

**Experiment title:**

High resolution powder diffraction on archaeological blue pigments from El Templo Mayor, Mexico.

Experiment number:

25 01 624

Beamline:

BM25A

Date of experiment:

from: 4-9-2006 to: 12-9-2006

Date of report:

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Shifts:

21

Local contact(s):

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Received at ESRF:

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Report:

This proposal aims at the identification of the palygorskite or other mineral phases in archaeological micro-samples containing blue pigment. In a previous experiment BM-25-01-629 we successfully measured several prehispanic pigments from different sites. We found some indications that the palygorskite in blue pigment from a sample from El Templo Mayor may be different from the palygorskite from the other sites, thus suggesting a different geological origin. In order to further study this hypothesis, we obtained eight more sample from el templo Mayos, thanks to to cooperation of the Mexican Instituto Nacional de Antropología e Historia, which are the object of this study (continuation of BM25-01-629)

Experimental method

X-ray powder diffraction patterns were collected at beamline BM25A with a fixed wavelength about 15 keV (0.8 Å) at room temperature. Powdered samples were placed inside a 0.5 mm diameter capillary, which were rotated during exposure. Data were collected in a continuous 2θ-scan mode from 3° to 40°.

Results obtained

We confirmed that the blue pigments from El Templo Mayor present diffractograms of palygorskite with some differences with respect to pigments with other origins. A publication is under preparation.