John Gordon House

Interior Finishes Analysis

Natchez Trace Parkway, Tennessee

April 2011

BUILDING CONSERVATION ASSOCIATES INC

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Natchez Trace Parkway, Tennessee

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BUILDING CONSERVATION ASSOCIATES INC

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1.0 INTRODUCTION

At the request of Joseph K. Oppermann–Architect, P.A., Building Conservation Associates, Inc. (BCA) has prepared an interior finishes analysis of the John Gordon House located outside of Columbia, Tennessee.

The John Gordon House is located along the Natchez Trace in central Tennessee. John and Dorothea Gordon located the house near their trading post and ferry operation on the Duck River. Gordon and his wife designed the simple two-story, four room brick house (*Figure 1*). It was constructed from 1818 to 1819, completed shortly before Gordon's death in June of 1819.[1]

The house has changed ownership several times, most recently to the National Park Service (NPS) from the State of Tennessee in 1973. The house has been essentially vacant since the state acquired the building in 1969 and by the time the NPS assessed the building, it had suffered from lack of maintenance and high moisture. In 1977 and 1978, the NPS began work on the building to restore it to its 1819 appearance and stabilize the building, which included replacing the wood sashes and frames, replacing some interior wood trim, replacing a doorway with a window, and removing the front porch.[2] Most of the interior was not touched, and replacement elements are clearly identifiable because they were not painted to match the existing elements.[3]

The primary goal of the analysis is to identify the interior paint colors of painted wood for inclusion in an Historic Structures Report being prepared by the client. The following report summarizes the findings of the finishes study. Following the introductory information regarding the site and the study methodology, the report discusses the findings of the research and then makes recommendations for appropriate restoration paint colors. All mounted cross-sections have been labeled and permanently housed and will be archived at BCA's Philadelphia office unless otherwise requested by the client.

All work required for the execution of this study was performed by Marlene Goeke, BCA Conservator with assistance from Dorothy Krotzer, BCA Regional Director. Samples were taken on January 18, 2011, and laboratory analysis was performed in January and February of 2011.

[1] Joseph K. Oppermann–Architect, P.A. *John Gordon House Historic Structure Report 75% Draft.* October 2010. Pg. 30
[2] Joseph K. Oppermann–Architect, P.A. John *Gordon House Historic Structure Report 75% Draft.* October 2010. Pg. 45
[3] Conversation with client, January 18, 2011

Figure 1: John Gordon House, front (south elevation), January 2011.

2.0 METHODOLOGY

Before visiting the site, the draft Historic Structures Report was reviewed to gain an understanding of the chronology of the building and changes to the interior.

A site visit was made on January 18th to remove samples for analysis. Before samples were taken, each element was investigated at several locations to confirm consistency in the paint finishes. Samples were removed from each interior room from a variety of wood surfaces. All rooms contained several basic elements that were sampled (baseboards, chair rails, doors and door surround, and window casing) in addition to any other woodwork unique to the room. The window sash, all replaced during the 1977-78 restoration, were not sampled. The plaster walls and wood ceiling, determined to be later additions by the client, were not sampled. The basement, an unfinished space, also was not sampled.

All samples were taken back to the conservation laboratory for analysis. Approximately 60 samples were removed from the interior of the building. A complete list of sample locations is included in *Appendix A* at the end of this report.

Approximately 35 representative samples were selected for cross-section analysis. The samples were mounted in a commercial polyester/methacrylate resin polymerized with a methyl ethyl ketone peroxide catalyst (Bioplast®). Embedded samples were sectioned on a Leco® VC-50 micro-saw for microscopic examination. The sectioned samples were dry-polished using a series of fine Micromesh® polishing clothes ranging from 6,000 to 12,000 grit. Sectioned samples were observed under a Nikon 50i compound microscope in both visible light filtered through a daylight correction filter and ultraviolet light. The ultraviolet light was generated by a mercury illumination system filtered through a violet filter cube (EF4 V-2A Ex400/40 Dm430 Bar 450). Photomicrographs of representative samples were taken using a 5 mega pixel Nikon DigiSight color digital camera system and are included in this report to illustrate specific observations. Photomicrographs of the individual samples can be found in *Appendix B* at the end of this report.

Once the stratigraphies of every sample were deciphered, significant paint layers were identified and raw samples were manipulated in order to expose these layers for color matching purposes. Each sample was visually matched to the Munsell system and commercial Benjamin Moore paint palette. All color matches are included in the *Conclusions and Recommendations* section of this report.

3.0 SUMMARY OF FINDINGS

The interior of the John Gordon house consists of four rooms: a parlor, where the family would have entertained guests; a hall, the main living space; and two upstairs bedrooms (*Figures 2 and 3*). A central door connects the two rooms on each floor and a staircase connects the hall to the west bedroom upstairs. All of the historic woodwork is currently painted with brown paint; replacement elements are painted with white paint. In the Parlor, the wood trim is currently grained (*Figure 4*).

The Gordon house has had several significant periods of vacancy. After Dorothea Gordon's death in 1859, the house remained vacant until 1907 when it was purchased by the Jewell family and many exterior and interior changes were made.[4] The State of Tennessee acquired the house in 1969, and it has remained vacant since.[5] The extended periods of vacancy may have resulted in fewer paint layers than one would expect in a building of this age.

Findings from a previous finishes analysis, completed in 1994, shared some similarities to this current analysis.[6] However, there are some differences between the current and the previous studies. These differences can mainly be attributed to a difference in technique. Polished cross-section samples were used for this analysis and viewed at higher magnifications, as well as in visible and UV light, allowing for a more thorough understanding of the paint chronology than had been provided in the 1994 study.

General Observations

All of the samples removed from the building contain wood substrate. Examination of the bulk samples revealed that two different types of wood were used. Both appear to be hardwoods. One wood type, dark yellow-green in color, looks similar to poplar (*Figure 5*). The other wood, a warm reddish-brown, appears similar to oak. Generally, the "poplar" wood was used for the chair rails, window casings, and door surrounds and jambs while the "oak" was used for the baseboards and staircase (balusters, handrail, newel posts); however, there are some anomalies.

Different woods may have been used for several reasons – poplar is easy to work with and durable, but oak is considered a more refined wood. Perhaps Gordon simply used what was available at the time. Both poplar and oak are trees found in Tennessee and their wood is common in building construction. Unfortunately, the samples are not large enough for proper wood identification, nor was that part of the scope of work for this project.

Nearly all of wood substrates are darker at the surface than deeper within the wood (*Figure 6*). In cross-section, this looks like a saturated surface (*Figure 7*). This saturated surface sometimes appears reddish in visible light, suggesting that the woodwork may have been stained. However, no pigment particles are visible within this area of saturation in any of the samples as would be expected of a stain. It is possible that the woodwork was stained with a dye that contained no pigments, but this would be somewhat unusual. Although the surface of the wood appears saturated, there is no evidence of early varnish or clear coatings, nor does it appear that the

[4] Joseph K. Oppermann–Architect, P.A. *John Gordon House Historic Structure Report 75% Draft.* October 2010. Pg. 33.
[5] Joseph K. Oppermann–Architect, P.A. *John Gordon House Historic Structure Report 75% Draft.* October 2010. Pg. 41.
[6] Binder, Regina. "The John Gordon House: Finishes Analysis." Building Conservation Branch, National Park Service, 1994.

surfaces were stripped or abraded to remove any earlier coatings before the first paint coating. It is possible that the woodwork was sealed with a liquid to protect it before application of the subsequent paint layer. In UV light, these areas of saturation sometimes auto-fluoresce orange (*Figure 8*). Orange auto-fluorescence can be indicative of shellac, which was sometimes used on wood as a sealer or protector. The fact that two different woods were used throughout the house and the location where these woods were used varied, implies that the woodwork was most likely not intended to be exposed and varnished. Moreover, clear-finished oak would be stylistically unusual for the time period. when the Gordon House was built.

There is also evidence of a wood filler used before the first paint layer. Several samples contain an early whitish layer that is found only in the pores or as an extremely thin layer on the wood surface (*Figure 9*). Paste fillers were often used on open-grain woods, like oak, to fill in the pores and provide a smooth wood surface. Paste filler traditionally was made from finely ground silica or whiting, linseed oil and japan drier. It was spread on the surface, allowed to dry until sticky, and the excess wiped off across the grain to deposit the filler in the pores, leaving a smooth wood surface.

Because paste fillers and paints contain similar materials, they appear similar in both the bulk sample and cross section. As such, it can be difficult to determine the intention of the layer and to distinguish it as either a filler or a paint layer. However, there are several reasons why this white layer is not believed to be an earlier paint campaign. One, it is not thick nor regular enough to be a primer or finish coat; two, there isn't a clear dirt layer between this layer and subsequent paint layers indicating a period of exposure; and three, the wood surface does not look distressed so it does not appear that earlier layers were mechanically removed. Moreover, while it is possible that earlier layers had worn off, the earliest existing layers are of crude manufacture. These paints are very coarsely ground with large pigment particles visible in the paint layer, suggesting that they are hand-ground and date from before the advent of commercially manufactured, ready-mixed paint that became widely available after the Civil War (*Figure 10*).

Room 101 – Hall

The Hall is adjacent to the Parlor, accessible through the central door. The paneled door jamb is located in the Hall, and presumably would be finished like the door in the Hall. It also contains a door to the front of the house on the south wall and a wood mantel. The Hall is larger than the parlor, and contains four windows. Access to the second floor rooms is in the Hall, up a staircase on the north side of the room and through another door. The side of the staircase is decorated with wood paneling and a small closet with a door is tucked underneath the stairway (*Figure 11*).

The wood mantel was indicated by the client to be a late 19th/early 20th century replacement, and was not sampled. Likewise, the doorway along the stairs that divides the first floor Hall from the second floor west bedroom is a later addition and was not sampled. Other elements throughout the room that had been replaced were not sampled, including the closet door and select areas of wood trim.

The earliest existing layer on the baseboards is a dark brown paint. This paint is visible in the pores of the wood but not as a layer on the wood surface (*Figure 12*). In visible light, it appears

similar in color to the dark reddish brown that is visible in the stratigraphy as the third paint layer.

The window casing, chair rail, door jamb, stair string, and paneling all share the same light brown paint layer, characterized by large pigment particles and lack of auto-fluorescence under UV light, as the first finish (*Figure 13*). After the light brown are two dark greens, similar to the greens found in the Parlor and probably contemporary. Overall these elements have between 10-13 layers, and are consistent with each other.

The sample taken from the door in the Hall (JGH.101.17) differs from all other paint samples removed from the house, except for the central door in the West Bedroom. The early layers in these samples suggest a decorative paint finish, possibly graining. Graining is typically applied in three layers: a ground provides the base color, a thin glaze imitates the figure or grain of the wood, and a varnish layer seals and protects the decorative finish. In samples JGH.101.7 and JGH.201.15, the first layer is a peachy pink, followed by a thin, uneven red layer (*Figure 14*). There may be traces of a varnish on top of the red but it is not clear in the cross section. The peachy pink is an appropriate ground color for graining. The red is thinner than a typical paint layer, and appears translucent and binder-rich in the bulk sample, much like an oil glaze. In addition, the irregularity of the layer suggests a decorative finish and not a consistent, opaque paint treatment. *In situ* exposures or removal of larger samples for analysis would be required to confirm the presence and appearance of this early decorative finish.

The newel post and handrail in the Hall were very worn, and samples removed from these elements did not provide a clear paint history. Since originally the stairway was open to the west bedroom, it is possible that the entire balustrade was painted in the same color. Paint build-up was found on a baluster. The first campaign on the baluster is the warm yellow found in the Parlor. This color is also visible on the underside of the handrail at the top of the stairs (*Figure 15*).

Room 102 – Parlor

The Parlor contains two doors to the exterior, one front and one rear, and one interior door that connects it to the Hall. The central door that accesses the Hall is flush with the walls – the deep paneled door jamb in between the two rooms is located in the Hall (*Figure 16*). It also contains two windows, on the south and east elevations, and a fireplace with a wood mantel.

According to the client, the mantel is not original to the house and thus was not sampled. In addition, the front door is known to be a replacement, as are select elements of the wood trim (according to the client). Known replacement elements were not sampled.

The first finish layer found on most the wood trim in the Parlor is a warm yellow. This includes the door, door surround, chair rail, and window casing. This consistent yellow layer is a coarsely ground paint with large pigment particles visible (*Figure 17*). A layer of soiling divides the yellow from the next layer, a dark green. Given this evidence, the yellow is likely the original finish.

Limited evidence was available for the baseboards, but it appears that the first two campaigns on the baseboards is a dark reddish brown (*Figure 18*).

The rear exterior door was also indicated by the client to be a late 19th/early 20th century replacement, but its wood trim was believed to be original. Several samples were taken from the exterior door: the exterior jamb as well as the interior and exterior face of the door itself. The earliest existing paint color on the sample from the exterior jamb (JGH.102.7) is off-white. This off-white is followed by five layers of grays and off-whites, followed by green and browns; most paint layers are damaged indicating long-term exposure. The sample from the exterior face of the door (JGH.102.8) appears to be missing its earlier layers when compared with the jamb. It only contains two paint layers before a green that matches the green on the jamb. In addition, the wood surface looks roughened, as if it had been abraded, either to remove the paint or from weathering. In addition, the sample from the interior face of the door contains only a few modern paints. The fact that the door itself has fewer paint layers than the jamb provides evidence that it is a replacement piece.

Room 201 – West Bedroom

The second floor rooms contain fewer replacement elements than the first floor. The balustrade along the Hall staircase continues up to the second floor. Some of the balusters appear to be replacement pieces judging from the lack of paint evidence, but two balusters that contained more substantial paint evidence were sampled. Various areas of the mantel in this room were also sampled as it is believed that the mantels are original.

The earliest existing paint finish on most of the wood trim in the west bedroom is white, including the window casing, door surround, and chair rail (*Figure 19*). The two samples taken from the mantels examined in cross section also matched the rest of the interior trim in this room (*Figure 20*).

The sample from the door itself is similar to the door in Hall (Room 101), which had evidence of a possible decorative graining finish. The same peachy pink ground coat and red glaze are present on this door. Like the door in the Hall, the evidence found here is not conclusive.

The baseboards contain layers similar to other baseboards throughout the house – an early red-brown in the pores, followed by a gray and second brown.

The staircase in this room contained more paint evidence than the woodwork on the first floor. A sample from one stair post in this room was examined in cross-section and revealed a thin, dark reddish brown on top of the white filler in the wood pores followed by a blue and later browns. The red-brown is uneven and looks slightly soiled, indicating that it was probably exposed. Two samples from the handrails also have red-brown as the first existing paint layer (one followed by a blue and one by dark browns). A sample from the bottom rail was not viewed in cross section, but examination of the bulk sample also revealed a dark brown paint on the wood surface under a blue. The baluster sample contained the warm yellow found on the first floor as its first finish layer. This color is visible in some locations on the underside of the handrail (see *Figure 18*).

In addition, the skirtboard around the staircase opening and edge of the landing tread contain a similar dark reddish brown under a blue. From these samples, the overall original paint scheme of the staircase consisted of red-brown rails, posts, landing treads, and skirtboards with warm yellow balusters and underside of the handrails. The fact that the balusters are the same color

on the first and second floor implies that the colors may have been consistent from the first floor to the second floor.

Room 202 – East Bedroom

The east bedroom was the most intact of all of the rooms examined and contained only a few areas of replacement material. A variety of locations on the mantel were sampled as it is believed to be original (according to the client), as well as select elements of the wood trim.

An early campaign of a white primer with blue finish paint is on the majority of the wood trim in the east bedroom (*Figure 21*). This includes the door surround, chair rail and window casing. After the blue is a green and then a blue-gray, both coarsely ground paints and thus believed to still be fairly early. The last layer is the current brown, and appears more modern. It matches the most recent brown found elsewhere in the building. The scarce number of paint layers suggests that this room was not refinished as frequently as the other rooms of the house, perhaps because it is less public or perhaps because it was used less throughout the house's history.

Two samples from the mantel were also examined in cross section. The layers in both samples are somewhat rough and damaged. One sample (JGH.202.13, *Figure 22*) contains similar early layers as the rest of the room, including traces of the blue paint. Later layers in both samples include dark browns and a varnish, similar to the mantel samples from Room 201.

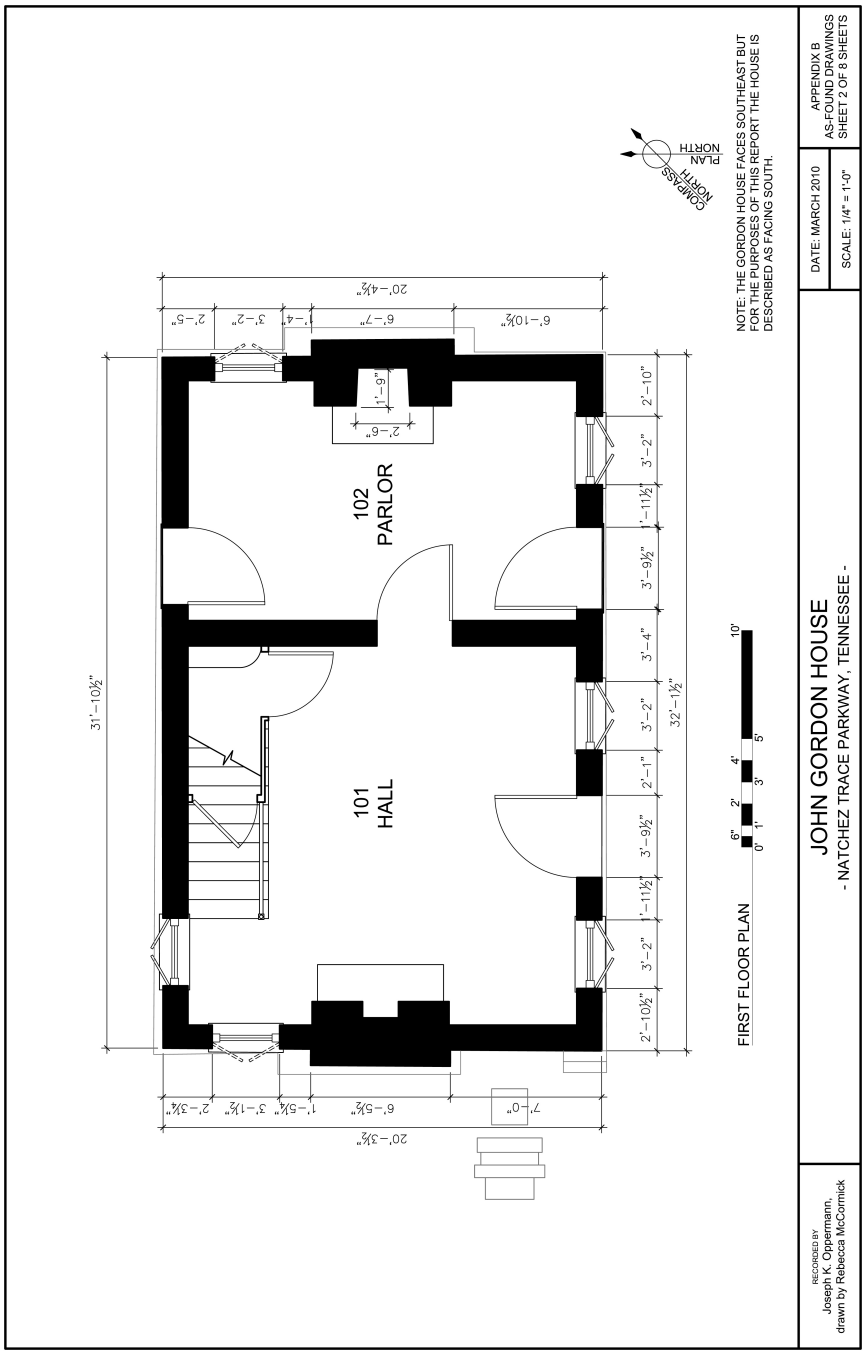


Figure 2: John Gordon House, first floor plan. From the *John Gordon House Historic Structure Report 75% Draft*, October 2010, courtesy of Joseph K. Oppermann.

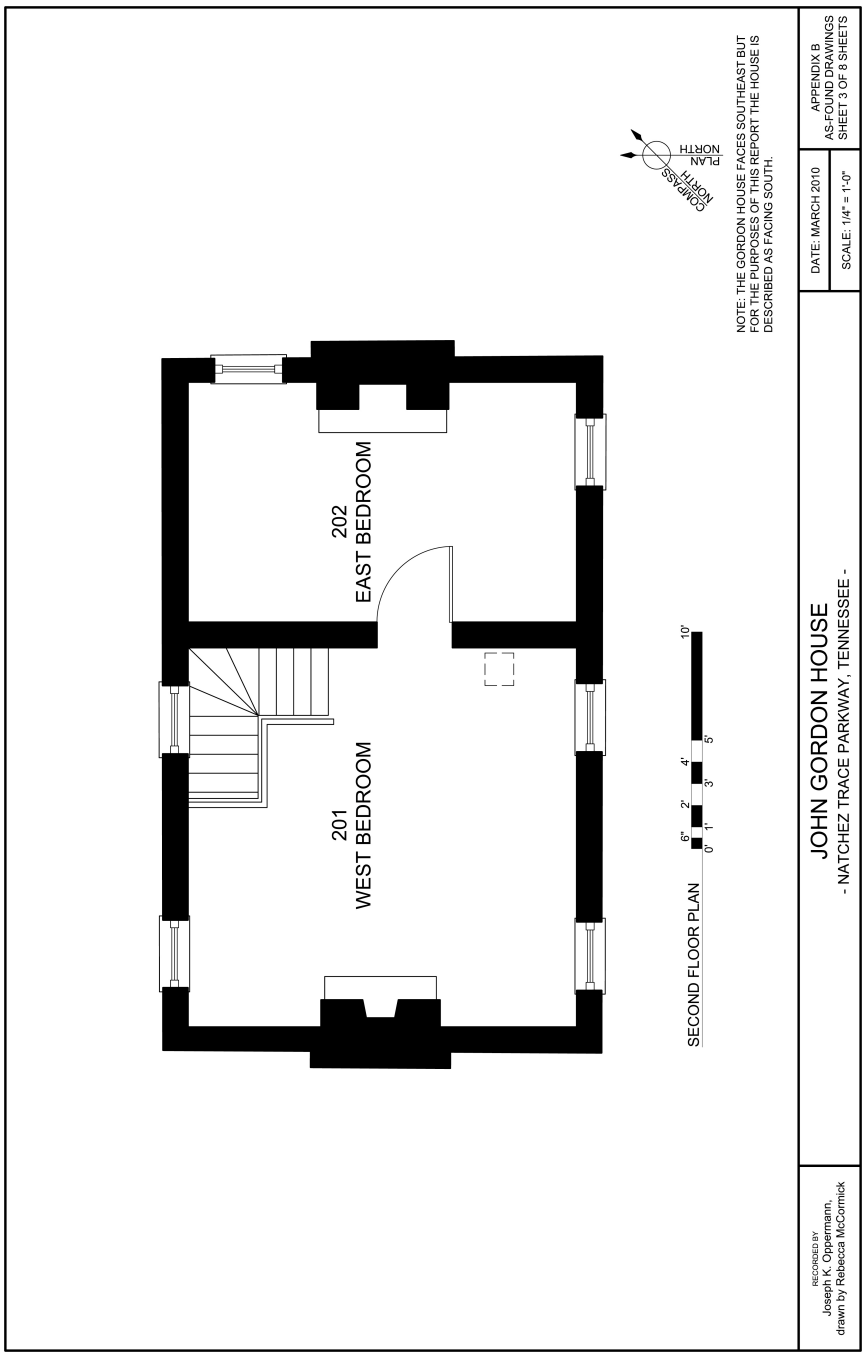


Figure 3: John Gordon House, second floor plan. From the *John Gordon House Historic Structure Report 75% Draft*, October 2010, courtesy of Joseph K. Oppermann.

Figure 4: Current decorative graining in the Parlor.

Figure 5: Sample JGH.102.5 (baseboard, left) is an example of the warm brown wood and thought to be oak. Sample JGH.102.2 (door surround, right) is an example of the yellow-green wood thought to be poplar. The two woods are used throughout the building.

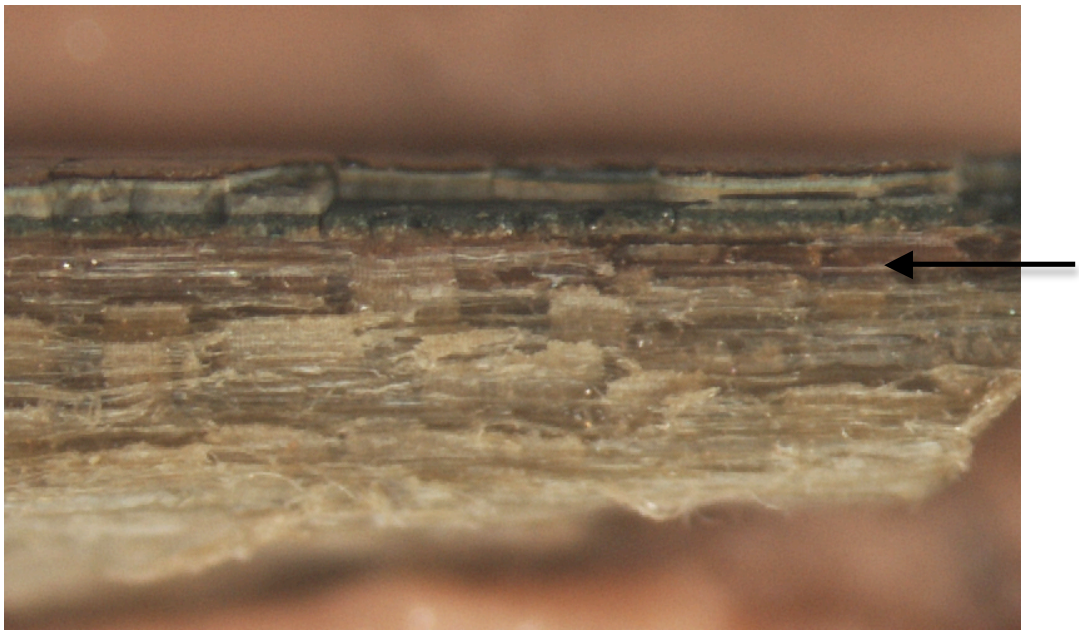


Figure 6: Sample JGH.101.1 (chair rail, 18x magnification) illustrates the saturation visible at the surface of the wood in this bulk sample.

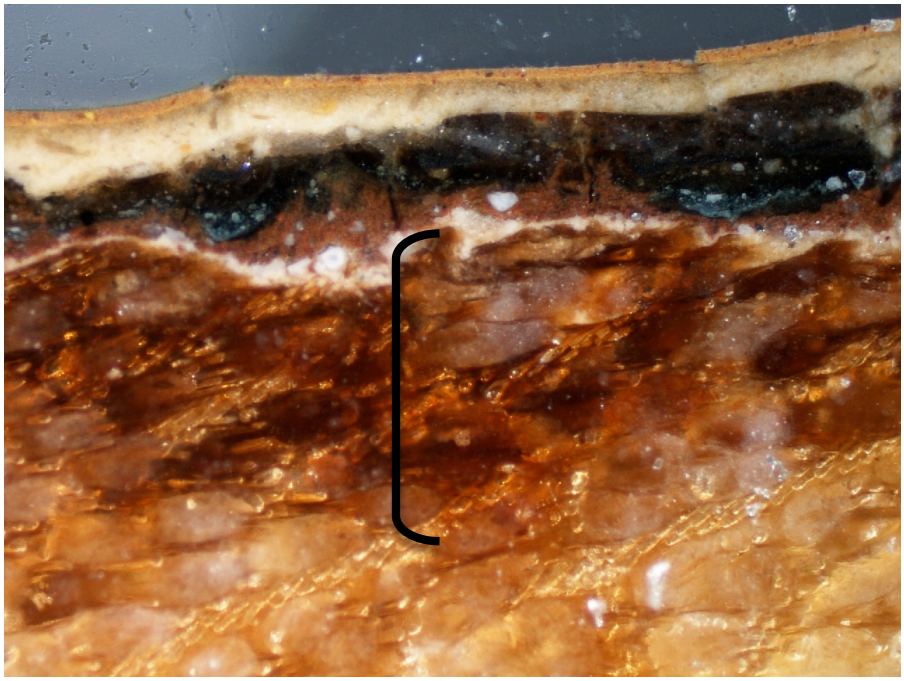


Figure 7: Sample JGH.201.5 (handrail, 100 x magnification – visible light). Note the darker, saturated surface of the wood under the cream layer.

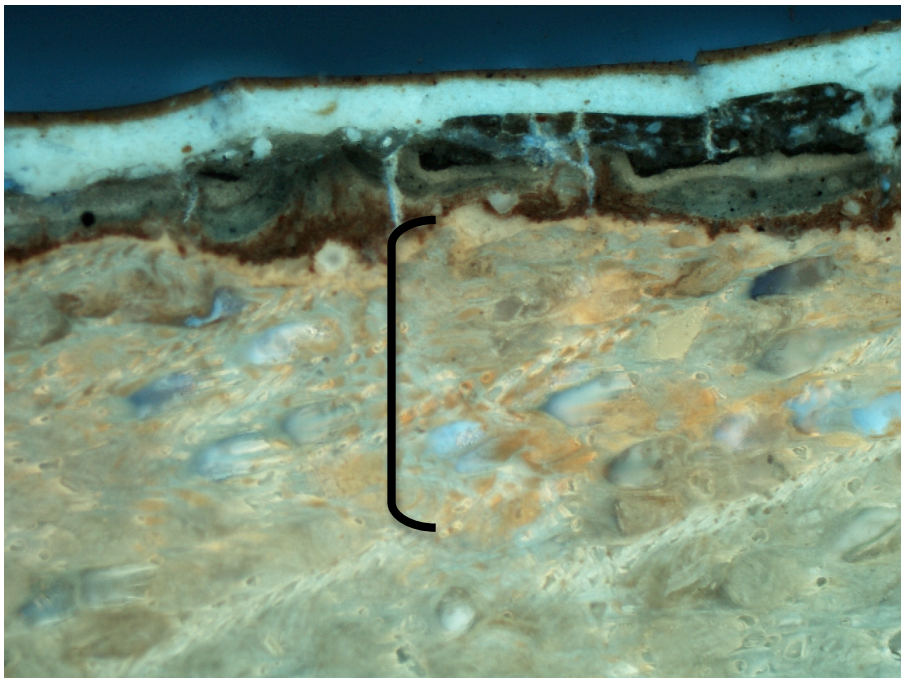


Figure 8: Sample JGH.201.5 (handrail, 100x magnification – UV light). The saturation visible in many samples in visible light auto-fluoresces orange and yellow in UV light.

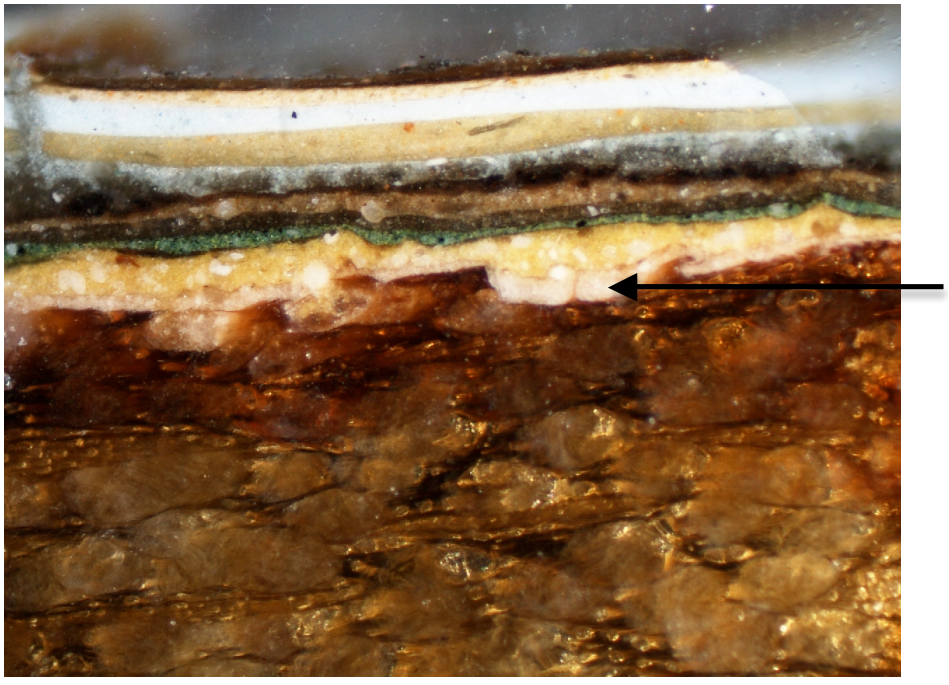


Figure 9: Sample JGH.101.1 (chair rail, 100x magnification – visible light). An early cream layer found in the wood pores or as a thin coating is believed to be a wood filler used to create a smooth wood surface.

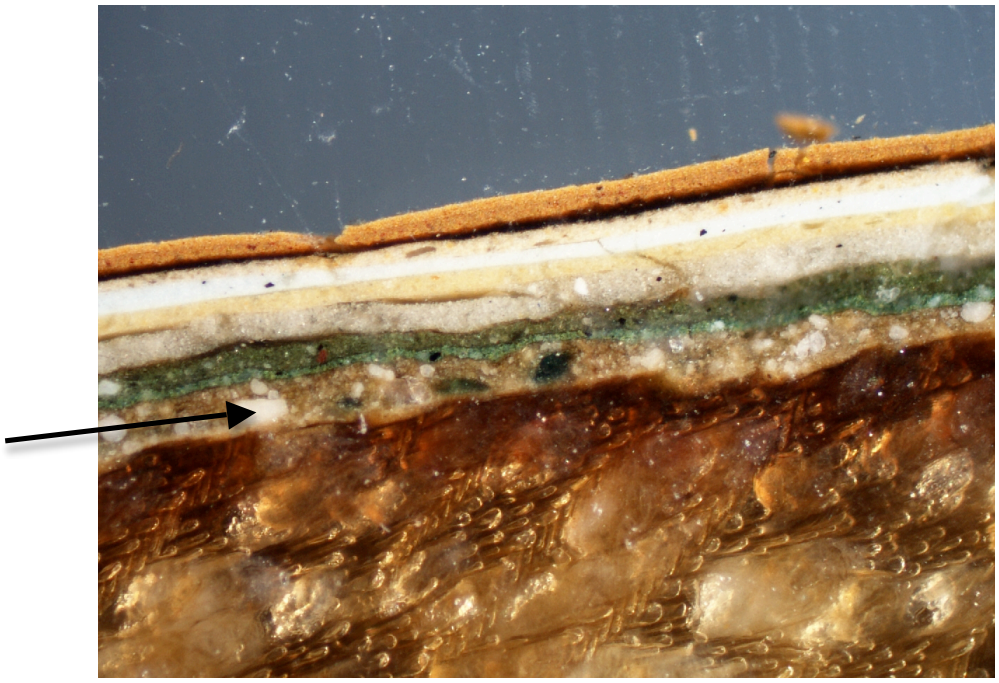


Figure 10: Sample JGH.101.1 (chair rail, 100x magnification – visible light). Note the large, variable size pigment particles in the first tan/light brown layer as compared to the more uniform yellow and brown layers later in the paint history.

Figure 11: Stair and wall paneling in the Hall. The doorway halfway up the stair is a later addition.

Figure 12: JGH.101.3 (baseboard, 100x magnification - visible light). Traces of brown paint are found in the wood pores on the surface of the wood.

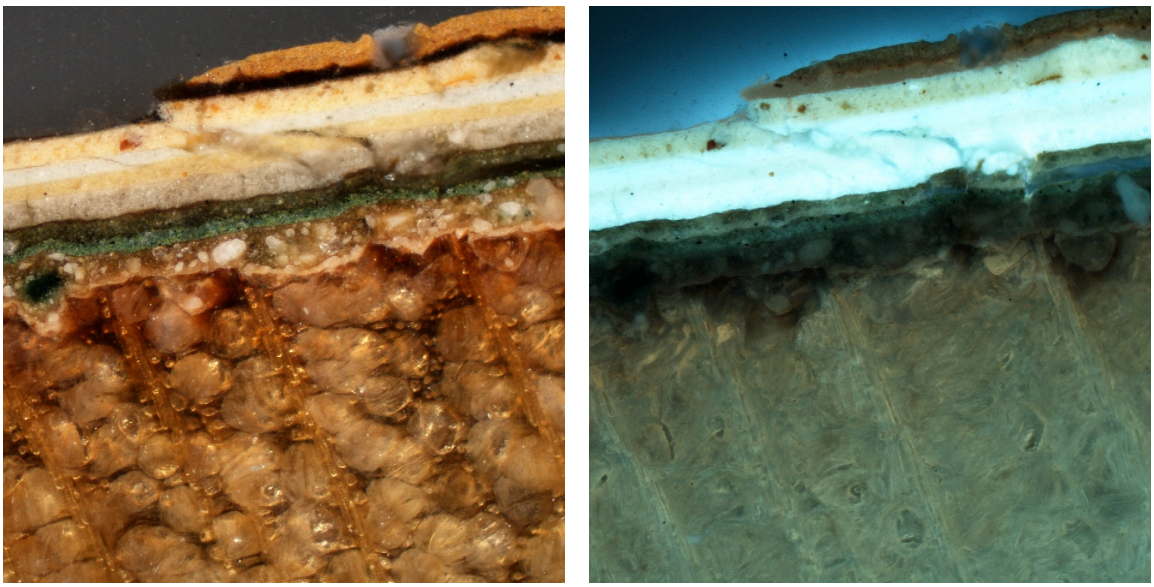


Figure 13: JGH.101.11 (wall paneling, 100x magnification- - visible light, left, and UV light, right). The earliest campaign is a light brown paint with coarsely ground pigment that does not auto-fluoresce.

Figure 14: JGH.101.7 (door, 100x magnification- - visible light, left, and UV light, right). This door shows evidence of graining, with a peachy-pink ground layer; thin, uneven red glaze; and possible traces of varnish.

Figure 15: Underside of the handrail at the top of the stairs, in the West Bedroom. The yellow here is similar to the yellow found on the baluster, and may be the original finish.

Figure 16: Door jamb in between the Parlor and the Hall, facing the Parlor.

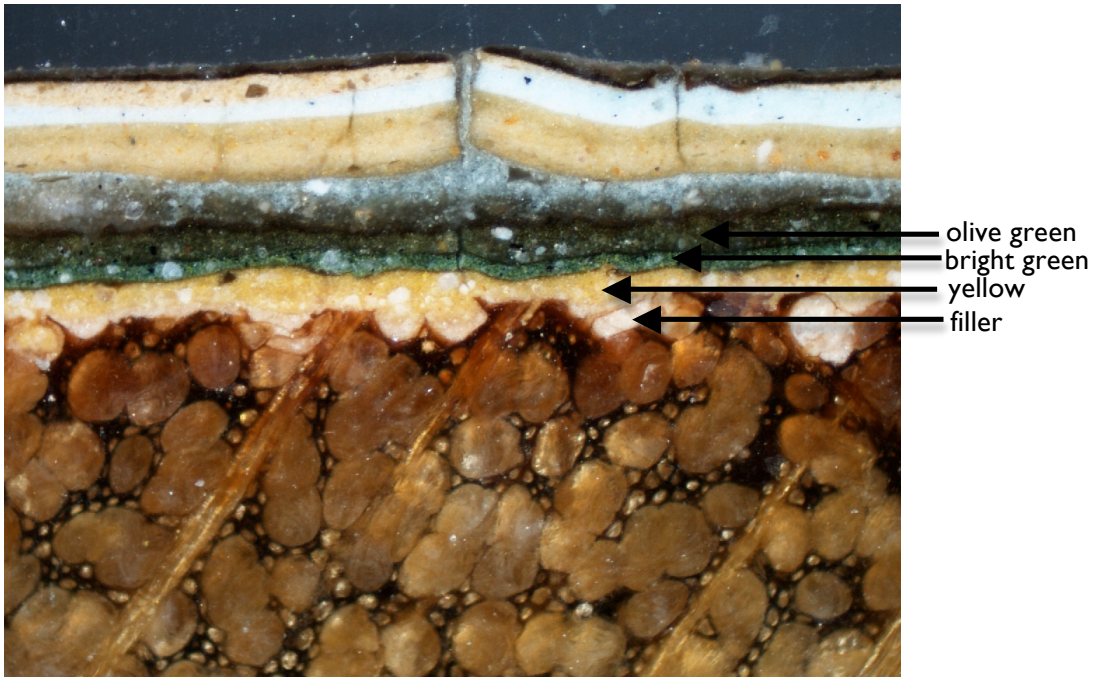


Figure 17: Sample JGH.102.2 (door surround, 100x magnification – visible light). The first finish campaign is a coarsely ground warm yellow, followed by several coarsely ground green layers. Note the cream filler in the pores and the dark saturation at the wood surface.

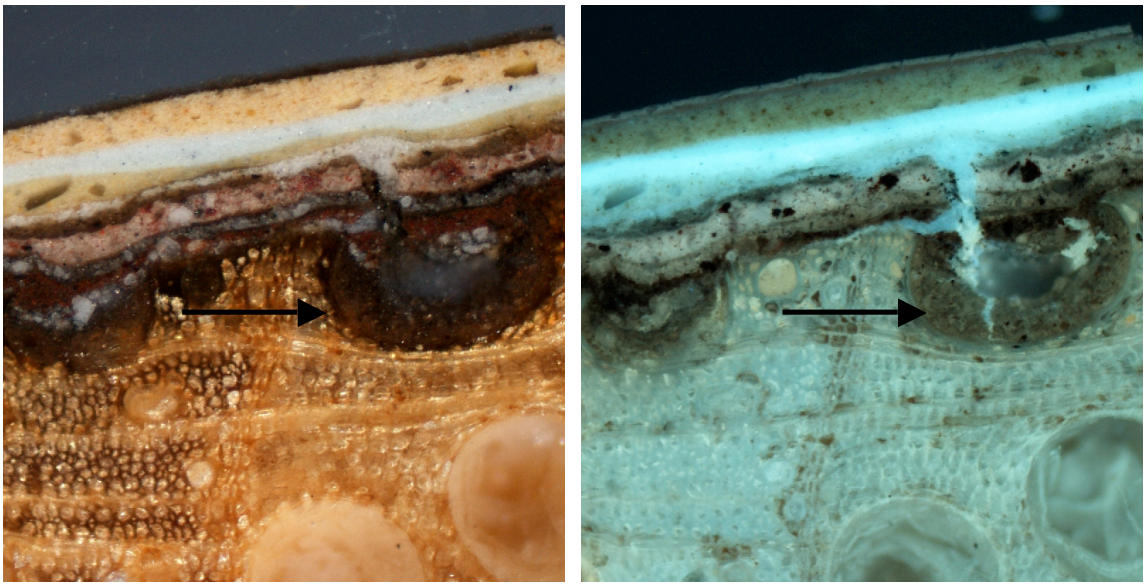


Figure 18: Sample JGH.102.5 (baseboard, 100x magnification - visible light, left, and UV light, right). An early brown paint is visible in the pores of the wood.

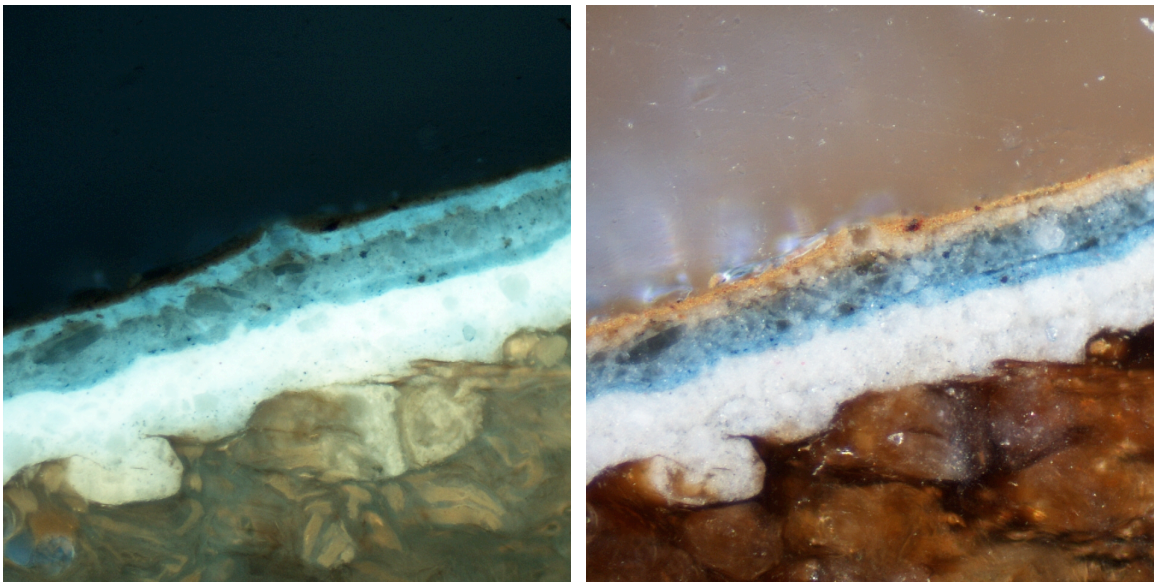


Figure 19: Sample 201.9 (chair rail, 200x magnification - visible light, left, and UV light, right). The first campaign is a white primer and white finish coat.

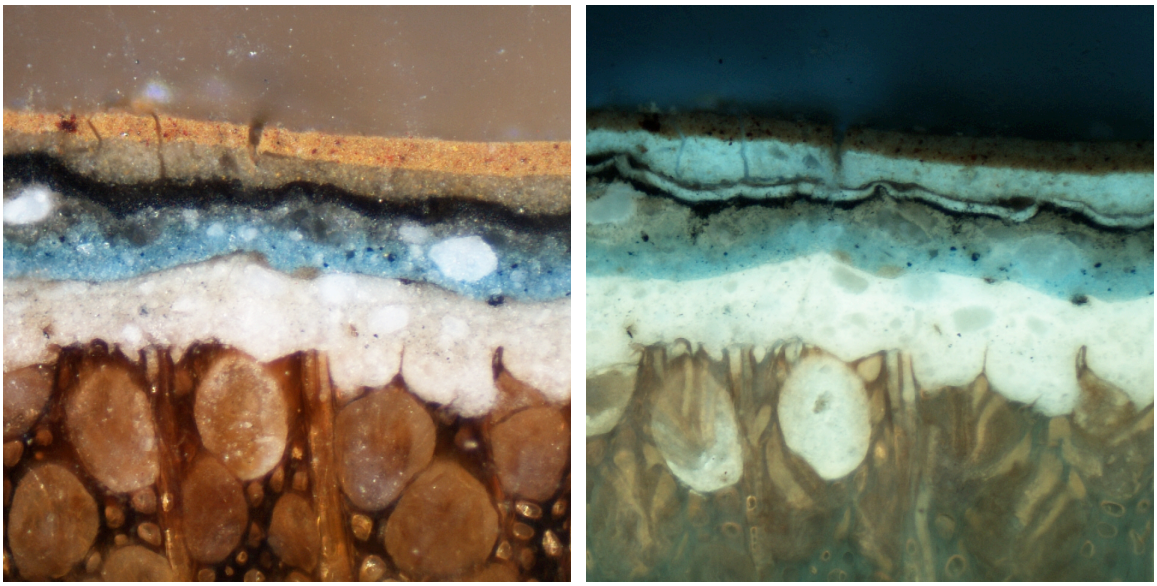


Figure 20: Sample 201.18 (mantel, flat header above firebox opening, 200x magnification - visible light, left, and UV light, right). The first campaign has a white finish. A blue, also found on other samples, is then followed by a varnish.

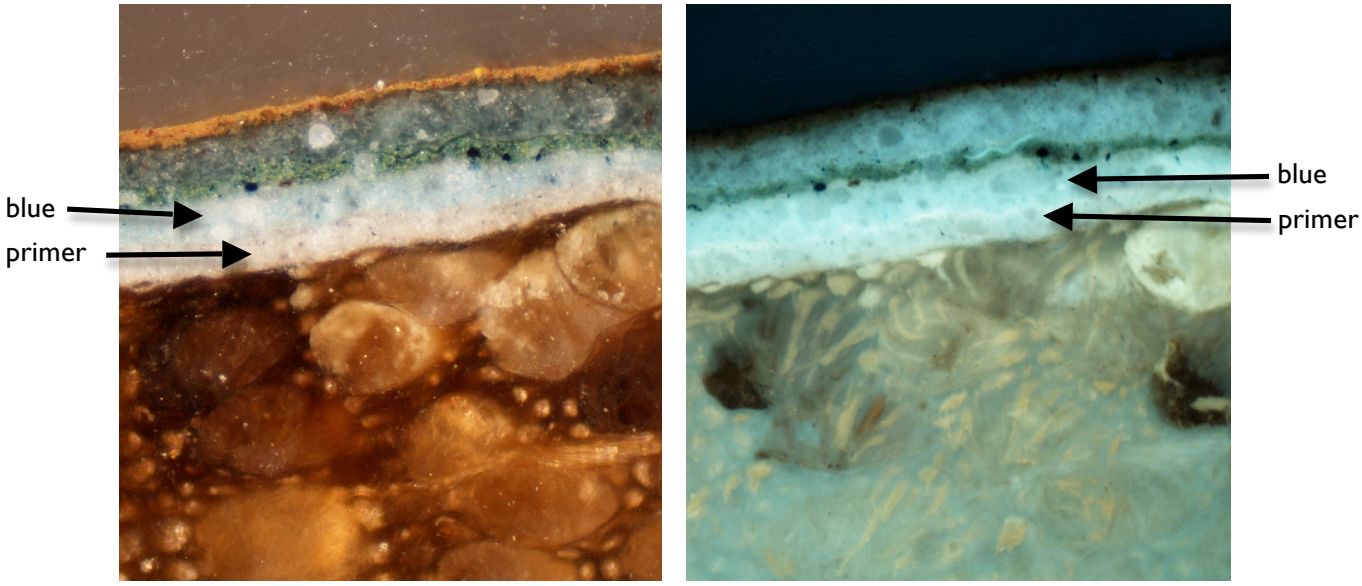


Figure 21: Sample 202.3 (chair rail, 200x magnification - visible light, left, and UV light, right). The first campaign is a white primer and blue finish coat.

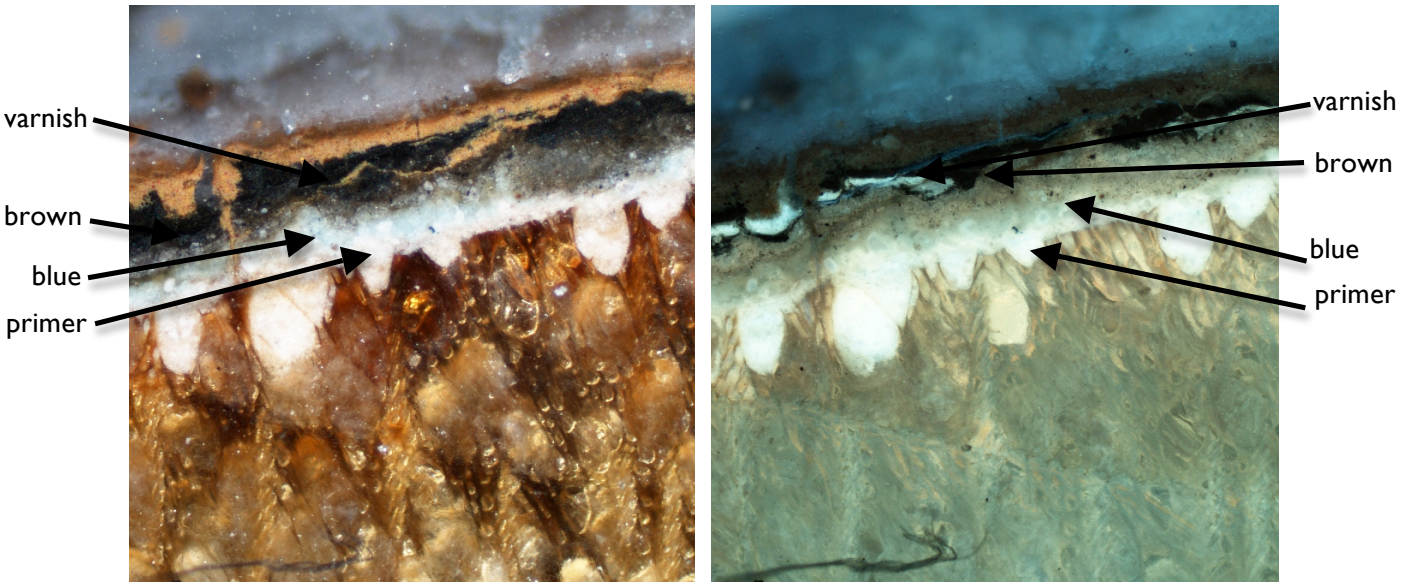


Figure 22: Sample 202.13 (mantel leg, 100x magnification - visible light, left, and UV light, right). The early layers appear similar to those on the other wood trim. Later layers include dark browns and varnish.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The samples removed from the John Gordon House indicate a generally simple color palette with the possibility of some decorative finishing for its earliest finish campaign. Unfortunately, missing original elements, like the walls and ceiling, prevent a full understanding of the original appearance of the building's interior.

The earliest existing finish found in the examined samples indicate that the wood trim in each room (chair rail, window casing, door surround) was painted in matching colors unique to that room – the trim in the Parlor (Room 102) was finished in a warm yellow, the Hall (Room 101) in a light brown, the West Bedroom (Room 201) in white and the East Bedroom (Room 202) in blue. Brown baseboards were found throughout the house.

The two interior doors were finished differently on either side: the side facing west was likely grained, while the side facing east was finished to match the trim of that particular room. The staircase, which was open to the two western rooms, was finished with dark reddish brown inside stringers, rails, and posts, but had warm yellow balusters.

The recommended paint colors for restoration are provided below. Specific color matches have been made to both the standardized Munsell color system and the commercial Benjamin Moore paint palette. Please note that any attempt to reproduce these pages, including printing from the electronic version of the report, will distort the color of the provided chips. Only the actual color chip or notation should be used for paint replication purposes.

<u>Baseboards (All Rooms)</u>
Finish: dark brown
Munsell Color Match: 10YR 2/2
Benjamin Moore Color Match: Bittersweet Chocolate, 2114-10

<u>Chair Rail, Door Surround, Window Casing, Paneling, Room 101</u>
Finish: light brown
Munsell Color Match: 7.5YR 5/4
Benjamin Moore Color Match: Vero Beach Tan, 1085

Chair Rail, Door, Door Surround, Window Casing, Room 102
Finish: warm yellow
Munsell Color Match: between 10YR 7/10 and 2.5Y 7/8
Benjamin Moore Color Match: Glen Ridge Gold, 301

Chair Rail, Door Surround, Window Casing, Mantel, Room 201
Finish: off-white
Munsell Color Match: between 5Y 8/1 and 5Y 9.1
Benjamin Moore Color Match: Morning Dew, OC-140

Chair Rail, Door, Door Surround, Window Casing, Mantel, Room 202
Finish: blue
Munsell Color Match: 7.5B 6/2
Benjamin Moore Color Match: Franklin Lakes, 1643

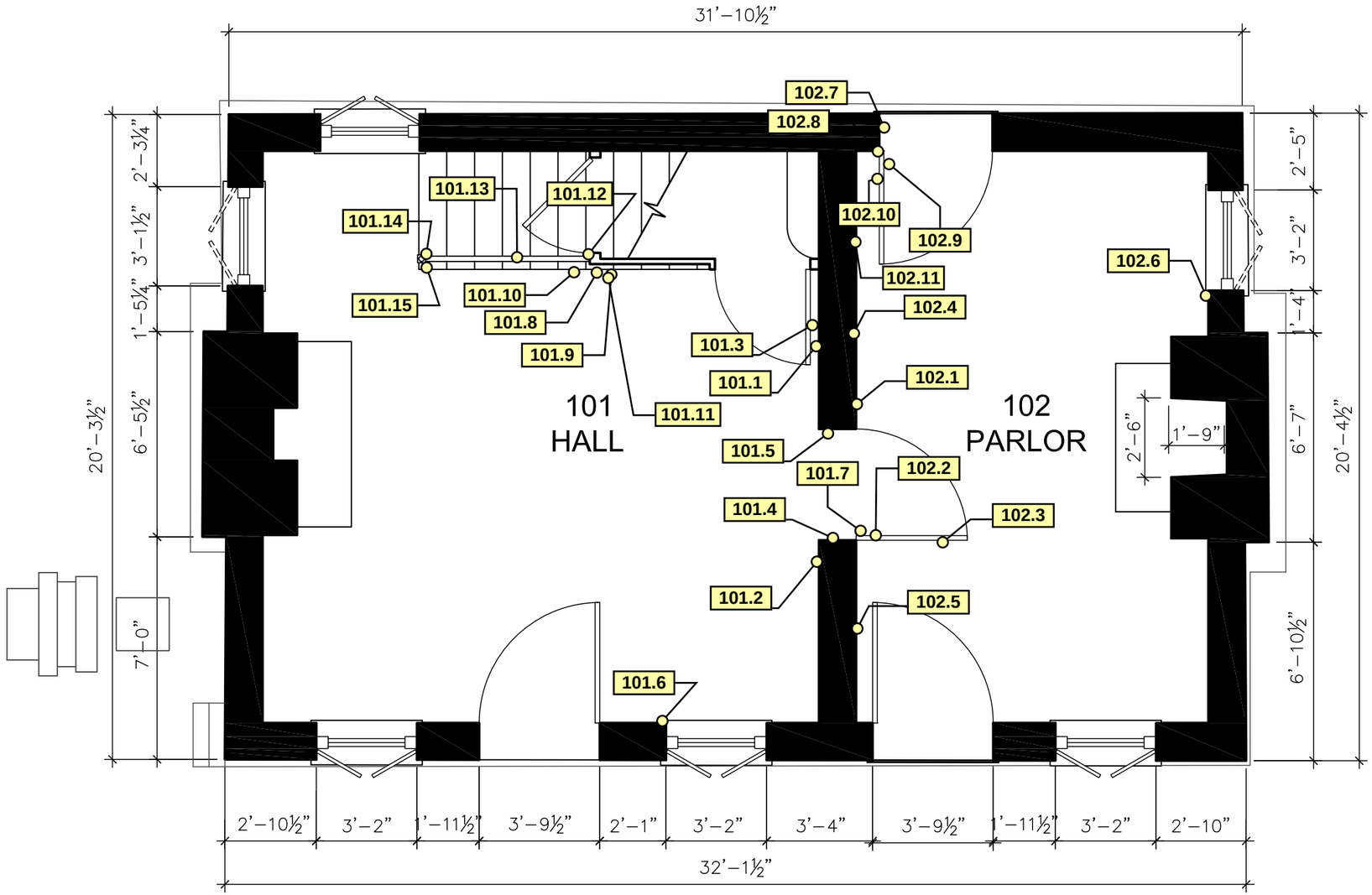
Door, Room 101 and 201
Finish: decorative finish
Munsell Color Match: n/a
Benjamin Moore Color Match: n/a

Staircase Handrail, Posts, Skirtboard, Landing Tread (Rooms 101 and 201)
Finish: dark reddish brown
Munsell Color Match: 2.5YR 3/4
Benjamin Moore Color Match: Chocolate Sundae, 2113-10

Staircase Balusters (Rooms 101 and 201)
Finish: warm yellow
Munsell Color Match: between 10YR 7/10 and 2.5Y 7/8
Benjamin Moore Color Match: Glen Ridge Gold, 301

Appendix A
Sample List

JOHN GORDON HOUSE				
Sample List				
Sample No.	***Room***	***Location***	***Description***	***Notes***
JGH.101.01	Hall	chair rail	central wall, north of door	
JGH.101.02	Hall	baseboard	central wall, south of door	
JGH.101.03	Hall	baseboard	central wall, north of door	
JGH.101.04	Hall	door jamb	inset panel, south jamb	
JGH.101.05	Hall	door jamb	inset panel, north jamb	
JGH.101.06	Hall	window casing	south window, west side	
JGH.101.07	Hall	door	hall face, hinge stile	
JGH.101.08	Hall	stair string	under piece added w/wall addition,1907	current paint is blue
JGH.101.09	Hall	stair string	adjacent to 101.8 but exposed	
JGH.101.10	Hall	paneling	raised panel	
JGH.101.11	Hall	paneling	inset panel	
JGH.101.12	Hall	baluster	room face	
JGH.101.13	Hall	handrail	side facing room	
JGH.101.14	Hall	newel post	just under handrail	
JGH.101.15	Hall	newel post	corner facing room and handrail	
JGH.102.01	Parlor	chair rail	central wall, north of door	
JGH.102.02	Parlor	door surround	central wall, north of door	
JGH.102.03	Parlor	door	central door, hinge stile	
JGH.102.04	Parlor	baseboard	central wall, north of door	
JGH.102.05	Parlor	baseboard	central wall, south of door	
JGH.102.06	Parlor	window casing	east window, south side	
JGH.102.07	Parlor	exterior door jamb	west side	
JGH.102.08	Parlor	exterior door	interior side, corner	
JGH.102.09	Parlor	exterior door	exterior side, hinge stile	
JGH.102.10	Parlor	exterior door	interior side, hinge stile	
JGH.102.11	Parlor	chair rail cap	central wall, north of door	
JGH.201.01	West Bed.	baluster	side facing stairs	only baluster with old paint?
JGH.201.02	West Bed.	skirtboard		
JGH.201.03	West Bed.	landing tread	edge of tread, under balustrade at top of stairs	
JGH.201.04	West Bed.	handrail	underside	
JGH.201.05	West Bed.	handrail	top	
JGH.201.06	West Bed.	newel post		
JGH.201.07	West Bed.	bottom rail		
JGH.201.08	West Bed.	stair nosing		
JGH.201.09	West Bed.	chair rail	central wall	
JGH.201.10	West Bed.	chair rail cap	central wall	
JGH.201.11	West Bed.	baseboard cap	west wall	
JGH.201.12	West Bed.	baseboard	west wall	
JGH.201.13	West Bed.	window casing	top portion	mldg. above is replacement
JGH.201.14	West Bed.	door jamb	center door, inset panel	
JGH.201.15	West Bed.	door	hinge stile	
JGH.201.15b	West Bed.	door surround	south side	
JGH.201.16	West Bed.	door	raised panel	
JGH.201.17	West Bed.	mantel	plinth of pilaster (mantel leg)	
JGH.201.18	West Bed.	mantel	flat header above firebox opening	
JGH.201.19	West Bed.	mantel	top of shelf	
JGH.201.20	West Bed.	mantel	crown molding under shelf	
JGH.201.21	West Bed.	mantel	vertical flat pilaster, north side	
JGH.201.22	West Bed.	mantel	vertical flat side piece, south side	
JGH.201.23	West Bed.	mantel	nose of mantelshelf	
JGH.202.01	East Bed.	window casing	outer molding, south window	
JGH.202.02	East Bed.	chair rail cap	north wall	
JGH.202.03	East Bed.	chair rail	flat molding, north wall	
JGH.202.04	East Bed.	baseboard cap		
JGH.202.05	East Bed.	baseboard		
JGH.202.06	East Bed.	door	hinge stile	
JGH.202.07	East Bed.	door surround	south side	
JGH.202.08	East Bed.	mantel	flat header above firebox opening	
JGH.202.09	East Bed.	mantel	nosing of shelf	
JGH.202.10	East Bed.	mantel	cap above firebox opening	
JGH.202.11	East Bed.	mantel	flat portion of crown molding under shelf	
JGH.202.12	East Bed.	mantel	top of mantelshelf	
JGH.202.13	East Bed.	mantel	vertical flat mantel leg	
JGH.202.14	East Bed.	mantel	molding on header above firebox opening	



FIRST FLOOR PLAN

6" 2' 4' 10'
0' 1' 3' 5'

COMPASS NORTH
PLAN NORTH

NOTE: THE GORDON HOUSE FACES SOUTHEAST BUT FOR THE PURPOSES OF THIS REPORT THE HOUSE IS DESCRIBED AS FACING SOUTH.

RECORDED BY
Joseph K. Oppermann,
drawn by Rebecca McCormick

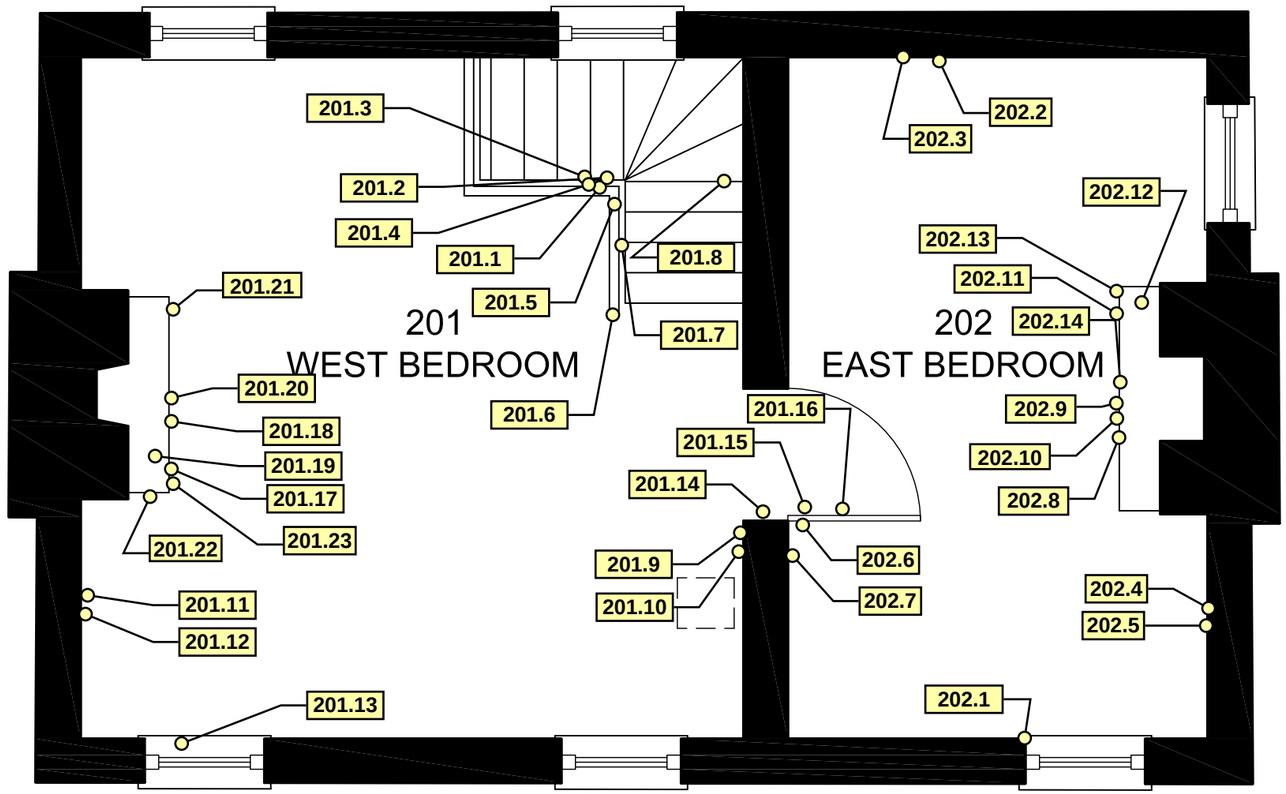
JOHN GORDON HOUSE

- NATCHEZ TRACE PARKWAY, TENNESSEE -

DATE: MARCH 2010

SCALE: 1/4" = 1'-0"

APPENDIX B
AS-FOUND DRAWINGS
SHEET 2 OF 8 SHEETS



SECOND FLOOR PLAN

6" 2' 4' 10'
0' 1' 3' 5'

NOTE: THE GORDON HOUSE FACES SOUTHEAST BUT FOR THE PURPOSES OF THIS REPORT THE HOUSE IS DESCRIBED AS FACING SOUTH.

RECORDED BY
Joseph K. Oppermann,
drawn by Rebecca McCormick

JOHN GORDON HOUSE

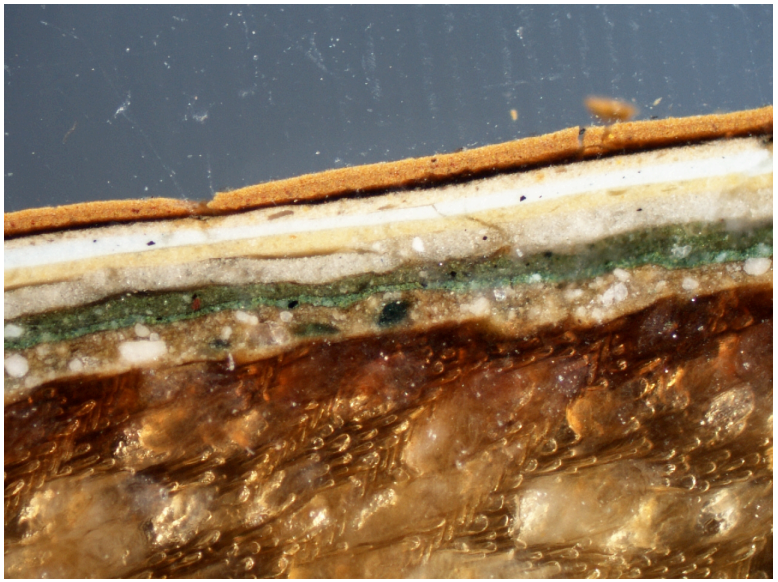
- NATCHEZ TRACE PARKWAY, TENNESSEE -

DATE: MARCH 2010

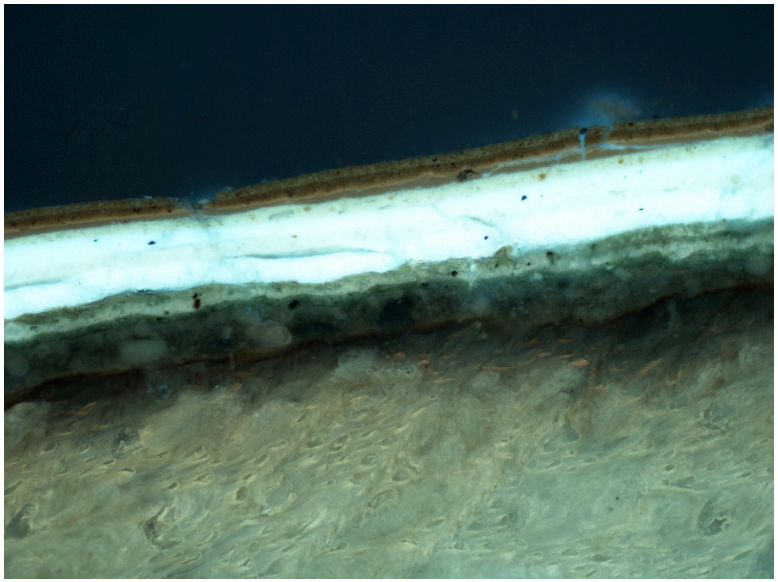
SCALE: 1/4" = 1'-0"

APPENDIX B
AS-FOUND DRAWINGS
SHEET 3 OF 8 SHEETS

Appendix B
Photomicrographs



Visible light, 100x

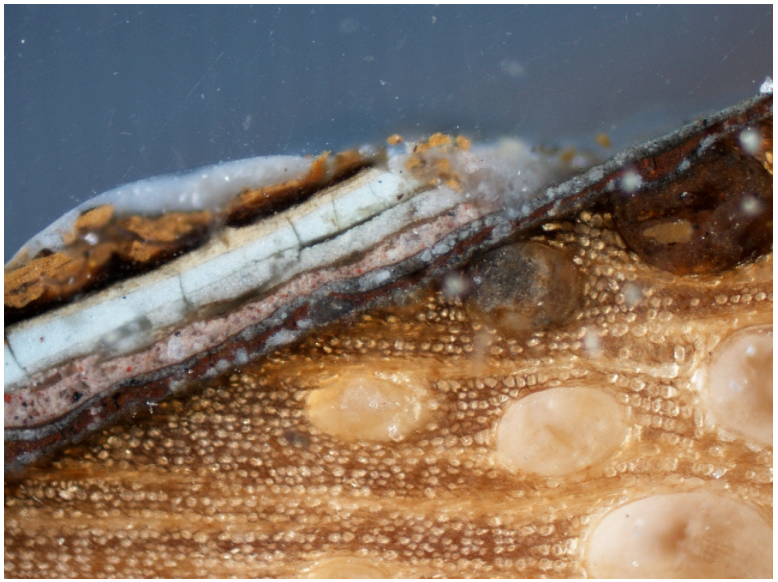


UV Light, 100x

SAMPLE NO:	JGH.101.1
LOCATION:	Chair rail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Sat. in wood; autofl. slightly
1	Light Brown	Green pigment within; coarse
Dirt		
2	Green	Coarse
Dirt		
3	Green	Coarse
Dirt		
4	Cream	
Dirt/Sep.		
5	Yellow-peach	
6	White	

LAYER	***COLOR***	***NOTES***
7	Light peach	
8	Red-brown	
9	Orange-brown	
10	Orange-brown	



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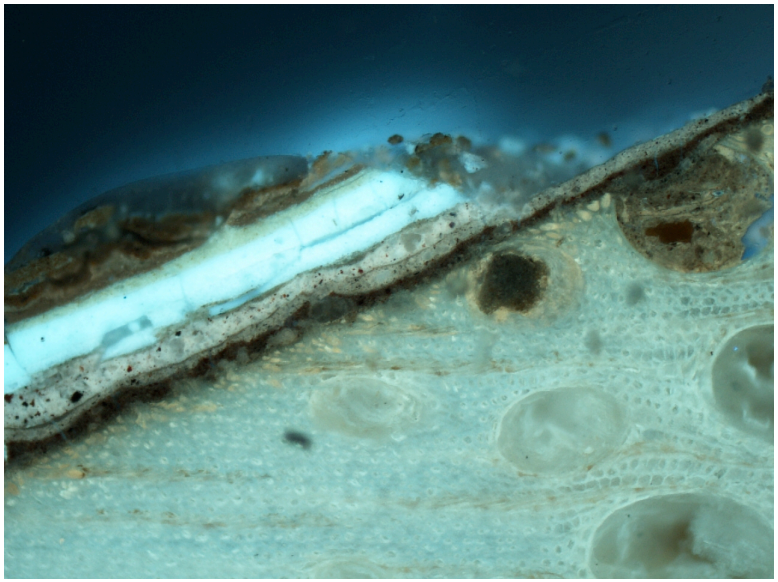
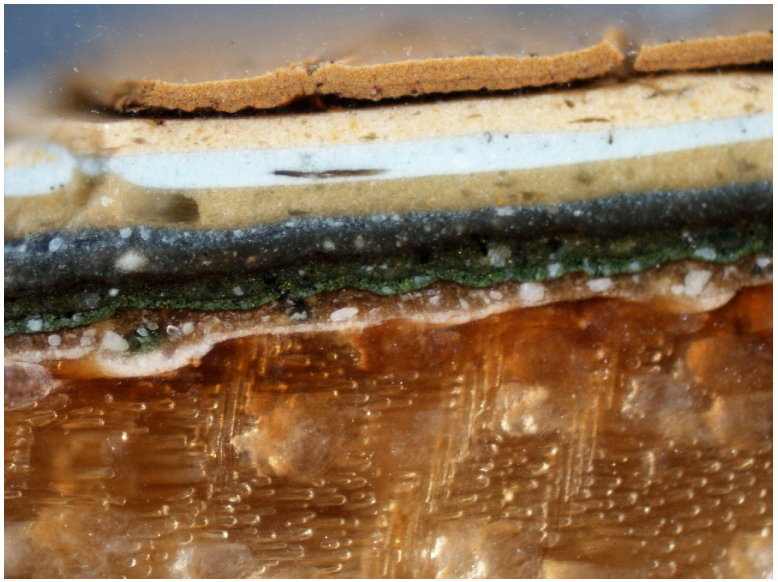


UV Light, 100x

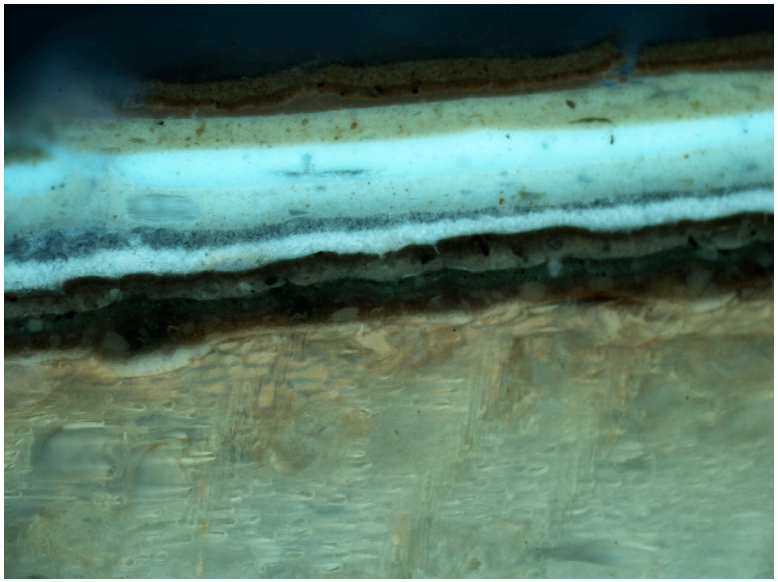
SAMPLE NO:	JGH.101.3
LOCATION:	baseboard

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
1	Brown	Only in pores
2	Blue-gray	Thin
Dirt		
3	Brown	
Dirt		
4	Gray-blue	
Dirt		
5	Pink	
Dirt		
6	Gray/Light blue	
Dirt/sep		
7	Light aqua blue	

LAYER	***COLOR***	***NOTES***
8	Yellow-peach	
9	Brown	
10	Brown	
11	Orange-brown	
Dirt/sep.		
12	Orange-brown	



Visible light, 100x

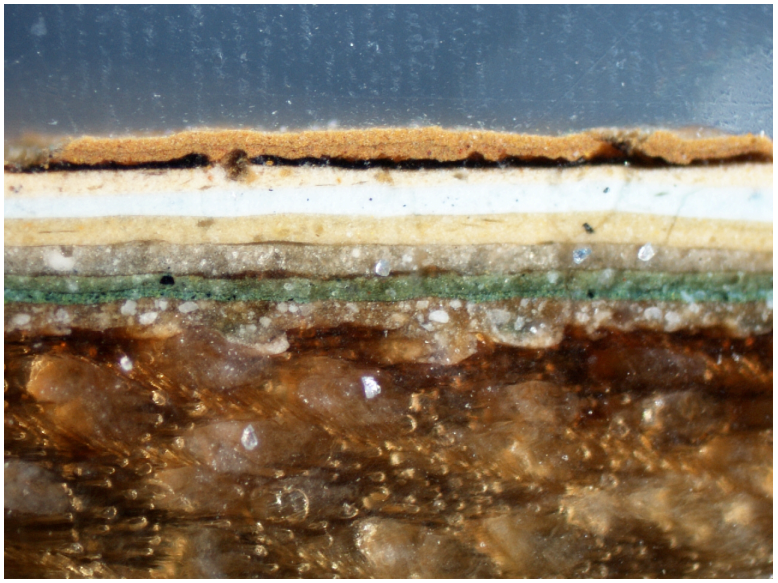


UV Light, 100x

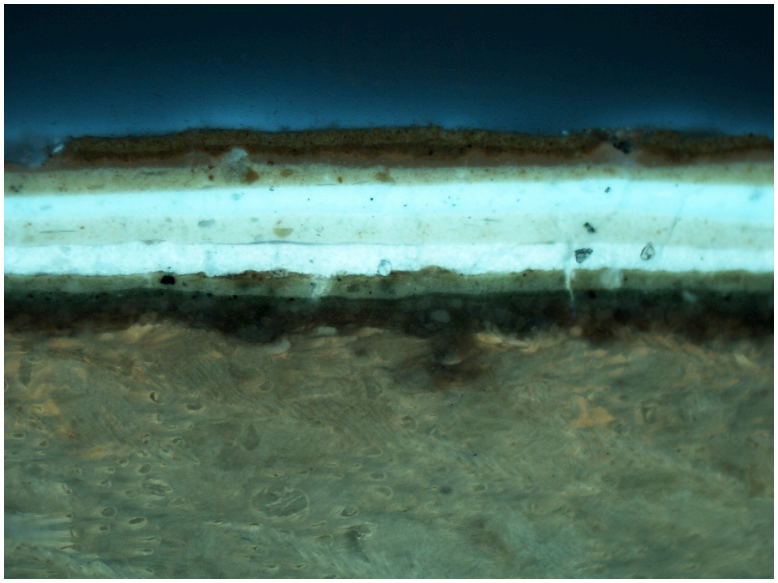
SAMPLE NO:	JGH.101.5
LOCATION:	Door jamb

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Sat. in surface; autofl. orange
1	Cream	Thin, in crevices 2.5-5Y 9/2
2	Light Brown	Coarse
Dirt		
3	Green	Coarse
Dirt		
4	Green	Coarse
5	Brown	
Dirt		
6	Gray	
7	Blue	
8	Peachy-tan	
9	White	

LAYER	***COLOR***	***NOTES***
10	Peach	
11	Brown	
12	Orange-brown	
Dirt		
13	Orange-brown	



Visible light, 100x

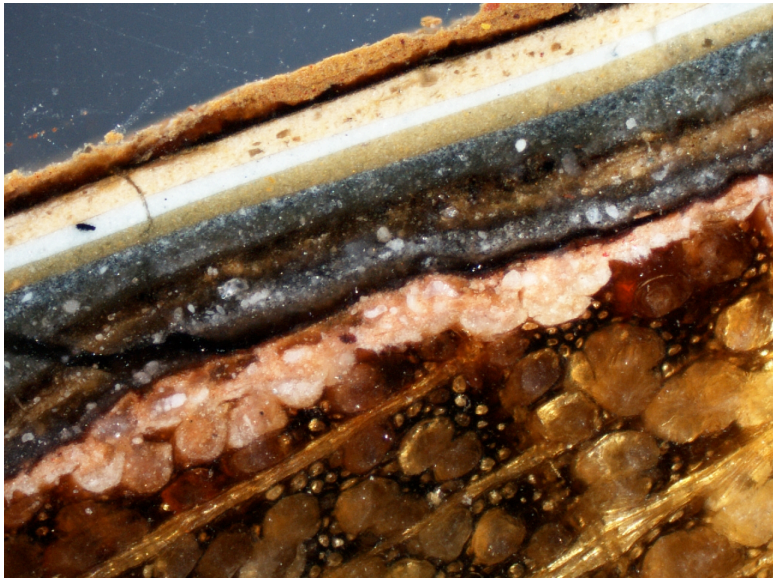


UV Light, 100x

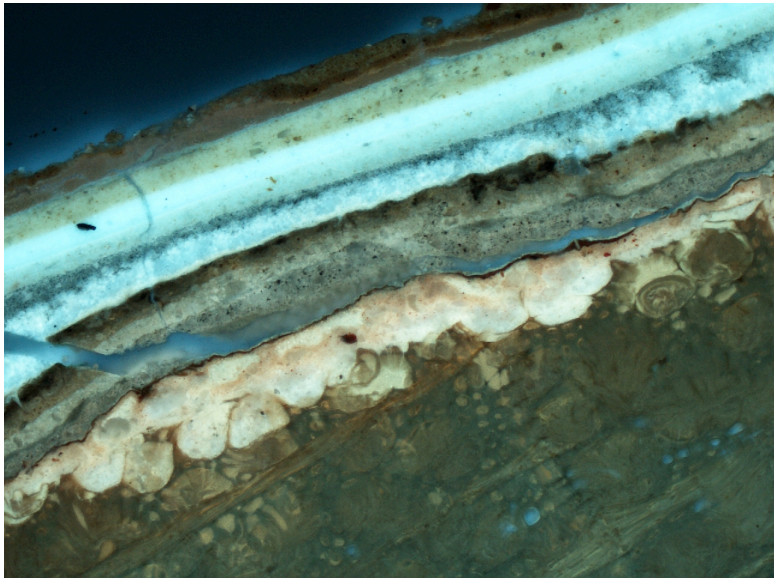
SAMPLE NO:	JGH.101.6
LOCATION:	Window casing

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Sat. in surface; autofl. orange
1	Cream	Traces only, in crevices
2	Light brown	Coarse
3	Green	Thin in places
4	Yellowish Green	
5	Brown	Traces
Dirt		
6	Gray	
Dirt/sep.		
7	Yellow-peach	
8	White	
9	Peach	
10	Brown	

LAYER	***COLOR***	***NOTES***
11	Orange-brown	
Dirt		
12	Orange-brown	



Visible light, 100x

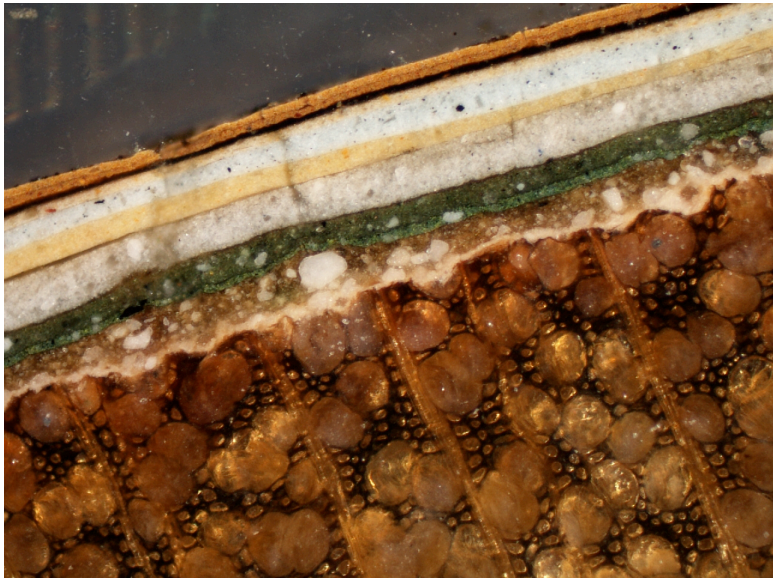


UV Light, 100x

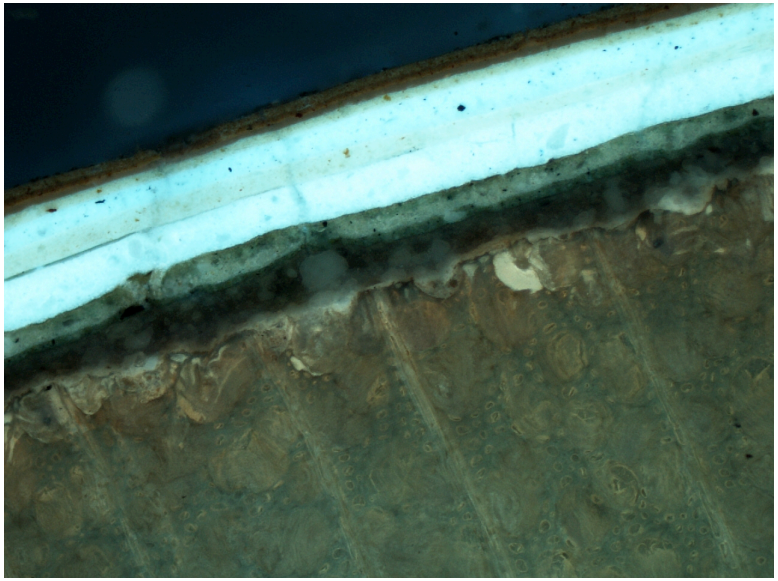
SAMPLE NO:	JGH.101.7
LOCATION:	Door

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red sat. in surface; autofl.
1	Cream	Thin, in pores, 5Y 9/2
2	Peachy-pink	
3	Red	Very thin, decorative?
Dirt/Sep.		
4	Gray	
Dirt		
5	Light brown	
6	Brown	
Dirt		
7	Gray	
8	Gray-blue	
9	Yellow-peach	
10	White	
11	Peach	
12	Brown	

LAYER	***COLOR***	***NOTES***
13	Orange-brown	
Dirt		
14	Orange-brown	



Visible light, 100x

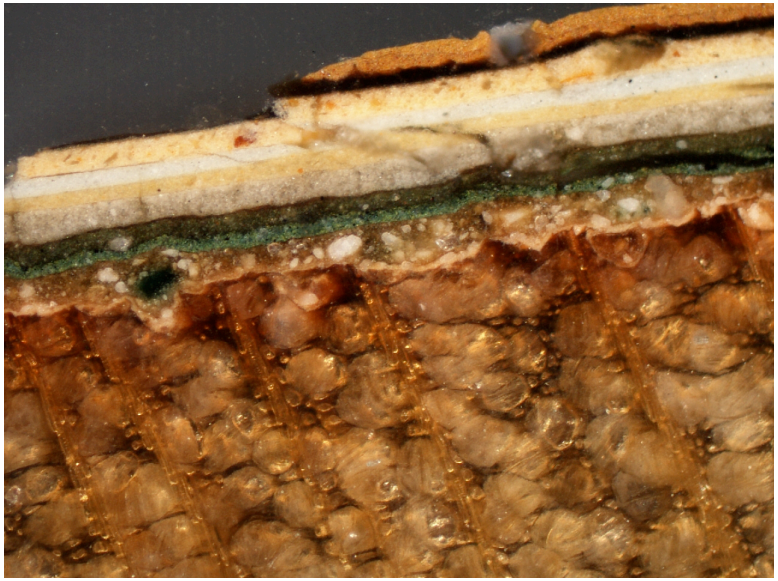


UV Light, 100x

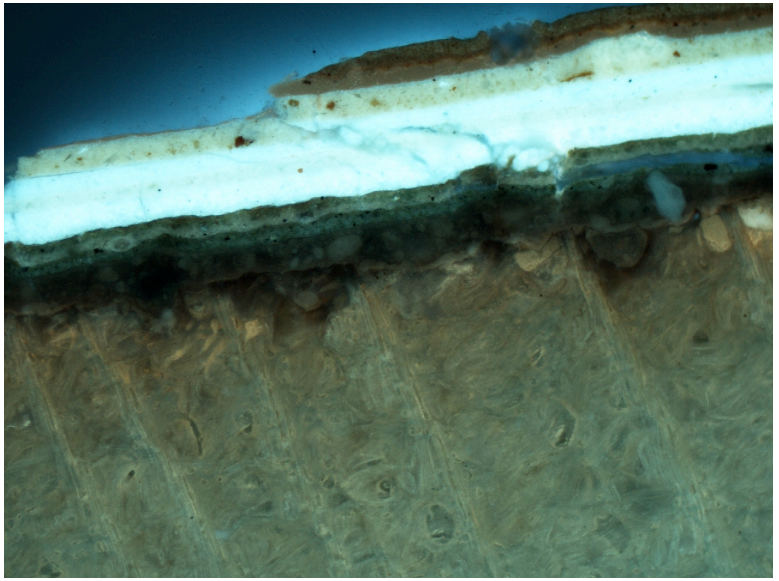
SAMPLE NO:	JGH.101.9
LOCATION:	Stair string

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red sat. into surface; autofl. orange
1	Cream	Thin, uneven
2	Light brown	Very coarse
Dirt		
3	Green	Coarse
4	Yellow-green	Coarse
Dirt		
5	Whitish	
Dirt/Sep.		
6	Yellow-peach	
7	White	
8	Light peach	
9	Brown	
10	Orange-brown	

LAYER	***COLOR***	***NOTES***
Dirt		
11	Orange-brown	



Visible light, 100x

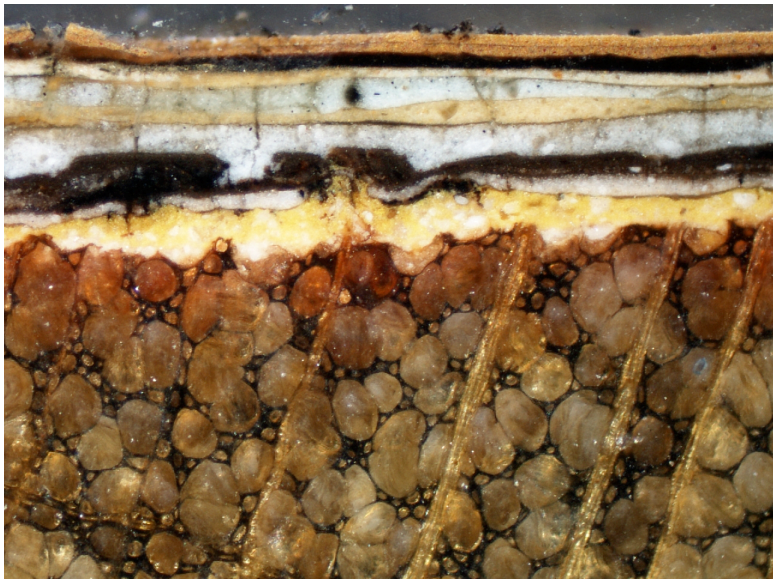


UV Light, 100x

SAMPLE NO:	JGH.101.11
LOCATION:	paneling

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red sat. into surface; some autofl.
1	Cream	Very thin & uneven
Dirt		
2	Light brown	With green blobs; very coarse
Dirt		
3	Green	
Dirt		
4	Green	
Dirt		
5	Whitish	
6	Yellow-peach	
7	White	
8	Peach	

LAYER	***COLOR***	***NOTES***
9	Brown	
10	Orange-brown	
Dirt		
11	Orange-brown	



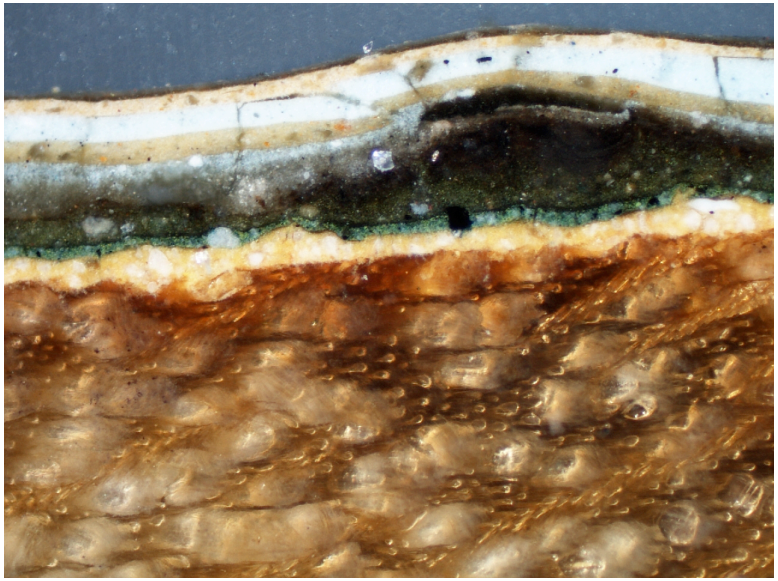
Visible light, 100x

UV Light, 100x

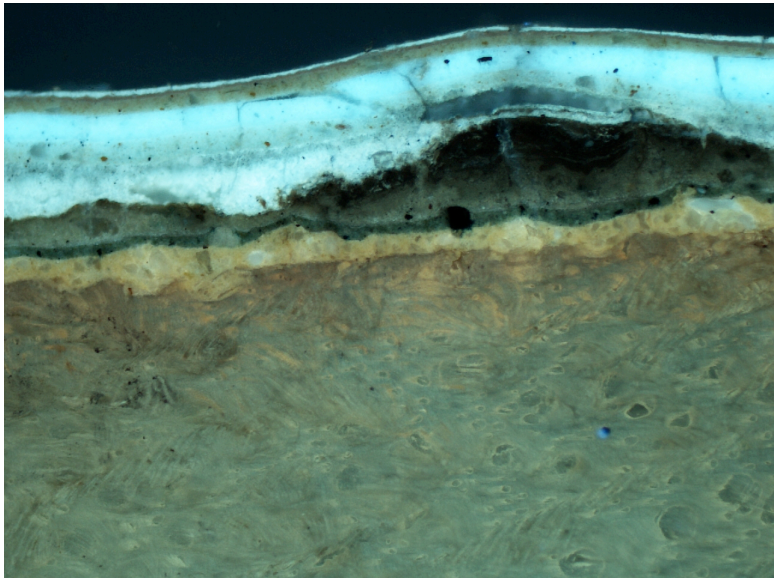
SAMPLE NO:	JGH.101.12
LOCATION:	baluster

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red sat. in wood; autofl. orange
1	Cream	Only in crevices
2	Yellow	Coarse
Dirt		
3	Whitish	
Dirt		
4	Brown	Varnish?
5	Brown	
6	Whitish	
Dirt		
7	Peach	
8	Whitish	
Dirt		
9	Light peach	

LAYER	***COLOR***	***NOTES***
10	Brown	
11	Orange-brown	
Dirt		
12	Orange-brown	



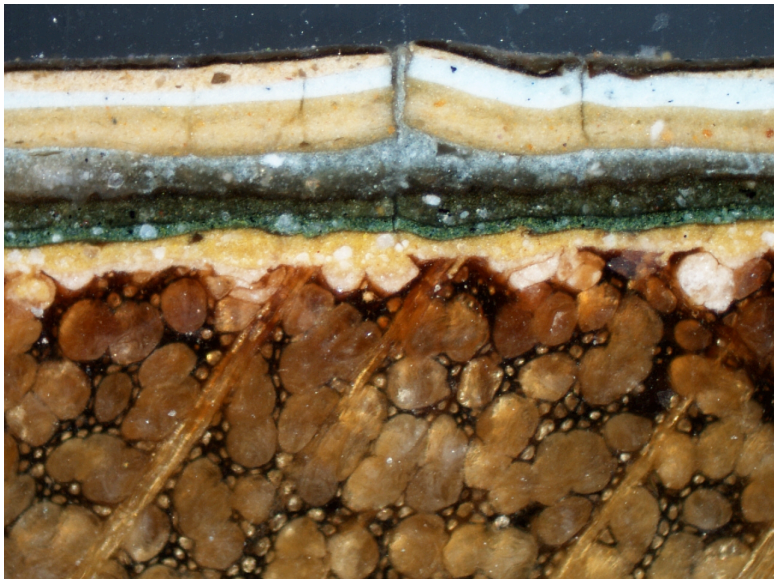
Visible light, 100x



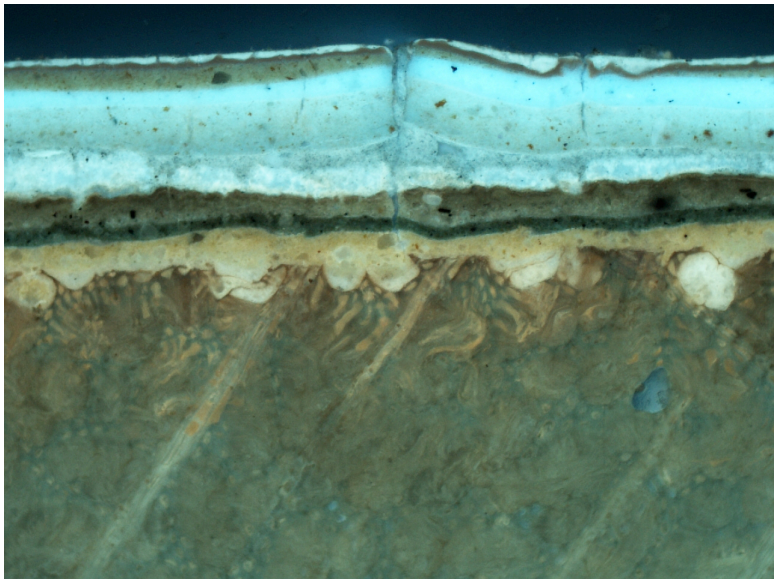
UV Light, 100x

SAMPLE NO:	JGH.102.1
LOCATION:	Chair rail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation at surface but no pigment particles; autofl. slightly
1	Yellow	Coarsely ground
Dirt		
2	Green	Thin
Dirt		
3	Yellow-green	
4	Brown	
Dirt		Potentially a different brown layer
5	Gray	
6	Blue-gray	
Dirt		
7	Peach	
8	White	
9	Light peach	
Dirt		
10	Brown	Current graining
11	Brown/Varnish	Current graining



Visible light, 100x

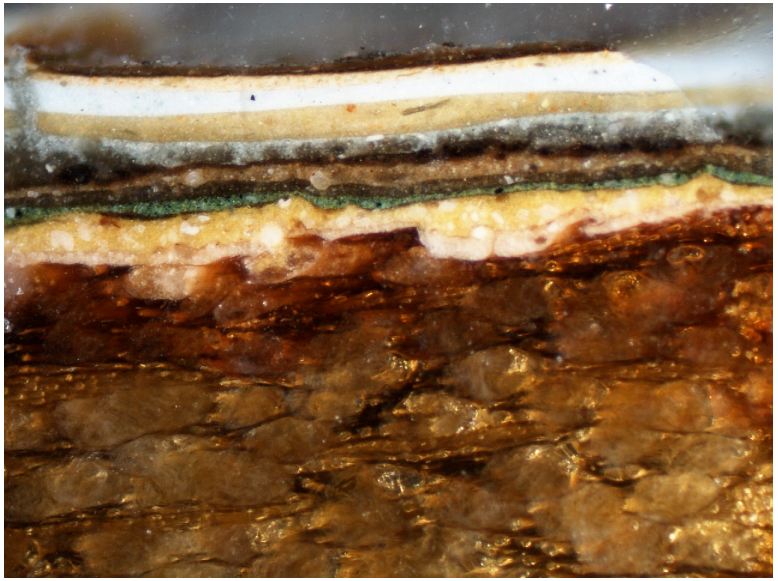


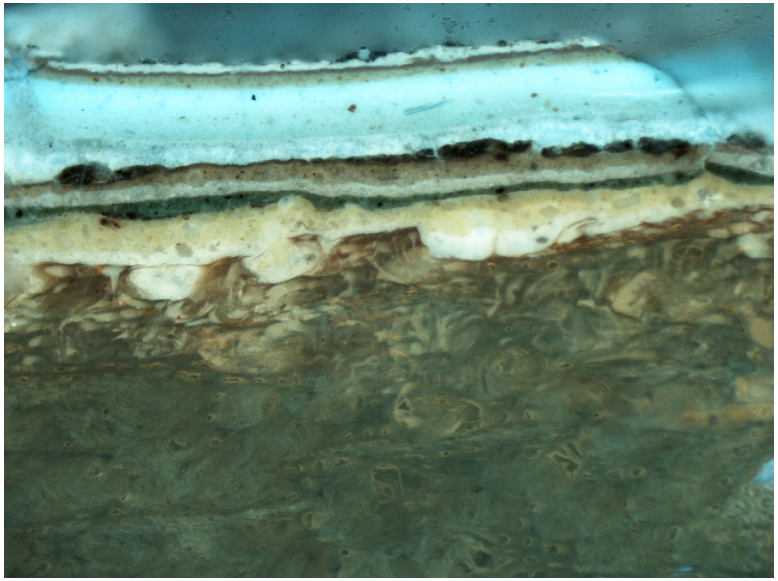
UV Light, 100x

SAMPLE NO:	JGH.102.2
LOCATION:	Door surround

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Sat. surface; no pigment; autofl. slightly
1	Cream	Traces, in pores; some sep. in areas
2	Yellow	Coarse pigment
Dirt/Sep.		
3	Green	Coarse
4	Green	Coarse
5	Brown	
6	Gray	Coarse
7	Blue-gray	
8	Peach	

LAYER	***COLOR***	***NOTES***
9	White	
10	Light peach	
11	Brown	Current graining
12	Brown/Varnish	Current graining

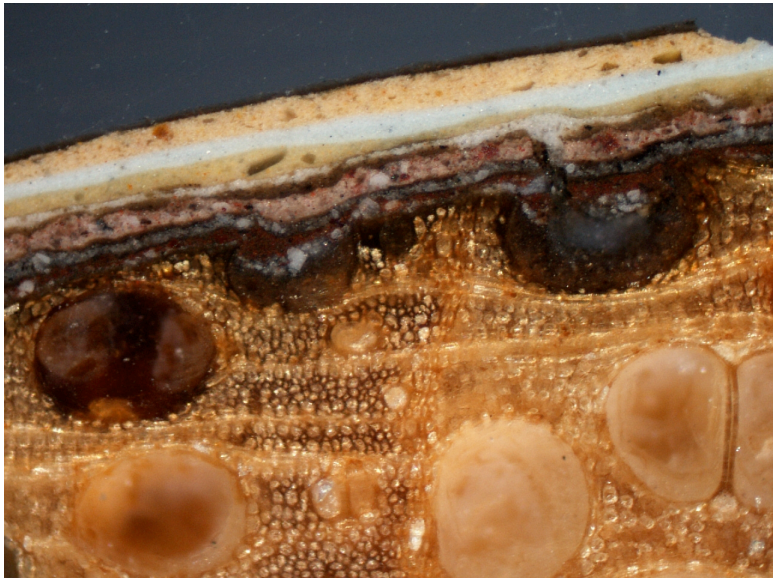

Visible light, 100x


UV Light, 100x

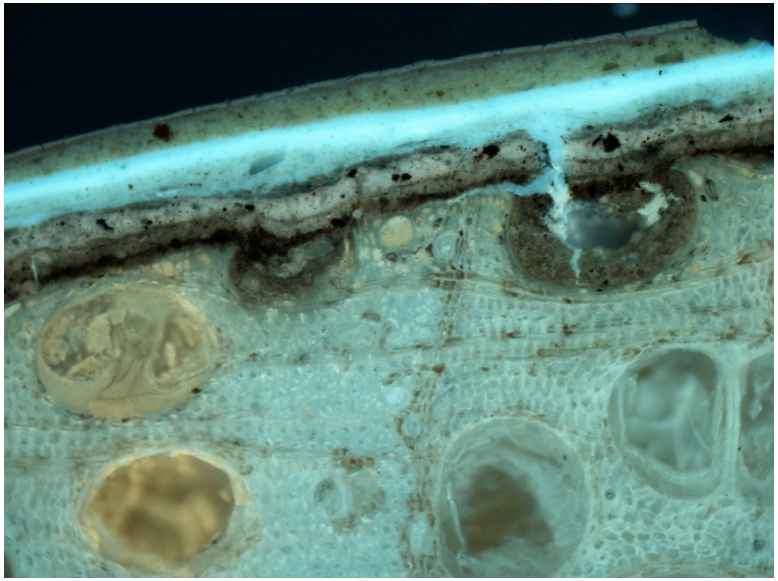
SAMPLE NO:	JGH.102.3
LOCATION:	door

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red sat. into wood; autofl. orange
1	Cream	Traces in crevices, thin
Dirt/Sep.		Between cream and yellow
2	Yellow	Coarsely ground
Dirt		
3	Greenish brown	
4	Brown	
5	Light brown	Coarse
6	Brown	
7	Gray	
8	Peach	

LAYER	***COLOR***	***NOTES***
9	Light blue	
10	Light peach	
11	Brown	Current graining
12	Brown/Varnish	Current graining



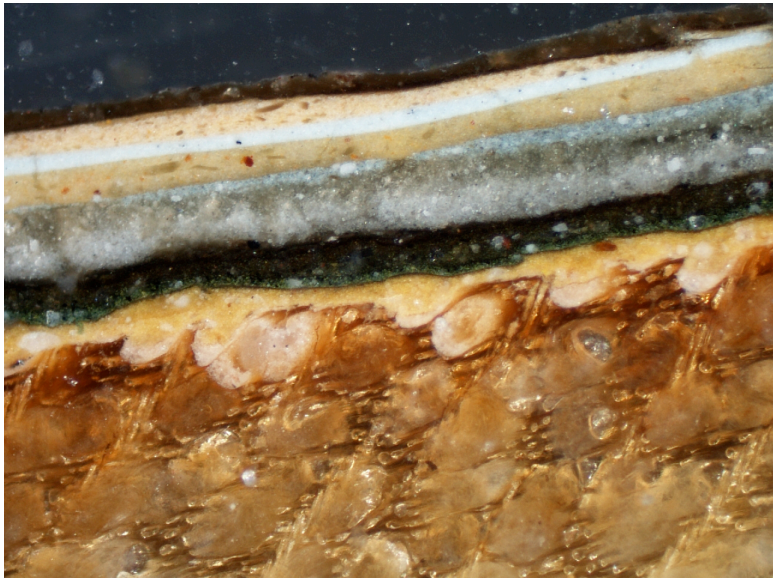
Visible light, 100x



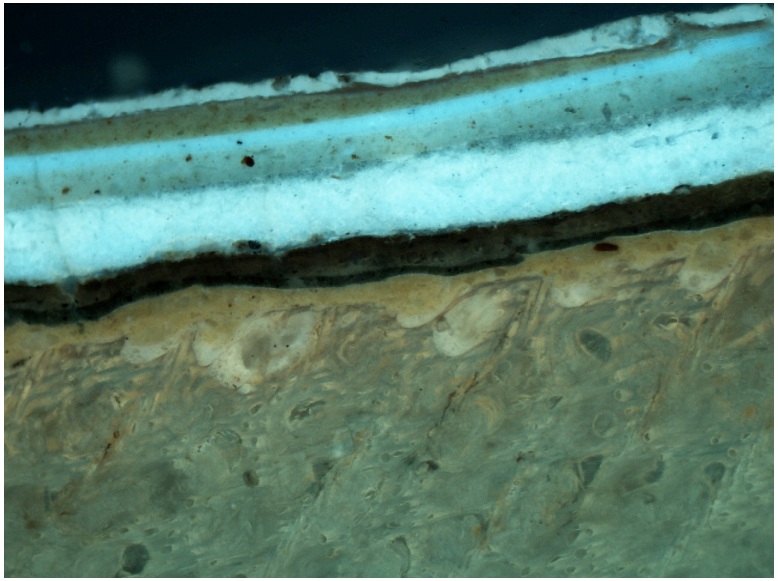
UV Light, 100x

SAMPLE NO:	JGH.102.5
LOCATION:	baseboard

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
1	Brown	In crevices only
2	Blue-gray	Coarser than 2nd blue-gray
3	Red-brown	
Dirt		
4	Blue-gray	
Dirt		
5	Pink	Multicolored pigments
6	Brown	Partial; damaged
7	Whitish	
Dirt		
8	Peach	
9	White	
10	Light peach	
11	Brown	Current graining
12	Brown/Varnish	Current graining



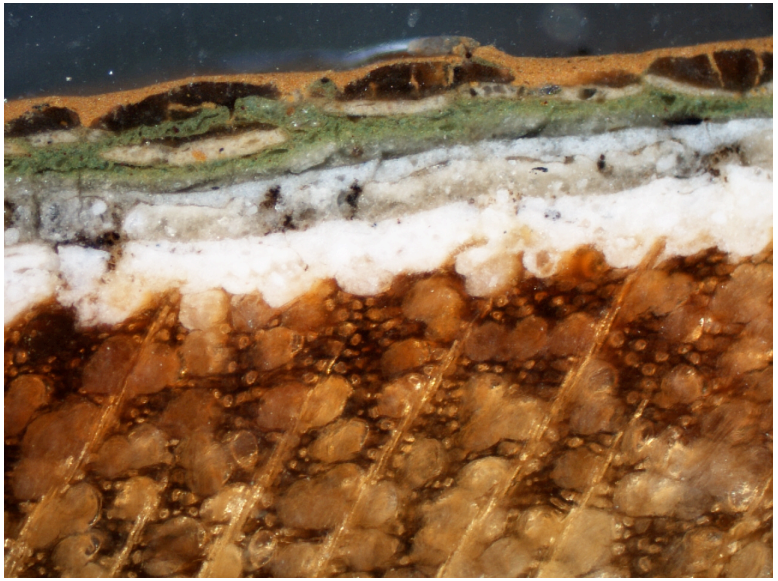
Visible light, 100x



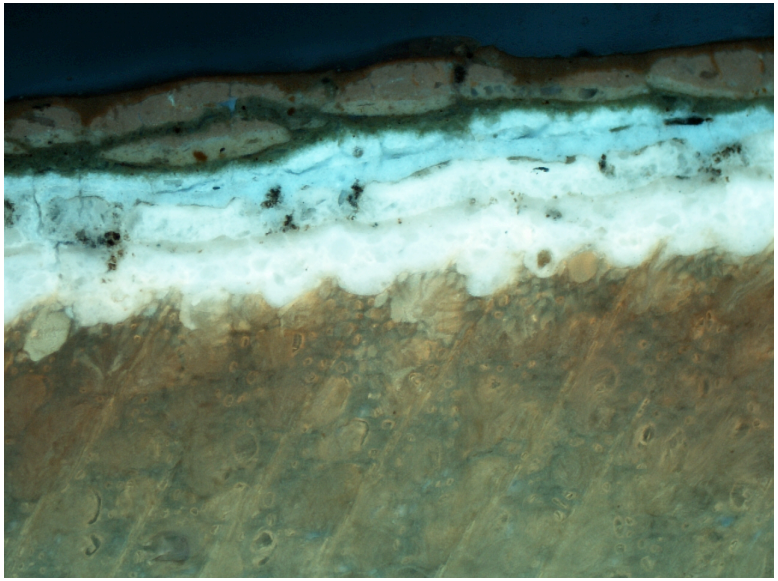
UV Light, 100x

SAMPLE NO:	JGH.102.6
LOCATION:	Window casing

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation at surface; some autofl. orange
1	Cream	Traces in pores
Dirt/Sep.		Some small separations
2	Yellow	Coarse
Dirt		
3	Green	Coarse
4	Greenish-brown	
5	Brown	
6	Gray	
7	Blue-gray	
8	Peach	
9	White	
10	Light peach	
11	Brown	Current graining
12	Brown/Varnish	Current graining



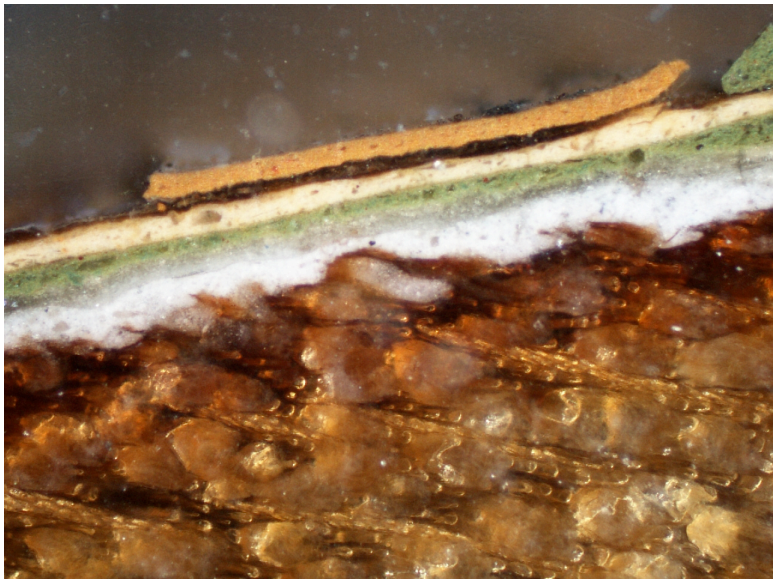
Visible light, 100x



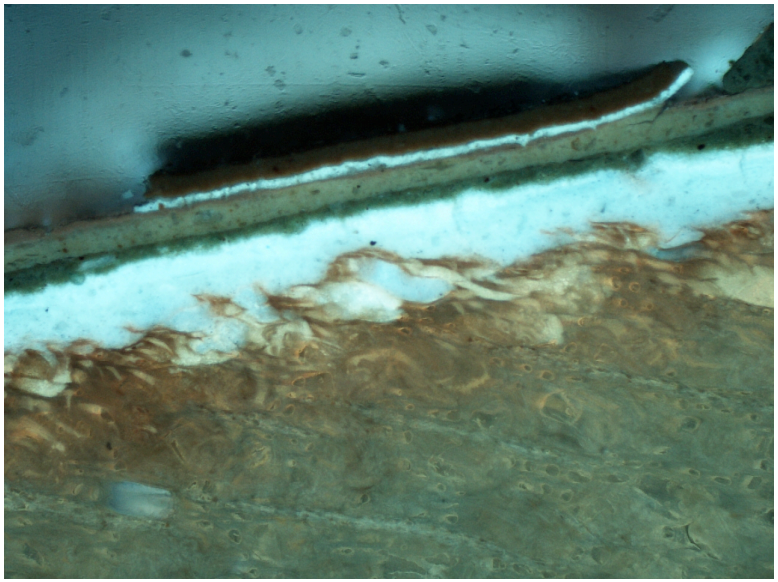
UV Light, 100x

SAMPLE NO:	JGH.102.7
LOCATION:	Exterior door jamb

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturated wood surface; autofl. orange
1	Cream	2.5Y 9/2
Dirt		
2	Cream	
Dirt		
3	Light gray	Damaged
Dirt		
4	Gray	Damaged
5		
6	Green	Damaged
Dirt		
7	Cream	Damaged
8	Brown	Damaged
9	Orange-brown	



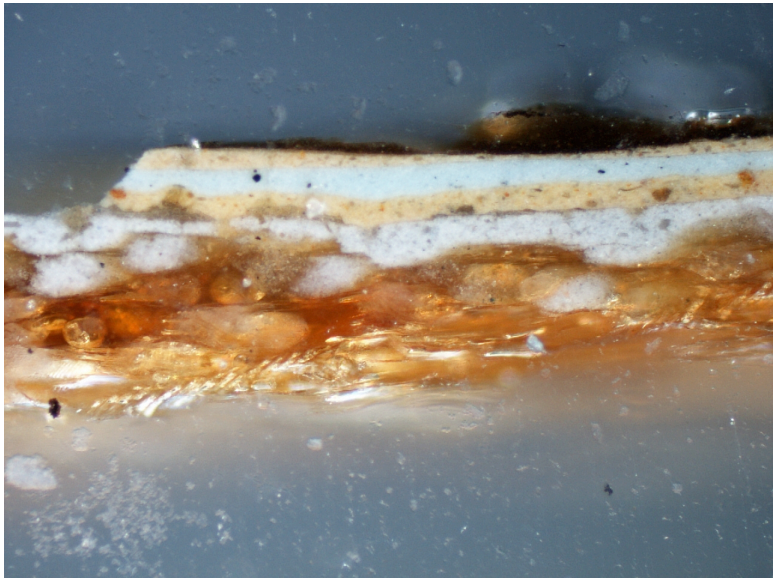
Visible light, 100x



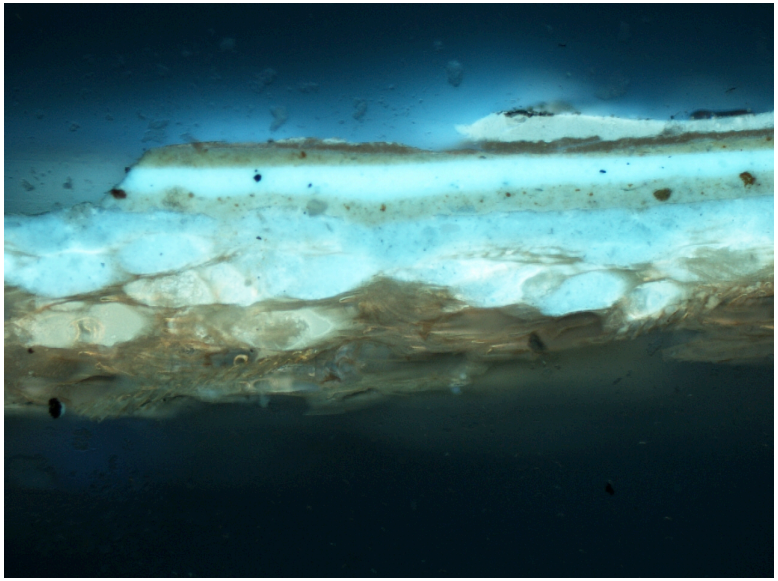
UV Light, 100x

SAMPLE NO:	JGH.102.9
LOCATION:	Exterior door, exterior side

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation at surface; autofl. orange; surface looks damaged – missing early paint
1	White	
2	Gray	
3	Green	
Dirt		
4	Cream	
5	Yellow-peach	
6	Brown	Thin
7	Brown	Varnish
8	Orange-brown	



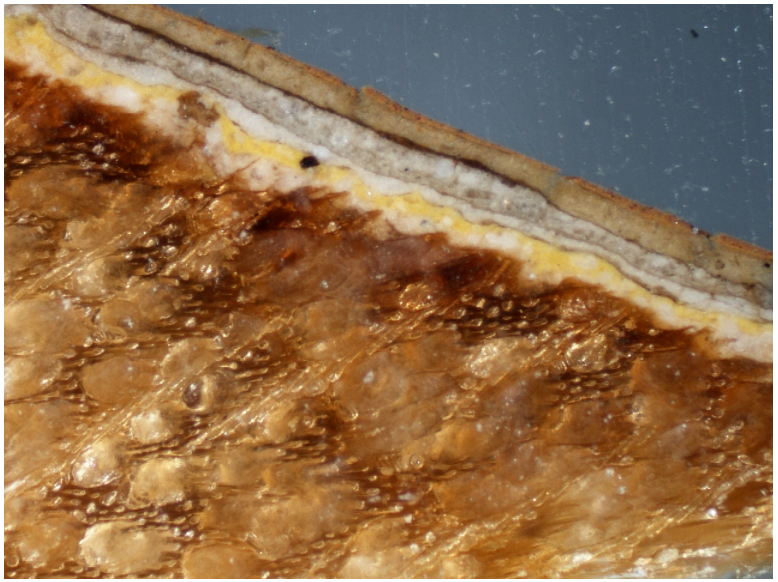
Visible light, 100x



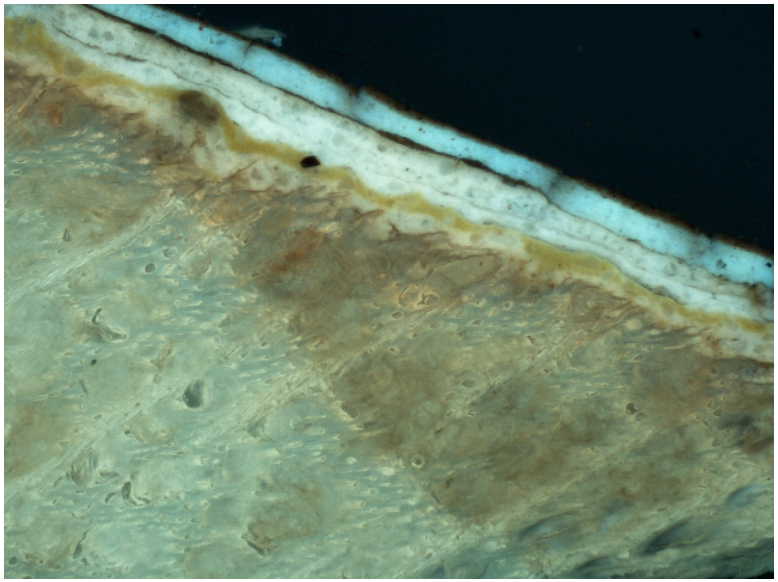
UV Light, 100x

SAMPLE NO:	JGH.102.10
LOCATION:	Exterior door, interior side

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Missing early paint
1	Blue-gray	
2	Yellow Peach	
3	White/Light aqua	
4	Light peach	
5	Brown	
6	Brown/Varnish	



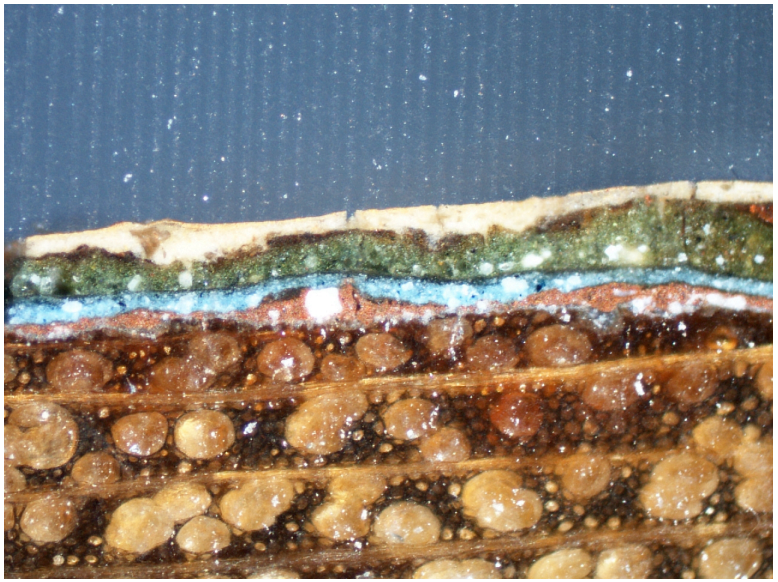
Visible light, 100x



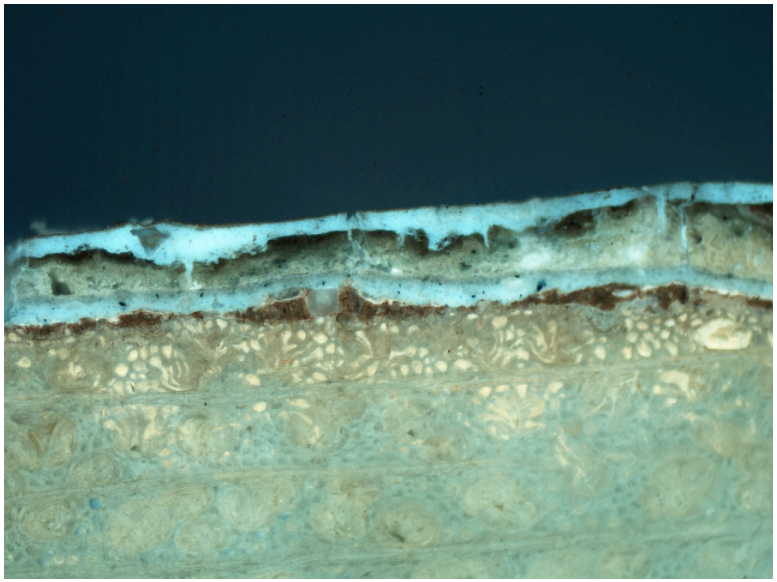
UV Light, 100x

SAMPLE NO:	JGH.201.1
LOCATION:	baluster

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Something reddish and autofl. saturated into surface
1	Cream	Thin, traces
2	Yellow	Coarsely ground
Dirt		Or thin, uneven brown
3	White	
Dirt		
4	Whitish	
5	Whitish	
	Brown	Thin
6	Tan/cream	
7	Orange-brown	



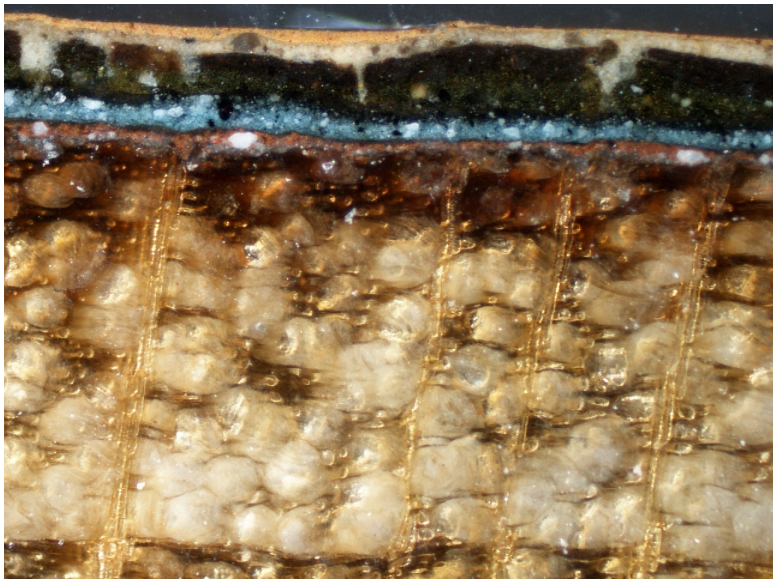
Visible light, 40x



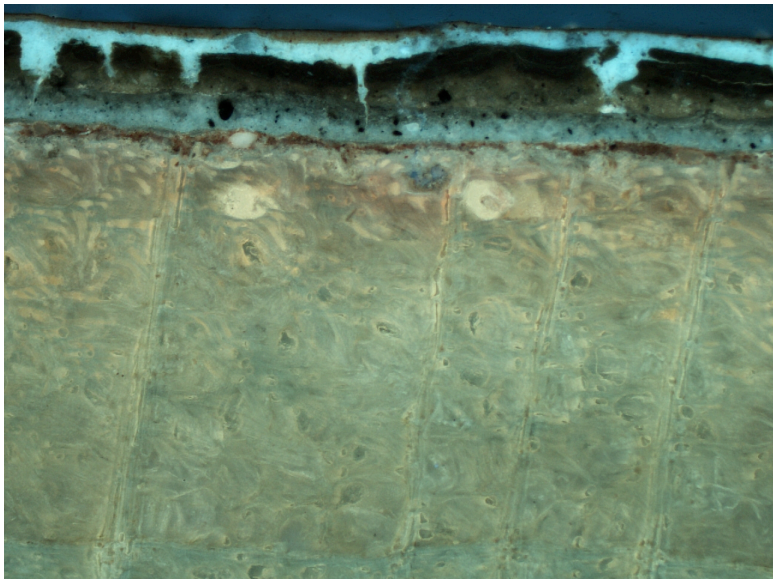
UV Light, 40x

SAMPLE NO:	JGH.201.2
LOCATION:	Stair string

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface; autofl.
1	Gray	Very thin
2	Red-brown	
3	Brown	Thin, varnish?
4	Blue	
Dirt		
5	Yellow Green	Damaged
6	Brown	Damaged
7	Cream	
8	Orange-brown	



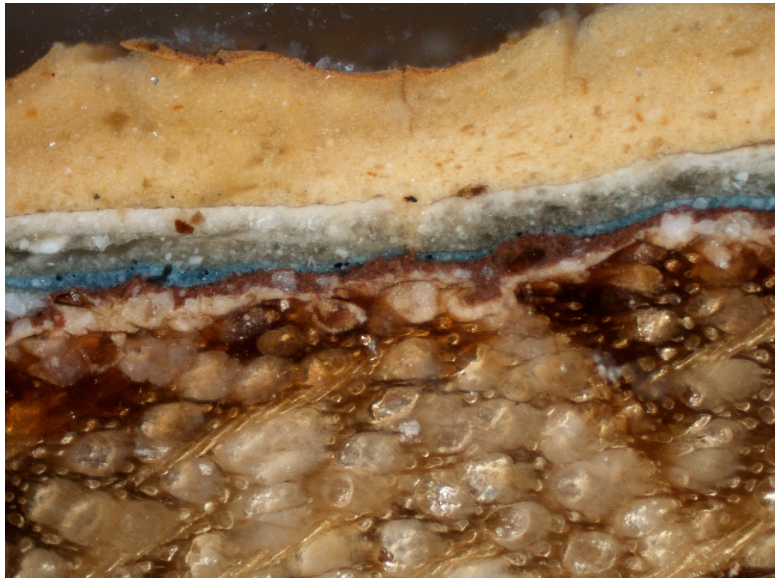
Visible light, 100x



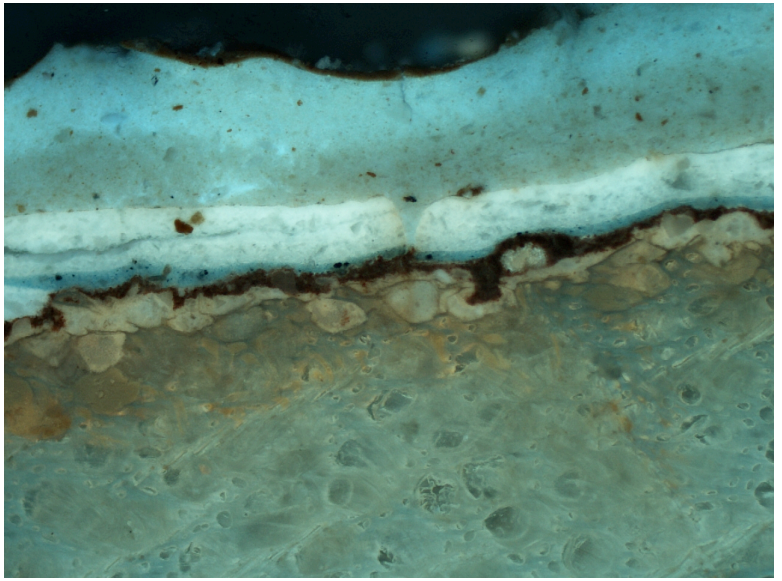
UV Light, 100x

SAMPLE NO:	JGH.201.3
LOCATION:	Floor nosing

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Dark reddish saturation in surface; autofl. orange
1	Gray	Thin
2	Red-brown	
Dirt		
3	Blue	
Dirt		Or discolored previous surface
4	Yellow-green	Damaged
5	Brown	Damaged
6	Cream	Thin
7	Orange-brown	



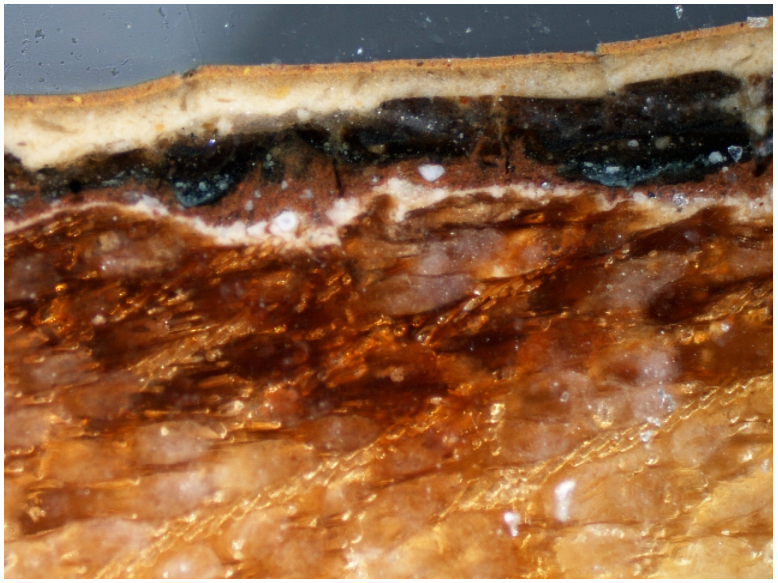
Visible light, 100x



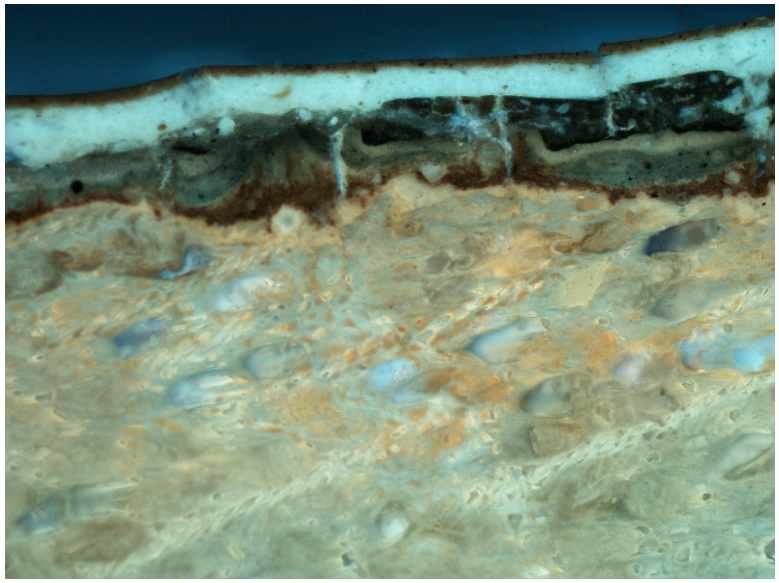
UV Light, 100x

SAMPLE NO:	JGH.201.4
LOCATION:	Hand rail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation in surface; autofl. orange
1	Cream	Thin, uneven
2	Red-brown	
Dirt		
3	Blue	Thin
4	Gray	
5	Whitish	
Dirt		
6	Peach	Thick
7	Orange-brown	Thin



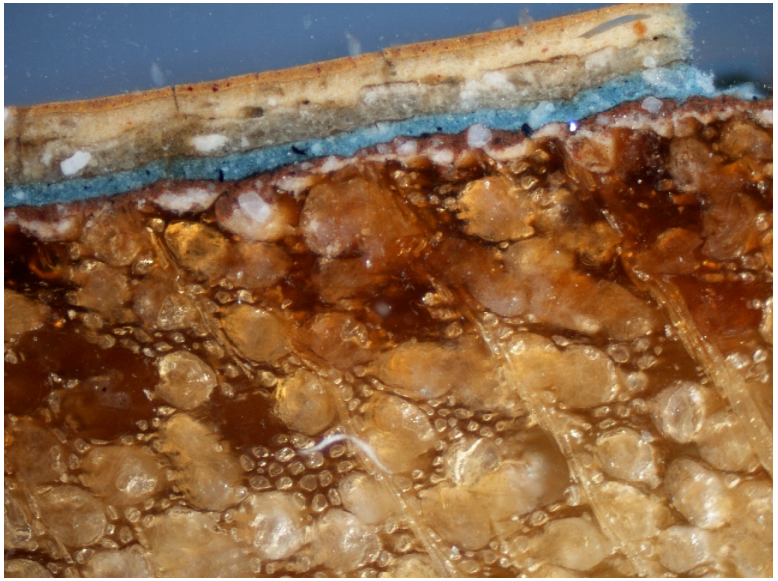
Visible light, 100x



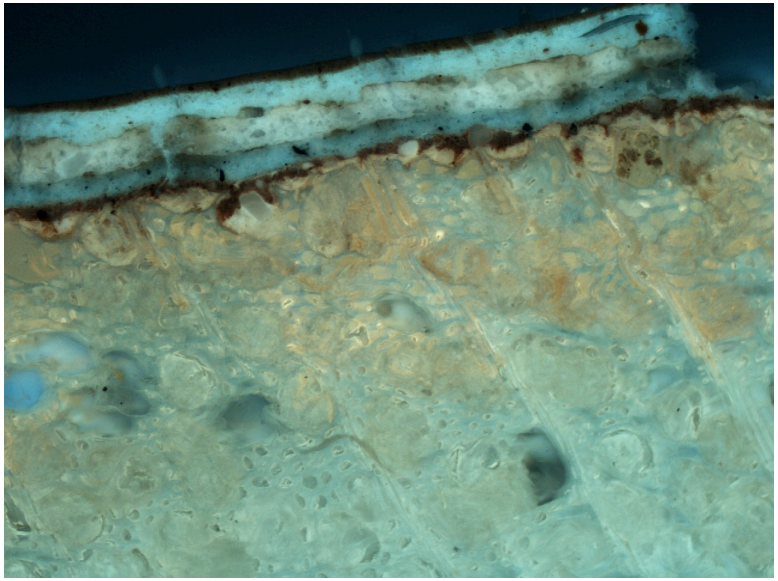
UV Light, 100x

SAMPLE NO:	JGH.201.5
LOCATION:	handrail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red saturation in surface
1	Cream	Thin, uneven
2	Red-brown	
3	Blue	
4	Gray	
5	Brown	Varnish; damaged
6	Brown	Damaged
7	Cream	
Dirt		
8	Orange-brown	



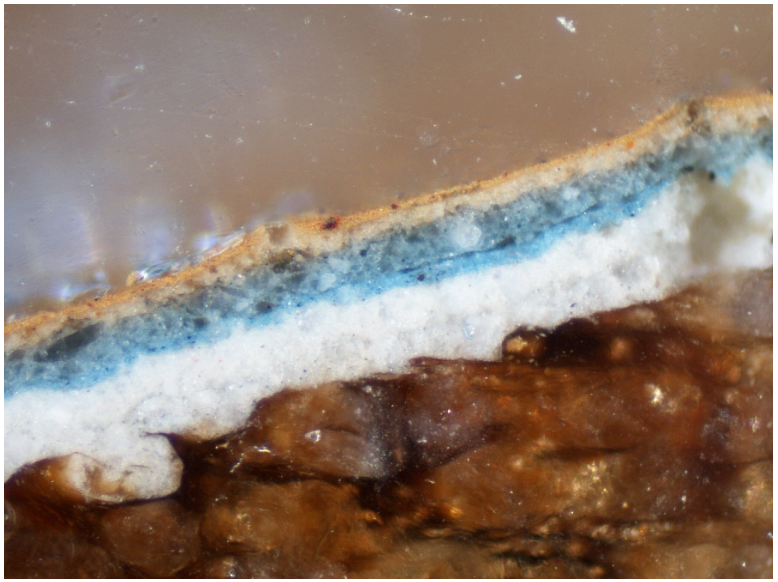
Visible light, 100x



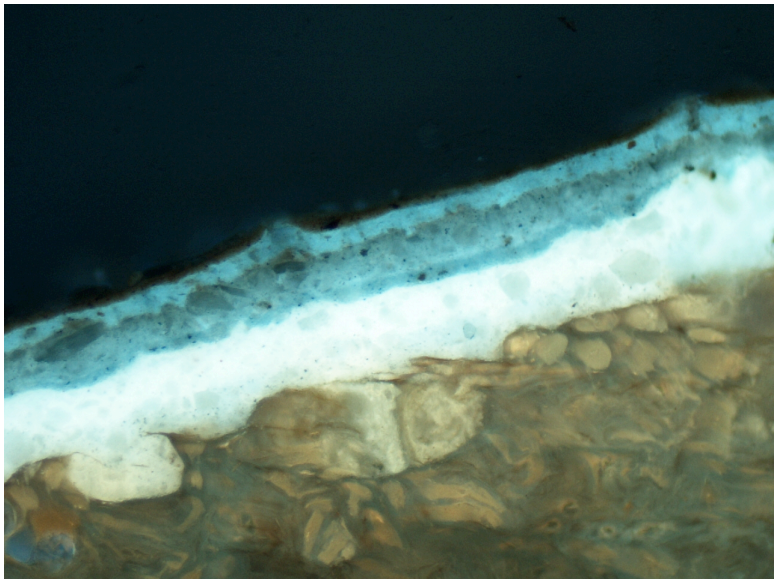
UV Light, 100x

SAMPLE NO:	JGH.201.6
LOCATION:	Newel post

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red saturated in surface
1	Cream	Partial, thin
2	Red-brown	
Dirt		
3	Blue	
Dirt		
4	Gray	
Dirt		
5	Cream	
Dirt		
6	Orange-brown	



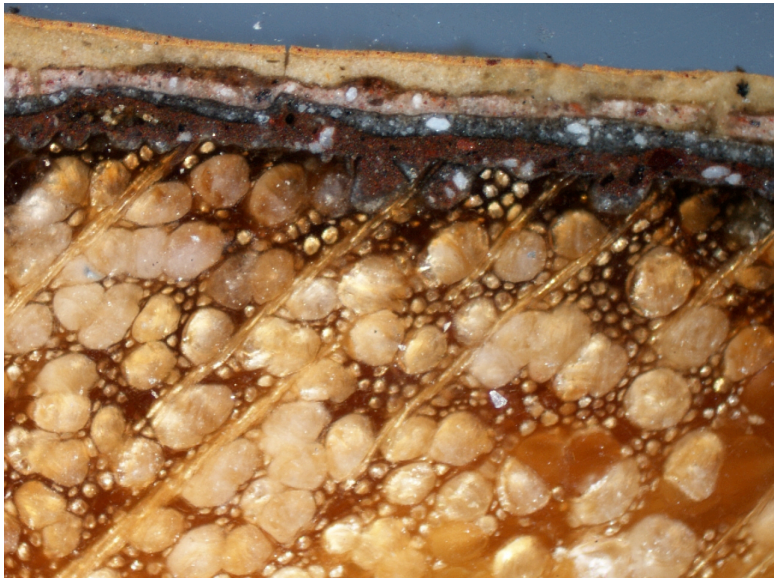
Visible light, 200x



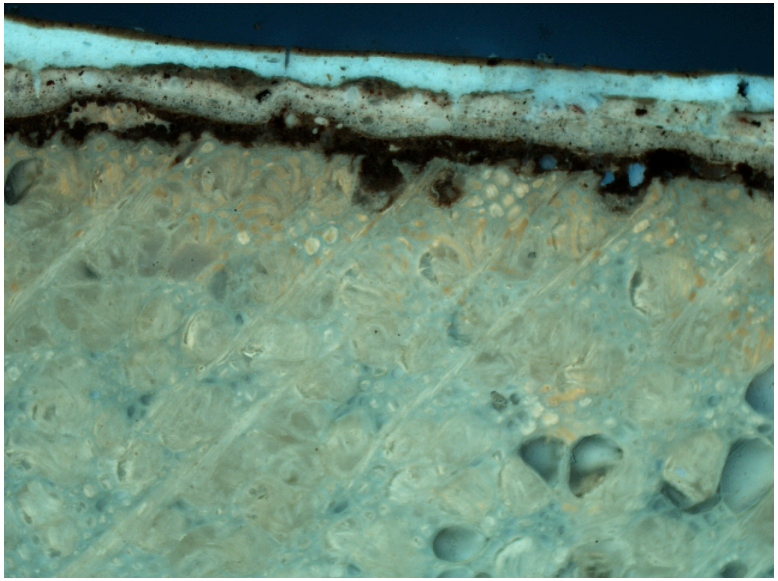
UV Light, 200x

SAMPLE NO:	JGH.201.9
LOCATION:	Chair rail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
1	Light gray	
2	Whitish	
3	Bright blue	
4	Gray-blue	
5	Peachy cream	
6	Orange-brown	



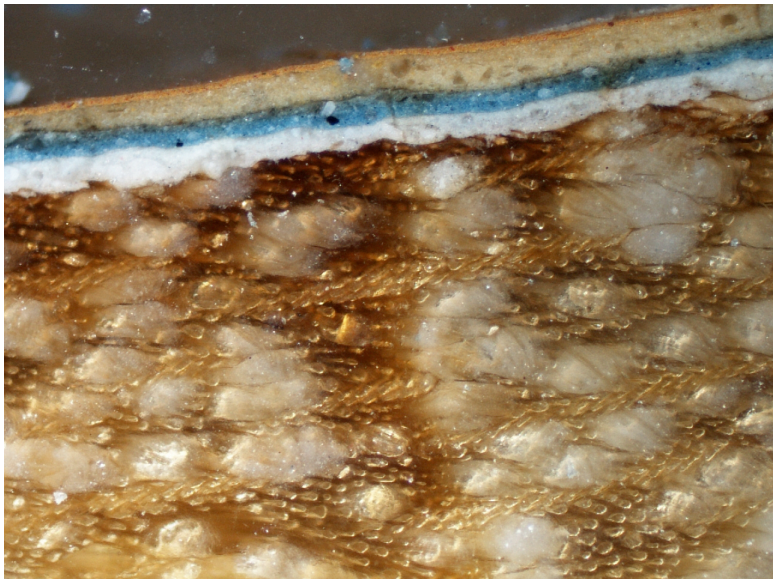
Visible light, 100x



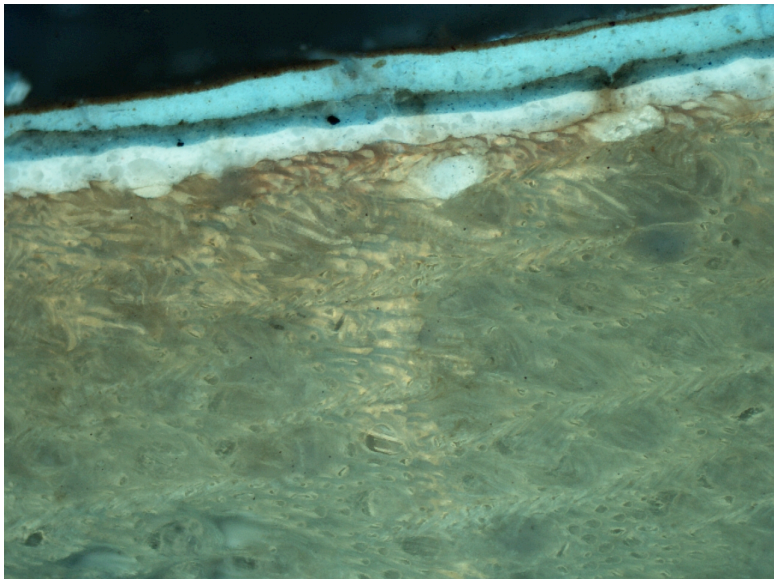
UV Light, 100x

SAMPLE NO:	JGH.201.12
LOCATION:	baseboard

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation in surface; autofl. orange
1	Gray	Thin, uneven
2	Red-brown	Coarse
Dirt		
3	Gray	Coarse
4	Pink	Coarse
5	Brown	Partial
6	Yellow-peach	
7	Orange-brown	



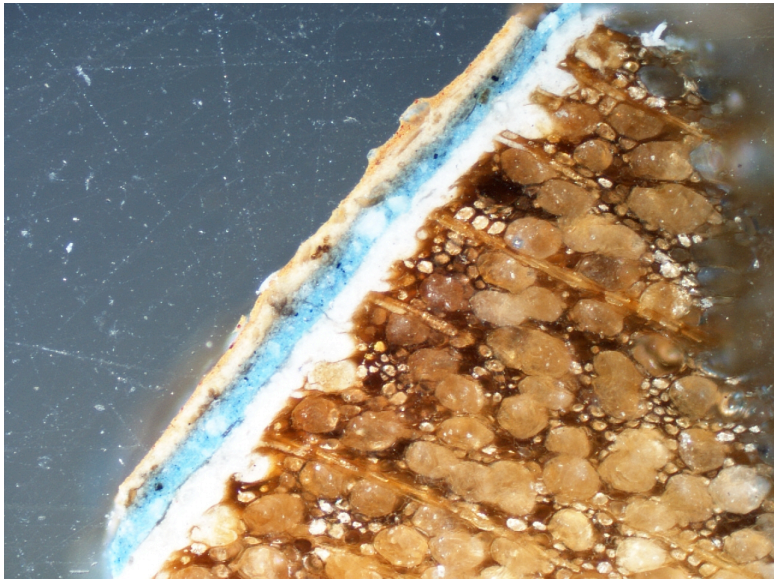
Visible light, 200x



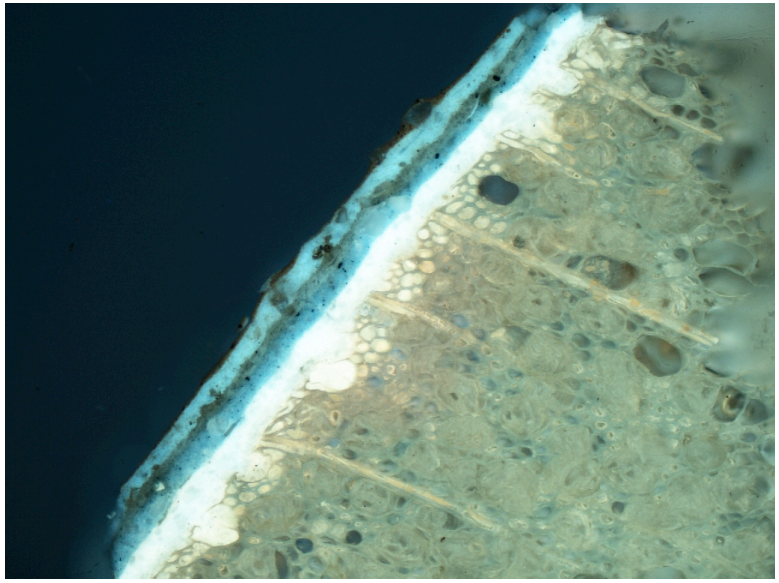
UV Light, 200x

SAMPLE NO:	JGH.201.13
LOCATION:	Window casing - top

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturated surface; autofl. slightly orange
1	Whitish	
2	White	Thin
3	Blue	
4	Gray-blue	
Dirt		
5	Peachy cream	
6	Orange-brown	



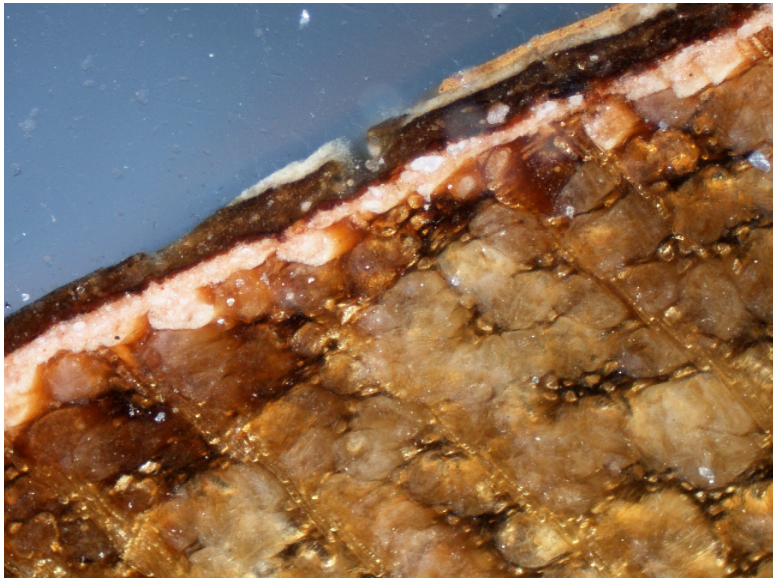
Visible light, 100x



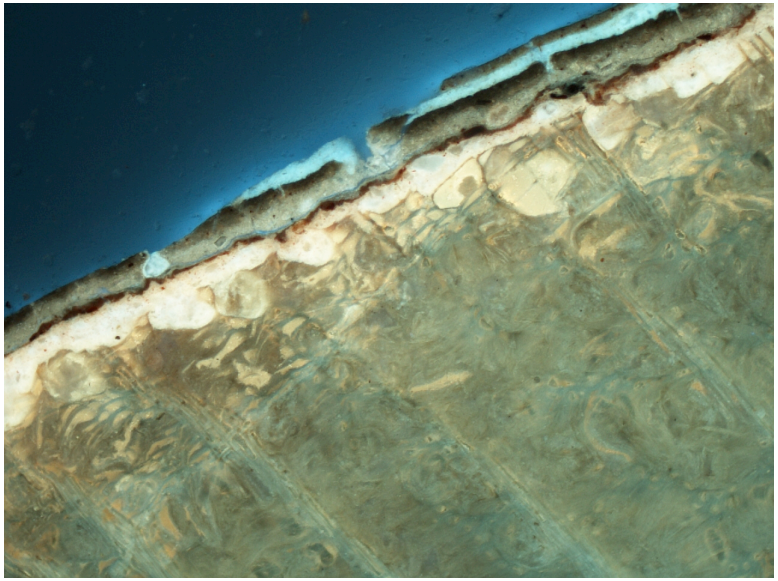
UV Light, 100x

SAMPLE NO:	JGH.201.14
LOCATION:	Door jamb

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturated at surface; autofl. bright white
1	Whitish	
2	Whitish	
Dirt		
3	Blue	Coarse
4	Blue-gray	
5	Peachy cream	
6	Orange-brown	



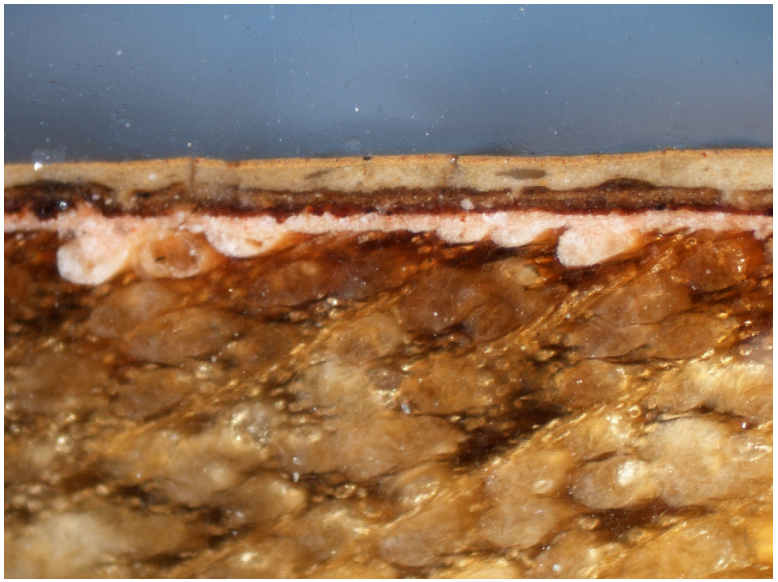
Visible light, 100x



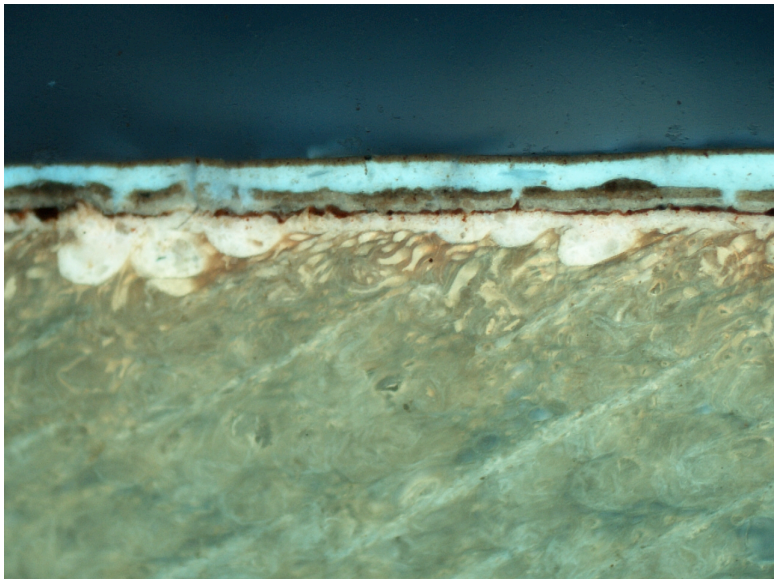
UV Light, 100x

SAMPLE NO:	JGH.201.15
LOCATION:	Door, hinge stile

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface; autofl. bright orange
1	Cream	5Y 9/2
2	Peachy-pink	
3	Red	Thin, uneven; possible decorative finish
4	Brown	
5	Brown	
6	Brown	
7	Peachy cream	
8	Orange-brown	



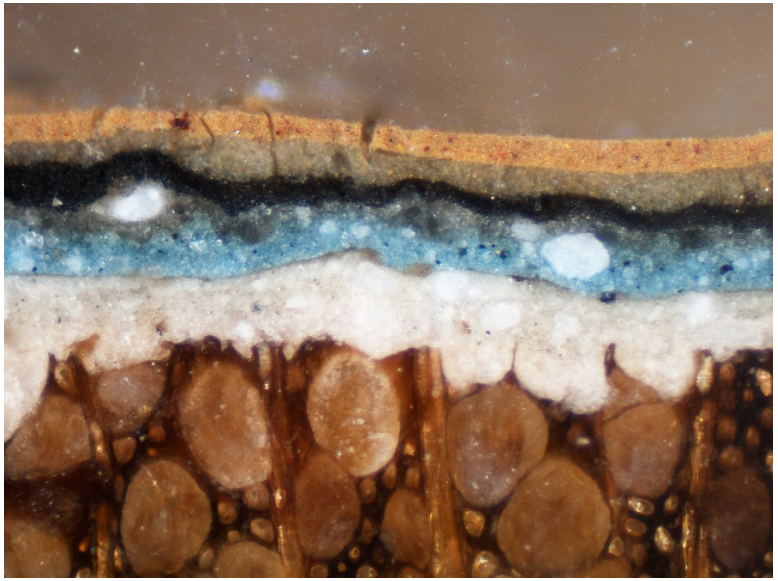
Visible light, 100x



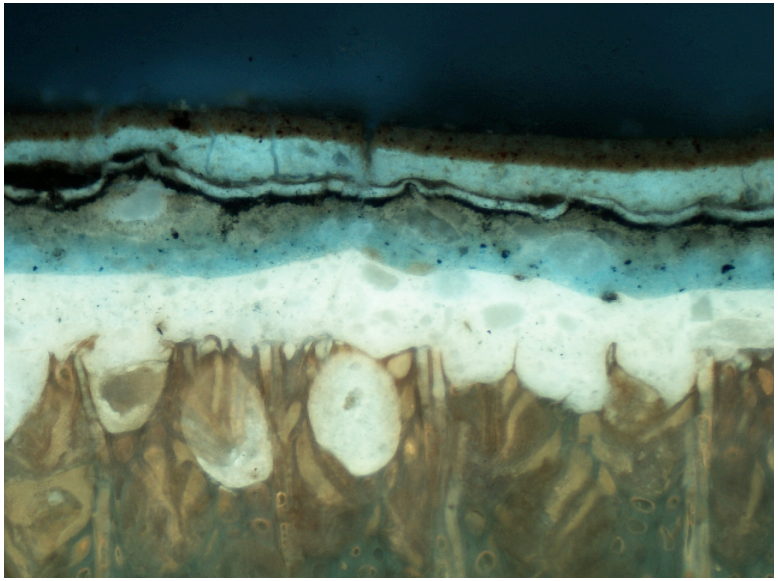
UV Light, 100x

SAMPLE NO:	JGH.201.16
LOCATION:	door

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface; autofl. bright orange
1	Peachy-pink	
2	Red-brown	Very thin and uneven; possible decorative finish
3	Brown	
4	Brown	
5	Brown	
6	Yellow-peachy cream	
7	Orange-brown	



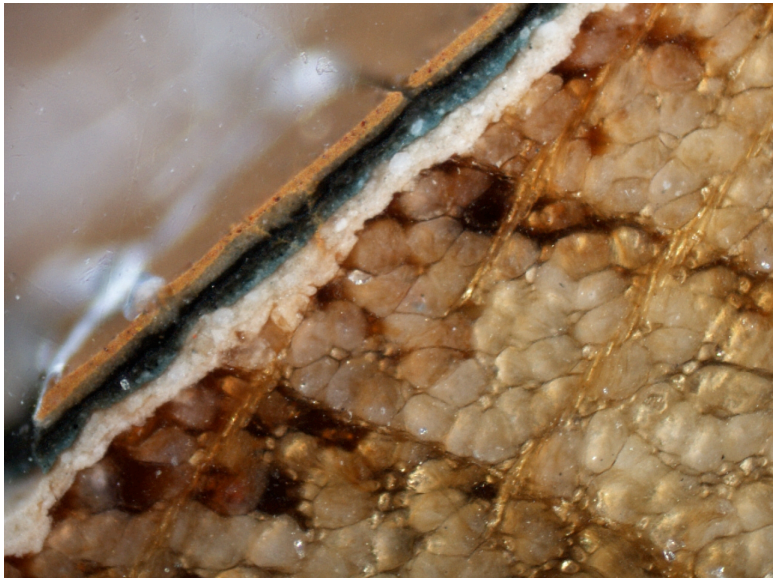
Visible light, 200x



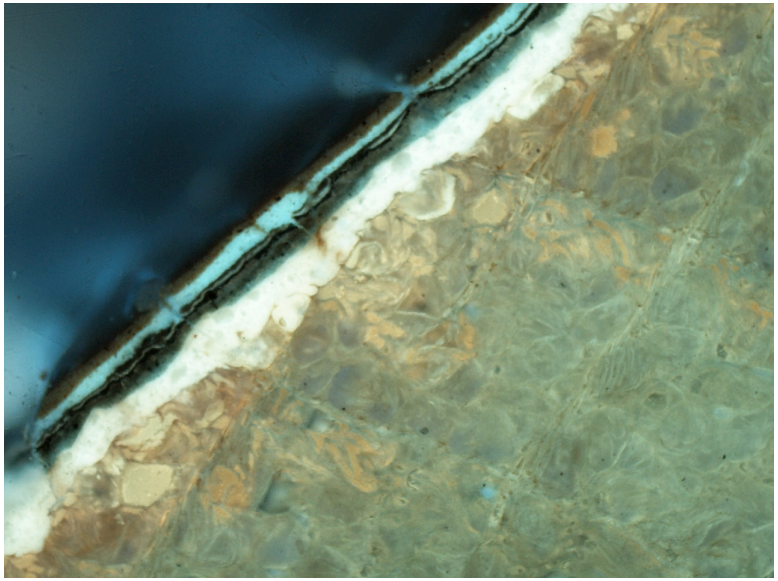
UV Light, 200x

SAMPLE NO:	JGH.201.18
LOCATION:	Mantel, flat piece above firebox opening

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red saturated in surface
1	Cream/Off-white	
2	Cream/Off-white	
Dirt		
3	Blue	Coarse
4	Gray	
5	Brown	
6	Brown	Varnish – autofl. bright blue
7	Brown	
8	Tannish-cream	
9	Orange-brown	



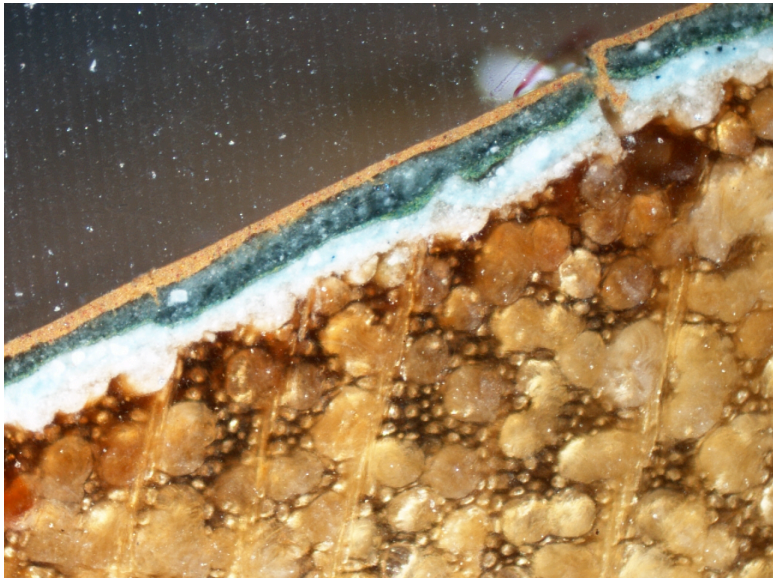
Visible light, 100x



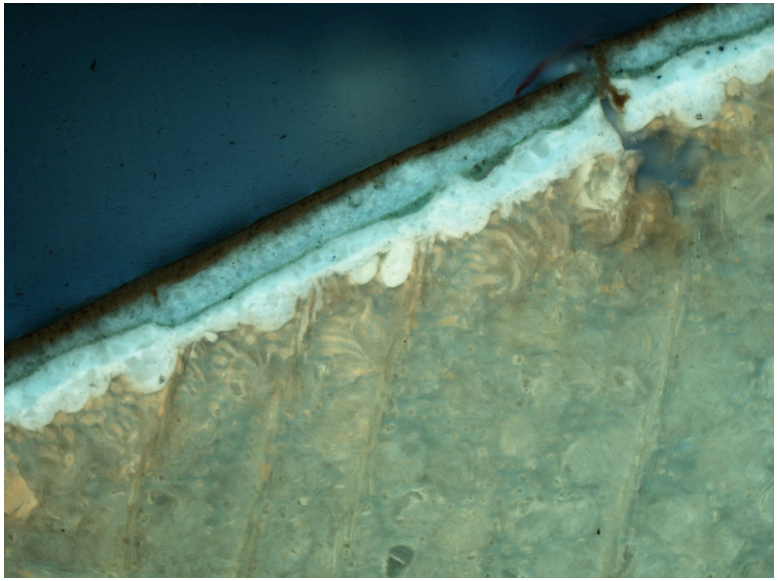
UV Light, 100x

SAMPLE NO:	JGH.201.21
LOCATION:	Mantel, vertical middle piece (same as 201.18)

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Red saturation in surface; autofl. orange
1	Whitish/Cream	
2	Whitish/Cream	
3	Blue	Thin; coarse
4	Gray	Thin
5	Brown	
6	Brown	Varnish – autofl. bright blue
7	Brown	
8	Gray-tan	
9	Orange-brown	



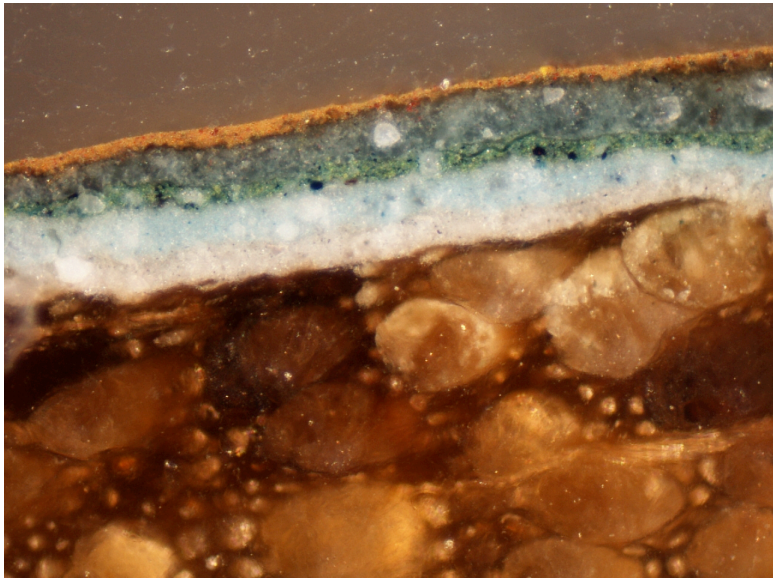
Visible light, 200x



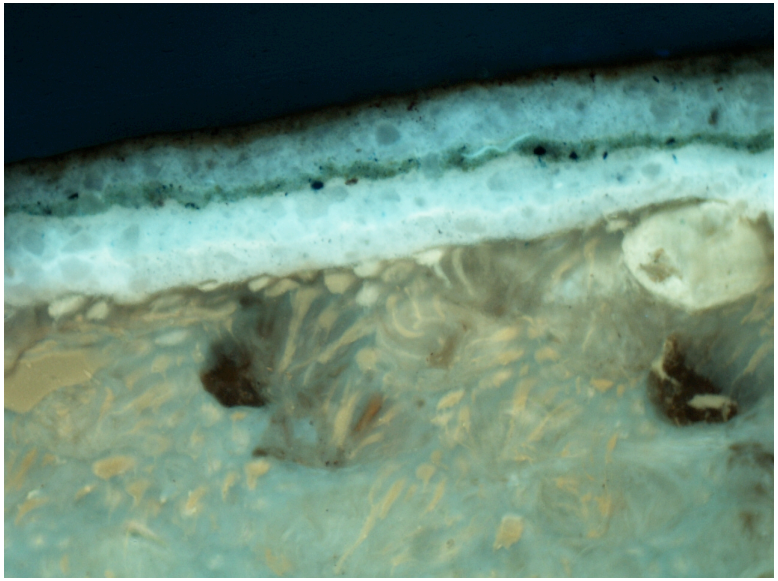
UV Light, 200x

SAMPLE NO:	JGH.202.1
LOCATION:	Window casing

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface; autofl. orange
1	Cream/Whitish	In pores only
2	Light blue	Coarse
3	Green	Thin
4	Blue	Coarse
Dirt		
5	Grayish blue	Coarse
6	Orange-brown	
7		



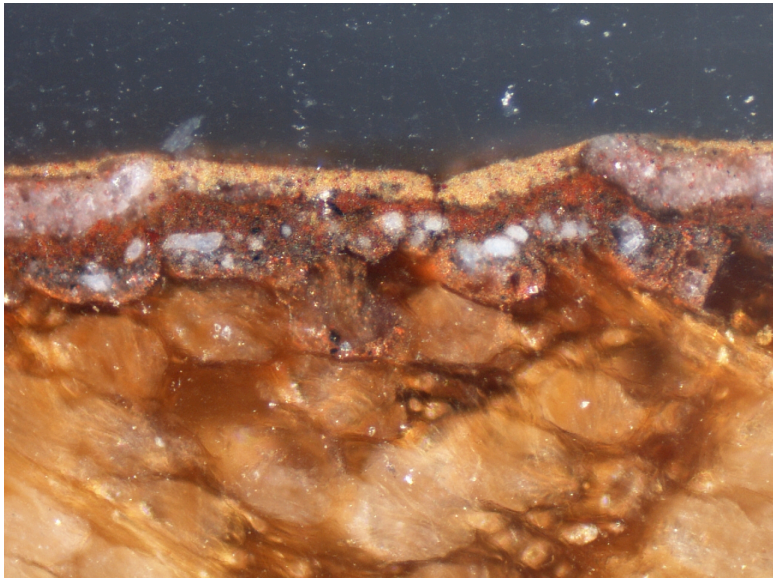
Visible light, 200x



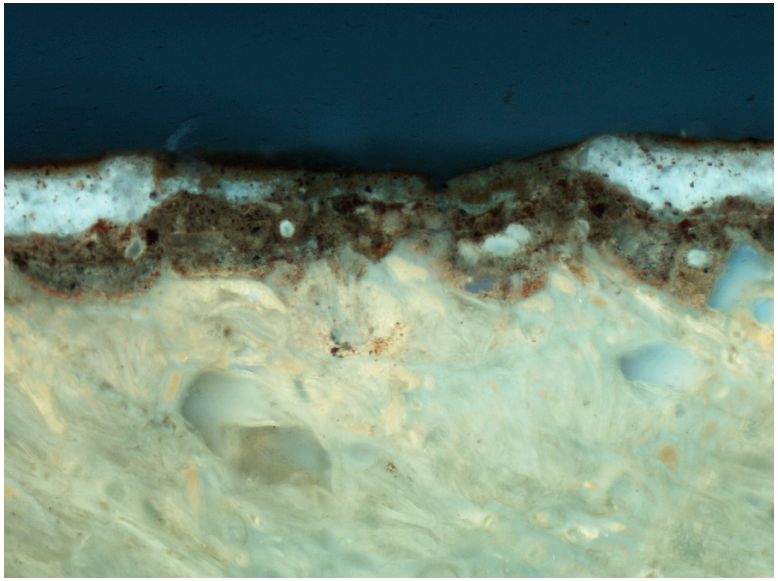
UV Light, 200x

SAMPLE NO:	JGH.202.3
LOCATION:	Chair rail

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Saturation at surface; autofl. orange
1	Whitish	
2	Light blue	Coarse
3	Green	
Dirt/sep.		
4	Gray-blue	Coarse
Dirt		
5	Orange-brown	
6		



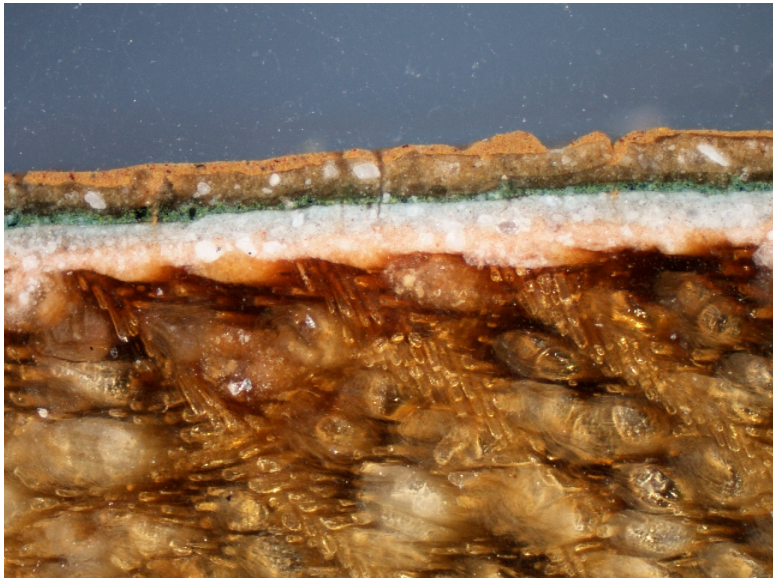
Visible light, 200x



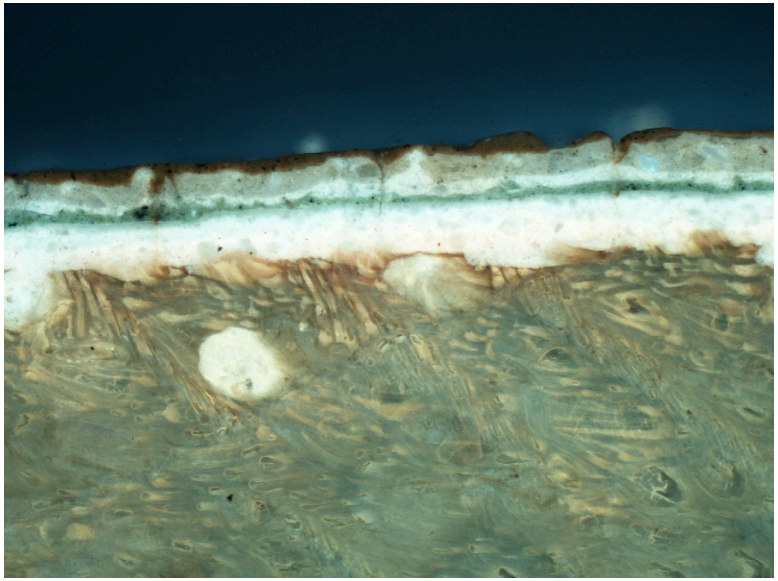
UV Light, 200x

SAMPLE NO:	JGH.202.5
LOCATION:	baseboard

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
1	Brown	Damaged
2	Red-brown	Damaged
3	Pinkish	Damaged
4	Orange-brown	



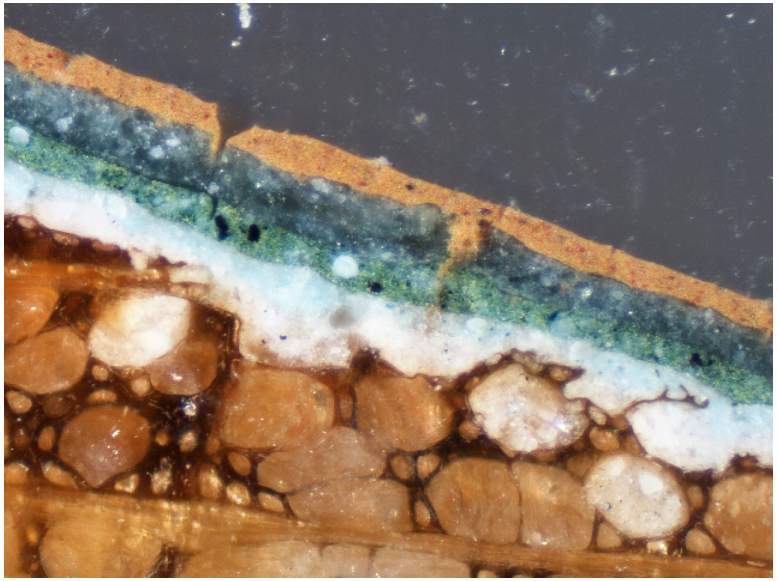
Visible light, 100x



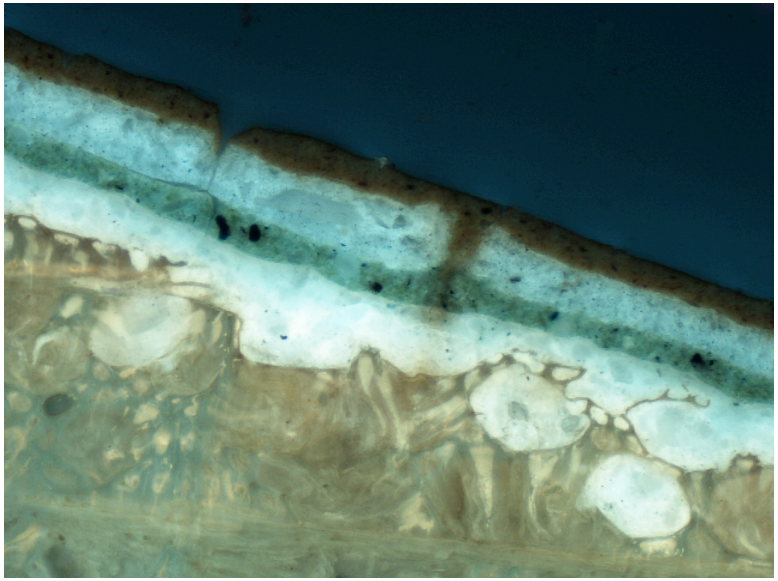
UV Light, 100x

SAMPLE NO:	JGH.202.6
LOCATION:	door

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
	Cream	Coarse
	Cream/Pink	in crevices; coarse
	Light blue	
Dirt		
	Green	Coarse
	Light brown	
	Light brown	Coarse
Dirt		
	Orange-brown	



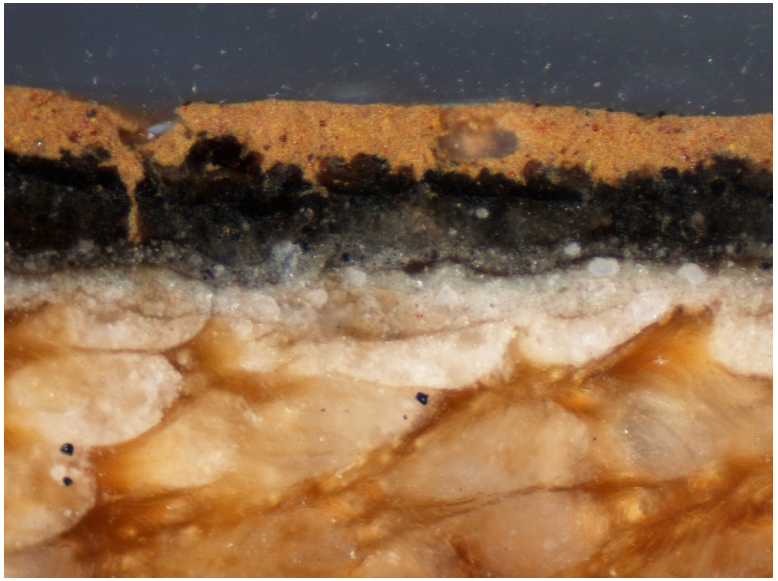
Visible light, 200x



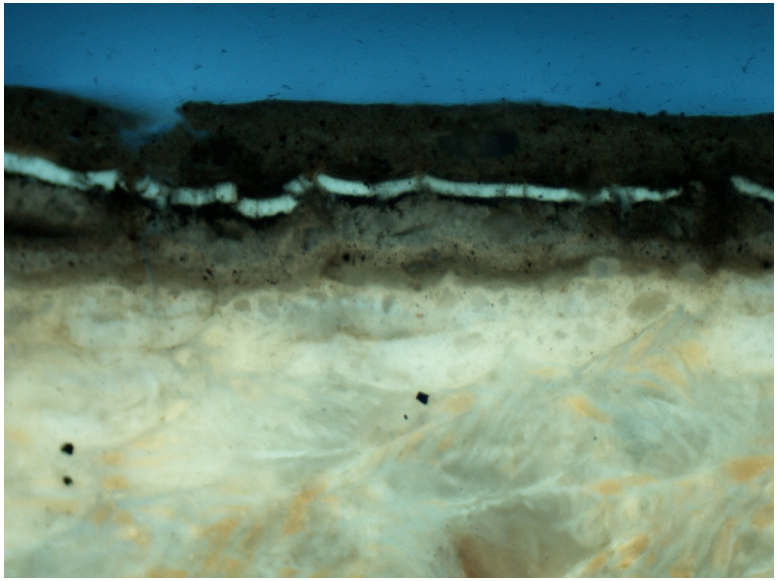
UV Light, 200x

SAMPLE NO:	JGH.202.7
LOCATION:	Door surround

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface
1	Whitish	
2	Light blue	Coarse
3	Green	Coarse
Dirt/Sep.		
4	Blue-gray	Coarse
5	Orange-brown	



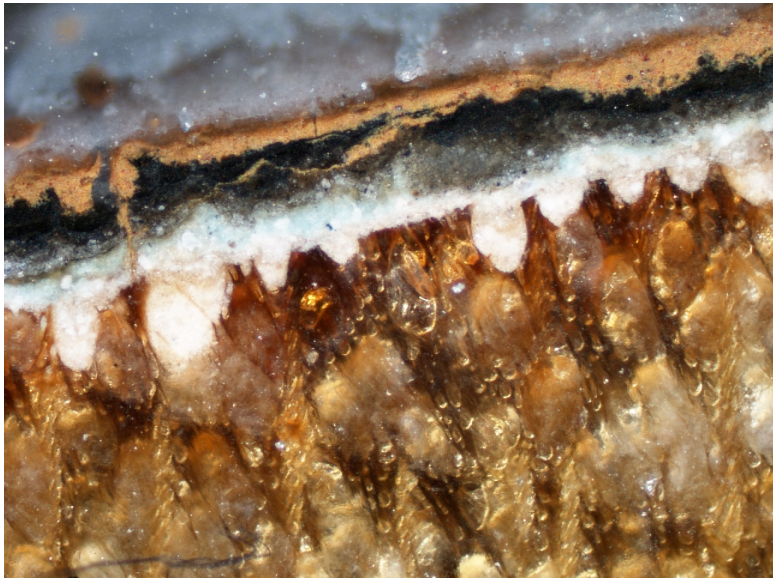
Visible light, 200x



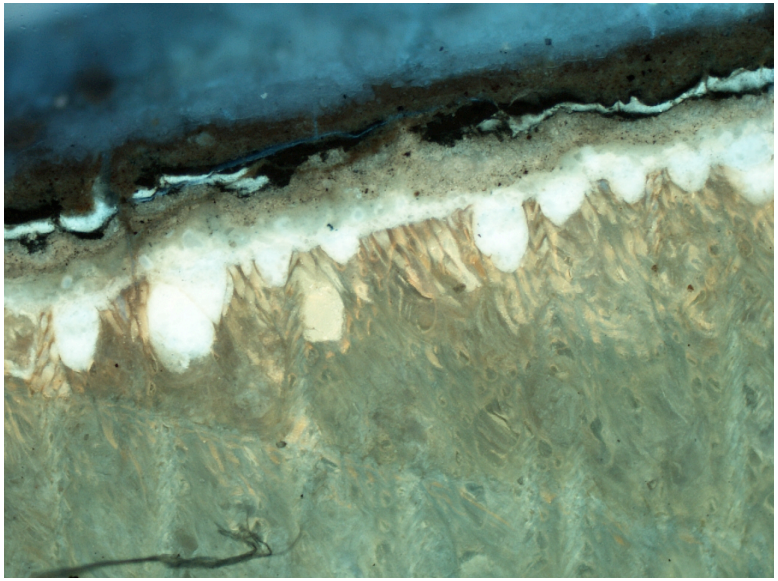
UV Light, 200x

SAMPLE NO:	JGH.202.11
LOCATION:	Mantel, flat molding under mantelshelf

LAYER	***COLOR***	***NOTES***
Substrate	Wood	
1	Cream	
2	Cream	
3	Grayish green	Worn/damaged
4	Brown	Thin, worn, damaged
5	Brown	Varnish; damaged
6	Brown	Very worn
7	Orange-brown	



Visible light, 100x



UV Light, 100x

SAMPLE NO:	JGH.202.13
LOCATION:	Mantel, molding above firebox opening

LAYER	***COLOR***	***NOTES***
Substrate	Wood	Reddish saturation in surface; autofl. orange
1	Cream	in crevices
2	Blue-green	Partial only
Dirt		
3	Blue-gray	Uneven
4	Brown	Thin, damaged
5	Brown	Varnish; damaged
6	Brown	Worn, uneven
7	Orange-brown	