

18.170 Cupola House Dining Room and Parlor cross-sections, removed 1976

Images and write-up, March 5, 2019

Presumably as part of an investigation conducted by Dan Kushel and Sue Sack in 1976, five cross-section samples were removed from the Cupola House painted woodwork, two from the Dining Room and three from the Parlor. The exact locations of removal are unknown. The samples were embedded in resin cubes and polished at the time of removal.

Images included and described in this report were taken in 2019 by Jessica Ford using a Leica DM2500 M microscope with 12V 100W halogen lamp visible illumination. The ultraviolet light source is a Leica EL6000 External Light Source unit with a mercury metal halide bulb illumination. Images are captured using a Leica DFC420 video output.

Other documentation relating to the initial investigation will be uploaded to TMS, including:

- **Dan Kushel's memo from July 1976, probably referring to in-situ paint layer reveals:**

Dining Room: "All areas (wall panels, frames, decorative moldings and carvings) showed the same paint layers. Top to bottom: 1) light turquoise, 2) white, 3) *beige "graining", 4) greenish grey, 5) dark turquoise. Paint samples were taken from each of the five layers. There is also a vial of paint chips which include all layers. (The darker side is the bottom of the chip). *This is likely the undercoat for the graining seen in the early photographs. It appears very similar to the undercoat in the Parlor."

Parlor: "All tests of the dark paneling and molding (door, frames, fireplace, chair-rail) showed the same paint layers. Top to bottom: 1) dark graining, 2) beige undercoat, 3) greenish grey, 4) dark turquoise."

- **Analysis done by Sherwin Williams, August 1976:**

Corbin Dining Room, light turquoise top layer: "Infrared analysis indicates the presence of barytes (BaSO₄) or zinc lithopone, calcium carbonate, an oil, and probably silica. The oil may be linseed but further analysis would be required to confirm this."

Corbin Dining Room, dark turquoise lower (earlier) layer: "X-ray diffraction analysis indicates the presence of white lead, calcium carbonate and an unidentified crystalline component which is minor in concentration. X-ray emission analysis indicates the presence of lead, calcium, and very minor amounts of zinc, iron and copper."

- **Examination reports by consulting conservation scientists Morgan Phillips & Judith Selwin, February 1977:**

Original surface of Parlor was Prussian Blue. A "curious, thin, milky, whitish semi-opaque coating" on top of blue paint could be a glaze but unknown.

Original surface of Dining Room was white or off-white. Sometimes a browning oily glaze is present on the white; wouldn't have originally been so brown if it was a graining layer. Possibly Prussian blue impurity in one area of white. Ochre found on the fireplace mantel is later, because of known modifications to the fireplace.

18.170 Cupola House cross-sections

Dining room 1

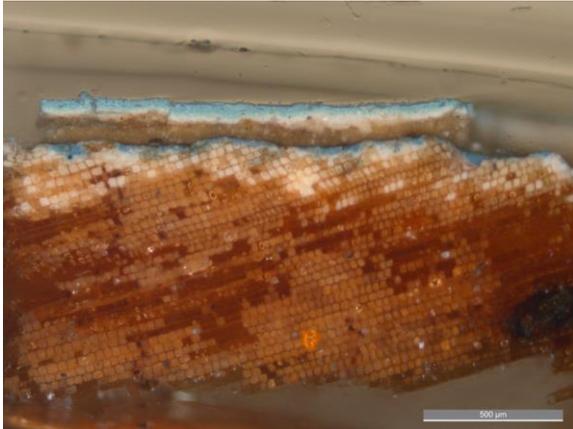
Resin cube details:

Scratched-in label reads "CORBIN / DINING" on one side, "4" (?) on other side.

Sharpie label reads "CDR".

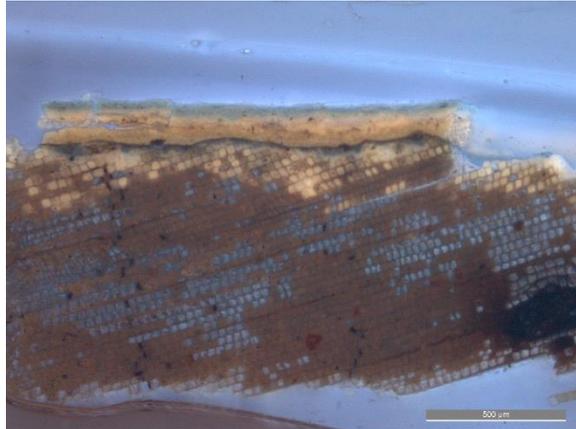
VIS

5x obj

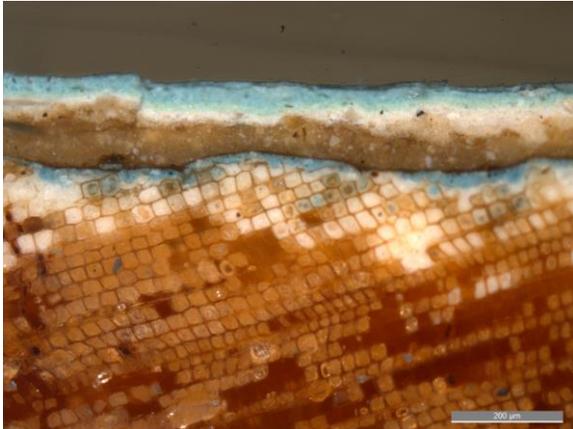


UV

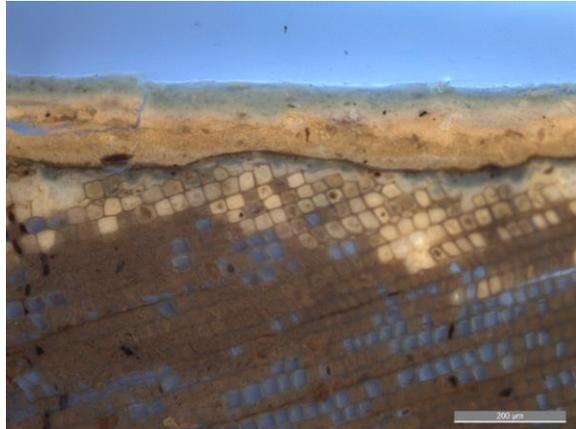
5x obj



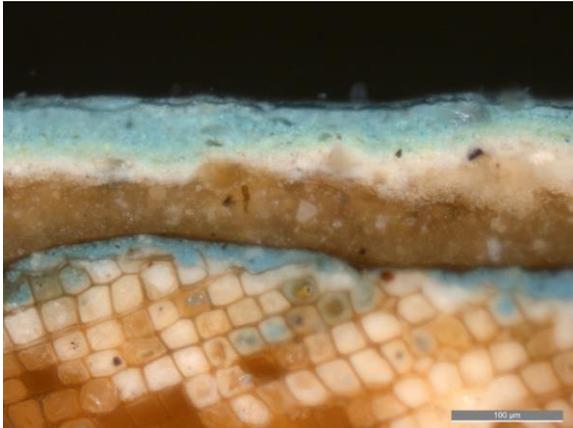
10x obj



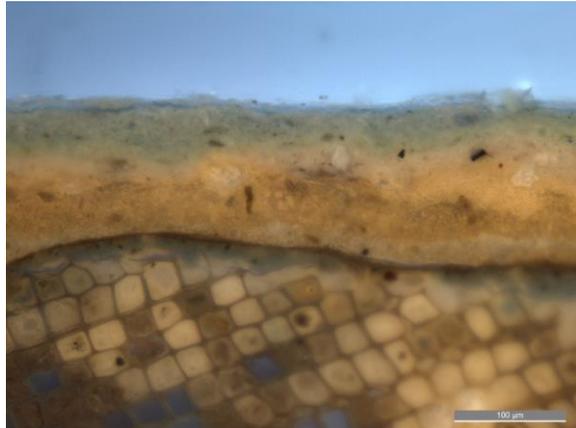
10x obj



20x obj



20x obj



18.170 Cupola House cross-sections

Layers:

- 9 – blue
 - 8 – teal
 - 7 – white
 - 6 – cream
 - 5 – tan (two application layers visible in UV)
 - 4 – thick dirt layer from stripping?
 - 3 – blue (somewhat pressed into wood structure)
 - 2 – white gesso (pressed into wood structure)
 - 1 – wood
- } *diffuse delineation between layers 7-9*

18.170 Cupola House cross-sections

Dining Room 2

Resin cube details:

Scratched-in label reads "CORBIN / DINING RM".

Sharpie label reads "C / DR".

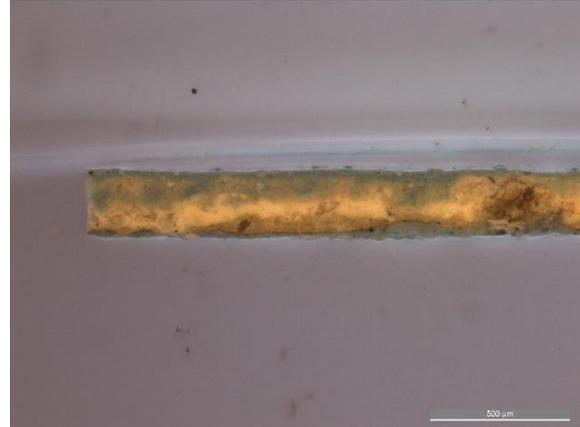
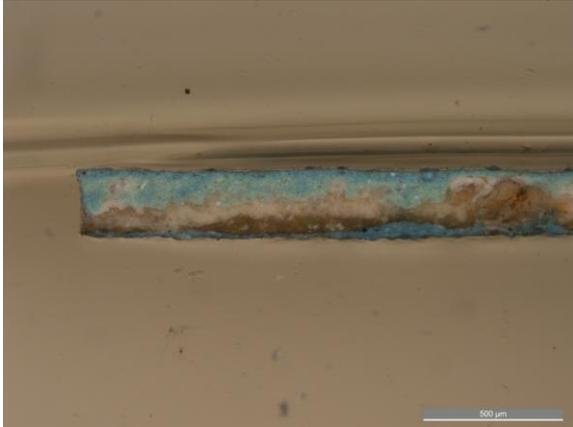
Some images were taken with the sample upside down; the orientation presented here is correct based on comparison with the other Dining Room cross-section.

VIS

UV

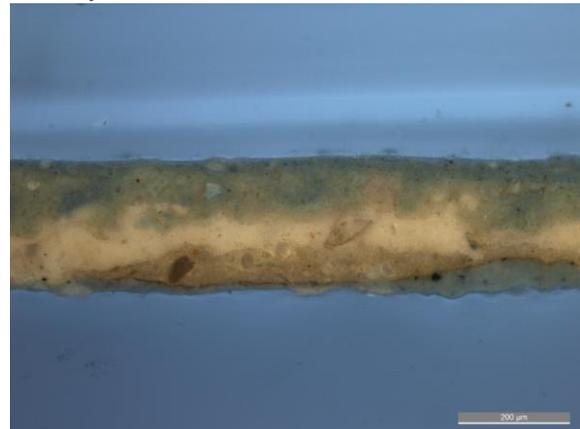
5x obj

5x obj



10x obj

10x obj



20x obj

20x obj



18.170 Cupola House cross-sections

Layers:

- 5 – 3 colors intermingled: white, light teal, and blue on top
- 4 – cream with darkened top
- 3 – tan
- 2 – dirt?
- 1 – blue w/large particles

18.170 Cupola House cross-sections

Parlor 1

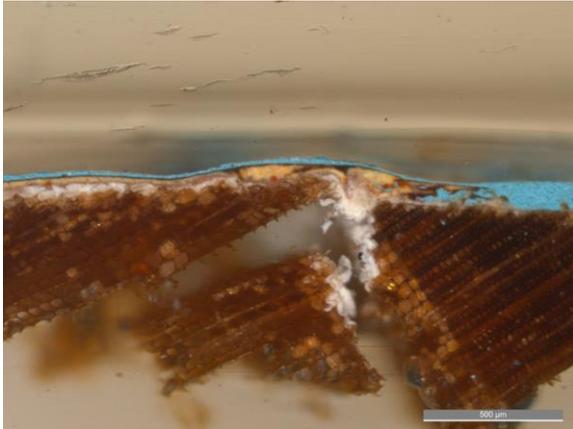
Resin cube details:

Scratched-in label reads "CORBIN / PARLOR" on one side, "2" (?) on opposite side.

Sharpie label reads "CP"

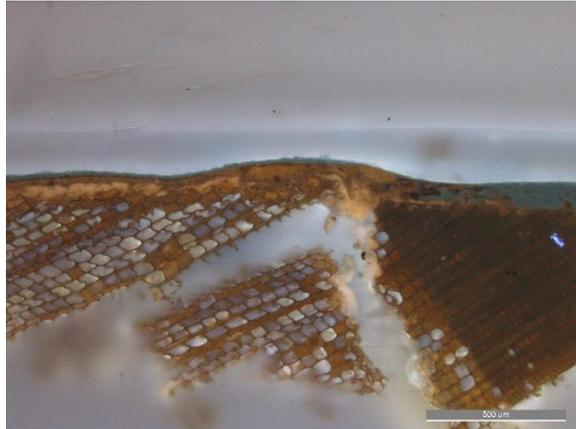
VIS

5x obj

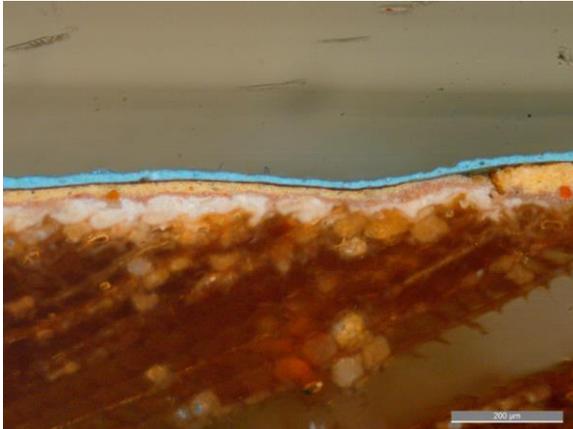


UV

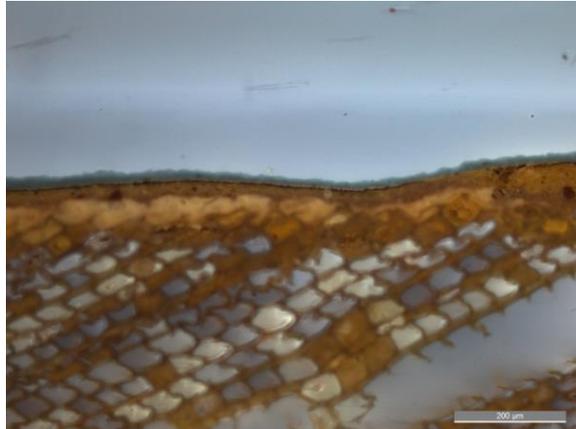
5x obj



10x obj



10x obj



Layers:

- 8 – blue
- 7 – fluorescent layer
- 6 – thin red/brown (semi-transparent graining?)
- 5 – ochre
- 4 – red w/bright particles (vermillion?)
- 2 – white ground
- 1 – wood

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Parlor 2

Resin cube details:

Scratched-in label reads "CORBIN / PARLOR" on one side, "3 / 3" (?) on the opposite side.

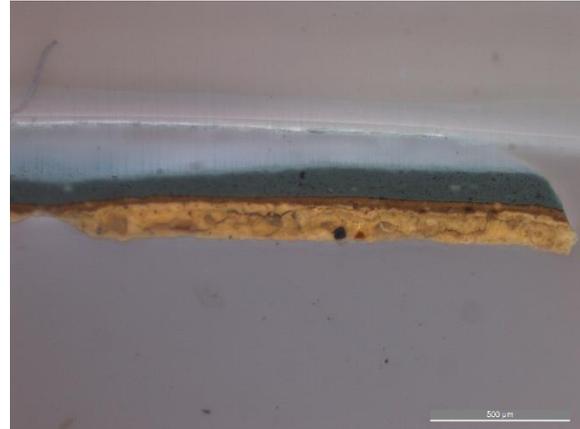
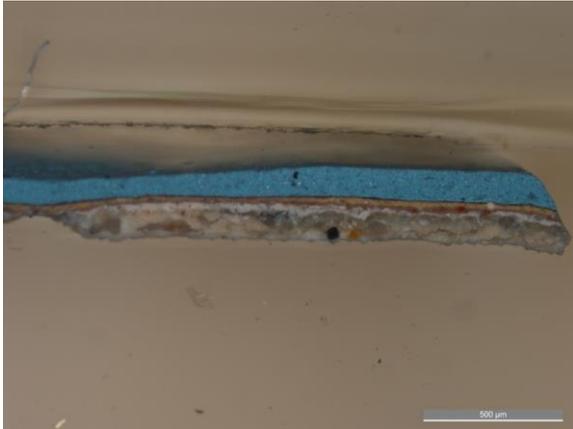
Sharpie label reads "CP".

VIS

UV

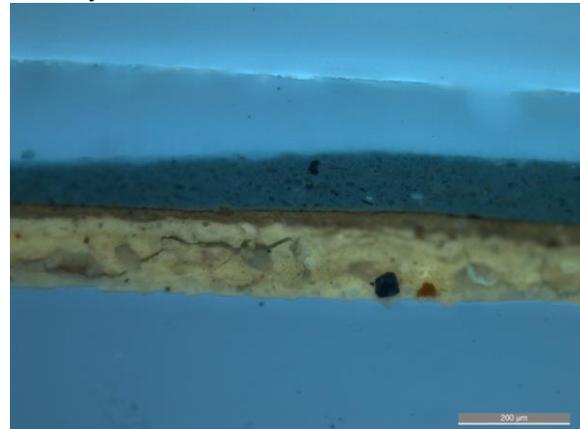
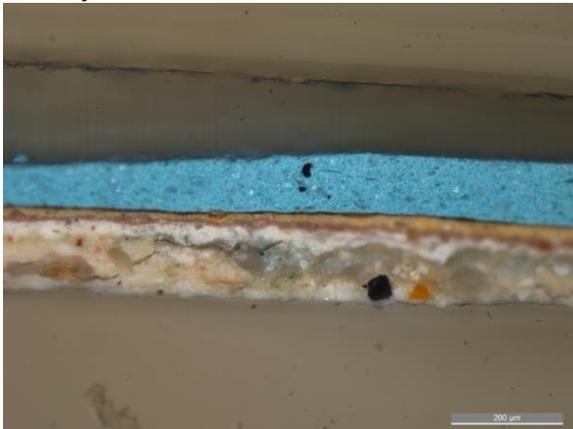
5x obj

5x obj



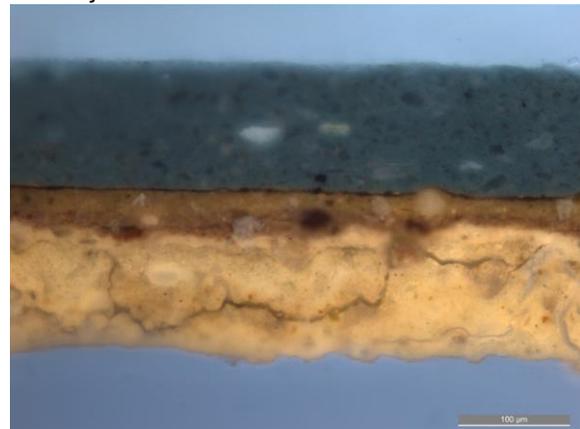
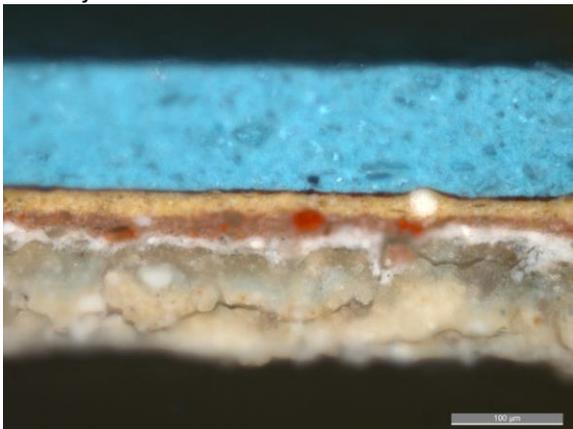
10x obj

10x obj



20x obj

20x obj



18.170 Cupola House cross-sections

Layers:

10 – blue

9 – fluorescent layer

8 – thin red/brown (semi-transparent graining?)

7 – ochre

6 – red w/bright particles (vermillion?)

5 – white

4 – dirt?

3 – beige

2 – cream

1 – white



diffuse delineation between layers 1-3

18.170 Cupola House cross-sections

Parlor 3

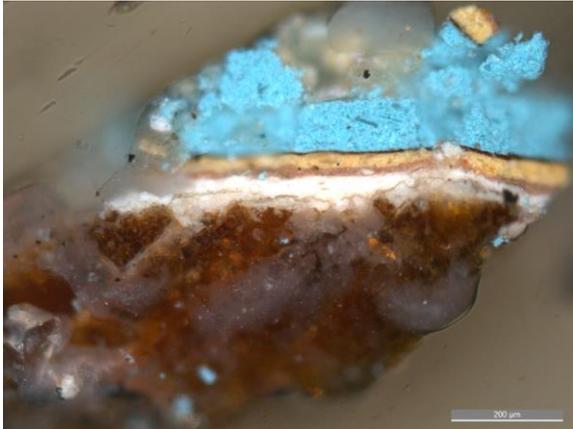
Resin cube details:

Scratched in label reads "CORBIN / PARLOR" on one side, "5" on the opposite side.

Sharpie label reads "CP".

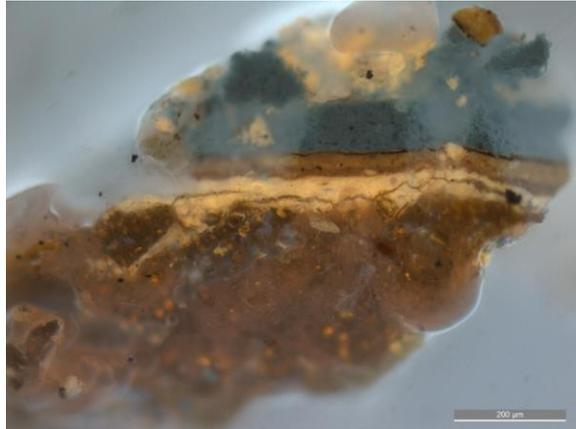
VIS

10x obj

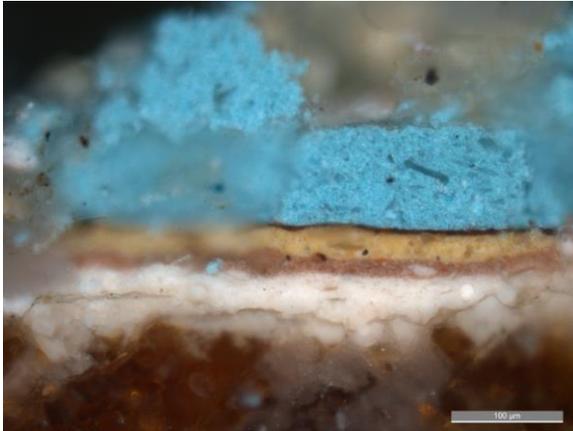


UV

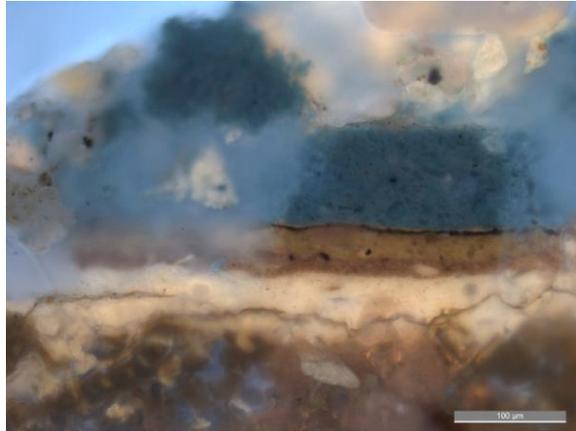
10x obj



20x obj



20x obj



Layers:

- 8 – blue
- 7 – fluorescent layer
- 6 – thin red/brown (semi-transparent graining?)
- 5 – ochre
- 4 – red w/bright particles (vermillion?)
- 3 – white
- 1 – wood