

Welsh Color & Conservation, Inc.
Analysis of Historic Paints and Wallpapers

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MICROSCOPICAL PAINT AND COLOR ANALYSIS

PROJECT INFORMATION	CLIENT INFORMATION
Name: Tovar House Location: 22 St. Francis Street St. Augustine, Florida Construction Date: ca. 18 th & 19 th century Style: 2 ½ story Spanish/British Colonial Owner: St. Augustine Historical Society	Name: Susan R. Parker, Ph.D. Company: St. Augustine Historical Society Address: 271 Charlotte Street St. Augustine, Florida Phone: 904-824-2872 Email: sahsdirector@bellsouth.net
<i>Today's Date: 7/8/2013</i>	
DESCRIPTION OF PROJECT	
<p>The Tovar House, so named after its original builder and owner, was constructed in the very early 1700's as a small two story home. Since then it has had multiple owners and occupants, all of whom contributed to its lengthy and complex history of additions and alterations, even up to the present. This history has been researched by several contributors over time, but most recently by Herschel E. Shepard, FAIA. His efforts have contributed significantly to the determinations of this paint analysis project, and vice versa, making both an excellent team endeavor in attempting to ascertain, as best we can, the chronology of changes, and relative ages and coloration of the various architectural components – both wood and plaster – of the existing structure and its evolution.</p>	
SCOPE OF PROJECT	SITE INVESTIGATION/SAMPLING
<ul style="list-style-type: none"> Space: Interior Period of Significance: 18th & 19th centuries Finishes analyzed for composition: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> original <input checked="" type="checkbox"/> later <input type="checkbox"/> none Finishes analyzed for color: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> original <input checked="" type="checkbox"/> later <input type="checkbox"/> none Color system used: <ul style="list-style-type: none"> <input type="checkbox"/> CIE LAB (illuminant C²) <input checked="" type="checkbox"/> Munsell <input type="checkbox"/> none Finishes described by general color name only: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> all, above original <input type="checkbox"/> all, including original Historic documents referenced: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> photographs <input checked="" type="checkbox"/> illustrations <input checked="" type="checkbox"/> written <input type="checkbox"/> none 	<ul style="list-style-type: none"> Sampled by: Frank S. Welsh Date sampled: April 3-5, 2013 No. of samples taken: No. of samples analyzed/reported on: <ul style="list-style-type: none"> <u>74</u> with stereomicroscope <u>3</u> with polarized light microscope (PLM) <u>0</u> with scanning electron microscope <u>0</u> with FTIR <u>0</u> cross-section photomicrographs

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Introduction

The Tovar House, so named after its original owner and first occupant, Joseph Tovar, was built in what has become known in St. Augustine as the First Spanish Period. Records are not clear exactly when the house was constructed, but Herschel E. Shepard (HES) suggests that it was sometime between 1702 and 1740 as a two-story house with one room on the first floor and one room on the second floor. The growth of St. Augustine was linked to the history of the colony of Florida and also was affected the cultural influences brought on by the geo-political struggles between Spain and England. Understanding the history of the Tovar House, its ownership and its architectural development then is associated with the following benchmark dates for the city and the colony:

- The city of St. Augustine was founded in 1565 by Don Pedro Menendez de Aviles as capitol of Spain's colony of La Florida.
- By 1740 the city was a military hub of the region (First Spanish Period)
- In 1763 it was taken by the British (British Period)
- In 1783 it was returned to Spain (Second Spanish Period)
- In 1821 Florida gained statehood

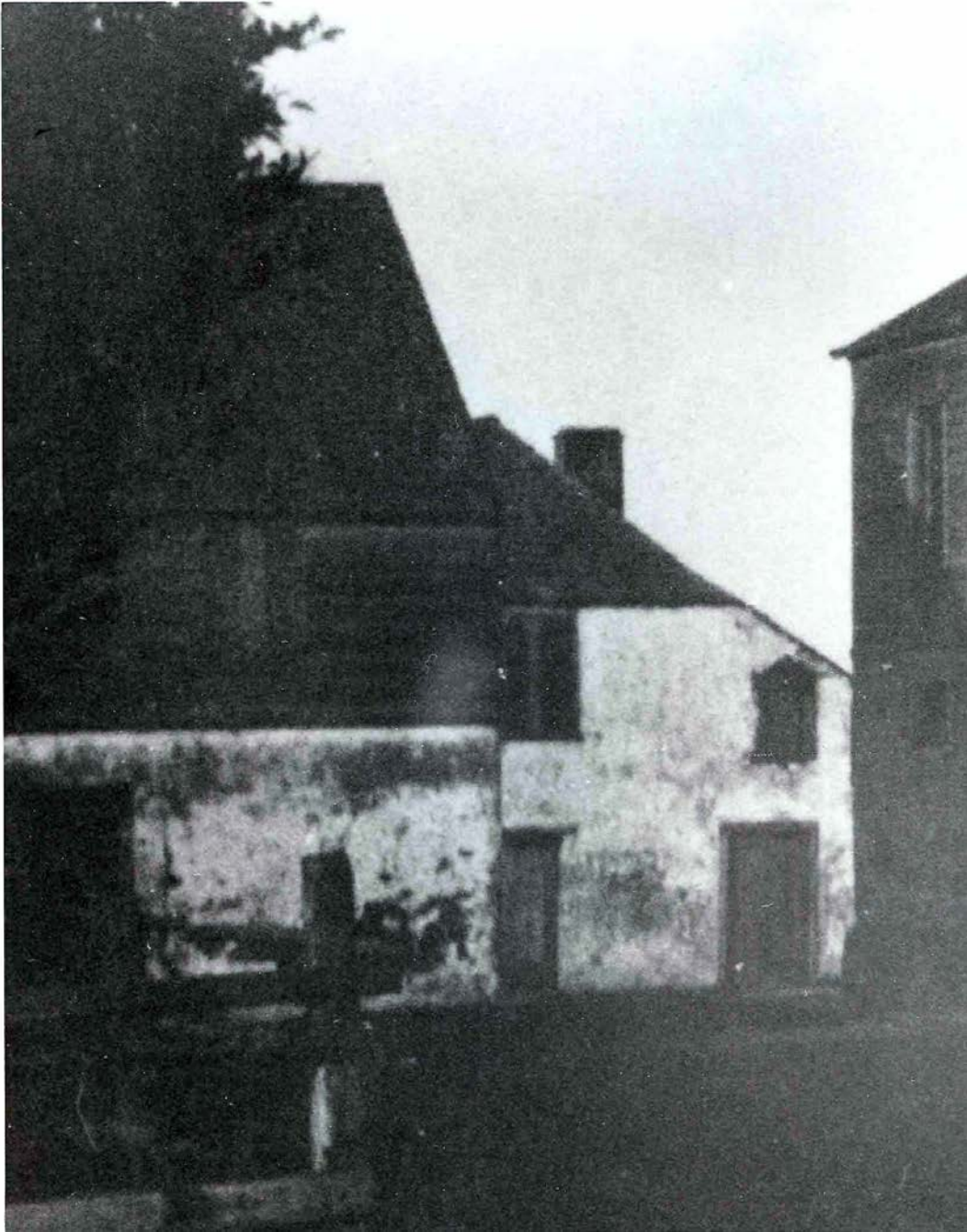
The dates above contribute to the context of the list of residents of the Tovar House as presented and described in the image below that was taken of a panel in the display board developed by the museum for the house.

RESIDENTS OF TOVAR HOUSE THROUGHOUT THE CENTURIES



- 1764 – **Joseph Tovar** is the name listed as the owner of the site at 22 St. Francis Street on a map made by Juan José Elixio de la Puente. The house was taken over by **Jesse Fish** during the British Period, and he sold the house in 1768 to **John Johnson**.
- 1784 – It was turned over to the possession of the king of Spain and occupied by a man from the Canary Islands named **Juan Coruna** and **Tomas Carabello**, and assistant surgeon
- 1791 – **Gerónimo Alvarez**, born in Spain in 1756, acquired the property as well as other properties on the block. He was a baker and storekeeper and held a large portion of property in St. Augustine, making him one of the city's largest taxpayers at the time. Alvarez served as Alcade of the city under the Spanish Constitution of 1812 and as Warden of the Catholic Church. His daughter, **Theresa Llambias** inherited Tovar House. The house remained in the possession of the Llambias family until after the Civil War.
- 1871 – Tovar House is sold to **Mary Francis von Balsam** and a balcony is added
- 1885 – **General M. D. Hardin** leases the house for \$15 a month.
- 1918 – **St. Augustine Historical Society** purchased the Tovar House

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This is the oldest known, 1864 Cooley view, of the Tovar House.

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The image below, from the display board developed by the museum, presents a series of historic images of the Tovar House along with the dates associated with each one. The most striking change in the architectural evolution of the house, as depicted in these images, is between those from 1864/65 and that of from 1919. This major alteration, which took place in the mid-to-late 1800's is the principle period of significance for the efforts of this report.



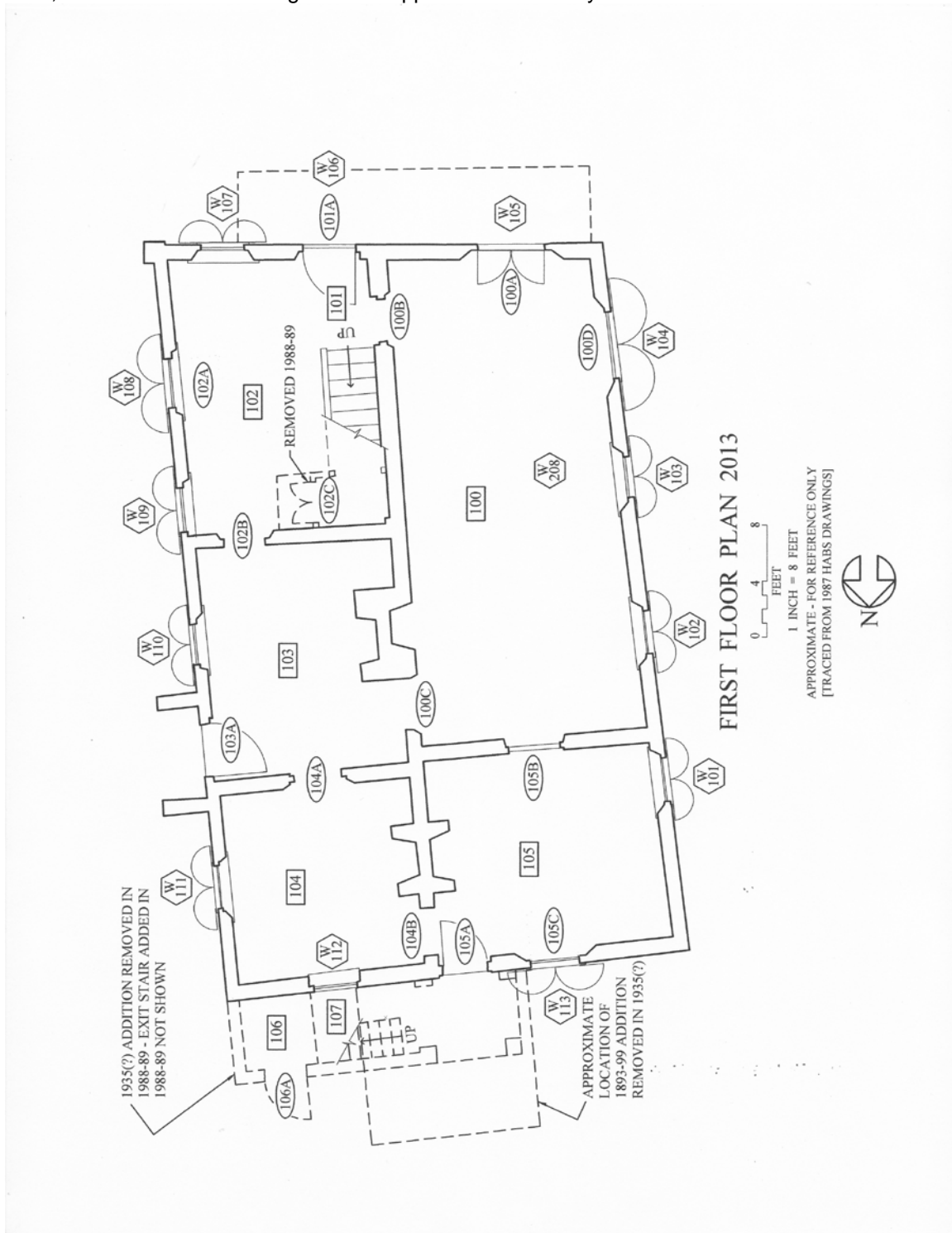
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The images below show the Tovar House as it appeared in the spring of 2013 following repairs, renovations and repainting of the interior and exterior.

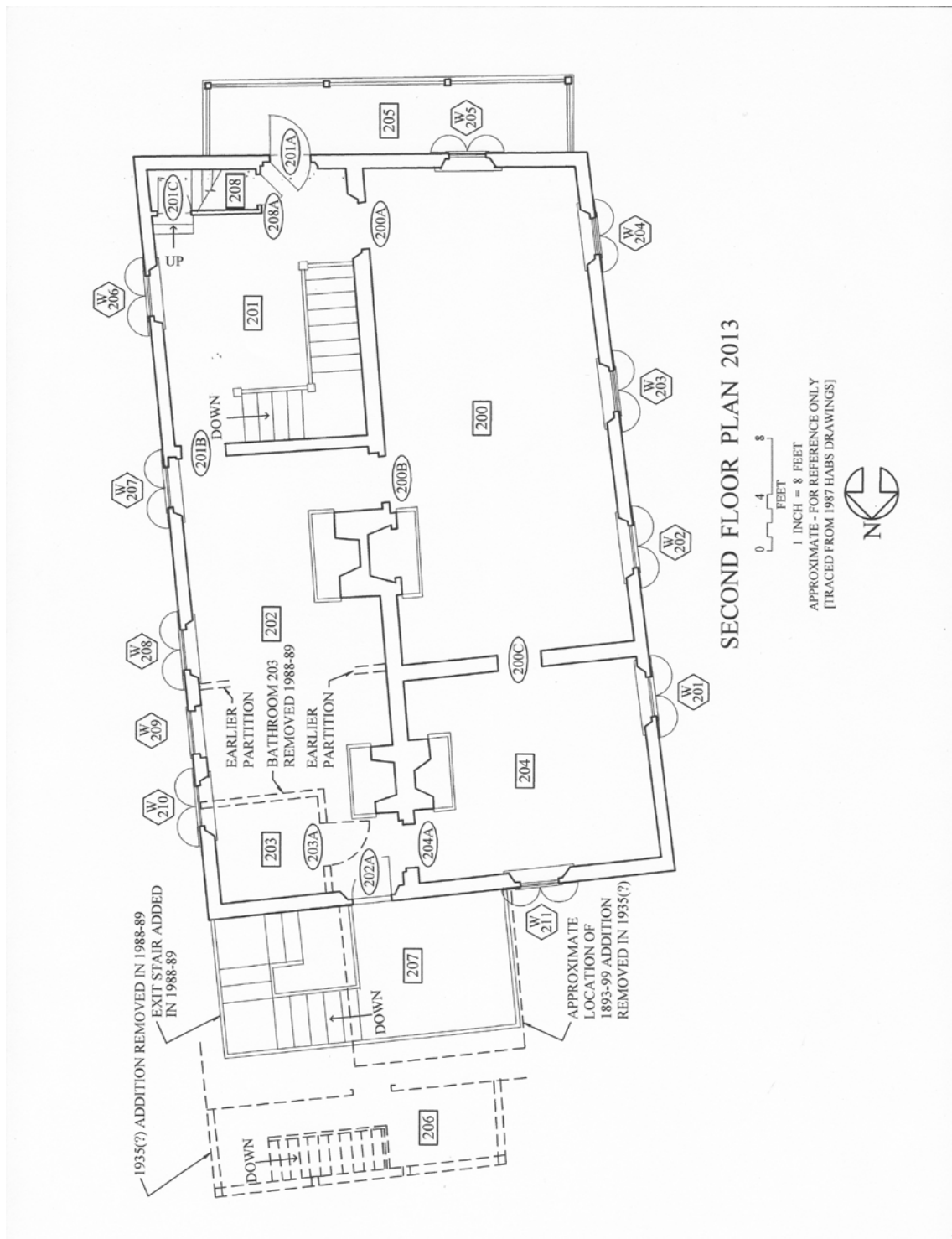


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The first and second floor plans on this page and the next (developed by HES) show the room configurations as they exist today. The room numbers, as well as the associated door and window numbers, are used in the following text and appended Laboratory Data Sheets.



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During the aforementioned 2012 project of repairs, renovations and repainting of the Tovar House, the interior plaster walls were extensively scraped to remove loose and peeling paint layers and layers of later skim coats of plaster. In the process, the St. Augustine Historical Society noticed that a number of room's walls exhibited colored paints that appeared to be early. Hence they did not repaint some of them, choosing to let them remain as is and then to contact us to visit the site to inspect them for interpretation relative to dating, etc. My visit to the house in late January of 2013 was the impetus for undertaking this comprehensive investigation, sampling and analysis of the paints and finishes, not only on the interior's plaster walls but also on the wood and masonry features as well. The intent of the project became two-fold: to help determine the age of the variety of features and also to determine the colors of the paint finishes related to the most significant period(s) of construction and/or alteration(s). The following presents our findings, conclusions and recommendations.

Plaster Walls and Their Associated Paint and Wallpaper Finishes

Our inspection of the plaster walls disclosed that there is no old plaster on the first floor; consequently there are no old finishes to investigate, sample and analyze. Most likely, the walls would have been treated much like those on the 2nd floor where the plaster is old and old finishes exist on it.

The oldest wall finish on the second floor was found on a buried header, behind old plaster on the Room 200 side of doorway 200-B. This old wood header had one layer of white whitewash on it. The plaster that covered it along with the rest of this walls' plaster shows numerous layers of white whitewash.



Room 200, Doorway 200-B, upper right side of frame showing exposure of original header after removal of old plaster that covered it. The wood header shows one layer of very old white whitewash.

In addition to the numerous layers of white whitewash on the old plaster walls there is very good evidence a very low-painted wainscot throughout this room (Room 200). At some time in the 19th century, probably middle years, a black paint was applied to the lower portion of the walls. The top of this black paint did not exceed a height of 20" measured from the flooring. This black wainscot was painted on several times. The black painted wainscot in this room is reminiscent of the black paint on the wainscot of the second floor large room at the Ximenez-Fatio House. My analysis of the black paints there suggests a mid-to-late 19th century date.

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Room 200, Arrows point to vestiges of a ca. mid-19th c. black painted wainscot that extended up to 20" from floor.

In the later part of the 19th century, wallpapers were used in the house. Wallpaper fragments were found in Rooms 202 and 204. The evidence in Room 204 was extensive. A long run of a wallpaper border with pattern survives along the south and east walls of this small room. All of the wallpapers and fragments are made with wood pulp papers. The wood pulp paper was not commercially available before the 1860's. The fragments that survive could be from the Hardin period and/or later.



Room 204, south east corner, large fragments of a c. late 19th c. wallpaper border that was recently revealed when the walls were scraped, thus removing later paints and skim coats of plaster.

There are several colored paints on the walls throughout the second floor rooms. The colors include a light yellow, light blue and a terra cotta pink. They all date to the late 19th century. The pink is actually on top of most of the wallpaper fragments. These colored paints are also on the walls of the later attic stairway enclosure, which is either a very late 19th or early 20th century addition.

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Wood Trim Features and Their Associated Paints and Colors

- **Earliest Wood Features**

The earliest wood trim features are doorways 104-A and 105-B. Both show debatable evidence of dirt on the wood surface that suggests the wood was not painted originally. The wood itself in each feature is dark, unlike the lighter colored woods associated with every other wood feature sampled. The first paint finish on these two features is a moderate reddish brown, oil paint that was made with red iron oxide pigment. There is evidence of dirt on this paint that suggests it was exposed as a finish for a number of years. There is a second finish paint layer of the same color, a moderate reddish brown. This second layer; however, is associated with the mid-to-late 19th century as indicated below. The samples taken from these two doorways are associated with the rooms they connect.



Room 103 looking at doorway 104-A



Room 100 looking at doorway 105-B

- **Wood Trim Associated With Mid-to-Late 19th Century Alterations**

The oldest window frames, heads and sills are contemporary. They were painted originally with two different colors. The frames were painted with a moderate reddish brown, oil paint made with red iron oxide. Both the head boards and the sills were painted with a moderate blue, oil paint made primarily with zinc oxide (zinc white) and Prussian blue pigments. Many samples were taken from the tops of the frames just below the window heads. These samples often showed a splash over of the medium blue onto the moderate reddish brown, indicating they are contemporary with each other. The use of zinc white in the medium blue paint is useful for dating the paints. Zinc white was not commercially available before the 1850's. Many doorways and doors also show the same moderate reddish brown that is on these mid-to-late 19th century windows as the first paint finish. Several windows appear to be just about as old, but there is no moderate reddish brown paint on them. One is window W 208. Refer to the appended Laboratory Data Sheets to see which windows and doorways have these mid-to-late 19th century finishes. Most are on the second floor.

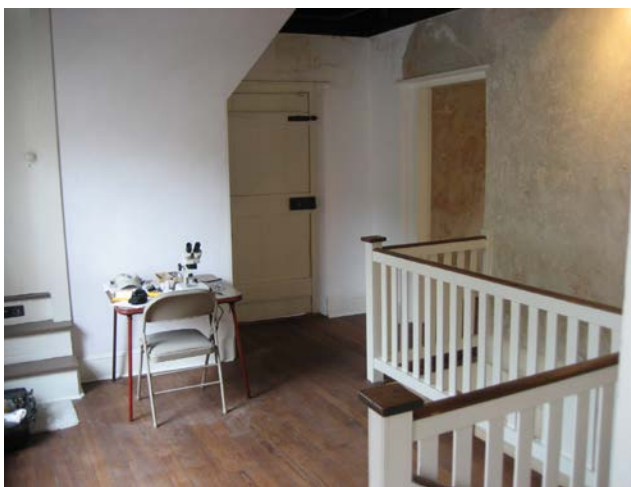
The contemporary colors that would have been used on the window sashes are not known since the existing sashes in these openings are slightly later. (See below.) Additionally the contemporary coloration on doors and baseboards is also unknown as these features also do not exist or have been replaced with newer ones, i.e., the present baseboards are very recent. It is probably safe to assume that the plaster walls were whitewashed white at the time these mid-to-late 19th century windows were installed.

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Most windows and some doorways date to the mid-to-late 19th c. Most are on the second floor. Those that are show the polychrome scheme of moderate reddish brown on the frames with medium blue on the head boards and sills. The color of the window sashes at this time is unknown since the existing 19th c. sashes are slightly later than the frames.

In addition to the windows and some doorways, the staircase fascia boards and the balustrade were painted in the same polychrome scheme using the moderate reddish brown on the newel posts, newel caps and the caps of the handrails while the upper and lower rails and the balusters were painted with the medium blue. Several fascia boards were painted moderate reddish brown and one was painted medium blue. Refer to the samples 201-9 and 10 in the appended Laboratory Data Sheets.



The mid-to-late 19th century staircase balustrades and fascia boards also were painted in the same reddish brown and medium blue polychrome scheme as the windows

The oldest window sashes in the polychromed mid-to-late 19th century windows are later than the frames themselves. They were painted white originally. This white oil paint was also made primarily with zinc white pigment. The white paint on these older sashes shows up on the majority of the window frames, heads and sills two and sometimes three paint layers above the original moderate reddish brown and medium blue paints. This layer structure suggests that the sashes are approximately 20 years later than

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their frames, i.e. late 19th century. The profiles of these sashes are very similar if not identical to the ca. 1870 sashes found in the 1870's St. Simon's Lighthouse Keeper's Dwelling in Georgia.

In addition, the frame of doorway 202-A shows a potential graining finish that has as its ground coat a white paint that also is made with zinc white. This zinc white paint may be contemporary with the zinc white paint used on the window sashes, suggesting that this doorway may also be late 19th century in origin.



Typical late 19th c. sashes in window 205



Doorway 202A may also date to the same time as the typical late 19th c. window sashes

Masonry Features

The Hardin period mantelpiece in Room 200 and the shelf in Room 204 have been stripped of all paint layers. However, there is trace evidence remaining on both of an original black resinous coating that suggests both features may have been marbled, which is an imitative painting practice typical of the mid and late 19th century for masonry mantels. Often the raised surfaces of such were embellished with gold bronze paint, but because of the paint removal, we could not ascertain whether or not this was done on the large mantelpiece, but it is a possibility.



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Two examples of late 19th c. marbled masonry mantelpieces. On the left: Hardman Farm in Helen, Georgia. On the right: the Visiting Flag Quarters at the Navy Yard in Washington, D.C.

Ceilings

Several samples taken from early joists in the first floor show a heavy dirt/soot/grime build up on the wood surface that now appears to be very black. This evidence suggests that the ceiling wood features were exposed for many years. There is no good evidence to accurately analyze for determination of when and how they were first painted.




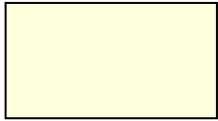
The image below is from one of the sign boards prepared by the museum. The quotations refer to General Hardin and the appearance of the rooms including the ceilings in the house.

"One of the prettiest parties given in this city, in recent years, was the ball given by General M.D. Hardin, in honor of his guests, Shrove Tuesday night. The quaint old house at the General's, one of the oldest if not the very oldest, has been repaired and made thoroughly comfortable without changing any of its distinguishing features, consequently the long room used for dancing had bare time-stained rafters, plain white walls, and the bare floor was dark with age. The other rooms and quaint old staircase are just as built three hundred years ago. These rooms were tastily decorated with palms and ferns, adding to their quaintness . . ."

"... At 11 the guests were ushered into the quaint old dining hall with stone floor, rafters black with age, old time mantel, where rows of candles were placed, improvised shelves around the room holding other candles that gave the prettiest light. . ."

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This table presents the colors of the significant periods described above on the wood features. The white wash color, i.e. white is not presented as it is plain white that has a Munsell value of N 9.5/.

SIGNIFICANT PERIOD PAINT COLORS				
Room and Feature Painted	Paint Color, Type and Reflectance	Pigments Identified	Munsell Color Reference Values:	Color Sample
Earliest Paint Finish on Oldest First Floor Doorways				
Doorways 104A and 105B	Moderate Reddish Brown Oil Semi-Gloss		7.5 R 3/4	
First Paint Finishes on Mid-to-Late 19 th c. Window and Door Trim				
Window Frames	Moderate Reddish Brown Oil Semi-Gloss		7.5 R 3/4	
Window Heads and Sills	Medium Blue Oil Semi-Gloss	Zinc White Prussian Blue	7.5 B 6/4	
First Finish on Late 19 th c. Double Hung Window Sashes				
Window Sashes	White Oil Semi-Gloss	Zinc White	5 Y 9/0.5	
Note: White whitewash color was N 9.5/. The color of many window trim features with the late 19 th c. white sashes was also the same white as the sashes.				

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Conclusions and Recommendations:

For details about the features sampled and analyzed and the paint layer structure on each, please refer to the attached Laboratory Data Sheets in conjunction with the floor plans of the house on pages 6 and 7 above.

With all of the architectural changes and alterations that have taken place at the Tovar House over such a lengthy period of time, it seems that it would be extremely difficult to interpret the entire house at a particular historically significant period. If the choice is made to interpret one or two period colorations and finishes, one might consider choosing to do so with only one room on each floor, i.e. one 18th c. room and one mid-to late 19th c. room. If this possibility is seriously considered, we would be pleased to assist in the process. Some of the obstacles that we could help sort out using the lab data may include (for example in Room 200): how to interpret the Hardin mantelpiece, whether or not the walls were papered when it was marbleized, and the color of the trim at this time, etc.

Also, priority should be given to the preservation of the wall paper evidence found in the second floor rooms.

The small color samples attached to this report should remain with the report. If larger color samples are required for any reason, please contact us so that we can provide them.