

1.6 PARTHENONE FRIEZE SLAB IN STUDIO C3



Panel before conservation



Panel after conservation

1.6.1 DESCRIPTION OF THE OBJECT

TITLE: Parthenon Frieze, copy of the panel from Parthenon Frieze from Temple of Athena – Parthenon in Acropolis in Athens, Greece, between 443 and 438 B.C.

NUMBER(S): 007, PD030 (061b)

TYPE OF OBJECT: Relief, plaster cast with a metal structure inside, attached to the wall with 4 metal fixings.

MAKER: Unknown

SIGNATURE/INSCRIPTION: None

DATE: 1837

OWNER/LOCATION: Edinburgh College of Art, Lauriston Place, Edinburgh, EH3 9DF. Main Building, ground floor, Studio C3

DIMENSIONS/WEIGHT (APPROX): H: 1010mm W: 1225mm D: 90mm

Weight (approx):

1.6.2 BRIEF CONDITION REPORT BEFORE CONSERVATION

STRUCTURAL STABILITY: Fair, but open crack at top sinister corner.

SURFACE DUST AND DIRT: Severe, 100% coverage.

VISIBLE PAINT LAYERS/UNSIGHTLY MARKINGS: Layer of cream-yellow paint on surface of the cast; small spots of paint splash on all surface of the panel; white paint smears by the lower edge of the cast and on all side edges.

CHIPS AND LOSS: Large missing area at the middle of its top edge and two smaller chips to the sinister side; damaged and loose lower dexter corner; three small chips on lower edge of the cast.

ABRASIONS: Not significant

Cracks

Chips, abrasions, missing surfaces

Flaking paint

Paint splashes

Ferrous items under plaster



PREVIOUS REPAIRS: unknown

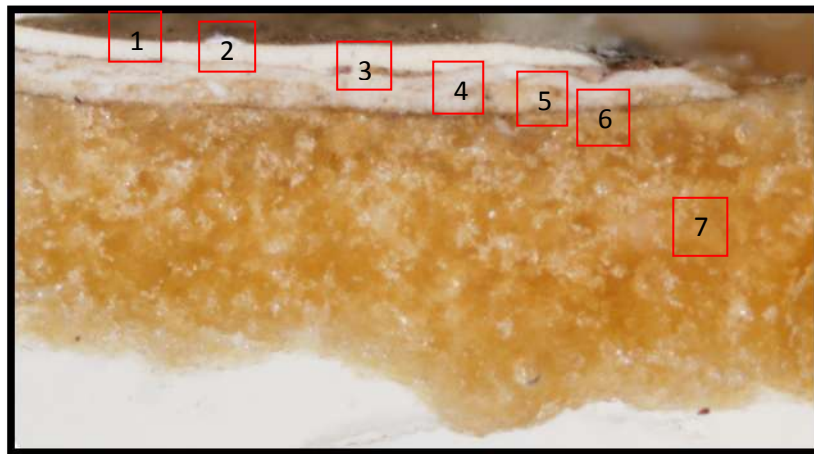
1.6.3 ORIGINAL MATERIALS AND TECHNIQUES

The object is a plaster cast with a metal reinforcing structure inside. The surface of the sculpture is polychromed with cream-yellow paint. In order to find out the stratigraphy, and to identify the materials of the polychromed layer, samples of the plaster with paint were taken from the cast and sent to the University of Northumbria for analysis.

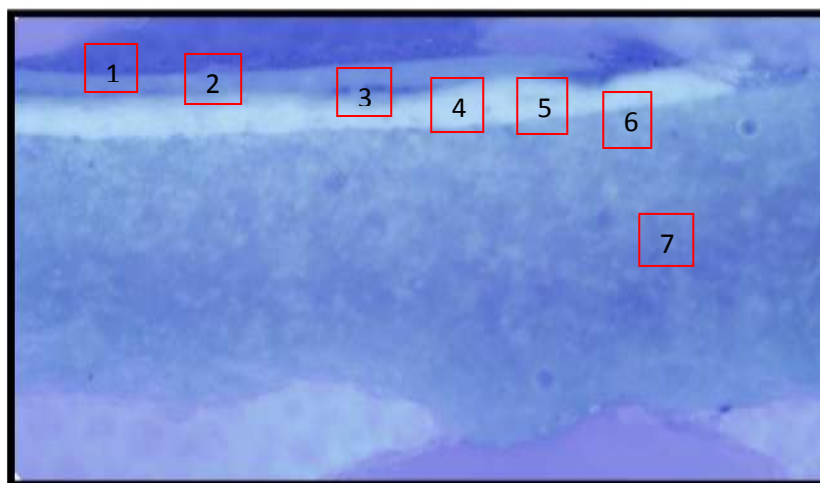
Investigation of coating samples from ECA Plaster Cast Collection, Edinburgh.

Consultant: Brian W Singer.

Parthenon Frieze Slab 030 in studio C3 – Cross-section

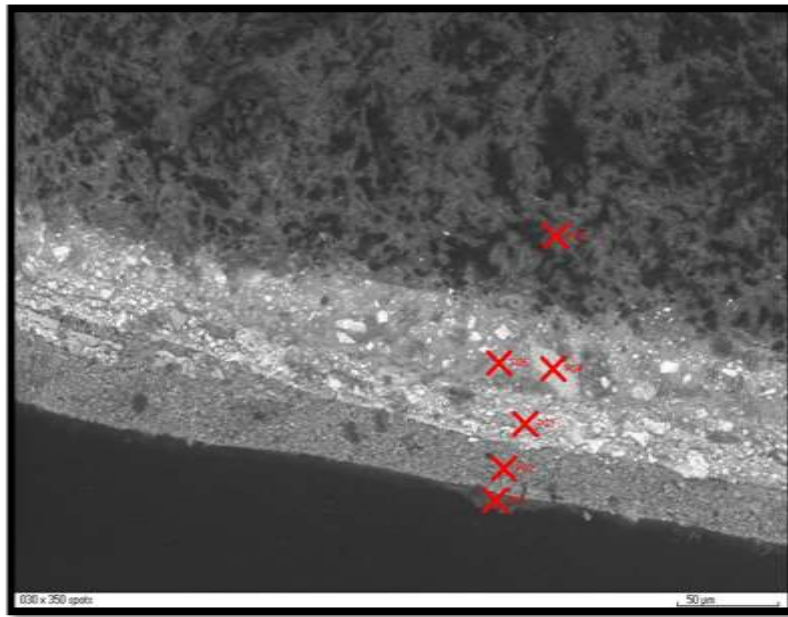


Photograph of the cross-section sample from Panel 030



Photograph of the cross-section sample from Panel 030 in UV light

ECA 030 Sample has at the top, as photographed, a very thin black dirt layer followed by a white layer. At one point on the white layer is a small white highlight. Beneath the top white layer is another dirt or varnish layer and then a greyish white layer. Below this is a mixed white and orange layer and then a brownish dirt or varnish layer on top of the thick orange coloured plaster layer. The top layer, and the highlight, showed a dull grey fluorescence under UV light whereas the two layers below showed a bright blue-white fluorescence indicating lead white. The plaster layer had a slightly yellowish fluorescence.



Electron micrograph of cross-section of sample from Panel 030

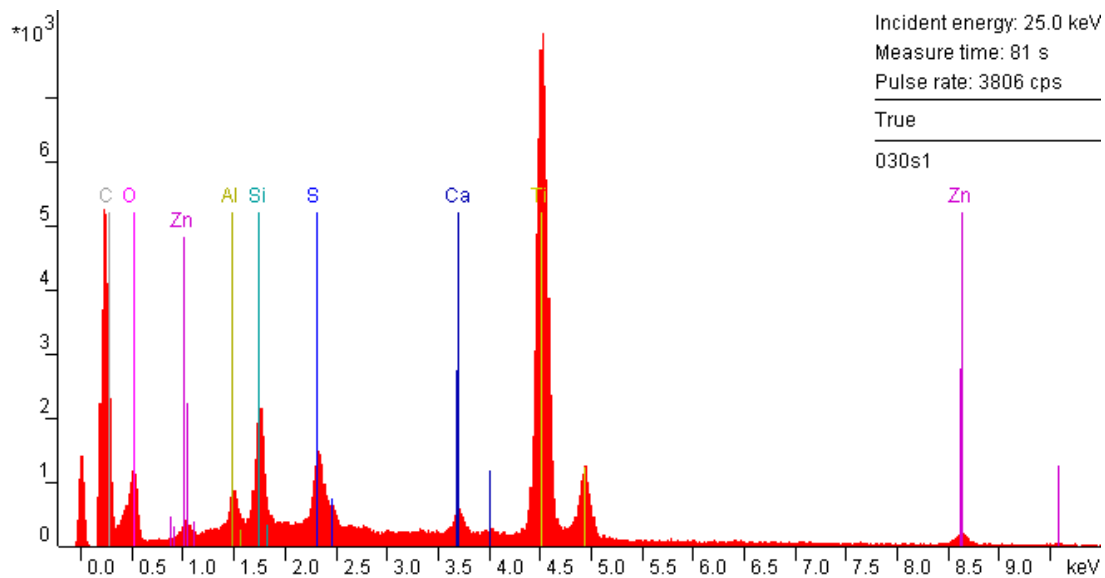
The electron micrograph showed the three paint layers and the highlight and part of the plaster. The photograph shows this upside down. Analysis of the highlight at spot 1 showed the presence of mainly titanium (spectrum 6) indicating titanium white as the pigment. There are also small amounts of zinc, calcium and sulphur, perhaps from the other layers though it might be that some zinc white and some gypsum are included. Aluminium and silicon are present so the titanium white may be extended with kaolin. Titanium white was not introduced until 1916 so this highlight could not have been applied till then.

The main white top layer was investigated at spot 2 and showed the presence of zinc, barium, sulphur, silicon, a small amount of iron and traces of calcium and lead (spectrum 7). This paint may be either a mixture of zinc oxide and barium sulphate or lithopone which is a mixture of zinc sulphide and barium sulphate. There may be small amounts of silica, ochre, chalk and lead white present, though the lead may have carried across from the layer below. Zinc oxide was introduced in about 1830 and lithopone was not used until the 1870's.

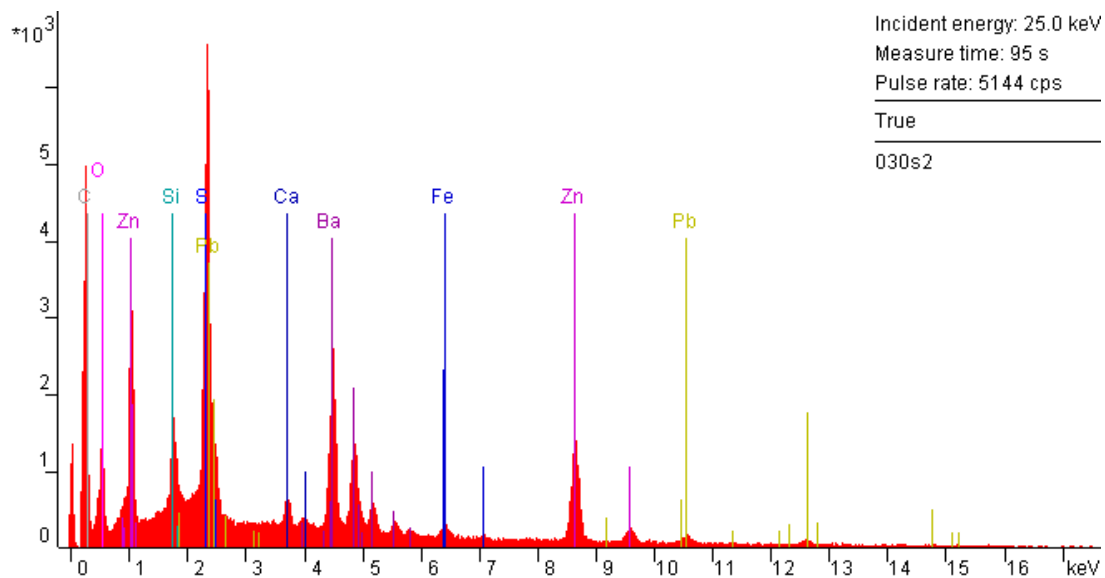
The layer below was analysed at spot 3 and was found to contain mainly lead (spectrum 8), indicating that the main pigment in this layer is lead white. There are small amounts of silicon and calcium, indicating silica and chalk extenders and trace amounts of zinc and barium which may be from the layer above.

The lowest paint layer was analysed at spot 4 and was found to contain mainly lead (spectrum 9), indicating that the main pigment in this layer is lead white. There are small amounts of silicon and calcium, indicating silica and chalk extenders. It differs from spectrum 8 in that there is virtually no zinc and barium is absent.

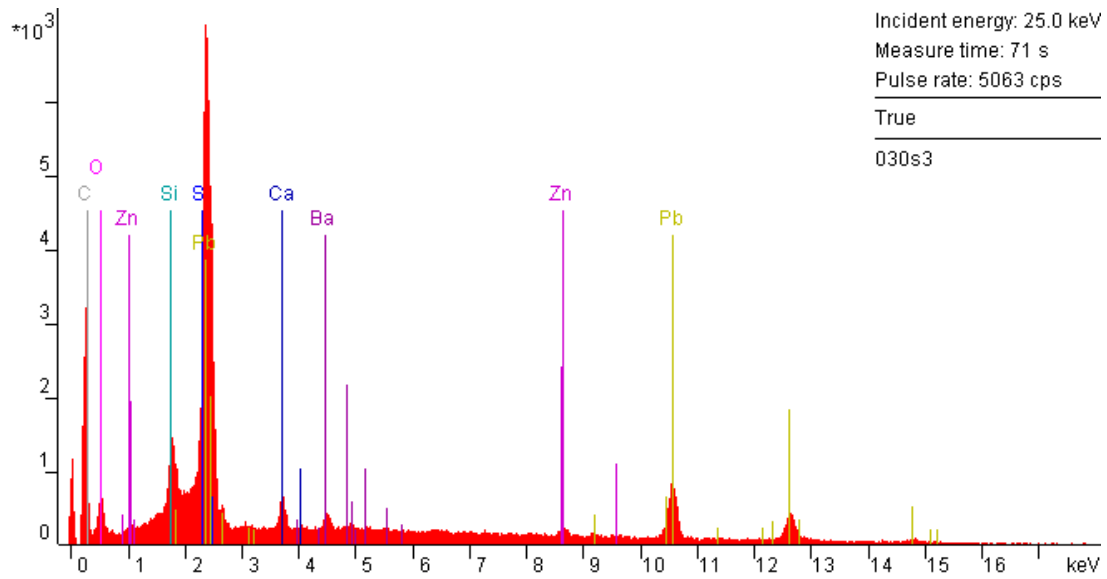
The plaster was analysed at spot 5 and showed the presence of calcium and sulphur, confirming that the plaster is gypsum.



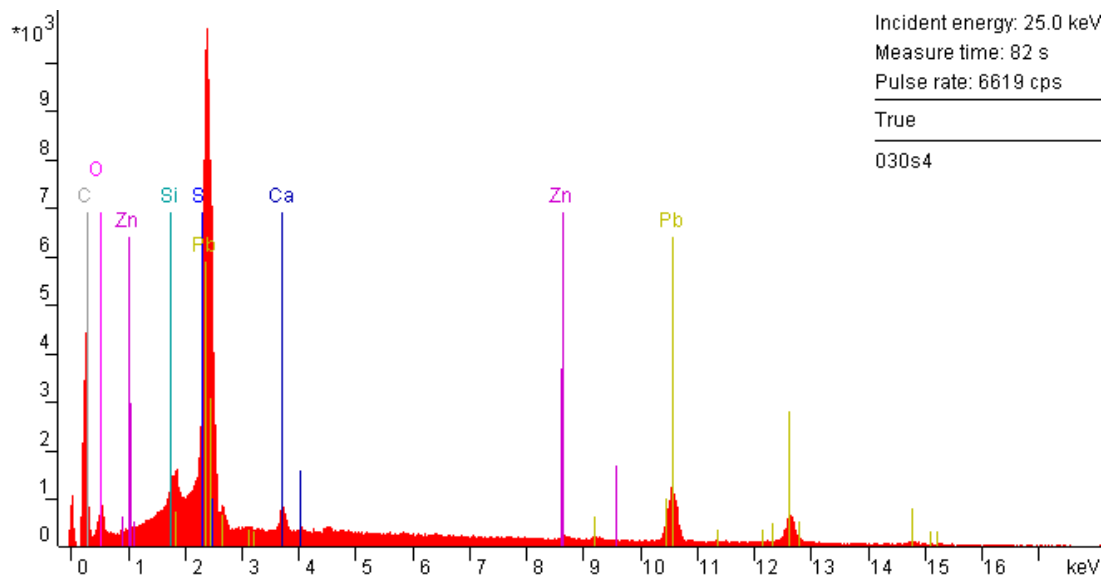
Spectrum 6 sample 030 spot 1



Spectrum 7 sample 030 spot 2



Spectrum 8 sample 030 spot 3



Spectrum 9 sample 030 spot 4

1.6.4 TREATMENT REPORT

- Prior to any conservation treatment, the cast was photographed. This photographic documentation was continued throughout all conservation processes.
- Initially, the cast was dry cleaned with soft brushes and Wishab Sponges with a rubber-nozzled vacuum to pick up the loose dust and dirt.
- Following a variety of wet cleaning spot tests, the surface of the panel was cleaned with 2-5% Vulpex Liquid Soap in de-ionised water, using cotton wool swabs.



Cast during wet cleaning

- Areas of flaking paint were consolidated with 5% Primal B60A in de-ionised water.
- All areas of raw plaster were given an application of 10% Paraloid B72 in acetone to provide an isolating layer between the original plaster and the repairs.
- Exposed metal fixings were treated with 5% Tannic Acid so as to stabilise the corrosion, and covered with a protective layer of 20% Paraloid B72 in acetone.
- Areas of loss, open joints and cracks were filled with white micro-balloons mixed with 12% Paraloid B72 in acetone. Larger areas of loss and around the screws were filled with an inert filler to provide extra strength.



Details of fill repairs

- All the fills were then toned out with acrylics, mixed with matting agent, to match the surrounding patina.
- Finally, the entire cast was given an application of micro-crystalline wax so as to protect the surface.

1.6.5 MAINTENANCE PROGRAMME

Maintenance of the Parthenon Frieze requires to be undertaken from a scaffold. As a result, any cleaning needs to be carried out by operatives that are trained to: a) construct, move and dismantle a portable scaffold tower; and b) clean the Frieze in an appropriate manner.

Graciela Ainsworth Sculpture Conservation could train staff to undertake such cleaning. The training for the use of scaffold would require organising by the Edinburgh College of Art.

The cleaning programme would involve the trained operatives, wearing the appropriate PPE, removing the loose dust using soft brushes and a vacuum cleaner with a rubber nozzle that would have muslin attached to its end. The muslin prevents any potential damage to the plaster from being lost in the vacuum cleaner. Any fragments that are dislodged, and their locations on the cast, should be documented and wrapped carefully in acid free tissue prior to being stored in a safe location. A trained conservator should be contacted immediately in order to repair the damage.

NB At no time should cleaning products or any liquid (including water) be used.

We would recommend that this cleaning programme for the cast should be undertaken on an annual basis (at minimum). Ease of access would mean that the free standing casts could be cleaned, with the same method, on a more regular basis.