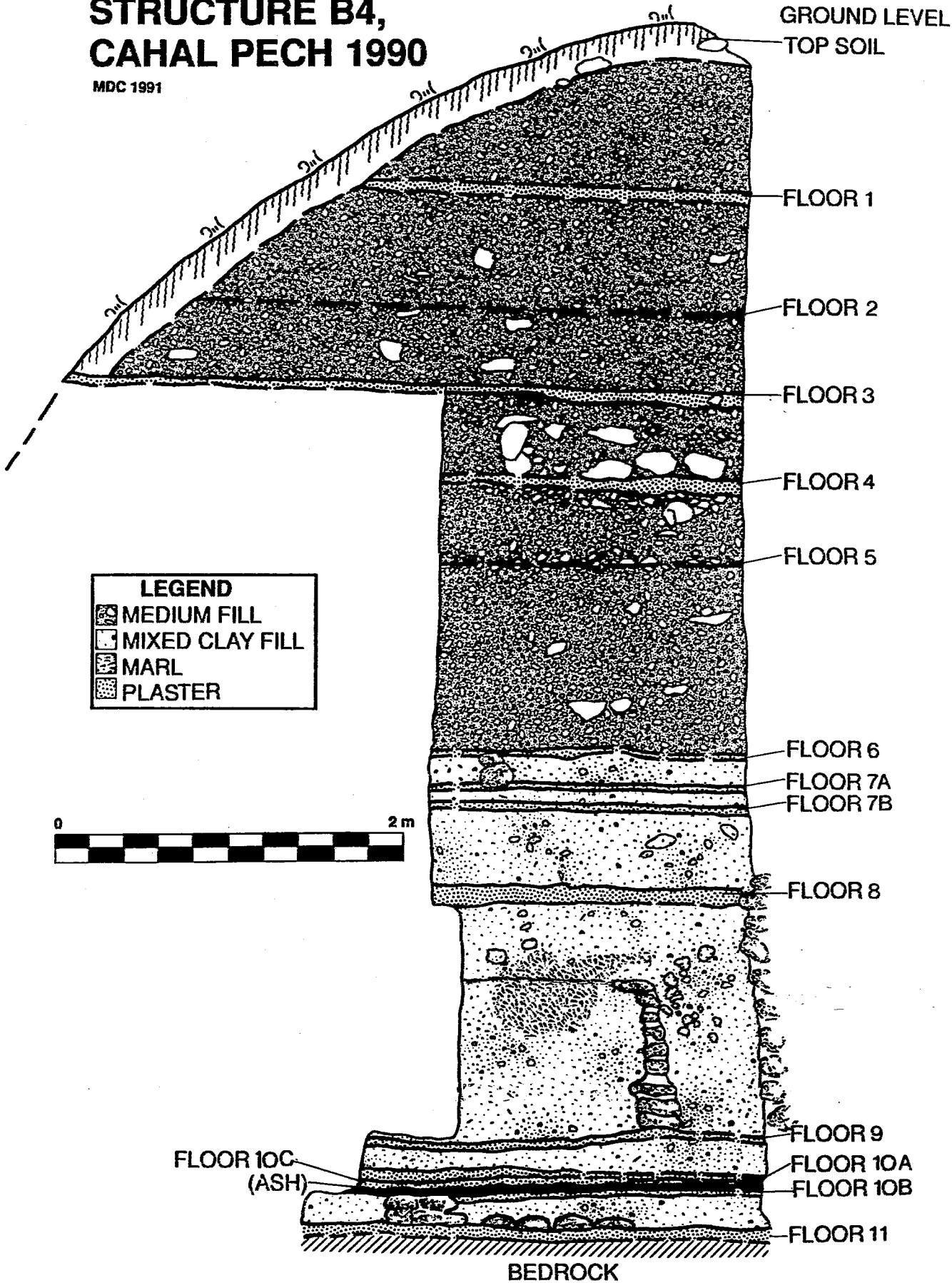


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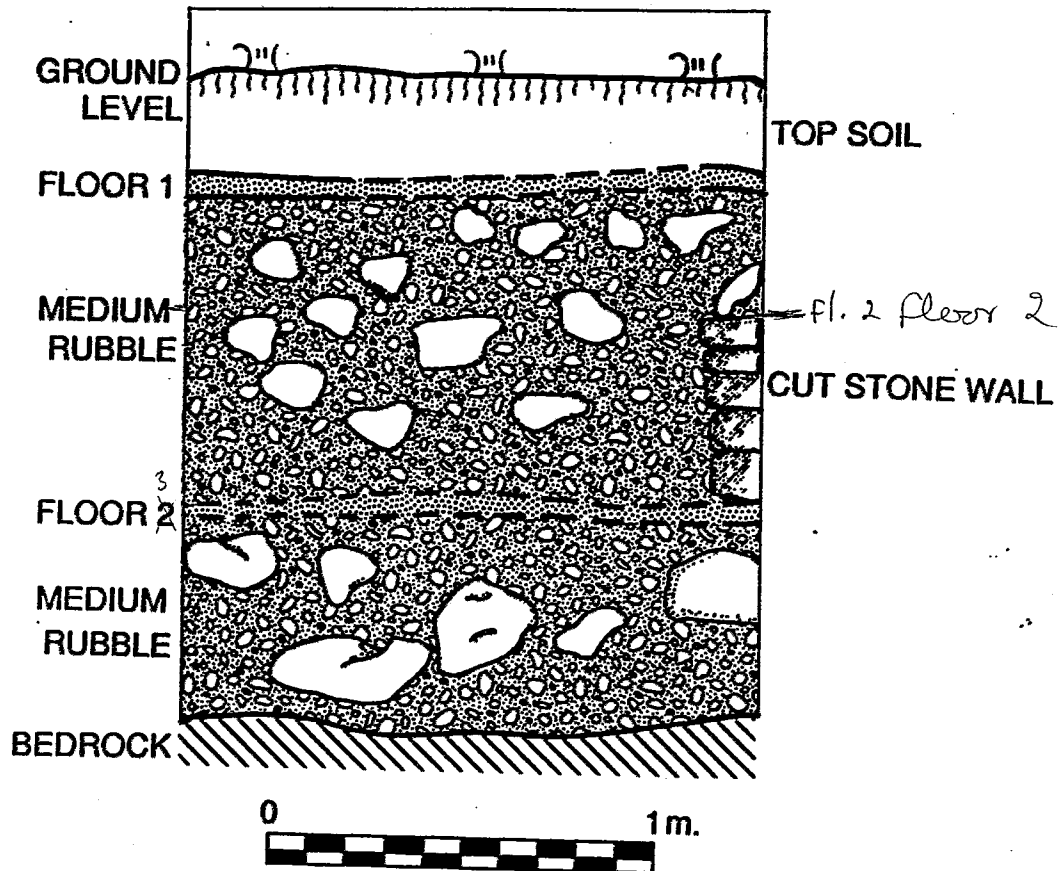
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WEST PROFILE OF UNIT 4, STRUCTURE B4, CAHAL PECH 1990

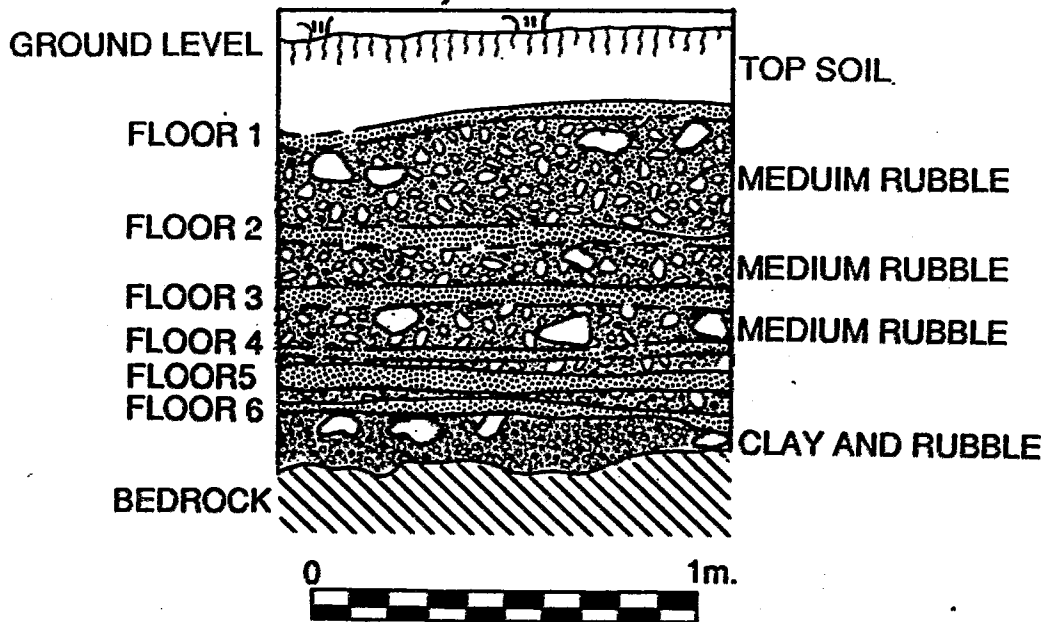
MDC 1991



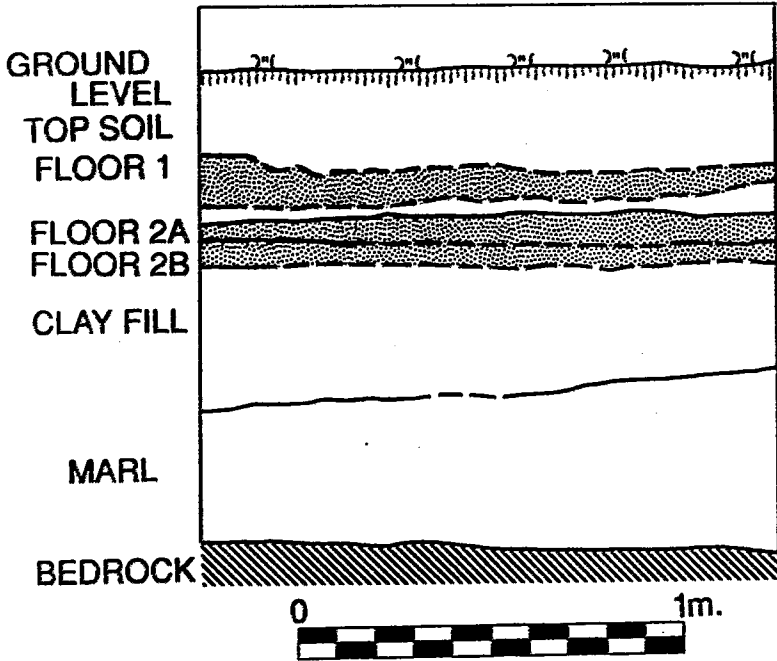
PLAZA C, SOUTH PROFILE, UNIT 1, 1990 CMB



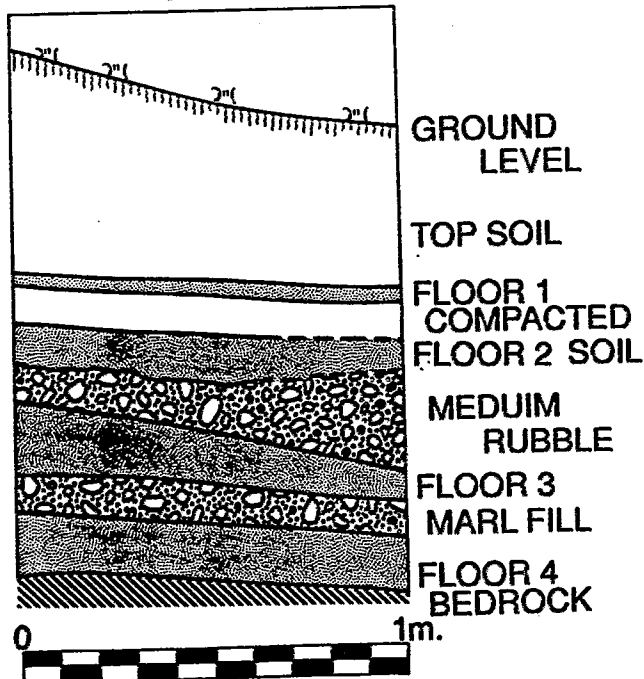
PLAZA F, NORTH PROFILE, UNIT 1, 1990 CMB



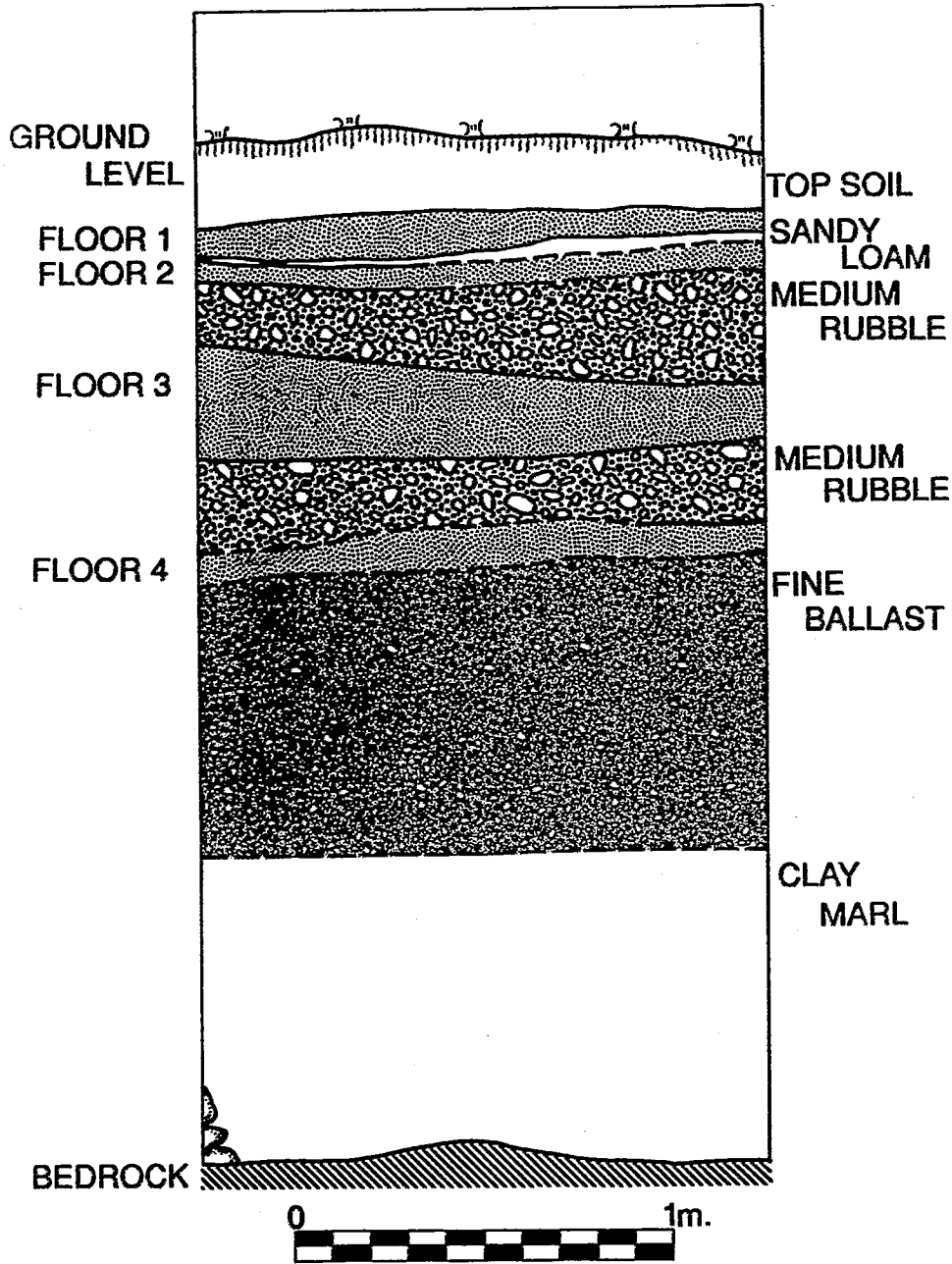
**PLAZA B, EAST PROFILE,
UNIT 1, 1990 CMB**



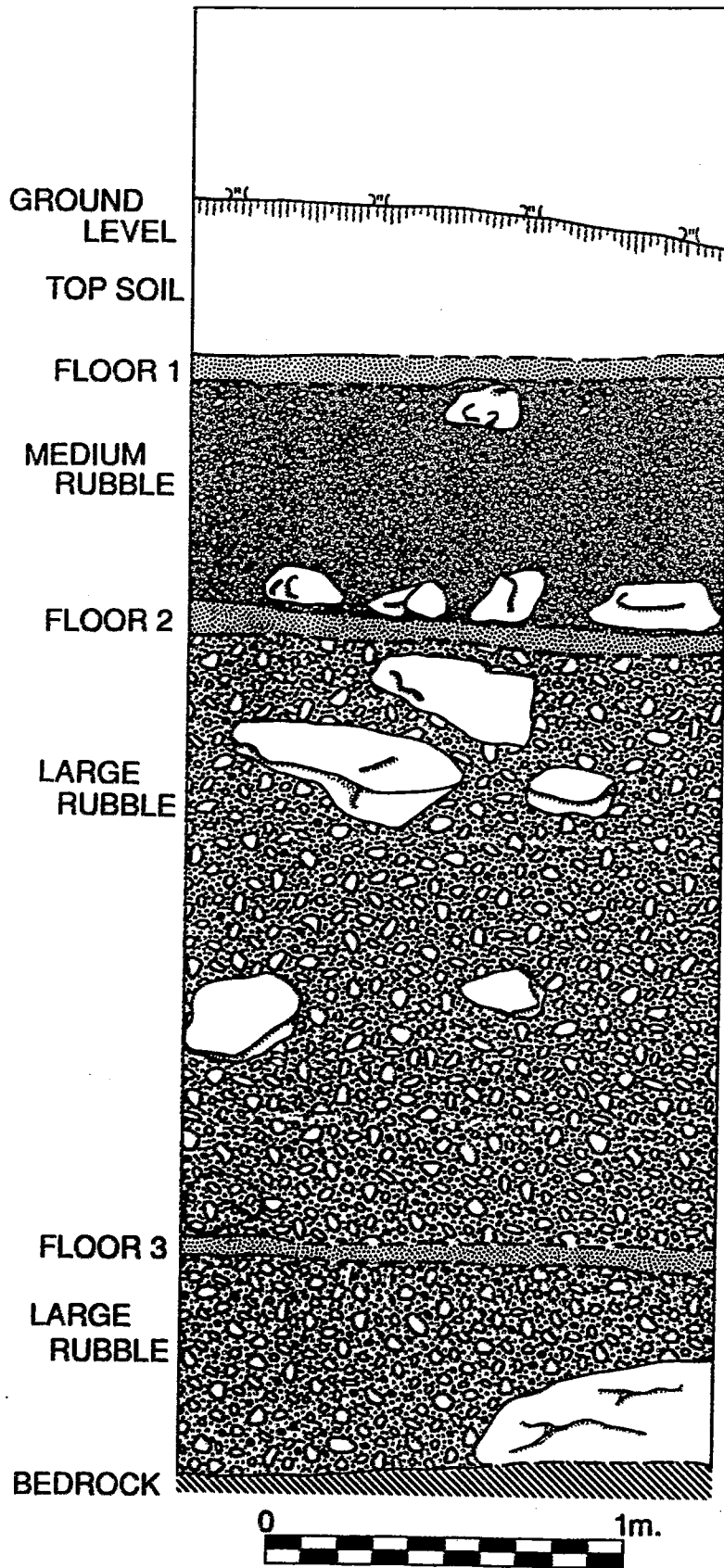
EAST
**PLAZA G, NORTH PROFILE,
UNIT 1, 1990 CMB**



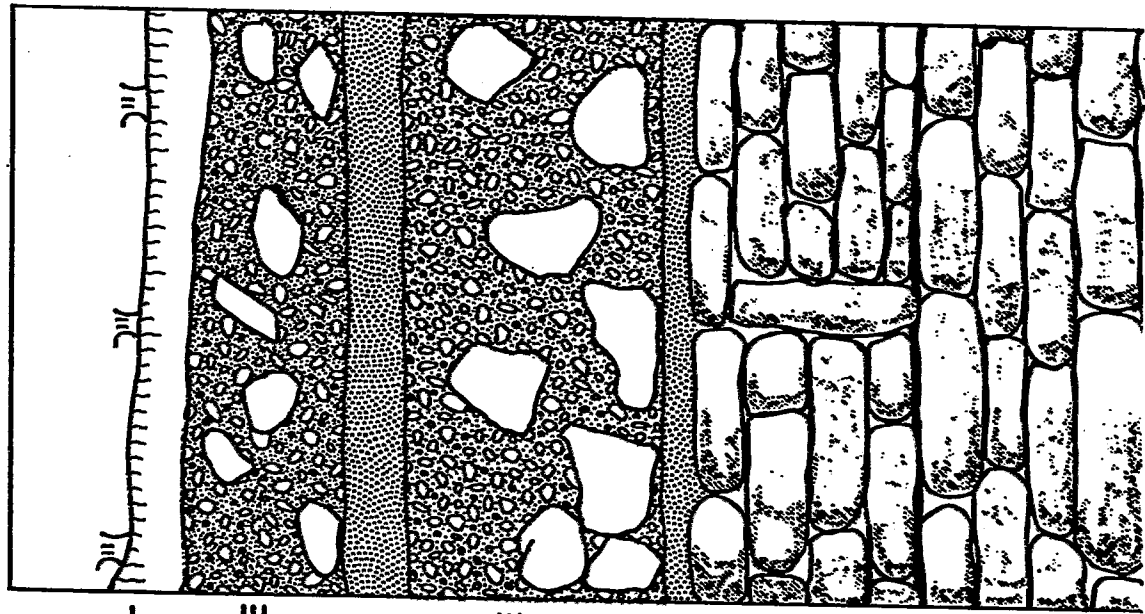
PLAZA A, EAST PROFILE, UNIT 1, 1990 CMB



PLAZA D, WEST PROFILE, UNIT 1, 1990 CMB



**PLAZA E, SOUTH PROFILE,
UNIT 1, 1990 CMB**



GROUND LEVEL
TOP SOIL

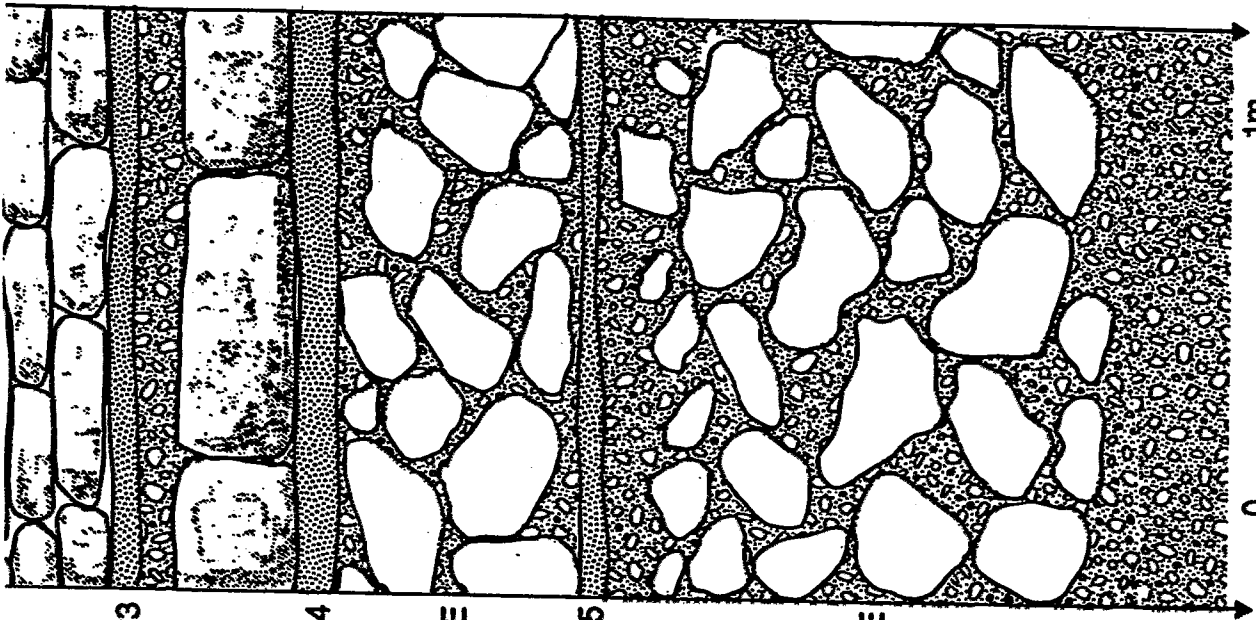
MEDIUM RUBBLE

FLOOR 1

MEDIUM RUBBLE

FLOOR 2

CUT STONE WALL



FLOOR 3

FLOOR 4

MEDIUM RUBBLE

FLOOR 5

MEDIUM RUBBLE

LIMIT OF EXCAVATIONS
BEDROCK NOT REACHED

1m.

0

THE CAHAL TZINIC GROUP AT CAHAL PECH, BELIZE:
PRELIMINARY COMMENTS OF THE 1990 SEASON OF INVESTIGATIONS

BY

JAMES M. CONLON & JAIME J. AWE

INTRODUCTION

In 1988 archaeological investigations began within the site core of Cahal Pech with the intent to study "the architectural, artistic and socio-political relationship between Cahal Pech and sites in the Belize River Valley region" (Awe and Campbell 1988:1). The overall research objective of the 1990 field season at the peripheral group of Cahal Tzinic was similarly an attempt to examine such relationships, particularly at the inter-site level.

Because a comprehensive analysis of our investigations has yet to be completed, and since excavations within the Cahal Tzinic group will continue in 1991, this report will a) only provide a brief synopsis of the work undertaken during the summer of 1990, and b) present a preliminary examination of past research and its relevance to inter-site relationships at Cahal Pech and the Maya Lowlands. The observations made herein should therefore be considered tentative until such time that the investigations are completed and an ensuing final report is issued.

SITE SURVEY

The Cahal Tzinic group was first noted during the 1988 field season of the Cahal Pech, Belize Project. At this time numerous "housemounds" and plazuela groups were encountered around the Cahal Pech site core, particularly in the western and southern peripheries of the centre. During the 1989 field season many of these settlements were mapped but it was not until the last day of operations that we were able to survey the two large pyramidal mounds of the Cahal Tzinic group.

Realizing the importance of these structures, we returned in 1990 with the intent to excavate them, and to complete our mapping operation. On the first day of investigations we discovered that there were three other mounds associated with the two large structures, and that together they enclosed a relatively large courtyard with a single stela.

Reconnaissance in the immediate surrounding courtyard recorded two smaller plazuela's, about 50 m to the east. It is possible that these plazuelas, and a solitary mound which lies approximately 25 m to the west, may all be associated with the Cahal Tzinic group. North of Str. 1 and south of Str. 2 we also recorded two depressions caused by the collapse of the limestone layer that caps the natural stratigraphy of the ridge on which the settlement is located. These depressions may or may not indicate the presence of prehistoric chultuns. These features, and the outlying area in general, will be investigated further during the 1991 field season.

SITE DESCRIPTION

The Cahal Tzinic Group is a major settlement cluster located on a ridge approximately 200 meters south of the acropoline site core of Cahal Pech. The mounds are on land owned by Mr. Anthony Mahmud of San Ignacio Town, and cover an area of about 500 square meters.

The central section of Cahal Tzinic is comprised of five mounds. Two of these are pyramidal structures, and the other three are long low-lying mounds which probably served as platforms for perishable buildings. The five mounds enclose a relatively large courtyard that is approximately 28 meters long by 21 meters wide. The two largest mounds, Str. 1 and Str. 2, are both over 5 m tall, and are located along the eastern and western borders respectively of the plaza. In front of Str. 2 we discovered the broken fragments of a stela which may have

originally been carved. Structure 3, the smallest mound in the group, lies just west of Str. 2. The two remaining structures are situated along the western (Str. 4) and northern (Str. 5) border of the courtyard. Similar spatial configurations within the Belize Valley have been labelled as minor ceremonial centres (Willey et al. 1965:561), but more recently have been classified as Plaza Plan 2 at Tikal (Becker 1983:169), and as group-focused patio clusters by Ashmore (1981).

EXCAVATIONS

The major goal of the 1990 excavations was to acquire data that would enable us to determine the diachronic development of the Cahal Tzinic group. Since our research design was primarily concerned with inter-site relationship a considerable amount of effort was also expended on the recording of architectural information, the distribution of artefact types, and spatial analysis. In order to avoid making erroneous assumptions regarding the homogeneity of the groups developmental sequence (Pyburn 1989:38, 49), all five structures within the central group were purposively sampled. Investigation of the mounds in the outlying area will be conducted during the summer of 1991.

Structure 1

This pyramidal structure is located on the eastern edge of the plaza and is the largest of the group. It rises approximately 8.6 m above the courtyard. When we discovered it in 1988 the mound had been severely looted. At the summit, all that remained of the once vaulted building were sections of the walls of two rooms. The looters had also dug a tunnel halfway up the middle of the western face of the structure. This tunnel led to an extremely large pit (3 m long by 1.5 m wide and 5.5 m deep) that descended from the top of the mound downward. The risk of collapse posed by this pit was such that it required immediate stabilization. Consequently, we only conducted a visual examination of the exposed features before filling the pit with

backdirt from an excavation unit that we opened just off the primary axis on the western face of the mound.

Our excavation exposed a small section of the platform and building at the top of the terminal phase structure. We also uncovered portions of two aprons, fashioned of large cut stones, on the north side of an inset or recessed stairway. Although neither the apron soffit nor the subapron of this structure were revealed, it is likely that they are similar in style to Str. A-2 in the site core, and to Late Classic architecture at Lamanai (Pendergast 1981:41, Fig. 13) and Uaxactun (Smith 1937: Plate 4b).

As previously indicated, the western stairway leads up to a double-vaulted, twin-room superstructure that is divided by a central spine wall. Doorways on the eastern and western face of the building allowed entry into the rooms from either direction. This configuration is similar to the superstructure of the post 6th century Str. C-6, C-Plan at Altun Ha (Pendergast 1982: Fig. 88).

Structure 2

Measuring 5.6 m in height and 15 m by 19 m at its base, Structure 2 is the second largest mound in the Cahal Tzinic group. Like Str. 1, Str. 2 had also been severely damaged by looters. Two tunnels at the eastern base of the mound penetrated deep into the centre of the structure. We did not attempt to retrieve data from within these tunnels for fear of architectural collapse.

At the summit the looters had damaged most of the terminal phase architecture, and destroyed several earlier construction levels. Fortunately they left a small balk on the eastern edge of their excavation which revealed a sequence of at least three floors that may be associated with previous platform

modifications.

On the west side of the mound, a large trench practically bisected the structure. During our investigations we cleared and excavated through the looters backdirt, and recovered a broken obsidian eccentric. It is possible that the looters may have found an axial cache during this operation and satisfied with their discovery they decided to discontinue their excavation. This was most fortunate for if they had dug 30 cm more to the south, or another 25 cm from the summit, they would have encountered a spectacular burial chamber within what we have tentatively designated substructure 3.

The chamber, or vaulted crypt, is aligned north to south along the primary axis of the structure and measures 2.49 m long by 1.60 m wide and 1.5 m high. Similar burial chambers are classified as "elaborate crypts" by Welsh (1988:351, Fig.II:12).

Excavation within the fill above the capstones of the chamber uncovered a 3 cm lens of small, honey-coloured chert flakes which number in the hundreds. A similar practice, of laying chert flakes above important burials, has been recorded at Pacbitun (Healy 1990) and other sites in the Belize Valley.

Inside of the crypt, and just below the vault spring, there were two sets of five holes along the eastern and western walls of the chamber. The holes are about 5 cm in diameter, 15 cm deep, and spaced between 30 and 60 cm from each other. Loten and Pendergast (1984:12) refer to these holes as "rod rows" and suggest that they originally held wooden beams that spanned across these large chambers.

On the floor of the crypt we recovered five pottery vessels, two jade earspools, a tubular jade bead, a jade pendant, and two modified spondylus shell disks. The only skeletal material found

were fragments of long bones. The position of these remains suggest an extended burial that was aligned north to south.

Little can be said of the sex and age of the individual, but the size of the humerus and femur seem to indicate a mature adult. Furthermore, although the section in the crypt where associated head adornments (e.g. earspools and pendants) were found would seem to indicate that the head was placed to the south, no cranial remains, not even the more durable teeth, were found. One of the most plausible explanations for this anomaly may be that the head was removed before interment in order that it could be displayed for ancestral worship rituals (Welsh 1988:193).

The second excavation unit on Str. 2 was placed at the northern base of the mound, in line with the primary axis of the structure and to the south of the stela. The excavation penetrated a sequence of at least three plaza floors, and exposed the basal sections of two construction phases. Below the penultimate plaza floor we discovered a cist burial that had intruded through one or two earlier plaza floors.

Burial 2 was lined with cut stones set upright and capped with five flat limestone slabs. The individual was placed sideways in an extended position, with head to the south and face to the west. We found no remains of the foot bones and the only associated grave goods were two shell discs with scalloped edges found near the head. Due to the absence of dateable pottery vessels it is difficult to provide an accurate date for the interment. Since the earliest plaza floor to completely cap the burial was that of the penultimate phase of construction, it is possible that the burial is contemporaneous with that period (A.D. 600-700) of modification. The other possibility is that it was conducted at the same time as the elaborate crypt (A.D. 500-600), or even during the erection of the stela.

In regards to the sequence of architectural modifications on Str. 2, we are presently unable to provide a description of subphase 3. We do believe that the large crypt is associated with this construction effort, and we do know that the crypt was capped by a building platform but we have yet to determine what the front of the structure looked like.

The penultimate construction phase dates to the early part of the Late Classic period. It is characterised by a lower central stairway which is bisected halfway up to a small building platform by a medial ramp. During its terminal phase the north face of Str. 2 2nd was completely modified. A new central stairway, flanked by small terraces, and a new building platform were added to the structure. The platform may have supported a masonry building but due to the damage caused by the looters we are uncertain of this.

North and South Stela Units

When we discovered the stela at the base of Str. 2 it was toppled over, cracked in several places, and badly broken. Only the base and stem remained in situ. Close observation of the frontal fragments also indicate that although the monument is presently plain it may have been originally carved. In order to ascertain the stela's date of erection, and suspecting that there may be an associated dedicatory cache, we decided to place an excavation abutting the base of the monument's north face.

The unit revealed the poorly preserved remains of the terminal and penultimate plaza floors, but no cache and only a few non-diagnostic sherds. In view of this we decided to conduct a second excavation abutting the south face of the stela. This second, or south stela, unit penetrated three plaza floors and discovered a solitary Middle to Late Formative Figurine directly below the butt of the stela, and 20 cm above sterile level.

The figurine was sitting upright but was missing most of its limbs and its head. Upon close inspection we found that "eyes" and a "mouth" had been incised on the upper torso in order to represent the image of a face. Since these modifications were undoubtedly executed sometime after the figurine had been made, it is quite likely that the object represents an heirloom. This would suggest that the stela does not date to the Formative period, and it is possible that it may have been associated with the persona interred in the large crypt within Str. 2. On the basis of this assumption we believe that the stela may have been erected during the latter half of the Early Classic period.

Structure 3

Located in the southwest corner of the plaza, Structure 3 is a low-lying mound with a surface area of approximately 5 m square. Although we excavated the structure to sterile level we found little variation in structural fill and discovered no evidence of platform surfaces. The only discernible structural remains was a single row of cut stones along the northern perimeter of the mound. This data, and the pottery collected from the excavation, suggest that Str. 3 may have been built in a single, Late Classic period, phase of construction, and that it may have consisted of a small platform which supported a perishable superstructure. The presence of a large quantity of olla fragments and the predominance of utilitarian wares also indicates that the structure may have functioned as a storage area, or possibly as a kitchen where meals were prepared for the inhabitants of the courtyard group.

Structure 4

This low-lying mound is 9.5 m long, 4 m wide, and approximately 1 m high. Three units measuring 1 m by 1 m were placed at the top of the structure, but we eventually extended the central unit eastward to the plaza. These operations

revealed two construction phases below the mound.

The floor of the earliest platform was just below the level of the terminal Plaza floor thereby suggesting that it may have been constructed when the penultimate plaza floor was in use (A.D. 500-600). During the final construction phase platform 1 was covered with core and ballast, and a new platform bordered by a low, cut stone wall (2 or 3 courses high) was erected over it. Since the terminal plaza floor abuts the east wall of this structure we believe that both the terminal plaza floor and the final phase of Str. 4 are contemporaneous. It is also possible that the platform may have supported a wattle and daub building but this is essentially conjectural for we found no hard evidence to support this interpretation.

The bulk of the pottery collected from the three excavations is comprised of utilitarian types. These ceramic data, and the morphology of the structure, indicates that Str. 4 may have functioned as a domestic or residential unit.

Structure 5

Located on the north side of the plaza, Str. 5 is the largest of the three low-lying mounds. It is 21 m long, 6 m wide, and approximately 1 m high. During the 1990 field season three excavations were placed on this structure: one in the centre, and one at either end.

These investigations revealed two, and possibly three, phases of construction. Due to the size of our units we are unable to provide a description of the morphology of the first two sub-phases, but ceramic artifacts from within their structural fill indicates that they were erected during the Early and Late Classic period respectively. The final phase was considerably larger than the preceding phases. At centre the structure had an outset stairway, two steps high, that led up to a platform

bordered by a wall which was two courses in height. Again no evidence of a superstructure was found, but it is possible that like Structures 3 and 4 this platform may have supported a wattle and daub building. The construction of the terminal phase of Str. 5 may have also been conducted during the second half of the Late Classic period.

SUMMARY AND DISCUSSION

Survey and reconnaissance in the periphery of Cahal Pech has recorded a large number of mounds and plazuela groups within the sustaining area of the site. Located about 200 m south of the site core, the Cahal Tzinic group is one of the largest of these settlement clusters. During the 1990 field season the mounds encompassing the central patio of this group were mapped and all were tested. These investigations were conducted in order to determine the diachronic development of the settlement vis a vis the site centre, and in an effort to ascertain the relationship between large peripheral groups and their site core.

Our preliminary analysis of the ceramic artifacts from the 1990 field season presently indicate that Cahal Tzinic was occupied from Middle Formative times to the Late Classic period. It is important to note, however, that no Formative period level of occupation has been recorded stratigraphically. Nevertheless, since excavations on Structures 1 and 2 (the largest mounds in the group) are several meters away from sterile level, stratigraphic evidence for this early period of settlement may be forthcoming. If this assumption proves to be correct, Structures 3 through 5 would have been later additions to the patio cluster. This would also suggest that the Cahal Tzinic group did not develop into a formal courtyard configuration until sometime during the Early Classic period.

The centralization of the Cahal Tzinic group during the Early Classic corresponds well with the increased level of nucleation

evident in the site core of Cahal Pech. According to Awe, Campbell and Conlon (1991: in press):

The Cahal Pech data ... suggests that between Preclassic and Middle Classic times the morphology of the site core had evolved from a simple "open" configuration of structures to a highly complex configuration of restricted and semi-restricted plaza groups.

A similar change in the pattern of settlement has been recorded at Pacbitun (Healy 1990) and at Cerros (Freidel 1981). Although research regarding peripheral group integration is nominal at other lowland Maya sites, present indications are that centralisation of civic centres in the Preclassic preceded the development of peripheral group cohesiveness in the Classic period. This is supported by evidence from Cahal Pech (Awe, Campbell and Conlon 1991: in press) and by Becker's (1983:169) investigation of his Plaza Plan 2 configurations at Tikal. Interestingly, Becker was unable to provide examples of Plaza Plan 2 configurations from sites other than Tikal, and apparently unaware of Harrison's (1981:277) "patio with chambered pyramid" classification of similar configurations in southern Quintana Roo, he suggested that "parallels at other sites must be explored" (Becker 1983:192). Such an attempt was made by Welsh (1988) but since his analysis was derived solely from burial data, he failed to record some obvious settlement correlates such as the BR-180-182 complex at Barton Ramie.

In terms of the socio-economic and political relationship between peripheral groups and centres, Willey et al. (1965:579-580) previously reported that:

In any local residential group fealty and services could have been given to a paramount "capital" while at the same time allegiances were maintained with lesser centres. ...community units arranged in an ascending hierarchy suggests a parallel structure of organization in society... minor leaders in

minor centres and paramount rulers governing major centres.

That Cahal Tzinic is indicative of a lineage "landholding unit" (cf. Carmack 1981 in Welsh 1988:194), or is evidence for an "increased emphasis on the power of individual lineages" (Becker 1983:169) is as yet uncorroborated. Until we have completed our investigations, and have determined the role of the Cahal Tzinic group, any arguments in favour of the aforementioned hypotheses would be presumptuous. We do believe, however, that the Cahal Tzinic group may have functioned as a residential and managerial unit overseeing the resource exploitation of its immediate environs within the larger Cahal Pech community. Hopefully after another season of investigations we may have an adequate data base from which to discuss the function of Cahal Tzinic based on a systemic (equilibrium) model (Bray 1977:378). One in which social, political, religious, and economic forces interacting at Cahal Tzinic and between it and the central precinct at Cahal Pech can be discussed in greater detail.

PRELIMINARY REPORT OF THE FAUNAL REMAINS FROM
STRUCTURE B-4, UNIT 4, CAHAL PECH, BELIZE

BY

JACQUELINE DALE & NORBERT STANCHLY

INTRODUCTION

This paper provides a brief report of the analysis of some 353 bone specimens from Cahal Pech, Belize. The faunal remains were recovered during the 1990 field season, and all were collected from Structure B-4, Unit 4, levels 9, 10; and 11. These levels currently represent the earliest stratigraphic phases at the site, and have been radiocarbon dated to the early Middle Formative period (1000-600 B.C.). Since the analysis was conducted in the field the authors also emphasize that this report is preliminary in scope, and that certain identifications made to taxon lower than class are tentative and subject to change.

GENERAL OBSERVATIONS

Preliminary analysis of the 353 bone specimens recovered from levels 9, 10, and 11, within Structure B-4, Unit 4, indicates that only 49 specimens are identifiable by element to a taxon lower than class. This represents only 13.9% of the total sample. The remainder of the sample consist of bone fragments identifiable only to class. The low frequency of identifiable material is most likely the result of poor preservation of bone due to soil conditions. The majority of all specimens recovered belong to the class Mammalia. Table 1 and Figure 1 illustrate the distribution by class of the 49 complete or partial elements identified, and Table 2 shows the distribution of identifiable and unidentifiable faunal material by level. The distribution of identified classes by level is also demonstrated in Table 3, and highlighted in the bar graph in Figure 2.

Table 1: Distribution By Class

| | | |
|--------------|----|---------|
| Mammalia | 35 | (71.4%) |
| Aves | 6 | (12.2%) |
| Osteichthyes | 3 | (6.1%) |
| Reptilia | 2 | (4.1%) |
| Amphibia | 2 | (4.1%) |
| Pelecypoda | 1 | (2.0%) |
| Total | 49 | (99.9%) |

Table 2: Distribution of Identifiable & Unidentifiable Faunal Material By Level

| | <u>Level 9</u> | <u>Level 10</u> | <u>Level 11</u> | <u>Total</u> |
|----------------|----------------|-----------------|-----------------|--------------|
| Identifiable | 10 | 19 | 20 | 49 |
| Unidentifiable | 70 | 14 | 220 | 304 |
| Total | 80 | 33 | 240 | 353 |

Table 3: Class Distribution By Level

| Class | <u>Level 9</u> | <u>Level 10</u> | <u>Level 11</u> |
|--------------|----------------|-----------------|-----------------|
| Mammalia | 8 | 9 | 18 |
| Aves | 0 | 5 | 1 |
| Osteichthyes | 0 | 3 | 0 |
| Reptilia | 2 | 0 | 0 |
| Amphibia | 0 | 2 | 0 |
| Pelecypoda | 0 | 0 | 1 |
| Total | 10 | 19 | 20 |

ACCOUNT OF ELEMENTS

Mammalia - A total of 35 elements have been tentatively identified as mammal, representing 71.4% of all identifiable elements. Of these, 14 specimens have been identified to order or lower taxon. These include 7 elements identified as Rodentia, 5 elements possibly representing dog, and 2 elements identified as Cervidae, either white-tailed deer or red brocket.

Aves - Six bird elements were recovered. None of these elements were identified below class. Bird elements represent 12.2% of all identifiable elements.

Osteichthyes - Three bony fish elements were identified, all from level 10. None were identified below class. This represents 6.1% of all identifiable elements.

Amphibia - Two elements were identified as Anura sp. (toad or frog), representing at least 2 individuals. This class represents 4.1% of all identifiable elements.

Reptilia - This class is represented by 2 elements belonging to the order Chelonia (turtle). Reptilia represents 4.1% of all identifiable elements.

Pelecypoda - One clam shell element was identified, representing 2.0% of all identifiable elements.

A list of the identifiable elements is given in Table 4, below.

Table 4: Distribution of Identifiable Elements by Zoological Taxa

| | <u>Skeletal Element</u> |
|-------------------------|----------------------------|
| CLASS MAMMALIA | |
| Rodentia | |
| <i>Rodentia</i> sp. | left humerus (1) |
| " | incisor (1) |
| " | femur (1) |
| " | ulna (1) |
| " | mandible (2) |
| " | tibia (1) |
| Carnivora | |
| Canidae | |
| cf. <i>Canis</i> sp. | scapula (4) |
| " | right mandible (1) |
| Artiodactyla | |
| Cervidae | left metapodial (2) |
| <i>Mammalia</i> sp. | astragalus (1) |
| " | scapula portion (6) |
| " | right scapula (1) |
| " | lunate (1) |
| " | innominate portion (3) |
| " | humerus (2) |
| " | phalanx (1) |
| " | ulna (1) |
| " | femur portion (2) |
| " | rib portion (1) |
| " | diaphysis (2) |
| CLASS AVES | |
| <i>Aves</i> sp. | left ulna (1) |
| " | diaphysis (3) |
| " | coracoid portion (1) |
| " | coracoid (1) |
| CLASS OSTEICHTHYES | |
| <i>Osteichthyes</i> sp. | supraoccipital (1) |
| " | posttemporal (1) |
| " | vertebra (1) |
| CLASS AMPHIBIA | |
| <i>Anura</i> sp. | urostyle (2) |
| CLASS REPTILIA | |
| <i>Chelonia</i> sp. | plastron portion (2) |
| CLASS PELECYPODA | |
| Bivalve sp. | hinge and beak portion (1) |

Note: brackets indicate the number of elements

WORKED BONE

Three of the bones recovered from B-4, Unit 4 indicate human modification. The bone artifacts were recovered from Levels 10 and 11. The bones were identified as mammal, closely following *Canis* species. All of the elements were scapula, represented by the lateral portion. All three elements consistently showed the same modification: a hole drilled in the body of the scapula adjacent to the spine. The exact use of the modified scapulae is unknown. They may have been used as amulets, or as some other type of adornment. A more accurate identification and analysis of the modified specimens is expected to be completed in the summer of 1991.

SUMMARY

The faunal remains recovered from the lowest levels of B-4 at Cahal Pech may shed important light on subsistence practices of the inhabitants at Cahal Pech during the early Middle Formative. The diversity of the fauna represented suggests that a wide variety of animal resources were being utilized. The six classes represented include, mammal, bird, fish, reptile, amphibian, and pelecypod. Jaime Awe (personal communication) also informed us that a large number of fresh-water gastropods (*Pachychilus*) were recovered within Levels 9-11 in Str. B-4 but we have yet to include these in our analysis. Of the six classes presently identified, at least five were recovered from the two lowest levels (10 and 11) in Str. B-4. Radiocarbon dates for

these levels range from (Beta-40865) 2740 \pm 70 B.P. which calibrates (in the 1-sigma range) to 999 (898, 868, 850) 827 B.C. to (Beta-40864) 2720 \pm 60 B.P. which calibrates to 970 (893, 878, 835) 816 B.C (J. Awe personal communication). In light of this early date the faunal material from Str. B-4 at Cahal Pech will provide important information regarding the subsistence practices of the Maya who first occupied the upper Belize River valley in the early Middle Formative period.

DISTRIBUTION BY CLASS
CAHAL PECH, BELIZE
STRUCTURE B-4, Unit 4
LEVELS 9-11

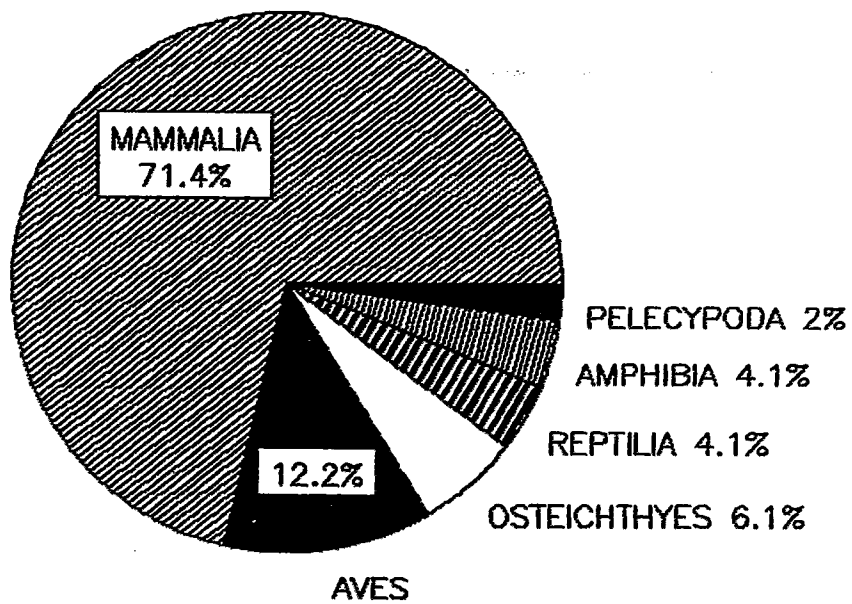


Chart 1

CLASS DISTRIBUTION BY LEVEL

CAHAL PECH, BELIZE

STRUCTURE B-4, UNIT 4

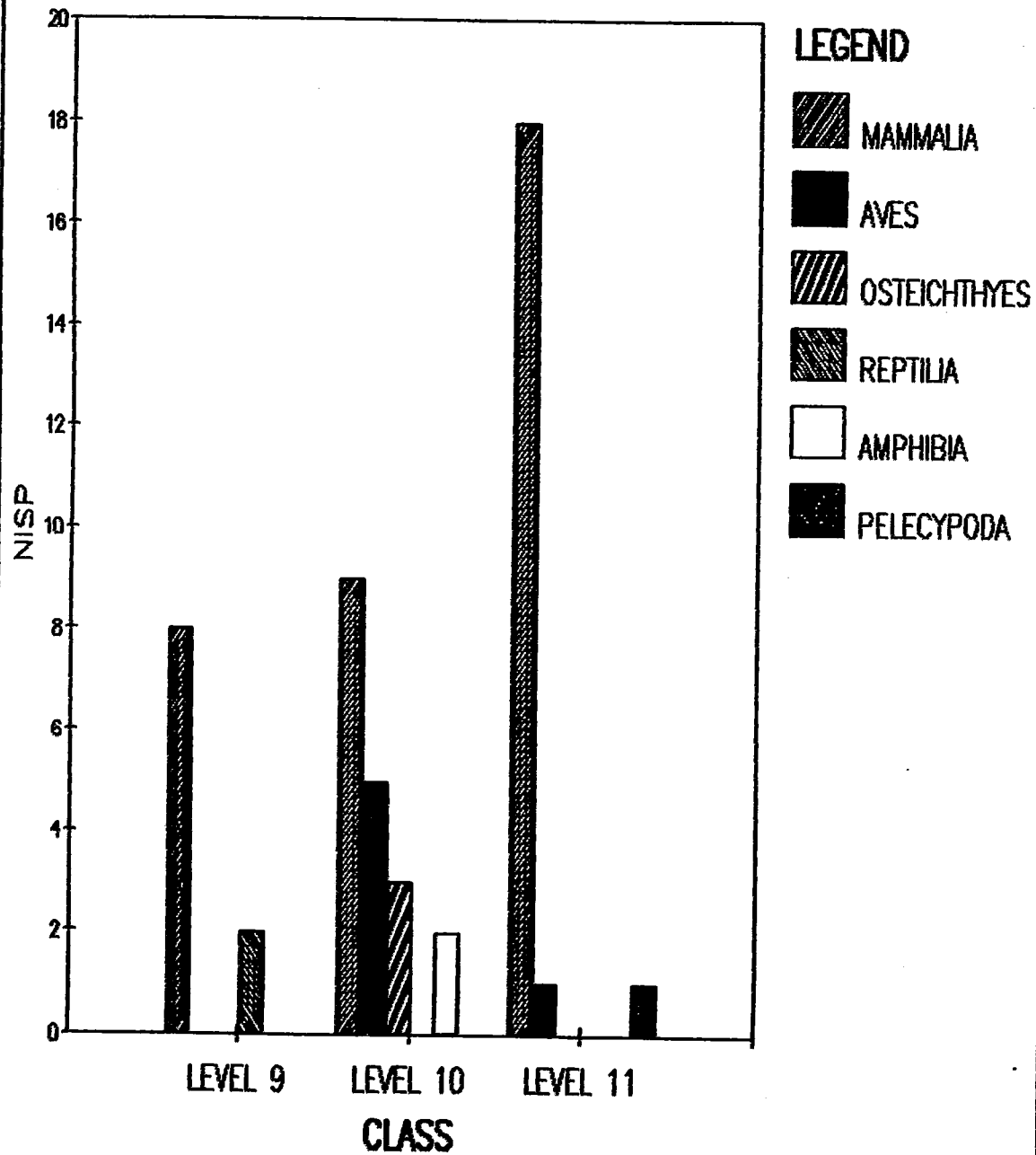


Chart 2

INTERIM LITHIC REPORT: 1990 SEASON, CAHAL PECH, BELIZE

BY

W. JAMES STEMP

WITH THANKS TO JULIAN SIGGERS, U OF TORONTO

INTRODUCTION

The scope of this report is limited to descriptive and quantitative accounts of the lithics excavated in the 1990 season. From this field season at Cahal Pech, 1191 lithic pieces were recovered from the site. The following variables were recorded during the preliminary analysis: raw material types, lithic artifact types, and tool types.

RAW MATERIAL TYPES

The lithic assemblage encompassed the following raw material types: obsidian, limestone, slate, chalcedony, granite, quartz, chert, burnt chert, and a category composed of other stone types that were unclassifiable in the field and are labelled unknown. The greatest percentage of raw material was chert with 1105 pieces (see figure 1). There was a wide range of chert coloration from mustard yellow, red, to blues and deep purples. Burnt chert was identified by a dark reddish-brown discoloration of the cortex and the interior of the stone, as well as, heat fractures and pock marks (pot lids).

LITHIC ARTIFACT TYPES

The division of the lithic artifact types included nine categories of artifacts (see figure 2). The obsidian eccentric; described as a "seahorse" shape, was the only obsidian artifact recovered from Cahal Pech in the 1990 field season. The other eight categories of lithic artifact types were determined by the type of human involvement in their fabrication. A tool was classified as a lithic that demonstrated human alteration and/or a form that was recognizable or associable with a specific task. A flake was classified as a lithic according to a range of degree of cortex presence and/or complete absence (as in a tertiary flake). Flakes were thin stone pieces that varied widely in terms of size and shape. In the majority of instances, flakes demonstrated one or more of the following identifiable characteristics: bulb of percussion, striking platform, and/or concentric rings of percussion (Haversian cone). Debitage or detritus was represented by minute flakes or spalls associated with tool manufacture and/or curation. No attempts were made to record debitage patterning in the archaeological record partly due to the low percentage (68 pieces) recovered (see figure 2). A core was identified as a stone that demonstrated flake removal due to human activity. A core fragment was classified as a partial or broken piece of stone demonstrating similar flake removal. A lithic whose shape was curiously twisted with oftentimes sharp edges, but for which no function or evidence of human activity was noticeable was classified as an irregular. A

river cobble was a water-worn smooth, nearly spherical stone. The miscellaneous category encompassed the lithic material recovered that was believed to have not naturally occurred at the site and was probably introduced by a human element. Two problems with the classification system included the inability to assign detailed size or weight values to the collected lithic material. This fact made for some difficulties in assessment due to the lack of field/lab equipment (ie scales for weight percentages by raw material or lithic artifact types).

LITHIC TOOL TYPES

Those lithic artifacts that were categorized as tools were further subdivided into the following types: ground stone tools, flaked tools, hammerstones, an abrader, retouched flakes, and cores (see figure 3). Each tool will be described further below, but, because of the limited field season and access to the samples themselves, some of the analyses are as of yet incomplete. Retouched flakes composed the greatest percentage of identifiable stone tools, while flaked tools and ground stone tools followed in progressively lesser degrees.

SUMMARY LIST OF FLAKED STONE TOOLS (PARTIAL ANALYSIS)

1. 1 biface: chert (not analyzed) from bag 305, Alcatraz 5, Cahal Tzinic, unit 3, level 1, lot 3.
2. 1 biface: chert (not analyzed) from bag 286(a), Alcatraz 2, Cahal Tzinic, unit 3, mixed provenience looters' trench.
3. #41 (bag 283, Alcatraz 5, Cahal Tzinic, unit 3, level 5, lot 1), 1 broken chisel fragment; raw material type: chert, length: 6.7 cm, width: 3.8 cm, thickness: +/- 1.6 cm. Description: The fragment is whitish-pink in colour, with a smooth and shaped ventral surface and a rounded and flaked dorsal surface. The distal end and both edges reveal retouch.
4. #40 (bag 323, Alcatraz 2, Cahal Tzinic, unit 2, level 2) 1 broken biface fragment; raw material type: chert, length: 6.9 cm, width: 5.5 cm, thickness: +/-3.6 cm. Description: The fragment is whitish/cream and grey in colour, with retouch along both edges. This fragment is believed to be the distal half of the tool.
5. #34 (bag 76, Alcatraz 5, Cahal Tzinic, unit 1 (south), level 1, lot 2) 1 axe or adze-head fragment; raw material type: slate, length: 9.1 cm, width: 5.7 cm, thickness: +/-2.2 cm. Description: The fragment is dark grey in colour and is broken off at the proximal end. The distal end shows wear and there is refinishing on both edges of the tool.
6. #28 (bag 87a, Alcatraz 2, Cahal Tzinic, unit 2, level 1) 1 core biface fragment; raw material type: unknown, length: 8.1 cm, width: 5.7 cm, thickness: +/-3.6 cm. Description: The colour of the fragment is blue/greyish-white with brown and black flecks. The tool exhibits dorsal and ventral ridges (or spines). There is pressure flaking around the edges and both the proximal and distal ends are missing. This was likely a hand-held tool.
7. #31 (bag 36, Alcatraz 5, Cahal Tzinic, unit 1, lot 3) 1 core biface fragment; raw material type: unknown, length: 8.3 cm, width: 6.0 cm, thickness: +/-2.7 cm. The fragment is white/grey with a dark grey/black distal end in colour. There is a slight dorsal ridge and pressure flaking around the edges. The proximal end is missing.

SUMMARY LIST OF GROUND STONE TOOLS (PARTIAL ANALYSIS)

1. 1 mano fragment: granite (not analyzed) from bag 324, B4, Cahal Pech, unit 12, level 1-3.
2. 1 mano fragment: granite (not analyzed) from bag 237 A2, Cahal Tzinic. (unit 3, level 1, lot 1).
3. #39 (bag 237, A2, Cahal Tzinic, unit 3, level 1, lot 1)
1 bark beater fragment; raw material type: limestone
length: 10.5 cm, width: 5.7 cm, thickness +/-4.4 cm.
Description: the fragment is cream/white in colour with diagonal lines cut into its ventral surface and an indented line cut into the semi-circular edge.
4. #36 (bag 152, B4, Cahal Pech, unit 12, levels 1-4).
1 mano fragment, raw material type: granite, length 7.3 cm, width: 9.1 cm, thickness: +/-5.1 cm description: the fragment is greyish white speckled with quartzite and it represents roughly 1/3 to 1/2 the entire tool. At least one side shows visible wear (from grinding).
5. #35 (bag 33, B4, Cahal Pech, unit 10?, level 1-2).
1 cylindrical tool, raw material type: unknown, length: 7.0 cm, width: 2.4 cm, thickness: +/-2.5 description: the tool is coloured grey/black and brown. It is cylindrical and curves to a point at one end with small chips and flakes removed from the distal end.
6. #33 (bag 76, alcatraz 5, Cahal Tzinic, unit 1 south end, level 1, lot 2).
1 mano fragment, raw material type: granite, length: 7.1 cm, width: 5.1 cm, thickness: +/-5.8 cm.
Description: the fragment is grey/white in colour.
7. 1 mano fragment: granite (not analysed) from bag 212, Cahal Pech, F2, unit 1 east half, level 2, lot 2.

SUMMARY

As stated above, the scope of this report is limited to descriptive and quantitative accounts of the lithics excavated in the 1990 season. Frequencies shown in the tables for: raw material types, lithic artifact types, and tool types were recorded during the preliminary analysis in the 1990 season and represent a small portion of the total number of lithic recovered during the three previous seasons.

Within the 1990 sample the greatest percentage of raw material was chert displaying a wide range of coloration, including burnt chert. The division of the lithic artifact types included eight categories of artifacts determined by the type of human involvement in their fabrication, excluding the obsidian "seahorse". Those lithic artifacts that were categorized as tools were further subdivided into tool types. Retouched flakes composed the greatest percentage of identifiable stone tools.

Because of time constraints during the 1990 field season and difficulty accessing samples for lab analyses in Canada, the lithic analyses, herein, are as of yet incomplete. Thus, any statements with regards to spacial/temporal distributions, source materials, or use-ware would be premature, at best. These are, however, important considerations and potential sources of enlightenment for subsequent lithic enquiry at Cahal Pech.

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