

Sample VIII-2. Brick face 3” below south (right) front window sill, first floor. This sample was taken from an area noted by Mark R. Wenger as representative of the red-washed surfaces identified by Dr. Gerard Lynch as typical of a “colour wash” (not a limewash), based on visual examination. In cross-section there is a thin, uneven, dark red layer on the surface of the brick substrate. It is difficult to confidently determine the composition of this wash layer using only light microscopy as it is so thin and has penetrated into the brick substrate. However, there is no dirt trapped between the red wash layer and the brick, suggesting this coating was applied before the surface had aged or weathered.

The appearance of the thin red layer in cross-section is very similar to the cross-section sample of the brick mock-up painted by Wayne Mays in October 2004 composed of iron oxide pigments, water and a small proportion of dilute hide glue. (See page 91 of the December 14, 2004 cross-section microscopy report.)

Fluorochrome binding media testing produced a strong positive reaction for the presence of proteins in the brick substrate and a weaker positive reaction for proteins in the red wash layer. This reaction suggests there was a protein component in the red wash that leached into the porous brick substrate when the red wash was applied. Pigment identification with polarized light microscopy analysis revealed the presence of red ochre, calcium carbonate and scattered red lead particles (see the photomicrographs on page 10).

The preliminary SEM-EDS analysis results show there is a “distinct calcium-rich containing surface” with lead detected in relatively low concentrations in some areas.¹² Lead was not detected in comparable analysis of the Montpelier red wash samples, so perhaps red lead was used on occasion, but not consistently, as a colorant in red limewashes. It would have been equally as stable in a limewash as iron oxide-based red pigments. The combination of analysis results suggests the thin red coating found in sample UVA VIII-2 is, in fact, a limewash, with red ochre and red lead as the colorants.

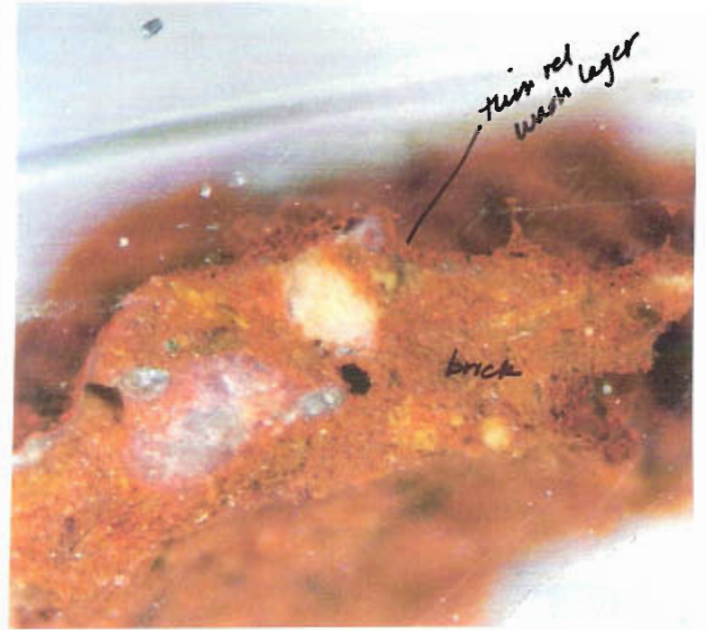
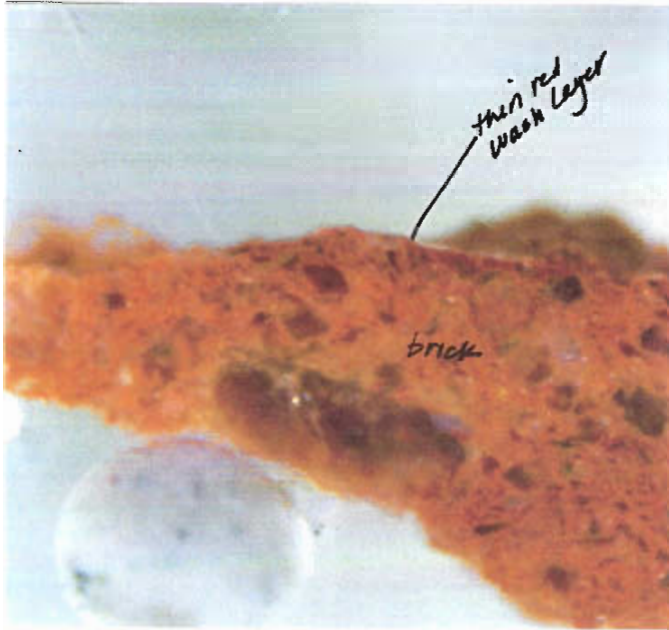
¹² This sample was delivered to Catherine Matsen, assistant scientist, at the Winterthur Museum Scientific Research and Analytical Laboratory on April 5, 2005 for SEM-EDS elemental analysis and dot mapping comparable to the analysis conducted on sample SB-EX-1 during the first phase of exterior paint analysis. Email communications June 7 and 15, 2005.

Red Wash Comparison at 50X magnification

Sample VIII-2. Brick face 3" below south (right) front window sill, first floor Wayne Mays' "colour wash" mock-up'

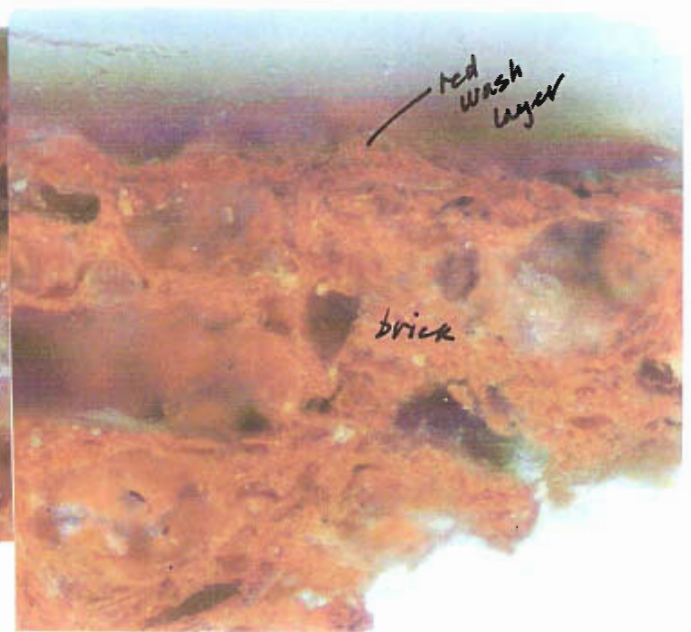
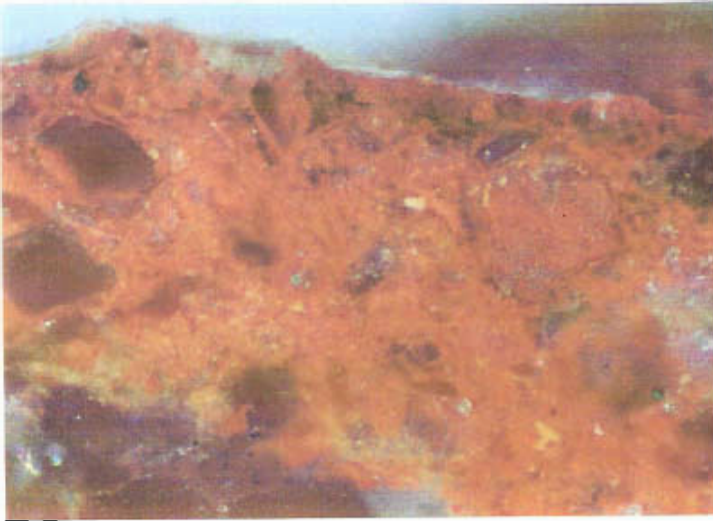
Visible Light 50X

Visible Light 50X



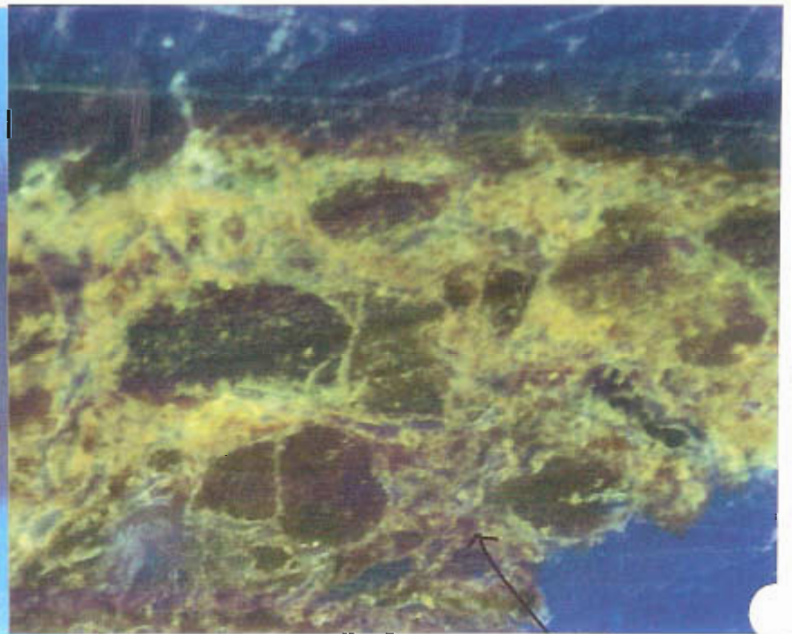
Sample VIII-2. Brick face 3” below south (right) front window sill, first floor.

Visible Light 125X



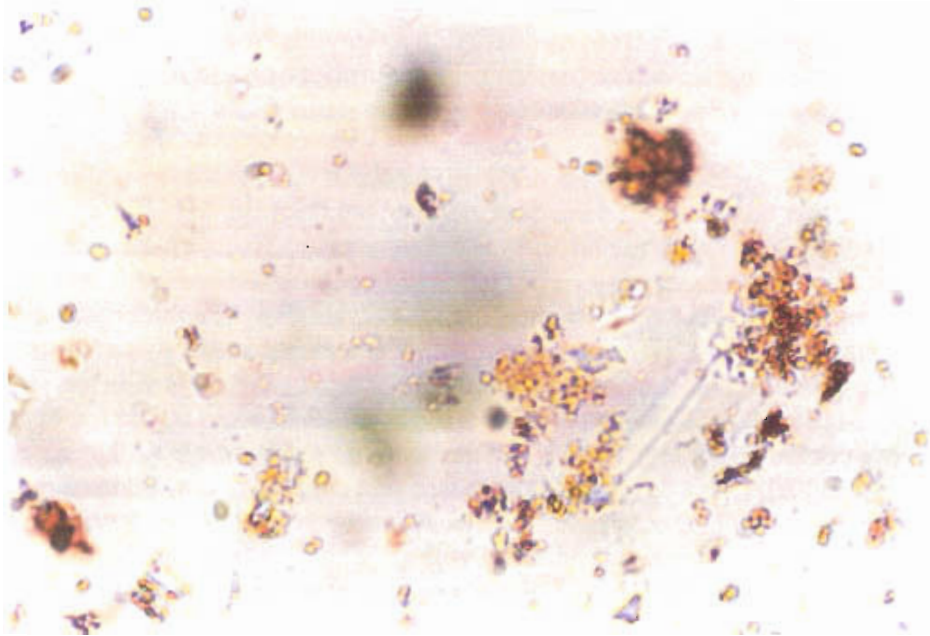
Ultraviolet Light 125X

UV Light & FITC 125X
For the presence of proteins



Sample VIII-2. Brick face 3" below south (right) front window sill, first floor. Dispersed pigments from red wash layer.

Plane Polarized Transmitted Light 1250X



Crossed Polars (darkfield) 1250X

