Chemical Analysis of 1794 & 1795 U. S. Silver Coins – Part 1

David Finkelstein and Christopher Pilliod – September, 2018

1. Introduction

Most numismatists will agree that the single most important Mint related legislation in our nation's history was the Mint and Coinage Act of April 2, 1792. In addition to establishing the first Mint of the United States, one of the key aspects of this law was Congress's mandate for the composition of the silver coins. Per Section 13:

> *"And be it further enacted, That the standard for all silver coins of the United States, shall be one thousand four hundred and eighty-five parts fine to one hundred and seventy-nine parts alloy; and accordingly that one thousand four hundred and eighty-five parts in one thousands six hundred and sixty-four parts of the entire weight of each of the said coins shall consist of pure silver, and the remaining one hundred and seventy-nine parts of allow; which alloy shall be wholly of copper."*

The law specified that silver coins were to contain 1485 parts of *pure* silver and 179 parts copper alloy. This equated to a standard of 1485 / 1664 or 89.24278% or 89.24+% pure silver, and 10.75722% or 10.76-% copper alloy.

Multiple documents stored within the National Archives and Records Administration (NARA) and the Library of Congress indicate that under the leadership of Mint Directors David Rittenhouse and Henry William de Saussure, some or all of the 1794, and most or all of the 1795 dated silver coins were produced to a 90% silver and 10% copper standard. Then, effective November 6, 1795, under the leadership of its third Director, Elias Boudinot, the Mint reverted to the 89.24+% silver and 10.76-% copper standard.

The first phase of a multi-phase project was just completed to determine:

1. what elements and percentages are in the silver coins of 1794 and 1795,
2. what elements and percentages are in the copper coins of 1794 and 1795,
3. whether the Mint attempted to refine any of the silver bullion deposits made during 1794 and 1795 to a standard of 89.24+% silver and 10.76-% copper as per the Mint and Coinage Act of April 2, 1792,
4. whether the Mint attempted to refine any of the silver bullion deposits made during 1794 and 1795 to a standard of 90% silver and 10% copper, thus violating the Mint and Coinage Act of April 2, 1792,
5. whether Mint personnel were capable of achieving a refining target of 89.24+% silver and 10.76-% copper,

6. whether Mint personnel were capable of achieving a refining target of 90% silver and 10% copper,
7. the technologies available to 18th century precious metal refiners, and
8. the Mint's practices for refining silver bullion deposits.

This project began in March, 2015. Thanks to support from the Eric P. Newman Numismatic Education Society, Heritage Auctions, and the Terry Brand Estate, modern chemical analysis technologies were used to determine the chemical compositions of 1794 and 1795 silver and copper coins. Based on the compositional results, statistical analyses were performed, and preliminary conclusions were made.

This article is the part 1 of a multi part article series. It provides the historical overview of events that lay the foundation for this project. Contemporary documents from the NARA and Library of Congress will be presented that (1) identify some of the major issues with the Mint and Coinage Act, (2) the efforts of Mint Director David Rittenhouse, Secretary of State Thomas Jefferson, and President George Washington to facilitate the production of silver coins, and (3) letters written by Mint Directors Henry William de Saussure and Elias Boudinot to President George Washington stating that the Mint stuck silver coins to a 90% silver and 10% copper standard.

2. Issue 1 With The Mint And Coinage Act – No Bullion Fund

Although there were multiple issues with the Mint and Coinage Act of April 2, 1792 that impacted the Mint's ability to accept silver and gold bullion deposits and refine those deposits, only two of those issues are related to the scope of this research project. First, per Section 14 of the Mint and Coinage Act:

> *"And be it further enacted, That it shall be lawful for any person or persons to bring to the said mint gold and silver bullion, in order to their being coined... That it shall be at the mutual opinion of the party or parties bringing such bullion, and of the director of the said mint, to make an immediate exchange of coins for standard bullion, with a deduction of one half per cent, from the weight of the pure gold, or pure silver contained in the said bullion, as an indemnification to the mint for the time which will necessarily be required for coining the said bullion, and for the advance which shall have been so made in coins".*

The above section specifies that if anyone brought bullion to the Mint that was already melted and refined to the standards of the United States [for silver bullion: 89.24+% silver and 10.76-% copper], and the Mint had coins available, an immediate exchange for coins could be made for the value of the bullion minus a fee of ½ of 1% (0.005).

On August 15, 1793, Secretary of State Thomas Jefferson wrote a letter to President George Washington.[1] See Figure 1. Contained within that letter is the following text:

> *“The Director also informs me that much silver is brought to him to be exchanged for coin, but not having the coin ready the silver is carried away again.”*

Multiple people attempted to make silver bullion deposits for an immediate exchange of coins on or before August 15, 1793. Since the Mint did not have silver coins on hand, and the depositors did not want to wait for their bullion to be processed and struck into coins, the bullion was not deposited with the Mint.

3. Issue 2 With The Mint And Coinage Act – No Refiner

The second issue with the Mint & Coinage Act of April 2, 1792 that is related to the scope of this project is that it failed to define the position of a Refiner. Although the Mint and Coinage Act covered the depositing of bullion with the Mint, the assaying of the bullion, the striking of the coins from the bullion, and the return of the coins to the depositors of the bullion, there was no provision to have a Mint employee refine the deposits into the appropriate precious metal and alloy percentages.

On December 30, 1793, Secretary of State Thomas Jefferson wrote a letter to President George Washington.[2] See Figure 2. Contained within that letter is the following text:

> *“I am informed, by the Director of the Mint, that an impediment has arisen to the coinage of the precious Metals, which it is my Duty to lay before you …*
>
> *it may be proper to state the course of the Business, according to what the Director is of Opinion it should be. The Treasurer, he observes, should receive the Bullion; the Assayer, by an operation on a few Grains of it, is to ascertain it’s fineness. The Treasurer is then to deliver it to the Refiner to be melted and mixed to the standard fineness— …*
>
> *I have thought it my duty to give this information, under an impression that it is proper to be communicated to the Legislature, who will decide in their Wisdom, whether it will be expedient to …*
>
> *place the office of the Refiner under the same nomination with that of the other Chief Officers, to fix his Salary, & require due Security”.*

On December 31, 1793, President Washington forwarded Jefferson’s letter to Congress.[3] On February 3, 1794, the Senate assigned Senators George Cabot (Massachusetts), Ralph Izard (South Carolina), and Oliver Ellsworth (Connecticut) to a committee of three to report on the “*impediments to the coinage of the precious metals*”.[4] On February 18th, the Senate passed a bill entitled "*an act in alteration of the act establishing a mint and regulating the coins of the United States*” or The Alteration of the Mint Act.[5] The bill was approved by the House of Representatives on February 25th and signed into law by President Washington on March 3, 1794.[6]

4. Issue With The Alteration Of The Mint Act – No Refiner

Although the Alteration of the Mint Act of March 3, 1794 resolved some of the issues with the Mint and Coinage Act of April 2, 1792, it failed to define the position of Refiner. This omission soon became a major problem for Mint Director David Rittenhouse. The first silver bullion deposit was made on July 18, 1794. Within six weeks, 116,783 Troy ounces gross weight, or 3.63 metric tons of silver bullion was deposited with the Mint.

Without a Refiner, bullion deposits could not legally be refined to the appropriate precious metal and alloy percentages. Eventually, the Mint vaults would overflow from too many bullion deposits. So what did Director Rittenhouse do? He improvised. He expanded the role of the Assayer.

5. Assayer Albion Cox Refined Silver Deposits

On July 18, 1794, the Bank of Maryland made the first silver bullion deposit with the Mint. Four days later, on July 22, 1794, Director Rittenhouse instructed Assayer Albion Cox to begin refining the Bank of Maryland's silver bullion deposit. See Figure 3.

Since this was the first time silver bullion was refined by the Mint, a 50 Troy ounce refining test was performed. Then, beginning October 4, 1794, the Bank of Maryland's silver bullion deposit was refined in 22 large batches over an 8 month period.

On August 22, 1794, David Rittenhouse made silver bullion deposits 2 and 3 totaling approximately 1,734 Troy ounces. On August 25th and 26th, the silver bullion was transferred from Treasurer of the Mint Dr. Nicholas Way to Chief Coiner Henry Voigt so Assayer Albion Cox could refine the silver bullion. Then, on October 15, 1794, Director Rittenhouse issued Delivery Warrant 1 to transfer the first silver coins struck by the Mint, 1,758 Dollar coins, from the custody of Henry Voigt to the custody of Dr. Way.[7]

Two weeks later, on October 28, 1794, David Rittenhouse wrote a letter to Secretary of State Edmond Randolph.[8] See Figure 4. [Note: beginning 1792, the Director of the Mint reported to the Secretary of State. In 1873, the Mint became a bureau of the Treasury Department.] Included in his letter is the following:

> *"… and a beginning has been made in coining the precious metals; near 120,000 ounces of bullion have already been deposited in the mint for coinage, a considerable quantity of which, being too base for the standard of the United States, has, in part, been successfully refined by the assayer, who is still going on with that process".*

Rather than informing the Secretary of State that he violated The Mint & Coinage Act, Rittenhouse informed Randolph that the Mint was proactively accepting deposits, assaying them, refining them, and striking silver coins. Note that per Rittenhouse's letter, the Assayer [Albion Cox] refined the silver bullion deposits.

6. David Ott Hired As Contract Refiner

On November 1, 1794, three days after Director Rittenhouse informed Secretary of State Randolph that the Assayer was refining silver bullion deposits, David Ott began working at the Mint as a contract Refiner. On February 20, 1795, Ott was paid $133.33 for "*53 days work at melting and refinery etc. in the Mint from 1 Nov to 31 December inclusive"*. See Figure 5.[7]

Note that the hiring of David Ott was most likely done with the approval of Secretary of State Randolph, and possibly with the approval of President Washington.

7. Congressional Committee Appointed To Examine The Mint

Although it is unclear when Edmond Randolph forwarded David Rittenhouse's October 28th letter to President Washington, on November 20, 1794, Washington forwarded Rittenhouse's letter to the Senate.[9] On December 9, 1794, the Senate appointed Elias Boudinot (New Jersey), Jonathan Trumball (Connecticut), and John Hunter (South Carolina) to a committee of three to "*examine and report on the state of the Mint, and what further measures may be necessary to render the institution more beneficial to the United States*".[10]

8. Questions Were Posed To The Officers Of The Mint

During December, 1794 and January, 1795, the Congressional committee interviewed the officers of the Mint. Questions were also posed to them in writing. This was done in an attempt to understand the roles and responsibilities of Mint personnel, the workflow within the Mint, the expenses required to operate the Mint, the security measures implemented to prevent embezzlement, the coinage output capacity of the equipment, and the bullion that was on hand.

Although the questions posed to and the responses made by Treasurer of the Mint Dr. Nicholas Way and Engraver Robert Scot were located within the NARA, the questions posed to and the responses made by Assayer Albion Cox and Chief Coiner Henry Voigt have not yet been located. Dr. Way's responses to the Congressional Committee are dated December 20, 1794.[11] See Figure 6.

In response to question 4 [*What alterations were necessary in the precious metal or copper coins?*], Dr. Way states:

> *"The alloy directed by the Law for the Silver is declared by the Assayer to be such an over proportion that the Coin would soon become of so dark a color as to injure its credit ---"*

Dr. Way informed the Congressional Committee that Assayer Albion Cox believed the copper alloy percentage was too high, therefore silver coins struck to the 89.24+% silver and 10.76-% copper standard would turn dark.

9. Henry William de Saussure Spills The Beans

On October 27, 1795, one day prior to his last day in office, Henry William de Saussure, the second Director of the Mint, wrote a letter to President Washington. The letter was forwarded to Congress on December 14, 1795.[12] Included in his letter is the following:

> *"It is important to inform you… that the standard of the silver coin, in use at the mint, differs from the standard fixed by law. The law establishing the mint, fixes that the silver coinage should contain 1485 parts of fine silver to 179 parts alloy* [or 89.24+% silver and 10.76-% copper]…
>
> *Before my operation commenced under this law, it was supposed by the best informed men that this standard was too low; would debase the coin too much; and was inconvenient in other respects... The alteration contemplated went to the establishment of a standard, which required that nine parts in ten should be fine silver, the other tenth alloy* [or 90% silver and 10% copper]…"

Henry William de Saussure just let the cat out of the bag. He informed President Washington that under the leadership of David Rittenhouse, the Mint violated the Mint and Coinage Act and struck silver coins to a 90% silver and 10% copper standard.

10. Elias Boudinot Reverts To The Original Silver Standard

On December 3, 1795, Elias Boudinot, the third Director of the Mint, issued the Director of the Mint's yearly report to Secretary of State Timothy Pickering.[12] The report was then forwarded to President Washington on December 9, 1795[13]. President Washington forwarded the report to Congress on December 14, 1795.[14] Included in his report is the following:

> *"It has been the opinion of former officers of the mint that the legal standard for silver should be reconsidered; and the Director, on coming into office, found, that for some special reasons, the standard of coins, heretofore completed, varied, in a small degree, from that established by law…*
>
> *Whatever force those reasons may have with the Legislature, the Director did not think himself justifiable in permitting so important a measure to be continued, without legislative sanction; he has, therefore, issued orders, that, in future, the precise terms of the act of Congress, in this respect, should be observed;"*

Elias Boudinot received his temporary commission as the third Director of the Mint on October 28, 1795. On November 6th, Boudinot directed assayer Albion Cox to "*be particularly careful in future, to see that the precious Metals issued for coining, be made precisely agreeably to the standard*".[12] In his December 3rd letter, Boudinot informed the Secretary of State that he instructed Mint personnel to revert back to the original silver standard of the Mint and Coinage Act.

Note that the yearly report that Boudinot forwarded to Pickering contains additional paragraphs than in the report that was forwarded by President Washington to Congress. At this time it is believed that President Washington had a shortened version of Boudinot's report created for Congress.

11. No Annual Assays For The 1794 And 1795 Coinage

Per Section 18 of the Mint and Coinage Act of April 2, 1792, an annual assay of the silver and gold coin production was to occur on the last Monday in July of each year:

> *"Be it further enacted, That from every separate mass of standard gold or silver, which shall be made into coins at the said mint, there shall be taken, set apart by the treasurer and reserved in his custody a certain number of pieces, not less than three, and that once in every year the pieces so set apart and reserved, shall be assayed under the inspection of the Chief Justice of the United States, the Secretary and Comptroller of the Treasury, the Secretary for the Department of State, and the Attorney General of the United States...*
>
> *and if it shall be found that the gold and silver so assayed, shall not be inferior to their respective standards herein before declared more than one part in one hundred and forty-four parts, the officer or officers of the said mint whom it may concern shall be held excusable ; but if any greater inferiority shall appear, it shall be certified to the President of the United States, and the said officer or officers shall be deemed disqualified to hold their respective offices".*

Per Section 13 of the Mint and Coinage Act, silver coins were to contain 89.24278% pure silver. Combined with Section 18, silver coins were to contain 89.24278% +/- 0.61974 pure silver. This resulted in a tolerance range of 88.62304% to 89.86252% pure silver.

Annual assays did not occur in 1795 and 1796. On November 29, 1796, Mint Director Elias Boudinot sent a letter to President Washington.[15] Included in his letter is the following:

> *"As the Laws relative to the mint now stand, the officers are obliged to pay to each Depositor, the coins arising from his deposit[s], in strict order, and to reserve three pieces of coin from each mass, yet no appropriation has been made to replace the reserves, or to make good the wastage. It is, therefore,*

impossible for the officers of the mint to comply with the Law, and the Depositors complain of being kept out of their property, till provision is made by Congress for their relief."

The Mint and Coinage Act required the Mint to set aside three coins from each deposit to be tested at the annual assay. Unfortunately, the Mint did not have a bullion fund to replace those coins that were set aside for the annual assay. Per Boudinot's letter, the Mint was not able to reserve coins for the annual assay due to complaints from the depositors.

Although there is no doubt that the depositors complained, there may be an additional reason for why the annual assays of 1795 and 1796 did not occur. Had an annual assay of 1794 and 1795 dated silver coins occurred on Monday, July 27, 1795, and had any assay resulted in 90% silver, some or most of the Mint officers would have been looking for new jobs on Tuesday, July 28th. Likewise, had an annual assay of 1795 and 1796 dated silver coins occurred on Monday, July 25, 1796, and had any assay resulted in 90% silver, a help wanted sign may have been placed in the Mint's front window on Tuesday, July 26th.

12. The Timeline Of Events

The previous sections identify nine events in the Mint's history. When placed in chronological order, a timeline is formed, indicating that the Mint struck some, most, or all of the 1794 and 1795 dated silver coins to an illegal 90% silver / 10% copper standard. The timeline is as follows:

1. August 15, 1793: Secretary of State Thomas Jefferson to President George Washington: No U. S. silver coins on hand at the Mint to facilitate immediate exchanges of silver bullion for coins. Bullion depositors do not deposit their silver bullion with the Mint.

2. December 30, 1793: Secretary of State Thomas Jefferson to President George Washington: The Mint & Coinage Act of April 2, 1792 did not define the position of Melter & Refiner.

3. October 28, 1794: Mint Director David Rittenhouse to Secretary of State Edmund Randolph: Assayer Albion Cox was melting and refining the first silver bullion deposits.

4. November 1, 1794: David Ott begins working at the Mint as a contract Refiner.

5. December 20, 1794: Treasurer of the Mint Dr. Nicholas Way to the Congressional Committee appointed to examine the Mint: The Assayer, Albion Cox, believes that there is too much copper alloy in the silver coins, that the

coins will turn dark, and be valued less by the public.

6. July 27, 1795: The Annual Assay did not occur for 1794 and 1795 silver coins.

7. October 27, 1795: Mint Director Henry William de Saussure to President George Washington: Under the leadership of David Rittenhouse, the Mint struck silver coins to a 90% silver and 10% copper standard. He continued the practice.

8. December 3, 1795: Mint Director Elias Boudinot to Secretary of State Timothy Pickering (then to President George Washington on December 9, 1795 and to Congress on December 14, 1795): He stopped the 90% silver and 10% copper standard and reverted to the 89.24+% silver and 10.76-% copper standard as mandated by the Mint and Coinage Act of April 2, 1792.

9. July 25, 1796: The Annual Assay did not occur for 1795 and 1796 silver coins.

13. Next Steps

The documents and events presented in this article are *circumstantial* evidence that the Mint struck some, most, or all of the 1794 and 1795 dated silver coins to an illegal 90% silver / 10% copper standard. Direct evidence was required. The most logical approach considered was to first determine the actual chemical compositions of 1794 and 1795 silver coins. Then, statistical analyses could be performed to ascertain whether the Mint's refining targets were most likely 89.24+% silver and 10.76-% copper, or 90% silver and 10% copper.

To be continued…

References:

1. Founders Online, The correspondence and other writings of George Washington, Benjamin Franklin, John Adams, Thomas Jefferson, Alexander Hamilton, and James Madison, To George Washington From Thomas Jefferson, 15 August 1793, Permalink https://founders.archives.gov/documents/Washington/05-13-02-0306.

2. Ibid, 30 December 1793, Permalink https://founders.archives.gov/documents/Jefferson/01-27-02-0574.

3. Library of Congress, http://memory.loc.gov, Journal of the Senate of the United States of America, 1789-1873, Tuesday, December 31, 1793.

4. Ibid, Monday, February 3, 1794.

5. Ibid, Tuesday, February 18, 1794.

6. Ibid, Tuesday, March 3, 1794.

7. National Archives and Records Administration, Records of the U. S. Mint, Record Group 104, Waste Books, Bullion Journals, Stubs For Warrants and Expenses.

8. American State Papers. Documents, Legislative and Executive, of the Congress of the United States, Gales and Seaton, 1832, Finance, page 317.

9. Library of Congress, http://memory.loc.gov, Journal of the Senate of the United States of America, 1789-1873, Thursday, November 20, 1794.

10. Library of Congress, http://memory.loc.gov, Journal of the House of Representatives of the United States of America, 1789-1873, Tuesday, December 9, 1794.

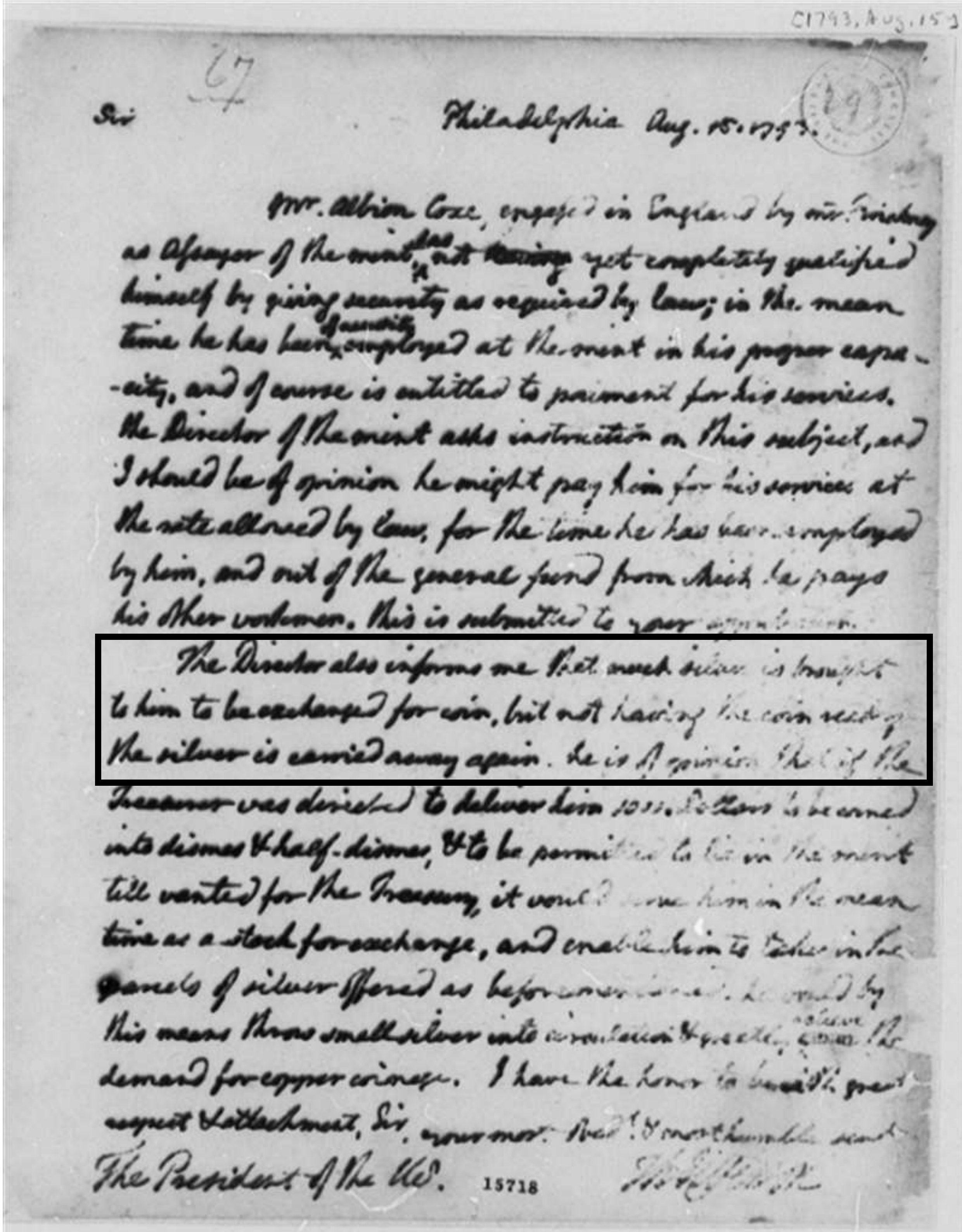
11. National Archives and Records Administration, Records of the U. S. Mint, Record Group 104, NC-152, E-14, Box 1, General Correspondence 1792-1899.

12. National Archives and Records Administration, Records of the U. S. Mint, Record Group 104, Letters Sent, 1795-1804, G-09-07-07-3, Boxes 1-2.

13. Domestic Letters of the Department of State, Volume 9, October 12, 1795 – February 28, 1797, Page 28, https://www.fold3.com/image/253/6597436.

14. American State Papers. Documents, Legislative and Executive, of the Congress of the United States, Gales and Seaton, 1832, Finance, page 356.

15. Founders Online, The correspondence and other writings of George Washington, Benjamin Franklin, John Adams, Thomas Jefferson, Alexander Hamilton, and James Madison, To George Washington From Elias Boudinot, 29 November 1796, Permalink https://founders.archives.gov/documents/Washington/99-01-02-00038.


[1793, Aug. 15]

67

Sir

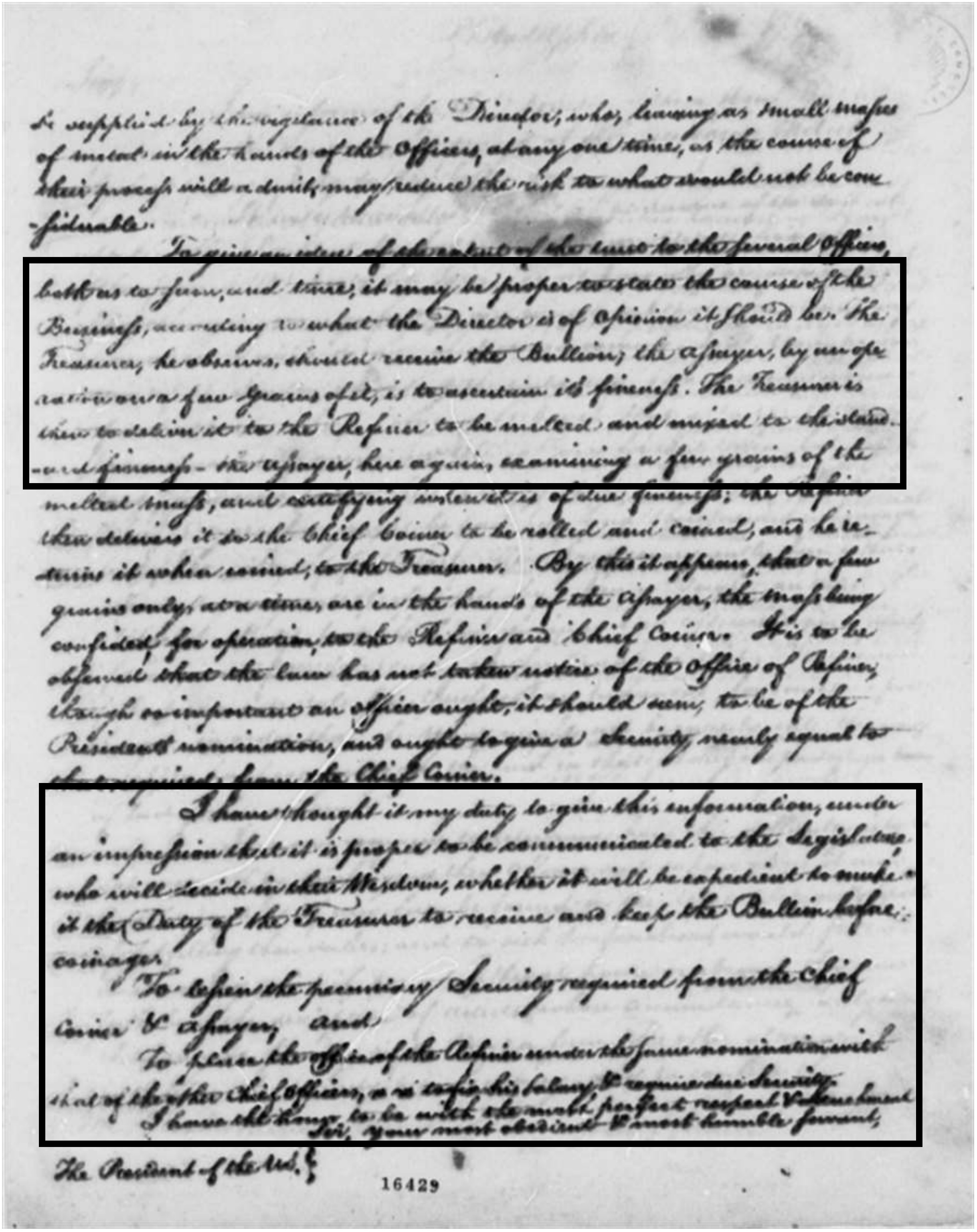
Philadelphia Aug. 15. 1793.

Mr. Albion Coxe, engaged in England by Mr. Pinckney as Assayer of the mint, has not yet compleatly qualified himself by giving security as required by law; in the mean time he has been constantly employed at the mint in his proper capacity, and of course is entitled to paiment for his services. The Director of the mint asks instruction on this subject, and I should be of opinion he might pay him for his services at the rate allowed by law, for the time he has been employed by him, and out of the general fund from which he pays his other workmen. This is submitted to your approbation.

The Director also informs me that much silver is brought to him to be exchanged for coin, but not having the coin ready the silver is carried away again. He is of opinion that if the Treasurer was directed to deliver him 10,000. Dollars to be coined into dismes & half-dismes, & to be permitted to lie in the mint till wanted for the Treasury, it would serve him in the mean time as a stock for exchange, and enable him to take in the parcels of silver offered as before mentioned. He would by this means throw small silver into circulation & greatly relieve the demand for copper coinage. I have the honor to be with great respect & attachment, Sir, your most obedt & most humble servt

The President of the US. 15718 Th: Jefferson

Figure 1 - Jefferson To Washington: August 15, 1793


be supplied by the vigilance of the Director; who, leaving as small masses of metal in the hands of the Officers, at any one time, as the course of their process will admit, may reduce the risk to what would not be considerable.

To give an idea of the extent of the trust to the several Officers, both as to sum, and time, it may be proper to state the course of the Business, according to what the Director is of Opinion it should be. The Treasurer, he observes, should receive the Bullion; the Assayer, by an operation on a few grains of it, is to ascertain its fineness. The Treasurer is then to deliver it to the Refiner to be melted and mixed to the standard fineness — the Assayer, here again, examining a few grains of the melted mass, and certifying [illegible] of due fineness; the Refiner then delivers it to the Chief Coiner to be rolled and coined, and he returns it when coined, to the Treasurer. By this it appears, that a few grains only, at a time, are in the hands of the Assayer, the mass being confided, for operation, to the Refiner and Chief Coiner. It is to be observed that the law has not taken notice of the Office of Refiner, though so important an officer ought, it should seem, to be of the President's nomination, and ought to give a Security nearly equal to that required from the Chief Coiner.

I have thought it my duty to give this information, under an impression that it is proper to be communicated to the Legislature, who will decide in their Wisdom, whether it will be expedient to make it the Duty of the Treasurer to receive and keep the Bullion before coinage.

To lessen the pecuniary Security required from the Chief Coiner & Assayer, and

To place the office of the Refiner under the same nomination with that of the other Chief Officers, and to fix his Salary & require due Security.

I have the honor to be with the most perfect respect & esteem Sir, your most obedient & most humble servant,

The President of the U.S.

16429

Figure 2 - Jefferson To Washington: December 30, 1793
Page 2

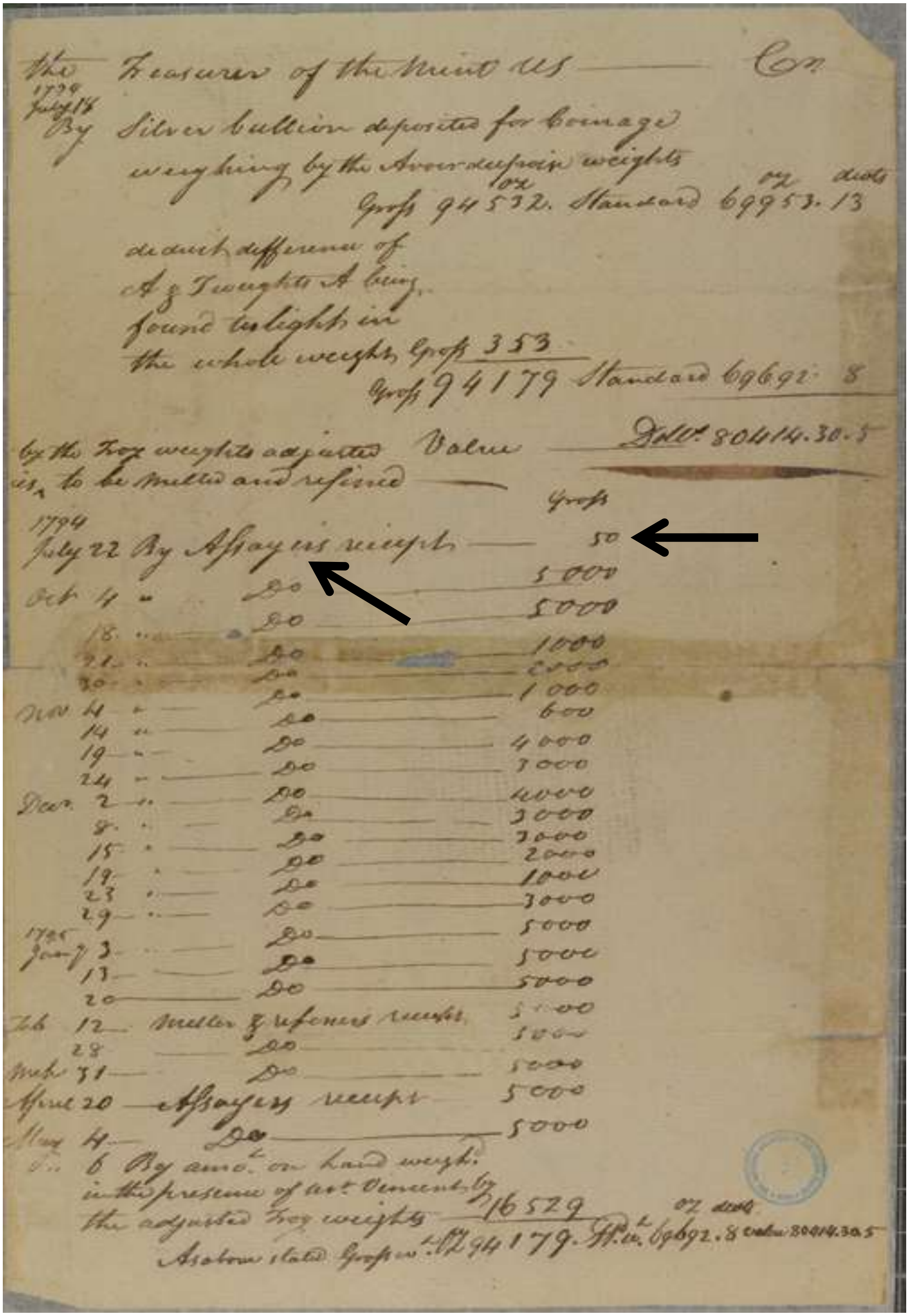

the Treasurer of the Mint US —— Cr
1794 July 18 By Silver bullion deposited for Coinage
weighing by the Avoirdupois weights
oz oz dwts
Gross 94532. Standard 69953.13
deduct difference of
Av.p weights being
found too light in
the whole weight Gross 353
Gross 94179 Standard 69692. 8
by the Troy weights adjusted Value —— Dolls 80414.30.5
is, to be melted and refined ——
Gross
1794 July 22 By Assayers receipt —— 50
Do —— 5000
Oct 4 Do —— 5000
18 Do —— 1000
21 Do —— 2000
30 Do —— 1000
Nov 4 Do —— 600
14 Do —— 4000
19 Do —— 3000
24 Do —— 4000
Dec 2 Do —— 3000
8 Do —— 3000
15 Do —— 2000
19 Do —— 1000
23 Do —— 3000
29 Do —— 5000
1795 Jany 3 Do —— 5000
13 Do —— 5000
20 Do —— 5000
Feb 12 Melter & refiners receipts 5000
28 Do —— 5000
Mch 31 Do —— 5000
April 20 Assayers receipt 5000
May 4 Do —— 5000
6 By amo.t on hand weigh'd
in the presence of Mr. Vincent by
the adjusted Troy weights 16529 oz dwts
As above stated Gross wt. 94179. St.d wt. 69692.8 value 80414.30.5

Figure 3 - Refining Of The Bank Of Maryland's Silver Deposit

1794.] PUBLIC DEBT. 317

3d CONGRESS.] **No. 71.** [2d SESSION.

MINT.

COMMUNICATED TO THE SENATE, BY THE PRESIDENT OF THE UNITED STATES, NOVEMBER 20, 1794.

MINT OF THE UNITED STATES, 28*th October*, 1794.

SIR:

The expenses of the mint have hitherto been chiefly applied only preparatory towards carrying on the business of the establishment; in erecting the necessary buildings, furnaces for melting, refining, and assaying, &c. (for which purpose it has been found necessary to purchase an additional lot of ground) and the very extensive machinery used in the different operations of coining; nearly one million of cents have, however, been coined, and paid into the treasury of the United States, and a beginning has been made in coining the precious metals; near 120,000 ounces of bullion have already been deposited in the mint for coinage, a considerable quantity of which, being too base for the standard of the United States, has, in part, been successfully refined by the assayer, who is still going on with that process. A large parcel of blank dollars is ready for coining, waiting for a more powerful press to be finished, in order to complete them for currency.

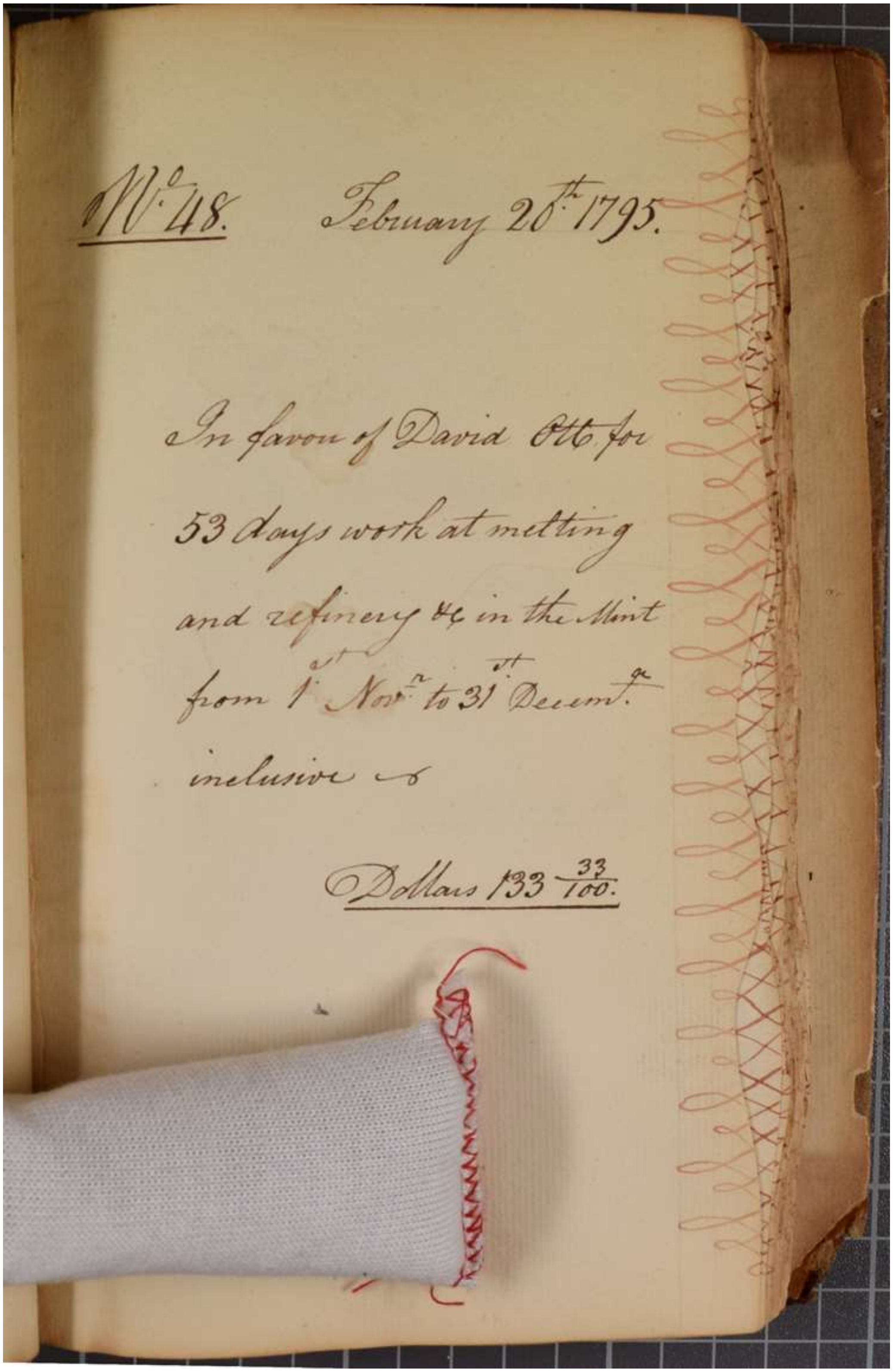
A large quantity of copper still remains on hand, part of it not yet refined. This will be wrought occasionally, so as not to interfere with the silver coinage.

I am, with the most perfect esteem, sir, yours, &c.

DAVID RITTENHOUSE.

EDWARD RANDOLPH, Esq. *Secretary of State.*

Figure 4 – Rittenhouse To Randolph: October 28, 1794

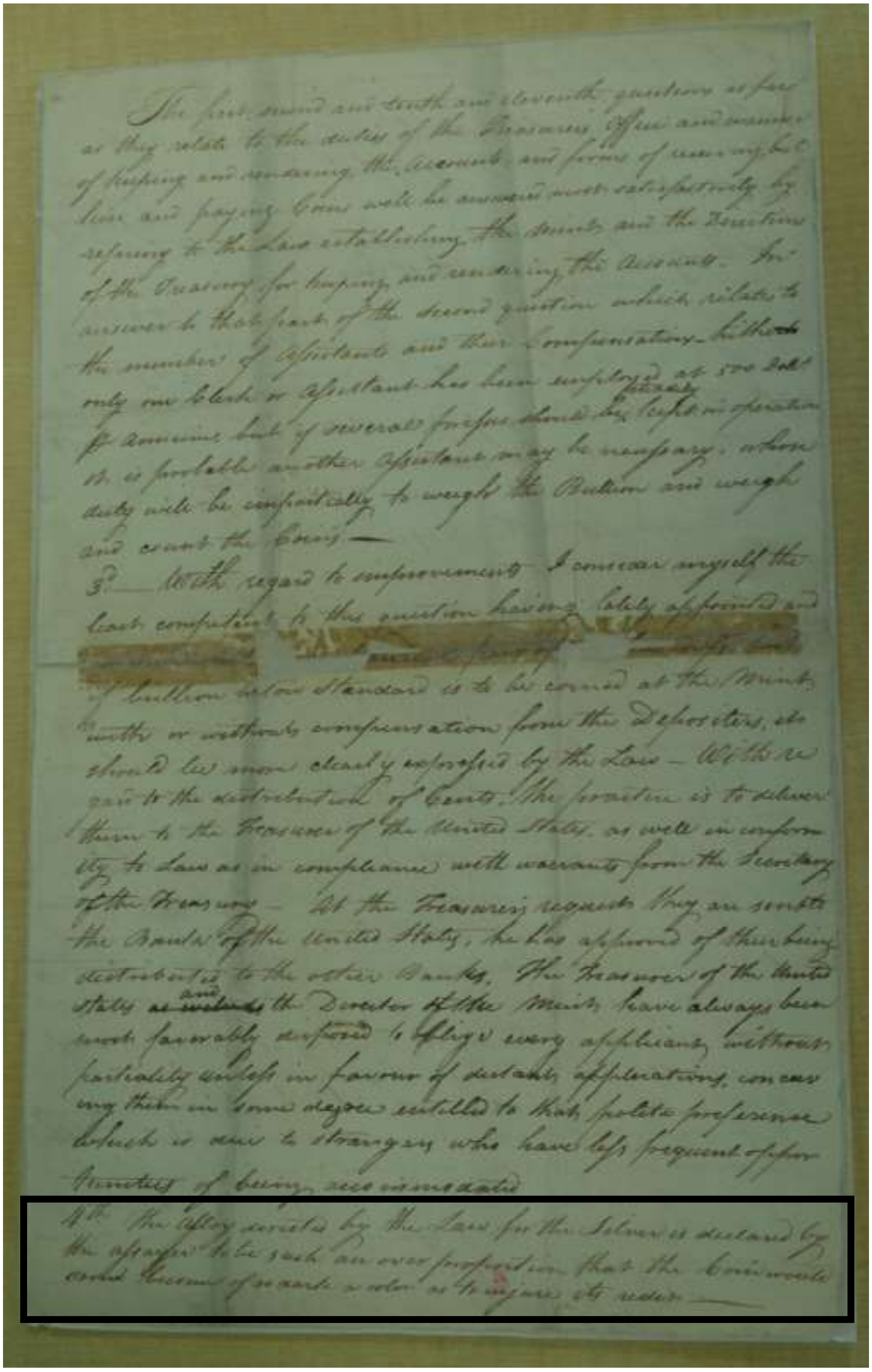


No. 48. February 26th 1795.

In favor of David Ott for
53 days work at melting
and refinery &c in the Mint
from 1st Novr to 31st Decemr
inclusive

Dollars 133 $\frac{33}{100}$.

Figure 5 - Stubs For Warrants & Expenses: David Ott



The first, second and tenth and eleventh questions as far as they relate to the duties of the Treasurers Office and manner of keeping and rendering the accounts and forms of receiving bullion and paying Coin will be answered most satisfactorily by referring to the Law establishing the Mint and the Directions of the Treasury for keeping and rendering the Accounts. In answer to that part of the second question which relates to the number of Assistants and their Compensation—hitherto only one Clerk or Assistant has been employed at 500 Dollars per annum but if several presses should be kept steadily in operation it is probable another Assistant may be necessary, whose duty will be principally to weigh the Bullion and weigh and count the Coins—

3d With regard to improvements I conceive myself the least competent to this question having lately appointed and [illegible] of bullion below Standard is to be coined at the Mint with or without compensation from the Depositors, etc. should be more clearly expressed by the Law— With regard to the distribution of Cents, the practice is to deliver them to the Treasurer of the United States, as well in conformity to Law as in compliance with warrants from the Secretary of the Treasury— At the Treasurers request they are sent to the Bank of the United States, he has approved of their being distributed to the other Banks. The Treasurer of the United States and the Director of the Mint have always been most favorably disposed to oblige every applicant without partiality unless in favour of distant applications, conceiving them in some degree entitled to that polite preference which is due to strangers who have less frequent opportunities of being accommodated

4th The Alloy directed by the Law for the Silver is declared by the assayer to be such an over proportion that the Coin would become of so dark a color as to injure its credit—

Figure 6 - Dr. Nicholas Way's Responses To The Congressional Committee To Examine The Mint – December 20, 1794 - Page 1