

## **Part II – Stable**



### **Background:**

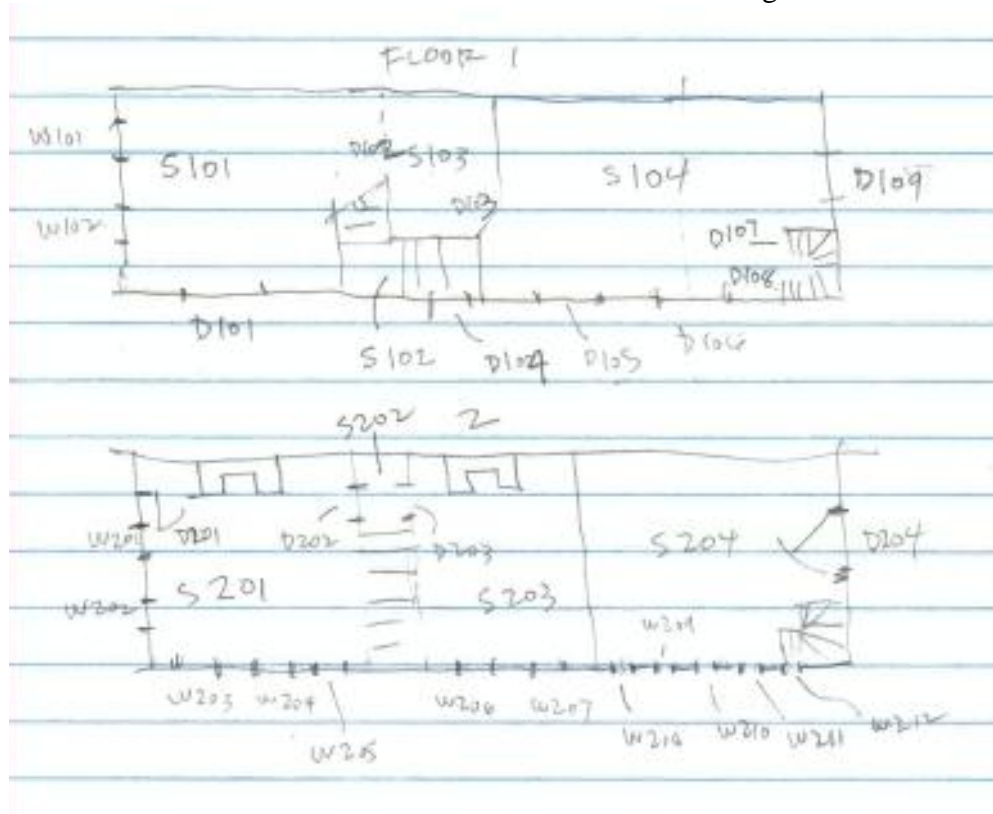
The paints on the interior of the stable were not studied as part of the Phase I dissertation research, so all the sample locations were selected based on discussions with Graham and Ridout, who had specific questions about how the building interior had been altered. Representative elements (woodwork, plaster, doors) in each room were sampled to document and compare their paint stratigraphies.

It is still possible to see colored limewashes on the walls in the first and second-floor spaces, and there were questions about whether there might have been faux finishes, such as oak graining, on some of the first-floor woodwork elements. It is remarkable to find decorative paints, such as faux-painted wainscots, in a stable building, especially in the first-floor spaces intended to house carriages and horses. The two rooms at the south end of the second floor are believed to have been chambers, while the large north room was a hayloft. This space was later used for a gathering place for cockfights in the mid-twentieth-century, and there are still “ghost” outlines on the west wall of this room where cages or pens were located.<sup>1</sup> The paint analysis findings for each space are discussed and illustrated in this section of the report, beginning with the carriage bay, designated as S101. A sketch by Willie Graham showing the floor plans follows.

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<sup>1</sup> Personal communication, David Hoffman, March 3, 2012.

First and Second Floors of Stable Building



### **S101 Carriage Bay:**

The elements in the carriage bay believed to date to Period I (1818) are the south wall window trim and sashes. The plaster dates to Period II (1835-6), according to Graham, who also identified the ceiling and stair as ca. 1835. There was originally a small tack room (S102) at the north end that was a separate space, but it was altered with the installation of the stair in 1835. Seven samples were taken to identify the original Period I window finishes, and to characterize the Period II plaster finishes. Three woodwork samples and one plaster sample were analyzed in cross-section to identify the key coating sequences.

#### **S101 South Wall**



#### Room S101 Carriage Bay Cross-section Sample Locations

S101-1. Original window, south wall, east window W102 (Period I) left side of frame, about 4' up, to establish woodwork paint chronology for original elements.

S101-2. Original window, south wall, east window W102 (Period I) left side of frame, upper left corner of top left pane, lower sash.

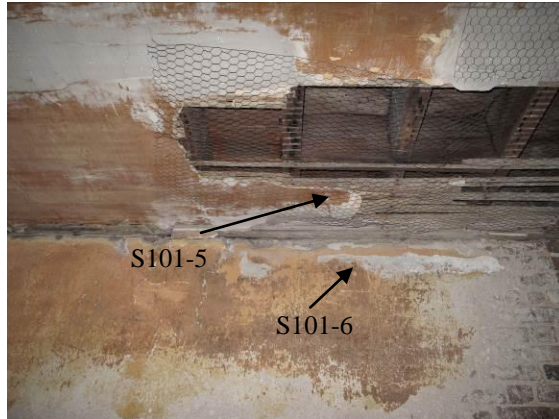
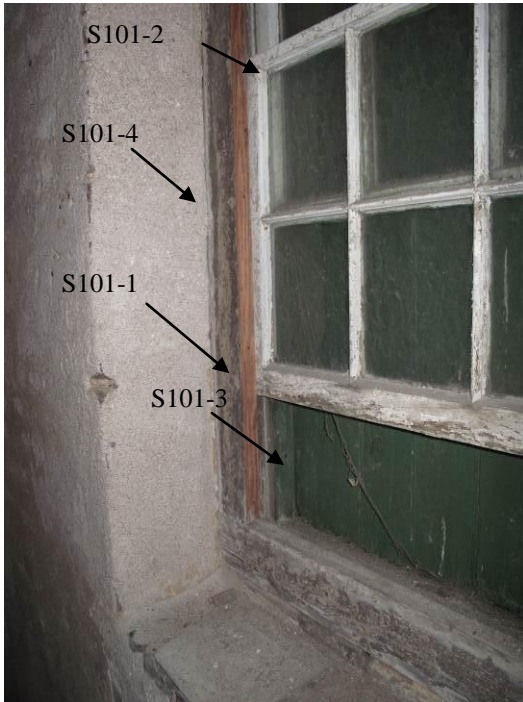
S101-3. Original window, south wall, east window W102 (Period I) original exterior window frame paint, left side.

S101-4. South wall, fragment of wall plaster, just abutting left side of east window frame.

S101-6. West wall ceiling plaster at north side of upper ceiling.

S101-7. Board enclosure for Period II stair, north wall, northeast corner (all stair enclosure elements have the same paint sequence).

**S101 South Wall W102**



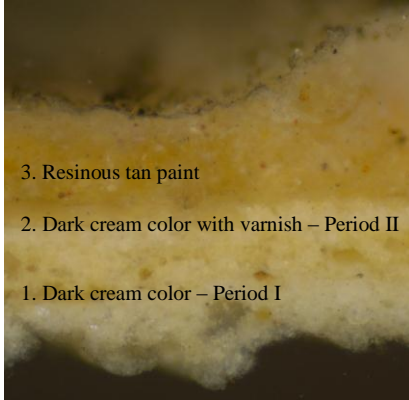
**S101 Woodwork.**

The samples taken from the interior of the original window show that (remarkably) the frame was only painted three times and the sash was only painted five times. The first generation on the frame (S101-1) is a dark cream-colored, oil-bound paint, while fragments of original paint on the sash (S101-2) suggest it was lighter cream color. There is no evidence to indicate the windows were originally left unpainted as the wood substrates are clean and unweathered. The second generation on the frame is a dark cream-colored paint with a plant resin varnish coating, while the sash was painted gray-blue. This could be the Period II palette. The third generation in both samples is a dark tan, resinous paint which is now darkened and degraded. The sash was then repainted with two generations of finely ground off-white and white paints which are likely twentieth-century coatings.



One sample was also taken from the exterior frame of the same window (S101-3) and the comparative evidence suggests that the exterior of the window was painted in the same manner as the interior window frame in generations 1 through 3. The most recent paint on the exterior window frame is a finely ground green finish coat on a gray primer which appears in the fourth generation (see the comparison of all three samples below).

S101-1. Window frame



S101-2. Sash



S101-3. Exterior frame

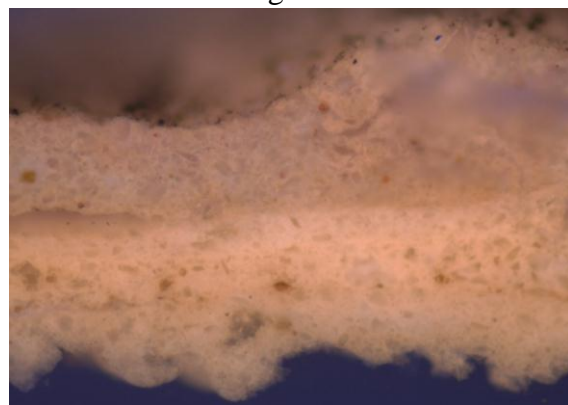


Sample S101-1. Original window, south wall, east window (Period I) left side of frame, about 4' up, to establish woodwork paint chronology for original elements.

Visible Light 200X



Ultraviolet Light 200X

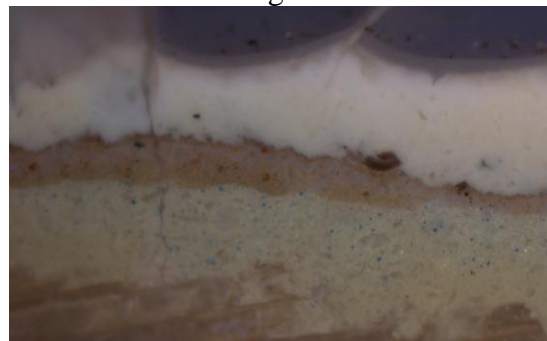


Sample S101-2. Original window, south wall, east window (Period I) left side of frame, upper left corner of top left pane, lower sash.

Visible Light 100X



Ultraviolet Light 100X

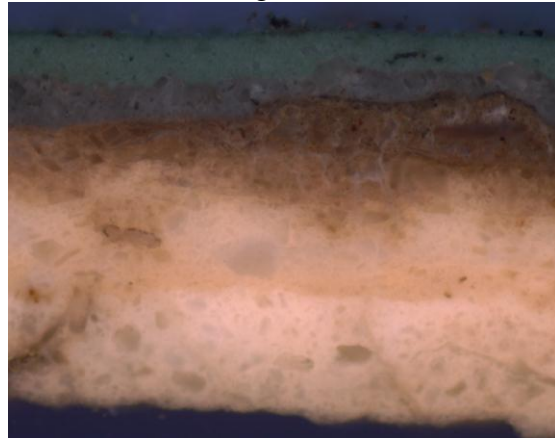


Sample S101-3. Original window, south wall, east window (Period I) original exterior window frame paint, left side.

Visible Light 200X



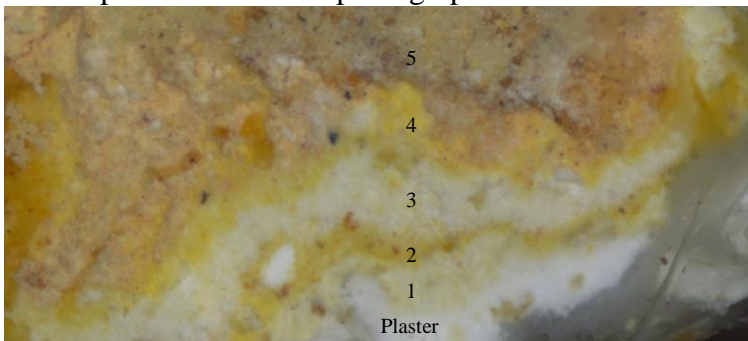
Ultraviolet Light 100X



#### S101 Plaster.

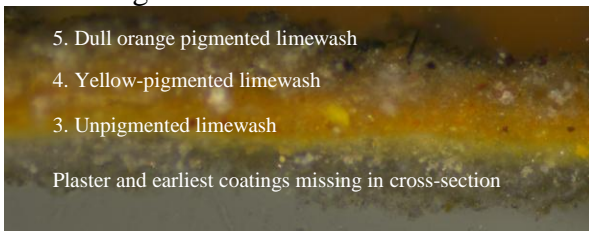
One sample from the Period II painted ceiling shows that it was initially limewashed, followed by a yellow-pigmented wash and then another unpigmented limewash. The fourth generation is also a yellow-pigmented limewash, followed by the most recent dull orange-pigmented limewash. This sequence of coatings is very similar to the accumulation of pigmented and unpigmented limewashes found on the ceiling in the stable (S104-10), suggesting these two ceilings are contemporary and date to Period II. Photomicrographs of the uncast sample and the cross-section show this accumulation of chalky coatings.

Uncast portion of S101-6 photographed at 40X to show the limewash colors

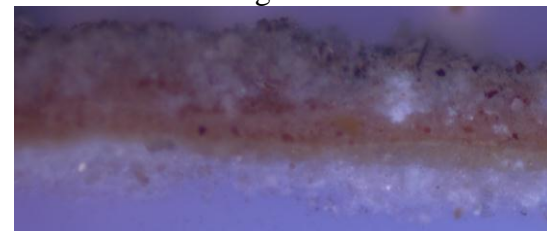


Sample S101-6. West wall ceiling plaster at north side of upper ceiling.

Visible Light 100X



Ultraviolet Light 100X



### **S102 and S202 Stair Passage:**

The stair passage was constructed in Period II (1835), so all the finishes in this space date to this time. The walls and ceiling are now covered with the most recent dull orange-pigmented limewash observed in rooms S101 and S104, and the woodwork is now a grimy dark brown color. It is difficult to discern by eye if the woodwork was originally stained or painted. Three samples were taken from this space to generally characterize the surviving coatings.

S102 North Wall



S102 South Wall



### S102 and S202 Stair Passage Cross-section Sample Locations

S102-1. Edge of ceiling accessible from the stair landing.

S202-1. Stair riser, just below top step. Appears to be unpainted but very grimy.

S202-2. South side of stair, painted board along staircase, above lower bead molding, above stair landing.



S102 North Wall



S202 Looking West



#### S102/202 Woodwork.

One sample (S102-1) taken from a protected area of a stair riser suggests this element was originally left unpainted as the surface of the wood substrate is darkened and grimy. This is followed by a brown-pigmented resinous varnish layer which is the current dark brown coating on all the staircase elements. This brown varnish could be Period III (1858) or before, but it is difficult to provide a solid date with this limited evidence.

The lower edge of the wide board that runs east-west along the south side of the stair was also sampled (S202-2) to see if any early coatings remain. When this sample was analyzed in cross-section it became apparent that there is an overlap of sandy white plaster and limewashes from the adjacent wall on top of the wood. The substrate in this sample consists of wood fibers followed by an uneven layer of white plaster. This is followed by one layer of unpigmented limewash, then the current dull orange-pigmented limewash. When this area was rechecked on-site with a 30X microscope it was found that this board retains early unpigmented limewashes along its protected edges. This evidence, in combination with the ceiling paint evidence in sample S202-2, suggests that when the stair passage was completed in Period II it was simply limewashed white with unpainted woodwork. Then, perhaps before or during Period III, the woodwork was varnished brown and the walls and ceiling were coated with the current dull orange-pigmented wash.

There are seven generations of coatings in the ceiling sample S102-1, beginning with four generations of unpigmented limewashes, so the walls and ceiling plaster were recoated more often than the woodwork in this dark, narrow space. When the walls and ceilings were originally limewashed white this hall would have not appeared quite so cave-like.



Sample S202-1. Stair riser, just below top step.

Visible Light 200X



Ultraviolet Light 200X

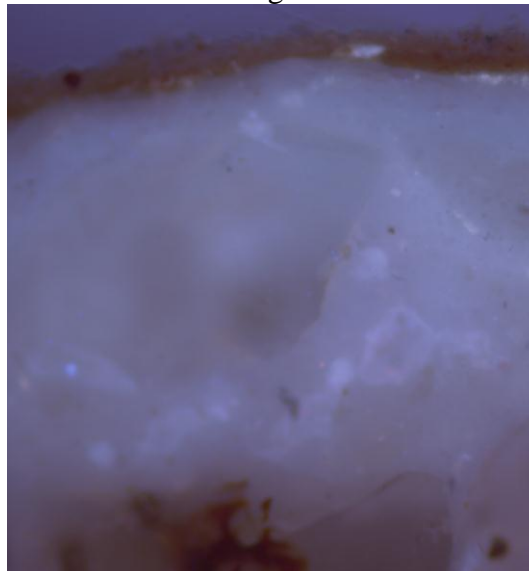


Sample S202-2. South side of stair, painted board along staircase, above lower bead molding, above stair landing.

Visible Light 200X



Ultraviolet Light 200X

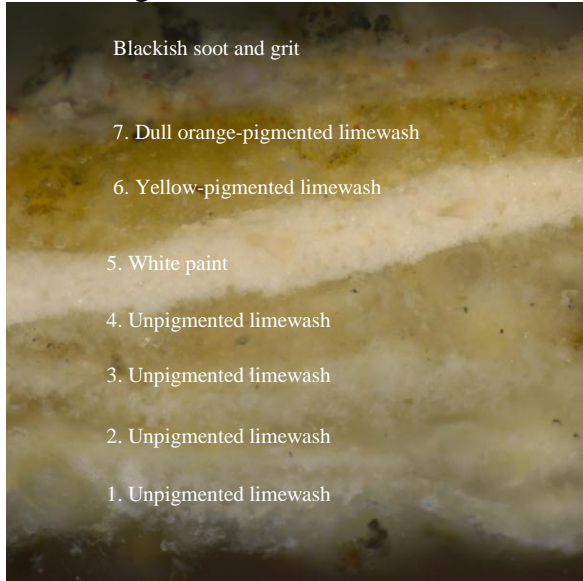


S102/202 Plaster.

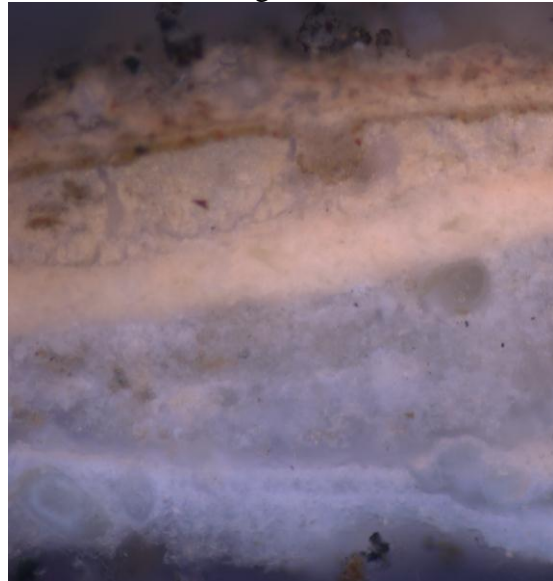
One cross-section from the ceiling (S102-1) consists of at least four generations of unpigmented limewash, followed by an opaque white paint, and then the two most recent pigmented limewashes yellow and dull orange limewashes.

S102-1. Edge of ceiling accessible from the stair landing.

Visible Light 200X



Ultraviolet Light 200X



**S103 Tack Room:**

The board wall surrounding the Period II staircase in S103 appeared by eye to retain a variety of degraded unpigmented and pigmented limewashes, while elements such as the harness rack appeared never to have been painted. On the east side of the room there is a narrower, finer, beaded board wall that Graham felt might be later than Period II. Five samples were taken from different wooden elements in this space, and four of those samples were analyzed in cross-section.

**Northeast Corner of Tack Room**



S103 Tack Room

S103-1. East wall, crude board wall about 5' up (initially just whitewashed).

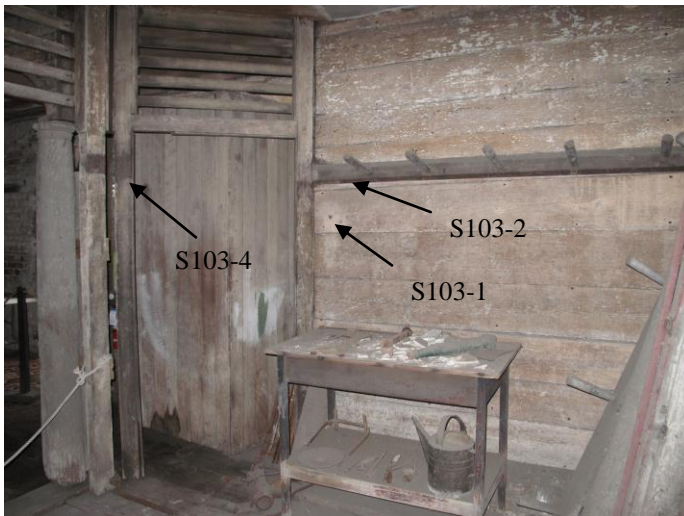
S103-2. East wall, harness rack, may never have been painted.

S103-3. East wall, north side of enclosure for stair, finer beaded board on top of rougher board, later installation?

S103-4. On east wall, north side of enclosure for door opening, left side, at outer edge, about 4' up.

S103-5. North wall, northwest corner, framing member for dividing wall, right side of narrow section of board wall, east face, about 5' up (initially just whitewashed).

S103 Northeast Corner



Northwest Corner



North Face of Beadboard Stair Enclosure





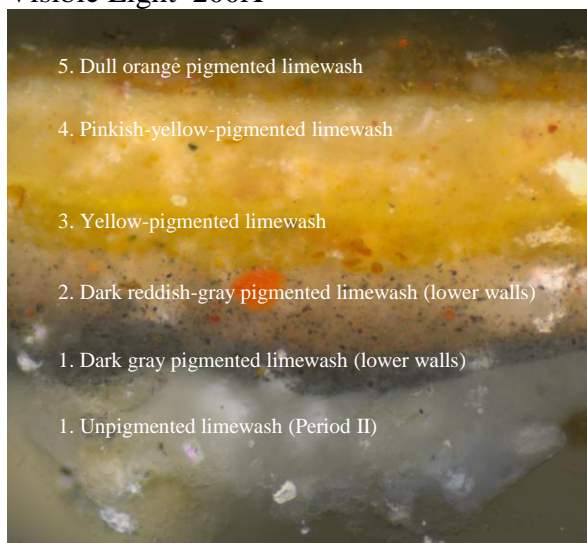
### S103 Woodwork.

The comparative evidence suggests that the Period II wide board wall for the stair enclosure on the east side of the room was painted in the same manner as the plaster walls in room S104. The coatings in sample S103-1 from this wall begin with an unpigmented limewash. This is followed by a dark gray pigmented limewash which may have been used to create a painted wainscot like those found in the passages and some of the chambers in the kitchen/laundry building. This dark gray limewash seems to be the original treatment for this lower board wall. The second generation is a reddish-gray limewash that was also found in S104 on the lower walls. This is followed by a yellow-pigmented limewash that was also found in the stable space S104 as the third generation on the walls. The fourth generation is a pinkish-yellow limewash and the fifth generation is the most recent dull orange-pigmented limewash. It is not possible to determine exactly when the dark gray-painted wainscot was applied, but the limewash below it is clean and unweathered, so this gray wainscot could have been created soon after 1835-6.

The framing element for the narrow board wall (S103-5) in the northwest corner was first limewashed white, followed by two pigmented limewashes that can be aligned with the pinkish-yellow limewash and the dull orange-pigmented limewash coating found as generations 4 and 5, respectively, on the wide board wall at the east side of the room. These elements seem to have both been installed in Period II. A comparison of the pigmented limewashes is shown below.

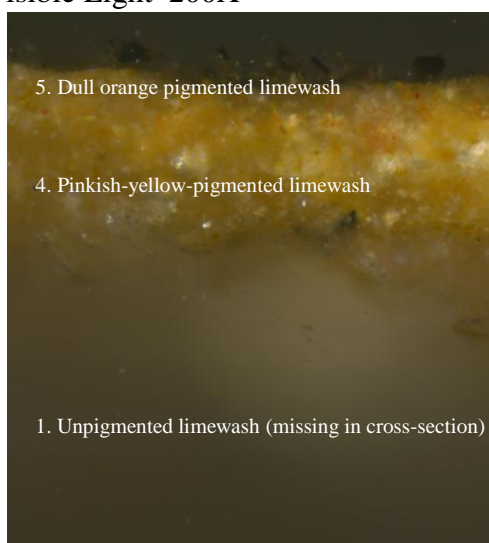
Sample S103-1. Crude board wall

Visible Light 200X



S103-5. Framing for board wall in NW corner

Visible Light 200X



One sample was taken from the higher quality north-facing board wall of the staircase enclosure (S103-3) to see how its paint history compares to S103-1 from the cruder board wall. Graham wondered whether this north side of the staircase enclosure might be a later installation. The paints in S103-3 are very, very similar to the three generations of coatings found on the Period I window frame in the carriage bay (S101-1). In fact, they are similar enough to suggest that this section of board wall is an earlier element from

S101 that was moved and reinstalled when the staircase was created in Period II.

The paint history on the stile for the door opening in the northeast corner (S103-4) retains a degraded sequence of paints that seems to match up with the Period I window and the north-facing beadboard, suggesting it is a Period I element. A comparison of the paints in samples S101-1, S103-3 and S103-4 follows.

Sample S101-1.  
Period I window on S. wall



Sample 103-3.  
Beadboard wall



S103-4.  
N. wall door opening

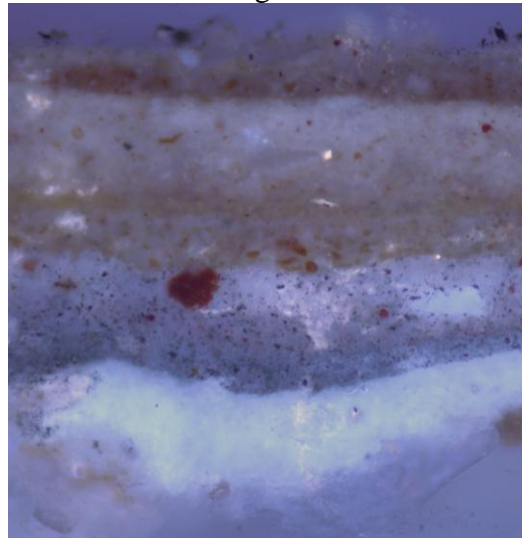


Sample S103-1. East wall, crude board wall about 5' up.

Visible Light 200X

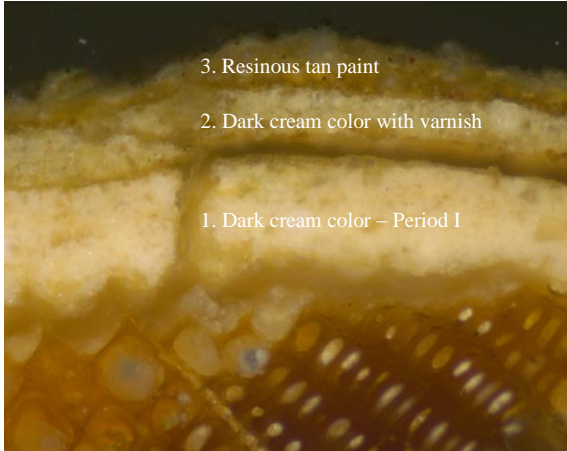


Ultraviolet Light 200X

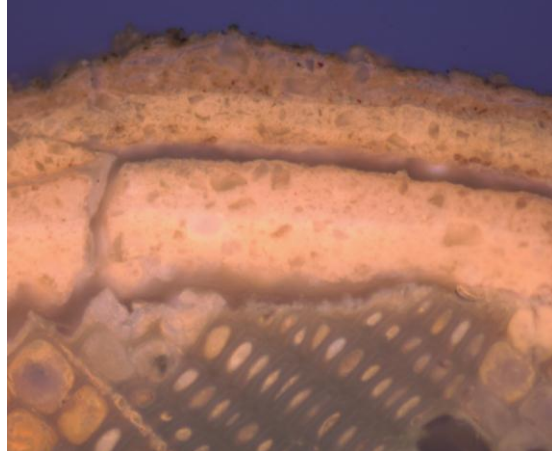


Sample S103-3. East wall, north side of enclosure for stair, finer beaded board on top of rougher board, later installation?

Visible Light 200X



Ultraviolet Light 200X

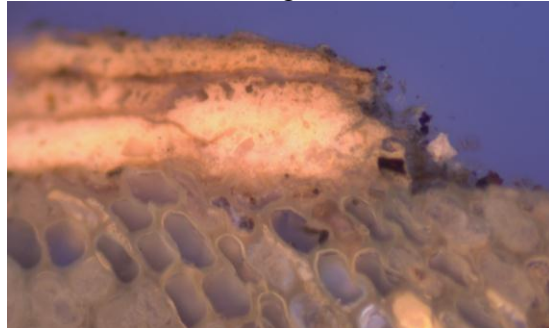


Sample S103-4. On east wall, north side of enclosure for door opening, left side, at outer edge, about 4' up.

Visible Light 200X

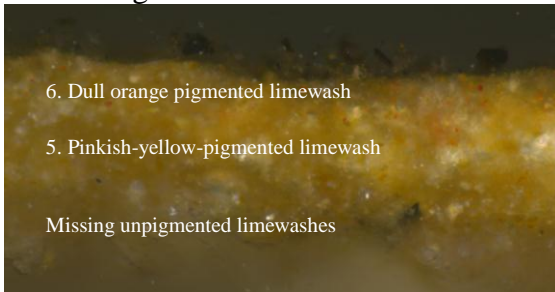


Ultraviolet Light 200X

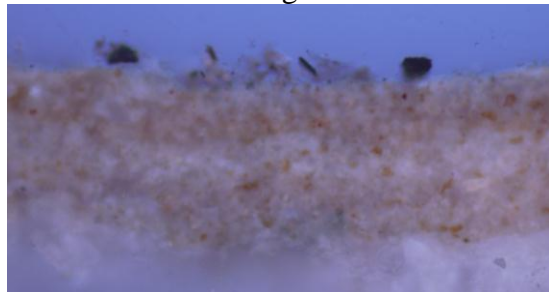


Sample S103-5. North wall, northwest corner, framing member for dividing wall, right side of narrow section of board wall, east face, about 5' up (initially just whitewashed).

Visible Light 200X



Ultraviolet Light 200X





## **S104 Stable:**

There are numerous questions about the evolution of the stable area at the north end of the building which was created in Period II. These questions include whether there was a dark gray or black-painted faux wainscot on the walls and how the paints on the original Period II column at the south end compare to later woodwork. Two detached elements – a former divider board for the stalls and a small board from the underside of an arch above the stalls (possibly Period II) -- were also examined and sampled to see what their paint histories could reveal. Seven samples were removed from different areas of woodwork and three samples were removed from the plaster walls and ceiling.

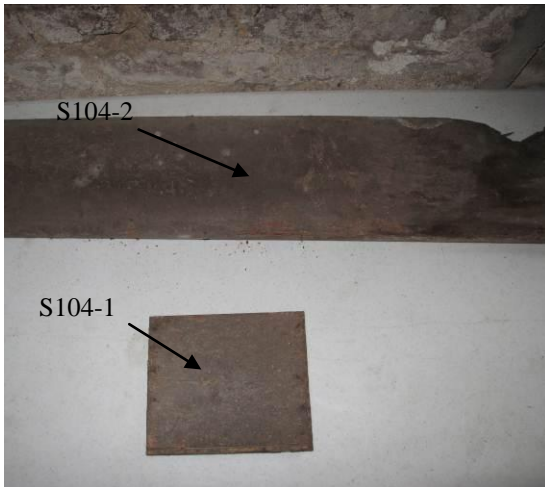
### **S104 North End**



### S104 Cross-section Sample Locations

- S104-1. Small detached board from underside of stall arch – Period II element.
- S104-2. Detached long board used to divide stalls.
- S104-3. Original column, first column from the south end, west face, about 4' up – Period II element.
- S104-4. North end, stair enclosure, board door, right stile, about 4 ½' up.
- S104-5. North end, stair enclosure, left side of door frame, about 4 ½' up.
- S104-6. North end, west side of board wall, along stair (whitewash first).
- S104-7. West wall, stall third from the north, on gray-painted wainscot. There is a deep yellow layer on top of the dark gray wainscot paint.
- S104-8. West wall, stall third from the north, on the yellow-painted wall above the gray wainscot.
- S104-9. West wall, painted panel above second arch from the south (washes flaked away).
- S104-10. Ceiling near west wall, above second arch from the south.

S104 Detached Elements



Original Column



S104 North End



North Staircase Door



### S104 West Wall



### S104 Woodwork.

The most complex paint stratigraphy on the woodwork was found in sample S104-3 from an original column. Graham hoped that the paints on this Period II column could be used as a reference sample for the paints on the other areas of woodwork. There are seven generations of paint on the column, beginning with a medium gray paint directly on top of the wood. The coating stratigraphy is shown in the chart below. The sample from the column is the only one in which a gray paint also appears in generation 2 and a black paint appears in generation 4, so perhaps this column was painted with gray and black up to about the top of wainscot level during these times, possibly to match the painted plaster. Comparison of the woodwork paints suggests that with the exception of the long stall divider board and the original Period column, all the other elements sampled date to after Period II.

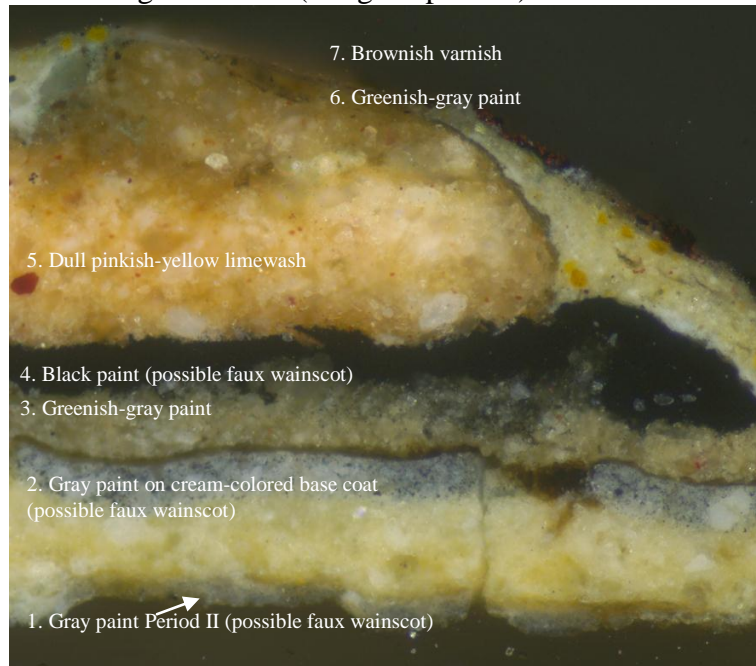
### Comparison of S104 Woodwork Paints

Generation/Layer	S104-3 Original column	S104-1 underside of arch	S102-2 long stall divider	S104-4 board door for stair	S104-5 stair door frame	S104-6 board wall along stair	S104-9 panel above west arch
7. Brownish varnish on surface	x	x	x	x	Whitewash	x	Whitewash
6. Greenish-gray	x						
5. Pinkish- yellow limewash	x				x	x	x
4. Black paint – possible faux wainscot	x				x		
3. Greenish-gray paint	x	x	x	x	x	x	x
2. Gray finish – possible faux wainscot	x						
2. Cream-colored paint	x	x	x	x	x	x	x
1. Gray paint -- Period II – possible faux wainscot	x		x				



Sample S104-3. Original Period II column, first column from the south end, west face, about 4' up.

Visible Light 200X (Image expanded)

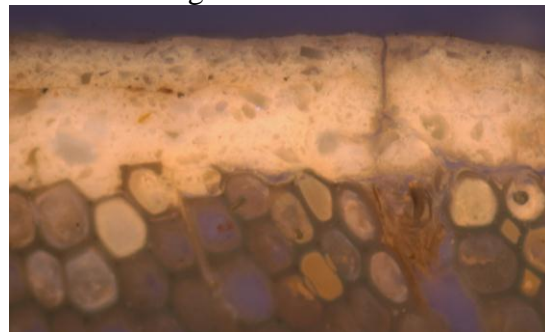


Sample S104-1. Small detached board from underside of stall arch – Period II element.

Visible Light 200X



Ultraviolet Light 200X

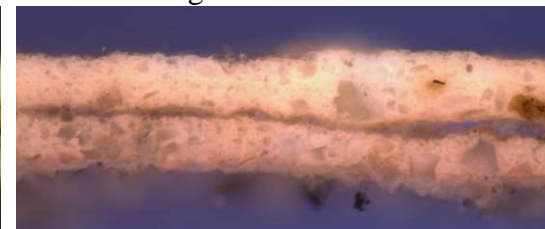


Sample S104-2. Detached long board used to divide stalls.

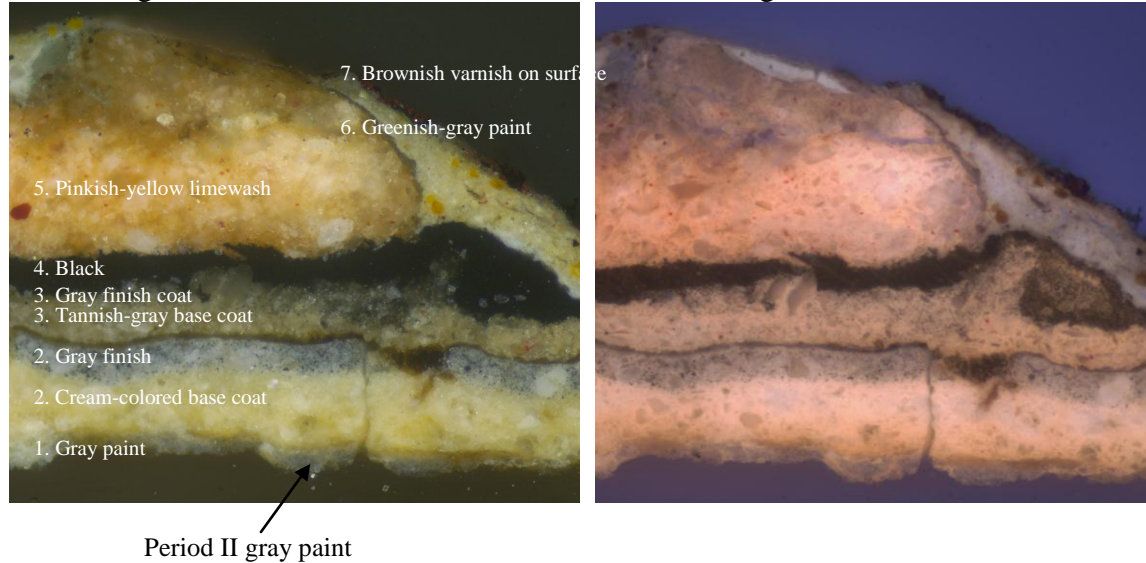
Visible Light 200X



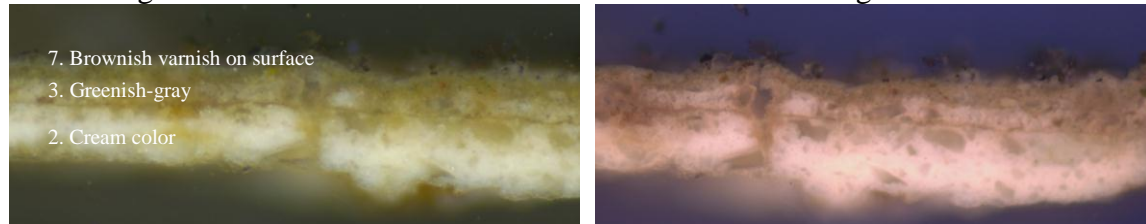
Ultraviolet Light 200X



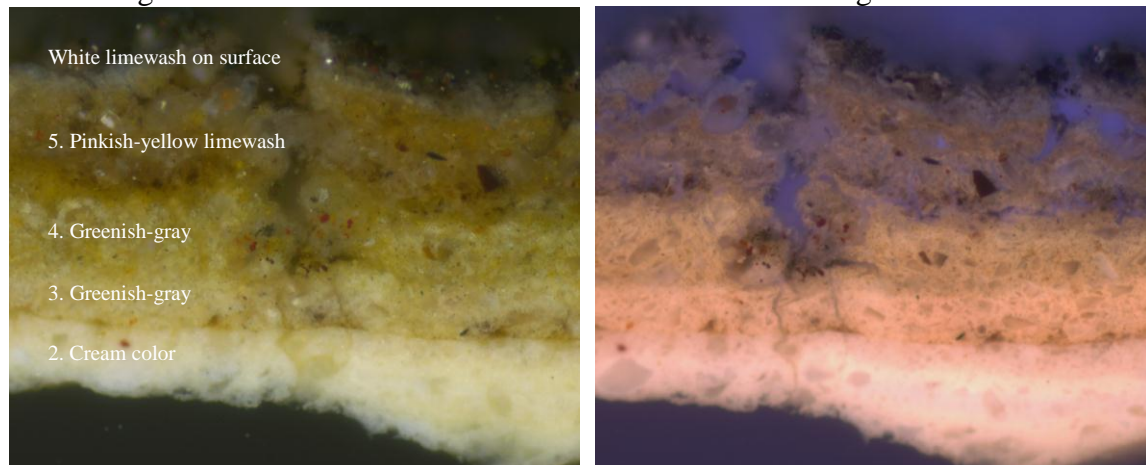
Sample S104-3. Original column, first column from the south end, west face, about 4' up.  
Visible Light 200X Ultraviolet Light 200X



Sample S104-4. North end, stair enclosure, board door, right stile, about 4 ½' up.  
Visible Light 200X Ultraviolet Light 200X



Sample S104-5. North end, stair enclosure, left side of door frame, about 4 ½' up.  
Visible Light 200X Ultraviolet Light 200X

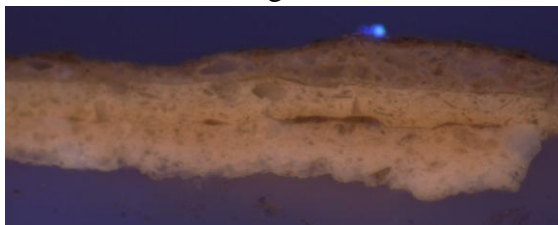


Sample S104-6. North end, west side of board wall, along stair.

Visible Light 200X



Ultraviolet Light 200X

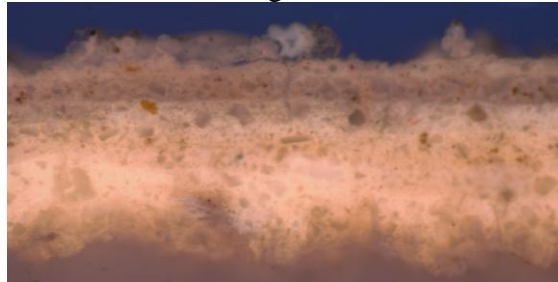


Sample S104-9. West wall, painted panel above second arch from the south (washes flake away).

Visible Light 200X



Ultraviolet Light 200X





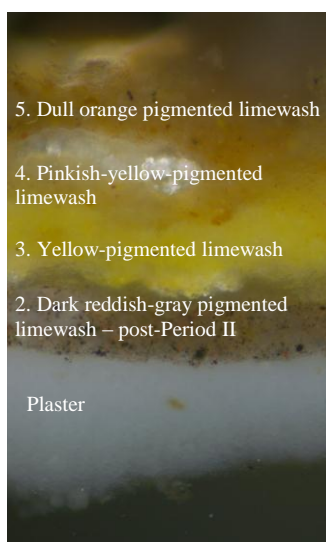
S104 Plaster. When the walls in this Period II space were examined on-site, it became clear that the lower portions of the walls were once painted with a darker color than the upper parts. But the limewashes are now so degraded and worn on the lower portions of the walls it was difficult to determine by eye how often this practice of painting a faux wainscot was employed. The samples taken from below (S104-7) and above (S104-8) wainscot level help to confirm that there was originally a faux reddish-gray wainscot on the walls which lines up with generation 2 in S103 from the former tack room (see sample S103-1 below). The coatings on the ceiling (S104-10) are virtually identical to the coatings found on the upper walls, suggesting they were always repainted in the same manner.

The wall coatings in S104 begin one generation later than those on the board walls in room S103, which is consistent with this space being created in Period II but perhaps initially not painted. So, when the stable was first painted it initially had gray paint on the lower portions of the columns, which lined up with the gray paint on the lower portion of the walls. The lower walls were then repainted dark reddish-gray and lower portions of the columns were dark gray, while the upper plaster walls and ceilings were again white and the woodwork was coated with cream-colored oil paint. This appears to be when the stair was installed in the northeast corner of the room, perhaps in Period III. Post-Period III relates to generation 5 when a pinkish-yellow limewash was applied to the most of the woodwork, and to the walls and ceilings.

Sample S103-1. Crude board wall  
Visible Light 200X



S104-7.  
W. wall wainscot



S104-8  
W. wall above wainscot

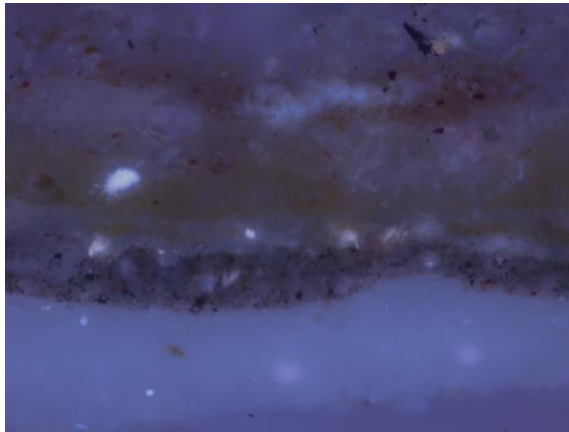


Sample S104-7. West wall, stall third from the north, on gray-painted wainscot.

Visible Light 200X

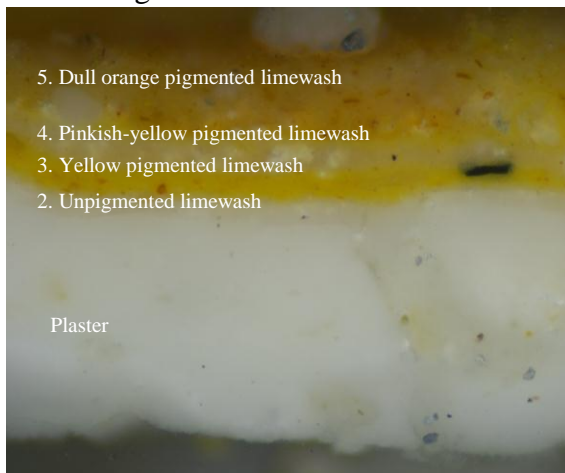


Ultraviolet Light 200X

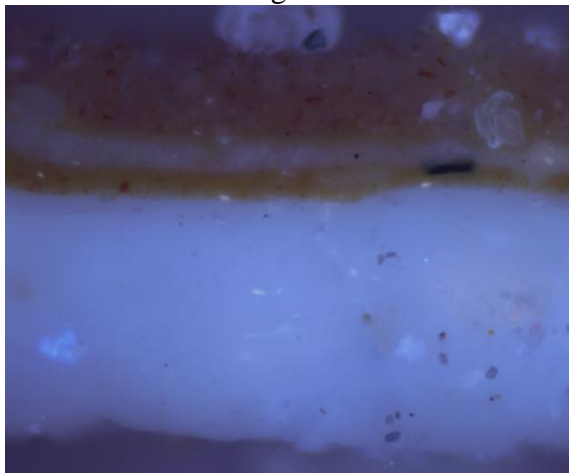


Sample S104-8. West wall, stall third from the north, on the yellow-painted wall above the gray wainscot.

Visible Light 100X

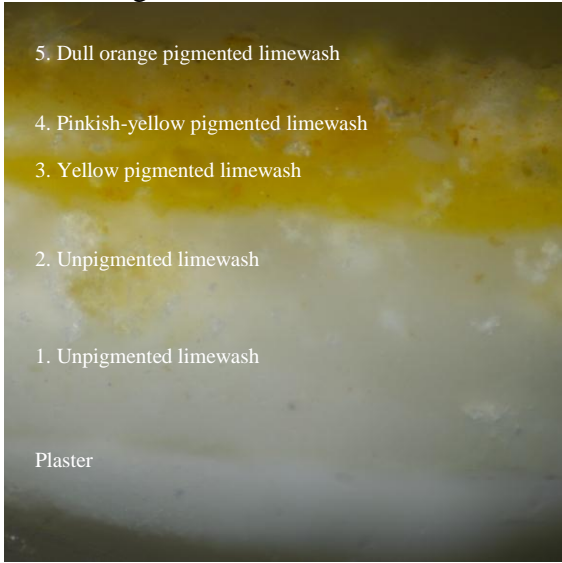


Ultraviolet Light 100X

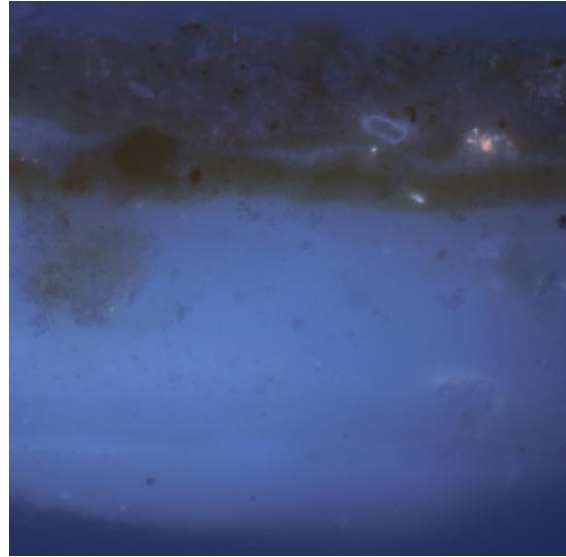


Sample S104-10. Ceiling near west wall, above second arch from the south.

Visible Light 100X



Ultraviolet Light 100X





## **S201 South Chamber:**

The south chamber is the most complicated of all the rooms in the stable building as it retains Period I woodwork and plaster, in addition to a number of elements added later, some of which must have come from the Period I house. The louvered door for the closet was likely originally installed as an exterior door in the house, and the wooden mantel likely came from a Period I chamber. There are also alterations to the door frame, possibly for a transom window which was not installed, and many generations of colored washes on the walls. Fifteen samples were taken from this room and all were cast and analyzed in cross-section.

### **S201 South Wall**



### S201 Cross-section Sample Locations

- S201-1. South wall, east of east window, Period I deep red wash on coarse plaster.
- S201-2. South wall, east of east window, sequence of later washes on top of smoother plaster (used super glue to keep layers together), about 5' up.
- S201-3. West wall, Period I louvered door moved from house, half-round molding, right side of louvers (early bright green paint present).
- S201-4. West wall, closet surround, right side, below ghost for mantel shelf.
- S201-5. West wall, closet surround, right side, on ghost for mantel shelf (is there paint on this area of the shelf?).
- S201-6. Back plaster wall of closet, Period II finer plaster (deep red on coarse Period I is exposed at loss above top shelf), above middle shelf.

S201-7. Architrave for fireplace, Period I woodwork from main house, at fluting along bottom edge.

S201-8. South wall, east window, rail below transom window, left side above bead molding.

S201-9. South wall, east window, architrave left side above bead molding.

S201-10. South wall, east window, window architrave, left side, at inside edge, about 4' up.

S201-11. North wall pegrail, lower edge at join with door architrave.

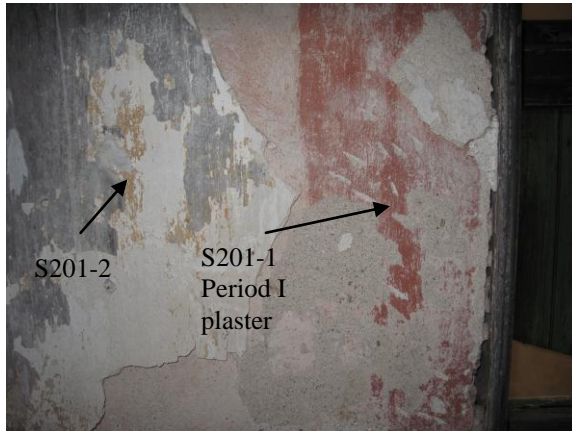
S201-12. North wall door frame, above angled join on door frame that might have been intended for transom window.

S201-13. North wall door frame, below angled join on door frame that might have been intended for transom window.

S201-14. North wall board door.

S201-15. West wall, north of chimney, about 5' up, possible dark gray related to a painted wainscot.

S201 South Wall



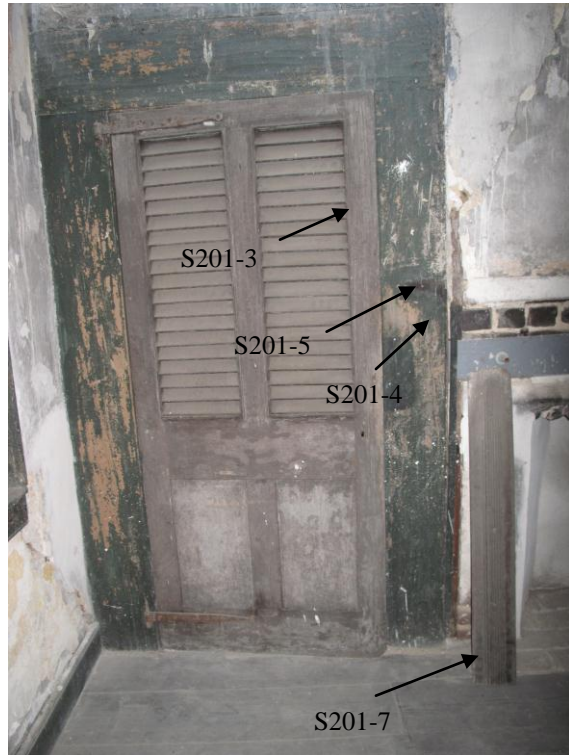
S201 South Wall East Window



S201 West Wall Closet



Closet Door



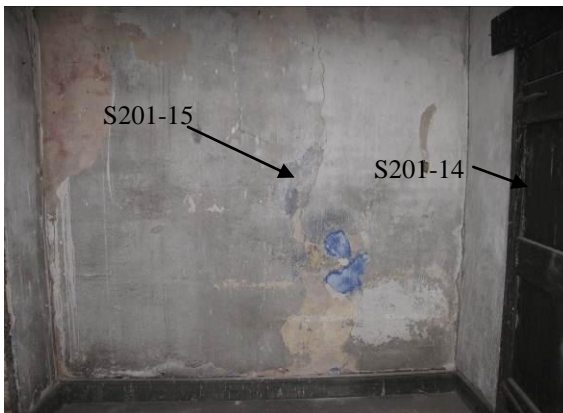
S201 North Wall



North Wall Door Frame



S201 Northwest Corner





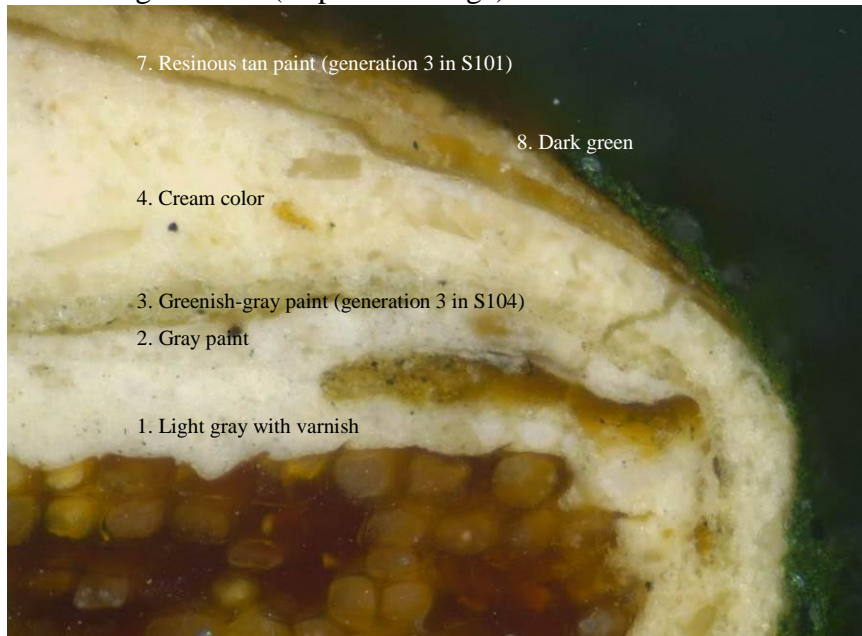
### S201 Woodwork.

There are substantial variations in the woodwork paints in this room because of the elements moved from the house, as well as windows and architraves that date to different periods. For ease of comparison and reference, the paint evidence on the various types of woodwork is organized by period and type of element. The paints on the Period I south wall windows are described first, followed by the paint evidence found on the north wall pegrail, door and door frame. This is followed by a description of the paint sequences found on the Period I mantel and on the exterior louvered door. This section ends with a discussion of the coatings found on the closet enclosure.

S201 Window. Three samples were taken from different elements of the Period I window W202 on the south wall to identify the complete paint sequence and to hopefully help determine when the closet and mantel were installed in this room. The most complete cross-section is S201-8 from the rail below the transom window and it contains eight generations of paint. The original paint on the architrave and window frame is a light gray layer. A varnish coating was found on this light gray on the rail and the architrave (S201-10). This is followed by another light gray paint in generation 2 and a then a greenish-gray paint in the third generation, which seems to be the same as the greenish-gray paint found in the same position on the woodwork in S104. Generations 4 through 6 are cream-colored paints, and generation 5 is notable because it contains zinc white, dating it to after 1845. Generation 7 is a resinous tan paint (like the third paint generation on the window in S101), followed by the most recent dark green paint. Generations 5 and 6 are missing in sample S201-8, but are present in S201-9 and S201-10 (see below). The paint history in S201-9 from a window architrave begins at the second generation light gray, but the other sample S201-10 begins at the first light gray.

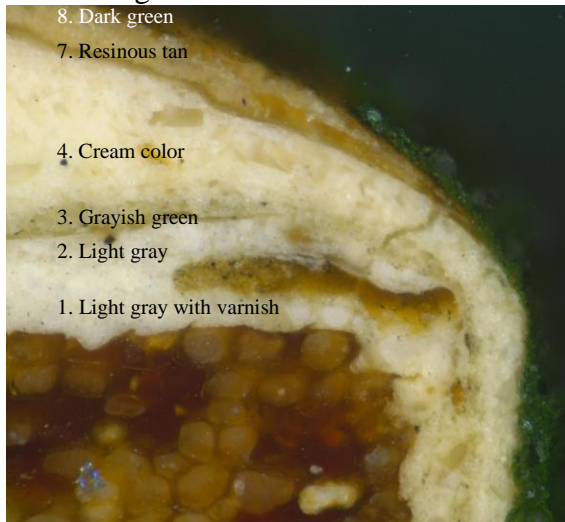
Sample S201-8. South wall, east window, rail below transom window, left side above bead molding.

Visible Light 200X (Expanded image)

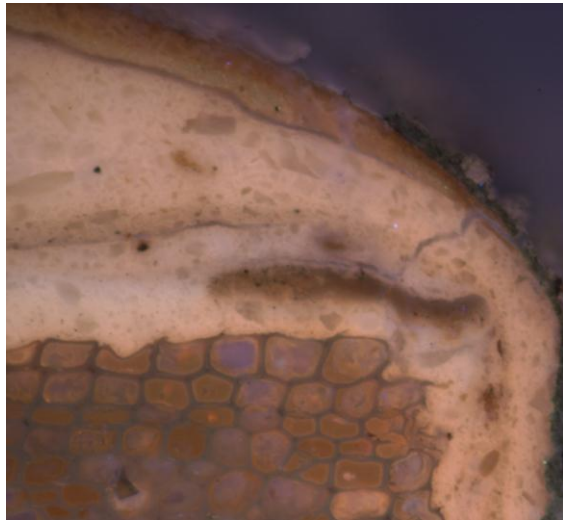


Sample S201-8. South wall, east window, rail below transom window, left side above bead molding.

Visible Light 200X



Ultraviolet Light 200X

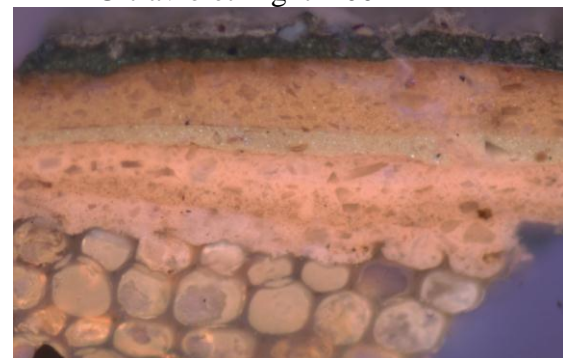


Sample S201-9. South wall, east window, architrave left side above bead molding.

Visible Light 200X

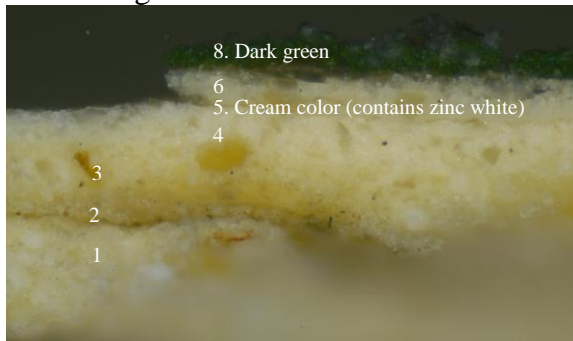


Ultraviolet Light 200X

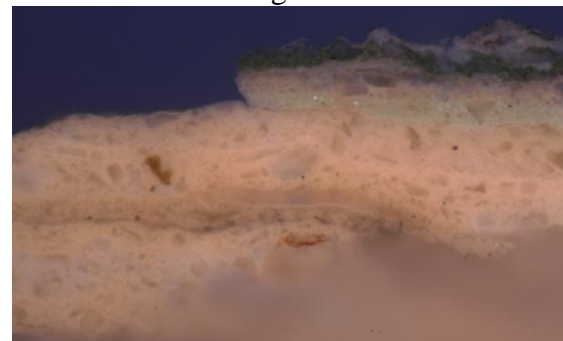


Sample S201-10. South wall, east window, window architrave, left side, at inside edge, about 4' up.

Visible Light 200X

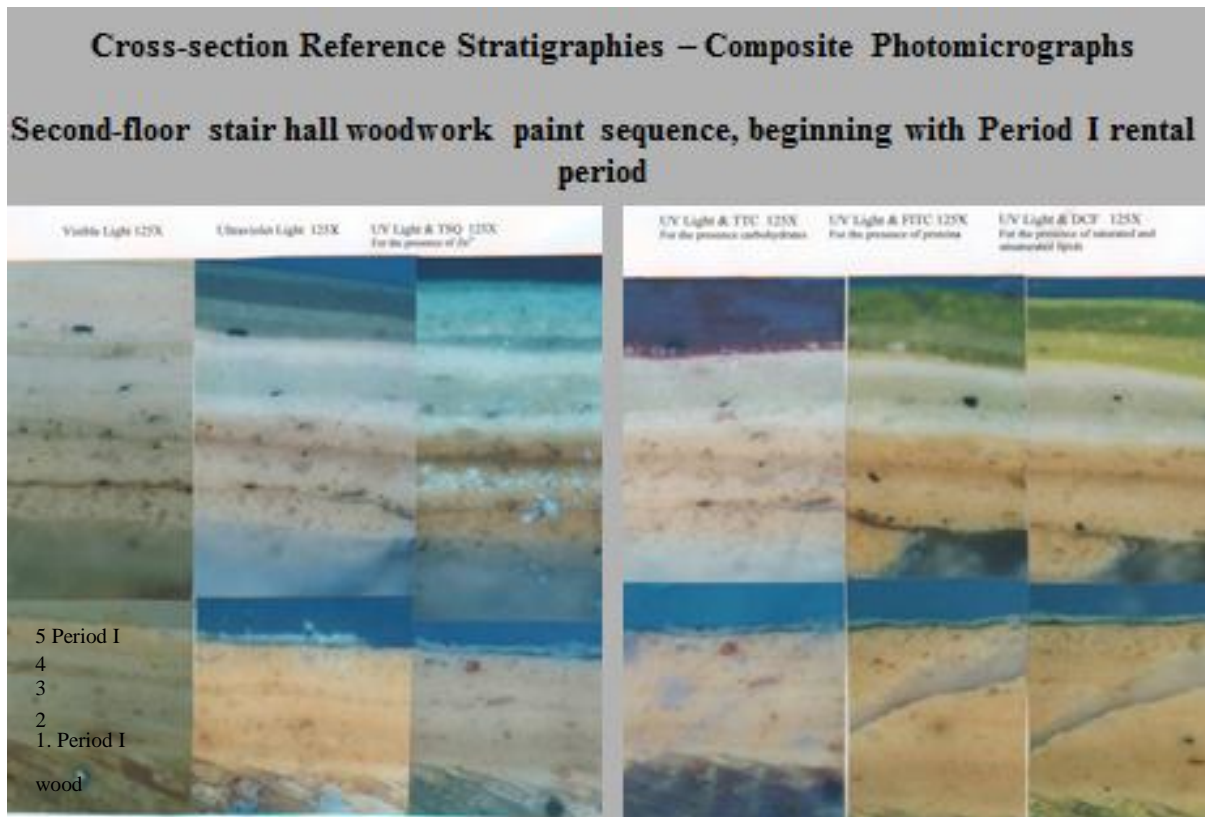


Ultraviolet Light 200X



S201 Period I Mantel. When the woodwork in the house was analyzed during the dissertation research, the results showed that there are generally four generations of cream-colored, oil-bound paint on the original woodwork before most of the woodwork was oak-grained in Period II. Generations 1 through 4, applied between 1818 and approximately 1835, are all quite similar in color and composition.<sup>2</sup> The paint sequence for sample 204-1 from the second-floor woodwork in the house is shown below, with the Period I finishes noted. Generation 5 represents the Period II grain-painting.

When the paints in the sample from the mantel (S201-7) are compared to the Period I sequence shown below, it appears that the mantel retains the same four generations of early cream-colored paints. Then it was recoated with approximately four generations of black-pigmented shellac. So, it is likely the mantel was moved from the house in Period II and recoated with a glossy black shellac when it was installed in S201. However, the strong similarities between the coating generations on the original woodwork in the first, second and third floors of the house make it difficult to determine where this mantel came from.

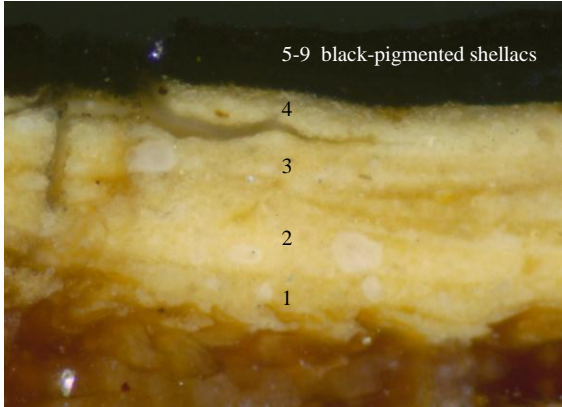


<sup>2</sup> Buck, diss., 129.

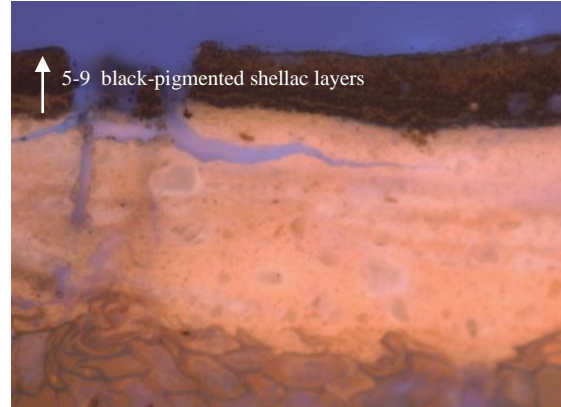


Sample S201-7. Architrave for fireplace, Period I woodwork from main house, at fluting along bottom edge.

Visible Light 200X



Ultraviolet Light 200X



S201 Louvered Door. There are five generations of paint on the louvered door, beginning with a bright green paint on a cream-colored base coat. This green paint contains chrome green (a synthesized mixture of Prussian blue and chrome yellow), a pigment not in wide use commercially until about 1825. The presence of chrome green suggests this louvered door may date to Period II. Generations 1 through 4 are all variations of green paint, likely applied while the door was still in its original location. The first paint on the louvered door that can be matched with woodwork in this room is the uppermost brown paint which is the same as the third generation paint on the board door. Thus, the evidence suggests that the louvered door could have been moved to this room after Period II. The greens on this louvered door do not match any of the exterior shutter paints examined as part of research on the exterior paints, as all the early shutter paints are thickly applied, coarsely ground, verdigris-based green paints. The paint sequence on the louvered door does not help to place it in any particular location in the Period I or II forms of the house.

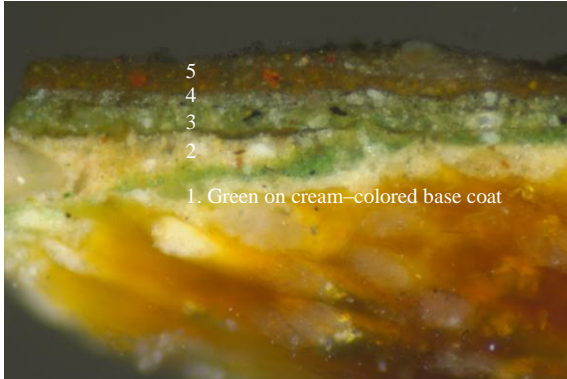
Sample S201-3. West wall, Period I louvered door moved from house, half-round molding, right side of louvers (early bright green paint present).

Visible Light 200X (Enlarged sample)

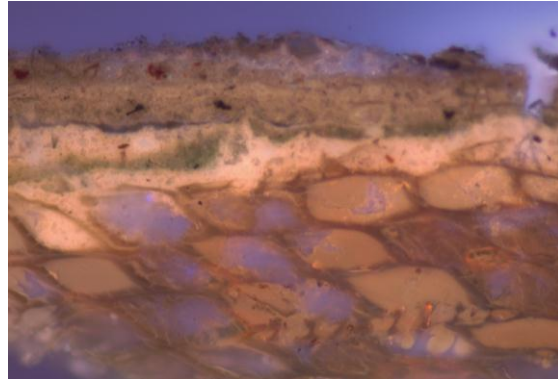


Sample S201-3. West wall, Period I louvered door moved from house, half-round molding, right side of louvers (early bright green paint present).

Visible Light 200X



Ultraviolet Light 200X



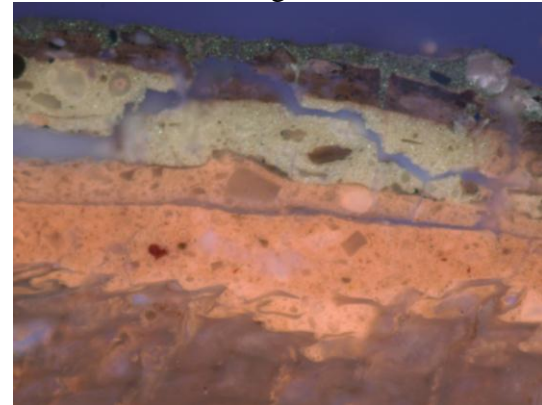
S201 North wall Pegrail. The paint history on the north wall pegrail is perplexing because it cannot be aligned with most of the coatings found in this room, nor can it be aligned with other paint sequences in this building. The exceptions are the second-generation dull green, which was also found on the closet (S201-4), and the most recent dark green. The pegrail was first painted with a thick layer of beige paint, followed by a pale dull green paint. The third generation is a thick layer of pale gray-green which contains zinc white, dating it to after 1845. The fourth generation is thick, cracked, resinous blackish-green paint. The dark green found on the Period I window as generation 8 is the most recent green paint in cross-section S201-11.

Sample S201-11. North wall pegrail, lower edge at join with door architrave.

Visible Light 200X

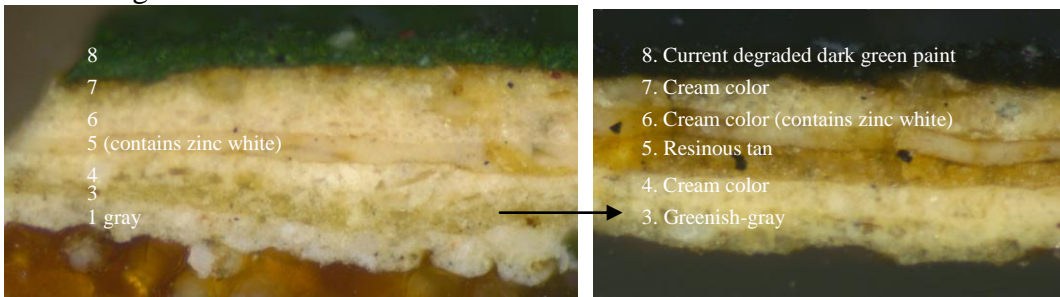


Ultraviolet Light 200X



S201 North Wall Door Frame and Door. The paint histories on two areas of the door frame were compared to see if there are differences between the area above the angled join on the door frame, which Graham thought may have been made to accommodate a transom, and the area just below the angled join. The two samples have quite different paint histories. Sample S201-12 from above the join contains seven generations of paint, with the first layer being the greenish-gray paint found as the third generation on the Period I window (samples S201-9 and S201-10). In sample S201-12 from above the join, the cream-colored paint with zinc white appears one generation later than on the Period I window, suggesting that the windows were not repainted with the resinous tan paint observed as generation 5 in sample S201-12 (see below).

Sample S201-9. South wall, east window, architrave left side above bead molding.      S201-12. North wall door frame, above angled join.  
Visible Light 200X

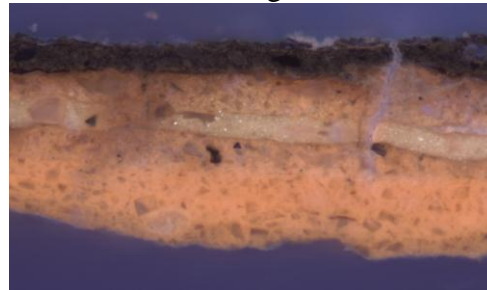


Sample S201-12. North wall door frame, above angled join on door frame that might have been intended for transom window.

Visible Light 200X



Ultraviolet Light 200X



When the paints on the architrave below the angled join are compared to those above, it appears that the full chronology of paints, beginning with the generation 1 light gray, remains below the join (sample S201-13). There is also a brown paint in this cross-section above the gray that does not appear elsewhere in the room; it is possible that this is a later paint that seeped into a crack in the earlier paints, based on the disruption in the left-hand side of the cross-section. The presence of the Period I light gray below the angled join suggests that this door frame could date to Period I and the alteration at the top was made perhaps in Period II.

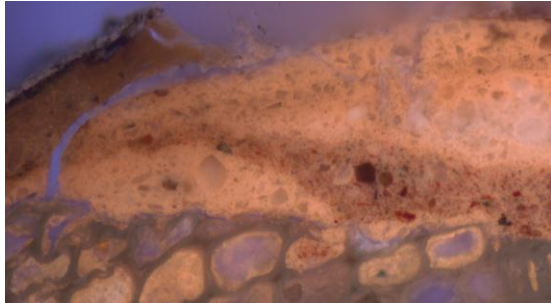


Sample S201-13. North wall door frame, below angled join on door frame that might have been intended for transom window.

Visible Light 200X



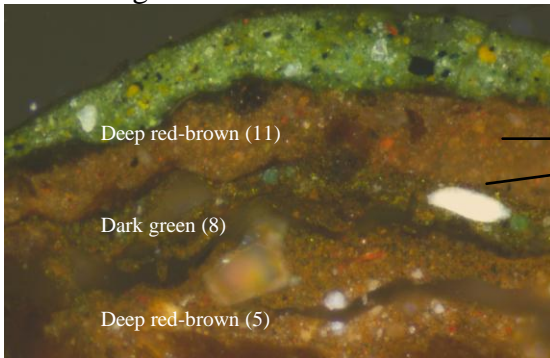
Ultraviolet Light 200X



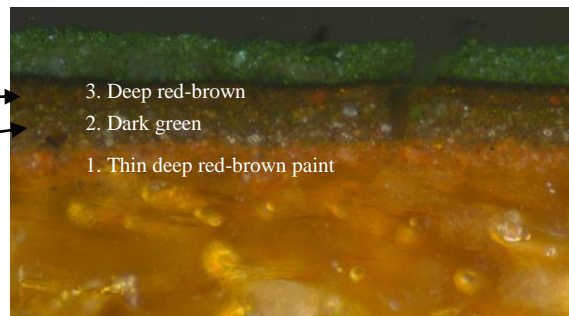
The paints in the cross-section from the interior surface of the board door do not match any of the other elements in the room in the initial two of four paint generations. The first generation is a thin deep red-brown paint, followed by a dark green paint, then a deep red-brown. Generations 2 and 3 on this door resemble generations 2 and 3 found on the Period II board door leading from room K102 into K101 (see the comparison below). The third generation on the north wall board door is the same red-brown paint found as the eleventh generation paint in room K102. This suggests the door may not have been installed in this room until the deep red-brown paint in generation 3 was applied, as that paint matches generation 5 on the louvered door from the house.

Sample K102-II-11. South wall, upper door of two-part board door, on batten.

Visible Light 200X



Visible Light 200X

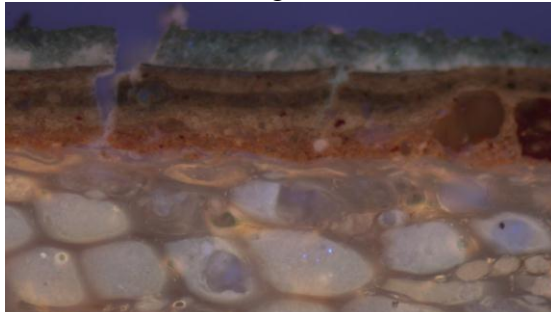


Sample S201-14. North wall board door.

Visible Light 200X



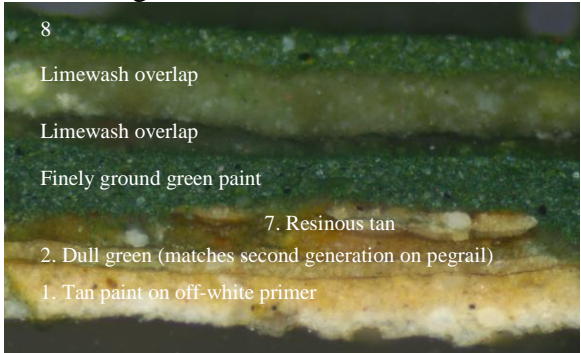
Ultraviolet Light 200X



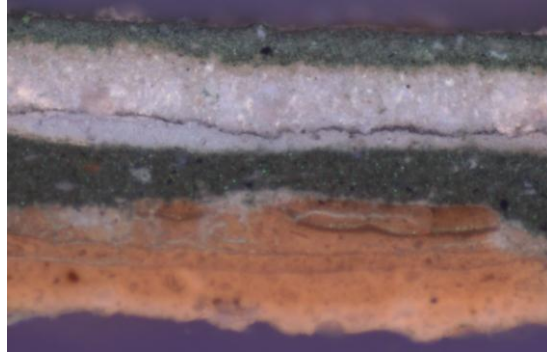
S201 West Wall Closet Woodwork. The paint sequence on the closet woodwork is problematic because it is disturbed, and it cannot be clearly matched with the early coatings on most of the woodwork. The first generation is a tan paint on top of a white primer which was not found elsewhere in the room. The second generation is a dull green paint which matches the second generation on the pegrail (sample S201-11), and this is followed by a resinous tan layer that was found as the seventh generation on the Period I window. The most recent green paints are finely ground and evenly mixed, consistent with twentieth-century coatings.

The cross-section from the blackish “ghost” for the edge of the mantel shelf consists only of a thick layer of soot and grit on the surface of the wood. This suggests the closet enclosure was not painted until after the mantel was installed.

Sample S201-4. West wall, closet surround, right side, below ghost for mantel shelf.  
Visible Light 200X

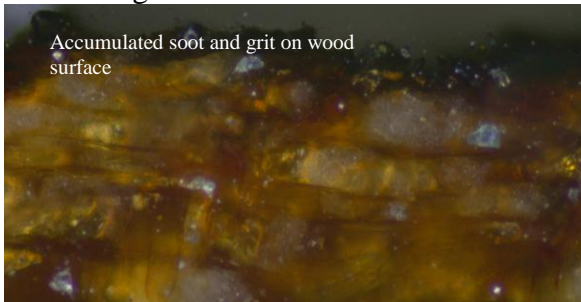


Ultraviolet Lights 200X

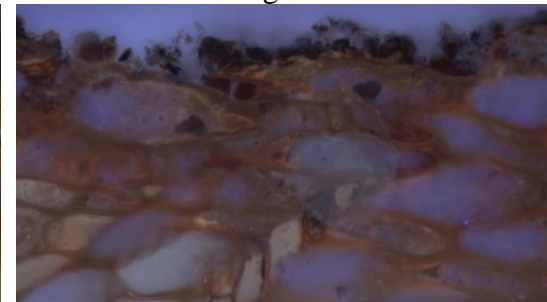


Sample S201-5. West wall, closet surround, right side, on ghost for mantel shelf (is there paint on this area of the shelf?).

Visible Light 200X



Ultraviolet Light 200X



### S201 Plaster.

The walls in S201 are patchy and uneven, with at least several campaigns of replastering for repairs. The first paint on top of the earliest plaster is the deep red that is most obvious near window W202 on the south wall. Sample 201-1 is the best example of this thickly applied red-pigmented limewash on top of a white coat of plaster that contains sand and tan fibers. This same red was found as the original paint on the plaster in room S203 (sample S203-1). The evidence suggests that the original palette of this room consisted of cream-colored woodwork and deep red-pigmented limewash, although the cross-section evidence cannot show exactly when this room was first painted and plastered.

The second campaign of smoother white plaster has a longer and more complicated paint history and the limewashes applied after the replastering are chalkier and more ephemeral than the first deep red limewash. However, the limewash sequence on the walls can be mostly reconstructed based on samples from three plaster samples. No clear evidence for a dark painted faux wainscot was found on the walls in this room.

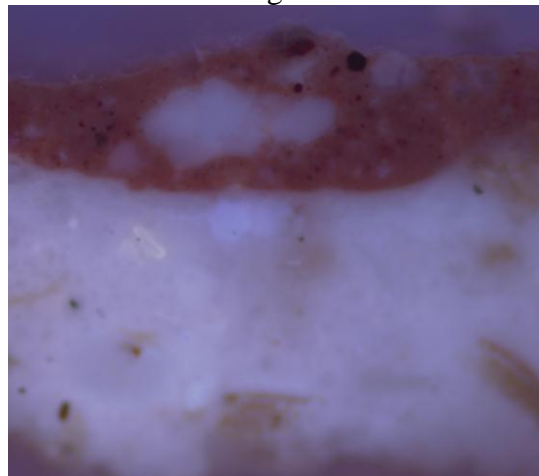
The coating sequence can be reconstructed to show that this room was often quite colorfully painted, and that the walls were repainted at least twice with a distinctive blue-pigmented limewash. A similar blue-pigmented limewash was found in room 203. In cross-section these blue limewash pigments are consistent with synthetic ultramarine, and polarized light microscopy analysis confirmed that both blue limewashes are pigmented with synthetic ultramarine, a relatively expensive pigment in the mid-to-late nineteenth century. There are more than nine generations of limewash on the walls in this room, as shown in samples S201-1 from the original plaster and S201-2 and S201-6 from the later, smoother plaster.

Sample S201-1. South wall, east of east window, Period I deep red wash on coarse plaster.

Visible Light 100X



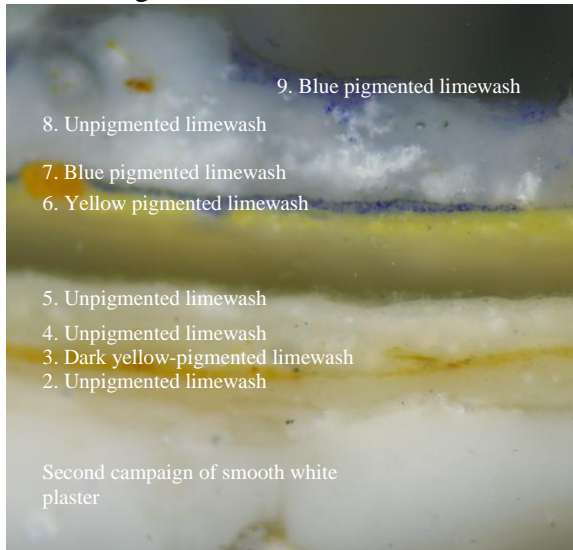
Ultraviolet Light 100X



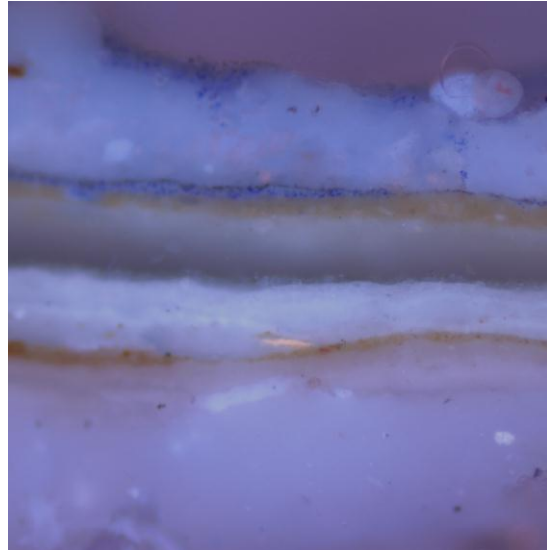


Sample S201-2. South wall, east of east window, sequence of later washes on top of smoother plaster (used super glue to keep layers together), about 5' up.

Visible Light 100X



Ultraviolet Light 100X

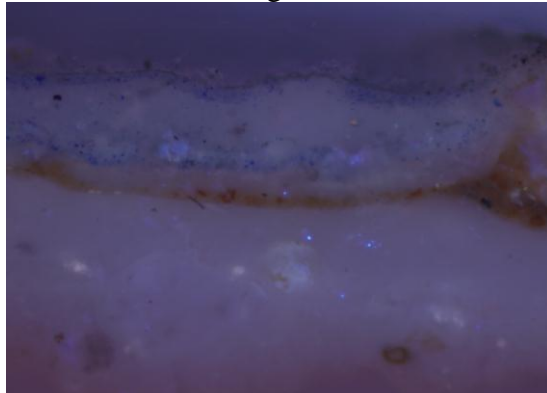


Sample S201-6. Back plaster wall of closet, Period II finer plaster (deep red on coarse Period I is exposed at loss above top shelf), above middle shelf.

Visible Light 200X



Ultraviolet Light 200X



### **S203 North Chamber:**

The walls and ceiling of this chamber retain many generations of pigmented limewashes, although there is no visual evidence of a faux-painted wainscot. Graham specifically requested a comparison of the paints on an original Period I window (W206) with the paints on the later lower sash. He was also curious about the coatings related to the ghost of a now missing shelf in the northeast corner of the room. The ceiling likely dates to Period II and should be compared to the coatings on the Period II partition wall. Eleven samples were taken to better understand the paints on the plaster and woodwork in this room.

#### **S203 Northwest Corner**



#### S203 North Chamber Cross-section Locations

S203-1. West wall, northwest corner, early deep red at large plaster loss, about 3' up. This seems to be the same early deep red found on the south wall of room S201. No evidence of painted wainscot in this room.

S203-2. West wall, northwest corner, deep yellow wash on top of later plaster (there is a light blue wash below the yellow layer, like in room S201).

S203-3. Center of ceiling, plaster at edge of big loss.

S203-4. Plaster wall, northeast corner, yellow paint adjacent to ghost for former shelving unit (it is bare plaster on the ghost). There is blue paint on top of the coarse plaster, below the yellow paint.

S203-5. Coarse plaster on south partition wall for staircase, first layer is light blue.

S203-6. East wall, Period I window, south window, right architrave, about 5' up.

S203-7. East wall, south window frame, left side at join with reveal. How does this paint history relate to the later window sash?

S203-8. East wall, south window, transom window, left muntin of left pane.

S203-9. East wall, south window, lower (later) sash.

S203-10. South wall door architrave, left side.

S203-11. South wall, board door, left board, about 4' up at edge.  
S203 Northeast Corner



EastWall



S203 West Wall



Northwest Corner



Ceiling





S203 Woodwork.

The comparative evidence shows that the woodwork in room S203 was painted less frequently than room S201, although there are distinct relationships between the paints on the Period I windows in both rooms. The board door in room S203 also shares similar paint layers with the board door in S201, and with the board door in K102. The paint history on one Period I window (W206) on the east wall is presented first in this section, followed by the comparative paint histories found on the ceiling and walls.

S203 Windows. Four samples were taken from the south window and three of the four samples provide helpful evidence. There are only four generations of paint on the original elements of window W206. The first generation is a light gray paint that was found as the second generation on the Period I window in S201. This is followed by a cream-colored paint (generation 4 in S201), then a resinous tan paint (generation 7 in S201). A comparison of S201-8 and S203-6 from the right architrave (below) shows how the stratigraphies can be aligned. Identical paint histories were observed in S203-8 from an original muntin, and in S203-9 from the lower, later sash.

So, the fact that the later sash has the same paint history as the original elements of the Period I window suggests that the windows in this room were left unpainted until the lower sash was installed.

Sample S201-8. South wall, east window,  
rail below transom window  
Visible Light 200X



S203-6. East wall, Period I window,  
right architrave  
Visible Light 200X

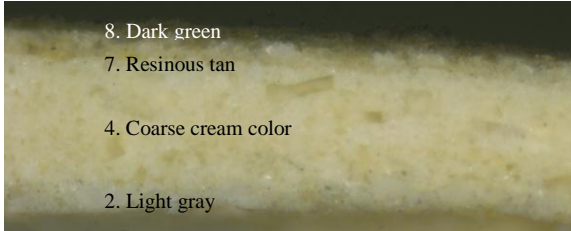




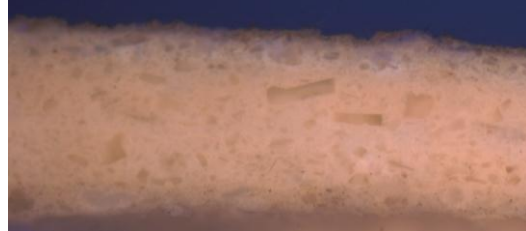
S203 Board Door and Architrave. The paints on the architrave for the board door consist of the same sequence of four generations of paint found on the Period I window elements and the lower sash. This suggests that either the door architrave was initially left unpainted, or it is a Period II element.

Sample S203-10. South wall door architrave, left side.

Visible Light 200X



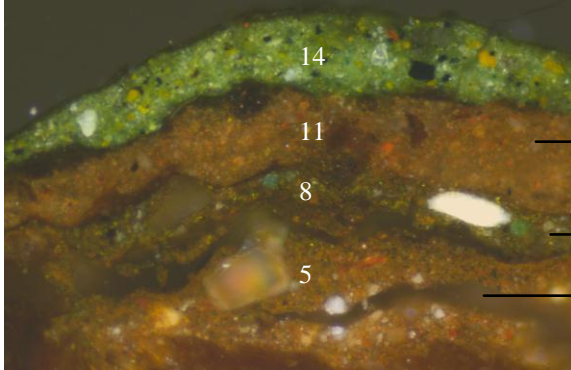
Ultraviolet Light 200X



It was interesting to find that the board door was painted four times (S201-11) and generations 1 through 3 can be precisely aligned with the first three generations of paint on the Period II board door leading from K102 to K101. This indicates these doors were painted at the same time and may have initially been installed in the same space, or at least in the same building. The paint generations noted for sample K102-II-11 show how the paints on this board door relate to the chronology of woodwork paints found on the Period I window bar in room K101, and how they relate to the board door in this chamber.

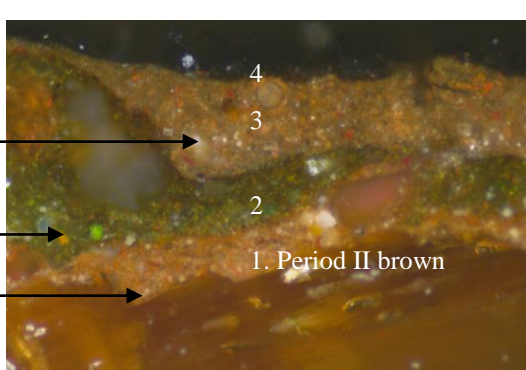
K102-II-11. South wall, upper door of two-part board door, on batten.

Visible Light 200X



S203-11. South wall, board door

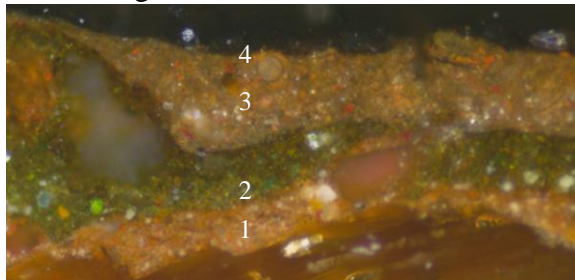
Visible Light 200X



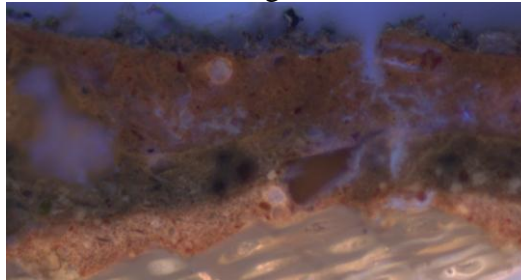


Sample S203-11. South wall, board door, left board, about 4' up at edge.

Visible Light 200X



Ultraviolet Light 200X

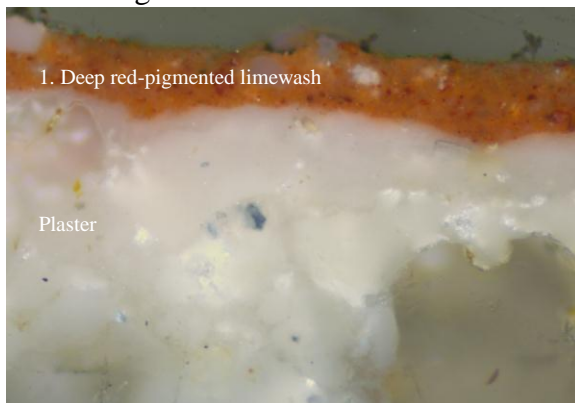


#### S203 Plaster.

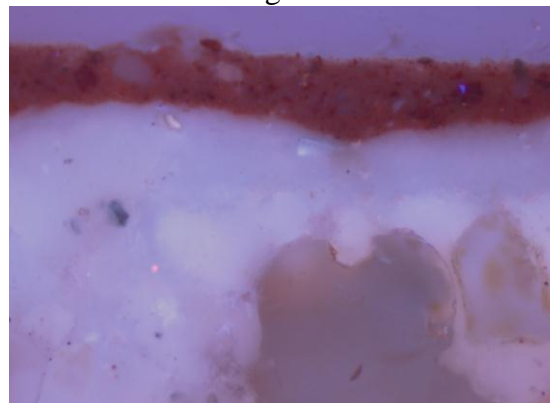
When the walls of S203 were examined with a 30X monocular microscope there appeared to be no evidence for a dark faux-painted wainscot, and no evidence was found in the plaster samples for early dark limewash layers, with the exception of the original deep red-pigmented limewash which was applied from floor to ceiling on the Period I plaster (sample S203-1). This same red-pigmented limewash was found as the first layer on the plaster in S201. So the walls in this space were always painted in solid colors, beginning with the first deep red.

Sample S203-1. West wall, northwest corner, early deep red at large plaster loss, about 3' up.

Visible Light 200X



Ultraviolet Light 200X

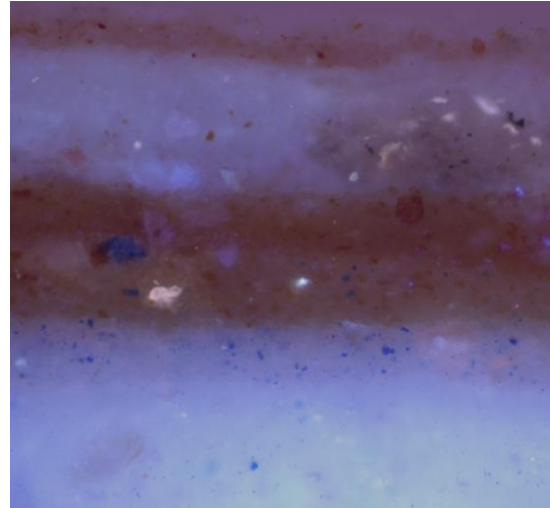
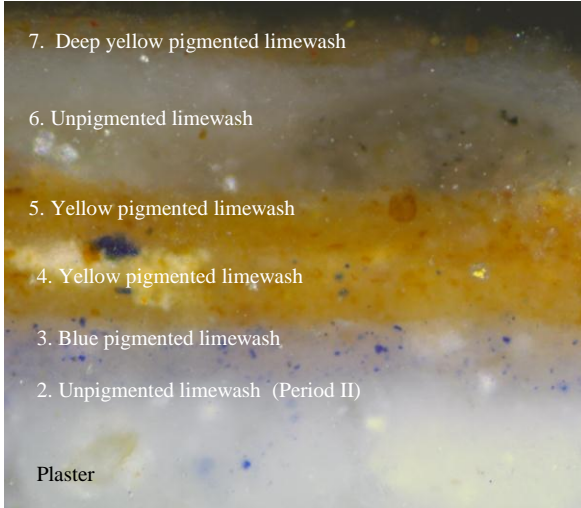


Like room S201, a finer white finish coat of plaster was applied on top of the deep red limewash, and a series of thin unpigmented and colorful limewashes were later applied to the walls. The use of alternating blue and yellow-pigmented washes follows a pattern similar to that observed in room S201, so it is possible that these two chambers were generally repainted in the same manner. Sample S203-2 contains the most complete coating chronology with six generations of limewashes on top of a smooth white plaster.

Sample S203-2. West wall, northwest corner, deep yellow wash on top of later plaster (there is a light blue wash below the yellow layer, like in room S201).

Visible Light 200X

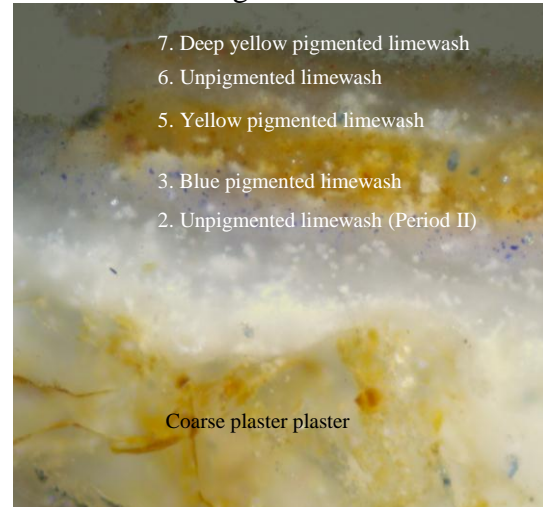
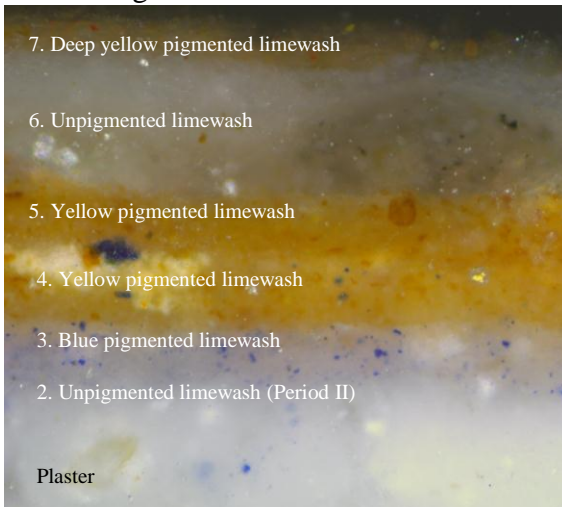
Ultraviolet Light 200X



There is a ghost for a former shelving unit in the northeast corner of the room. Sample 203-5 from the south partition wall plaster has the same paint history as S203-4 from adjacent to the shelving ghost, so this wall paint history starts at Period II, which indicates the unit was installed in Period II. When the paint history in the sample taken just adjacent to the ghost is compared to that of sample S203-2, it is apparent that there one yellow pigmented limewash missing in generation 4. This comparison seems to indicate that the shelf was removed only after the last layer of dull yellow limewash was applied.

Sample S203-2. West wall, northwest corner  
Visible Light 200X

S203-4. Plaster, northeast corner  
Visible Light 200X

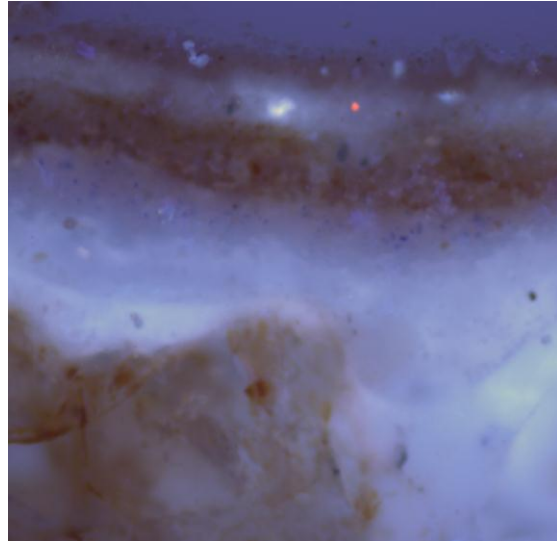


Sample S203-4. Plaster wall, northeast corner, yellow paint adjacent to ghost for former shelving unit (it is bare plaster on the ghost).

Visible Light 100X

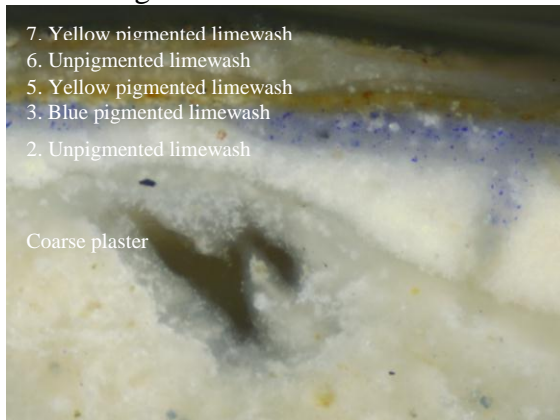


Ultraviolet Light 100X

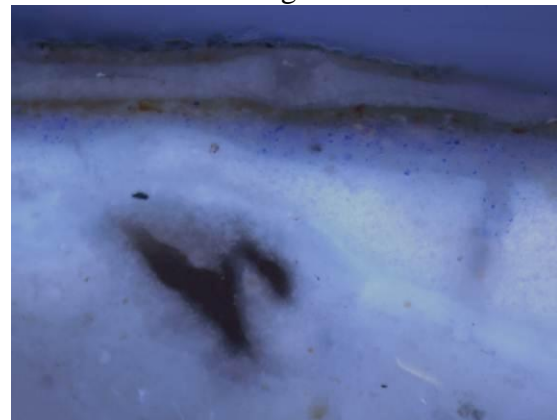


Sample S203-5. Coarse plaster on south partition wall for staircase.

Visible Light 200X



Ultraviolet Light 200X



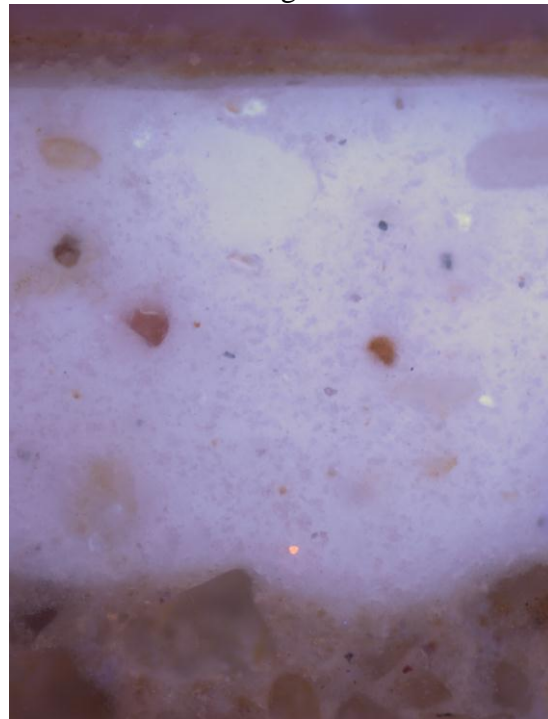


The ceiling in S203 was painted less frequently than the walls as there are only two generations of limewashes on the plaster. There is an unpigmented limewash above the plaster, followed by the current yellow-pigmented wash. These layers can be aligned with generations 6 and 7 on the wall plaster, suggesting the plaster is later, possibly Period III.

Sample S203-3. Center of ceiling, plaster at edge of big loss.

Visible Light 100X

Ultraviolet Light 100X



### **S204 Hayloft:**

This space dates to Period II and on-site examinations suggested the walls and woodwork had been painted less frequently than the stable space below. There are still patches of colored limewashes on the north, east and west walls of the hayloft, and the south wall is still almost entirely covered with a deep orange wash. There is no visual evidence for a faux-painted wainscot in this space. The woodwork is darkened and weathered, but there are still paints remaining on the windows and door opening. Three samples were taken from the woodwork and one sample was taken from the south wall plaster to generally characterize the surviving finishes.

#### **S204 North Wall**



#### S204 Hayloft Cross-section Locations

- S204-1. South end partition wall (orange and yellow washes), about 5' up, right of opening on east side.
- S204-2. North end, rail for stair enclosure, west face of north-south rail.
- S204-3. East wall, south window, painted frame, left side.
- S204-4. North wall, exterior paint exposed on underside of arch, left side.

### S204 South End



### S204 North End



### Underside of Arch



### S204 Woodwork.

The most complete sequence of paints on the woodwork in S204 was found on the frame for window W208. There are three generations of coatings, beginning with the same light gray paint found as the second generation on the Period I window (original components and later sash) in room S201. This is followed by a cream-colored paint found as the fourth generation on the Period I windows. The third layer is a resinous tan paint that has degraded to a darker brown that was identified as the seventh generation on the Period I windows. Light gray was also found as the fragmentary first layer on the underside of the door arch, so it was initially painted at the same time as the window (S204-4). The evidence suggests that the woodwork in the hayloft and the middle chamber S203 were originally painted at the same time, one generation later than the south chamber S201.



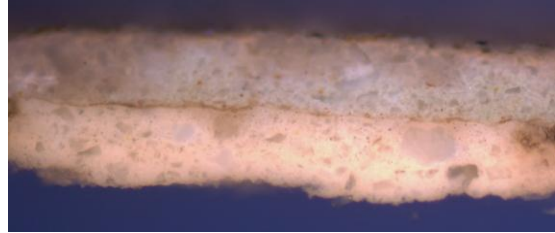
The paint history on the stair rail (S204-2) begins with the generation 4 cream color found on the Period I windows, which is consistent with its later installation. A comparison of the paints on the hayloft window (S204-3) with those on the underside of the arch (S204-4) suggests that the two most recent brown paints on the arch are exterior paints carried over from painting the exterior of the arched opening, as they do not appear elsewhere in this room.

Sample S204-2. North end, rail for stair enclosure, west face of north-south rail.

Visible Light 200X

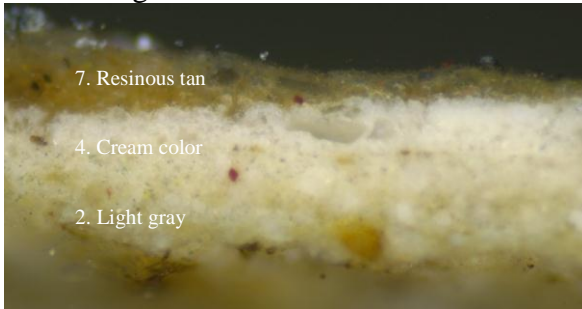


Ultraviolet Light 200X

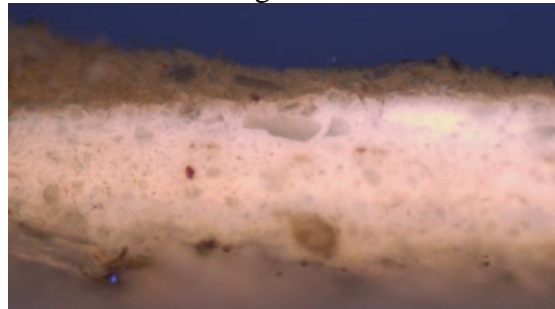


Sample S204-3. East wall, south window, painted frame, left side.

Visible Light 200X

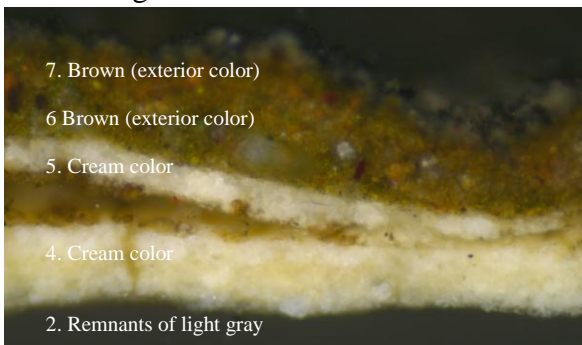


Ultraviolet Light 200X

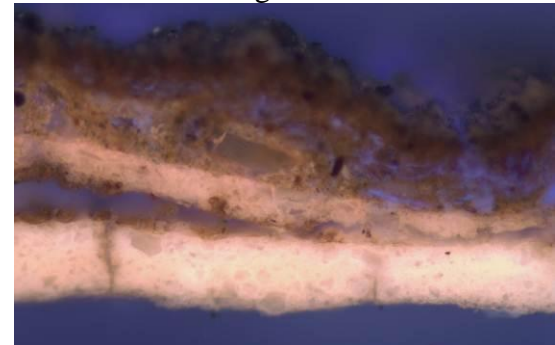


Sample S204-4. North wall, exterior paint exposed on underside of arch, left side.

Visible Light 200X



Ultraviolet Light 200X



S204 Plaster.

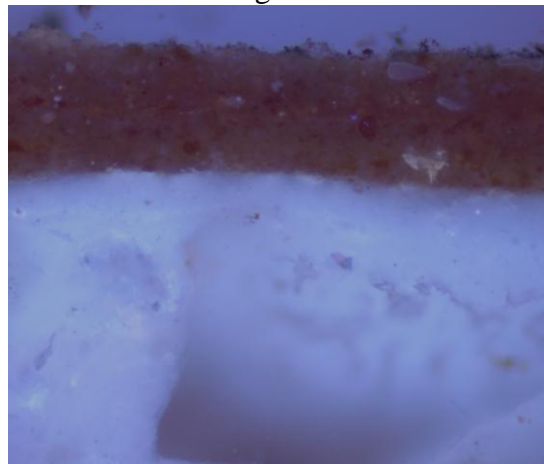
The walls in the hayloft were painted only twice, compared to at least nine times in room S203. The first layer on the coarse white plaster is an unpigmented limewash, followed by a thick deep orange-pigmented limewash. This same coating is the most recent paint in the stable space below (S104).

Sample S204-1. South end partition wall (orange and yellow washes), about 5' up, left of opening on east side.

Visible Light 100X



Ultraviolet Light 100X



## **Conclusion:**

The opportunity to re-examine the interior paints in the kitchen building and to analyze coatings found on all representative elements of the interior of the stable has made it possible to establish similarities in the paints used on the walls and woodwork in both buildings. In general, the kitchen building was repainted more frequently than the stable during the nineteenth century, but there are still many similarities in the colors and types of interior woodwork and plaster paints. It is important to note that in Period I and in Period II most of the window and door trim elements were painted with cream-colored, linseed oil and lead white paints similar to those used on the woodwork in the house. But the use of intensely colored limewashes on the walls beginning in Period II is distinctive to the outbuildings. It is difficult to imagine how these spaces appeared when freshly painted, but they were dramatically different from the rooms as they currently appear with darkened, flaking paints on many of the walls, and very dark, almost blackened, woodwork paints.

It was not possible to establish relationships between the paint treatments on the pegrails to help relate them from room to room and between buildings. During some repainting efforts the pegrails were painted with limewashes, and then occasionally repainted with oil-based woodwork paints. However, there are relationships between some of the paint histories on the board doors and window trim, as noted in the relevant sections of this report. Where possible, the paints related to Periods I, II and III are identified in the paint stratigraphies in both buildings.

The following two charts for the kitchen building and the stable list the paint coatings that can be confidently related to Periods I, II and III, and to post-Period III in both buildings. Where possible, the paint layers related to the installation of water and gas pipes in the kitchen building, and the paints related to later partition walls and reused woodwork are noted based on the comparative dating of the paint layers.

The first chart addresses the paints in the first and second-floor rooms of the kitchen building, and the second chart addresses the paints on the first and second-floors of the stable.



### Kitchen/Laundry Building Key Comparative Paint Histories

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
K101 Kitchen					
	Period I S. wall door reveal	Tan or cream color	Missing	Brown with varnish	See page 10
	North wall door		Pigmented varnish	Brown with varnish	See page 10
	Later glazed door			Brown on off-white primer with zinc white	See page 10
	Period I west wall center window bar	Tan or cream color	Tan with resinous coating	Brown on off-white primer with zinc white	See page 10
	Later window sash		Cream color		See page 10
	Period I plaster	Unpainted browncoat, then unpainted white coat	Deep yellow limewash	Yellow limewash	See page 14
	Period II partition wall plaster		Deep yellow limewash	Yellow wash	See page 14 for comparative plaster sequences
K102	Period II N. wall door architrave		Unpainted then tan with varnish	Brown with varnish	See page 22
	Period I baseboard		Light brown on cream primer	Brown with varnish	See page 22
	Period II baseboard		Light brown on cream primer	Brown with varnish	See page 22
	E. wall closet enclosure		Possibly unpainted	Yellow limewash	See page 22
	S. wall pegrail		Tan or cream color	Possibly dark green	See page 22
	N. wall pegrail		Degraded limewash	Limewash	See page 22
	Period II S. wall door		Brown with varnish	Dark green	See page 22
	Period II S. wall door later batten			Dark green	See page 22
	Period II S. wall plaster		Pinkish-orange limewash	Deep yellow	See page 30
K103 Stair Passage					
	Period I newel post	Cream color	Translucent gray		Red-brown in generation 19
	Staircase	Cream color			Red-brown in generation 19
	Staircase ghost of former vertical support	Very thin cream color			
	Later wide board		Unpainted then translucent gray		

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
	Stair riser	Black			See page 36
	Privy wall plaster	Unpainted coarse white plaster			
	North wall at landing		Deep yellow limewash	Pinkish-orange limewash	See page 36
	Patch on north wall				Modern gypsum plaster with most recent off-white paint
K104 North Room					
	South wall plaster		Unpigmented limewash (4 generations)	Yellow limewash	See page 41
	West wall behind water pipe position		Unpigmented limewash (4 generations)		See page 41
	West wall over position of water pipe board		Unpigmented limewash (4 generations)		Dark yellow limewash See page 41
K201 South Chamber					
	Period I window	Cream color	Cream color	Cream color with zinc white	See page 49
	Later window muntin			Cream color with zinc white	See page 49
	Wooden curtain support		Unpigmented limewash	Blue-pigmented limewash	See page 49-50
	Period I plaster	Unpigmented limewash	Dark gray limewash at wainscot level	Blue-pigmented limewash	See page 51
	Picture hook			Off-white paint with zinc white on corroded iron	See page 53
K202 Middle South Chamber					
	Window trim		Cream color	Cream color with zinc white	
	Board door		Thin brown varnish	Shellac	
	Wall plaster		Unpigmented limewash followed by gray limewash at wainscot level	Yellow limewash	

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
K203 Middle Chamber					
	Curtain support		Unpainted		20 <sup>th</sup> -century pink paint
	Pegrail		Red-brown	Shellac	Brown
	Wall Plaster		Unpigmented limewash followed by yellow pigmented limewash	Pinkish-orange limewash	20 <sup>th</sup> -century pink paint
	Ceiling 1850s repair			Unpigmented limewash on coarse whitecoat of plaster	See page 62-3
K204A South Passage					
	Plaster		Yellow pigmented limewash followed by dark gray limewash on plaster	Dark gray limewash on wainscot	See page 67
K204B North Passage					
	Rob window trim		Cream color	Gray with zinc white	Medium blue
	Plaster		Unpigmented limewash followed by dark gray limewash on wainscot	Dark gray limewash on wainscot	See page 68
K205 North Middle Chamber					
	Board door		Red-brown with varnish	Dark green	Brown
	Plaster		Unpigmented limewash	Yellow or orange limewash	See page 71
K206 North Chamber					
	Pegrail		Cream color with varnish	Brown paint	Gray paint with zinc white. See page 75
	North wall window			Cream color	Gray paint zinc white
	Exterior window frame				Modern red-orange on dirty wood



### Stable Building Key Comparative Paint Histories

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
S101 Carriage Bay					
	Period I window interior frame and sash	Dark cream color	Dark cream color with varnish/gray-blue sash	Possibly resinous tan paint	Off-white only on the sash
	Period I window exterior	Dark cream color	Dark cream color	Possibly resinous tan paint	20 <sup>th</sup> century green on gray primer
	Period II ceiling		Unpigmented limewash followed by yellow limewash	Dull orange limewash	
S102/202 Stair Passage					
	Period II stair riser		Unpainted	Possibly a brown-pigmented varnish	
	Board along south side of stair		Plaster with unpigmented limewash	Dull orange limewash (fragmentary)	
	Ceiling		Unpigmented limewash	Dull orange limewash	
S103 Tack Room					
	Period II crude board wall		Unpigmented limewash then dark gray limewash at wainscot level	Dull orange limewash	
	North beadboard wall	Dark cream color	Dark cream color with varnish	Resinous tan	
	Door enclosure north side	Dark cream color	Dark cream with varnish	Resinous tan	
S104 Stable					
	Period II column		Gray paint to wainscot level	Cream color followed by many repaints	Brownish varnish
	Long stall divider		Gray paint	Cream color	Brownish varnish
	Underside of arch and panel above arch			Cream color	Brownish varnish/limewash on panel
	NE corner stair elements			Cream color	Brownish varnish
	West wall plaster		Unpainted then red-gray below/ white above	Dull orange limewash	Pinkish-yellow limewash

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
	Ceiling		Unpigmented limewash	Dull orange	
S201 South Chamber					
	Period I window	Light gray with varnish	Greenish gray	Cream color with zinc white	Dark green
	Period I mantel	Cream color	Cream color	Cream color	Black-pigmented shellacs
	Louvered door		Green on cream-colored primer	Brown	
	Pegrail	Beige paint	Greenish gray	Gray green with zinc white	Dark green
	Door trim below join	Light gray	Greenish gray	Resinous tan	Dark green
	Door trim above join		Greenish gray	Resinous tan	Dark green
	Board door (moved from another location?)	Deep red-brown	Dark green	Brown	Dark green
	Closet surround (installed in Period II?)		Tan paint on off-whiter primer then greenish gray	Resinous tan	
	Period I plaster	Deep red	Unpigmented limewash then yellow limewash	Blue-pigmented limewash	Unpigmented limewash then blue limewash
S203 North Chamber					
	Period I window	Perhaps unpainted	Gray paint	Resinous tan	Dark green
	Period II sash		Gray paint	Resinous tan	Dark green
	Door architrave		Gray paint	Resinous tan	Dark green
	Board door		Brown	Brown	Dark green
	Period I plaster	Deep red	Unpigmented limewash	Blue-pigmented limewash then deep yellow limewash	
	Center of ceiling			Unpigmented limewash then deep yellow limewash	Unpigmented limewash then yellow limewash
S204 Hayloft					
	Period II window frame		Gray paint	Resinous tan	
	Stair enclosure			Cream color then resinous tan	
	Underside of north arch		Gray	Cream color	Exterior brown paint

Room/Sample	Element	Period I	Period II	Period III	Post-Period III
S204	Partition wall		Unpigmented limewash	Dull orange limewash	See page 126



## **REFERENCES**

### **Cross-section Preparation Procedures:**

The samples were cast in mini-cubes of polyester resin (Excel Technologies, Inc., Enfield, CT). The resin was allowed to cure for 24 hours at room temperature and under ambient light. The cubes were then ground to expose the cross-sections, and dry polished with 400 and 600 grit wet-dry papers and Micro-Mesh polishing cloths, with grits from 1500 to 12,000.

The cast samples were analyzed and photographed using a Nikon Eclipse 80i epi-fluorescence microscope equipped with an EXFO X-Cite 120 Fluorescence Illumination System fiberoptic halogen light source and a polarizing light base using SPOT Advanced software (v. 4.6) for digital image capture and Adobe Photoshop CS for digital image management. The samples were photographed in reflected visible and ultraviolet light using a UV-2A filter with 330-380 nm excitation, 400 nm dichroic mirror and a 420 nm barrier filter and a B-2A filter with 450-490 excitation and a 520 nm barrier filter. Photographs were taken at 100X, 200X and 400X magnifications.

The following fluorescent and visible light stains were used for examination of the samples:

Alexafluor 488 0.02% in water, pH 9, 0.05M borate and 5% DMF to identify the presence of proteins. Positive reaction color is yellowish-green under the B-2A filter.

Triphenyl tetrazolium chloride (TTC) 4.0% in ethanol to identify the presence of carbohydrates (starches, gums, sugars). Positive reaction color is dark red or brown under the UV filter.

2, 7 Dichlorofluorescein (DCF) 0.2% in ethanol to identify the presence of saturated and unsaturated lipids (oils). Positive reaction for saturated lipids is pink and for unsaturated lipids is yellow under the UV filter.

Rhodamine B (RHOB) 0.06% in ethanol to identify the presence of oils. Positive reaction color is bright orange under the UV filter.

N-(6-methoxy-8-quinolyl)-p-toluenesulfonamide (TSQ) 0.2% in ethanol to mark the presence of Zn in the cast cross-section. Positive reaction color is bright blue-white under UV light.

### **Information Provided by Ultraviolet Light Microscopy:**

When viewed under visible light, cross-sections which contain ground, paint and varnish may often be difficult to interpret, particularly because clear finish layers look uniformly brown or tan. It may be impossible using only visible light to distinguish between multiple varnish layers. Illumination with ultraviolet light provides considerably more information about the layers present in a sample because different organic, and some inorganic, materials autofluoresce (or glow) with characteristic colors.

There are certain fluorescence colors which indicate the presence of specific types of materials. For example: shellac fluoresces orange (or yellow-orange) when exposed to ultraviolet light, while plant resin varnishes (typically amber, copal, sandarac and mastic) fluoresce bright white. Wax does not usually fluoresce; in fact, in the ultraviolet it tends to appear almost the same color as the polyester casting resin. In visible light wax appears as a somewhat translucent white layer. Paints and glaze layers which contain resins as part of the binding medium will also fluoresce under ultraviolet light at high magnifications. Other materials such as lead white, titanium white and hide glue also have a whitish autofluorescence.

There are other indicators which show that a surface has aged, such as cracks which extend through finish layers, accumulations of dirt between layers, and sometimes diminished fluorescence intensity, especially along the top edge of a surface which has been exposed to light and air for a long period of time.

## **Aiken-Rhett House Outbuildings Sample Locations**

Samples Taken March 1 through March 4, 2012, and November 8, 2012 by Susan L. Buck

### **First-floor Kitchen/Laundry Building**

#### Room K101 Kitchen Phase II Sampling

Note: Investigations on-site suggest there was a faux-painted black wainscot in this room, remnants of the black wash can be seen in the NW corner.

K101-II-1. West wall, south door, original door reveal, left side about 4' to confirm Period I woodwork chronology.

K101-II-2. North wall, later door in Period II partition wall, left side, about 4' up.

K101-II-3. West wall, south door, later glazed door, left stile about 4' up. For comparative dating of door.

K101-II-4. West wall, coarse Period I plaster on brick wall, just left of original door opening, about 3' up, earliest washes on rough plaster.

K101-II-5. East wall, plaster above later installation of stew stove, 1858 plaster on circular sawn lath, for comparative dating. Should be comparable to K101-15. Used super glue to keep layers in context.

K101-II-6. North wall, pegrail, 3' from northeast corner. Should be comparable to K101-4.

K101-II-7. North wall, wide board about 3' from northeast corner.

K101-II-8. East wall, 1858 infill right of stew stove (location of former fireplace). Used super glue to hold friable limewash layers together.

K101-II-9. North partition wall, Period II, about 2' from northeast corner and 2 ½' up from floor. To establish Period II wall paint chronology.

K101-II-10. West wall, center window reveal, bar support board, left side, to establish if this is Period I.

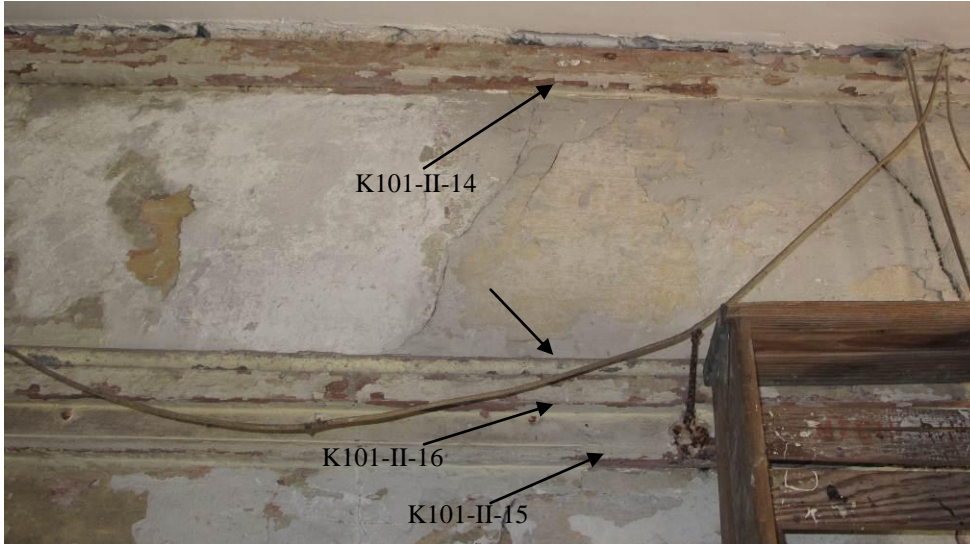
K101-II-11. West wall, center window, lower bar across window to establish if this is Period I.

K101-II-12. West wall, later window sash, use chronology to establish relative dating.

K101-II-13. West wall, short pegrail between doors, is this Period I?

Sampling for gas and water pipe comparative dating.

K101-II-14. Water pipe support board, above south wall door, just below ceiling level, starts with deep red wash on top of wood.



K101-II-15. Pegrail, south wall, just above door, starts with deep red wash on top of wood.

K101-II-16. Board just above pegrail used to support gas pipe and later to support water pipe, on south wall just above door.

K101-II-17. Paint on gas pipe, south wall, above door (surface is corroded). K101-II-18. West wall, paint on gas pipe just above opening where water pipe dropped down.





Room K102 Phase II sampling.

K102-II-1. East wall, SE corner, wooden surround for closet in northeast corner. Period II installation. Sampled to establish chronology for Period II woodwork.

K102-II-2. East wall, SE corner, leading edge of Period II shelf.

K102-II-3. South wall, SE corner, just right of enclosed shelving unit, plaster should have full Period II chronology.

K102-II-4. South wall, SE corner, within below level of shelf.

K102-II-5. South wall pegrail, just left of door opening, at lower bead molding. For comparative chronology on pegrails in this building.

K102-II-6. South wall door architrave, left side, about 5' up, (has blackened charred surface) at existing hole.

K102-II-7. South wall, Period II baseboard, just left of door, for comparison with baseboard believed to be Period I on north wall.

K102-II-8. North wall, Period I baseboard, just right of door opening, to identify original paint and for comparison with Period II baseboard.

K102-II-9. North wall, short pegrail, lower edge. For comparative dating.

K102-II-10. North wall, Period II door opening, left side, about 4' up.

K102-II-11. South wall, upper door of two-part board door, on batten. Can paint tell when this was cut apart?

K102-II-12. South wall, bottom door of two-part board door, on later batten (only two paint generations).

K103 Stair Passage and K103A Vestibule

Note evidence of faux black wainscot in southwest corner of vestibule. Staircase sampled to hopefully determine where it was moved from.

K103-II-1. Staircase, exposed light-colored paint on south side, Period I paint?, where vertical support had been secured.

K103-II-2. Staircase, full paint chronology just left of ghost on south side of staircase.

K103-II-3. Staircase, newel post, is this Period I? Where might this have come from?

K103-II-4. Staircase, added wide board in the middle used in place of former balusters, about 5' up. For comparative chronology.

K103-II-5. South wall, area of Period I plaster trapped below level of landing, which must have been from original privy.

K103-II-6. East wall, riser just below stair landing.

K103-II-7. North wall, at stair landing, coarse early plaster, at wainscot level. Is this Period II?

K103-II-8. North wall, smoother, later plaster, just left of K103-II-7.

K104 North Room

K104-II-1. North wall, plaster infill from 1858?, just left of door which was cut in later, much harder plaster.

K104-II-2. North wall, Period II plaster, just left of infill for comparison (K104-II-6 may be better sample).

K104-II-3. South wall, southeast corner, at crack about 4' up.

K104-II-4. West wall, left of window, narrow white band at top of wall where water pipe support board was positioned.

K104-II-5. West wall, left of window, yellow wash just below former position of water

pipe support board.

K104-II-6. West wall, yellow-painted wall just below K204-II-4. (May be better representative wall samples K104-II-2 and K104-II-5).

## **Second Floor Kitchen/Laundry Building**

### K201 Second-floor South Chamber

K201-II-1. Architrave for fireplace, Period I element from house (check sample K201-3 from earlier research).

K201-II-2. West wall, north window, wooden support for curtain hanger, northwest corner. This goes in before the blue wash on the walls.

K201-II-3. East wall, exposed plaster left of fireplace where the blue paint is visible on the second generation of plaster.

K201-II-4. East wall, seems to be coarse Period I plaster behind position of later mantel shelf. Could there have been a faux painted mantel in this room that predates the wooden mantel?

K201-II-5. Window muntin, top rail, south window (later window as the windows here were not originally glazed).

K201-II-6. West wall, south window, rail between transom and glazed window, is this an earlier element?

K201-II-2. Curtain support in northwest corner re-sampled.

K201-II-7. Picture hook on west wall (iron substrate is corroded).

### K202 Middle South Chamber (no fireplace)

K202-II-1. Plaster with yellow wash on Period II west partition wall, about 4 ½' up. Yellow paint on top of black-painted wainscot.

K202-II-2. West partition wall, window left of door, window frame, right side, about 4' up to establish chronology.

K202-II-3. West partition wall, window left of door, window sash, upper right corner. Establish chronology, possible earlier window.

K202-II-4. West wall board door, left board above bolt.

### K203 Middle Chamber (now painted deep paint)

K203-II-1. Ceiling in southeast corner, large fallen piece of infill in front of fireplace on top of circular sawn lath. 1850s repair. Could the ceiling all date to the same period?

K203-II-2. North wall, pink paint on crude curtain support structure, stile on right side, one piece is circular sawn.

K203-II-3. West wall, on grayish ghost behind position for former curtain support for comparison.

K203-II-4. West wall pegrail, lower edge for comparison of paint chronology.

### K204A South End of Passage

K204A-II-1. East wall, near join of Period II building, faux black wainscot can be seen below peeling paint. There are at least two generations of gray/black wainscoting on the wall. (See K204A-10.)

(You can see an earlier gray wainscot and a later black wainscot on west wall, in K204B, just north of the join of the two buildings)

K204B North End of Passage

K204B-II-1. East wall, plaster wall north of rob window, about 5' up, to search for upper wall and wainscot paint evidence.

K204B-II-2. East wall, plaster wall north of rob window, about 3 1/2' up, at wainscot level. At least two generations of dark gray/black paint are present at wainscot level.

K204B-II-3. East wall, just below rob window.

K204B-II-4. East wall rob window, upper left corner of window frame (early blue paint is present).

K205 North Center Room (Pale Green Room)

K205-II-1. East wall, centered between chimneybreast and south wall, plaster about 5' up. (Compare to K205-2).

K205-II-2. East wall, centered between chimneybreast and south wall, plaster about 2 1/2' up. Could not see black wainscot evidence. (Compare to K205-1).

K205-II-3. West wall, board door, left side, at edge of middle left board, about 5' up.

K206 North Chamber

K206-II-1. South wall pegrail (see sample K206-

K206-II-2. North wall, inserted window, likely in Period III, reveal on left side, to establish the later paint sequence.

K206-II-3. North wall, inserted window, likely in Period III, red paint on exterior of window frame. This red paint was likely applied by Jim Crow as it is on top of a new thin board nailed to the front of the window frame.

K206-II-4. North wall, inserted window, likely in Period III, green on exterior of underside of Gothic arch, left side.

K206-II-5. North wall, inserted window, likely in Period III, back side of louvers for Gothic window.

**First-floor Stable**

First and second floors of the stable sampled to establish the original paint chronologies, and comparatively later coating sequences on added elements. All representative elements sampled to document and compare the paint stratigraphies.

S101 Carriage Bay

S101-1. Original window, south wall, east window (Period I) left side of frame, about 4' up, to establish woodwork paint chronology for original elements.

S101-2. Original window, south wall, east window (Period I) left side of frame, upper left corner of top left pane, lower sash.

S101-3. Original window, south wall, east window (Period I) original exterior window frame paint, left side.

S101-4. South wall, fragment of wall plaster, just abutting left side of east window frame.

S101-5. Big fragment of ceiling plaster a north side of west wall.

S101-6. West wall ceiling plaster at north side of upper ceiling.

S101-7. Board enclosure for Period II stair, north wall, northeast corner (all stair enclosure elements have the same paint sequence).

### S102 and S202 Stair Passage

S102-1. Edge of ceiling accessible from the stair landing.

S202-1. Stair riser, just below top step. Appears to be unpainted but very grimy.

S202-2. South side of stair, painted board along staircase, above lower bead molding, above stair landing.

### S103 Tack Room

S103-1. East wall, crude board wall about 5' up (initially just whitewashed).

S103-2. East wall, harness rack, may never have been painted.

S103-3. East wall, north side of enclosure for stair, finer beaded board on top of rougher board, later installation?

S103-4. On east wall, north side of enclosure for door opening, left side, at outer edge, about 4' up.

S103-5. North wall, northwest corner, framing member for dividing wall, right side of narrow section of board wall, east face, about 5' up (initially just whitewashed).

### S104 Stable

S104-1. Small detached board from underside of stall arch – Period II element (could this have had graining?).

S104-2. Detached long board used to divide stalls (first layer is yellow limewash).

S104-3. Original column, first column from the south end, west face, about 4' up.

S104-4. North end, stair enclosure, board door, right stile, about 4 ½' up.

S104-5. North end, stair enclosure, left side of door frame, about 4 ½' up.

S104-6. North end, west side of board wall, along stair (whitewash first).

S104-7. West wall, stall third from the north, on gray-painted wainscot. There is a deep yellow layer on top of the dark gray wainscot paint.

S104-8. West wall, stall third from the north, on the yellow-painted wall above the gray wainscot.

S104-9. West wall, painted panel above second arch from the south (washes flake away).

S104-10. Ceiling near west wall, above second arch from the south.

### S201 South Chamber

S201-1. South wall, east of east window, Period I deep red wash on coarse plaster.

S201-2. South wall, east of east window, sequence of later washes on top of smoother plaster (used super glue to keep layers together), about 5' up.

S201-3. West wall, Period I louvered door moved from house, half-round molding, right side of louvers (early bright green paint present).

S201-4. West wall, closet surround, right side, below ghost for mantel shelf.

S201-5. West wall, closet surround, right side, on ghost for mantel shelf (is there paint on this area of the shelf?).

S201-6. Back plaster wall of closet, Period II finer plaster (deep red on coarse Period I is exposed at loss above top shelf), above middle shelf.

S201-7. Architrave for fireplace, Period I woodwork from main house, at fluting along bottom edge.

S201-8. South wall, east window, rail below transom window, left side above bead molding.



- S201-9. South wall, east window, architrave left side above bead molding.
- S201-10. South wall, east window, window architrave, left side, at inside edge, about 4' up.
- S201-11. North wall pegrail, lower edge at join with door architrave.
- S201-12. North wall door frame, above angled join on door frame that might have been intended for transom window.
- S201-13. North wall door frame, below angled join on door frame that might have been intended for transom window.
- S201-14. North wall board door.
- S201-15. West wall, north of chimney, about 5' up, possible dark gray related to a painted wainscot.

### S203 North Chamber

- S203-1. West wall, northwest corner, early deep red at large plaster loss, about 3' up. This seems to be the same early deep red found on the south wall of room S201. No evidence of painted wainscot in this room.
- S203-2. West wall, northwest corner, deep yellow wash on top of later plaster (there is a light blue wash below the yellow layer, like in room S201).
- S203-3. Center of ceiling, plaster at edge of big loss.
- S203-4. Plaster wall, northeast corner, yellow paint adjacent to ghost for former shelving unit (it is bare plaster on the ghost). There is blue paint on top of the coarse plaster, below the yellow paint.
- S203-5. Coarse plaster on south partition wall for staircase, first layer is light blue.
- S203-6. East wall, Period I window, south window, right architrave, about 5' up.
- S203-7. East wall, south window frame, left side at join with reveal. How does this paint history relate to the later window sash?
- S203-8. East wall, south window, transom window, left muntin of left pane.
- S203-9. East wall, south window, lower (later) sash.
- S203-10. South wall door architrave, left side.
- S203-11. South wall, board door, left board, about 4' up at edge.

### S204 Hayloft

- S204-1. South end partition wall (orange and yellow washes), about 5' up, left of opening on east side.
- S204-2. North end, rail for stair enclosure, west face of north-south rail.
- S204-3. East wall, south window, painted frame, left side.
- S204-4. North wall, exterior paint exposed on underside of arch, left side.

### Exterior Cornice Fragment

- Cornice-1. Pinkish-red paint at bottom edge.

