

**ARCE/EAP Subproject  
Conservation of the Sarcophagus of Ramesses VI**

**Tomb of Ramesses VI (KV 9)  
Valley of the Kings, Luxor**

**Revised Proposal  
Prepared by  
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Project Director  
February 2001**



**This revised proposal was prepared for  
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# **Proposal for the Reconstruction of the Inner Sarcophagus of Ramesses VI**

The project being proposed is for conservation and re-assembly of the mummiform stone sarcophagus in the tomb of Rameses VI (KV9) in the Valley of the Kings, Luxor. This action will result in saving the many painted fragments from further dispersal and damage due to inadequate storage in the tomb. In addition, the display of this reassembled sarcophagus and lid will provide visitors with an enhanced educational experience. This will be augmented by the addition of an information panel with graphic display of the decoration on all surfaces and a reconstruction of the likely original position of this artifact in its original setting. The didactic intention will be two-fold. It will concisely explain the religious significance of the sarcophagus as both means of protection and rejuvenation. The later history of the destruction of the burial and the sarcophagi as presently understood will be summarized.

## Focus of the Project

The proposed project will reassemble the mummiform inner stone sarcophagus in the tomb of Rameses VI. This sarcophagus was broken into several hundred pieces in antiquity. These fragments are presently stored in the burial chamber of the tomb of Rameses VI, KV 9, in the Valley of the Kings. The project will re-assemble the fragments of the box and lid using epoxy adhesives and stainless-steel pinning. The reconstruction work will be carried out in the burial chamber of the tomb and the reconstructed sarcophagus box and lid will be displayed in the burial chamber.

## **The Problem**

The present storage arrangement is not adequate to the need of preserving the decorated fragments of the mummiform sarcophagus. Having them subjected to repeated moving about and piling them on each other endangers the decoration and the fragments themselves. While those pieces placed in boxes are have a better chance of survival and boxing the remainder might be a feasible interim storage plan, their informative potential would not be utilized. The alternative of removing the fragments to storage in a magazine off-site might offer the possibility of added protection but seems a recourse of last resort that disassociates the fragments of the monument from their original location.

Now that the tomb has been re-opened for tourist entry there is an increased danger of theft or vandalism affecting the fragments. Naturally, the antiquities authorities are concerned about the integrity of this material and may wish to place the fragments in a more secure location.

## Background and Present status

There are two sarcophagi that were fashioned for the burial of Rameses VI. The remains of an undecorated red granite, roughly cartouche-shaped box is still in the tomb, but no fragments of a corresponding lid survive. This outer sarcophagus once rested over a rectangular pit cut into the center of the burial chamber floor. It contained a second sarcophagus of green conglomerate quarried in the Wadi

Hammamat carved in the shape of a mummy. This inner sarcophagus was decorated on the exterior of the box and lid with lightly incised and painted figures and texts. Apparently at the time of burial, a resinous substance was poured over the inner sarcophagus and over time this has formed a black coating that partly obscures the decoration.

#### Past activities related to the sarcophagus

The tomb remained open following its plundering in antiquity, and a certain amount of debris was carried in, although apparently not as a result of extensive flooding. It was accessible to 18<sup>th</sup> and 19<sup>th</sup> century explorers, at which time the lid fragment of the inner sarcophagus showing the head of the deceased was acquired by the British Museum. Final clearance except for the floor pit was carried out in 1888 and it may be at this time that sarcophagus fragments were stored on the platform. Photographs from the first half of the 1950's show the floor pit to be partly cleared, but at some subsequent time all sarcophagus fragments were put into the pit. Until clearance was carried out in 1985, the sarcophagus fragments lay mixed together with dirt and stone chips filling the central pit in the floor of the burial chamber. Several fragments were exposed on the surface including parts of the lid and were constantly subjected to wear and abrasion by people walking on them. After removal from the pit during the clearance operation the fragments were stored temporarily on two wide platforms at the left and right ends of the hall but they were subsequently placed back in the pit out of the way of visitors. A second period of study and documentation while the tomb was closed for restoration, the fragments were returned to the platforms but when this part of the tomb was first studied following clearance of floor pit by Brock in 1985 when theme of decoration on box was identified as being similar to that on previous sarcophagi going back to the end of the 19<sup>th</sup> Dynasty (Siptah, Setnakht, Rameses III, Rameses IV). At the insistence of the Qurna inspectorate at the time of this clearance, all the sarcophagus fragments were replaced in the floor pit, increasing the chance for damage to the painted decoration. Subsequently while the tomb was closed for restoration activities examination and preliminary documentation activities were carried out and it was possible to place the fragments on the two wide platforms to either side of the central floor. When conservation work began in the burial chamber the fragments were again moved, with some being placed in 3 small wooded boxes and the remainder placed on each other in spaces between the pillars.

#### Documentation of fragments and joins

The activities involved in the reconstruction include documentation of the decorated fragments which number at least 280 pieces. All decorated pieces have been numbered and listed. Where joins can be found the outlines of the joined fragments are drawn as they are fitted together, and the joined fragment groups placed on a sand table and photographed.

## **WORK PLAN**

### **Clarification of Work Plan Activities**

The original proposal for the restoration of the inner sarcophagus of Rammers VI (submitted February 1997) listed some possible options for carrying out the work, particularly with regard to where the work was to be done. To clarify a point that may have been understood, it has always been the intention to carry out the reassembly of the sarcophagus in the burial chamber of the tomb. There are several reasons for preferring this location. The chief concern is to avoid excessive handling of the fragments, to reduce the chance of damage particularly to the painted surfaces. The burial chamber is the find spot for these fragments and it is best to keep these artifacts as close as possible to their original find spot (the floor pit). The majority of the decorated fragments are now stored in wooden boxes stored on the south platform in the burial chamber where they are protected from dust and accidental breakage or from unauthorized handling.

### **Description of Work Site**

All conservation activities will take place in the burial chamber at the rear of the tomb, with a high vaulted ceiling. The chamber is not accessible to visitors beyond the barrier railing at the bottom of the entrance ramp into this chamber. Beyond this barrier, two wide platforms are located to the left and right of center floor. The floor is cut by a large pit, leaving a ledge on three sides, although little space remains on the south side due to the presence of two halves of the granite box. Half of the base of the granite outer sarcophagus still rests in the forepart of this pit, and the other half rests on its side on the ledge to the left. Two wide platforms are located to the left and right of central floor area, approximately a meter above the level of the central floor.

Work on assembly can be carried out on the two platforms and also in the west half of the lower central floor area if a temporary wood platform is constructed to cover the open pit. Temporary wood steps will connect each of the platforms with the central floor area at their west ends. Upon completion of this project these steps and the wood platform will be removed.

### **Documentation of fragments and joins**

The activities involved in the reconstruction include documentation of the decorated fragments which number at least 280 pieces. All decorated pieces have been numbered and listed. Where joins can be found the outlines of the joined fragments are drawn as they are fitted together and photographed.

### **Preparation of base for sarcophagus box**

The proposed site for displaying the assembled sarcophagus is the right (north) platform. This location has been chosen as it will entail a lesser amount of preparation for placement of the assembled box and offers an unimpeded view for the visitor. The only other available space is the left (south) platform, but the outer sarcophagus box half resting on the pit ledge and against the edge of the platform would obscure part of the assembled inner box. The floor of the chamber offers only the ledge to the right of the pit as unencumbered space, but it is not wide enough in itself and would need to be augmented by an artificial platform extending

over the pit and substantially altering the original appearance of the chamber. While the platform surface is level it is not completely flat, with noticeable irregularities remaining from the rough cutting of the surface. It will be necessary to have a level and stable base on which the re-assembled sarcophagus box can rest. At the same time, it would not be desirable to alter the original surface of the platform by cutting it in any way to produce a level surface. One solution would be to construct a low retaining wall of limestone blocks to enclose a level bed of sand on which an insulating layer either of laminated wood or plastic could be placed to support the flat bottom of the sarcophagus box. The limestone blocks would be attached to the floor by a lime mortar layer and held to each other by mortar and clamps or pins

### **Consolidation of painted decoration**

It has been recommended by consultation with conservators that the painted surfaces of the fragments be protected during the assembly process to avoid damage during handling. This can be done by applying a temporary covering of Japanese paper. Chemical consolidants such as the application of diluted Paraloid would mean that thorough cleaning of surface dirt should be done before application. Cleaning could also be done mechanically by using light brushes and Wishab sponges (dry vulcanized latex sponges). Cleaning of dirt from break surfaces will also be carried out at this stage, using brushes and non-aqueous solvents such as acetone, alcohol, or toluene.

### **Assembly of Fragments**

The fragments will be joined into groups using an epoxy adhesive as much as possible. In some instances, it may prove desirable to augment and strengthen joins with drilling with tungsten-carbide drills and pinning using stainless steel rods. Assembly of the fragments forming the floor of the sarcophagus box will provide the foundation on which to build up the extant groups for the sides. Existing gaps will need to be dealt with in such a manner as to allow for possible insertion of fragments that might be found in the future. This need will have to be balanced with ensuring structural stability for the assemblies. The fragments of the lid will be assembled over supports of limestone blocks as well, which can be cut to conform to the concave underside. It is desirable both for display purposes and for stability to place the lid assembly on a solid surface and not over the box assembly which would need a separate frame as the sides of the box would not be strong enough to sustain the weight. The most likely location for the display of the assembled lid would be on the sloping floor of the deep recess in the center of the rear wall of the chamber. In this position, it would be visible to visitors standing at the entrance.

### **Cleaning of Decorated Surface**

The exterior of the box was decorated with painted figures and texts. A resinous substance was poured over the box and lid probably at the time of burial. This substance now forms a glossy dark brown coating that obscures the painted decoration. In addition, dirt has covered the fragments further obscuring the decoration. Since the resinous substance is actually an ancient artifact it may not be desirable to remove it. The dirt that covers the fragments should be removed, however, and the painted decoration consolidated where necessary.

## **Documentation of Completed Assembly**

A drawing to scale will be made of the assembly indicating the joins of fragments. This will include each side and the foot end, as well as a plan and section. Complete photographic documentation will be made. In color slide and black and white print.

## **Information Sign**

### **Work Plan Schedule**

**Phase 1** - Preparation of base for sarcophagus box and preparation of fragments for assembly

Personnel involved:

Project director - E. Brock

Paint conservator – C. Calafarro-Rszepka or L. Khaled

Photographer – F. Dzikowski

Stone conservator technical assistant and five workmen

Timing: 3 weeks

Report submission date:

**Phase 2** - Assembly of fragment groups

Personnel involved:

Project director - E. Brock

Stone conservator – Dany Roy

Stone conservator technical assistant and five workmen

Timing: 10 weeks

Report submission date:

**Phase 3** - Conservation of painted decoration

Personnel involved: E C Brock, project director

C. Calaforra-Rzepka or L. Khaled, painting conservator

Egyptian conservation technician and one workman

Timing: 6 weeks

Report submission date:

**Phase 4** Documentation of completed assembly and

Personnel:

Edwin Brock, project director

Lyla Pinch Brock Archaeological illustrator

Francis Dzikowski or Patrique Godeau, photographer

Timing:

Documentation -2 weeks

Report submission date

**Phase 5** Preparation of display panel

Personnel:

Edwin Brock, project director

Lyla Pinch Brock, archaeological illustrator

Timing: 3 weeks

Final report

**Budget**

Salaries

**Director** - Edwin C. Brock

**Conservator** -

Painting - Cristobal Calaforra-Rszepka  
or Lotfy Khaled

Stone - Dany Roy

**Photographer** –

Francis Dzikowski

Patrique Godeau

**Artist** - Lyla Pinch Brock

**Egyptian Conservation Technician** - Muhammed Salem Abd el-Wars

**Egyptian workmen** (5)

International Travel

travel for Conservator - Cristobal Calafarro-Rszepka

1 round-trip ticket Warsaw-Cairo-Warsaw Egypt Air LE 3788.00

Local Travel

Cairo - Luxor - Cairo

airfare

**Transportation – in Luxor: LE 2940.00**

Daily hire of car and driver: LE 30-day x 26 days = LE 720/month x 3 = LE 2160.00

Nile ferry/ launch: LE 10.00 /day x 26 days = LE 260/month x 3 = LE 780.00

Accommodations and Per Diems

**Hotel**

**Per Diem**

Equipment

Supplies

**Other**

ARCE Project Membership \$750/ yr = **LE 2850**

Insurance

Medical Evacuation Insurance **LE 615.60**

This will be needed for the one foreign hire member of the project, C. Calaforra-Rszepka – 3 months @ \$ 54 / month = \$162 / **LE 615.60**

### **Revised Personnel Roster**

Edwin C. Brock –Project Director  
Cristobal Calaforra-Szepka –Conservator  
Francis Dzikowski - Photographer  
Lyla Pinch Brock - Artist

#### **1. Project Director**

Edwin Brock will oversee the project, produce reports on the work in progress, and the final report. He will also document the progress of the work by photographs.

#### **2. Conservators**

##### **2a. Stone conservator**

Dany Roy

##### **2. b. Paint conservator**

Mr. Cristobal Calafarro-Rszepka will be responsible for the assembly of the sarcophagus fragments and for the cleaning and consolidation of the painted decoration. He will be assisted by an experienced Egyptian conservation technician and five workmen.

##### **2.c.**

#### **3. Photographer**

**3. a.** Francis Dzikowski will be concerned primarily with documentation of the completed assembly of the box and lid.

**3.b.** Patrique Godeau will be considered as an alternate photographer for those occasions when Francis Dzikowski will not be available.

#### **4. Artist**

Lyla Pinch-Brock will be responsible for drawing the assemble sarcophagus box and lid. She will also assist in the production of the final report.

### **Revised Budget - Explanatory Notes on Budget Changes**

#### **Additions**

ARCE Project Membership \$750/ yr = **LE 2850**

#### **Conservation Equipment**

Drill

Drill bits

#### **Additional Conservation Supplies LE 585.75**

Communication with Mr. Edward Johnson, the painting conservator proposed to deal with the painted decoration of the sarcophagus has led to the following materials being suggested for this phase of the project:

##### **1.Chemicals**

Isinglass (for consolidation of painted surface) \$ 39.00 / 100 grams x 2 = \$78 / **LE 265.20**

##### **2.Equipment**

Respirators (2) \$ 10.73 each = \$ 21. 46 / **LE 72.96**



Filters for respirators ( 2 pairs) \$ 9.73 each cartridge x 4 = \$ 38.92 / **LE 132.33**

Protective gloves (Nitrile) 50 per box @ \$ 16.95/ box x 2 box = \$ 33.90 / **LE 115.26**

Note - The original proposal to use Hydroxy cellulose is now withdrawn at Mr. Johnson's suggestion.

### Travel Expenses - Local

#### Cairo- Luxor -Cairo Transportation

In the original budget submission, this expense was erroneously calculated on the basis of the resident rate for airfare at LE 259 per person. Two of the individuals on the project, the stone conservator Richard Ball and the Photographer Katherine May, will not qualify for these rates, as they will be entering the country on tourist visas. The cost for air fare for holders of tourist visas is \$229 per person. ARCE staff (Amira Khattab) has informed me verbally, that it would likely take at least five days to obtain the necessary letter of support from the SCA and to process the paperwork for a work visa at a cost of LE 20 persons., plus the hotel and per diem expenses involved. It would seem to be more economical therefore to send these two individuals, at least, to Luxor and back by train. 2<sup>nd</sup> class fares are LE 34 each way or LE 68 return/ person x 2 = LE 136.00.

Transportation – Luxor: **LE 2592.00**

Daily hire of car and driver: LE 30-day x 26 days = LE 720/month x 3 = LE 2160.00

Nile ferry/ launch LE 6.00 /day = LE 144/month x 3 = LE 432.00

### Travel Expenses - International

Malev Airlines Warsaw /Budapest Cairo/ Budapest / Warsaw LE 3867.00

**(Egypt air does not fly to Poland at present. Alternate European carriers could also be considered but this one is one of the least expensive. )**

### Insurance

Medical Evacuation Insurance **LE 615.60**

This will be needed for the one foreign hire member of the project, C. Calaforro-Rszepka – 3 months @ \$ 54 / month = \$162 / **LE 615.60**

Total – **LE 615.60**

### Personal Accident Insurance

Quotations (See attachments)

Misir Insurance – LE 520.00

Al Chark Insurance Co. – LE788.35

National Insurance Co. – LE 1162.55

Liability Insurance

Quotations (see attachments)

Misr Insurance – LE 1150

Al Chark Insurance Co. – LE 1008.40

National Insurance Co. of Egypt – LE 1,000

**Living Expenses Accommodation (Hotel)**

LE 100/day / person x 240 person/days = LE 2400.00

PerDiem

Foreign LE xx/day / person x 240 person/days = LE xxxx.xx

Egyptian (Inspector) LE xx/day x 26 days = LE xxx.xx/ month x 3 = LE xxxx.xx

Total Living Expenses = **LE xxxx.xx**

**Egyptian Workers' Social Insurance - LE xxxx.xx**

(Rate is xx% of wages, to be paid by employer)

Conservation technician (1)

For 1 month: LE xx/day x xx = LE xxx/month x xx% = LE xx.xx

Total (For 3 months): LE xxx.xx

Workmen (5)

For 1 month/ person: LE xx x xx = LE xxx/ month x xx% = LE xx.xx

For 5 workmen for 2months = LE xxx.xx

Total (11 man-months): LE xxx.xx

Letter re Alternate responsibility

6 February 2001

To: Robert K. Vincent Jr.

From Edwin C. Brock

Re: Alternate responsibility

In the event that I am not able to be present during the operation of the project for the restoration of the sarcophagus of Rameses VI, I wish to hereby appoint Lyla Pinch Brock to act in my stead for purposes of administering the project in the field during my absence. The aforementioned appointee shall be responsible for overseeing the operation of the project in the field.

Edwin C. Brock

Project Director