

Impact of Technical Analyses
on
Greene Foundation Expertizing

Presentation to
Third International Symposium
On
Analytical Methods in Philately

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This presentation covers three subjects

- Impact of technology on our thinking processes
- Statistical review of results
- Examples of use of the VSC6000

The Greene Foundation

About VGG

- Established in 1975 as a ‘not for profit’ corporation and has Registered Charitable status.
- Mandate includes:
maintenance of library;
expertizing service for BNA
philatelic material and
publishing scholarly works.



Home in Toronto



The Expert Committee

- Meets monthly.
- Consists of volunteer collectors and dealers
- All serve without compensation.
- Deals with approximately 1300 submissions annually.
- Issues two types of certificates:
 - **Genuine** (green) when the item is fault free or with unrepaired faults, or
 - **False** (pink) when the item has repaired faults or alterations to the original state
- Certificate is an opinion – not a legal guarantee
- Occasionally the committee returns a “no opinion” decision
- Member of A.I.E.P.

Expertizing at the Greene Foundation

- Foundation has been expertizing B.N.A stamps & postal history for 40 years.
- Foundation has issued 25,000 genuine (green) and 5,000 false (pink) certificates – about 1300 per year.
- Prior to 2002 no analytic technology was used to enhance knowledge and experience
- In 2002 we acquired a Crimescope CS-16 adding infra-red examination capabilities
- In 2012 we purchased a Foster+Freeman VSC6000/HS
- After 5 years of use it is now important to review its impact on expertizing at the Greene.

Trigger for Change



- Compared to copy in Royal collection and Bill Gross collection
- We could not reach a conclusion
- Examined at Smithsonian using VSC6000
- No surface scratch from pen nib
- Overprint was done with a paintbrush!

The Game Changing VSC6000/HS

is equipped with a high-resolution colour camera and zoom lens, a range of viewing filters, and multiple illumination sources from UV to visible to IR wavelengths. Instrument functions are selected and controlled through a simple graphical user interface and the Windows operating system includes casework management and image archiving facilities.



Expertizing is Now More Analytical

- “Thinking” process becomes :
More Analytical – Less Touchy- Feely
- No substitute for knowledge and experience, but:
technology broadens the scope and depth of a review. Process becomes more forensic.
- Analytical forces us to ask – ‘If I am not sure then what else can it be?’.
- Touchy-Feely allows –‘If it doesn’t look or feel normal then it probably has repairs or alterations’ – our best guess that day
- Application of science and technology does not solve every question – it forces us to think differently.

More Issues Driving Analytical Process

- Historically, expert collectors/dealers had an unquestioned status – today more assurance must support the expert opinion.
- Modern printing processes, invisible varieties/errors, more catalogue sublistings, all complicate expertizing
- Internet/eBay purchases do not allow preview of purchase – thus expertization is key to integrity
- Technology applies to many aspects of our life – we are remiss if its use is not explored in our hobby.
- Technology enhances reputation of expertizing.



Use of the Foster Freeman VSC 6000

Wide variety of functions and combinations of them existing in one machine facilitates analysis that did not exist 5 years ago.

Role and Use of the VSC6000

- Used for 10% to 20% of submissions
- Confirmation of cancels and markings
- Detection of skillful repairs and alterations
- Review overprints and perforated initials
- Colour analysis in its beginning stages
- Provides photographs for submitters
- Used for both Genuine and False certifications.

1st Statistical Review

Pre and Post VSC6000

Q. – Are we seeing more bad items (pink certificate) with the VSC?

<u>Time Period</u>	<u>Total Certs</u>	<u>Pink Certs</u>	<u>% Pink</u>
11 yrs:2001-11	10095	1555	15.4%
5 yrs:2007-11	5008	724	14.4
5 yrs:2012-16	6833	800	11.7

% of Total given a Pink Certificate has declined

This statistic is not a good indicator of the impact of technology.

Submissions have increased significantly from dealers wanting a certificate for genuine stamps to help marketing.

Over time it is expected the number of unexamined old stamps with faults will decline.

2nd Statistical Review

Types of Pink Certificates Pre & Post VSC6000

<u>Category of Pink Cert.</u>	<u>Pre VSC</u>	<u>Post VSC</u>
1. Regummed	26%	24%
2. Reperforated	6	10
3. Fake creation of stamp	12	13
4. Rebacked, margins and design added	13	19
5. Repaired tears, filled thins	11	13
6. Covers with stamps not belonging	8	3
7. Forgery	4	2
8. Fake surcharges/overprints	8	7
9. Chemical change to modern stamp	5	4
10. Cancel removed, stamp cleaned	<u>7</u>	<u>4</u>
TOTAL	100%	100%

Observations on Results

- Overall shift in allocation of causes is not dramatic
- Regumming remains largest category -24%
- Reperforating is increasing – 6 to 10%
- Combination of fakes, major and minor repairs is the largest group and increasing in proportion - 45%
- Others are relatively small
- VSC is used on all fakes, major repairs with result usually printed and given to submitter
- VSC is used less on regumming and reperforating

Five Examples of Use of VSC6000

The following images demonstrate the use of some VSC6000 features that we regularly use in expertizing

These represent tools that were not previously available to us

1. Suspected Repairs to Margins



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
12:34:15 PM 24/05/2017 Lights=Flood, Longpass=VIS, Mag=10.02
Auto Exposure (Integration=54ms, Iris=50%), Brightness=60, Gamma=Off, Imaged width=32.34 mm

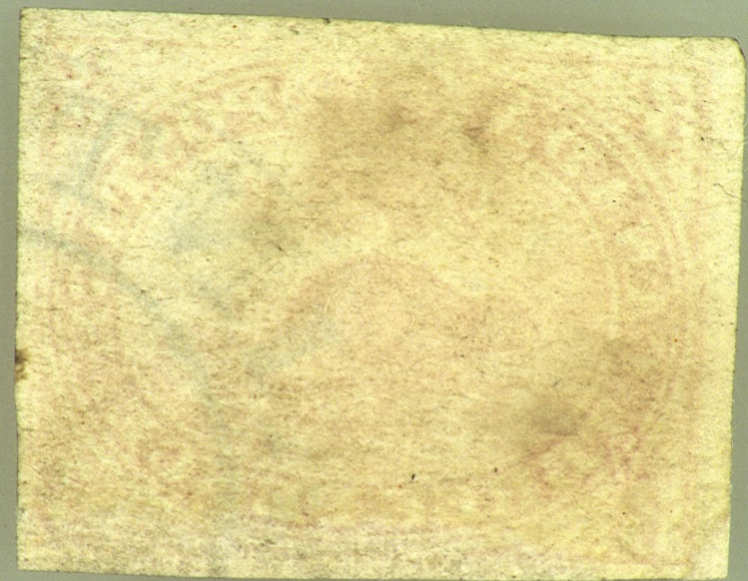
Detection of Alterations

Retouched Bottom Frame



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
12:34:15 PM 24/05/2017 Lights=Flood, Longpass=VIS, Mag=10.02
Auto Exposure (Integration=54ms, Iris=50%), Brightness=60, Gamma=Off, Imaged width=32.34 mm

Crease Across Lower Margin



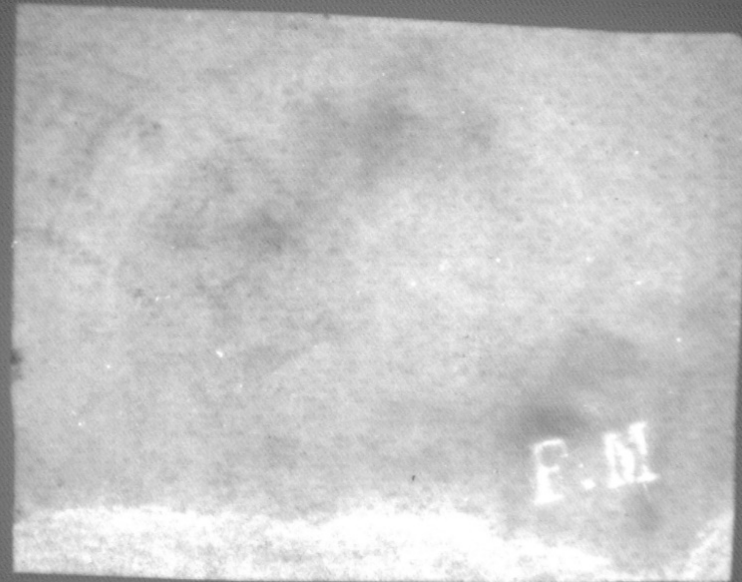
Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
12:39:36 PM 24/05/2017 Lights=Flood, Longpass=VIS, Mag=10.02
Auto Exposure (Integration=51ms, Iris=50%), Brightness=60, Gamma=Off, Imaged width=32.34 mm

Use of Spot Fluorescence

Evidence of Rebacking and Foreign Substance across Bottom –
Initials Added

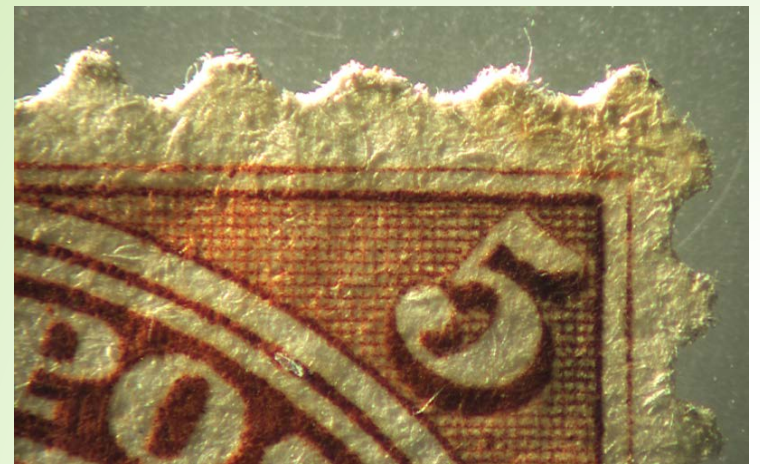


Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
12:41:57 PM 24/05/2017 Lights=Spot 400-640 (100), Longpass=695, Mag=10.02
Auto Exposure (Integration=118ms, Iris=90%), Brightness=60, Gamma=On, Imaged width=32.34 mm



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
12:40:48 PM 24/05/2017 Lights=Spot 400-640 (100), Longpass=695, Mag=10.02
Auto Exposure (Integration=91ms, Iris=90%), Brightness=60, Gamma=On, Imaged width=32.34 mm

Repair of stamp corner



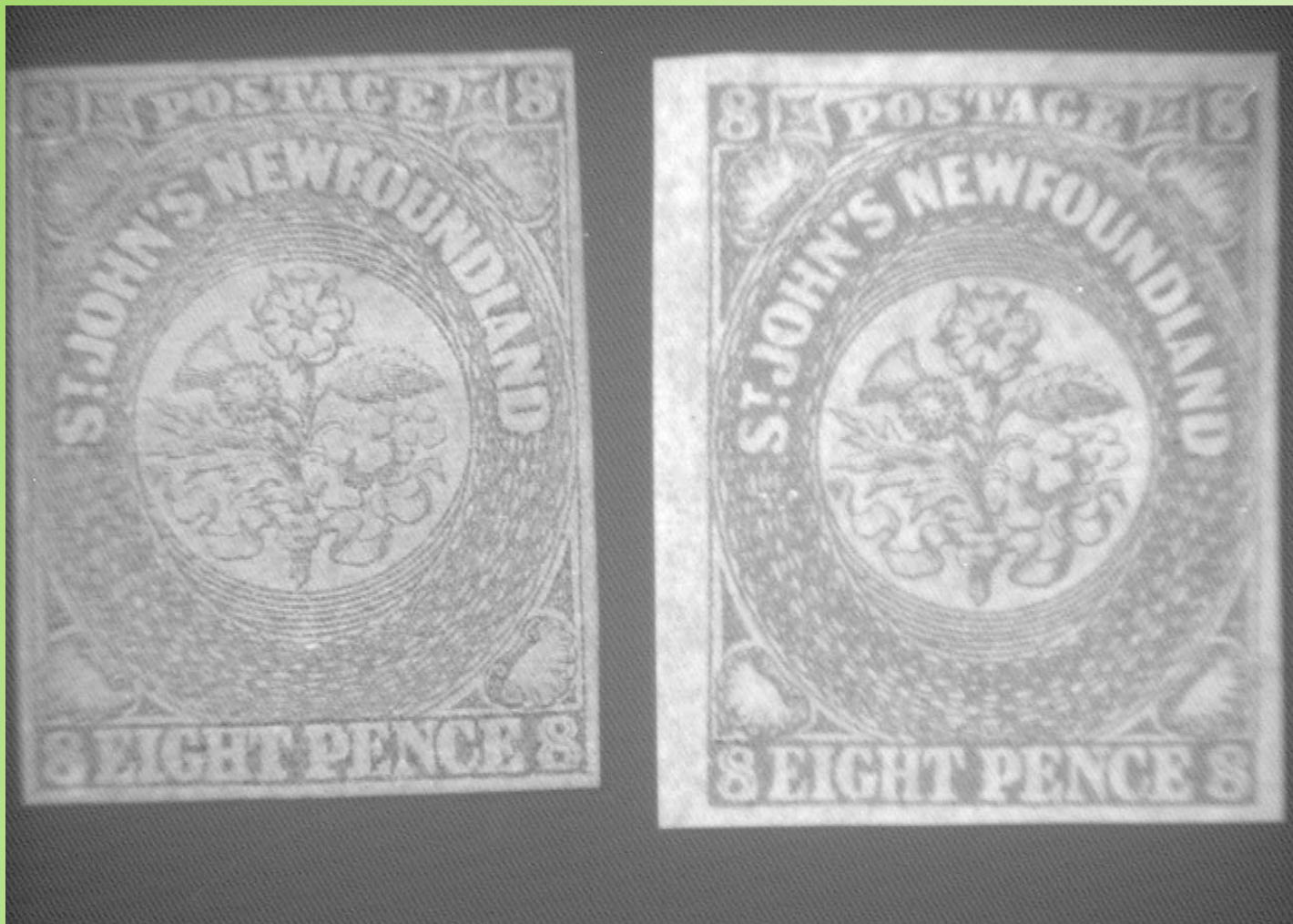
2. Discrimination between Genuine & Sperati Forgery



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
2:12:49 PM 24/05/2017 Lights=Flood, Longpass=VIS, Mag=6.59
Auto Exposure (Integration=47ms, Iris=50%), Brightness=60, Gamma=Off, Imaged width=49.17 mm

Using Spot Fluorescence

Indicates that the two papers are different



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
2:16:30 PM 24/05/2017 Lights=Spot 400-640 (100), Longpass=695, Mag=7.02
Auto Exposure (Integration=55ms, Iris=90%), Brightness=60, Gamma=On, Imaged width=46.15 mm

Using Spotlight & Magnification

Genuine – white reflection



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
2:21:31 PM 24/05/2017 Lights=White Spot, Longpass=VIS, Mag=24.19
Auto Exposure (Integration=10ms, Iris=30%), Brightness=60, Gamma=Off, Imaged width=13.39 mm

Sperati – no white reflection



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
2:22:51 PM 24/05/2017 Lights=White Spot, Longpass=VIS, Mag=24.19
Auto Exposure (Integration=13ms, Iris=30%), Brightness=60, Gamma=Off, Imaged width=13.39 mm

Using Hyperspectral Imaging Filters

Genuine – ink texture defined
Embossed Impression

Sperati – no ink texture
No Embossed Impression



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
2:15:43 PM 24/05/2017 Lights=Absorption 702 nm, Longpass=OFF, Mag=7.02
Auto Exposure (Integration=4.10ms, Iris=80%), Brightness=60, Gamma=Off, Imaged width=46.15 mm

3. A Fake Creation

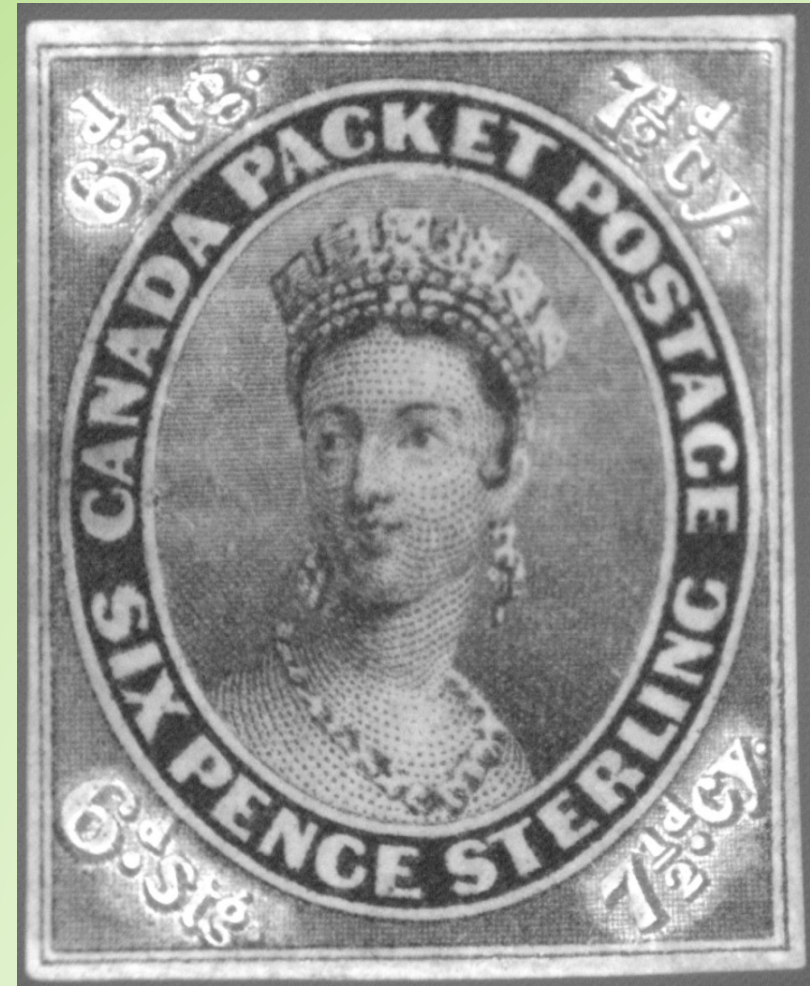


Spot fluorescence

Examination for a possible removed cancellation revealed



Comparison of First Impressions



Submitted Copy

A closer examination of the value tablets

Background cross hatching is horizontal and rectangular



A plate proof gives crisp clean engraved lines
Background cross hatching is diagonal and diamond shaped



Comparison of submission and plate proof



So if it isn't a 7½ Pence....

What is it?

In 1859 a 12½¢ was issued with same design. Let's compare



Similar Design

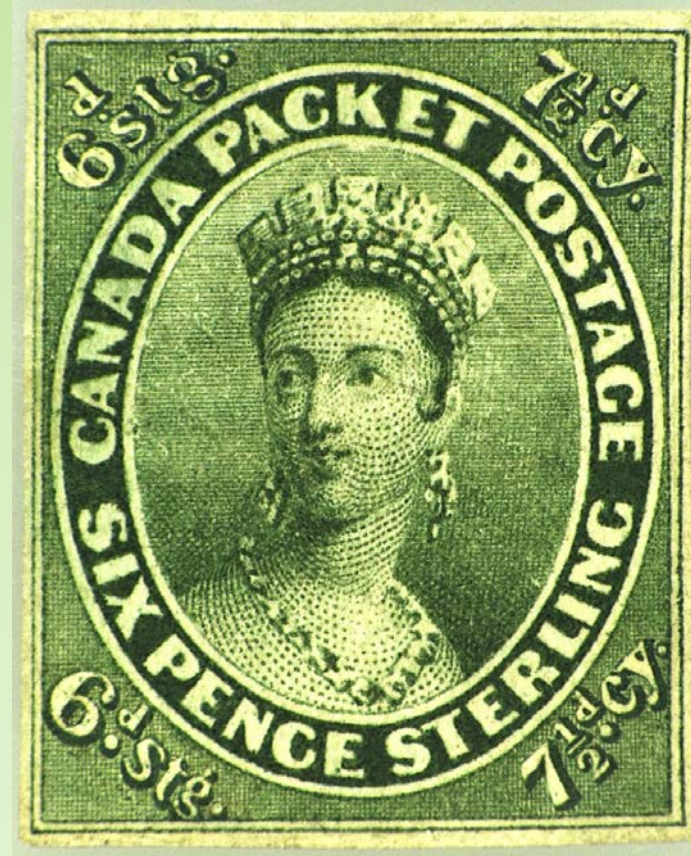


Closer examination shows cross hatching

Horizontal ($12\frac{1}{2}$) vs diagonal ($7\frac{1}{2}$)

Mystery Solved!

12 ½ cent became a 7 ½ pence



How was it Done?

- Start with a 12½ ¢ having a low catalogue value
- Thin it out and paint and change value tablets
- Reback to proper thickness
- Trim perforations to create imperforate
- Result, a remarkable resemblance of a 7½ p. with a very high catalogue value!
- Fooled us years ago! Received a genuine certificate in 1989
- Could have fooled us again without VSC6000
- Likely attributable to André Frodel

An Oneglia Forgery

He used 12½ ¢ as a model!



4. Authenticity of airmail overprint



Genuine copies have JAR signature on reverse – not easy to see on stamps on covers

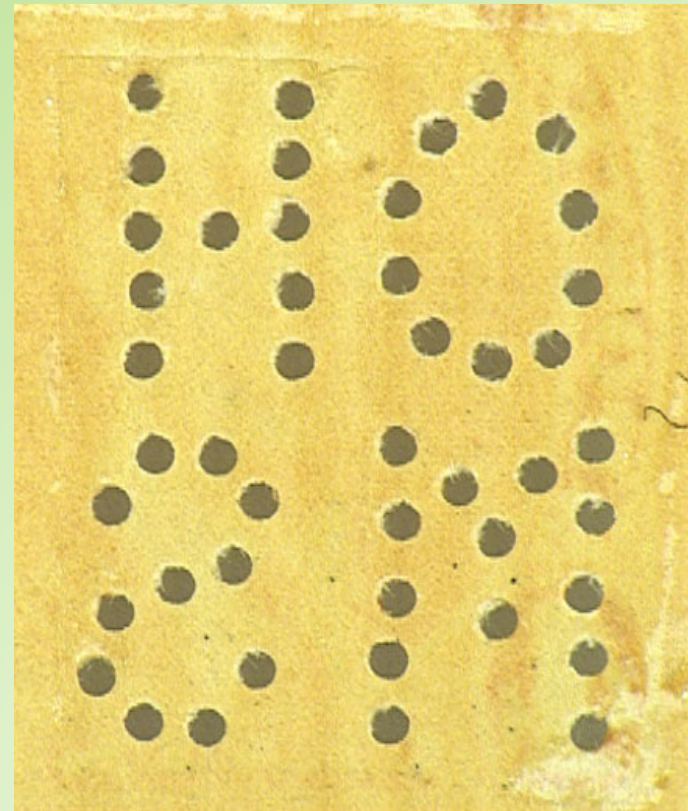
Evidence for Genuine Certificate



Use of transmitted light and being able to provide a photograph of the signature on the stamp confirmed genuine use.

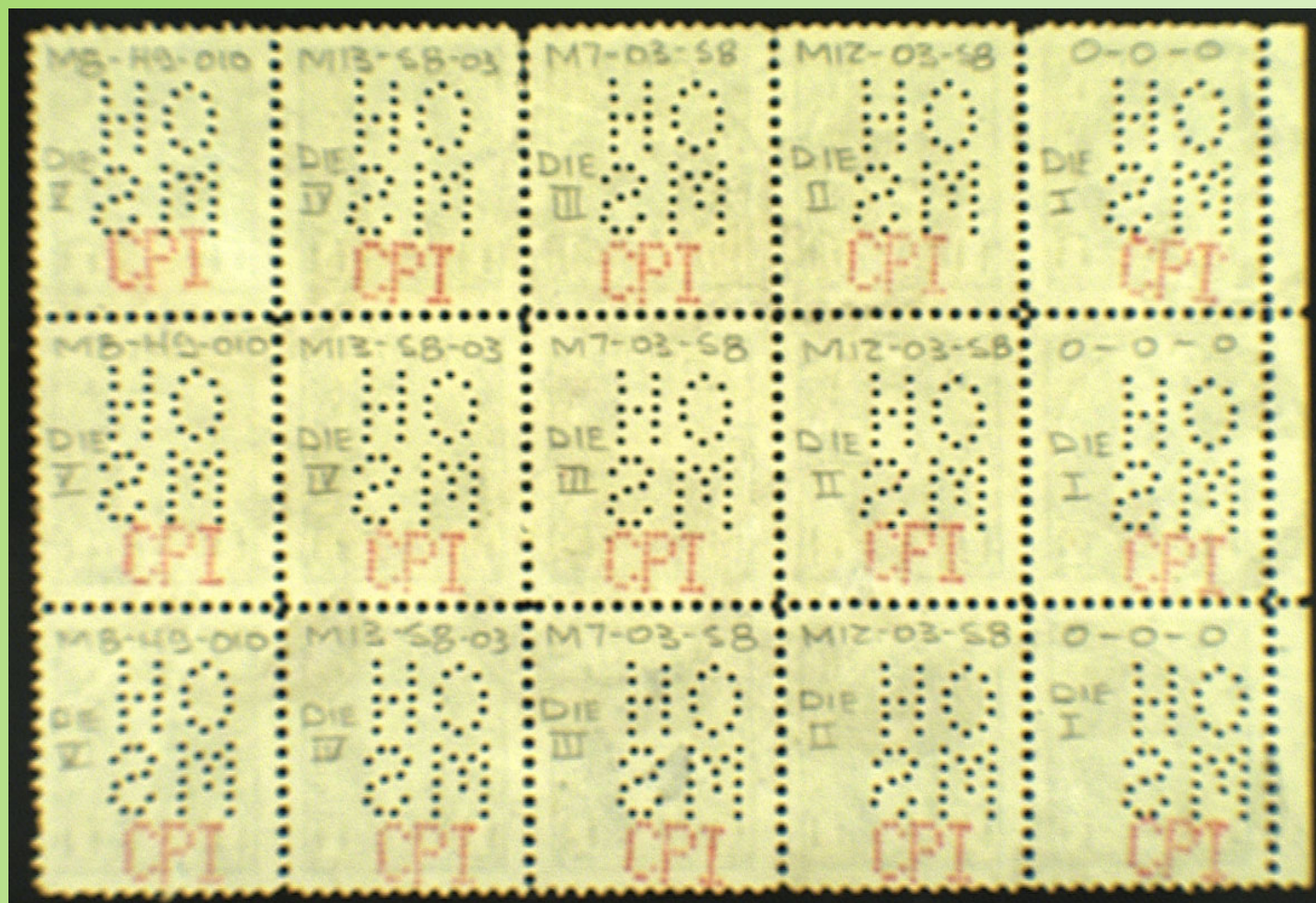


5. Validation of Perforated OHMS Initials



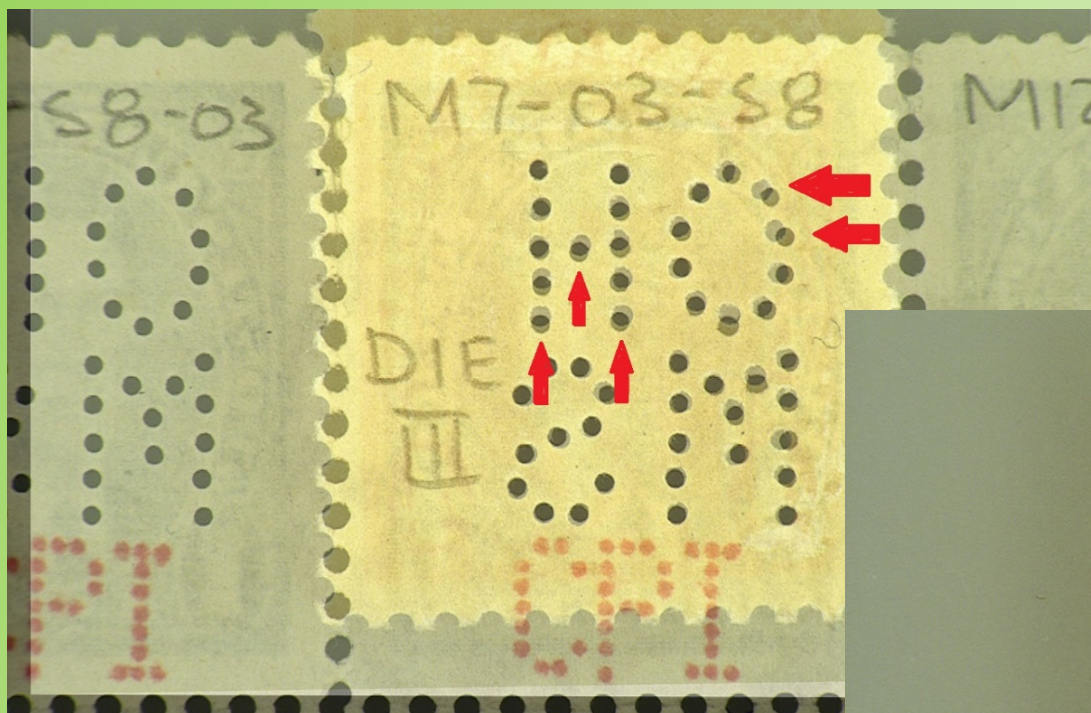
The Secret Weapon

A Die Proof



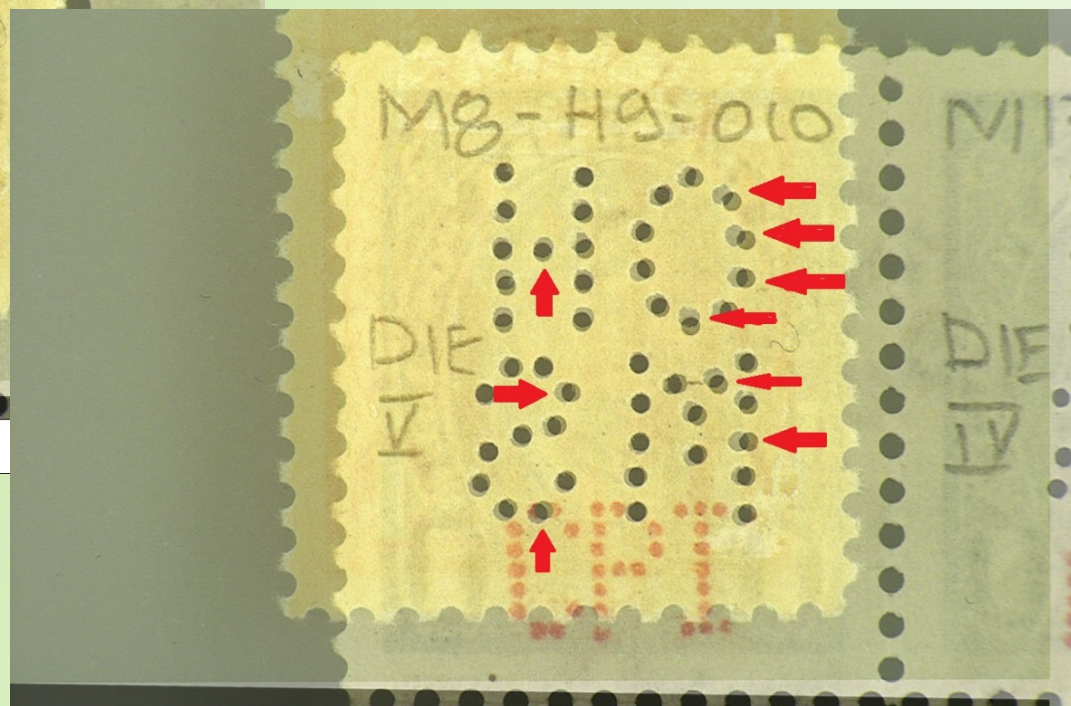
Superimpose and Subtract Images

Die III – no match



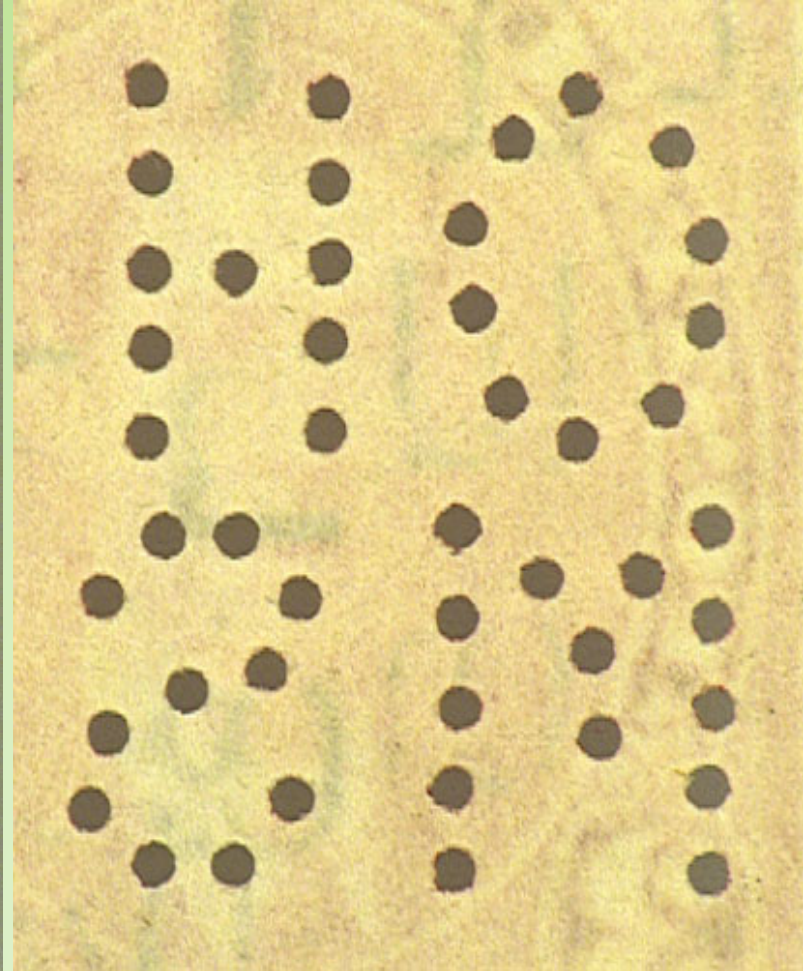
Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
3:39:25 PM 07/06/2017 Lights=Flood, Longpass=VIS, Mag=8.17
Auto Exposure (Integration=47ms, Iris=50%), Brightness=60, Gamma=Off, Mix, Imaged width=39.66 mm

Die V – no match

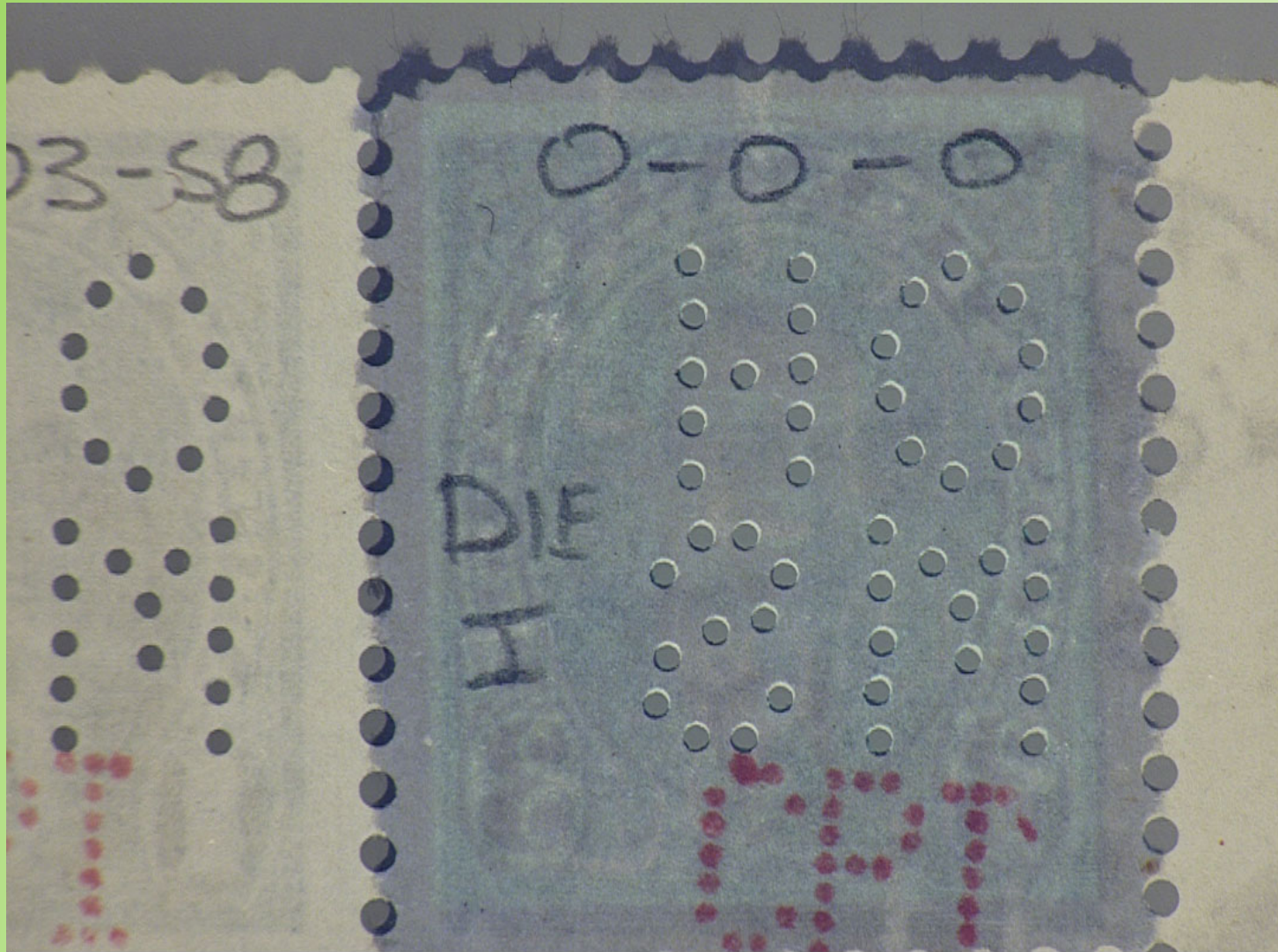


Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
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Auto Exposure (Integration=45ms, Iris=50%), Brightness=60, Gamma=Off, Mix, Imaged width=39.66 mm

Second Example



Second Example – Exact Match



Greene Foundation, VGG Expert Committee, VSC6000/HS, Serial Number 60521
3:49:33 PM 07/06/2017 Lights=Flood, Longpass=VIS, Mag=8.17
Auto Exposure (Integration=46ms, Iris=50%), Brightness=60, Gamma=Off, Difference, Imaged width=39.66 mm

Summary

- Our thinking process seeks to reach better conclusions
- Statistical review provides useful information for future analysis
- Application of technology and use of the VSC6000 has not reached its limits

Thank you!

