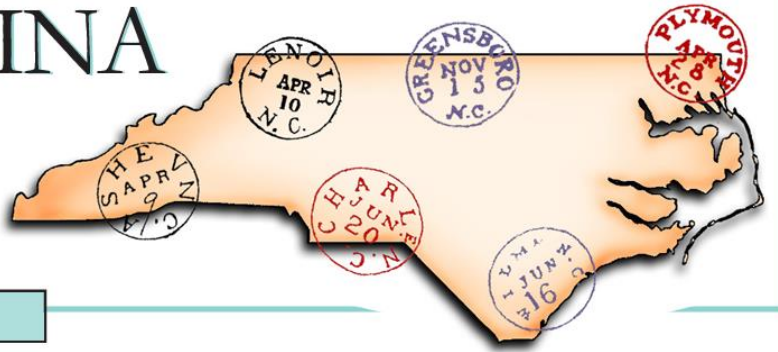


NORTH CAROLINA POSTAL HISTORIAN

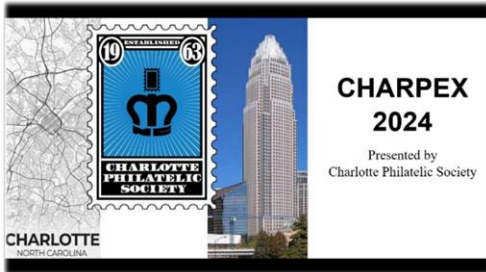


The Journal of North Carolina Postal History

VOLUME 43, NO. 4 FALL 2024 WHOLE 168



Confederate Soldier's Due Covers from the North Carolina Mountains



CHARPEX 2024



Great American Stamp Show Awards



Green and Blue Ink Formulations for 1850s Raleigh Postmarks



A New Charlotte and South Carolina RR Cancel



PRESIDENT'S MESSAGE

CHARPEX, held June 27-28, once again provided an opportunity for Society members and the general public to visit an expansive dealer bourse and enjoy the search for philatelic items for their collections. As always, there were exhibits to study, an opportunity for Scouts to earn a merit badge (17 were awarded), a table for young, aspiring stamp collectors, philatelic club meetings, and a booth manned by the United States Postal Service. Check out the photos from CHARPEX later in this issue. The members of the Charlotte Philatelic Society and the Fortnightly Club deserve our thanks for the hard work they devoted to making CHARPEX a success!

The North Carolina Postal History Society held its annual meeting on Saturday, June 27. Members enjoyed a fascinating program by Art Keeter who shared a talk and PowerPoint presentation about his collection of "The 1851-1857 Three-Cent Washington stamp on Postally Used North Carolina Covers." Art has mastered his subject and is researching how these stamp issues were distributed and used within the state. Members also elected Andrea Edmondson and George Slaton to serve on the Board of Director's Class of 2027. Annual awards were also presented to Society members, and the winners, as well as their awards, are pictured in this issue's article on CHARPEX.

The NCPHS is thriving! In a time when many philatelists express concern over the future of the hobby, our Society gained nine (9) members during the past year.

The annual meeting of the Society's Board of Directors followed the member meeting. Our board members are committed to continuing the Society's efforts to bring together and publish original research which adds to our burgeoning body of knowledge about North Carolina's postal history. Building on the publication of two well-received and comprehensive monographs over the last two years, the Board approved an ambitious project for the coming year. A monograph on the postal history of Charlotte

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is in the works by author Tony Crumbley, who owns a phenomenal collection of covers from the state's Queen City.

The Board is appealing to our Society members for financial assistance in the production of the Charlotte monograph. It promises to be an attractive publication of between 70 and 80 pages with approximately 150 illustrations. The cost is likely to be about \$3,200. Since the Society underwrote the added expense of the two previous monographs, the Board feels it is appropriate and timely to reach out to its members for help with this third and larger effort.

Please consider sending a contribution to help underwrite the cost of the Charlotte monograph. You can mail your contribution anytime or you can include it with your membership renewal form. There is a space provided on the form to designate your contribution.

It is time to renew your Society membership. The annual Society dues are still an affordable \$15.00. We hope you will consider renewing as a Sustaining Member. Those of you who have adopted a public library or other institution are encouraged to continue your sponsorship. And, this year, you can support publishing the monograph on Charlotte's postal history, a reference book you will enjoy for many years.



NORTH CAROLINA POSTAL HISTORIAN

(Library of Congress No. ISSN 1054-9188.)

Web site www.ncpostalhistory.com

The North Carolina Postal Historian is the official journal of the North Carolina Postal History Society. It is published quarterly in January, April, July and October.

Membership in the Society is \$15 per year. Applications for membership may be obtained from the Secretary/Treasurer. Submissions for the *Postal Historian* or inquiries may be addressed to the editors.

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Confederate Soldier's Due Covers from the North Carolina Mountains



by Ken Miller

When I first started collecting Confederate era covers, I wanted to get an example of each type of cover from each state. Among these types are the Confederate use of U.S. postage, stampless PAID, general issues and lastly the Due covers. I soon realized that the vast majority of Soldier's Due covers were from the states who hosted the two main armies: The Army of Northern Virginia and The Army of Tennessee. In general, it may be said that Soldier's Due covers are among the more common types of Confederate covers. However, once you get away from Virginia, Tennessee and Georgia where the main armies operated, they become rather harder to find. This is certainly the case for North Carolina Due covers, and even more so those from the mountain areas of North Carolina. The distance from the active war zones does allow for a better variety of troops. Researching these covers gives us insight into the various roles the Military played, on and off the battle fields.

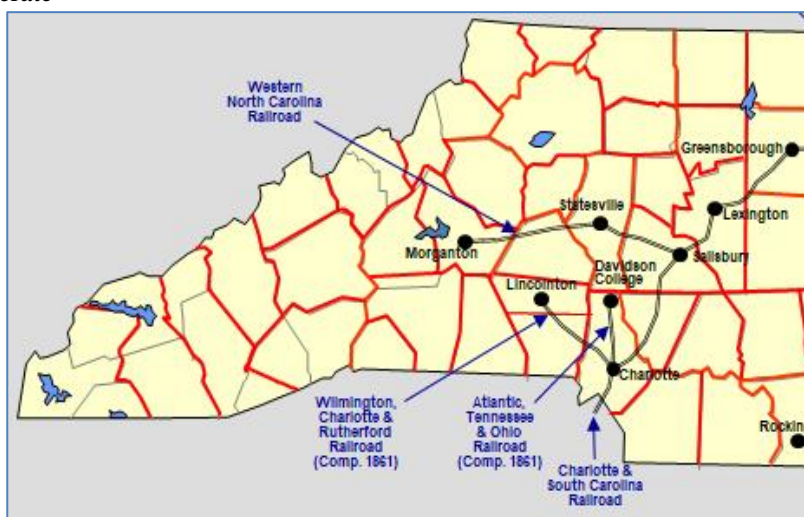
As there were never any large armies in the mountains of North Carolina, such covers are elusive. The ones that I have seen are mostly from the two primary military camps in the mountains.

Camp Vance (Figure 1) was located just north of Morgantown (Burke County) near Berry's Mill Pond where the Western North Carolina RR ended at the Catawba river.



▲ **Figure 1.** Camp Vance. Cooks at work. (Courtesy Piedmont Trails Genealogy and History In North Carolina and Beyond.)

Morgantown was only one of four "large" towns in the mountains and boasted a wartime population of around 600 people. The Western North Carolina RR was built in 1855, seventy-six miles of 4'8" gauge track from Salisbury and Statesville to the Catawba river, just northeast of Morgantown (Figure 2) This connected to the rest of the Confederacy's RR system and was the only railroad that was available to the western mountains during the Civil War.



▲ **Figure 2.** Western North Carolina Railroad in the western mountains as of 1861. (Courtesy J.D. Lewis, Little River, S.C.)

Camp Clingman (now Aston Park) in Ashville, Buncombe County, was to the south of Patton Avenue just beyond the town. Camp Clingman was named for Thomas L. Clingman, (Figure 3), a United States Congressman from 1843 – 1845 and 1847 – 1858, and a U.S. Senator from North Carolina from 1858-1861. Because of its war industries, Ashville's wartime population boomed from about 600 people to 1100 free and 750 enslaved.

(As an aside, Ashville postal markings had no middle "e" in "Ashville" from 1860-1878.)

These were Training Camps, and also were used as holding camps for Troops awaiting assignment. Of the two, likely Camp Vance was the larger as it had direct access to the Railroad system. Most troops from the mountain areas would have been shuttled through Camp Vance as trains were the most efficient way to move troops during the Civil War.



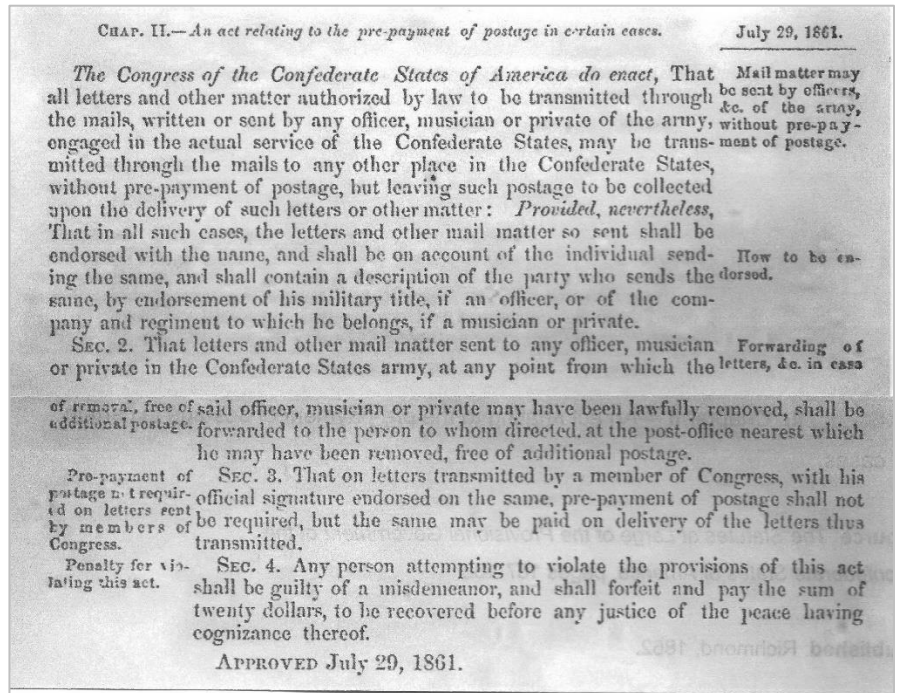
▲ **Figure 3.** Thomas L. Clingman (1812 – 1897).

However, Asheville was on the Buncombe Turnpike which led from Greenville, South Carolina to Knoxville, Tennessee. This route would have been the easiest and quickest way for troops to get from western North Carolina to east Tennessee and Knoxville, some 125 miles away. And also, for Union troops to get into North Carolina from East Tennessee.

Prior to the Civil war, mail service was used almost exclusively either by the wealthy or for commerce. During the Civil War, a majority of soldiers - from both sides - had never been more than a few miles from their homes and perhaps for the first time in America, letter writing became universal as families tried to stay in contact with each other.

Both the Confederate and Union governments were well aware of the effect that regular mail had on the morale of their respective soldiers. At the end of July 1861, the CSA Congress authorized Due Mail for active-duty soldiers: postage fees would be collected from the addressee (Figure 4).

Such letters were required to be identified with the soldiers' Name, Rank, Company and Regiment on the envelope. This makes it somewhat easier to identify the soldier and his record, which I appreciate. This privilege was used by both CSA troops and State troops.



▲ **Figure 4.** Due Mail authorization, CSA Congress.

The US postal system had passed a similar authorization earlier in July 1861 for their troops. At the same time, the Confederate Congress also authorized this “privilege” for members of Congress. Now there’s an interesting idea!

The earliest cover presented in this article is not from an established Camp, but from Lenoir in Caldwell County (Figure 5, next page).

The 58th Regiment North Carolina Troops was mustered in Mitchell County in July 1862 and went into active duty without ever having been in one of the Training camps.

On September 10, 1862, William C. Oxford, Co. E (Capt. Keener’s) 58th NC Reg wrote to his sister Rebecca Maria at Deal’s Mill (now Hudson) in Caldwell County.

This letter was mailed from Lenoir just prior to the 58th regiment being sent to the Army of Tennessee where they would spend the entire war.

W. C. Oxford was a farmer in Caldwell County. He enlisted on July 5, 1862, at the age of thirty-three. He was wounded in the jaw at Resaca, Georgia on May 14-15 1864, furloughed, and then returned to duty on Sept 1, 1864. He survived the war.



▲ Figure 5. Due 10 LENIOR NC SEP 10 1862 to Deals Mill, NC.

W. T. Field, Co K (Capt. Bowen's) Hampton's Legion, SC Volunteers mailed the Figure 6 cover from Ashville on January 17, 1863, to Arnold's Mills SC.

Company K was organized on November 11, 1862, just prior to when the Legion was assigned to the Army of Tennessee with General Longstreet.



▶ Figure 6.

Due 10 ASHVILLE NC JAN 17 1863 to Arnolds Mill, S.C.

Another cover postmarked Ashville, MAR 26, 1863 (Figure 7), is from Elliot R. Lanning (1833-1864), Co. C (Capt. Patton's) 60th Regiment NCT to Fairview, Buncombe County.

The enclosed letter to his sisters is datelined Dalton, Georgia May 28, so possibly it got out of chronological order with the cover. Likely this cover was posted by a friend on leave as the 60th does not seem to have been in Ashville.



▶ Figure 7.

Due 10 ASHVILLE NC MAR 26 1863 to Fairview, Buncombe County, NC.

Lanning was a farmer from Buncombe County. He enlisted at age twenty-nine on July 8, 1862. He was sick in the hospital March-June 1863, captured at Resaca, Georgia May 15, 1864, and died November 7, 1864, of chronic diarrhea at the Alton, Illinois prison Camp.

Posted from Camp Clingman in Ashville on December 20, 1863, the Figure 8 Soldier's Due mailing is from Anthony Street Harrill (1820-1886), a farmer from Rutherford County.



▲ Figure 8. Due 10 ASHVILLE NC DEC 20 1863 to Moores Borough, SC.

Harrill enlisted in the 16th NC Regiment, Company M (Capt. Stowe's), in June 1861 in Gaston County. They served in Virginia until Company M was reassigned to the 56th NC Battalion as Company I in July 1862. There they served in North Carolina and East Tennessee until December 1863 when they were returned to Camp Clingman. Early in 1864 they were again deployed to Virginia. They finished the war serving in the Petersburg, Virginia area.

Figure 9 is a partial transcription of the original four-sided enclosure from this cover. In the letter, Harrill gives a brief reference to the war in East Tennessee.

Figure 9. ▶

Partial transcription of letter from A.S. Harrill to Hannah Harrill.

December the 19th 1863

diere wife an mother an famielley I onst more take the pleasure of dropping you a few lines to let you no that I am still a live yeit I can say to you that I have got back from tennessee to ashville landed last night where wee will go I cant tel yeit tho there is some talke ov us going to cheryche County tho I hope wee wont xx have to go wee have had a hard time in tennessee
wee was gone three weakes from ashville I can say to you that I am as well as comon and doo hope these lines I come safe to youre hand an find you all well an dooing well

I can say to this is d cold day last night was as cold a night as I ever layout tho wee done tolerable well g can say to you that I have still got youre letters a most all of the time but you hant got none from me there has been some person pasing to us but none comey back to ashville I could x not send no letters back tho I no you was very unedsey but I could not holp it you still keap suggesting to ashville in ceare of capt stowes an xx they ur will be sent on to me sometime

up wee go to cherrycee county I caint get no more letters soon tho right one an give me all of the nuse an doo the best you can an I will doo the same but that will be bad e nough this cold wether but I must do the best I can if I had my clothy it wood be a grate thing I cant get them now perhapes I will get them when I need them as to that substitute there is a law to a take all of thim inn that has er substitute if that is the case I dont waunt

to hier no substitute tho I cant tel how it is but I can stand it as long as I can then I will gut them I can go to the horse petal but a man in the army has to go as long as they can tel all of the children to doo the best they can I shal does by saying that I remine youre loving husband tel deth an son an father this is to all of you

A S Harrell
to Hannah Harrell

A second cover from Private Anthony Street Harrill (Figure 10) is not a Due cover. Sent from Morgantown, NC and dated March 19, 1864, it was franked with a CSA #12 stamp. Apparently, Harrill's regiment finally got paid and he bought some stamps!



▲ Figure 10. MORGANTOWN NC MARCH 19 1864 to Moores Borough, SC.

At this point, the 56th NC Regiment had been reassigned to the Army of Northern Virginia, so they had marched from Camp Clingman to Camp Vance (60+ miles) in order to take the trains to Petersburg.

William H. Ellis of Wilkesboro, Wilkes County, mailed the Figure 11 cover to his father, Evan Ellis, from Morgantown where he was stationed at Camp Vance in August 1863. He is listed on the Bounty Role for Company Co. B (Capt. Hines), McRae's Battalion, North Carolina Cavalry. This Due letter is from August of 1863 while McRae's Battalion was first being organized.



▲ Figure 11. Due 10 MORGANTOWN NC AUG 18 1863 to Wilkes Borough, NC.



◀ Figure 12. Rober B. Vance.

The troops in the mountains, at the disposal of Brig. Gen. Robert B. Vance (Figure 12), were insufficient to protect the people in that section. Thus, in the summer of 1863, McRea's Battalion was authorized and organized at Camp Vance, Morgantown, Burke County. This battalion, composed of picked men and experienced officers, were mustered in by Brig. Gen. Hoke (Figure 13) for temporary service in the mountains.

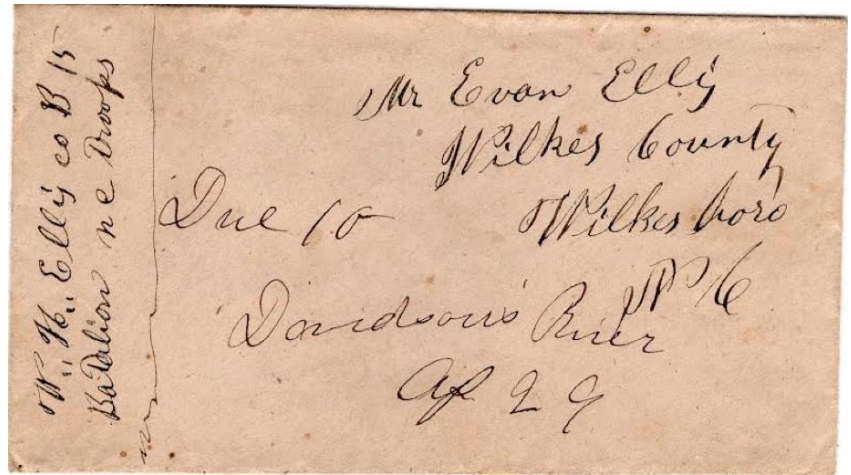


▶ Figure 13. Robert Frederick Hoke.

They were originally called the 15th NC Troops but were never given an official Line Number due to their limited service, composition, and nature of service. Their charge was to protect the mountain passes from enemy incursion and to round up conscripts.

They served from Yancey County to Clay County as their services were required. Though they had no "pitched battles," they had many skirmishes with Col. Kirk's Raiders (3rd NC Mounted Infantry, U.S.).

The Figure 14 cover from Ellis, dated April 29, 1864, was posted to Davidson's River, just northeast of Brevard in Transylvania County, on one of these excursions.

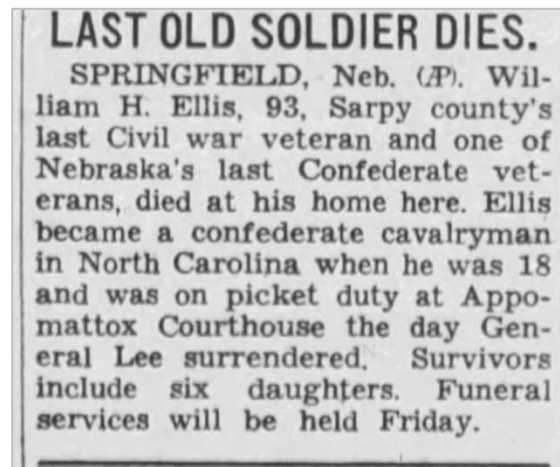


▲ Figure 14. To Evan Ellis, Wilkes County, April 29, 1864.

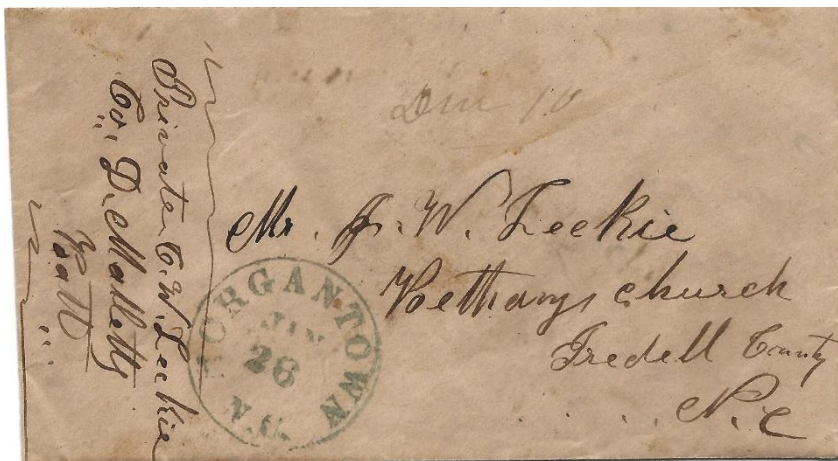
In June of 1864, the battalion was disbanded and recalled to Raleigh where they were reassigned. Most were assigned to the 9th NCST (1st NC Cavalry). Ellis was then assigned to Co. B (Capt. Cowan's), 4th Regiment North Carolina State Troops. He deserted the enemy on February 21, 1865, in the vicinity of Bermuda Hundred, Virginia.

After taking the Oath Allegiance on February 24, 1865, he was released. Ellis thus became a "Galvanized Yankee", joining the Union army to serve in the Upper Missouri Indian wars. He died in Nebraska in 1939 at the age of ninety-three (Figure 15).

By July of 1863, North Carolina had organized three Classes of "stay at home soldiers" in the States Military system: Camp Guards and the Senior and Juner Reserves (Home Guards). The Camp Guards were to oversee Conscription and the Camps of Instruction. The Home Guards were formed to augment the dwindling numbers of available Conscription age men.



▲ Figure 15. Lincoln, Nebraska State Journal Friday, May 12, 1939, page 3.



Private C. W. Leekie, Company D (Lt. Robards), Mallett's Battalion (19th NC Infantry Camp Guards) posted the Figure 16 cover while he was stationed at Camp Vance to his father at Bethany Church, Iredell County N.C. It was mailed from Morgantown on January 26, 1864.

◀ Figure 16. Due 10 MORGANTOWN NC JAN 26 1864 to Bethany Church, NC.

Two weeks later, this envelope was turned inside-out and reused from Bethany Church to Snow Creek (also in Iredell County) with a CSA #11 stamp for postage, making it a “turned” cover (Figure 17).



Figure 17. ▶

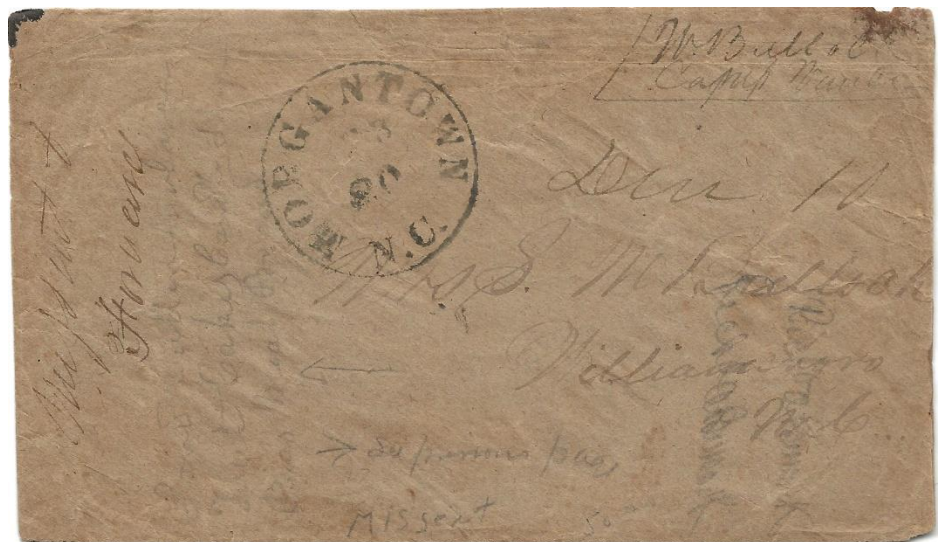
Turned cover from Bethany Church to Snow Creek, NC.



On July 8, 1864, Stephen Alexander Bumgarner (1846-1925) mailed the Figure 18 Due cover from Morgantown to Reddie’s River, Wilkes County. He enlisted at age eighteen on October 24, 1863, in Co C (Capt. White’s), 56th NCT. He was furloughed after being wounded at Petersburg on June 17, 1864, and returned in August. He was captured at Ft. Steadman Va on March 28, 1865, and sent to Point Lookout prison. He was released on June 23, 1865, after signing the Oath of Allegiance.

◀ **Figure 18.** Due 10 MORGANTOWN NC JUL 8 1864 to Reddie’s River, NC.

The Figure 19 Due cover was mailed from Morgantown on February 20, 1865, by W. A. Bulloch (1827-1897) of Williamsboro, then part of Granville County. Bulloch enlisted in Wake County on August 26, 1863, into Co. B (Capt. Whitaker’s) 1st NC Cavalry. During training his knee was damaged, and he was sent to the #1 Hospital at Kittrell’s Springs for chronic Rheumatism and enlargement of his knee. In August of 1864, he was assigned as Hospital Ward Master. It is assumed that at some point thereafter he was transferred to the Morgantown Hospital.

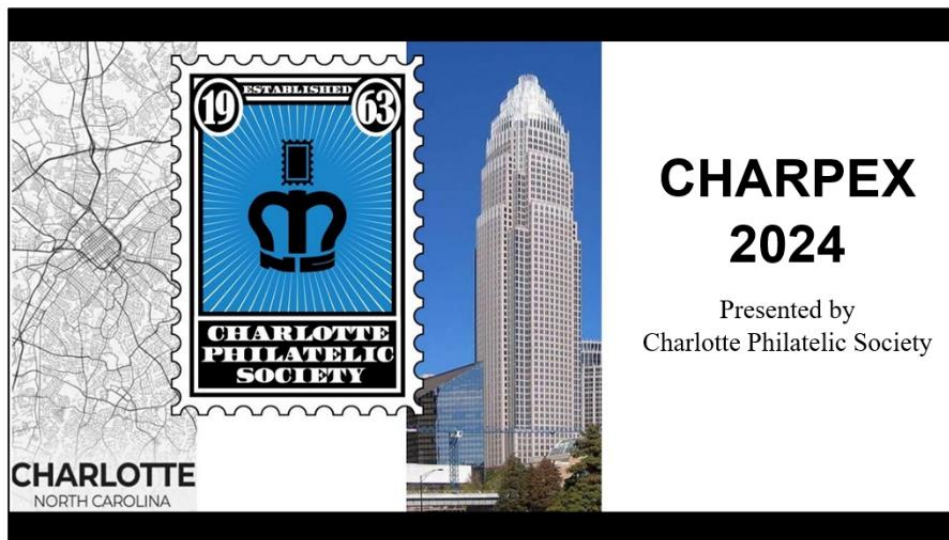


▲ **Figure 19.** Due 10 MORGANTOWN NC FEB 20 1865 to Williamsboro, NC.

My thanks to Tony Crumbley for sharing his knowledge and several cover images for this article. I would enjoy hearing from others who have Confederate-era covers from the North Carolina mountains. Please contact me at: kenmillerguitars@gmail.com.

Sources

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The Charlotte Philatelic Society and Fortnightly Club sponsor CHARPEX each year. Hundreds of hours are devoted to planning this premier philatelic event. Here, members of both organizations stand before the completed exhibits.

Literature Award Winners

Charles F. Hall was awarded the North Carolina Postal History Society Literature Award for his “Prisoner of War Mail Service and Censorship in WWII: A North Carolina Perspective,” published in the Society’s quarterly journal.

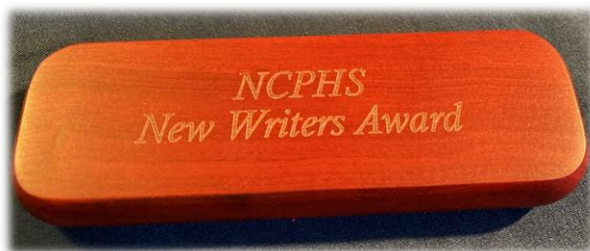
Charles was presented with the exquisite multi-color glass sculpture seen here.



The Richard F. Winter Award for Best New Author was given to **John Walker** for his Society journal article, “Rare Korean War POW “Dove of Peace” Postcard.”

The award was established in 2022 to honor Dick Winter’s long and multifaceted service to the Society.

Awarded to John, shown below, was an attractive engraved wooden pen and pencil box set.



The prestigious A. Earl Weatherly Award honored two winners this year. The AEW Literature Award was given for the pioneering monograph, “North Carolina Post Offices and Postmasters 1861-1865, published in 2023. The AEW Exhibit Award went to **Tony Crumbley** for his comprehensive exhibit, “Independent States and Confederate Mail of North Carolina 1861-1865.”



CHARPEX Photographs



◀ **Art Keeter**, president of the Charlotte Philatelic Society, gave an interesting talk and PowerPoint presentation, "Usage of the Three Cent 1851-1857 Washington Issue on Postally Used North Carolina Covers" to members of the North Carolina Postal Society at its annual meeting.

The dealer bourse, with a full complement of dealers, was ▶ busy both days of CHARPEX as eager buyers acquired stamps, postcards, and postal history covers for their collections.



◀ "Women of the Black Heritage Series- From the Fields of Slavery to Halls of Congress," was one of the popular exhibits at CHARPEX this year.

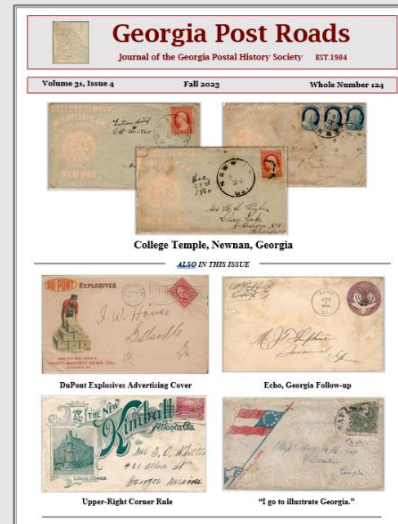
The opening ceremony of CHARPEX featured the ▶ recently released Underground Railroad stamp issue. The stamp and the history which inspired it were highlighted.





Literature – Gold
North Carolina Postal Historian
 Editors: Tony Crumbley
 and Steve Swain

Literature - Gold
Georgia Post Roads
 Editor: Steve Swain



Exhibits - World Series Prix d'honneur
 “Evolution of American Mail 1685 to 1799”
 Vernon R. Morris, Jr. MD, MILCOPEX '24

“Evolution and Impact of Blood's Local Post: 1842 to 1862”
 Vernon R. Morris, Jr. MD, BALPEX '23

Green and Blue Ink Formulations for 1850s Raleigh Postmarks



by Danny Brinkley

Joel Lane successfully petitioned the North Carolina General Assembly in December 1770 to create Wake County from portions of Cumberland, Johnston, and Orange Counties. In 1788, Raleigh was chosen to be the state capital eliminating the possibility of coastal attacks from the navies of other countries. It was officially incorporated on December 31, 1792, as both the county seat and the state capital. Raleigh is one of the few cities in the United States that was planned and built to specifically serve as a state capital. It is reported that no city or town existed at the Raleigh site prior to construction.

The “Postmark Catalog” maintained by the North Carolina Postal History Society contains a wealth of information on postmarks, cancellations, and other markings used by postmasters in our state. This catalog is organized by county except for the larger cities in North Carolina (e.g., Asheville, Charlotte, Fayetteville, Greensboro, Raleigh, and Wilmington). The earliest listings for Raleigh are manuscript postmarks starting in 1795. The catalog lists postmarks used from this date until 2010.

The postmarks are listed being made with black, blue, and red inks for the first 100 years. There are no listings for green ink being used for Raleigh postmarks during this period.

This article will address covers with green Raleigh postmarks and blue Raleigh postmarks used in the 1850s. Possible ink formulations will be discussed as well as actual green pigments used for stamps and embossed covers from this period.

A variety of a Type 6 (Type 6 var.) Raleigh postmark used with a Scott 11A stamp (not plated) is shown as Figure 1. This postmark is listed as being made with blue ink from November 2, 1851, to September 15, 1856. The postal rates had been changed in 1851 to three cents for up to a half ounce for a distance up to 3000 miles.

A second cover having a Type 6 var. Raleigh postmark “stamped” upon a Scott U9 stamped envelope is shown as Figure 2. This postmark was made using green ink instead of blue ink and is not listed in the Postmark Catalog. There is a manuscript note on the left side of the envelope indicating that it entered the mails on January 26, 1856.

Figure 1. ▶

An envelope having a Scott 11A stamp tied with a blue Type 6 var. Raleigh postmark. This postmark was in use from November 2, 1851 until September 15, 1856. Even though there are ample calculations on this cover, there is no docketing to identify the actual date of use.



◀ Figure 2. A U9 envelope (EKU 1854) with a January 27, green Type 6 var. Raleigh, NC postmark addressed to James Johnston in Edenton, NC. The docketing on the left of the envelope gives a date of Jan 26/56 (January 26, 1856). This green postmark is not listed in the Postmark Catalog.

A more detailed side by side scan of the Raleigh postmarks on these two covers is shown as Figure 3.



▲ **Figure 3.** Side by side scan of the Raleigh postmarks shown in Figures 1 and 2.

A ten-cent green postage stamp (Scott 15) and a six-cent green design embossed on a postal envelope are shown as Figure 4. These items were created in the 1850s and should be representative of the green printing inks being used at this time for comparison to the green cancellation ink used in Figures 2 and 3.

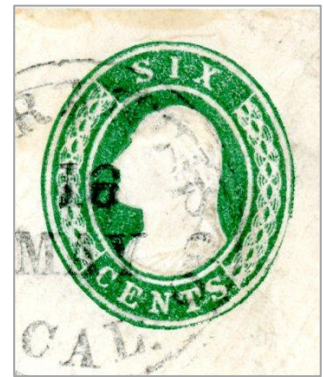


Figure 4. ▶

A Scott 15 ten-cent green stamp and U13 cut square having a green six-cent design. These items were also examined for this investigation.

The covers shown in Figures 1 and 2 were examined and analyzed using a scanning electron microscope (SEM) having an energy dispersive X-ray spectrometer (EDS) to determine if the postmark inks had different elemental compositions. Since the covers were electrically non-conductive, the SEM was operated using its variable pressure mode to eliminate the “charging effects” of the electron beam with these specimens. The EDS system can detect elements starting with beryllium and going through to uranium on the Periodic Table of the Elements when present in sufficient concentrations.

It must be emphasized that the SEM/EDS analysis technique provides an elemental composition of the material being analyzed and does not identify the chemical compounds of the material being analyzed.

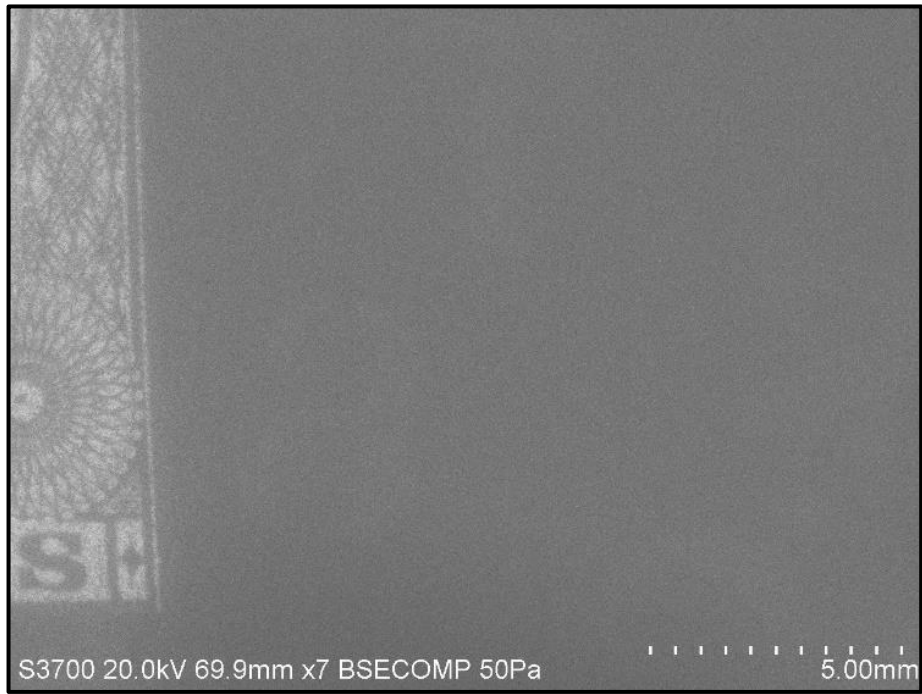
The specimens were imaged using a backscattered electron (BSe) detector. The BSe images use atomic number contrast for image formation. For example, gold will appear brighter than iron, and iron will appear brighter than carbon.

SEM BSe images of the cover having the blue Raleigh postmark are shown in Figures 5 and 6 (next two pages). The portion of the cover at the right of the Scott 11A stamp is shown in Figure 5.

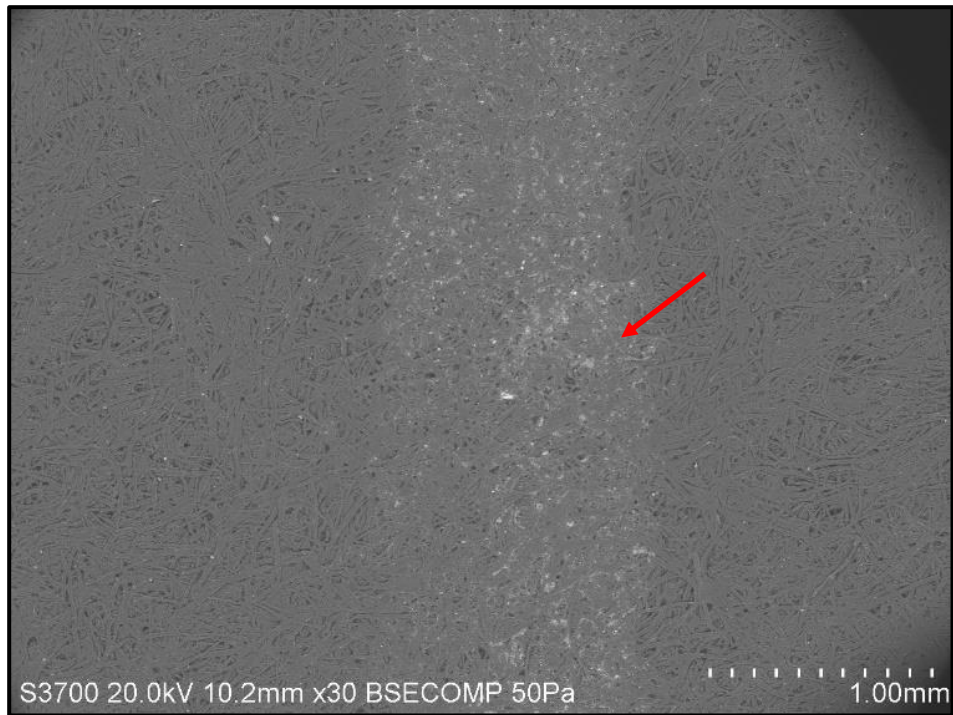
It should be noted that the blue ink of the postmark can only be faintly seen in these images indicating that this ink consists of a relatively low atomic number substance.

The postmark rim to the right of the stamp and an EDS spectrum of the ink are shown in Figure 6. The dried ink appears as a slightly higher atomic number patch in between the paper fibers of the envelope.

The elemental composition of this ink showed it to consist primarily of carbon, iron, and oxygen with smaller concentrations of nitrogen, sulfur, aluminum, silicon, potassium, and calcium.

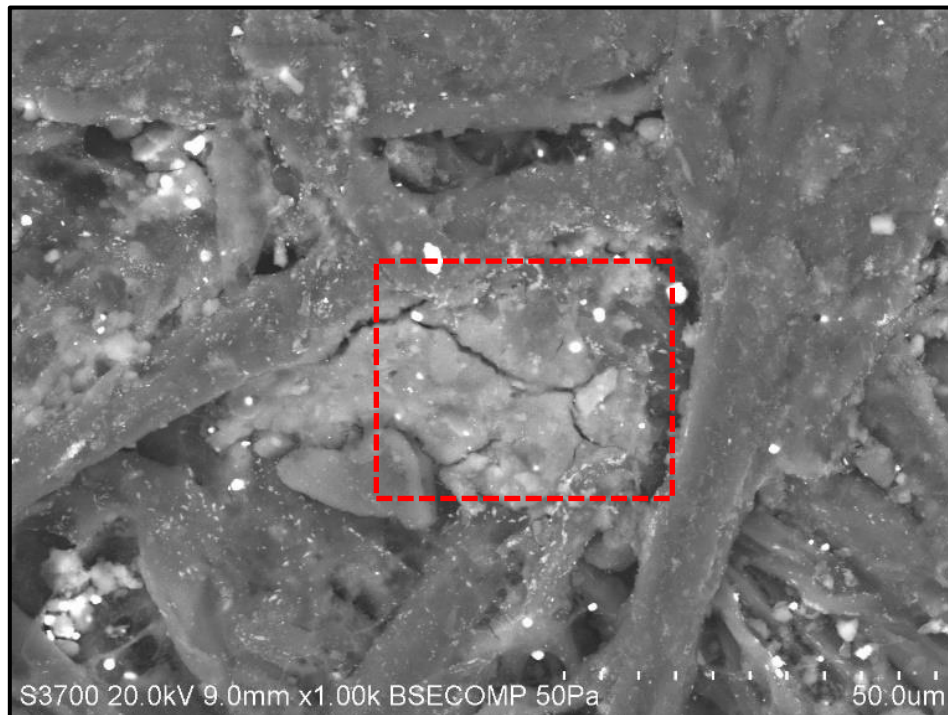


Backscattered Electron Image 7 X

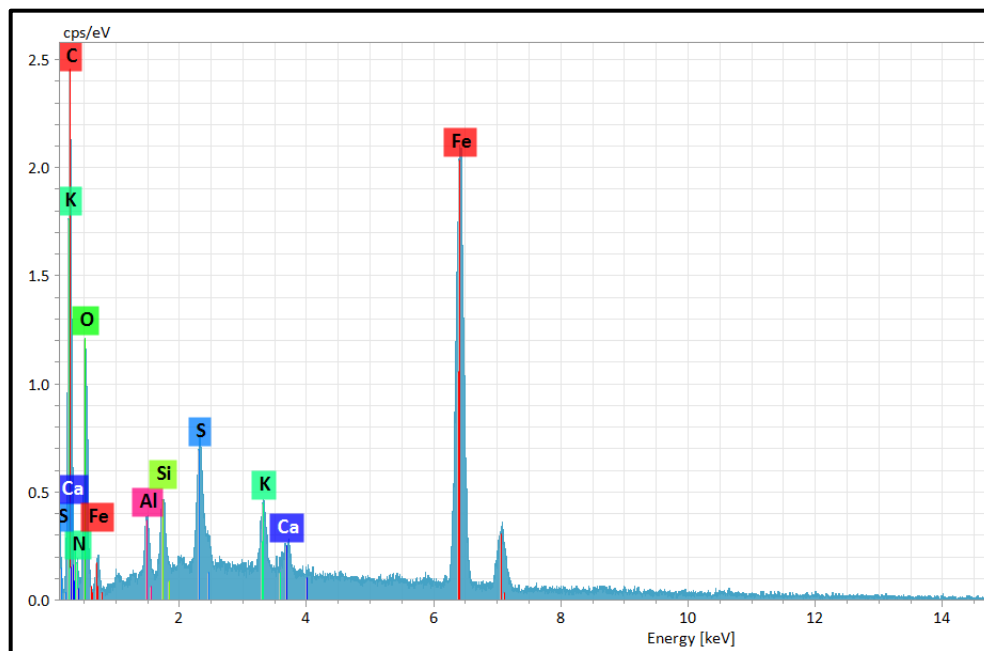


Backscattered Electron Image 30 X

▲ **Figure 5.** Backscattered electron (BSe) images of the area to the right of the stamp used on the cover shown as Figure 1. Note that the “T,” “8,” and “C” associated with the blue postmark can be faintly seen in the top image using a long working distance (~69 mm). The outer rim of the postmark is shown in the bottom image using a short working distance (~10 mm).



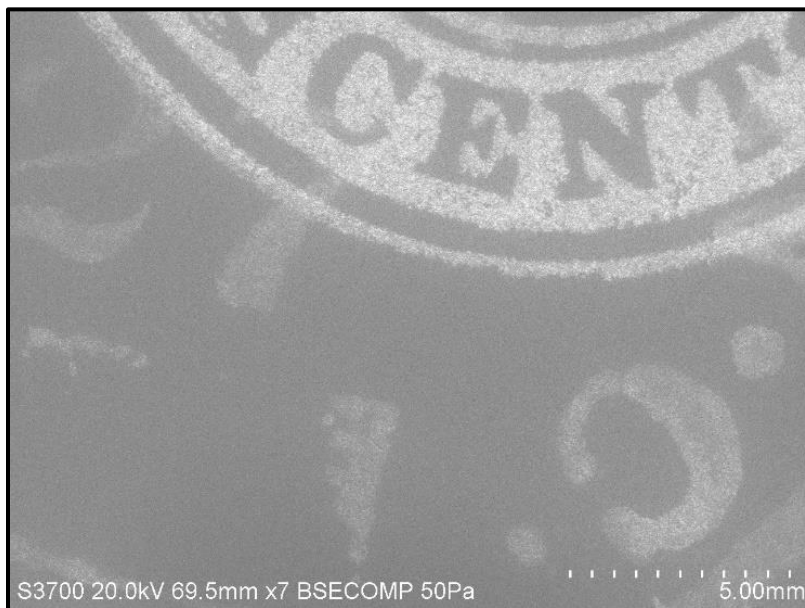
Backscattered Electron Image 1000 X



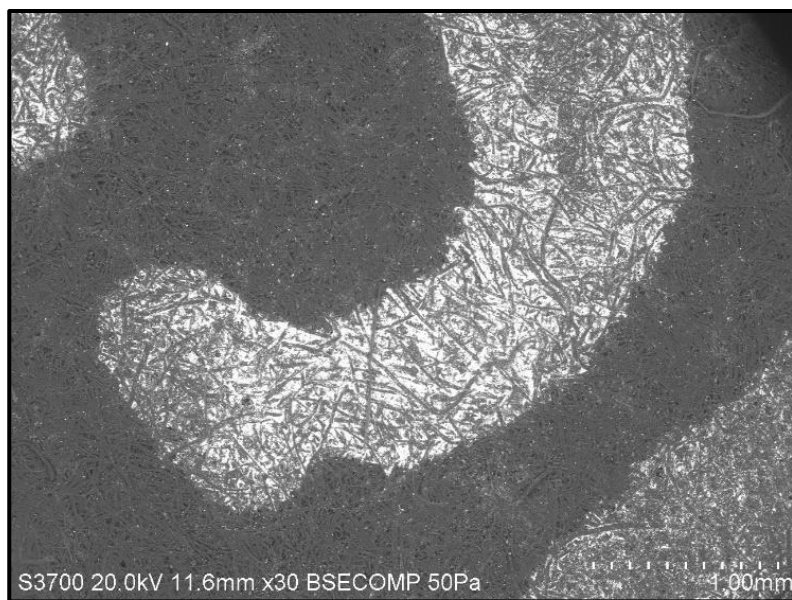
▲ **Figure 6.** A BSe image of the rim of the blue Raleigh postmark and an energy dispersive X-ray spectrum of the area inside the red box. The location of this feature is marked with an arrow on the bottom image of Figure 5. This blue pigment appears to consist primarily of carbon, iron, and oxygen with lesser concentrations of nitrogen, sulfur, aluminum, silicon, potassium, and calcium. This ink is believed to contain a Prussian Blue (or Iron Blue) pigment.

SEM BSe images of the cover having the green Raleigh postmark are shown in Figures 7 and 8. The portion of the cover beneath the embossed postage design is shown in Figure 7. Although not presented in this paper, the red ink used for the embossed postage design was analyzed and determined to consist of mercury and sulfur (mercuric sulfide – vermilion). Regardless, the green ink used for this postmark is easily seen in the BSe image compared to the blue ink postmark.

This indicates at a minimum that the composition of these green and blue inks have different compositions and that the green ink has a higher average atomic number compared to the blue ink. A portion of the letter “C” in the green Raleigh postmark was examined at higher magnification (Figure 8, next page). The elemental composition of the green Raleigh postmark showed it to consist primarily of barium, oxygen, carbon, and lead with smaller concentrations of sulfur, chromium, iron, silicon, aluminum, calcium, and potassium.

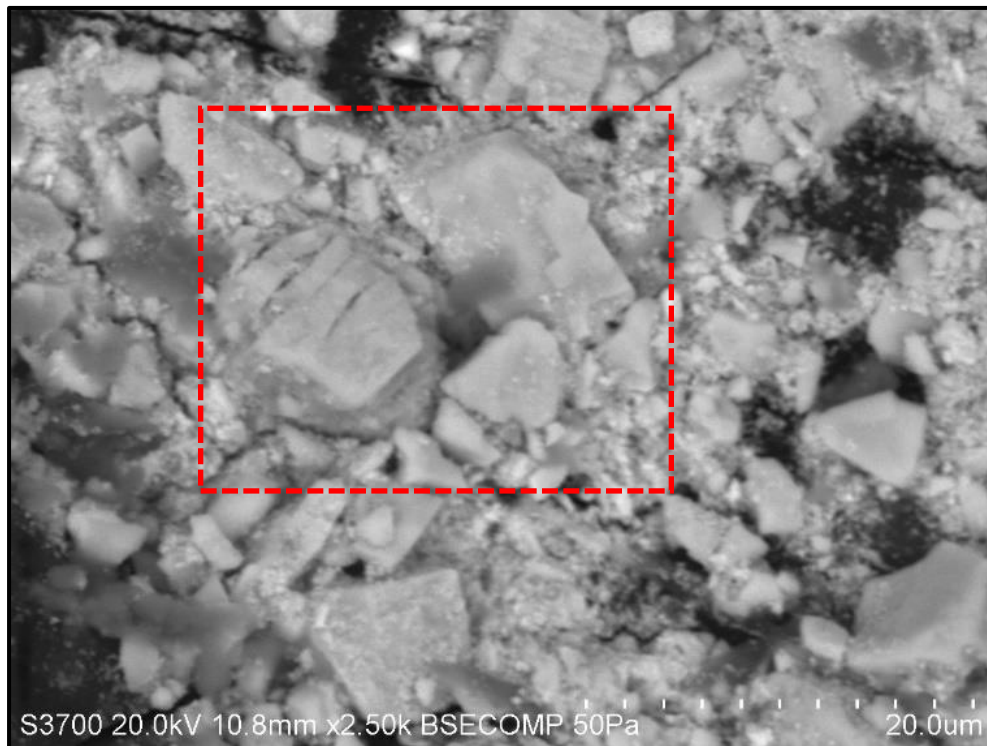


Backscattered Electron Image 7 X

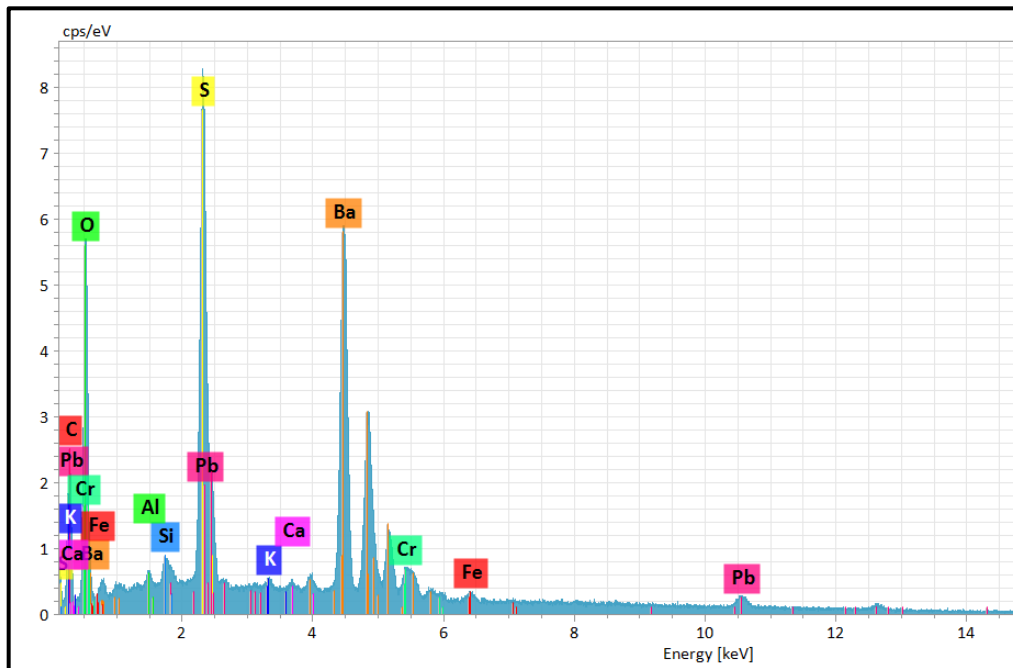


Backscattered Electron Image 30 X

◀ **Figure 7.** BSe images of the area below the embossed design of the cover shown as Figure 2. Note that the green postmark characters are easily seen in the top image using a long working distance (~69 mm). The letter “C” of the postmark is shown in the bottom image using a short working distance (~11.6 mm).



Backscattered Electron Image 2500 X



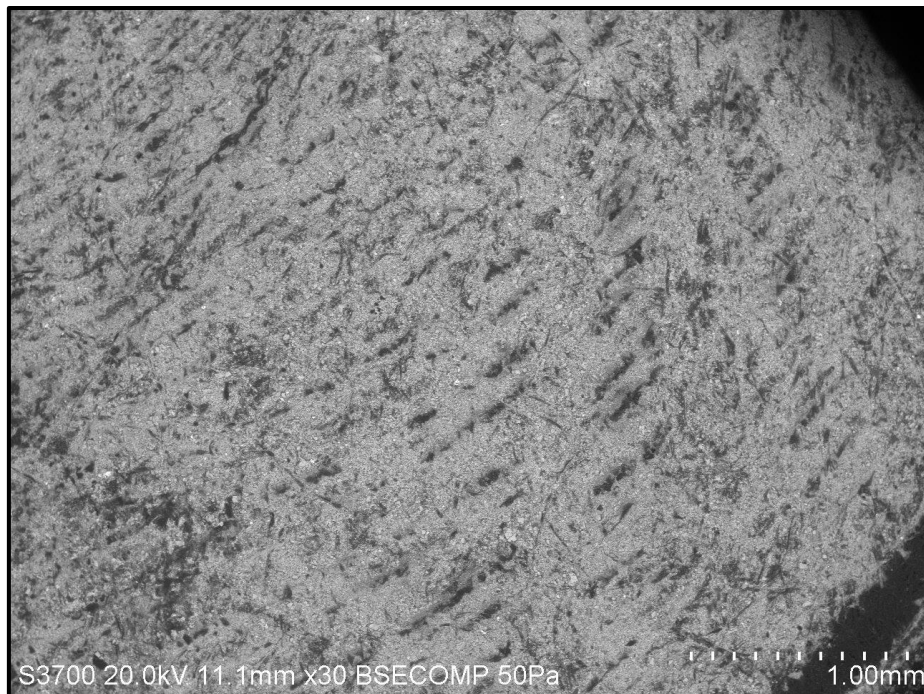
▲ **Figure 8.** A BSe image of a portion of the letter “C” in the green Raleigh postmark and an energy dispersive X-ray spectrum of the area inside the red box. This green pigment consists primarily of barium, oxygen, carbon, and lead with lesser concentrations of sulfur, chromium, iron, silicon, aluminum, calcium, and potassium.

The green ink used to print a Scott 15 postage stamp (ten-cent with Washington's portrait) was analyzed to provide a comparison to the green Raleigh postmark ink. BSe

images of the center portion of the stamp design are shown as Figure 9. Again, the green ink used to print this stamp is easily visible in the BSe images like the green Raleigh postmark ink.



Backscattered Electron Image 7 X

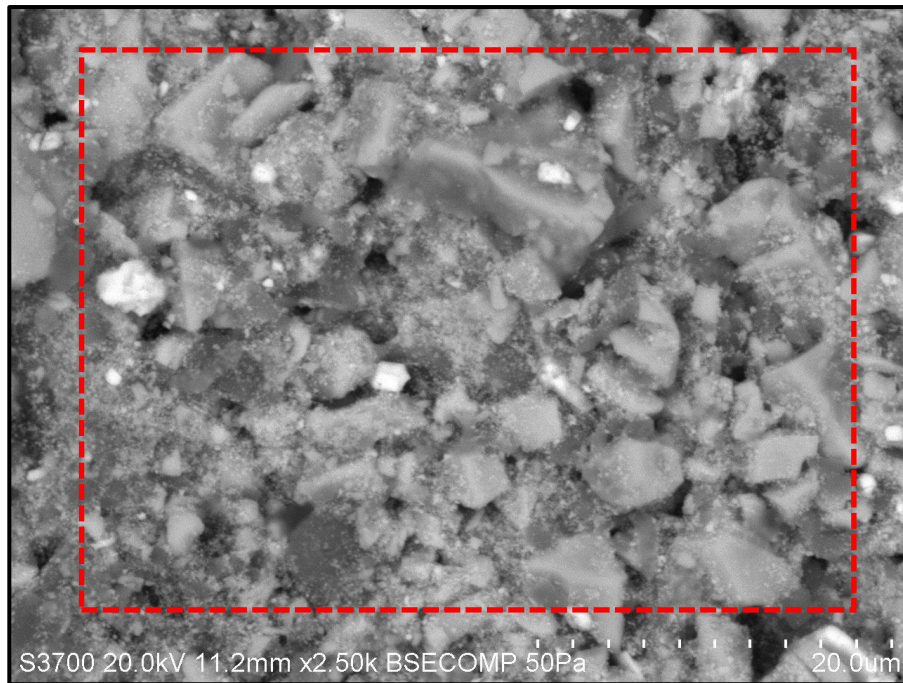


Backscattered Electron Image 30 X

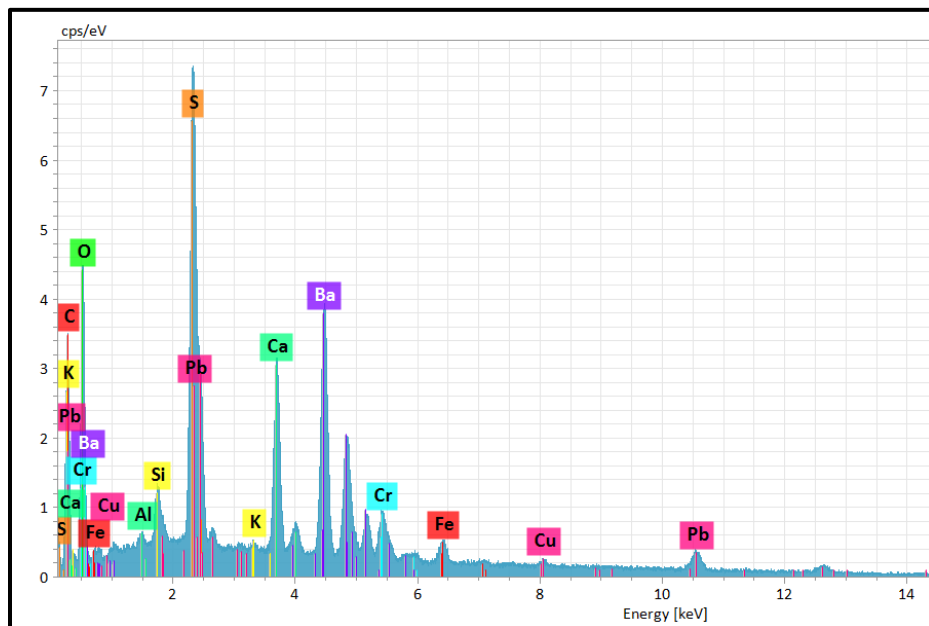
▲ **Figure 9.** BSe images of the lower right of Washington's image in a Scott 15 stamp. This stamp was printed with a green ink used in the mid-1850s and would have been in use around the time that the green Raleigh postmark was used.

At higher magnification, the stamp ink was found to consist of a mixture of brighter and darker particles indicating a non-homogeneous mixture of substances (Figure 10). The elemental composition of the Scott 15 stamp ink showed it to consist primarily of barium,

oxygen, carbon, and lead with smaller concentrations of calcium, sulfur, chromium, iron, nitrogen, silicon, copper, aluminum, and potassium. Although there were variations in the element concentrations between the green Raleigh postmark ink and the Scott 15 stamp ink, these analyses showed these inks have a similar composition.



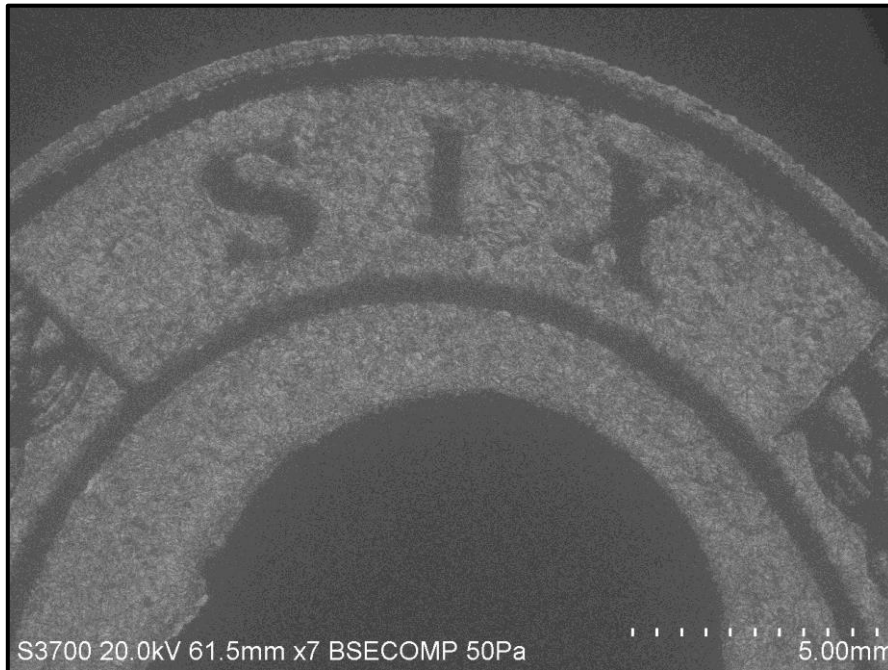
Backscattered Electron Image 2500 X



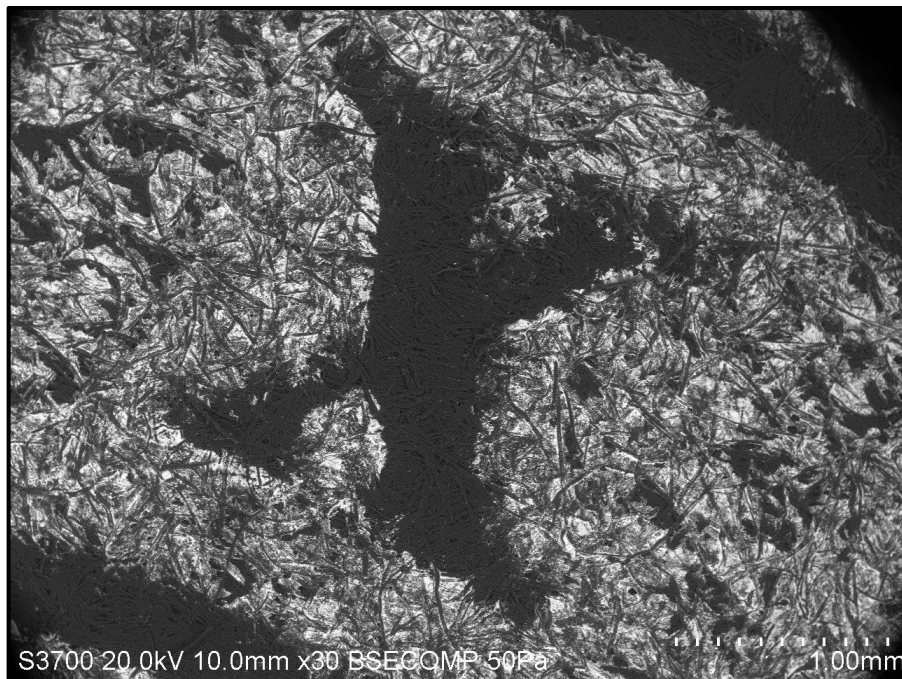
▲ **Figure 10.** A higher magnification BSe image of the stamp design shown in Figure 9 and an energy dispersive X-ray spectrum of the area inside the red box. This green pigment consists primarily of barium, oxygen, carbon, and lead with lesser concentrations of calcium, sulfur, chromium, iron, nitrogen, silicon, copper, aluminum, and potassium. The composition of this stamp ink is very similar to that used for the green Raleigh postmark.

Another use of green ink in the manufacture of postal stationery is a Scott U13 cut square (six-cent envelope embossed with George Washington's profile) was also

analyzed to provide a comparison to the green Raleigh postmark ink. BSe images of the top center portion of the embossed design are shown as Figure 11. This green ink is easily visible in the BSe images.



Backscattered Electron Image 7 X

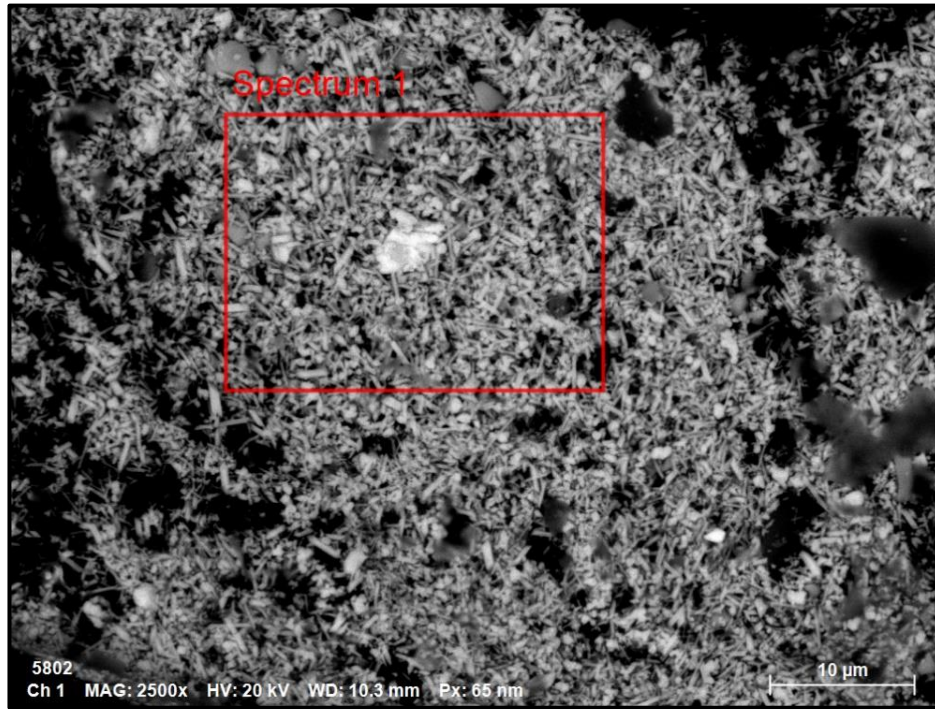


Backscattered Electron Image 30 X

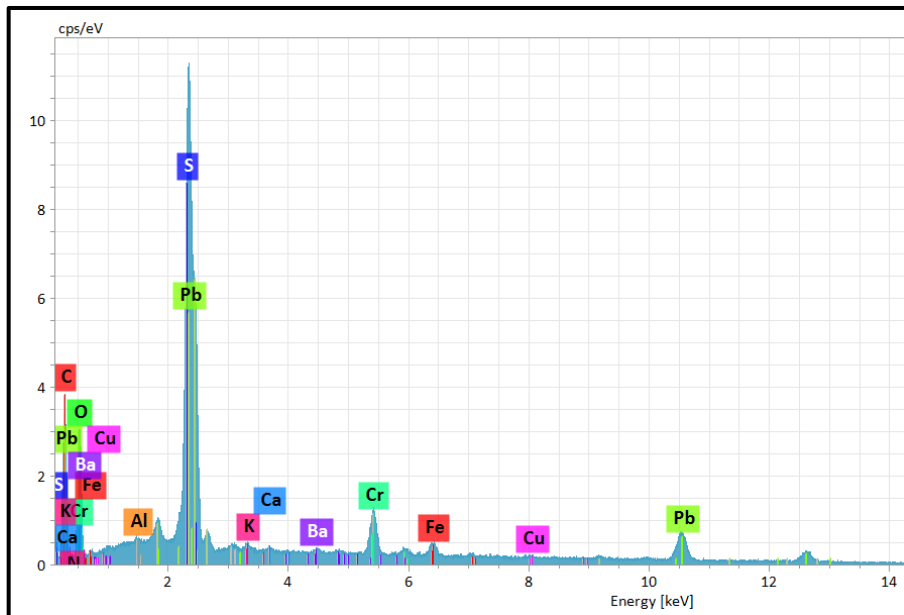
▲ **Figure 11.** BSe images of the top center of the embossed design of the U13 cut square. This embossed design was printed with a green ink used in the mid-1850's and would have been in use around the time that the green Raleigh postmark was used.

At higher magnification, the stamp ink was found to consist of a mixture of brighter and darker particles indicating a non-homogeneous mixture of substances (Figure 12). Most of this ink pigment had a needle-like structure. The elemental composition of the embossed

design ink showed it to consist primarily of lead, carbon, and oxygen with smaller concentrations of chromium, iron, nitrogen, copper, potassium, calcium, and aluminum. This green ink differed from the green Raleigh postmark ink and the green 10-cent stamp ink and is believed to consist of lead chromate and potassium ferrocyanide.



Backscattered Electron Image 2500 X



▲ **Figure 12.** A higher magnification BSE image of the embossed design shown in Figure 11 and an energy dispersive X-ray spectrum of the area inside the red box. This green pigment consists primarily of lead, carbon, and oxygen with lesser concentrations of chromium, sulfur, iron, nitrogen, barium, potassium, copper, aluminum, and calcium. The composition of this ink is different than either that used for the green Raleigh postmark or the Scott 15 stamp.

The components used to manufacture printing inks are: (1) fluid ingredients or vehicles, (2) solid ingredients or pigments, and (3) other ingredients such as extenders or drying agents, etc. It is assumed that the primary vehicle for postage stamp and cancellation inks is linseed oil.

Most pigments used in the inks and paints manufactured in the 1850's were naturally occurring minerals (such as Venetian Red – iron oxide – Fe_2O_3 , vermilion – mercuric sulfide – HgS , and American Vermilion – lead oxide – Pb_3O_4). Some of these pigments are listed in Table 1.

TABLE 1 – Various Pigments and Their Elemental Compositions

| Black | Blue | Green | White | Red |
|--|--|--|--|---|
| Graphite (carbon) | Ultramarine (Na, S, Al silicate) | Terre Verte (Mg, Fe, K, Al, silicates) | Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) | Burnt Umber ($\text{Fe}_2\text{O}_3 \cdot \text{MnO}_2$) |
| Mars Black (Fe_3O_4) | Smalt (K, Co oxide glass) | Verdigris ($\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)$ $\cdot 2\text{Cu}(\text{OH})_2$) | Whiting (CaCO_3) | Cadmium Red ($\text{Cd}(\text{S,Se})$) |
| Lamp Black (carbon) | Prussian Blue ($\text{Fe}_4(\text{Fe}(\text{CN})_6)_3$) | Malachite (CuCO_3 $\cdot \text{Cu}(\text{OH})_2$) | Barium Sulfate (BaSO_4) | Red Lead (Pb_3O_4) |
| Wood Charcoal (carbon) | Cobalt Blue (Co, Al oxide glass) | Emerald Green ($\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2$ $\cdot 2\text{Cu}(\text{AsO}_2)_2$) | Quartz (SiO_2) | Red Ochre (Fe_2O_3) |
| Bone Black ($\text{Ca}_3(\text{PO}_4)_2$ + carbon) | Cerulean Blue (Co, Sn oxide glass) | Viridian ($\text{Cr}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$) | Zinc White (ZnO) | Venetian Red (Fe_2O_3) |
| Van Dyke Brown (carbon) | Blue Verditer ($\text{Cu}(\text{OH})_2 \cdot 2\text{CuCO}_3$) | Chrome Green (PbCrO_4 + $\text{Fe}_4(\text{Fe}(\text{CN})_6)_3$) | White Lead ($\text{Pb}(\text{OH})_2 \cdot \text{PbCO}_3$) | Vermilion (HgS) |
| Bitumen (hydrocarbon) | Azurite ($\text{Cu}(\text{OH})_2 \cdot 2\text{CuCO}_3$) | Chromium Oxide (Cr_2O_3) | Anhydrite (CaSO_4) | |

One reference discusses “transparent” white pigments such as calcium carbonate and barium sulfate. These pigments are used to reduce the color strength of inks, to aid the dispersion of some color pigments, to “carry” some of the heavier pigments, and to make “tints.” Transparent pigments such as barium sulfate are also called “extender pigments” (or extenders) whose function is to “extend” the ink and decrease the concentration of the more costly materials in the ink formula.

There are two pigments that are significant to this investigation. The first is iron blue (e.g., potassium ferrocyanide – $\text{Fe}_4(\text{Fe}(\text{CN})_6)_3$) and the second is chrome green. It should be noted that chrome green is a mixture of chrome yellow (lead chromate – PbCrO_4) and iron blue. Additional green pigments to be considered are (1) “Brunswick Green,” (2) Chrome Green, and (3) Permanent Green. Brunswick Green is described as a mixture of Chrome Yellow, Iron Blue, and Barium White which would account for most of the elements detected in the green Raleigh postmark and the Scott 15 stamp. Chrome Green is the same as described earlier (PbCrO_4 and $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$).

The Permanent Green is a mixture of Chrome Green and Barium White (barium sulfate).

Although the SEM/EDS analysis results do not identify the specific chemical compounds used in the various ink pigments, the elemental chemical analysis results and the color of the ink can be used to speculate on the chemical compounds used. The elements detected in the Scott 15 stamp ink suggest that this ink pigment consists of a mixture of barium sulfate and a green pigment. Due to the presence of lead, chromium, iron, nitrogen, and potassium, it is believed that the green pigment is most likely a mixture of yellow (lead chromate – PbCrO_4) and blue (Iron Blue - $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$). The green Raleigh postmark had a nearly identical elemental composition as the contemporaneous green ink used by Toppan & Carpenter to print the 10-cent Washington stamp of 1855. The elemental composition of the blue pigment used for the Type 6 Variety Raleigh postmark is more consistent with an Iron Blue pigment. The green 6-cent embossed design (U13) is believed to consist of a mixture of yellow (lead chromate – PbCrO_4) and blue (Iron Blue - $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$) with no extenders.

Additional covers having Raleigh postmarks were examined for this study but are not illustrated in this article. Some were believed to have green postmarks. Most of these postmarks had been used on yellowish- or buff-colored envelopes. In cases where Scott 11/11A stamps had been used on these envelopes and were cancelled with the Raleigh postmark, it appeared obvious that the postmark was blue on the white stamp paper with a contrasting red stamp design. Secondly, the elemental composition of the inks used on these covers were more similar in composition to an Iron Blue pigment. The same blue postmarks appeared to be green on the yellowish- or buff-colored paper (e.g., blue + yellow = green).

In conclusion, the green Raleigh postmark used on the Scott U9 envelope was confirmed to be a green ink pigment and was nearly identical in elemental composition to the ink used to print the 1855 ten-cent stamps (Scott 15). The blue Raleigh postmark on an envelope using a Scott 11A stamp had an elemental composition consistent with an Iron Blue pigment.

Editor's Note

Below is a photograph of a Hitachi S-3700N scanning electron microscope similar to the one used in the analysis presented in this article.



Resources

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Brunelle, Richard L. *Forensic Examination of Ink and Paper*. Charles C Thomas Publisher, 1984.

Crown, David A. *The Forensic Examination of Paints and Pigments*. Charles C Thomas Publisher, 1968.

Grovier, Kelly. *The Art of Colour*. Yale University Press, 2023.

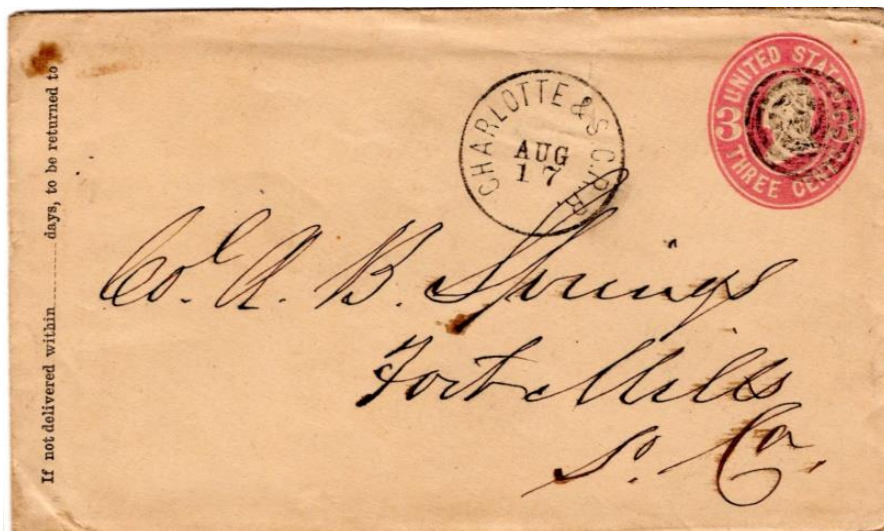
A New Charlotte and South Carolina RR Cancel



By Tony L. Crumbley

Having collected Charlotte postal history for over 40 years, it is rare for me to find something new to add to my collection that I do not already have. Recently on eBay, a Charlotte & SC railroad cover was offered, and I purchased it. The cover is shown in Figure 1.

This marking is dated August 17, 1866. This is also an unlisted handstamp in all known resources. The cover was carried from Charlotte to Col. A. B. Springs in Fort Mill, South Carolina.



◀ **Figure 1.** A newly discovered Charlotte & SC RR handstamp dated August 17 (1866) mailed from Charlotte to Fort Mill with a 26-mm handstamp and a 17-mm target killer. This is the first recorded example of this post-war handstamp.

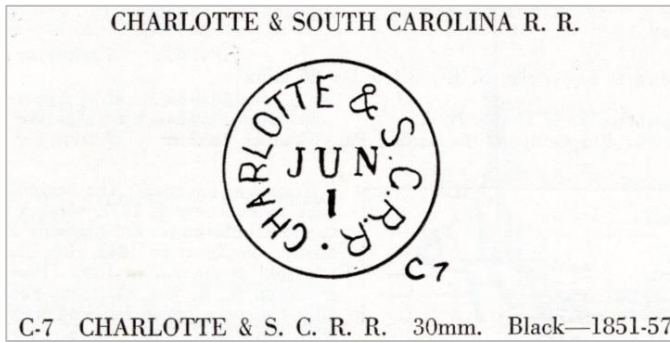
The marking is not recorded in the *North Carolina Railroad Catalogue* which I authored in 1994 or any other railroad postmark catalogues. The postmark on the front is dated August 17 with no date. On the reverse is another blue handstamp (Figure 2) which is C & SC RR Co., Columbia.

Figure 2. ▶

The receiving mark on the reverse of Figure 1. A blue 2-mm double circle C & SC RR Co. handstamp. This is also a newly discovered agent marking for this railroad.



The marking is very similar to the Charlotte & SC RR handstamp listed in *Remele Catalogue* as C-7 (Figure 3).

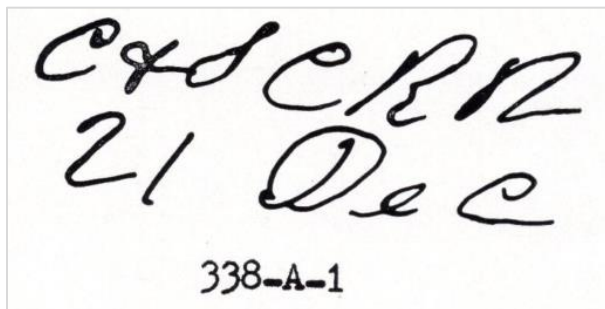


▲ **Figure 3.** An example of the pre-war handstamp from the Charlotte & SC RR as shown in *Remele Catalogue* listed as rare or very rare and measuring 30-mm, very similar to the new marking.

The main difference is Remele lists the marking as 30-mm and the new listing is 26-mm. Remele indicates the marking is rare or very rare as he had only recorded one copy. As of this writing, I have never seen this 1853 handstamp shown in Figure 3.

The Charlotte and South Carolina RR was chartered in South Carolina on December 18, 1846, and in North Carolina on January 2, 1847. It was completed from Columbia to Charlotte in late 1852. On July 9, 1869, it was consolidated with the Columbia and Augusta RR. It is now part of the Norfolk Southern System.

In 1867, the line has two agents working on it. The catalogue number for the Charlotte & SC RR is 338. Only one post-war manuscript marking is record in the 1968 catalogue of 1861-1886 handstamps. This marking is shown in Figure 4 – Catalog # 338 – A-1.

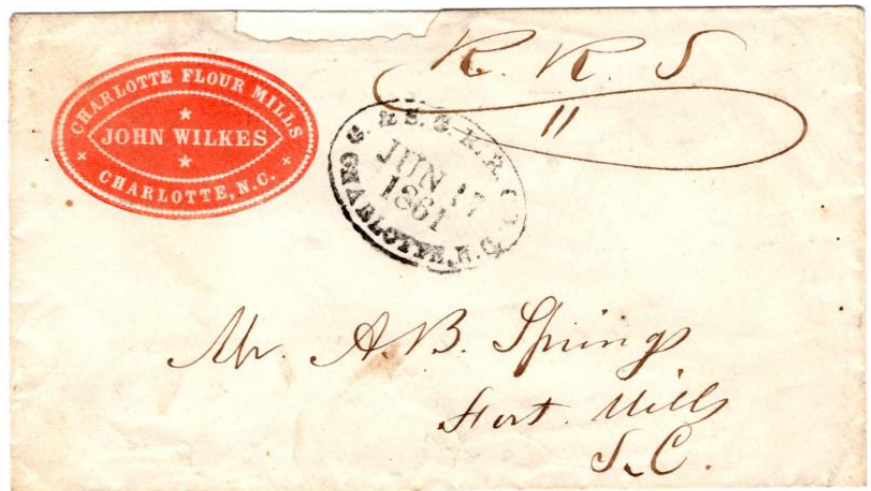


▲ **Figure 4.** The only recorded post-war postmark from the Charlotte & SC RR. This #338- A-1 catalogue marking is listed as an 1867 use.

There are two copies of a Confederate handstamp recorded from this RR route. The recording copy is shown in Figure 5. It is dated June 17, 1861.

The cover was carried from Charlotte to Fort Mill. The letter was official mail to Mr. Springs who was on the Board of Directors of the railroad and did not require Confederate postage.

A point to be made here is that in this day of technology and communication, new discoveries are still to be made in postal history collecting.



▲ **Figure 5.** Two examples of a Confederate marking from the Charlotte & SC RR are recorded. The example shown here was posted June 17, 1861 from Charlotte to Fort Mill. This cover was also to Mr. A. B. Springs.

Resources

- United States Railroad Postmarks, 1837-1861.* C. W. Remele – APS, 1958.
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- Postal Markings of North Carolina Railroads.* Tony L. Crumbley. NC Postal History Society, 1994.
- The United States Railway Post Office Postmark Catalog, 1864-1977.* Charles Towle, Fred McDonald, Mobile Post Office Society, 2001.

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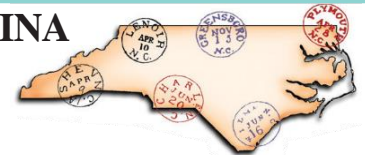
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