



# White Star Buff: Weighing the Evidence

by Art Braunschweiger

*This article was originally written for the website of the Titanic Research and Modeling Association In October 2004.*

The most debated Titanic color of all, without question, has to be the lower funnel color dubbed White Star Buff. Not quite one color or another, with barely discernible hints of one or two others, it's a color that defies easy description let alone replication. It has been debated intensively over the years within TRMA, with no general agreement having ever been reached as to the "true" White Star Buff. In looking at the evidence, though, one color predominates within a general range. This article discusses the colors under consideration, what the best candidate may be, and what choices are open to the modeler.

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It should be obvious that there can be only one color for what we now call White Star Buff. The challenge is deciding which one, because no direct evidence exists. No paint sample has ever been recovered from *Titanic's* wreck, nor from any other White Star ship, and no mixing formula has ever surfaced from Harland & Wolff. We are limited to looking back into history through various windows of opportunity, and evaluating what we see.

There are certainly no shortage of illustrations of White Star liners. We have many postcards depicting the Buff color, plus White Star advertisements. Three illustrations are shown below, and they're a good example of the variation in color that has persisted over the years. A range between the left and center photos is what's most favored by the evidence and the experts, yet the color on the right has outnumbered all others in the Titanic modeling world by almost 5 to 1. (*source – TRMA finished model photos*). But as we'll see, for modeling purposes there may actually be a wide range of acceptable colors. If this sounds contradictory it's not. Read on.



**Perhaps** the world's foremost expert on *Titanic's* colors is artist Ken Marschall, whose stunning paintings have brought the ship to life better than any others. Ken has devoted a lifetime of study to the subject, and favors a browner shade:

*"The color is described in period journals as everything from "buff" to "tawny brown," to "flesh." The paint formula I supplied for the original Entex Industries 1/350 kit instructions is too light, I now believe, and a bit too "peachy." I think it should be darker and a bit more brownish . . . (not) too yellow or mustard yellow, as my painted funnels often look in books (see p. 70 of Illustrated. History!). For some reason the color often goes lemon-yellow, even chartreuse, when published . . . For a few samples of some decent color, see pp. 54, 60-61, and 67 of the new book Art of Titanic." (From an undated article on the Titanic Research and Modeling website entitled " Ken Marschall answers some of the Association's hardest questions" )*

Below is a color sample matched as closely as possible to the color in the above-reference illustrations. It also matches well to Ken's description:



One of the most compelling arguments for this shade is the builder's model of *Olympic*. It survived both World Wars in England, and still exists today. The color on the funnels is very close to what's shown above, although it's unknown if either was ever repainted or what effect any cleaning or restoration may have had on the paint.

However, as seen in print today, White Star Buff also appears as various shades of a hue with more of a yellow tint, all the way across the spectrum to this color:



The challenge, then, is deciding which is the more accurate. For historians, it's an interesting but academic question - but for a modeler, it's a much more critical one. Few colors on the ship are as noticeable, or make a bigger visual impact than the funnel color.

One important point: White Star Buff was not "yellow". No expert or historian has ever suggested this. Unfortunately, this belief still persists, and there is a great deal of misinformation that perpetuates this belief. The box top illustration on some *Titanic* kits depicts the funnel color as lemon yellow. Some advice, both in print and on-line, recommends a mustard-yellow color. Small wonder, then, that the majority of finished models - including those displayed on the TRMA website - end up with yellow funnels, all of which contribute to this misconception. Finally, be careful of names, because they stick. White Star Buff is not an easy color to describe. No color within the range discussed is easily labeled, and even the dominant hue is modified by a few others. Saying "yellow" is misleading, as is "tan" or "brown". Using one term or the other may help characterize it or distinguish it from another in your mind, but remember that it's not a pure color. When you hear a one-word descriptor of the color, remember that White Star Buff can't be described that way. For this reason, the terms "yellow Buff" and "brown Buff" are not used in this text. When necessary to reference the above color, the term "paler, yellow-tinted color" will be used. The first (darker) color shown will be referred to as the "Marschall color".

(It's been suggested that the term "buff" should be avoided altogether since it's non-specific. But it may be the best choice because any other name would carry too much suggestive power.)

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A prime source of illustrations is old postcards. They were widely distributed, they are easily obtainable by collectors, and are even published in books. The earliest postcard images are unreliable, though, because of poor condition. They were printed with very simple colors and little gradation or blending between colors, and the ability to depict different hues or shades within a particular hue was minimal at best. The one below is a good example of an early color illustration, many of which can be readily identified as a simplistic and unreliable color image. The one at right is the identical painting, printed years later with a more advanced printing process, and probably recolored as well. (Note the added boats at the left, and the added clouds)



Even within the higher-quality images, there is a certain range of color evident, and this shouldn't surprise us. One artist's image may have differed from another, he may be portraying his ship in a different light, and of course we can't be certain of the exposure level when the postcard image was photographed years later, or whether or not scanning the image into the computer recorded the color correctly. Occasionally the variation in colors has to do with the printing process itself, resulting in a range of colors between different printings of the same image. Two examples are shown below, both from the same period. (These are not different scans of the same postcard - note the difference in lettering)



Nonetheless, if we disregard the earliest images that are obviously off-color, and allowing for variations in printing, there's a remarkable consistency among the postcard images of the funnel color of the White Star ships. The majority do not vary outside a certain range. In over 100 postcards reviewed by the author, 2/3 of which were official White Star issue, 75 depicted funnels with the color clearly in the range of the Marschall color. Of the remaining 25%, 5 were a distinct orange/brown color, and the remainder ranged from borderline Marschall color to a pale yellow-tinted tan. (A few might be considered as on the light end of the Marschall range, but in the interest of fairness they were included in the other category.)

Some typical samples in the dominant range are shown below. For comparison, the Marschall color is shown in the center. It was based on the funnel areas in his paintings that were depicted as being in bright light. Keep in mind that this color sample was only estimated from his illustrations, and varies in his paintings from the color shown to a darker shade where the funnel areas are in shadow or lower light (as in these illustrations).



We know that at least the first 5 images are all from the later, and therefore more reliable, period of White Star illustrations, because all show the sheer stripe down on the black part of the hull. (This change was made to *Olympic* in 1921.) The colors shown above fit very well with what Ken Marschall states as to how the color was described at the time - from "buff" to "tawny brown," to "flesh." Taking these images together with his description, it's a very powerful argument for White Star Buff has having been in the range shown above.

Another image also came to light recently depicting White Star Buff in a color similar to those above. It shows a ship that was never built.

In 1928, Harland & Wolff laid the keel for what would have been the third *Oceanic*. The construction order was cancelled shortly thereafter, but this is apparently an artist's impression of what she would have looked like:



*Courtesy Mike Foreman. Copyright 2004 shawsavillships.co.uk. Used by permission*

This is unique in that it was not a postcard or advertising image. The source is unknown, but it's believed to have been scanned from a book or magazine article (what may be a page break is visible just aft of the foremast). It's more suggestive evidence for a darker shade of Buff, although it must be pointed out that the antifouling paint is depicted incorrectly as bright red and therefore the colors are not necessarily accurate.

There are postcard images showing White Star Buff as a paler color with a yellower tint, but as noted above, they are far fewer in number. Two are shown below. Compare the funnels in the images to the color sample below.



Unlike the Marschall color shown first, the color sample shown above was not estimated. It is called "Light Buff", and was taken directly from the current British Standard 381c: "Specification for Colours for Identification, Coding and Special Purposes". This was a color standard initiated in 1930, and was essentially a cataloguing of colors used for specific Government and commercial purposes. (TRMA member John Walker). John observed that it's very possible that some colors were taken from those that were already a commercial standard - *"there's every chance that a Buff close to the White Star colour was catalogued in the original document, and may well survive as a standard today."* One or more colors labeled "Buff" were in common use at the time, and similar if not identical shades were used by a number of other shipping lines.

There is other evidence for White Star Buff being in this range. Noted *Titanic* historian Walter Lord, recalling a trip on *Olympic* in 1926, described it thusly:



*.. "The buff color of the funnels especially fascinated me; it WASN'T simply a yellow-tan, the way they are often colored, there was a touch of pink in the buff, and I spent hours trying to duplicate the shade....."*

The quote is from his article "Memories of the Olympic", which appeared in a 1976 issue of the Titanic Historical Society Commutator. (Thanks to TRMA member Dominic Contrada for finding this.)

32 years later, in 1958, Lord produced the colored-pencil sketch at left for a young man named Ray Lepien. It is the result of one man's attempt to capture this elusive color. It is also strong evidence for the appearance of White Star Buff as a having a pronounced yellow tint, as the medium of color in this drawing - pencil - is not likely to have degraded as color dyes would. It must be noted, though, that the original drawing also has noticeable shadings of pinkish-tan pencil beneath the yellow, which do not adequately show here.

*From the collection of Raymond Lepien. This image may not be reproduced or displayed in any form without express written permission of the owner. Sincere thanks to Ray for providing a scan for this page - it has never before appeared online or in print. The author apologizes for the overlay text added, but felt it was necessary owing to the frequent incidences of persons copying and displaying images on their own websites without permission.*

Digitally sampling the color of Walter Lord's funnel, and averaging out all the shades across the light and dark, yellow and pink/tan, does produce a color virtually identical to the Light Buff color from BS 381c.

More evidence for a color in this range comes from an undated illustration on the next page, believed to have been a postcard image, showing funnel colors and house flags of popular steamship lines. White Star is shown at the bottom left, and it hardly needs pointing out that it's identical to the other buff funnels and very close to the Light Buff color shown above.

But in looking at this image, once again we have to guard against the tendency to assume that it's accurate. We know nothing about the artist or the audience for which it was produced, what the artist referenced, or how knowledgeable he was in depicting the colors. Recently another funnel poster came to light, courtesy of TRMA member Paul Lee, and shown at far right (inset added by author). It appeared in volume 3 of *The Compact Encyclopedia*, published in 1928. Its significance is that unlike the first funnel poster, this one shows the White Star color to be significantly darker than the other funnels. Again, we don't really know if we can rely on the artist for accuracy, and this is *not* intended to suggest that this image represents the "true" White Star Buff. The point is that the artist took the trouble to paint the White Star funnel darker, and he must have had a reason for doing so. Just possibly, this shows that the first poster was not entirely correct and that White Star Buff was darker than the other "buff" colors in use by other companies at the time.

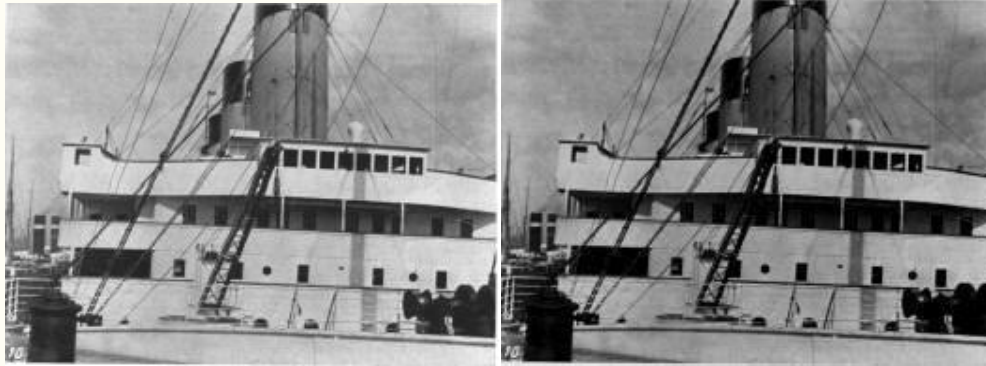
Following this line of reasoning, then, it's possible that the Light Buff color from British Standard 381c *does* reflect the buff color used by other steamship lines, but not the color White Star used.

It's also worth noting that "White Star Buff" was probably not an official name. Ray Lepien remembers reading it as early as he can remember in many news accounts and other publications about White Star ships. It may have been coined by the steamship trade or the press simply to denote the color of the White Star funnels, without regard to any other "buff" colors out there. The name shouldn't be taken as evidence that "White Star Buff" was necessarily different than any other.

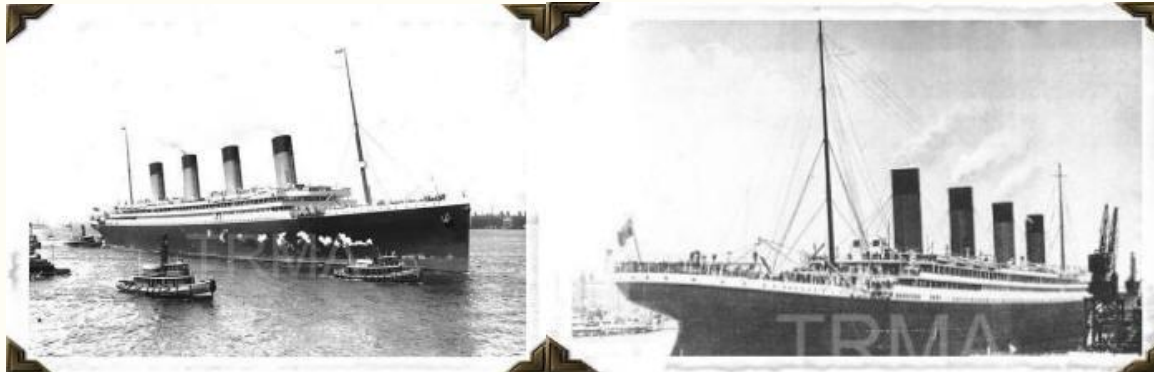
White Star advertising posters are also good evidence of the funnel color - but inconclusively. The range of posters produced shows an equal number of ship images in every color.



**Photographs** of White Star ships are in abundance, of course, although *Titanic* was less photographed due to her short life. Black-and-white gives no indication of color, although it can indicate the relative tone (brightness). But once again, we have to be careful of what we see. Aside from the number of times that any black-and-white photograph may have been reproduced, it's very difficult to gauge what level of brightness is correct.. As an example, the two photographs below are identical, but are reproduced with different levels of brightness:



With the two side-by-side, it's easy to compare them and make a judgment as to which might have the better exposure. When looking at a single photograph, though, if the area under scrutiny is very light, it's easy to be misled into thinking that the actual color must also be a very light shade. Consider these two of *Olympic* on her maiden voyage. The funnels in the left photo look much lighter than the ones in the right, but they're the same.



Both photographs were taken unretouched from the TRMA photo archives. The one on the left does appear very bright, but by how much? It's hard to tell. And the photograph at right doesn't appear to be overly dark, yet the funnels appear to be almost black. So once again, a great deal of caution must be used in drawing conclusions from black and white. Some colors also appeared slightly different when caught in black-and white: TRMA Trustee Roy Mengot pointed out that *"in early photos, red light reacted with the old black and white films on glass plates and always appeared darker."* But at the same time, this is also a nugget of evidence that suggests one element of the actual color: *"There had to be enough red, such as in a peach color, to cause the funnels to be darker than the decks."*



Surprisingly, there are also a few color photographs of a few White Star liners. This, it would seem, would answer all the questions and eliminate any possible debate. But we have to be careful about accepting these photographs at face value as well, despite their apparent clarity and quality.

Following is a photograph of the *Georgic*, the last ship built by Harland and Wolff for the White Star Line. She was launched in December of 1931, and completed her service under the Cunard House flag in 1960. The picture was taken at Halifax, Nova Scotia, in 1954.



*Photo taken by Ross C. Baxter. Used by permission of his son, Philip H. M. Baxter.*

This image is stunning in its clarity, and tempts us into thinking that, at last, we have definitive evidence of the true color. Adding to this temptation is the fact that the color of the funnel is very close to the pale yellow shade that we have become accustomed to seeing in illustrations as White Star Buff. However, we need to be careful about accepting such evidence at face value. There are two key factors that diminish the reliability of such photographic evidence:

1. *The photographs we see today have gone through so many reproductions and changes of media that the color has almost certainly been lost or altered in the process.*

Starting with the image above as originally seen by the photographer, it was captured on a chemical negative, chemically printed on paper, reproduced in a magazine with chemical dyes, scanned into a computer years later, digitally written onto this page, and finally displayed by your monitor. Any of those interim steps could change the color incrementally. And that doesn't include the effects of sunlight in the photo, any weathering to the original paint on the ship, or the less-than-perfect color reproduction typical of early color magazines .

2. *Color photographs and color illustrations deteriorate over time, and change color.*

Anyone who has family photographs in color from the 1960s knows that the colors don't look too good by now. Much of that poor color is due to chemical degradation over time. A photographic print results from using layers of cyan, magenta and yellow dye to produce a color image. Kate Rouse, archivist for the Royal Photographic Society in Bath, said: "*After about 30 years, you begin to see a degradation of the image. The three dyes which make up the picture fade at different rates and there is a shift in colour.*" This means that the colors of some areas or objects in a picture may shift before others, especially if they rely more

heavily on one of the primary colors mentioned above. In this case, because the *rest* of the picture looks all right, the shift in one or two colors may not be apparent. (And the degradation of organic color dyes is not limited to photographs- it applies to illustrations in magazines as well from the ink colors on paper slowly deteriorating over the forty-some years before the page was scanned). In addition, photographic film from the 50s and 60s "*was especially noted for its loss of saturation*", or intensity of the color. (TRMA trustee Ray Lepien, quoting from a professional photographers' magazine.)

Note that this article is not suggesting that the above photograph or any others *couldn't* be accurate in color. It's just that we can't rely on it as an absolute. The *Georgic* photo above was reproduced from a slide; and although "*Kodak color slides (Ektachrome and Kodachrome) used in the 1960s . . . show no signs of deterioration, some cheaper film began deteriorating years ago.*" (Christopher Wagner, photo archivist, from his website.) And deterioration of color is not limited to photographs - any period advertisements or illustrations are suspect. Aside from color printing being in its developmental stages, many were printed with organic inks that have begun to degrading over time (another caution on accepting postcard images at face value). Only recently have we begun to capture or transfer these images into digital format, thereby arresting further deterioration of the image.



(From the slide collection of Louis O. Gorman. Used by permission of the Titanic Historical Society.)

In the *Georgic* photo shown earlier in this article, the funnel has a color tending toward a pale yellow-tan. We know that one or more of the colors in this photo *might* be off – but what if they aren't? What if that's what the camera – and the photographer – actually saw? There is a possibility that the color is reasonably correct. Walter Lord, after all, did describe a color with a predominantly yellow-tan hue in recounting his memory of *Olympic*. If we accept that his recollection was accurate, then that's what he saw. So how do we explain it against the evidence that suggests White Star Buff as being closer to the Marschall color?

Sunlight, or natural outdoor light, is made up many wavelengths of individual color. When all wavelengths are seen together, we see only "white" light – no colors. The color of an object results when it reflects specific wavelengths and absorbs others. A red Cunard funnel, for example, absorbs almost every wavelength except red. The red isn't absorbed, so that's the color we see. This has strong implications for the camera and the human eye in terms of what each "sees". Even using modern film or a digital camera, there are a couple factors that can change the color's appearance in varying degrees.

The first is weathering. The sea, the salt air, and the sun all take their toll on paint. Oils evaporate from paint over time. Continual exposure to ultraviolet rays cause the paint to break down chemically. The end result is a paint finish that's faded and chalky. Plus, white lead – one of the principle pigments of paint at the time – was very prevalent to chalking.

The sun's angle, or more properly its elevation, can also affect the color. (By "elevation", we mean how high the sun is above the horizon.) The *Georgic* photo above was taken late in the day, probably about 2 or 3 hours before sunset. When the sun is lower in the sky, more of the short-wavelength colors (blue and green) are reflected by an atmosphere, causing the longer wavelength colors- yellow and orange- to predominate. This occurs even on a clear day, well before sunset. Altogether, it's very possible that these factors combined to give White Star Buff a different appearance at a distance. Here's another photo of the *Georgic*, also taken by Lou Gorman of THS in 1952. Note that the funnel has the same general hue as in the first picture. And as with the first one, one or more of the colors could have shifted over time - but let's assume for the moment that they didn't, and that the funnel actually did appear as the photo shows.

TRMA Trustee Scott Andrews observed that "*this . . . was taken in NY in the early evening hours perhaps one to two hours before sunset (that side of the piers face SSW) when the light has a yellow cast due to the low angle at which it is being filtered through the atmosphere. Note that not only does the buff of the funnel appear yellowish, both the brown of the masts and the white of the superstructure also have a warmer, more yellowed hue.*"

The same color shift can be seen in the sheer stripe, which changes from its true color of a deep, vivid yellow near the bow to a much lighter gold color amidships. There's also the glare of the sun to consider because of its angle. And while there's no strong glare evident in the first *Georgic* photo above, the same observations apply - that photo was taken at the same place, at the same time of day relative to the sun, although on the opposite side of the terminal building.

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*Image courtesy Mike Foreman, from a photo provided by Ian Shiffman. Copyright 2004 Mike Foreman. Used by permission*

**I**n November 2004, new evidence of for White Star Buff came to light in the form of a large collection of photographs of the Shaw, Savill & Albion Line. The SS&A was a large commercial shipping and passenger line that operated service to New Zealand jointly with the White Star Line. The website of photographs, maintained by a former Marconi Marine Radio Operator, depicts ships with a lower funnel color in the same range as in the later White Star postcards. But beyond the business relationship enjoyed by the two lines, there's some strong circumstantial evidence for SS&A having directly adopted White Star's funnel color:

*"In the 1930's one of the old white star managers went to work for SSA and was instrumental in having newer SSA ship names ending in " ic ", i.e. "Canopic", "Cymric" etc just the same as some of the White Star line vessels. Prior to this most SSA vessels had Maori names. So I think he would not have stopped just there, and probably had a big say in the funnel livery."* (Mike Foreman, historian. who at one time maintained a website of Shaw, Savill & Albion photos.)

TRMA Trustee Raymond Lepien also recalls reading that *"that the ships that were in the African-Australian service merely changed the gold band on their hulls for a white one and they were in Shaw, Savill, and Albion colors when they were transferred to that company."*

Their large fleet survived under the Shaw name until 1985, and consequently we have many color photographs up to that point, the majority of which show a remarkable consistency in colors, and in precisely the same range as the Marschall color and the majority of the White Star Illustrations. (Note - some SS&A ships show funnels with a very distinct mustard-yellow funnel color, but this was a different color used only for ships in Royal Mail service.) It's only circumstantial evidence that suggests White Star Buff was used as the Shaw funnel color. But regardless of whether or not the color was the same, what's of such value to us is how these photographs illustrate how a color similar to the Marschall color can appear in the same variation of shades as we see in the old White Star images. Two are shown on the next page: The *Cymric* (left) photographed in 1974, and *New Australia* (right).



Photo at left taken by Dave Smith, 3rd officer. Photo at right, source unknown. Both courtesy of Mike Foreman. Copyright 2004 Mike Foreman. Used by permission.

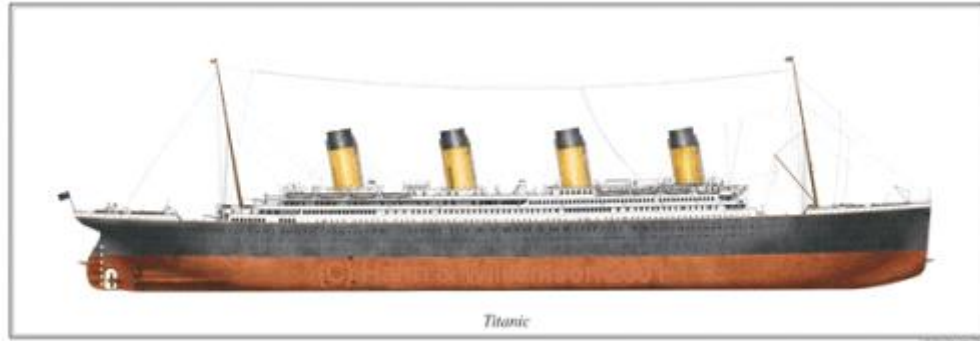
Part of the difference between the two may be the paint. We don't know how weathered or faded the paint was on one funnel versus the other. But also note the differences in the angle of the sun in the two photographs. Close examination of the first photo shows the sun to be nearly directly overhead (see the scaffolding against the superstructure amidships). In the second photo, the sun is well off to the side, and at the maximum "glare angle" relative to the ship (look at the glare on the water directly below the port bridge wing, and where the funnel is in shadow).

In the wealth of pictures provided by Mike Foreman, there are even have different photos of the same ship showing very dissimilar funnel colors. Following are two shots of the *Gothic*, built 1948 and in service until 1969. Note that one photo shows a funnel with the Marschall color, while the other shows a color almost identical to the funnel in the *Georgic* photos taken at New York (inset, right). These photographs are powerful evidence of White Star Buff appearing as very different colors between different images.



Above photos courtesy of Mike Foreman. Copyright 2004 Mike Foreman. Used by permission

In the above right photo, it doesn't actually matter why the funnel color appears as it does. The point is that under some conditions, a color in the Marschall range could appear *and be recorded* much lighter and with a yellower tint under some conditions. Ken Marschall's earlier paintings reflect this shade and some artists continue to portray Titanic in this way.



*Colorized Titanic image copyright 2001 Robert Hahn and Stuart Williamson. Used by permission.*

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**In** looking at any evidence, we can't let our critical eye be clouded by wishful thinking. Images are powerful - but they do nothing more than capture what the artist sees in his mind, or what the photographer sees through his lens. Looking at them is not the same as looking at a paint sample in your own hands. The majority of the evidence does appear to support that the actual color was in the range of Ken Marschall's color, but that when weathered, faded and/or seen in bright sunlight, it could appear, at times, paler and with a yellow tint. This conclusion is generally supported by many of the TRMA Trustees.

For the modeler, this means that the choice of paint to use is not absolute. In fact, what often matters is using the paint that will best replicate how the ship actually appeared from a distance. The choice ultimately depends in large part on how the modeler wishes his or her ship to appear. And for most modelers at least one stock paint can be found that will be within an acceptable range. The choice of model paint depends in large part on how the modeler wishes his or her ship to appear, and is ultimately a personal decision. Weight the evidence, and decide for yourself.

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*Special thanks to Jeanene Pedee, who granted permission for use of many of the postcard illustrations in this article from her collection.*

*An earlier version of this article appeared on the TRMA website in October, 2004 under the title "Photographic and Illustrative Evidence of White Star Buff." In December, 2004, the article was rewritten under its present title to reflect new evidence and new debate on the subject since the writing of the original article. It was updated in February 2016 to remove references to websites that are no longer available.*