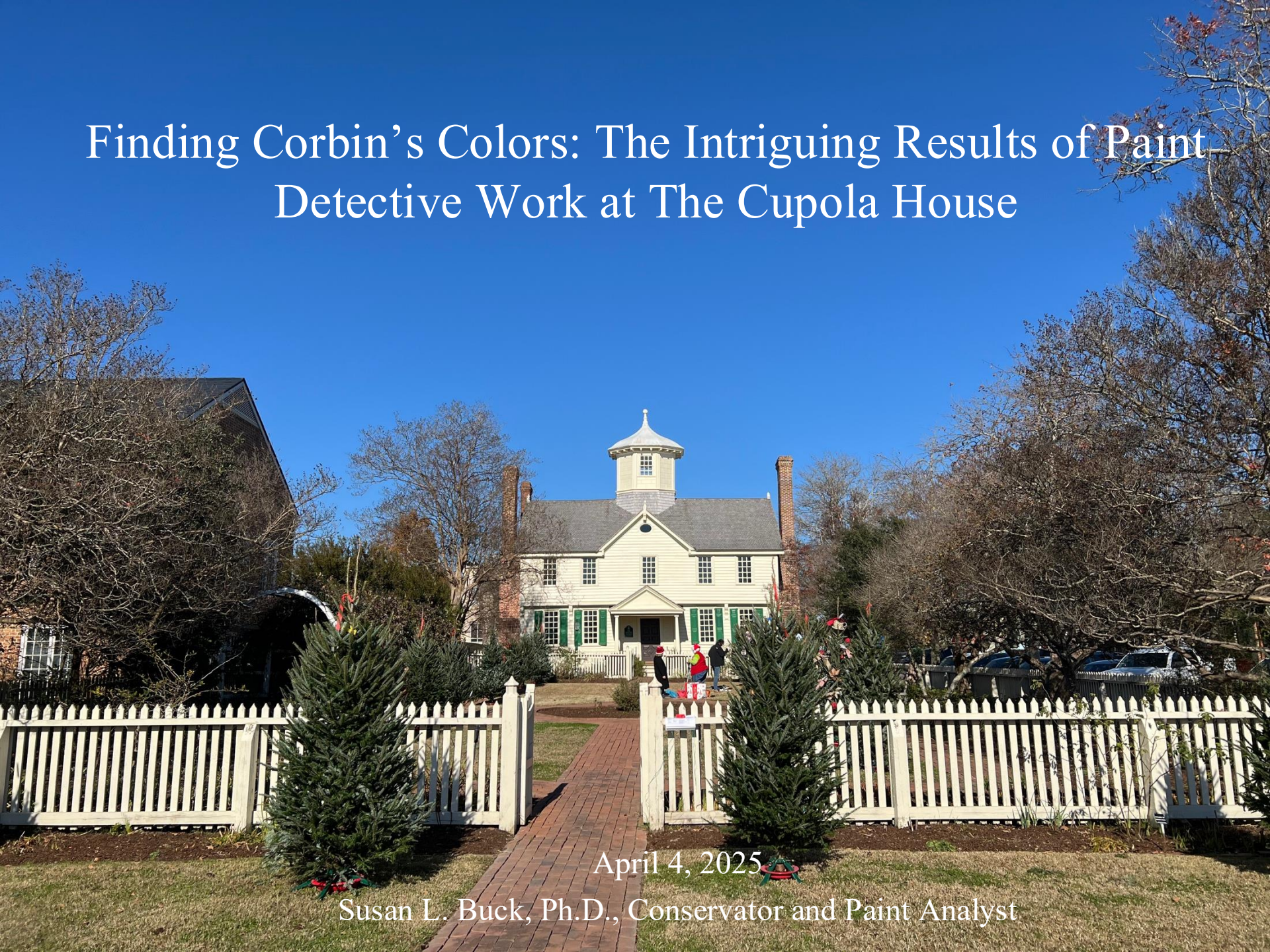


Finding Corbin's Colors: The Intriguing Results of Paint Detective Work at The Cupola House



April 4, 2025

Susan L. Buck, Ph.D., Conservator and Paint Analyst

Cupola House, ca. 1918. CupolaHouse.org/history/php



Architectural Paint Analysis Techniques Derived from Analysis of Art Objects

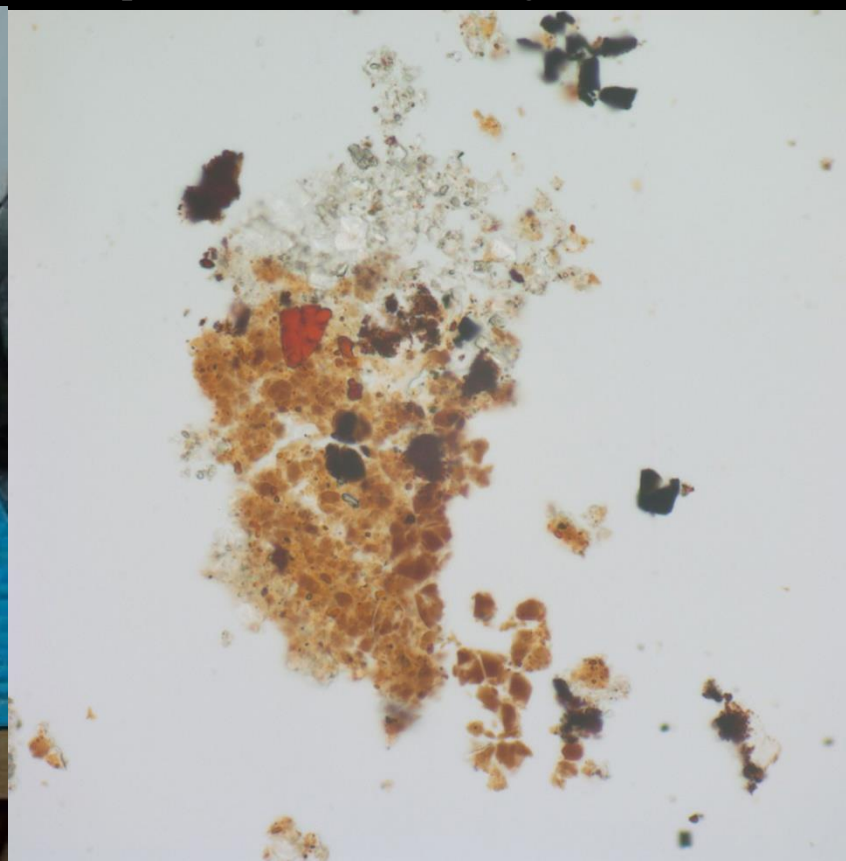
- Visible and ultraviolet light reflected cross-section microscopy with binder characterization using fluorochrome stains
- Transmitted polarized light microscopy for fibers and pigments



Sample Casting and Processing

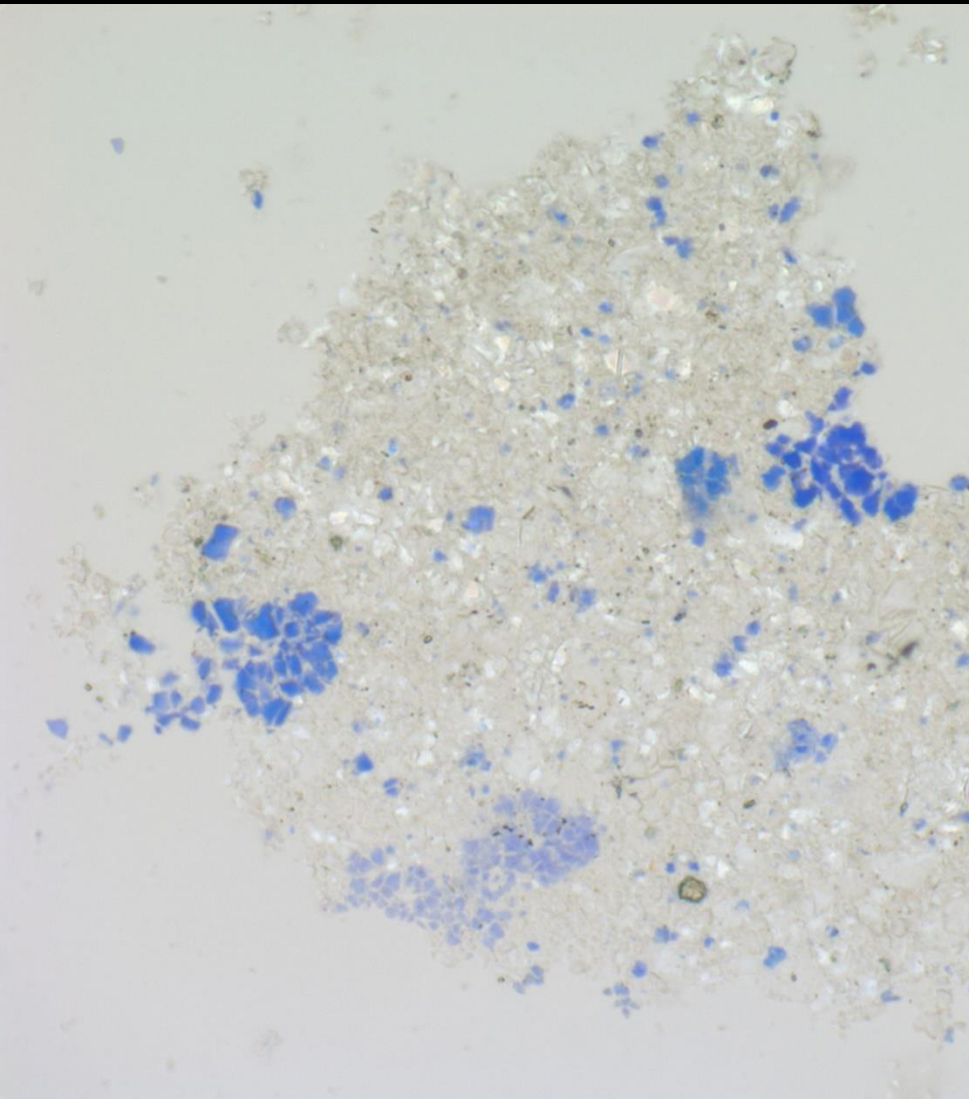
- Small samples (as small as a pinhead) cast in polyester resin cubes and polished to expose the cross-section stratigraphies
- Dispersed samples scraped from individual layers and cast onto microscope slides for polarized light microscopy of pigments and fibers

Center Passage Red-brown Paint Pigments
Red ochre, burnt sienna, haematite, CaCO_3
Plane polarized transmitted light 1000X

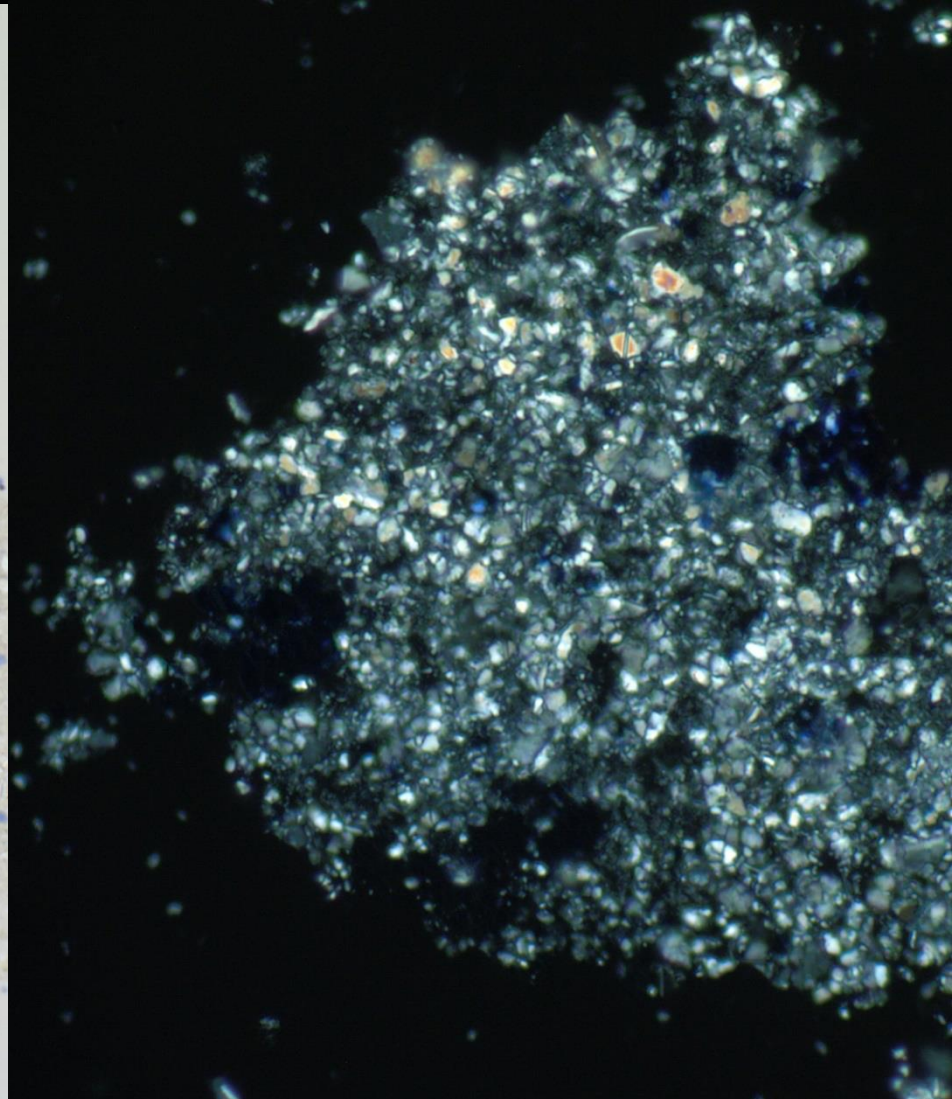


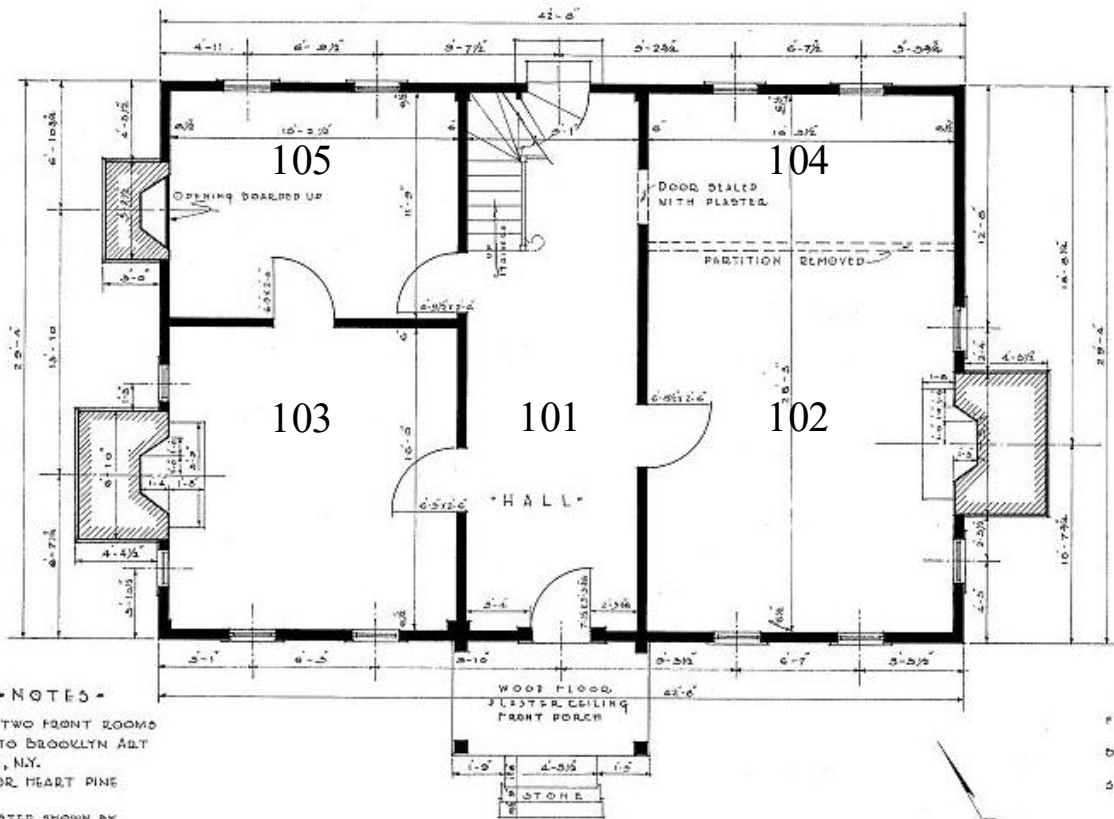
Sample 103-12. Synthetic Ultramarine In Blue Distemper

Plane polarized transmitted light 1000X



Crossed polars (darkfield) 1000X





•GENERAL NOTES-

WOOD PANELING IN TWO FRONT ROOMS AND HALL REMOVED TO BROOKLYN ART MUSEUM, BROOKLYN, N.Y.
 ALL ORIGINAL FLOOR HEART PINE 12" x 4 1/2" T&G
 ORIGINAL STARTING STEP SHOWN BY DOTTED LINE.
 BRICK SIZE 8" x 2 1/8" x 3 5/8" TO 4 1/4" FOUR COURSES TO 10 INCHES.
 WEATHERBOARDS 3/8" TO 6" TO THE WEATHER.
 THE ORIGINAL FUNCTION OF ROOMS IS UNKNOWN.

O. P. CIANCI & A. DADDIN, MENS.
 F. D. NICHOLS & W. T. LAMONT, DELTS.

•FIRST FLOOR PLAN •
 SCALE 1/4" = 1'-0"

•LEGEND •

- FRAME
- BRICK
- STONE



1940 PUBLIC WORKS ADMINISTRATION PROGRAM
 FEDERAL PROJECT 498-A
 UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE

• CUPOLA • HOUSE • EDENTON • NORTH • CAROLINA •

SURVEY NO.
NC-2
 6-28-40

HISTORIC AMERICAN
 BUILDINGS SURVEY
 SHEET 1 OF 14 SHEETS

LEGEND OF SYMBOLS
 BRICK SYMBOL

Brooklyn Museum Installation. C.O. Greene, Photographer, 1940



Room 101 Center Passage



Room 101 Center Passage Woodwork Paints

101-1. Door trim



101-2. Door trim



101-5. Pediment



101-9. Closet door





Room 101 Newel Post at Landing Above ghost of handrail

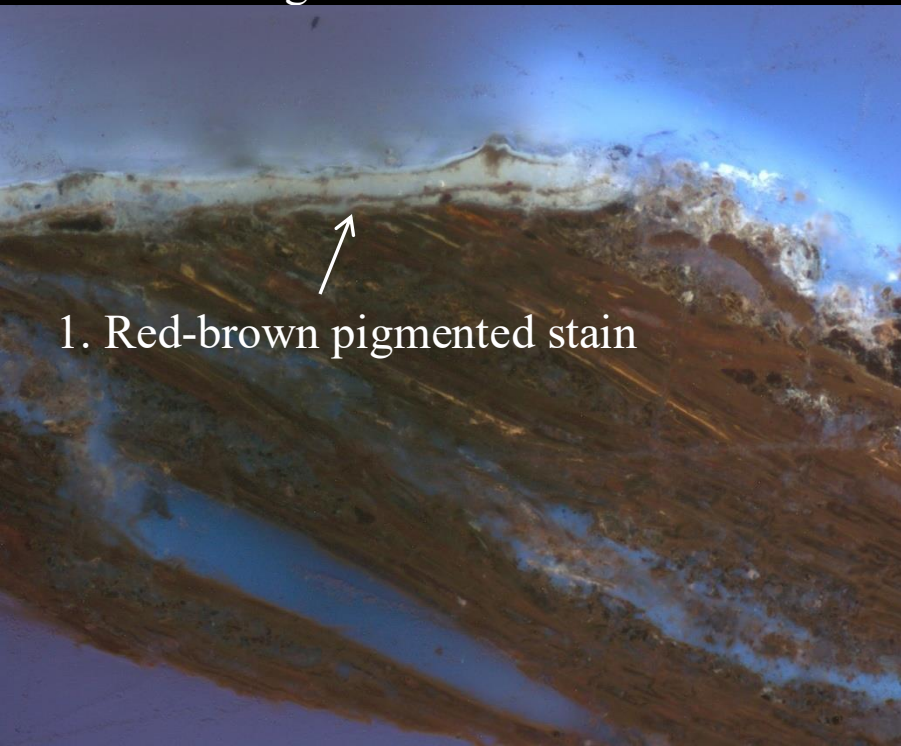


Room 101/201 Comparison of Carved Stair Bracket Paint Histories

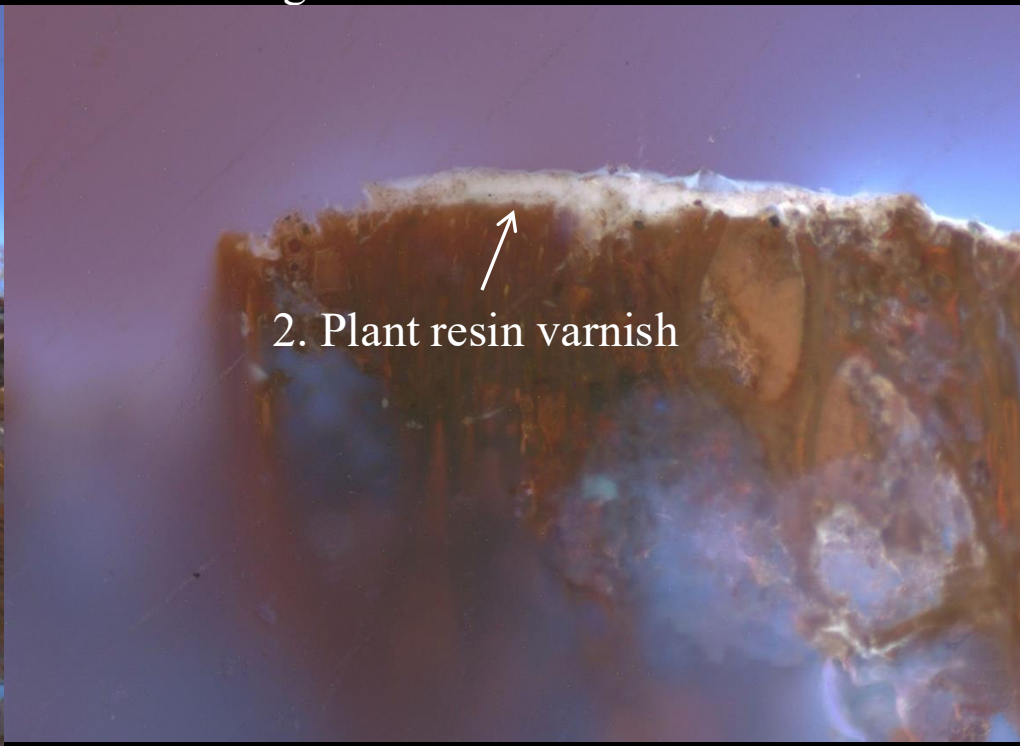


201-1. UV Light 200X

201-2. UV Light 200X



1. Red-brown pigmented stain



2. Plant resin varnish



Room 101 Carved Wood
Ceiling Medallion

101-19. Visible Light 200X



1. Red-brown paint

Wood

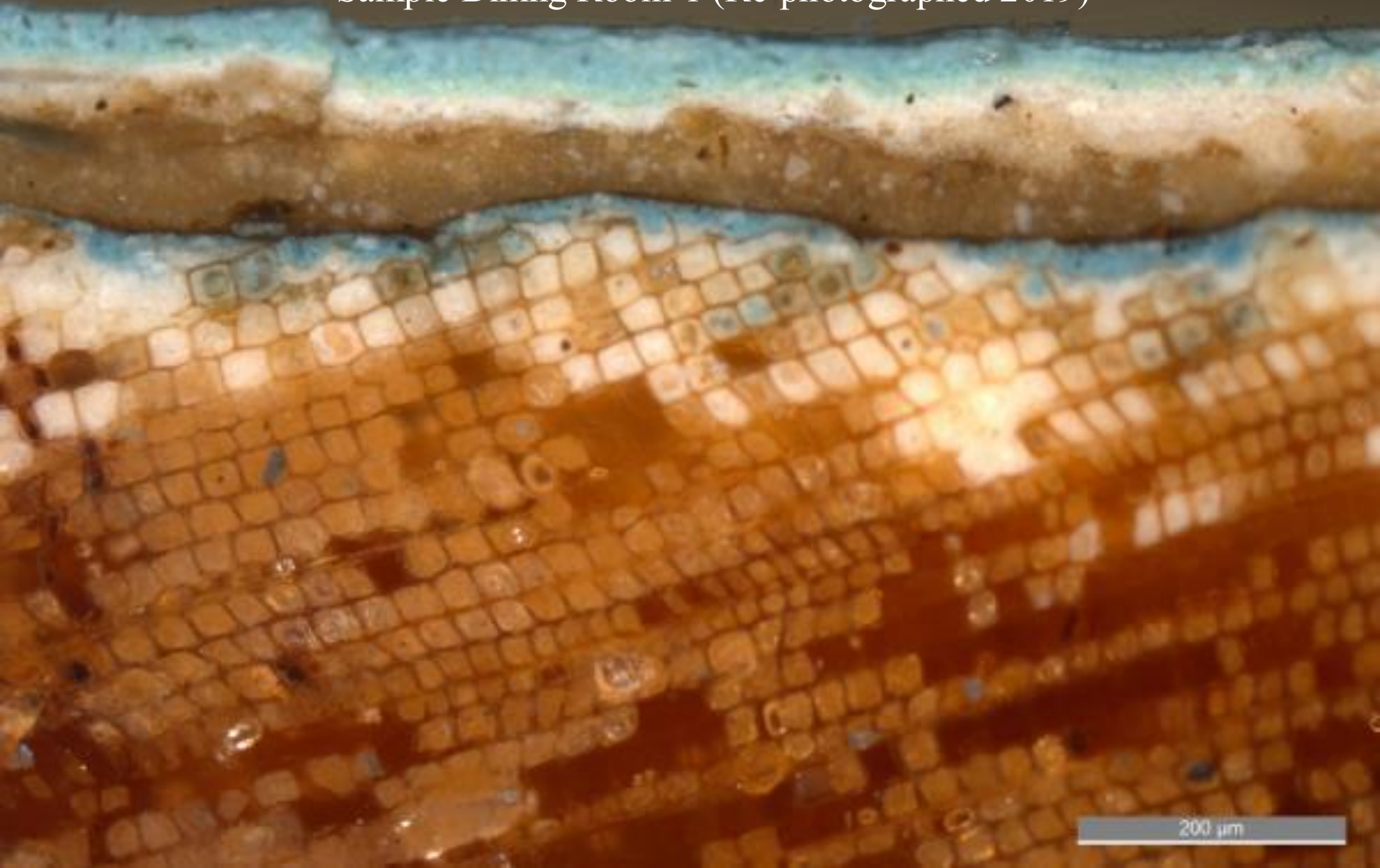
101-19. Ultraviolet Light 200X



Room 102 Dining Room
Brooklyn Museum Installation



Room 102 Dining Room Woodwork Paints
1976-77 Brooklyn Museum Paint Research
Sample Dining Room-1 (Re-photographed 2019)



200 μm

Room 102 Dining Room Woodwork



Room 102 Dining Room Cupboard

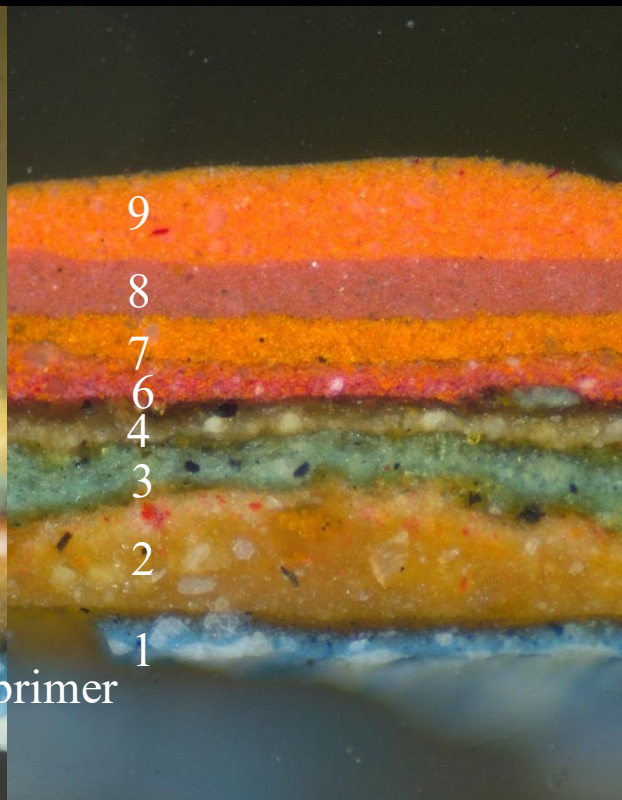


Room 102 Dining Room Cupboard Paints

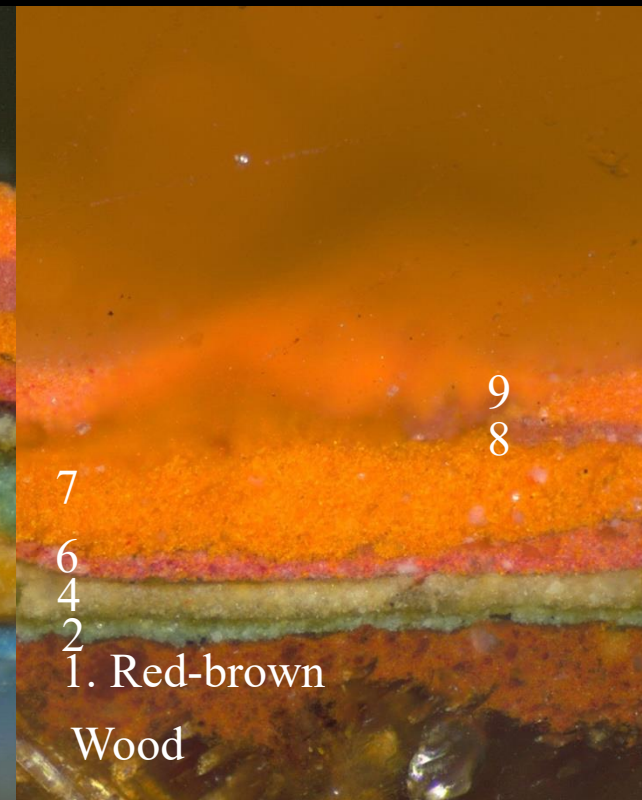
102-1. Upper case shelf



102-4. Upper case shelf



102-9. Lower case shelf



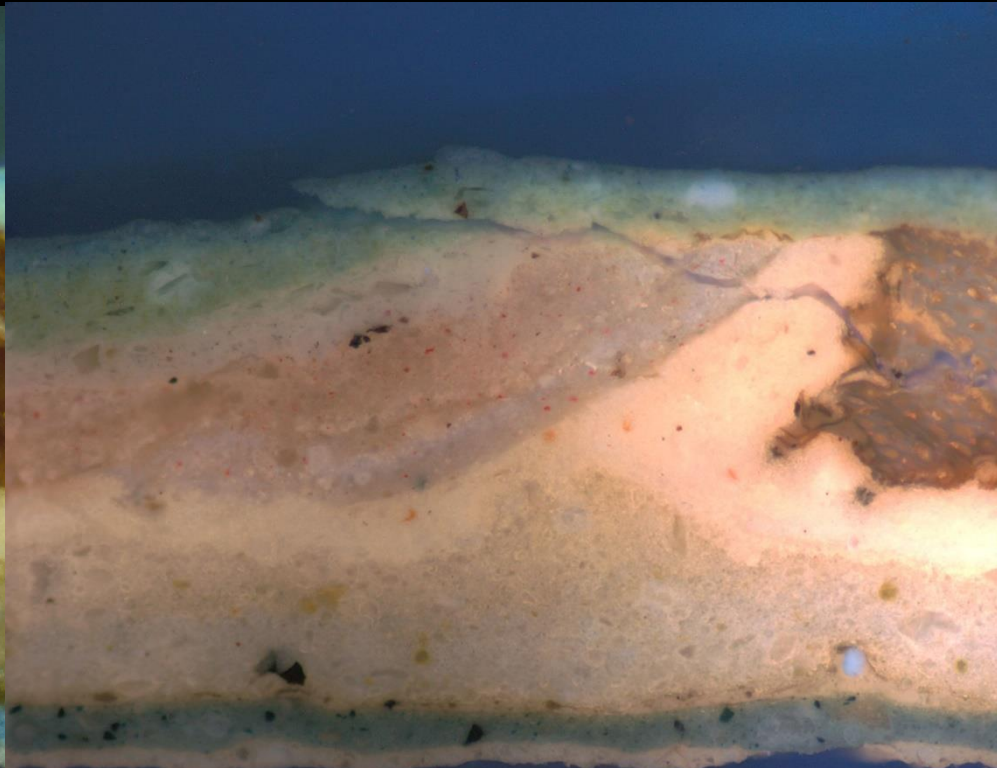
Room 102 Dining Room Woodwork Paints

102-16. West wall door
Visible Light 200X



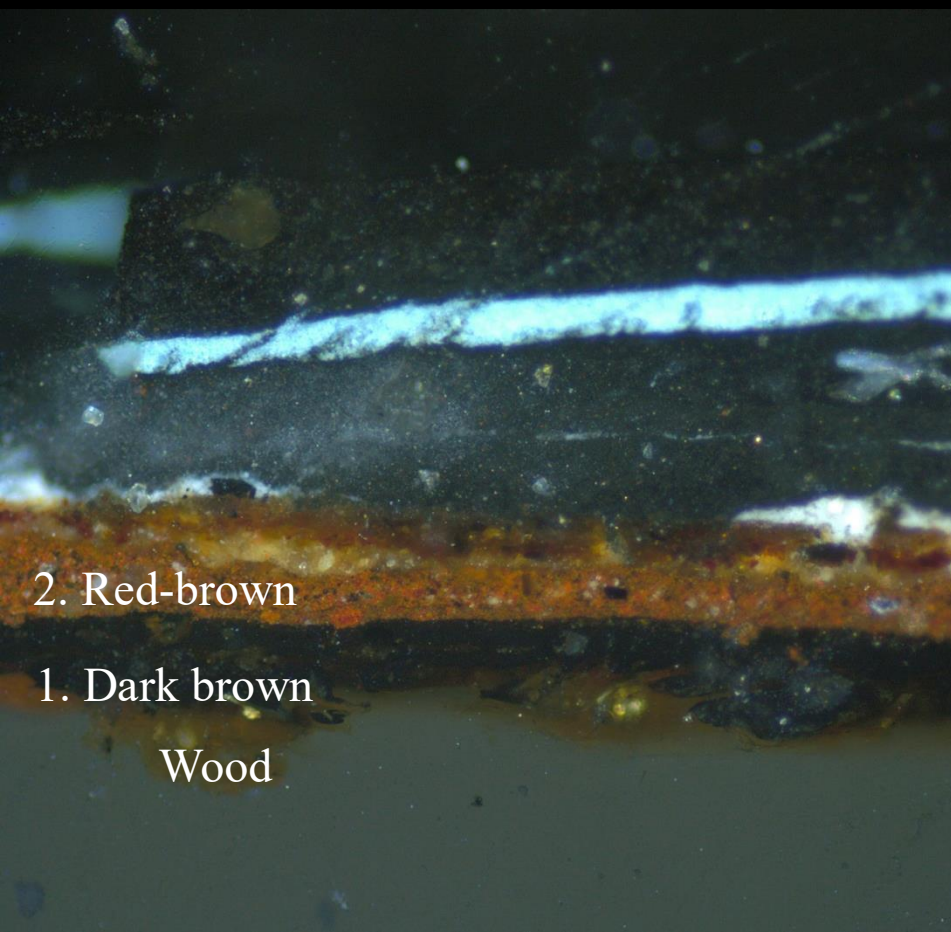
1. Blue with glaze on off-white primer

102-16. West wall door
Ultraviolet Light 200X

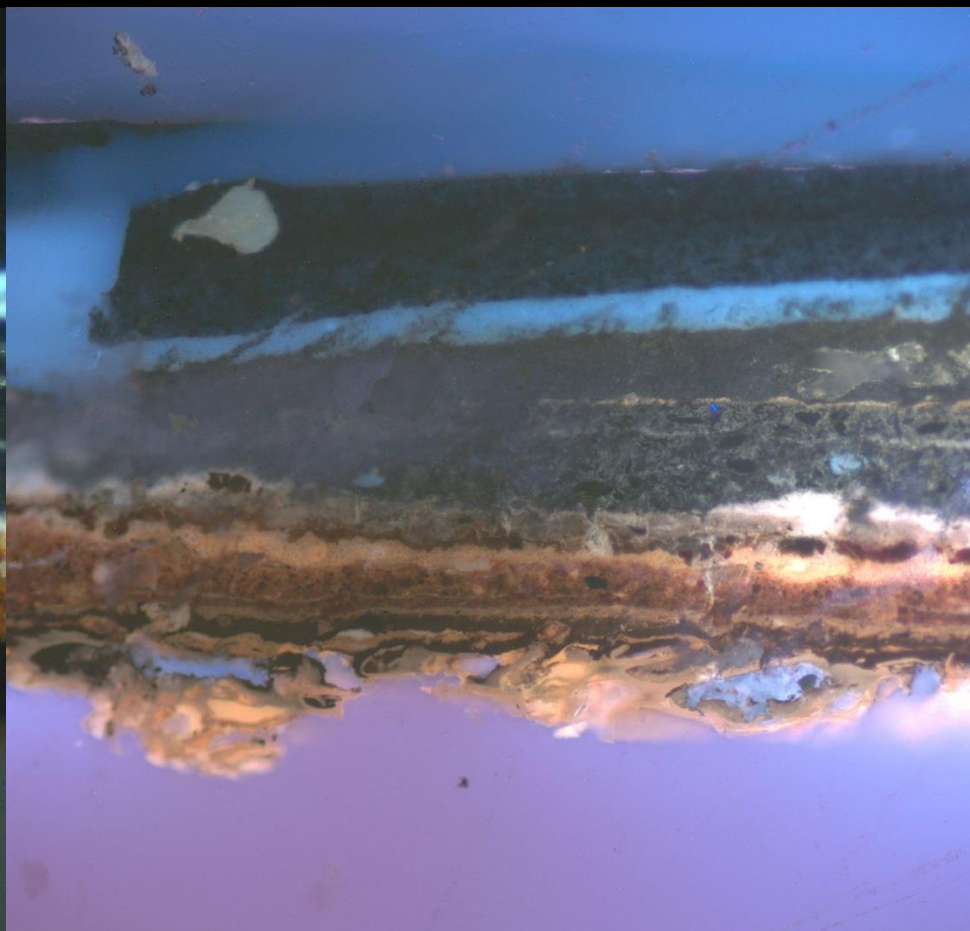


Room 102 Dining Room Baseboard Paints

102-19. West wall baseboard
Visible Light 200X



102-19. West wall baseboard
Ultraviolet Light 200X





Room 103 Parlor
Brooklyn Museum Installations



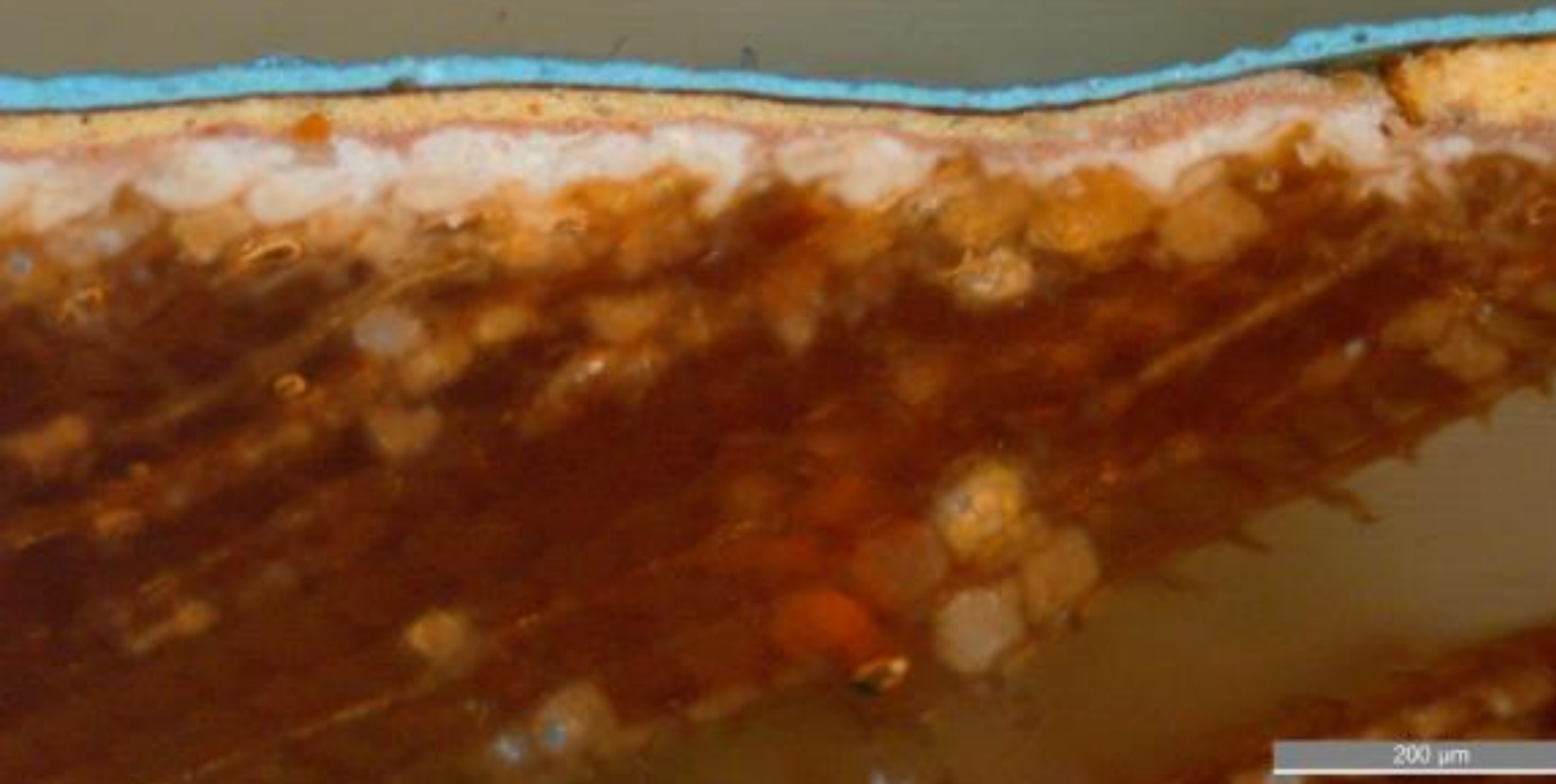
Parlor 1976-7 Brooklyn Museum Tests



Brooklyn Museum Blue Replica Paint



Room 103 Parlor-1 Woodwork Paints
1976-77 Brooklyn Museum Paint Research
(Sample Re-photographed 2019)



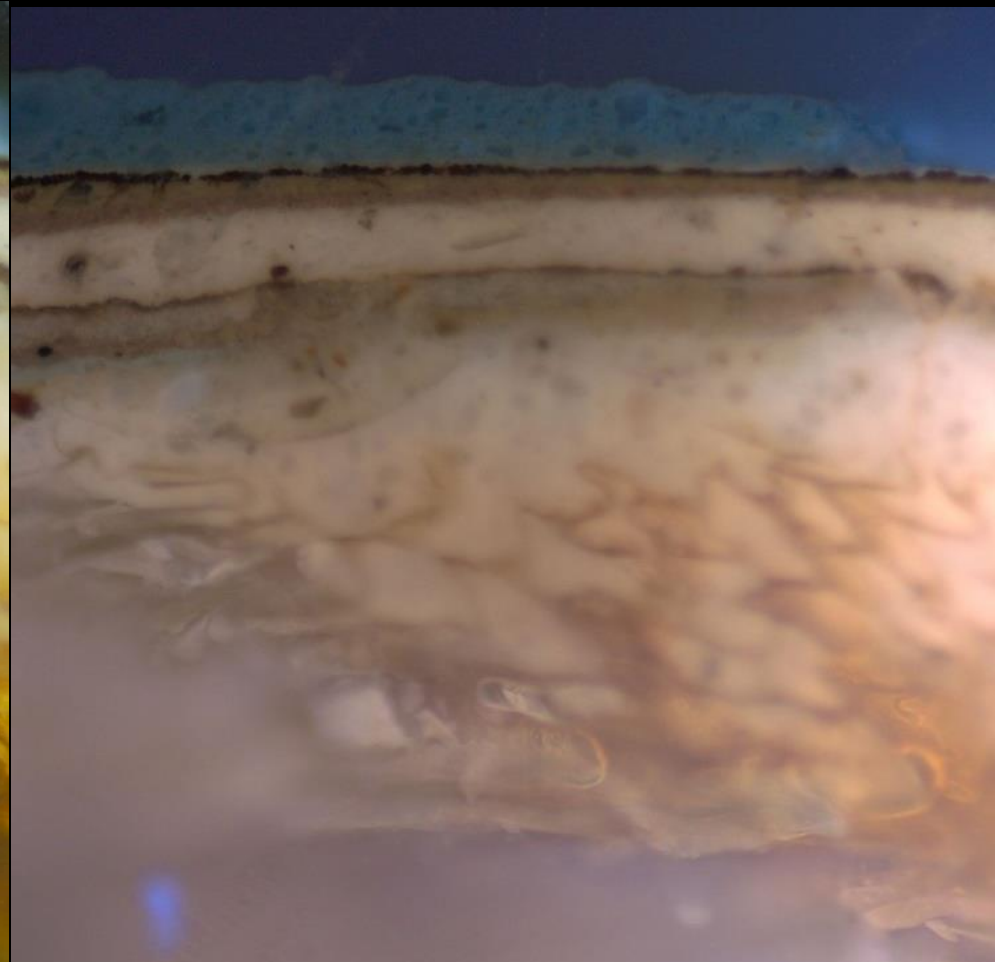
200 μm

Room 103 Woodwork Paints

103-2 Mantel. Visible Light 200X

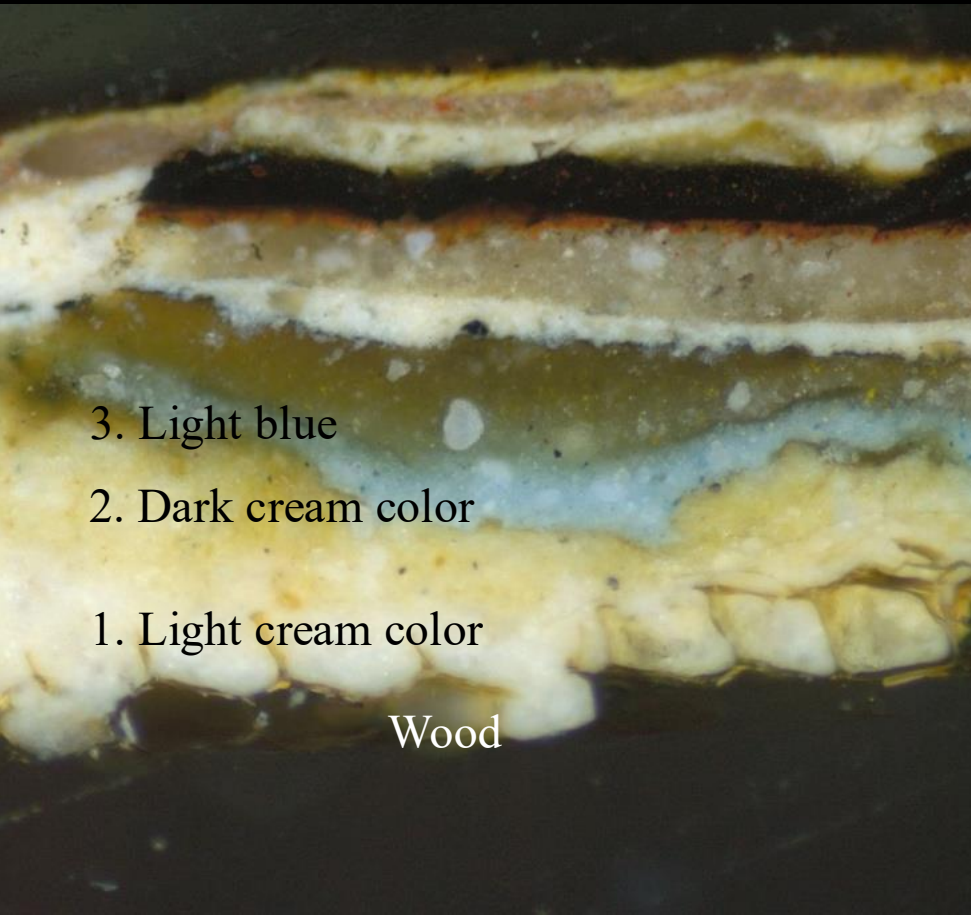


103-2 Mantel. UV Light 200X

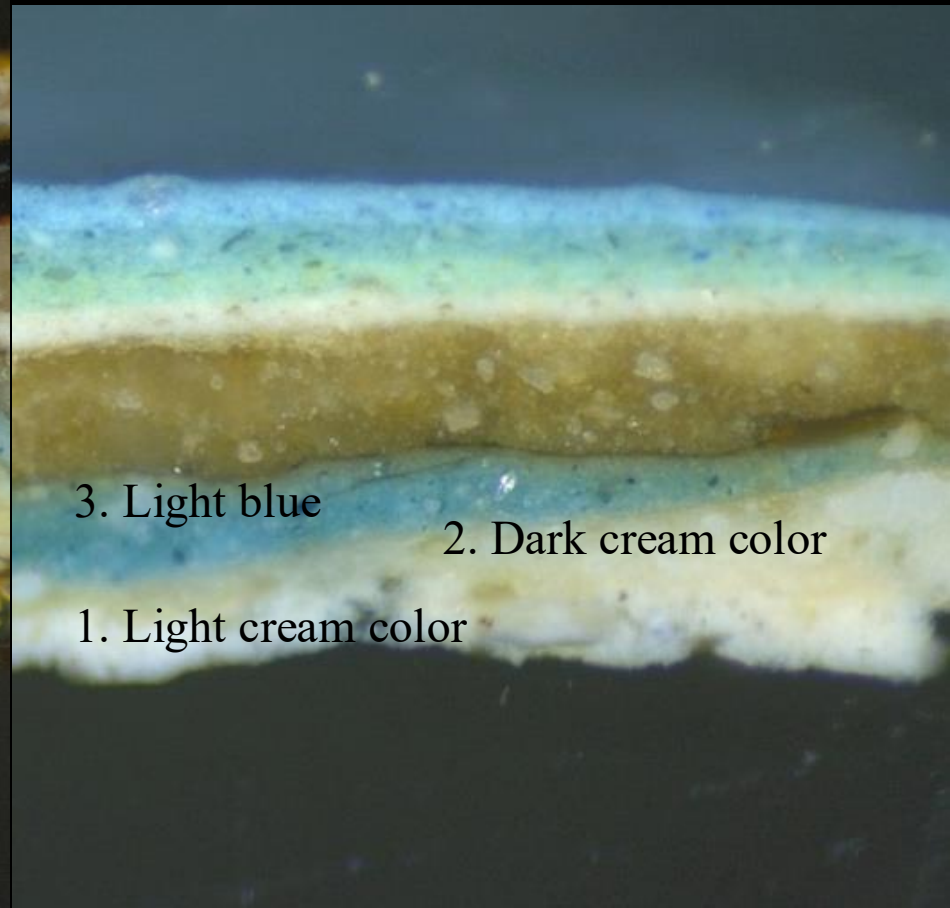


Room 103 Woodwork Paints

103-1 Door to Passage 200X



103-6 Cornice 200X



Rooms 103 and 105 Trapped Plaster Fragments



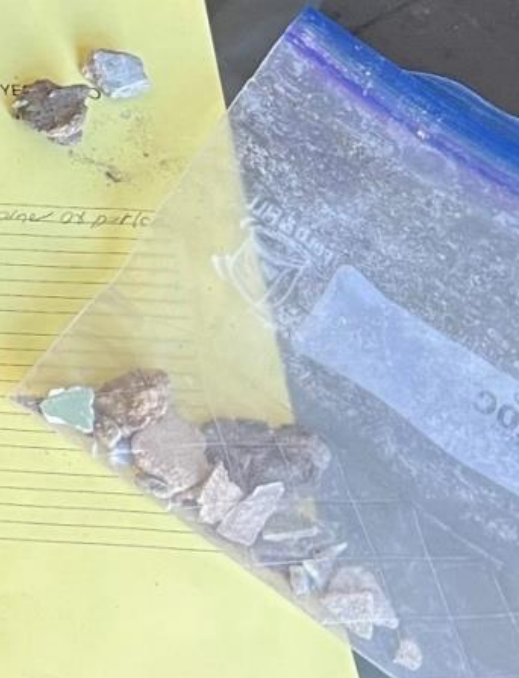
103, dead
glass in
found in
summer
Cov. 14
3/26/25

BOX #

FRAGILE? YES NO

CUPOLA HOUSE ASSOCIATION:
PACKED BY: _____

DESCRIPTION OF CONTENTS:
SOFT PLASTER COLORED OR PINK



Room 103 Trapped Plaster Fragments

103-11. Fragment with green paint

16. Green distemper
15. Gray distemper

1 through 14. Unpigmented limewashes

Coarse plaster

103-12. Fragment with light blue paint

10. Light blue distemper
9. Gray distemper

1 through 8. Unpigmented limewashes

Coarse plaster

Room 105

Rear NW Room Woodwork



Mantel with reused original siding



Room 105 Rear NW Room Woodwork

105-1. Door.



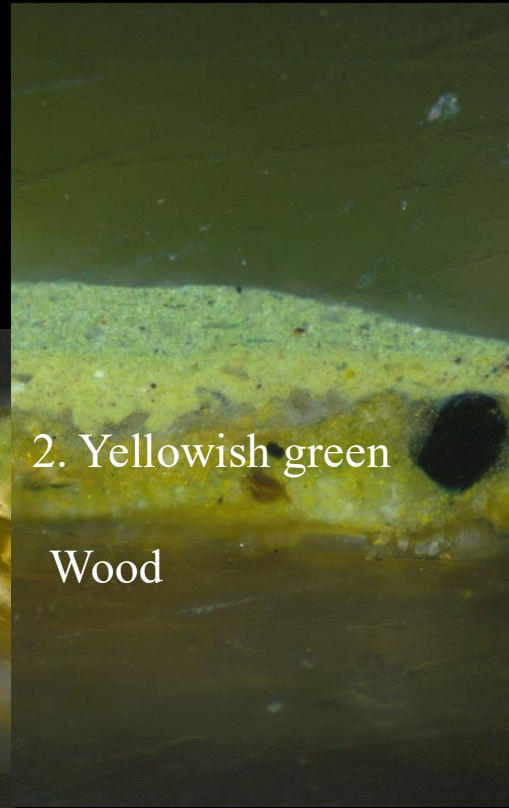
105-3. Cornice



105-5. Mantel

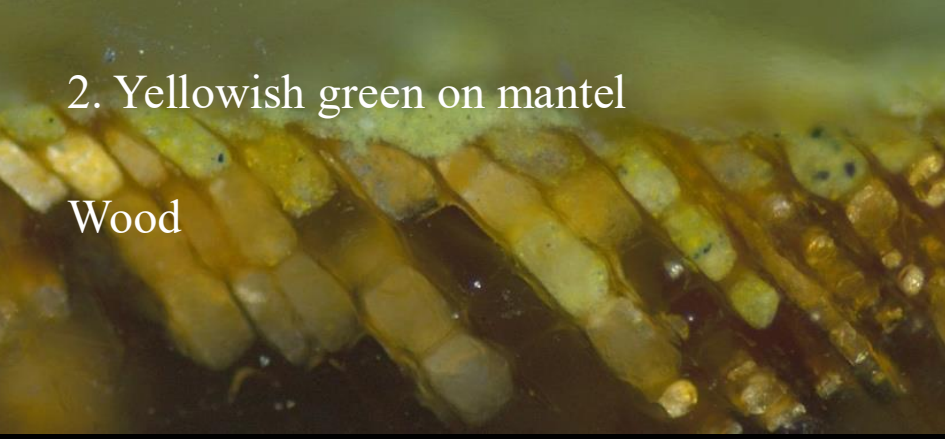


105-6. Chair rail



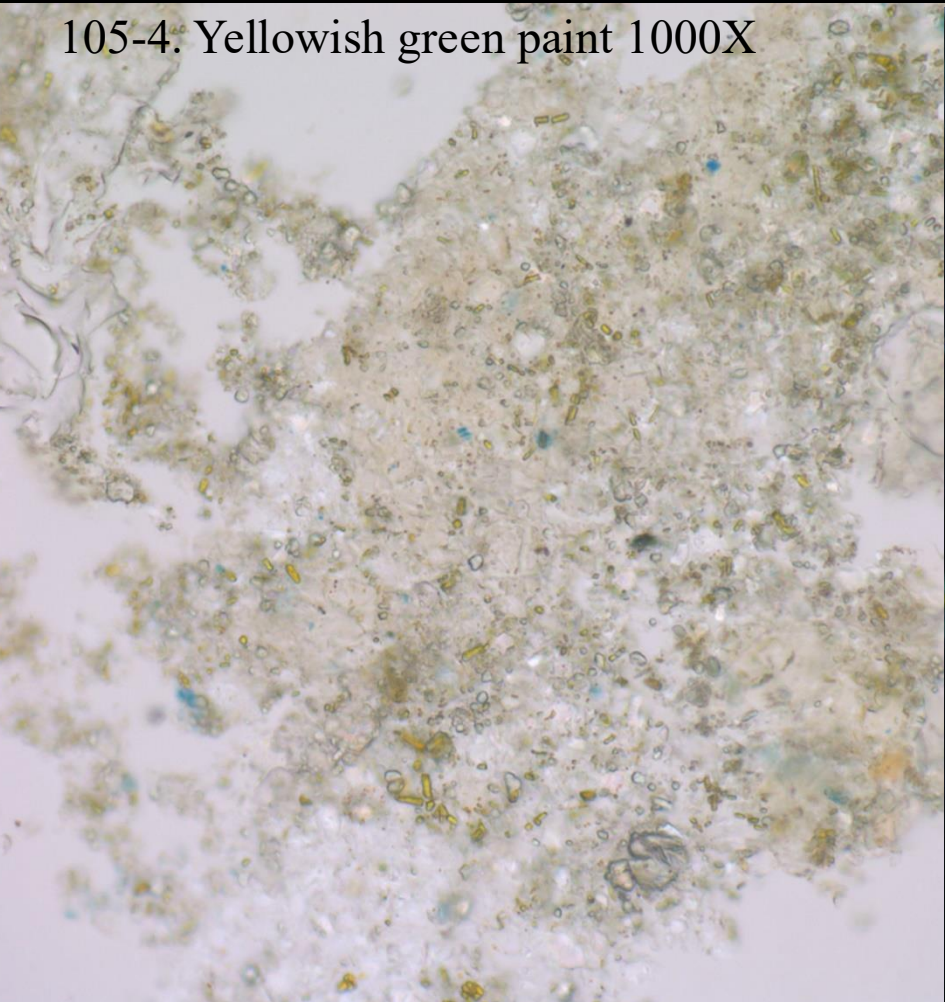
2. Yellowish green on mantel

Wood

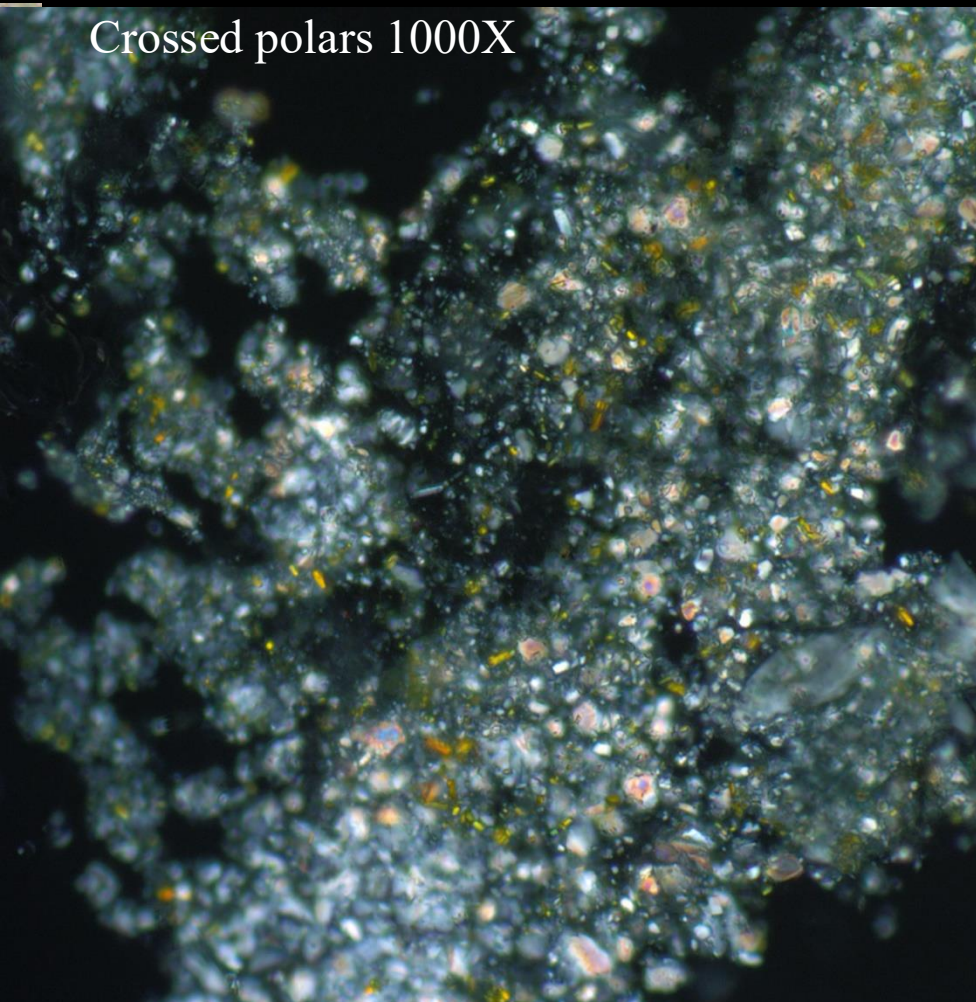


Chrome yellow, Prussian blue and white lead in the second-generation yellowish-green paint

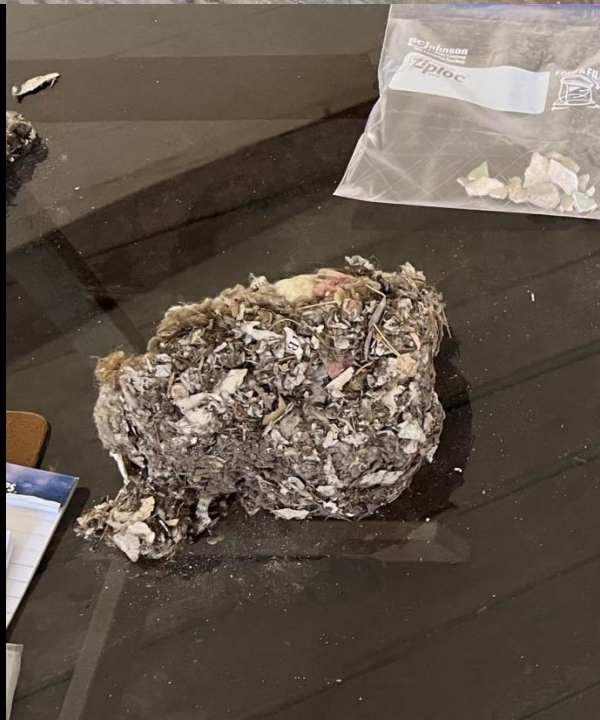
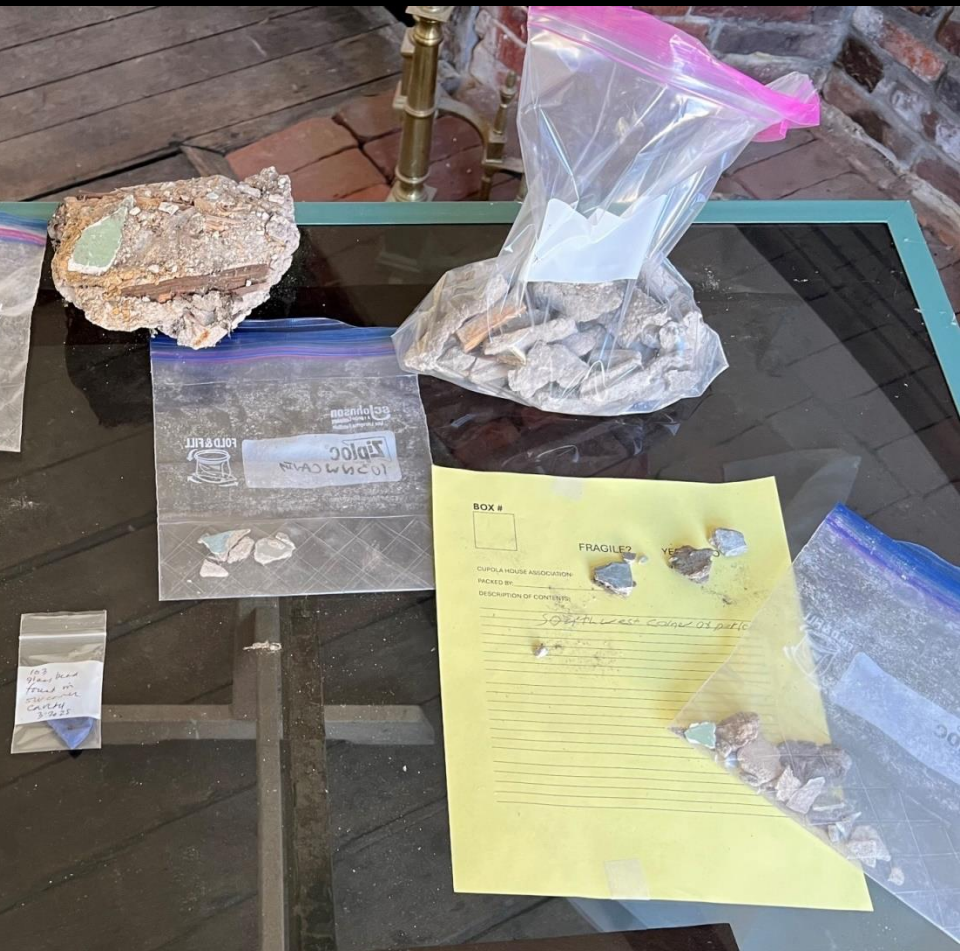
105-4. Yellowish green paint 1000X



Crossed polars 1000X



Trapped fragments and rat nests



BOX #

FRAGILE? YES

CURLE HOUSE ASSOCIATION
PACKED BY _____
DESCRIPTION OF CONTENTS
50 fragments of pottery

Room 105 Rear NW Room Trapped Plaster Fragments

105-7. Fragment with green paint

16. Green distemper
15. Gray distemper

1 to 14. Unpigmented limewashes

105-7. Fragment with blue paint

12. Blue distemper
11. Yellow distemper
10. Gray distemper

1 to 9. Unpigmented limewashes

Room 104 Rear NE Room Woodwork

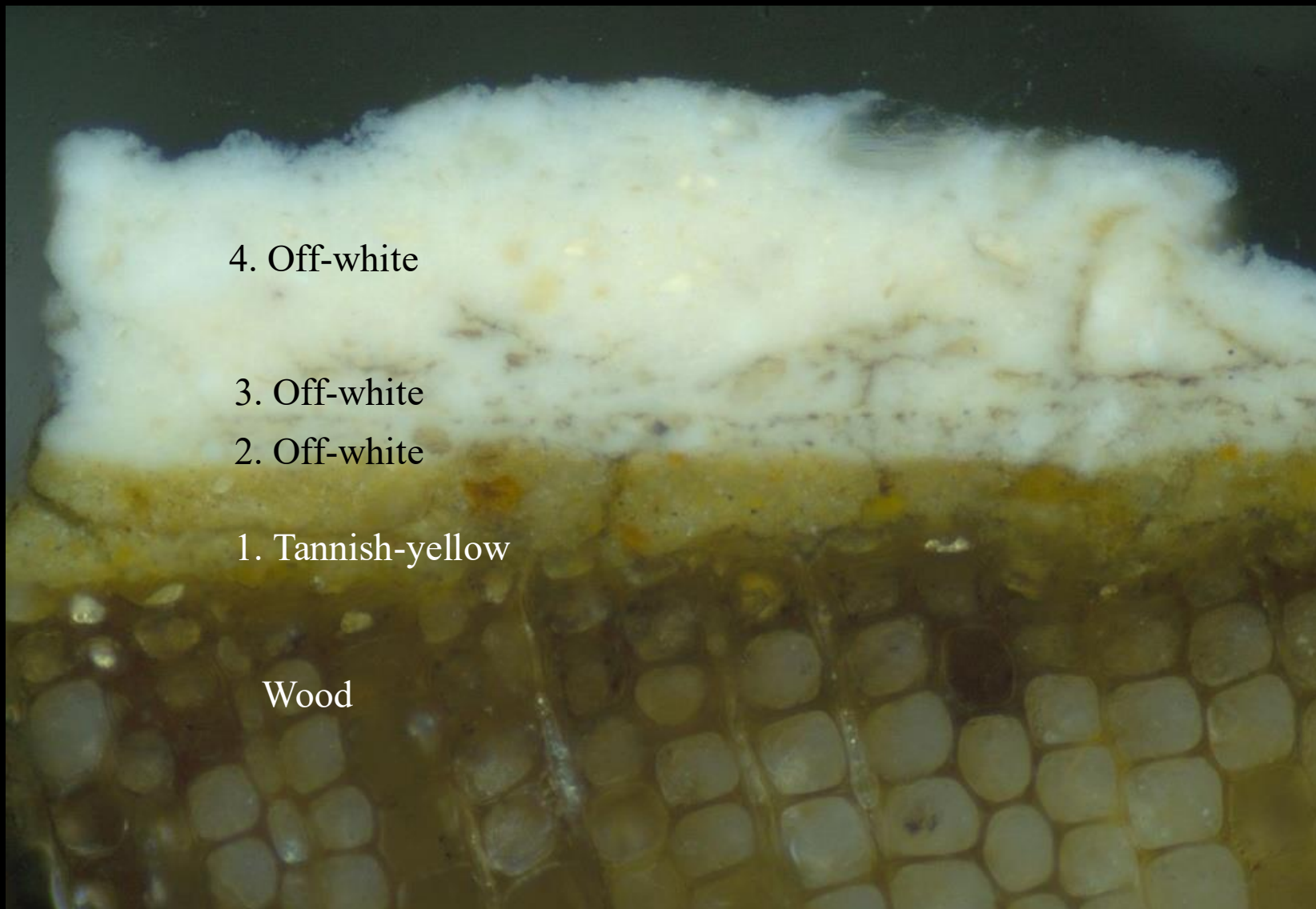


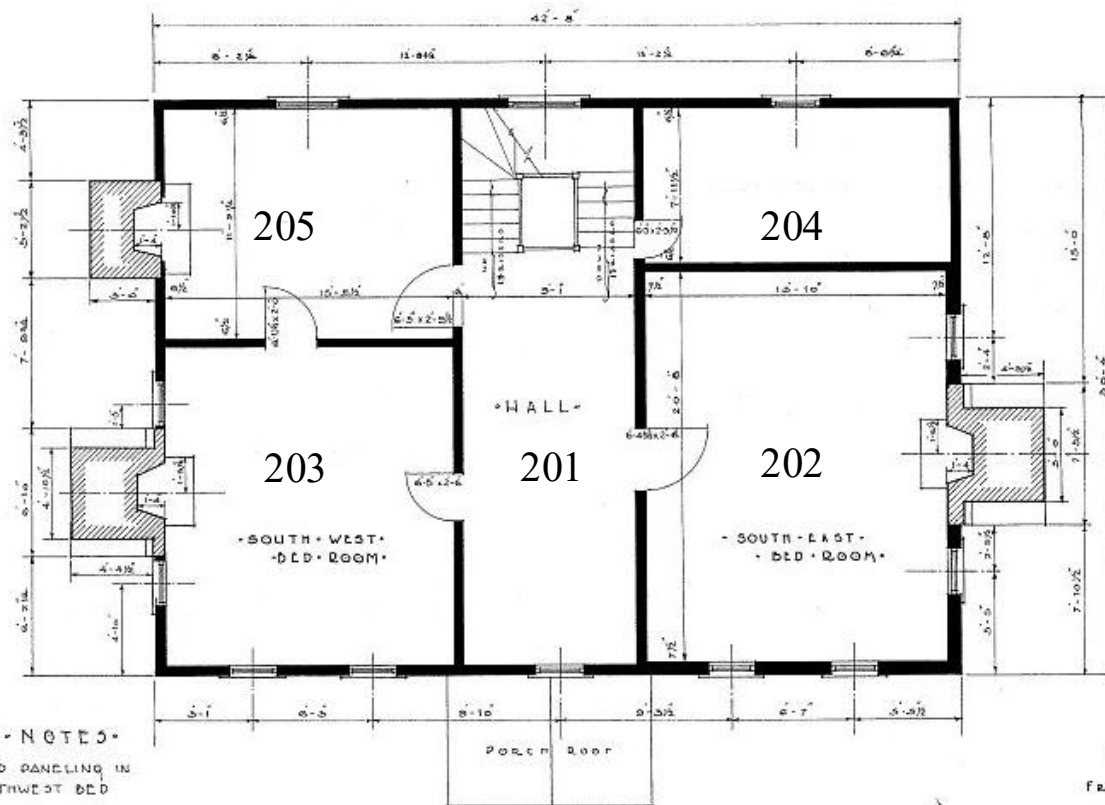
Limewashes on back of cupboard



Room 105 Rear NW Room Woodwork

104-1. NE corner window backband molding Visible light 200X







• GENERAL NOTES •

ORIGINAL WOOD PANELING IN
SOUTHWEST & SOUTHWEST BED
ROOMS.
ALL ORIGINAL FLOOR HEART
PINE 1 1/4" x 4" TO 7".
BRICK SIZE 8" x 8" x 16" FOUR
COURSES TO 10 1/2" INCHES.

LEGEND

FRAME 
BRICK 

• SECOND FLOOR PLAN •
SCALE 1/4" = 1'-0"



D.F. CIANCO & A. BADDIN MEMO.
P.D. NICHOLS & W.T. RAMSAY DELTS.

1940 PUBLIC WORKS ADMINISTRATION FLOOR PLAN
FEDERAL PROJECT 420-A
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE

• CUPOLA HOUSE • EDENTON • NORTH • CAROLINA •

SURVEY NO.
NC-2
4-27-40

HISTORIC AMERICAN
BUILDINGS SURVEY
SHEET 2 OF 14 SHEETS

LIBRARY OF CONGRESS
PHOTO NUMBER

HABS/HAER Cupola House 1940

Carved Wood Medallion

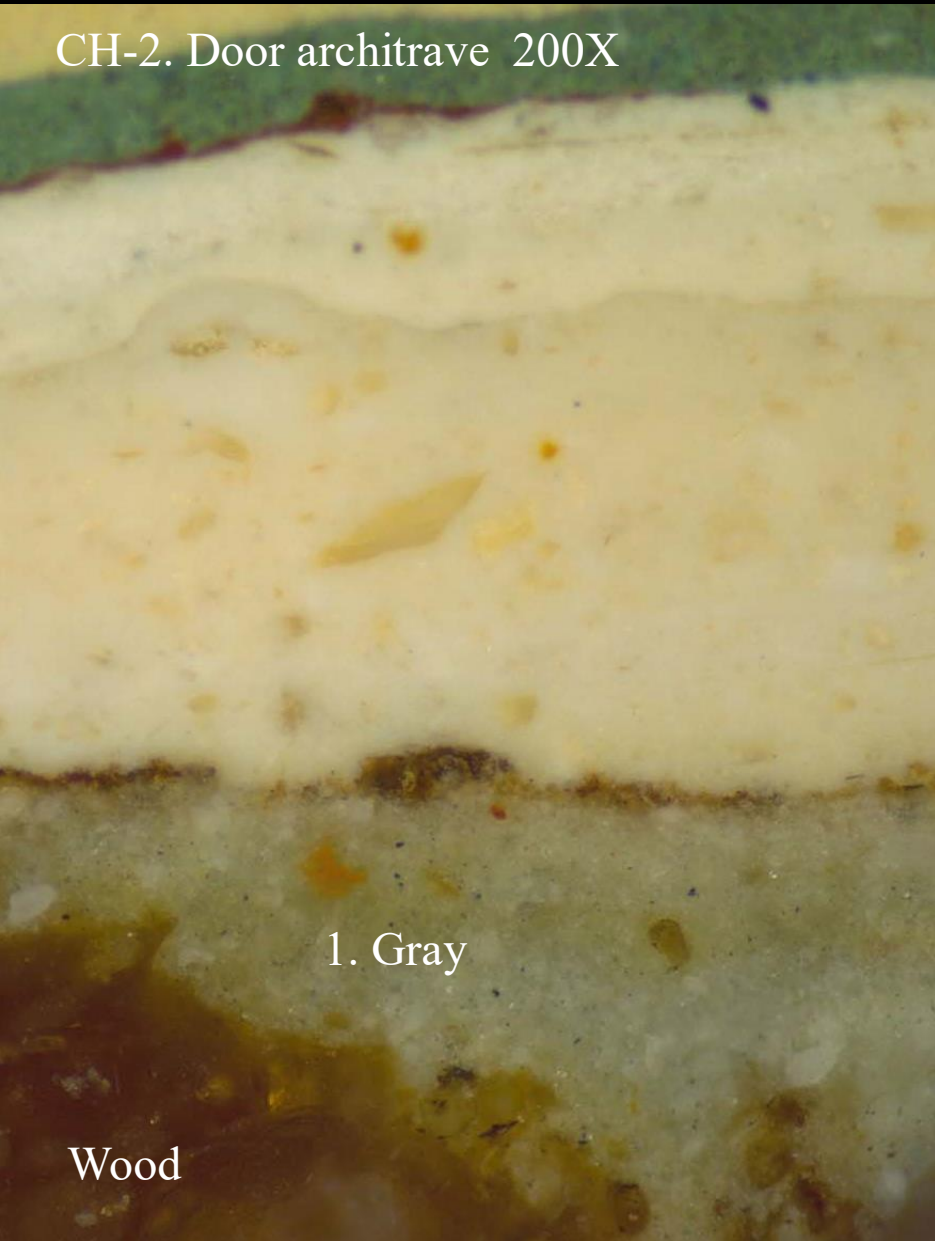


Room 201 Second-floor Hall

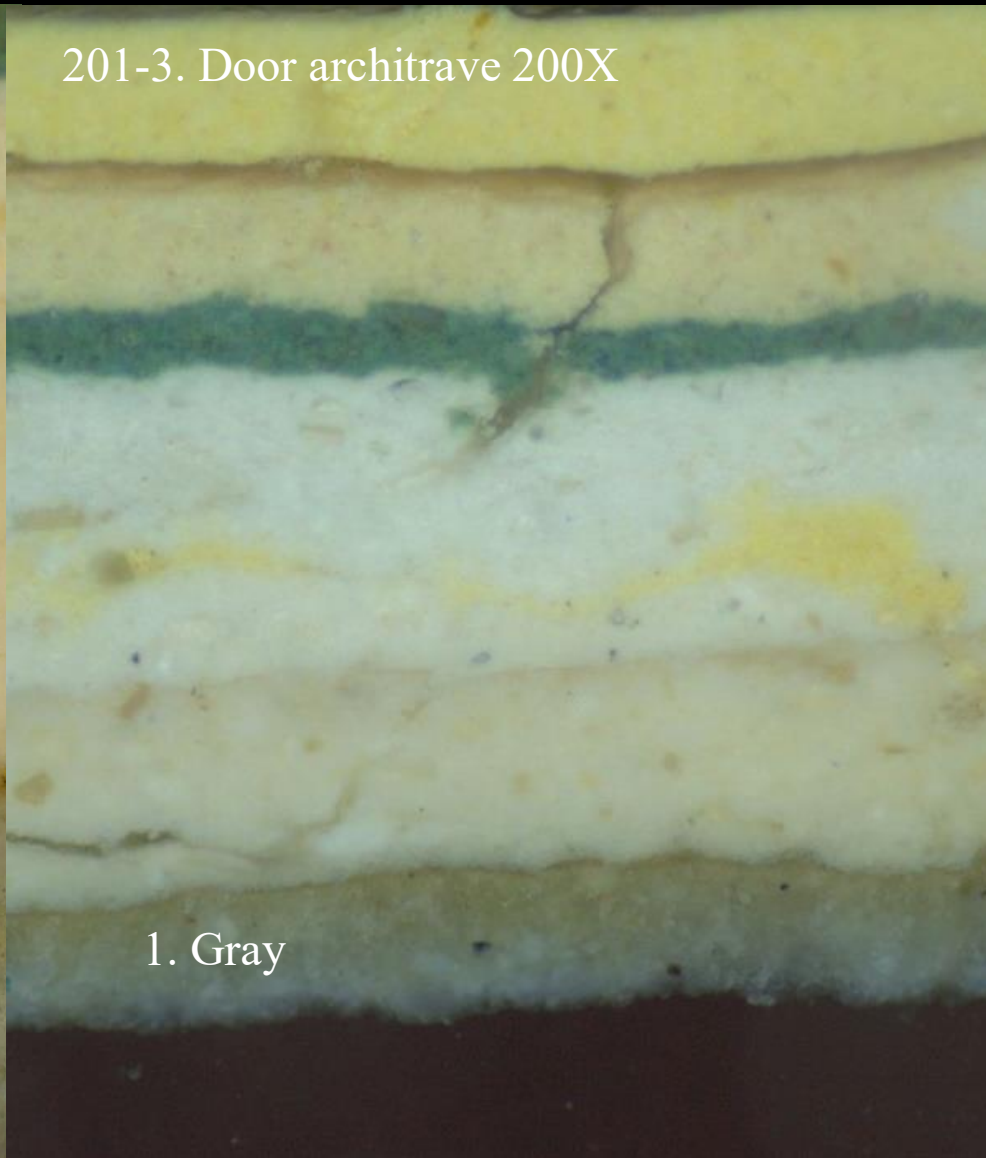


Room 201 Cupola House Second-floor Hall Woodwork Paints

CH-2. Door architrave 200X



201-3. Door architrave 200X

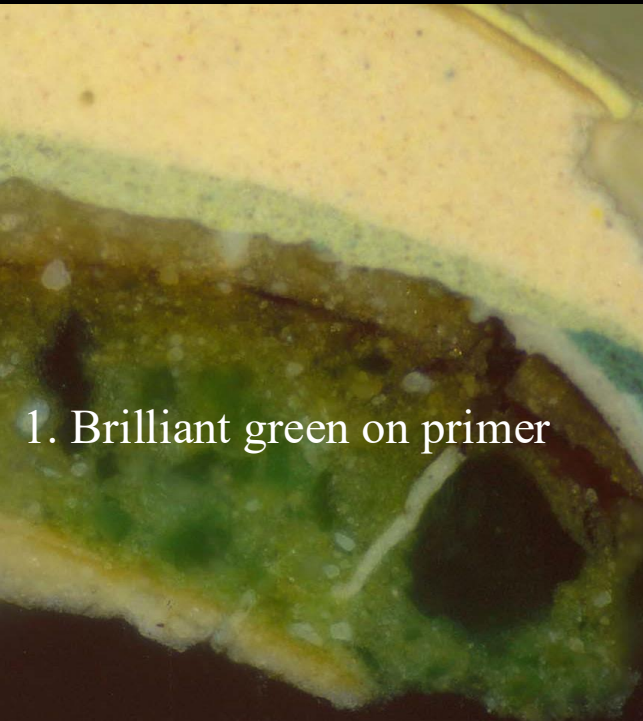


Room 202 Second-floor Southeast Chamber



Second-floor Southeast Chamber Woodwork Paints

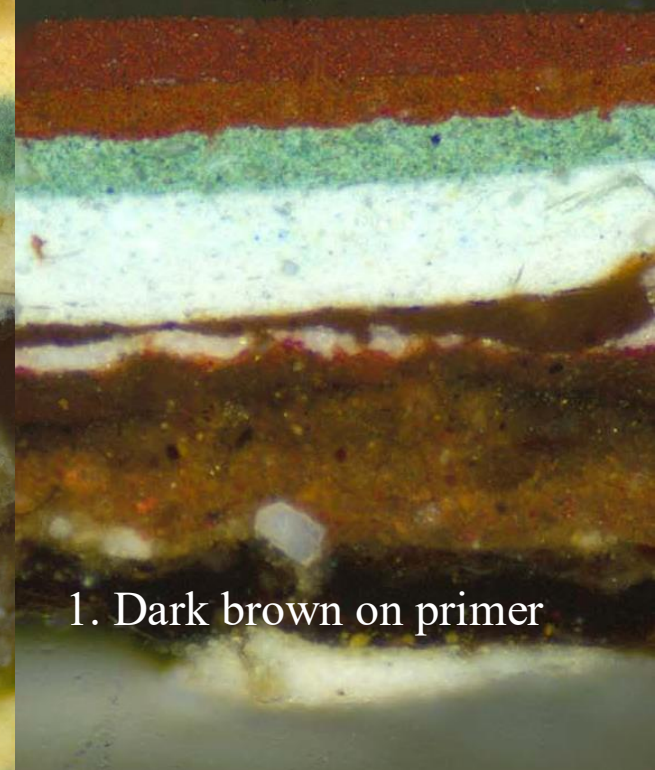
SE-2. Window



SE-3. Wainscot



SE-4. Baseboard cap

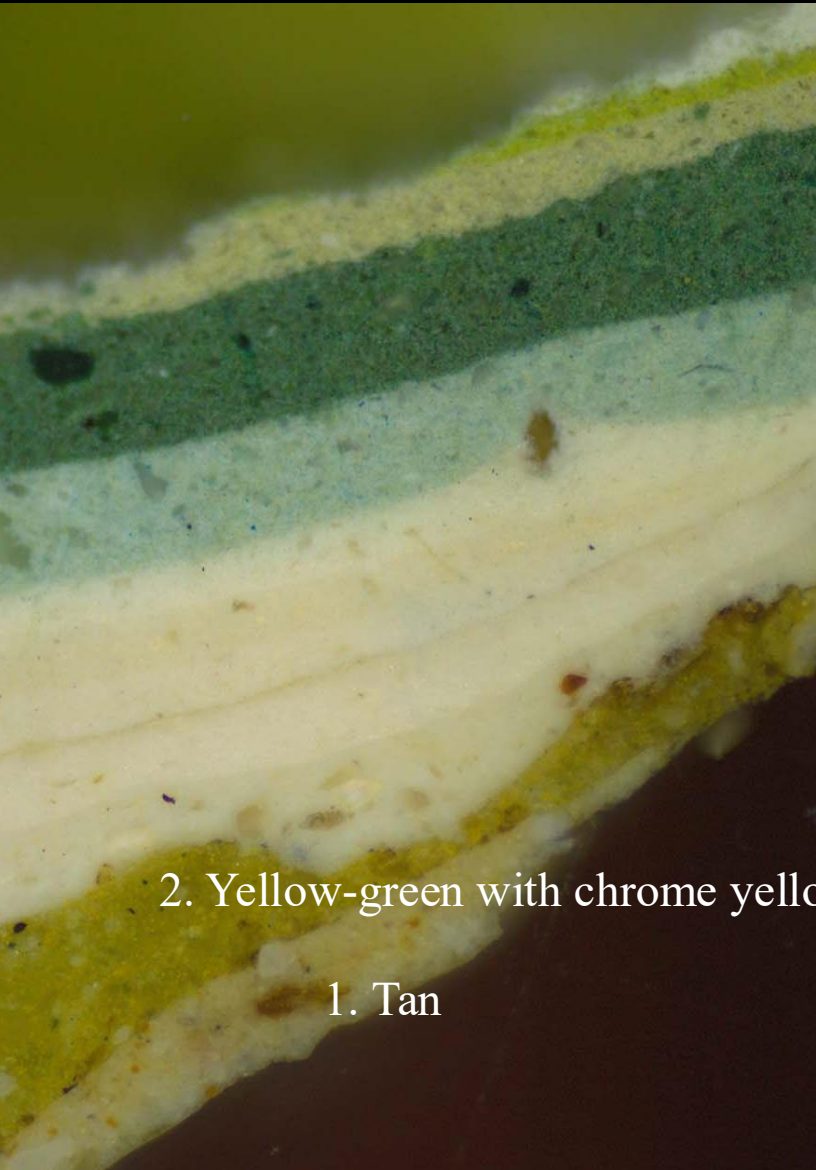


Room 203 Second-floor Southwest Chamber



Room 203 Second-floor Southwest Chamber Woodwork Paints

SW-1. Overmantel 200X



2. Yellow-green with chrome yellow

1. Tan

SW-2. Chair rail 200X



2. Yellow-green
with chrome yellow

1. Tan

Wood



Room 204 NE Chamber
NE-1. Chair rail



1. Gray-blue on gray primer
Wood



Room 205 NW Chamber
NW-1. Cornice

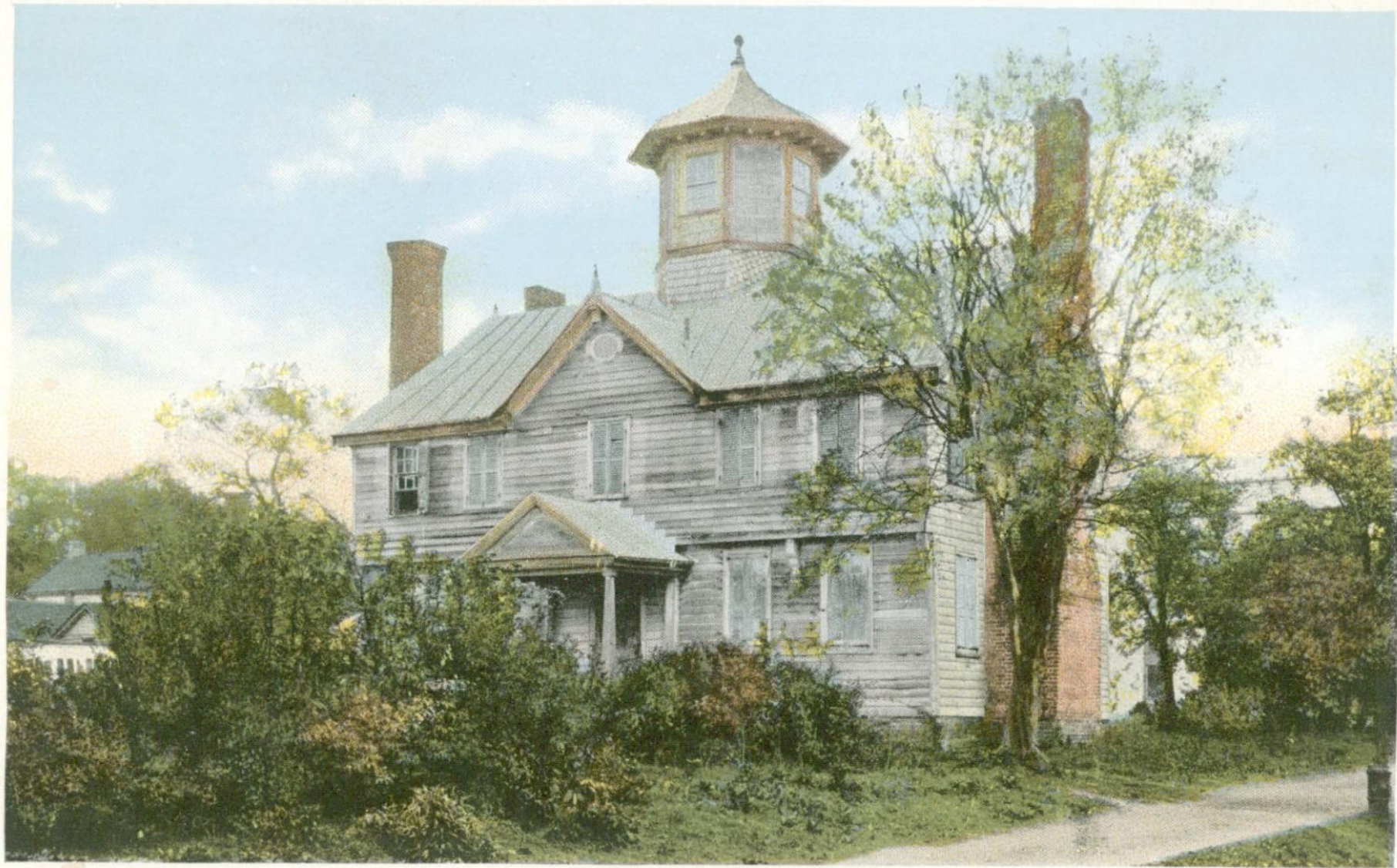


1. Off-white

Wood

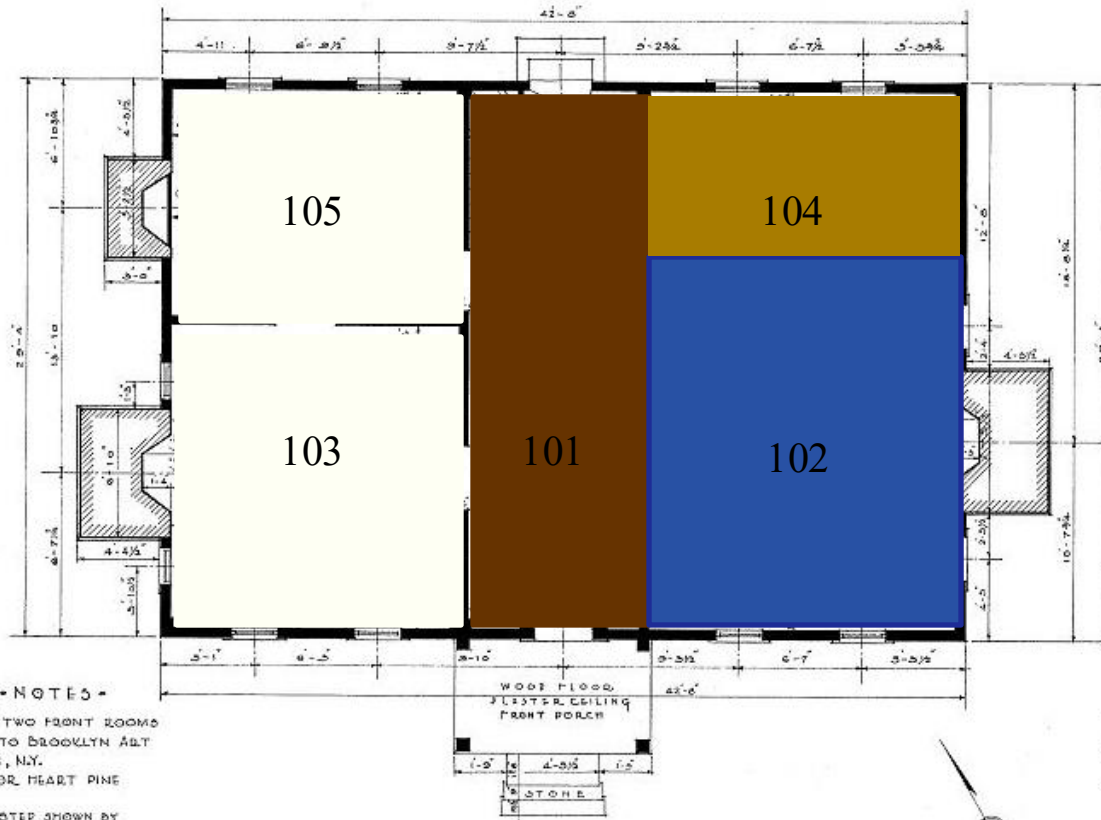
Color measurement and matching conducted with the help of a colorimeter/microscope. Matches made in the Munsell and CIE $L^*a^*b^*$ color spaces.





CUPOLA HOUSE, BUILT 1757, EDENTON, N. C.

Approximate First-floor Woodwork Colors



R.P. CLARKE & A. BASSIN ARCHTS.
P.D. NICHOLS & W.T. LIMDAY DELTS.

1940 PUBLIC WORKS ADMINISTRATION PROGRAM
FIELD PROJECT 405-A
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE

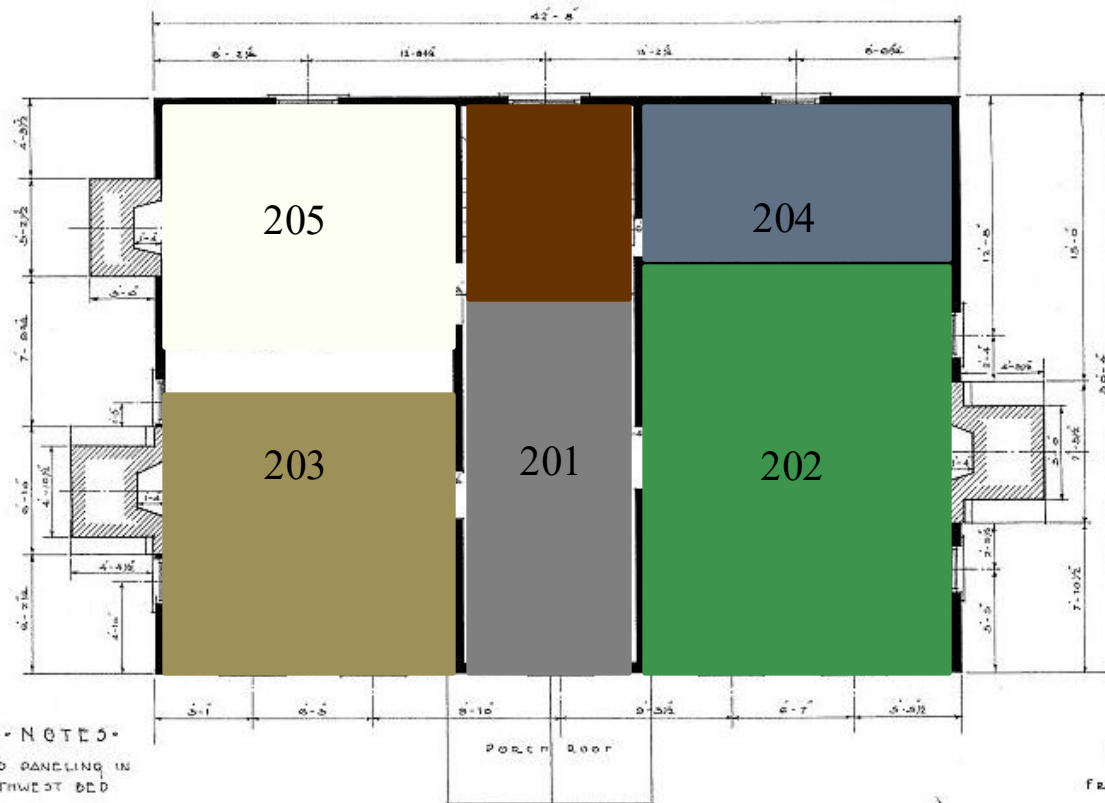
CUPOLA HOUSE - EDENTON - NORTH - CAROLINA -

SURVEY NO.
NC-2
6-28-40

HISTORIC AMERICAN
BUILDINGS SURVEY
SHEET 1 OF 14 SHEETS

LEGEND OF SYMBOLS
SCALE SHEET

Approximate Second-floor Woodwork Colors



GENERAL NOTES
 ORIGINAL WOOD PANELING IN
 SOUTHEAST & SOUTHWEST BED
 ROOMS.
 ALL ORIGINAL FLOOR HEART
 PINE 1 1/2" x 4" TO 7",
 BRICK SIZE 8" x 8" x 16" FOUR
 COURSES TO 10 1/2" INCHES.

SECOND FLOOR PLAN
 SCALE 1/4" = 1'-0"

LEGEND
 FRAME [Solid black line]
 BRICK [Hatched pattern]

D.F. CIANCO & A. BADDIN MEMO.
 F.D. NICHOLS & W.T. RAMSAY DELTS.



1940 PUBLIC WORKS ADMINISTRATION FLOOR PLAN
 FEDERAL PROJECT 420-A
 UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE
 CUPOLA HOUSE EDENTON NORTH CAROLINA

SURVEY NO.
 NC-2
 4-27-40

HISTORIC AMERICAN
 BUILDINGS SURVEY
 SHEET 2 OF 14 SHEETS

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HABS/HAER Cupola House 1940

Hand-ground Paint Replications

Stratford Hall
Kenmore
Colonial Williamsburg
Mount Vernon
Monticello
Montpelier
Hancock Shaker Village
Historic Deerfield



Further Paint Investigation Work at The Cupola House

- Further analysis of plaster fragments
- Re-sample second-floor ceiling medallion
- Selective overpaint removal to reveal ceiling medallion carvings
- Refine understanding of baseboard and door paints
- Refine color matching for original first-floor woodwork paints
- Resolve color interpretation for the rear first-floor rooms
- Discuss woodwork preparation prior to repainting
- Discuss paint replication approaches and materials



Special Thanks

Robert Leath

Andrew Ownbey

Wade Rogers

Don Jordan

Sam and Gray Dixon

The Edenton Historical Commission

The Elizabeth Vann Moore Foundation

The Cupola House

Association, Inc.