

**Paint at Fort Vancouver National Historic Site:
Historical and Archaeological References for Interpretation
and Reconstruction**

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Purpose of Report

The evidence for painted interiors in the buildings of Fort Vancouver National Historic Site is based both on historic accounts and archaeological evidence. Since the original post burned in the 1860s, there are no original structures from which to collect paint samples and know for certain the sequences of interior decoration. However, site-specific historic accounts, comparisons with other Hudson's Bay Company posts, and paint residue on artifacts all contribute to the evidence for painted interiors at Fort Vancouver.

The goals of this report are to collect the known historical and archaeological resources for paint use at Fort Vancouver, as well as to document the decision-making process which underlies the painting of reconstructed building interiors at this site. Due to deficiencies in the data concerning interior arrangement and decoration of most buildings, educated guesses were made to complete furnished interiors. This report will serve as a record for these recommendations and the information on which they were based.

This report will also provide a critique of earlier recommendations made by historians and archaeologists involved with activities at the site, based on current research and paint analyses.

Historical Evidence

Paint Manufacture and Use in the Nineteenth Century

Three books were reviewed for this section: Architectural Color in British Interiors 1615- 1840 and its companion volume Interior House- Painting Colours and Technology 1615- 1840 by Ian Bristow, and Paint in America: The Colors of Historic Buildings edited by Roger W. Moss.

Although it is questionable how much the inhabitants of Fort Vancouver followed the developments in painting occurring 3000 or 8000 miles away, these references can give some idea of the general trends of interior decoration and use of color during the 19th century. The first book, Architectural Color in British Interiors 1615- 1840, provides an overview of the general philosophies and shifts in preferences during this time period. Specific colors came to be associated with certain room functions. “Strong ideas quickly emerged in the matter of the association of colour with the character of rooms for different purposes...” (158) For example, libraries, picture galleries, and other areas for academic or artistic pursuits were often painted red, crimson, or a related hue. In bedrooms, light colors were generally recommended, especially if they were north facing. Ceilings were almost always white or a similarly light color. And in certain situations, where specific colors are not mentioned, a certain emotional feel is still prescribed, for example “... the vivacity of drawing rooms against the classicism of the dining room.” (201)

At the same time, “... there is little evidence to suggest that there was [a]... concept of colour harmony in a modern sense.” (158) Often color combinations were used together that, to a modern eye, clash or compete. “It was also common for a differing tint of the same or a nearly related colour to be used...” (218) Often white or differing tints were used below a chair rail to provide a contrast with the main wall color. In general, the 19th century was a period of transition from vivid colors, often unmixed pigments, to more complex and subtler variations such as fawn, buff, lilac, etc. The other main trend was towards dark reds and blues reminiscent of the colors used at Pompeii and other classical sites.

While on the continent the fashion began to turn towards these classical and subtle paint colors, in Britain it took longer for these to come into vogue. “... the white architectural framework seen during the latter half of the eighteenth century remained in use in many situations.... As late as 1813... in England dead white was still in vogue...” (216) Doors were most often left as varnished wood, “...although doors by this date [1801] were also often painted white.” (161) Even when the new fashions took hold, it was mainly in the rich halls and houses of titled families.

Conservatively, it is safe to assume that since 19th century England in general was delayed in accepting the trends that elsewhere took hold earlier, its far outposts would have been even further behind the fashions reported in this resource. The officers at Fort Vancouver would have retained older styles longer, preferring flat white woodwork and vivid wall colors into the mid- 19th century.

The next resource, Interior House- Painting Colours and Technology 1615- 1840, answered several questions about the nature of imported paint and its methods of use. Common pigments were purchased at ‘colour shops,’ either in a powder or a paste form, which was later diluted further with oil. Paste could be stored in containers and kept from the air by a top layer of oil, but powder was easier to store and transport. “Each circumstance would provide a sound reason why procurement in paste form was to be avoided, otherwise, ground pigments could be kept for many years.” (94) Thus the paint imported by the Hudson’s Bay Company was almost assuredly in a dry form, and made into a paste with linseed oil when needed.

The mixing of pigments was a complex science with a great tendency to failure among the inexperienced. Many combinations of pigments were not successful, and created fugitive colors which did not remain true. “Above all, historic colour- mixing was not simply a question of taking the first pigments to hand, but an art which required application, experience, and an eye to economy if success was to be achieved.” (144) For these reasons, colors were most likely not mixed at Fort Vancouver, and the pigments that were imported remained the end colors. Component pigments, such as the Prussian blue and bright yellow which compose the medium green found on site, were not used independently unless they too were imported as individual dry powders.

A preference for matte paint had prevailed since the 1740s, almost universally, and so it is not expected that any gloss would have been added to pigments used at Fort Vancouver. Paint was applied, usually in three coats, by hand with round or, less frequently, rectangular brushes.

The book Paint in America: The Colors of Historic Buildings provides useful information about paint analysis, but mainly addresses colonial American tastes. Its applicability to Fort Vancouver is questionable. However, one of the useful references is to the large dining room at Mount Vernon. Although substantially earlier than Fort Vancouver, this room is painted the same medium green as that found archaeologically at the site of the Chief Factor’s House and Kitchen at Fort Vancouver.

In sum, the 19th century saw a shift in color tastes from vivid to more subtle colors that required greater skill in pigment preparation and mixing, as well as a penchant for classical colors which mimicked sites made newly famous by

archaeology. Though a preference for flat white woodwork still prevailed in certain areas, designers were also beginning to use the new off- white, and in some cases even more striking colors, to highlight architectural features as well. Because the location of Fort Vancouver created not only a separation from British cultural trends but also removed it from paint suppliers and their advances, as well as the fact that the post was low in economic status compared to many English structures, it is expected that older tastes prevailed longer into the 19th century at the site.

Paint Use at Hudson's Bay Company Posts

Several historical accounts document the use of paint at Hudson's Bay Company (HBC) sites contemporary with Fort Vancouver. Specific hues are of course not known, but paint colors overall would have been comparable to those at Fort Vancouver, as a limited set of colors were imported to the supply depots of York Factory and Fort Vancouver before being distributed to subsidiary posts.

The Letters of Letitia Hargrave describe the interior of the Hargrave house at York Factory in 1840, probably the post most comparable to Fort Vancouver in its size and administrative reach. " I wrote Mama that all the rooms were painted green. It is only however in our house as Harg^{ve} thought it good for the sight!! The bedroom is painted pale blue with a wainscoting color of indigo." (74)

The appendices of The Men's House, Lower Fort Garry inventory includes the articles in use for the Men's House in 1839. The headings list both a "Blue Bed Room" and a "Green Bed Room." At the Upper Fort Garry Dwelling House a "Yellow Bed Room," a "Blue Bed Room," and a "Green Bed Room" are all referred to in the inventory for the same year.

Paul Kane's account in Wanderings of an Artist describes the dining hall at Fort Edmonton. "The walls and ceilings are boarded, as plastering is not used , there being no limestone within reach; but these boards are painted in a style of the most startling barbaric gaudiness, and the ceiling filled with centre- pieces of fantastic gilt scrolls." (262) Though he does not mention the specific colors used, one wonders if this hall could have compared to the mess room at Fort Garry, as recounted by Ballantyne in The Young Fur Traders: "The floor was of unpainted fir boards. The walls were of the same material, painted blue from the floor upwards to about three feet [likely below a chair rail], where the blue was unceremoniously stopped short by a stripe of bright red, above which the somewhat fanciful decorator had laid on a coat of pale yellow; and the ceiling, by way of variety, was of a deep ochre." (266) Obviously, eye- catching color combinations were at times employed to great effect.

In Hudson's Bay, Ballantyne describes his quarters at York Factory. "The walls were originally painted white..." (146) The winter mess room, in contrast, is highly decorated, and although he does not mention a color scheme he hints at the powerful effect painted rooms could have on those not accustomed to colored interiors. "...the painting of the room had been executed with a view to striking dumb those innocent individuals who had spent the greater part of their lives at outposts..." (160)

Hussey in Historic Structures Report, vol. I, provides comparative evidence for architectural styles at HBC posts. "It evidently was common practice at Company posts to have wainscoting or at least a chair rail about the lower portion of the walls in the principal rooms," and refers to interiors at Fort Simpson, Lower Fort Garry, Fort William, and Moose Factory. He states that room finish changed little over a century, further lending support to the idea that HBC posts were conservative in interior decoration and not quick in adopting new fashions.

In order to provide additional documentation on historic paint colors used in Hudson's Bay Company buildings of the 1840s, David Hansen, Fort Vancouver Curator, contacted Virginia Lockett, a Parks Canada curator in Manitoba. She in turn contacted the collections manager at Lower Fort Garry National Historical Park, Manitoba, regarding the interior color of the Big House at Lower Fort Garry. The Big House at that site is the only extant Hudson's Bay Company manager's residence in North America and was restored in the 1960s/1970s. The sitting room and the dining room of this house are painted green. According to Virginia Lockett, the current "dark green" colour was based on the analysis of original plaster obtained from the walls of the Big House. In some cases up to 14 layers of paint were identified. Wood trim was also analyzed for original colors, which apparently was a grey rather than a gloss white, the present color of the trim. The records pertaining to the restoration of the Big House and the paint analysis are in Ottawa. The methods of analysis are not known at this time.

Paint Use at Fort Vancouver

Quantities of paint were imported annually to Fort Vancouver. During the spring of 1844, for example, the list of goods remaining on hand lists black, blue, Spanish brown, green, white, and yellow paint. Similar colors are listed on inventories for other years, with the addition of red and Dutch Pink (which despite its name is actually a yellowish color). Unfortunately, inventories do not refer to any colored rooms as was sometimes the practice at other posts, and there are few historic references to interior paint at Fort Vancouver. Given the generalized descriptions of pigments listed on the inventories, as well as the inconsistency of pigments during this time period, it is possible that hues varied from shipment to shipment though the main color labels remained the same. As with certain ceramics, it is likely the HBC ordered in general terms and accepted what was sent.

The accounts from other posts show that it was the general practice for only buildings of status, centers of Company business, such as offices, mess rooms or the dwellings of Chief Factors and Traders, to be painted on the inside. Commonly the decoration of personal quarters, including paint, was at the expense of the inhabitant. We can assume that this trend was followed at Fort Vancouver as well, making the Chief Factor's House and Counting House the prime candidates for interior painting. Referring to the Chief Factor's House, in Historic Structures Report, vol. I, Hussey states that "... it is very probable that the two chief factors had the work done at their own expense, since the Company took a dim view of such frivolities." (132)

The Chief Factor's House was almost assuredly painted on the interior, at least partly, before its abandonment in 1860. Whether or not it was painted in 1845, the period of interpretation at the historic site, is uncertain. Hussey includes two accounts prior to this year that describe the residence. Thomas Farnham said that in 1839 the dining hall was "ceiled with pine above and at the sides." (131) The inventory of 1846- 1847 describes the manager's residence as being "lined and ceiled," but does not mention color, if there was any. (ibid.) In 1866, however, Lloyd Brooke testified that he believed the interior of the Chief Factor's House was "painted and [wall]papered at least between 1849 and 1860." (132) Since conclusive data for the crucial year, 1845, is lacking, it is possible that the interior was painted while McLoughlin was still in command.

There is no direct evidence for a painted interior in the Counting House / New Office at Fort Vancouver. One historic account may refer to decoration here. In the papers of the British and American Joint Commission, as recorded in Hussey, J. W. Nesmith said of McLoughlin's House and the office [it is unknown whether he referred to the New or Old Office]: "They, I think, were ceiled and painted." (255) Comparison with other HBC posts, though, provides good evidence for paint in offices and accounting areas.

Archaeological Evidence

Archaeology provides the best support for paint use at Fort Vancouver, as well as data on specific pigments. The majority of artifacts with remaining paint residue come from the site of the Chief Factor's House. When the area was excavated in the 1970s, Hoffman and Ross reported various instances of painted objects, including brick and wood in their report Fort Vancouver Excavations, Vol. IV Chief Factor's House and Kitchen:

Other collapsed and out of context fragments were located immediately west of the collapsed chimney foundation. These consisted of thin, elongated wooden pieces that resembled laths.... Primary significance of the fragments was that they lay below the brick rubble of the collapsed chimney and retained traces of variously colored paint. The painted pieces are the only wooden archeological [sic] remains that we would attribute to the interior walls of the House. (44)

It is significant that, in theory, the only recovered remains of interior walls all have paint residue. Though the archaeologists refer to various colors of paint, recent analyses has shown that most are deteriorated versions of the same original medium green. Fragments of imported English brick, the remains of the chimney, also had traces of paint on them. "...we noted that 375 specimens of this brick retained pigments of 8 identified colors. On 164 specimens, the pigments are double-layered, indicating repainting of the brick.... We deduce that they only purpose in painting this brick was to esthetically [sic] improve a chimney exposed at the interior of the house." (163) Though their pigment identification is problematic, the important point is that a large number of brick remnants, within this collapsed chimney feature, were painted.

One particular brick has 2 colors of paint separated by an unpainted strip about 1 ½ inches wide. We interpret this item as a facing brick for the chimney that was exposed in 2 different room, the mess hall and the office... the two predominant colors found on the facing brick were a soil-stained white, or in the yellow- green range. (169)

This artifact provides the main evidence for paint in rooms additional to the mess hall. Unfortunately, analysis on the original pigments was not conclusive, which will be addressed in detail later. The evidence from Hoffman and Ross offer good support for the Chief Factor's House interior having been painted in the principal rooms.

Painted artifacts have been found in small quantities in other excavations, namely at the sites of the Indian Trade Shop, the Fur Store, the east stockade line, the flagstaff, and the Counting House. However, archaeological evidence for painted

interiors is not strong except at the site of the Chief Factor's House. For more information, see the specific excavation reports.

Paint Analysis

Other paint samples have been excavated from the Fort Vancouver site, on wood and brick artifacts as well as in paint globules. A complete description is attached as Appendix A. The vast majority are from the Chief Factor's House area, though some have been found at the sites of the Indian Trade Shop, the Flagstaff, the Fur Store, the Stockade, and the Counting House. The National Park Service's Northeast Conservation Branch (NBCB) in Lowell, Massachusetts analyzed thirteen of these samples in 2001- 2002. For more details, two reports are available: [Paint Analysis, Chief Factor's House Mess Hall](#) and [Paint Analysis, Chief Factor's House](#). These analyses answered many of the questions about the original hues, before reactions with soil during their time of burial changed the colors visually. The report from the NBCB provided Fort Vancouver with eight historic colors that could theoretically be used for reconstructing building interiors. Munsell color samples for each are included as Appendix B. The following chart outlines the artifacts analyzed, the structure with which they are associated, and the result with a Munsell notation.

Sample	Catalog No.	Object	Provenience	Result
1	7836	Brick	Chief Factor's House	Medium Green 7.5G 6/8
2	7837	Brick	Chief Factor's House	Medium Green 7.5G 6/8
3	7839	Brick	Chief Factor's House	Medium Green 7.5G 6/8
4	7841	Brick	Chief Factor's House	Medium Green 7.5G 6/8
5	7842	Brick	Chief Factor's House	Medium Green 7.5G 6/8
6	7843	Brick	Chief Factor's House	Beige 10YR 8/4
7	9674	Paint	East Stockade	Medium Green 7.5G 6/8
8	11230	Paint	Indian Trade Shop	Dark Blue 2.5PB 4/10
9	11231	Paint	Indian Trade Shop	Orange Red 7.5R 5/14
10	35777	Wood	Counting House	Cream and Vibrant Blue 10YR 9/2 and 10B 5/10
11	44133	Paint	Flagstaff	Cream and Vibrant Blue 10YR 9/2 and 10B 5/10
12	103232	Wood	Chief Factor's House	Brick Red 8.75 R 4/12
13	135435	Paint	Counting House	Bright Yellow 6.25Y 8/12

The first five bricks were chosen to represent a range of colors, as perceived by the naked eye, including yellow- green, blue, and green. As the analysis shows, all proved to be originally the same medium green. The current color variations are due to differing chemical reactions with soils. The brick artifact mentioned by Hoffman and Ross, which had two different colors on the respective ends, is Sample 4. One end had the omnipresent medium green. Unfortunately the paint on the other end was so deteriorated that the NBCB staff was unable to ascertain the original color. Visually it appears an off- white. However, it seems reasonable to conclude that the Mess Hall and the McLoughlin Quarters or Office were indeed painted with different colors.

The cream and vibrant blue found at the site of the Counting House were layered on one piece of wood, perhaps showing change over time. There was also an initial varnish treatment under the paint, as well as over the cream layer.

There are several colors referenced in the reports that are component pigments forming the end color, or are the result of fading or chemical reactions with soil. These should not be considered original colors. A quick read of the reports can be misleading, as component pigments, historic colors, and their modern counterparts are all referenced in the appendices.

Record of Decisions for Painted Interiors in Reconstructed Buildings

Based on comparisons with other HBC sites, the most common practice was for business centers (i.e. official Company areas) to be painted, along with personal quarters of head officers who were wealthy enough to pay for the supplies themselves. Thus at Fort Vancouver, the Chief Factor's House and the Counting House are the best candidates for decorated interiors. The Old Office and all or part of Bachelor's Hall are other possibilities, but require additional historical and archaeological research.

Several standards of use and application were decided upon in staff meetings that affect all painting projects at Fort Vancouver:

Following the trends in both English dwellings and buildings at other fur trade posts, it was decided that all architectural framework will be painted in a flat white. This includes door and window moldings, chair rails, and ceilings. Doors will be left unpainted and varnished, reflecting one of the most widespread fashions of the time. Floors will also be left unpainted. There was considerable discussion over the type of paint that would be used. For cost reasons, environmental concerns, and ease of application and replacement, a latex paint was chosen over an oil- or milk- based paint. All paint is to be completely flat and applied by hand, as is proper for the period of interpretation. Three coats will be applied to all surfaces for true color. Other decisions specific to certain rooms will be discussed below.

The Chief Factor's House

There is strong archaeological evidence for a medium green color within the Chief Factor's House, and it is most probable that it originated in the Mess Hall. Green was by far the largest sample of paint by volume, and the Mess Hall was likely the largest room within the building. In addition, the painted brick artifacts came from a collapsed chimney, one face of which was almost certainly in this room. This medium green, 7.5G 6/8, has been used in the Mess Hall with a white trim appropriate to the time period.

Additional colors found archaeologically at the site of the Chief Factor's House include a beige (10YR 8/4) and a brick red (8.75R 4/12). Since the brick red was found on the east side, under the historic location of the Douglas quarters, it was decided that these quarters would be painted red with white trim. Such a red represents, interpretively, the aforementioned "classical" colors newly popular during this time period. The beige will be used for the McLoughlin quarters and office, again with white trim. Beige will represent the more subtle colors that were

complex and expensive to mix, and so fashionable in the 19th century. The formulas for the replicated colors are as follows:

Green	=	A- 192, B- 8, D- 672, W- 72 P/G T/M (Pittsburgh Paints brand 104- 6 Clover Hilltop)
White	=	Benjamin Moore brand Linen White
Beige	=	L- 62, SS- 20, C- 216
Brick Red	=	RD- 9X, OY- 4X, GY- 16 PG

The only change made with the painting of the quarters is that the area under the chair rail will be the same color as the main section of the wall, rather than white as in the Mess Hall, to demonstrate this style as a historically appropriate option as well.

The choice and use of colors for the respective quarters and office is conjecture based on archaeological and historical evidence, as was the interior arrangement for the Chief Factor's House in general.

The Counting House

Paint samples obtained from the Counting House were determined to consist of three colors: cream (10YR 9/2), vibrant blue (10B 5/10) and bright yellow (6.25Y 8/12). However, the bright yellow came from a feature that post- dates the Hudson's Bay Company era. The cream and vibrant blue will be used in combination for the main accounting room and the area representing Captain Baillie's quarters in the reconstruction, though the exact arrangement of the colors has not yet been finalized.

The third room, where the interactive exhibit will be installed, will be painted with various samples of colors obtained from the paint analysis overall to illustrate the variety of colors used historically within the Fort. An interpretive panel explaining the choice of colors, based on archaeological and historical perspectives, will be included in the exhibit.

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**Appendix A:
Artifacts Analyzed by the Northeast Building Conservation
Branch**

**Appendix B:
Munsell Color Samples for Historic Paint Choices**

Munsell	Color Sample
Medium Green 7.5G 5/8	(see library copy of report)
Beige 10YR 8/4	
Dark Blue 2.5PB 4/10	
Orange Red 7.5R 5/14	
Cream 10YR 9/2	
Vibrant Blue 10B5/10	
Brick Red 8.75R 4/12	
Bright Yellow 6.25Y 8/12	

