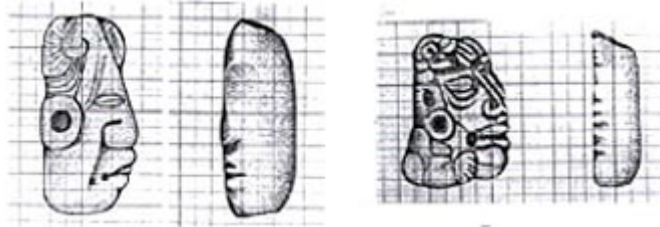


**FAMSI © 1999: Robert J. Sharer**

## **Early Copán Acropolis Program 1998 Field Season**



**Research Year:** 1998  
**Culture:** Maya  
**Chronology:** Early Classic  
**Location:** Copán, Honduras  
**Site:** Copán Acropolis

### **Table of Contents**

[Introduction](#)  
[Procedures and Facilities](#)  
[Documentation](#)  
[Conservation](#)  
[Analyses](#)  
    [Artifact Analyses](#)  
    [Ecofact Analyses](#)  
    [Architectural Analyses](#)  
    [Analyses in 1999-2000](#)  
    [Analyses Supported by other Agencies](#)  
[Conclusion: The Completion of ECAP Research](#)  
[List of Figures](#)  
[Sources Cited](#)

### **Introduction**

Located in western Honduras, Copán is an especially important archaeological site, due both to its status as a major capital of a Classic period Maya polity, and as the subject of one of the longest and most thorough investigations in the history of Maya studies (Fash, 1991; Sharer *et al.*, 1998). One of the critical components of this on-going

investigation is the Early Copán Acropolis Program (ECAP) of The University of Pennsylvania Museum.

ECAP has begun the critical second phase of its research at Copán, funded in large measure by The Foundation for the Advancement of Mesoamerican Studies, Inc. (Grant 97003). The first phase of this research involved a program of excavations unique in Maya archaeology: the opening of over 3 kms of tunnels beneath the Copán Acropolis. This investigation, conducted under two five year convenios (1989-1998) between the Instituto Hondureño de Antropología e Historia (IHAH) and the University of Pennsylvania Museum, has exposed, documented, and conserved a sequence of Early Classic royal architecture on a scale never before achieved at a Maya site (Sharer *et al.*, 1998).

The second phase of ECAP's research is aimed at the complete documentation, conservation, and analysis of the archaeological materials recovered from these excavations. This research phase is being conducted under a new five year convenio (1998-2002) between the IHAH and the University of Pennsylvania Museum, signed and approved in 1997. This second phase is being conducted by staff members of ECAP and highly qualified professional specialists.<sup>1</sup> Since ECAP's proposal to FAMSI is for three years (1998-2000) of support for documentation, conservation, and analysis, this report is actually a progress report covering the first season of work funded by Grant 97003. To do so, the present report will cover procedures and facilities, documentation, conservation, and analysis.

*Submitted 08/01/1998 by:*  
Robert J. Sharer  
Univ. of Penn Museum, Philadelphia  
[rsharer@sas.upenn.edu](mailto:rsharer@sas.upenn.edu)

---

<sup>1</sup> Robert J. Sharer, Curator of the American Section of the University of Pennsylvania Museum, is ECAP Director and continues to oversee all aspects of ECAP's research, including that reported here. ECAP Field Director is David Sedat, Research Specialist at the University of Pennsylvania Museum. Members of the ECAP staff mentioned in this report are conducting major aspects of documentation and analysis that are being supported by FAMSI Grant 97003, as are the ongoing conservation efforts made by ECAP's professional conservators working at Copán.

FAMSI Grant 97003 also provided compensation and material support for three Honduran staff members who are documenting excavated architecture and artifacts by preparing scaled drawings: Fernando López (Supervisor of architectural recording), Nelson Paredes (artifact drawer), and Erlin Rodríguez (architectural drawer).

## Procedures and Facilities

The materials recovered from the ECAP excavations comprise **artifacts** (portable objects produced or modified by human activity, such as pottery), **features** (non-portable objects produced by human activity, such as buildings), and **ecofacts** (natural objects, such as plant or animal remains). Artifacts and ecofacts are exposed and recorded in the field (artifacts are also conserved as necessary), then carefully removed and transported to the adjacent Centro Regional de Investigaciones Arqueológicas (CRIA), where the processes of documentation, conservation, and analysis is undertaken in a controlled laboratory setting. In contrast, the architectural features exposed by excavation beneath the Copán Acropolis must be documented and conserved *in situ*. However, samples of construction materials, pigments, and other components of architecture are removed to the CRIA for analyses.

For efficiency and practicality the work to complete the documentation, conservation, and analyses of these ECAP materials has been programmed over a three year period. Both laboratory and housing facilities at Copán are limited, thus restricting the number of people who can work on the materials at one time. While some materials are now ready for analyses, it will also take time to complete the documentation and/or conservation of other materials before they are ready to be analyzed.

The documentation and non-technical analyses are being carried out by ECAP archaeologists and local support staff. But conservation and technical analyses requires the expertise of highly trained specialists. Whenever possible, we have selected specialists with experience in working with materials from Copán or similar Maya sites. Since the antiquities laws of Honduras restrict the export of archaeological materials, it is necessary to bring some specialists to Copán to conduct their work. For sophisticated analyses ECAP is permitted to export small samples to specialized laboratories located in the United States or elsewhere outside of Honduras. In such cases a permit for the export of samples taken from archaeological materials, such as very small amounts of architectural plaster, is required from the IHAH.

## Documentation

During the 1998 season the documentation efforts by ECAP staff concentrated on the recording of Acropolis architecture revealed in the tunnel system, and the recording of those portable materials removed from the Acropolis excavation area to the ECAP field laboratory in the CRIA.

The architectural remains exposed by excavation are recorded by photography and scaled drawings (plans, sections, and elevations). Small samples of these features are taken for analysis to reveal composition, sources, and indications of activity or use (see [Architectural Analyses](#)). During the 1998 season the preparation of scaled architectural drawings was supported by FAMSI Grant 97003. This work was accomplished by a highly trained and skilled local staff member, Fernando López, who has worked with

ECAP since its beginning in 1989. During the 1998 field season Fernando supervised a trained architectural drawer and prepared a series of master plans for each major construction phase that will be used in the creation of the final plans documenting the architectural history of the Acropolis.

Each recovered artifact, ecofact, and architectural sample is tracked on a computerized data base, using FileMaker Pro software on Macintosh platforms. The entries for each of these items provides for continuous updates of their status once they are brought to the field laboratory, including entry of the results of all analyses. In 1998 the updating of this artifact data base was supported by FAMSI Grant 97003. All artifacts from primary contexts receive additional documentation in the field laboratory, and these data form a separate artifact catalogue integrated into the ECAP computerized data base. Beginning in 1998 this artifact cataloguing effort was also supported by FAMSI Grant 97003.

The supervisor of artifact cataloguing is Ellen Bell. She is assisted by other staff members, including Eleanor Coates (photography) and Nelson Paredes (drawer). Artifact cataloguing begins with technical pencil drawings, prepared to a standard scale (usually 1:2). These drawings are rendered by Nelson Paredes, a salaried member of the ECAP staff who was trained under a previous FAMSI award (Grant 95061; Sharer, 1997a). During the 1998 field season Paredes completed a series of such scaled artifact drawings (see [Figure 1](#), [Figure 2](#), [Figure 3](#), and [Figure 4](#)). In addition, Paredes is being trained by Ellen Bell to render the final inked drawings that will be used in the published Final Reports of ECAP's research.

Documentation continues with conventional photography of each catalogued artifact. Every catalogued artifact is photographed using both black & white and color film according to a standardized format. Most of this work is done by Eleanor Coates. During the 1998 field season most of Coates' effort was in completing the photographic record of exposed architecture in the Acropolis tunnels, so that only a few days time could be devoted to object photography. Based on current backlog it will require about two further field seasons to complete the photographic record of ECAP's catalogued artifacts (this work is scheduled for the 1999 and 2000 seasons).

In addition to conventional photography, all catalogued artifacts are recorded by digital photography. This aspect of documentation began in 1997, and during the 1998 season considerable progress was made by Ellen Bell, again supported by FAMSI Grant 97003. These digital images are also integrated into the computerized data base to fully illustrate each artifact.

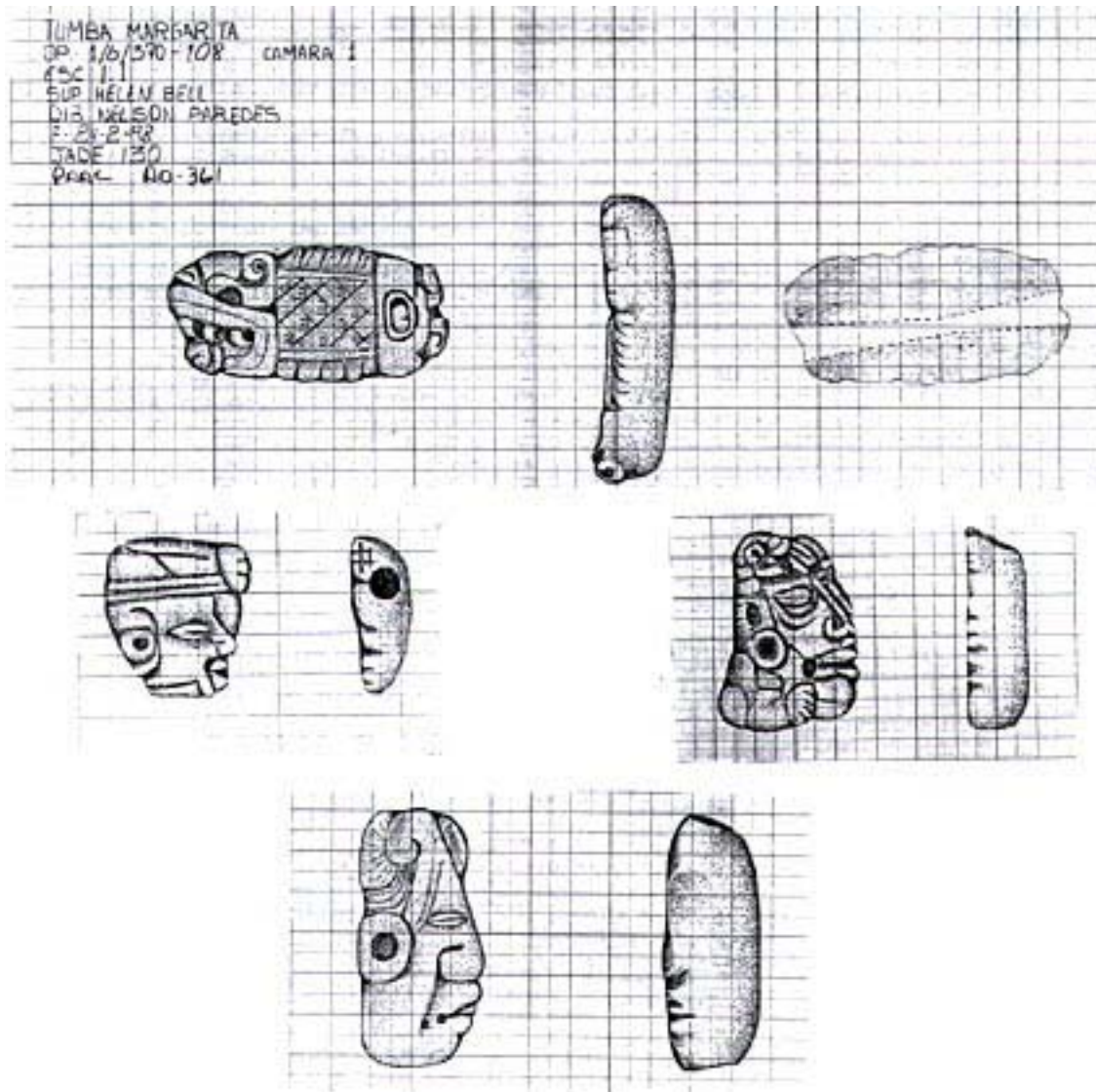


Figure 1: Copy of scaled drawings of 4 carved jade artifacts from the Margarita Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.



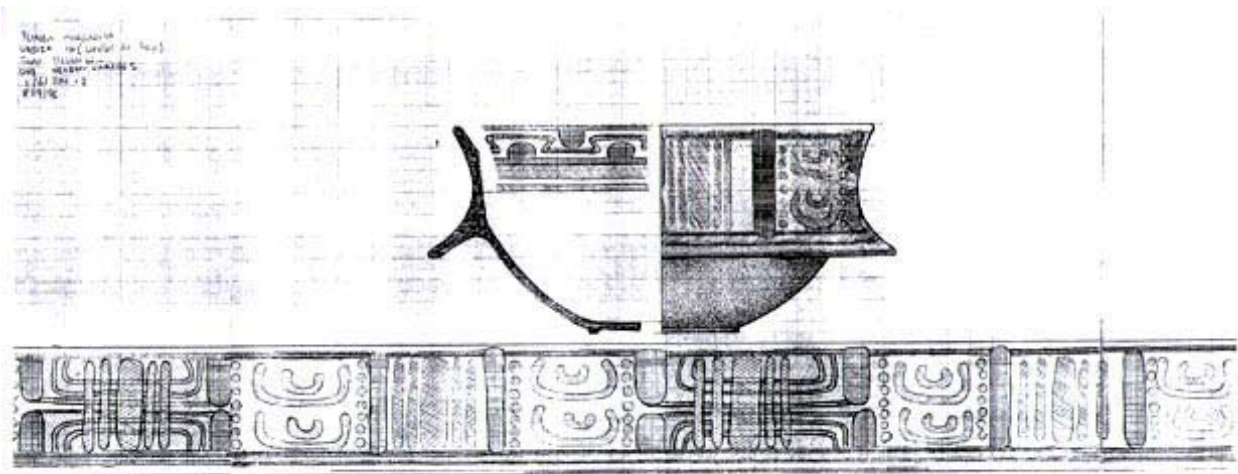


Figure 2: Copy of scaled drawing of polychrome pottery vessel (with exterior roll-out) from the Margarita Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.

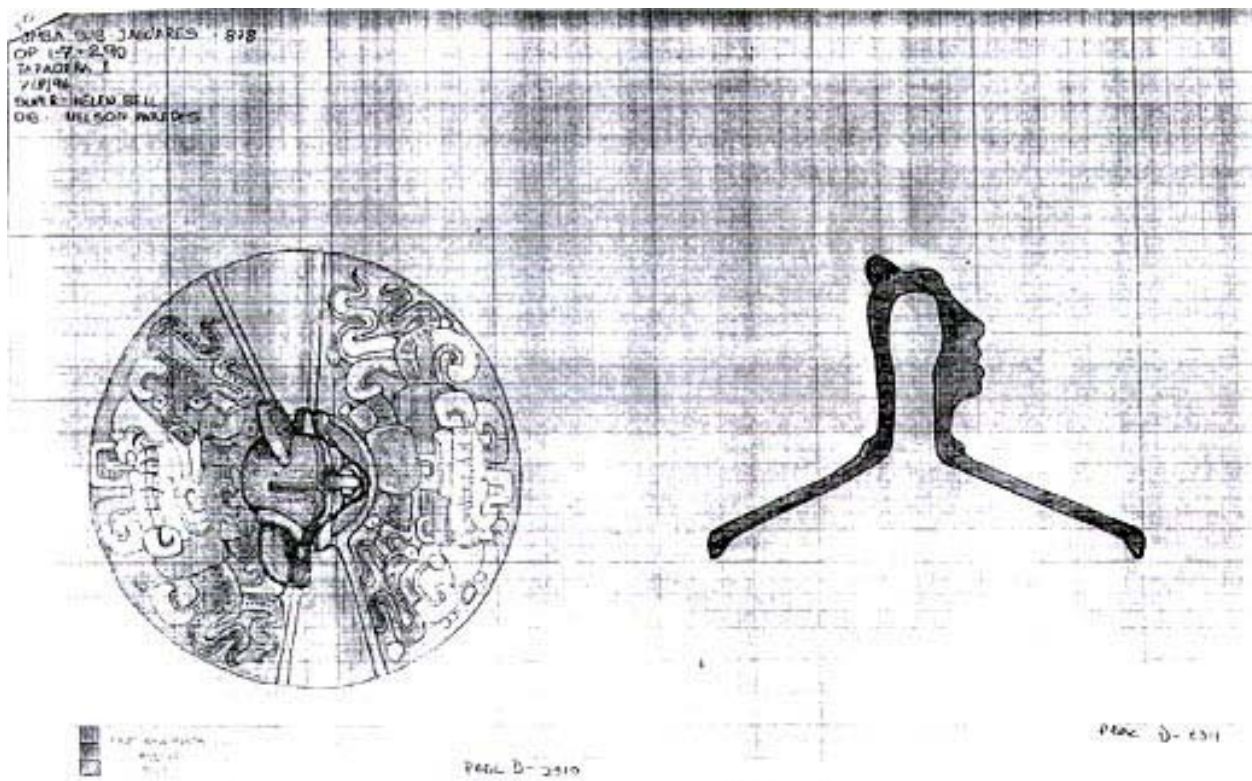
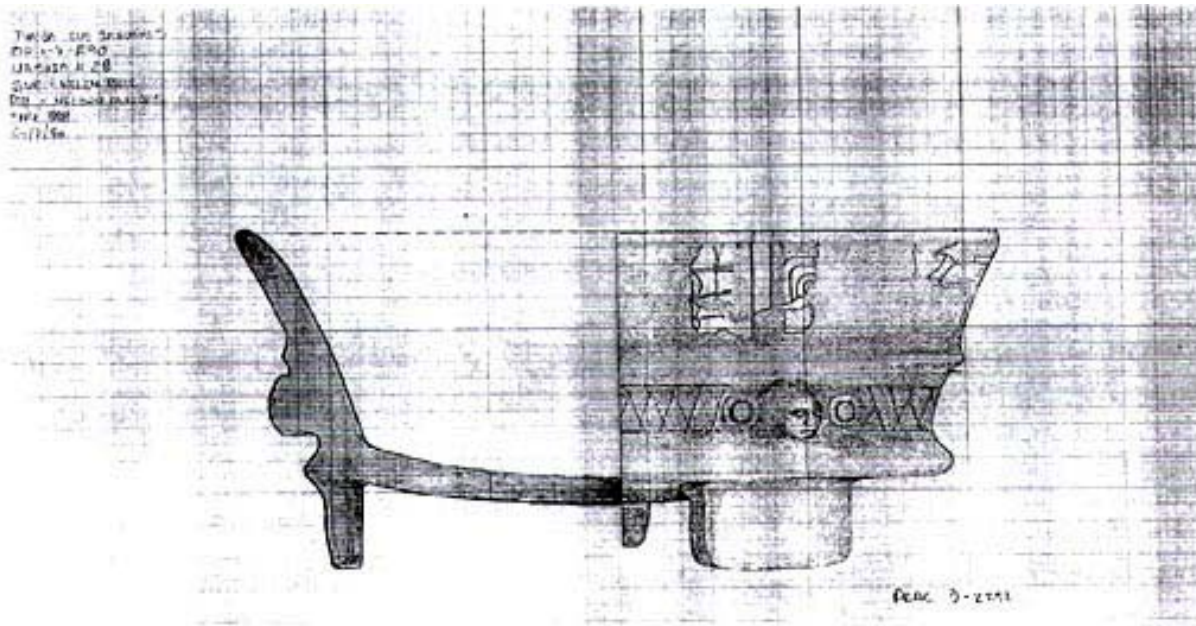


Figure 3: Copy of scaled drawing of stuccoed-polychrome pottery vessel lid from the Sub-Jaguar Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.



**Figure 4: Copy of scaled drawing of incised pottery vessel from the Sub-Jaguar Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.**

## Conservation

During the 1998 season FAMSI funding supported the work of two professional conservators at Copán, Lynn Grant (University of Pennsylvania Museum) and Harriet Beaubien (Smithsonian Institution). Most of their efforts were devoted to the exposing and treating of delicate excavated objects before their removal from the Acropolis tunnels. This work included the exposing and conservation of objects from a dedicatory burial informally dubbed "the Tlaloc Warrior." This is an important Early Classic interment of an adult male accompanied by several Central Mexican-affiliated objects, including atlatl darts and shell goggles (Sharer, 1997b). Also present in this burial were several painted objects made of perishable materials (wood and possibly gourd). During the 1998 season the conservators extracted two of these objects from the matrix of earth that had surrounded them, revealing and conserving a round polychrome-painted wooden shield or vessel cover, and a polychrome-painted perishable container.

In addition, during the 1998 season the conservators removed the last of the perishable objects from the Upper Chamber of the Margarita tomb, site of the burial of an extremely important royal woman believed to have been the wife of the dynastic founder, Yax K'uk' Mo' (Sedat and Sharer, 1996; Sharer *et al.*, 1998). The remains of several objects made of basketry were conserved, recorded, and removed to the CRIA, where they join other perishable materials from this tomb that await further conservation scheduled to begin during the 1999 season.

One room of the ECAP field laboratory in the CRIA is devoted to the conservation of artifacts (the artifacts from burials and caches are also stored in locked metal cabinets in this room). Although a number of individual artifacts have received treatment from professional conservators and interns in previous seasons, the bulk of the artifact conservation work has yet to be undertaken. To prepare for this work (scheduled for 1999 and 2000), during the 1998 field season the objects stored in the CRIA were checked to ensure that none needed conservation intervention. Some objects were re-housed and new shelves were installed to upgrade the security of our CRIA storage.

Just prior to the 1998 season an unusually heavy rainfall produced water infiltration beneath the Acropolis East Court, causing the collapse of an area within one of the ECAP tunnels. To safeguard the buried buildings in this area, ECAP had to reallocate funds from several sources, including the FAMSI grant, in order to hire laborers to consolidate and backfill this area (see Accounting Report). This event made it obvious that further measures to conserve and safeguard buried architecture would be necessary. As a first step, assistance was secured from a mining company operating near Copán, and as a result the surface of the East Court has been sealed against further water infiltration. However, it is now clear that further efforts need to be undertaken to consolidate tunnels to prevent future collapse, and to conserve architecture already damaged or threatened by water infiltration.

## **Analyses**

Not all objects in the CRIA require conservation. But all categories of archaeological materials undergo technical analyses using well-established methods appropriate to each category. These analyses seek many kinds of information, but the most critical for artifacts are age determination, the identification and sources of raw materials, manufacturing techniques, and uses. Architectural samples and ecofacts need to be identified and their sources determined. Eventually, the sum of all these analyses will be combined with the results from all other aspects of our Copán research, and thereby produce a far better understanding of the origins and development of the entire Copán state during the Classic period (Fash and Sharer, 1991).

Many of the specialists and laboratory facilities already have been selected to participate in the analyses phase of ECAP research. During the 1998 season, with the support of FAMSI Grant 97003, some of this work was begun. The following summarizes the status of current work of the specialists and laboratories selected to analyze the ECAP materials:

### ***Artifact Analyses***

The pottery vessels and fragments (sherds) from the ECAP Acropolis excavations are being studied by typological classification & modal analyses. This work is being conducted by Ellen Bell (University of Pennsylvania). During the 1998 season Bell spent



nearly five months at Copán working with ECAP artifacts. For the first part of this time Bell assisted David Sedat in the documentation of funerary artifacts in the Margarita Tomb, and their removal to the CRIA. Following this work Bell devoted her time to the documentation and analyses of ECAP artifacts stored in the CRIA.

Among the artifacts being studied by Bell are cutting tools made from obsidian (volcanic glass). In addition, these tools are being dated and sourced by a study coordinated by Christine Carrelli (Rutgers University). FAMSI Grant 97003 supported a pilot study to compare two conventional methods of obsidian hydration dating (those based on internal fissures versus exterior rims) to help determine the reliability of these methods for dating obsidian artifacts from ECAP's excavations. This work was conducted by Christopher Stevenson of ASC Group, Inc. (Columbus, Ohio). The results of these analyses are as follows:

Op 1-6, Lot 56.1	internal fissure:	A.D. 310	exterior rim:	A.D. 253
Op 1-6, Lot 56.2	internal fissure:	A.D. 834	exterior rim:	A.D. 1169
Op 1-6, Lot 61.1	internal fissure:	A.D. 676	exterior rim:	A.D. 1034
Op 1-6, Lot 61.2	internal fissure:	A.D. 416	exterior rim:	A.D. 799
Op 1-6, Lot 61.3	internal fissure:	A.D. 778	exterior rim:	A.D. 1165
Op 1-20, Lot 328.1	internal fissure:	A.D. 533	exterior rim:	A.D. 1148
Op 1-28, Lot 3.2	internal fissure:	A.D. 691	exterior rim:	A.D. 1466
Op 49-3, Lot 5.1	internal fissure:	A.D. 573	exterior rim:	A.D. 1155
Op 49-4, Lot 10.1	internal fissure:	A.D. 863	exterior rim:	A.D. 1522

These results show that both methods produce inconsistent dates, although the fissure dates tend to be more accurate than the exterior rim dates. The results of other recent studies indicate that the dates obtained by both of these conventional obsidian hydration methods are often unreliable (Anovitz *et al.*, in press). Fortunately, new and more reliable methods are being developed, and in April of 1998 a new suite of obsidian samples from the Copán Acropolis was submitted by ECAP to Dr. Michael Elam at the University of Tennessee to be included in a new study aimed at improving the reliability of obsidian hydration dating. The results of this analysis will be reported to FAMSI when they are available.

### ***Ecofact Analyses***

Samples of residues from a variety of excavated contexts have been taken for analyses that seek to identify ancient activities and by extension, the functions of their associated features. The first of these analyses were undertaken in 1997. Four samples of possible organic material from the Hunal tomb were submitted for analysis by Dr. Michael

Zimmerman, a noted paleopathologist, at the University of Pennsylvania. These samples (97-M203, M205, M206, and M211) came from clustered residues closely associated with the bones in the tomb, so it was originally postulated that they might be dissected human tissue. The results of the analyses of these samples indicated they were composed of both inorganic and organic materials:

No human tissue was identified...the material was almost entirely a red inorganic substance, apparently cinnabar (mercuric sulfide, HgS). The organic material identified consists of vegetable matter, probably plants growing in the tomb, and saprophytic fungi, both of which were partially preserved by the application of the cinnabar (Zimmerman, personal communication, 1997).

In this case, the preserved context of the analyzed material when combined with its identification yielded an important finding that provides an insight into past ritual activity associated with the Hunal Tomb. The findings from this tomb are especially noteworthy given the evidence that indicates it may well be that of the Copán dynastic founder, Yax K'uk' Mo' (Schele, 1986; Sharer, 1997). Again, quoting from Zimmerman's preliminary report:

The finding of these partially preserved post-mortem saprophytes indicates that the tomb was re-entered at some time after the body had decomposed and become skeletonized, as indicated by the presence of cinnabar on parts of the skeleton (*ibid.*).

Other analyses of ecofact samples are either underway or planned. Two residue samples have been submitted for analysis by Dr. John Sedat of the University of San Francisco to determine their composition. One of these samples (93-M161) is from an early masonry conduit associated with the earliest Acropolis platform. The second (93-M232) is a residue from the masonry walls of the Margarita burial chamber. The dark "sooty" appearance of both deposits indicates these may be residues of ancient burning activity, perhaps associated with rituals such as copal burning (Sedat and Sharer, 1996). The identification of these samples should test this possibility, or possibly reveal other uses associated with both the conduit and interior of the Margarita Tomb chamber.

Radiocarbon dating is a well-established and reliable dating method. In 1998 ECAP submitted eight samples of carbon recovered from its Acropolis excavations to Beta Analytic Laboratories (Miami, Florida) for radiocarbon dating (plans call for more samples to be submitted in 1999). One sample was unsuitable for dating. The results from the remaining seven samples (2 sigma calibrated spans and calibration curve intercept dates) are listed below:

93	M-53	(Str. Ebony midden)	A.D. 575-670	A.D. 640
93	M-74	(Str. Maravilla, Cache 92-6)	A.D. 245-430	A.D. 380
93	M-75	(Str. Margarita, Cache 93-5)	A.D. 235-435	A.D. 370
95	M-139	(Str. Yehnal, Cache 95-2)	A.D. 250-555	A.D. 415
95	M-145	(Str. Na, Cache 94-3)	A.D. 245-540	A.D. 405
97	M-198	(Hunal Tomb)	A.D. 85-390	A.D. 235
97	M-204	(Hunal Tomb)	A.D. 85-415	A.D. 245

Only one sample (93 M-53) provides a date close to that estimated for associated architecture. Given its midden provenience, the carbon from this sample may derive from burned food material which would be expected to yield a near contemporaneous date. The other six samples produced fairly consistent results in that they are all slightly older than the estimated dates for associated architecture. This is as expected given that most or all of these samples probably derived from trees that lived several decades or even centuries before being used by the Maya. For example, both samples from the Hunal tomb are from a socket in the tomb vault, and probably derive from the carbonized remains of a wooden beam from a tree that was probably cut about the time the tomb was constructed (estimated at ca. A.D. 437).

Finally, a series of non-organic samples from both the Hunal and Margarita tombs have also been collected for compositional analyses. The first of these were identified at the Smithsonian Conservation Analytic Laboratory (CAL) in 1997. These include pigment samples, identified as both oxides of iron (hematite) and mercuric sulfide (cinnabar). These results confirm visual identifications made in the field, but do not determine the ancient function of these pigments (although the usual explanation is that their blood-like red color led to their use in tombs to symbolize rebirth). The 1997 CAL analyses also confirmed that a residue sample collected from the Margarita Tomb represented a disintegrated pyrite mirror, an item commonly associated with Early Classic Maya tombs (especially at the site of Kaminaljuyú). Further analysis of such non-organic samples are planned in the expectation that they will provide further information about ancient behavior and artifact use, as well as possible external relationships.

### ***Architectural Analyses***

The study of the buildings revealed by ECAP's excavations beneath the Acropolis begins with the identification of each component of architecture. This analysis is being undertaken by Christine Carrelli, based on a complete catalogue of the materials that compose each component (composition of fills, floors, walls, etc.). The results of architectural cataloguing are entered into the ECAP computer data base. During the 1998 season, with the support from FAMSI Grant 97003, Carrelli completed the architecture catalogue, which now will be used to reconstruct the methods used by the

builders of the Acropolis and to estimate the expenditures of time and energy for the construction of each phase of the Acropolis. Correlated with the record of architectural stratigraphy documented by ECAP's excavations, Carrelli's analysis will reveal the changes in building methods and time and energy expenditures over the history of the Acropolis.

Samples taken from each architectural component are subjected to laboratory analyses to identify their chemical composition. This information will be used to help detect ancient building methods and, by identifying the different sources for construction materials, help refine the time and energy estimates. These analyses are being done at the University of Pennsylvania Architectural Conservation Laboratory, Directed by Dr. Frank Matero, and are being supported by FAMSI Grant 97003. Prior to 1998 a total of 96 samples had been acquired and exported to the United States for analysis. This pool of samples was augmented by 11 additional samples of architectural plaster and pigments taken by Carrelli in 1998. The necessary permission for exporting these new samples was requested in March 1998. Plans call for these analyses to be completed over the next two years (1999-2000), and the results will be included in future FAMSI reports.

### ***Analyses in 1999-2000***

Two new ecofact analysis programs are planned to begin in 1999 and continue into 2000. The new analysis programs set to begin next year are:

Paleobotany: The identification and sourcing of macro and micro (pollen and other residual) specimens to be undertaken by Dr. David Lentz (New York Botanical Garden).

Paleozoology: The identification and sourcing of samples of bone, teeth, pelts, residues, shells, and similar remains (specialist(s) and laboratory to be selected).

### ***Analyses Supported by other Agencies***

Several studies of ECAP materials are being conducted, or are being planned, with support from other funding agencies. The longest running is the study of Early Classic Copán Acropolis architectural iconography, initiated by the late Dr. Linda Schele (University of Texas). Linda's research was coordinated with the study of Late Classic iconography conducted by Dr. Karl Taube (UC Riverside) in order to integrate the findings from the entire sequence of temple architecture in the central Acropolis (Str. Hunal to Str. 10L-16). Before her tragic death, Linda had expressed a wish for her Copán research to continue. Accordingly, arrangements are being made to insure that Linda's wish can be realized and the Copán iconographic study can be completed and published along with the other aspects of ECAP research.



Pilot studies of the human remains from the Copán Acropolis have been underway since 1996. These are being conducted as part of a larger study directed by Dr. Jane Buikstra (University of New Mexico). Another separately-funded study, the neutron activation analysis and sourcing of Acropolis pottery, will be done by Drs. Ronald Bishop (Smithsonian Institution) and Dorie Reents-Budet (Denver Art Museum). Originally scheduled to begin in 1998, the start of this study has been scheduled for 1999 (acquisition of pottery samples by Reents-Budet in Copán for analysis at the Smithsonian Institution).

### **Conclusion: The Completion of ECAP Research**

Our goal is to complete the documentation, conservation, and analysis phases of ECAP research over the next two calendar years (1999-2000). As outlined in this report, most of this work is already underway, and considerable progress was made toward our goal in 1998 due to the support of FAMSI Grant 97003, while the remaining aspects of this research are due to begin by next year. To insure the completion of this effort, a request to renew FAMSI support for the documentation, conservation, and analysis phases of ECAP's research will accompany this report.

An Accounting Report for the 1998 grant also will accompany this report. As this account indicates, unanticipated expenses necessitated some reallocation of the proposed budget categories. In addition, a small balance of unexpended 1998 funds have been rebudgeted to cover anticipated expenses during the fall of 1998 (including travel to Copán by ECAP's Field Director, David Sedat, to complete preparations for the 1999 field season). A separate accounting for this balance will be submitted to FAMSI at the end of 1998.

### **List of Figures**

[Figure 1](#): Copy of scaled drawings of 4 carved jade artifacts from the Margarita Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.

[Figure 2](#): Copy of scaled drawing of polychrome pottery vessel (with exterior roll-out) from the Margarita Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.

[Figure 3](#): Copy of scaled drawing of stuccoed-polychrome pottery vessel lid from the Sub-Jaguar Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.

[Figure 4](#): Copy of scaled drawing of incised pottery vessel from the Sub-Jaguar Tomb, Copán, Honduras (original pencil drawing by Nelson Paredes, ECAP). Scale 1:2.



## Sources Cited

- Anovitz, Lawrence M., J. Michael Elam, Lee R. Riciputi, and Ted Nolan  
in press The Failure of Obsidian Hydration Dating: Sources, Implications, and  
Resolution. *Journal of Archaeological Science*.
- Fash, William L.  
1991 *Scribes, Warriors and Kings: The City of Copán and the Ancient  
Maya*. Thames & Hudson, London.
- Fash, William L. and Robert J. Sharer  
1991 Sociopolitical Developments and Methodological Issues at Copán, Honduras: A  
Conjunctive Perspective. *Latin American Antiquity* 2:166-187.
- Schele, Linda  
1986 The founders of lineages at Copán and other Maya sites. Copán Note 8.  
Instituto Hondureño de Antropología e Historia and the Copán Acropolis  
Project, Austin.
- Sedat, David W. and Robert J. Sharer  
1996 Evolución de la Acrópolis de Copán durante el Clásico Temprano. Paper  
presented at the VI Encuentro de los Investigadores de la Cultura Maya.  
Universidad Autónoma de Campeche, México.
- Sharer, Robert J.  
1997a [Early Copán Acropolis Program](#) Final Research Report for Grant 95060 (1995-  
1997) with an Appendix, Final Report for Grant 95061 (1996). Prepared for the  
Foundation for the Advancement of Mesoamerican Studies, Inc. (FAMSI)  
Crystal River, Florida.
- 1997b K'inich Yax K'uk' Mo' and the Genesis of the Copán Acropolis. Paper  
presented at the Symposium "A Tale of Two Cities: Copán and Teotihuacán"  
Harvard University, Cambridge, MA.
- Sharer, Robert J., Loa P. Traxler, David W. Sedat, Ellen E. Bell, and Marcello A. Canuto  
1998 Early Classic Architecture Beneath the Copán Acropolis: A Research  
Update. *Ancient Mesoamerica*.