Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

P.O. Box 650820
Sterling, VA 20165-0820
e-mail: forensics@cts-interlab.com
Telephone: +1-571-434-1925
Web site: www.cts-forensics.com

Serial Number Restoration
Test No. 25-5251 Summary Report

Each participant received a sample pack containing a piece of bar stock with an obliterated serial number and a piece of aluminum bar stock intended as a standard for the size, shape, and positioning of the stamped alphanumeric characters, which they were asked to restore the obliterated serial number using their existing protocols. Data were returned from 234 participants and are compiled into the following tables:

This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample pack contained a piece of steel bar stock with an obliterated serial number and a piece of aluminum bar stock intended as a standard for the size, shape, and positioning of the stamped alphanumeric characters. Participants were asked to restore the obliterated serial number utilizing their laboratory restoration methodologies and report the recovered serial number.

SAMPLE PREPARATION: Each piece of steel bar stock was stamped with six characters, along with an upward arrow for orientation, and then obliterated by a grinding machine. Additionally, a piece of aluminum bar stock was included in the sample pack as a reference standard with the alphanumeric characters 0-9 and A-F, H, J, K, and N. The characters were stamped in the same font and size as those on the steel bar stock.

SAMPLE PACK ASSEMBLY: A steel bar stock and an aluminum bar stock were separately enclosed in chipboard, placed in their respective pre-labeled envelopes, and then packed into a larger sample pack envelope and sealed.

VERIFICATION: Predistribution results were consistent with each other and the manufacturer's preparation information.

Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
6	H	J	B	4	N

Summary Comments

This test was designed to allow participants to assess their proficiency in the restoration of an obliterated serial number. Participants were supplied with a piece of bar stock with an obliterated serial number and a piece of aluminum bar stock intended as a standard for the size, shape, and positioning of the stamped characters. The serial number to be restored consisted of six characters (6HJB4N). Refer to the Manufacturer's Information for preparation details.

In Table 1: Recovered Characters, 222 of the 234 responding participants (95%) restored all six characters. Of the remaining twelve participants, eleven restored five of the six characters and one participant could not restore any of the six characters. CTS observed that participants who were unable to restore all six characters experienced the most difficulty with characters three and four.

In Table 3: Sample Preparation, the most commonly reported preparation methods were visual and polishing. In Table 4: Recovery Methods, the majority of participants used a combination of both chemical and magnetic recovery methods.

Recovered Characters

Please record the restored characters below.

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
22AE88	6	H	J	B	4	N
244T96	6	H	J	B	4	N
24YJ77	6	H	J	B	4	N
278VN9	6	H	J	B	4	N
28JH99	6	H	J	B	4	N
29CLT3	6	H	J	B	4	N
2A84U4	6	H	J	B	4	N
2BYXUT	6	H	J	B	4	N
2DBTH7	6	H	J	B	4	N
2FURRU	6	H	J	B	4	N
2GRVPC	6	H	J	B	4	N
2LFR2F	6	H	J	B	4	N
2MYLU3	6	H	J	B	4	N
2PZR99	6	H	J	B	4	N
2QRVU3	6	H	J	B	4	N
2UTRM4	6	H	J	B	4	N
2VNGK7	6	H	J	B	4	N
2Y7JRB	6	H	J	B	4	N
2ZXGZH	6	H	J	B	4	N
37LL9C	6	H	J	B	4	N
3CQJX4	6	H	J	B	4	N
3D6VM2	6	H	J	B	4	N
3DHCXU	6	H	J	B	4	N
3M7C8C	6	H	J	B	4	N

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
3RYCL8	6	H	J	?	4	N
4BDYX8	6	H	J	B	4	N
4DZKK3	6	H	J	B	4	N
4EFX9Z	6	H	J	B	4	N
4F4F7Q	6	H	J	B	4	N
4J6N4A	6	H	J	B	4	N
4KKY89	6	H	J	B	4	N
4RFQPB	6	H	J	B	4	N
4ZNM98	6	H	J	B	4	N
63V8MZ	6	H	J	B	4	N
68NCF4	6	H	J	B	4	N
6AAZR4	6	H	J	B	4	N
6FZH29	6	H	J	B	4	N
6GGMQY	6	H	J	B	4	N
6LBGNZ	6	H	J	B	4	N
6ZT8M3	6	H	J	B	4	N
72XBM4	6	H	J	B	4	N
73QXK2	6	H	J	B	4	N
73TUP6	6	H	J	B	4	N
7HH2L4	6	H	J	B	4	N
7KFYLY	6	H	J	B	4	N
7L77L3	6	H	J	B	4	N
7NUVRZ	6	H	J	B	4	N
7PK4Q4	6	H	J	B	4	N
7R8NW8	6	H	J	B	4	N

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
88MY92	6	H	J	B	4	N
8A7XGP	6	H	J	B	4	N
8CCH46	6	H	J	B	4	N
8G98LW	6	H	J	B	4	N
8GCM44	6	H	J	B	4	N
8M72D4	6	H	J	B	4	N
8N66AZ	6	H	J	8 OR B	4	N
8NPKP3	6	H	J	B	4	N
9DH828	6	H	J	B	4	N
9UUUFV	6	H	J	B	4	N
9XTBQ4	6	H	J	B	4	N
A2PGKZ	6	H	J	B	4	N
A3GD9U	6	H	J	B	4	N
A3KYL2	6	H	J	B	4	N
A4C37V	6	H	J	B	4	N
A66V7L	6	H	J	B	4	N
AERWF4	6	H	J	B	4	N
AGLBGZ	6	H	J	B	4	N
AHDE2V	6	H	J	B	4	N
AKJRUU	6	H	J	B	4	N
AVCME3	6	H	J	B	4	N
AW86G4	6	H	J	B	4	N
AX73GZ	6	H	J	B	4	N
B3GJ6U	6	H	J	B	4	N
BCLQKU	6	H	J	B	4	N

TABLE 1

	Recovered Characters					
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
BEA3LL	6	H	J	B	4	N
BLAH98	6	H	J	B	4	N
BU4REW	6	H	J	B	4	N
C9VRY6	6	H	J	B	4	N
CHN3AZ	6	H	J	B	4	N
CQEMFX	6	H	J	B	4	N
CZ2L74	6	H	J	B	4	N
DBJHQ2	6	H	J	B	4	N
DFWCRR	6	H	J	B	4	N
DJFDT7	6	H	J	B	4	N
DKL6C7	6	H	J	B	4	N
DUDCF7	6	H	J	B	4	N
E73NAU	6	H	J	B	4	N
EAMMJJ	6	H	J	B	4	N
ECMZXV	6	H	J	B	4	N
EDHHZW	6	H	J	B	4	N
EEFEZT	6	H	J	B	4	N
EFC6XU	6	H	J	B	4	N
EXAMMP	6	H	J	B	4	N
EXD34W	6	H	J	B	4	N
EY6ZC3	6	H	0	B	4	N
F4A99X	6	H	J	B	4	N
F7HGEW	6	H	J	B	4	N
FF7Z7N	6	H	J	B	4	N
FM8GA3	6	H	J	B	4	N

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
FQ49GE	6	H	J	8	4	N
FUJM3Y	6	H	J	8 OR B	4	N
FZNLB4	6	H	J	B	4	N
G3CENY	6	H	J	B	4	N
G3FQWN	6	H	J	B	4	N
G67UPV	6	H	J	B	4	N
G8CCNQ	6	H	J	B / 8	4	N
G8TH2V	6	H	J	B	4	N
G94KMU	6	H	J	B	4	N
GFMNUW	6	H	J	B	4	N
GVEKWR	6	H	J	B	4	N
H2F88R	6	H	J	B	4	N
H479BU	6	H	J	B	4	N
H6EFNV	6	H	J	B	4	N
HQD4RW	6	H	J	B	4	N
HRBZRR	6	H	J	B	4	N
HT33DM	6	H	0	B	4	N
HY82NC	6	H	J	B	4	N
J8E3FQ	6	H	J	B	4	N
JB48FP	6	H	J	B	4	N
JCGVYP	6	H	J	B	4	N
JJUVBR	6	H	J	B	4	N
JM8ZFZ	6	H	J	B	4	N
JPGKQV	6	H	J	B	4	N
JQRMCU	6	H	J	B	4	N

TABLE 1

	Recovered Characters					
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
JV8DKA	6	H	J	B	4	N
JY38FQ	6	H	J	B	4	N
JYMR7V	6	H	J	B	4	N
K2AJWR	6	H	J	B	4	N
K2BG8M	6	H	J	8	4	N
K33G6X	6	H	J	B	4	N
K6AR4M	6	H	J	B	4	N
KFBBPN	6	H	J	B	4	N
KGYW6R	6	H	J	B	4	N
KHWYZN	6	H	J	B	4	N
KQR6UP	6	H	J	B	4	N
KQWFWM	6	H	J	B	4	N
KX9KHT	6	H	J	B	4	N
L68F7J	6	H	J	B	4	N
L94BHQ	6	H	J	B	4	N
LECMLJ	6	H	J	B	4	N
LQ9HXT	6	H	J	B	4	N
LR28H9	6	H	J	B	4	N
LZDMPA	6	H	J	B	4	N
M49J7M	6	H	J	B	4	N
M4QJDJ	6	H	J	B	4	N
MB84EA	6	H	J	B	4	N
ME8CJK	6	H	J	B	4	N
ME9AMN	6	H	J	B	4	N
MKAN9P	6	H	J	B	4	N

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
MW4ZMN	6	H	J	B	4	N
N6DLBH	6	H	J	B	4	N
N6JXWU	6	H	J	B	4	N
NB47BR	6	H	J	B	4	N
NGAUUL	6	H	J	B	4	N
NQKWH8	6	H	J	B	4	N
NTQ8HG	6	H	J	B	4	N
NUXUPU	6	H	J	B	4	N
P37Q87	6	H	J	B	4	N
PUQ8M7	6	H	J	B	4	N
Q33E8G	6	H	J	B	4	N
Q4UL8J	6	H	J	B	4	N
Q8VRHJ	6	H	J	B	4	N
Q9LTLL	6	H	J	B	4	N
QAP8JF	6	H	J	B	4	N
QG44YM	6	H	J	B	4	N
QJ9PTE	6	H	J	B	4	N
QLED7J	6	H	J	B	4	N
QR89DH	6	H	J	B	4	N
QZUBBJ	6	H	J	B	4	N
QZYJND	6	H	J	B	4	N
R7LTBG	6	H	J	B	4	N
R9KB63	6	H	J	B	4	N
RCPYQJ	6	H	J	B	4	N
RDG3BE	6	H	J	B	4	N

TABLE 1

	Recovered Characters					
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
RQ2HED	6	H	J	B	4	N
RQNQNH	6	H	J	B	4	N
TCGA2D	6	H	J	B	4	N
TGU37K	6	H	J	B	4	N
TNBHUN	6	H	J	B	4	N
TX24YL	6	H	J	B	4	N
U3TNM3	6	H	J	B	4	N
U7UREP	6	H	J	B	4	N
UGD3Q2	6	H	J	B	4	N
UHKKMC	6	H	J	B	4	N
UHLFAN	6	H	J	B	4	N
UKDEL2	6	H	J	B	4	N
V39BFG	6	H	0	B	4	N
V6FN4A	6	H	J	B	4	N
VBZZZB	6	H	J	B	4	N
VFCR6H						
VFVL3L	6	H	J	B	4	N
VN8VBZ	6	H	J	B	4	N
VV6MHA	6	H	J	B	4	N
VWFC2L	6	H	J	B	4	N
W8X7YZ	6	H	J	B	4	N
WBVPXD	6	H	J	B	4	N
WHTJPJ	6	H	J	B	4	N
WQ8DVE	6	H	J	B	4	N
X3ET9W	6	H	J	B	4	N

TABLE 1

	Recovered Characters					
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
XA37FC	6	H	J	B	4	N
XC68GA	6	H	J	B	4	N
XCANE8	6	H	J	B	4	N
XDZWEB	6	H	J	B	4	N
XFLGJE	6	H	J	B	4	N
XHWCAD	6	H	J	B	4	N
XKJZLD	6	H	J	B	4	N
XQKCGB	6	H	J	B	4	N
XRYGF9	6	H	J	B	4	N
XUKMDA	6	H	J	B	4	N
XUPXF9	6	H	J	B	4	N
XV3ENF	6	H	J	B	4	N
XY2PKF	6	H	J	B	4	N
XZF8P7	6	H	J	B	4	N
Y3V7AE	6	H	J	B	4	N
Y89QEF	6	H	J	B	4	N
YBNGLV	6	H	J	B	4	N
YC6DCA	6	H	J	B	4	N
YFGNYC	6	H	J	B	4	N
YGEQU9	6	H	J	B	4	N
YGUVLE	6	H	J	B	4	N
YGVX2B	6	H	_	B	4	N
YNW8HC	6	H	J	B	4	N
YRVHEB	6	H	J	B	4	N
YTQ2FD	6	H	J	B	4	N

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
YW9CJ9	6	H	J	B	4	N
Z479WD	6	H	J	B	4	N
Z9GLDC	6	H	J	B	4	N
ZA9JLJ	6	H	J	B	4	N
ZE3JZE	6	H	J	B	4	N
ZNR8VG	6	H	J	B	4	N
ZPMJ2H	6	H	0	B	4	N
ZQH7F7	6	H	J	B	4	N
ZXE43A	6	H	J	B	4	N
ZXHE68	6	H	J	B	4	N

Response Summary **Participants: 234**

	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
	6	H	J	B	4	N
Total	233	233	228	227	233	233
Percent	99.6%	99.6%	97.4%	97.0%	99.6%	99.6%

Totals may differ, if a participant did not report a response or if a response was reported other than the consensus.

Conclusions

TABLE 2

WebCode	Conclusions
22AE88	[No Conclusions Reported.]
244T96	I restored the serial number sequence characters of 6HJB4N
24YJ77	The obliterated serial number on Item 1 was restored to read 6HJB4N.
278VN9	The obliterated serial number on the metal plate (Exhibit 1A) was mechanically and chemically treated and restored to read 6HJB4N. The stamped metal plate (Exhibit 1B) was documented and photographed; however, no further analysis was performed.
28JH99	SUBMISSION 001: Serial number was restored to read: 6HJB4N Chemical etching, Magnaflux, and sanding were performed during the restoration process of the serial number. [Participant submitted data in a format that could not be reproduced in this report.]
29CLT3	The obliterated serial number on Item 1 was restored to 6HJB4N
2A84U4	Chemical restoration revealed the serial number to be 6HJB4N.
2BYXUT	Polishing, magnetic particle inspection, and chemical serial number restoration techniques were applied to Item 1. The serial number of 6HJB4N was restored. Item 2, the aluminum standard block with alphanumeric exemplars, was used for reference only.
2DBTH7	The serial number on the Item 1 metal plate was restored to read 6HJB4N using magnetic particle inspection and chemical etching techniques.
2FURRU	The obliterated serial number of Item #1 was chemically restored to read: 6HJB4N.
2GRVPC	The obliterated serial number located on Exhibit 1 was processed. The characters were concluded to be “6HJB4N”.
2LFR2F	After application of Electro acid etching process and Electro magnetic process, i determined the serial number of the steel bar stock mentioned as 6HJB4N.
2MYLU3	Between the 2nd and 3rd September 2025, CSE [Name] reports conducting a serial number restoration examination on Item 1 (Test No.25-5251) A piece of cold rolled steel bar stock with suspected obliterated serial number. The examination was conducted at the [Name] Crime Scene Examination Unit laboratory, Forensic Science Branch, [Name]. Item 1 Description: A piece of cold rolled steel bar stock. Measurements recorded as: 64mm X 25mm X 5mm. A stamped arrow was visible on the left-hand side of the bar stock, indicating an 'upwards' direction. Nil other markings were visible. Examination: A serial number restoration was conducted in accordance with method CS/MM/01-Chemical Serial Number Restoration Method. Photographs were taken throughout the examination. Dry sandpaper P360 grade, followed by P1200 dry sandpaper and P1200 wet sandpaper was used to bring the surface to a mirror finish. Nil visible characters displayed. Surface cleaned of debris with acetone. Photographs obtained. I applied, 'Fry's Reagent' chemical treatment to the steel bar surface and observed several characters appear. Photographs obtained using a macro lens and oblique lighting. Characters were recorded on the Serial Number Restoration Examination Report (CS/MM/01/03). A further application of, 'Fry's' Reagent to the steel bar developed the characters even clearer. As a result of the examination, the following characters were identified. These presented with a high degree of certainty: 6, H, J, B, 4, N Photographs obtained using a Macro lens and oblique lighting. Note: The interpretation of individualisation/identification is subjective in nature, founded on scientific principles and based on the examiner's training and experience. Images taken have been uploaded to [Initials] 2502817. [Participant submitted data in a format that could not be reproduced in this report.]
2PZR99	Visual examination and chemical treatment of the serial number area on the steel bar stock, Item 1.A, reveal the following number: 6HJB4N. Item 1.B was inspected to verify and document contents. No analysis was performed on the items listed.
2QRVU3	Examination and magnetic and chemical processing of the Item 1 steel bar restored the original obliterated serial number which was determined to be ‘6HJB4N’.

TABLE 2

WebCode	Conclusions
2UTRM4	I restored the serial characters as 6HJB4N
2VNGK7	After application of magnetic particle inspection and acid etch methods, the serial number of Item 1 (bar stock) was restored and interpreted as 6HJB4N.
2Y7JRB	After using special chemical product for iron, we managed to restore this following obliterated serial number : "6 H J B 4 N".
2ZXGZH	[No Conclusions Reported.]
37LL9C	Using chemical etching techniques, the serial number was restored to read 6HJB4N.
3CQJX4	Visual examination with magnetic and chemical processing of the cold rolled steel bar stock (Item 1) revealed the obliterated serial number to read: 6HJB4N.
3D6VM2	1. Examination of Exhibit 1 revealed one ferromagnetic metal bar with an obliterated area in the approximate center. a. The obliterated area displayed minimal toolmarks consistent with those caused by an abrasive type tool such as a fine grit rotary grinder. These toolmarks were unsuitable for comparison. b. The obliterated area was restored and the following characters were observed: 6 H J B 4 N. 2. See photos for approximate measurements. TECHNICAL NOTES Serial number restoration is dependent upon multiple factors to include the original stamping/engraving method, material type, obliteration method, and depth of material removed. The reported characters convey only the appearance of characters or partial characters that the examiner observed after the application of standard serial number restoration techniques. These characters are not considered absolute to the exclusion of other possible characters with similar shape or form. [Participant submitted data in a format that could not be reproduced in this report.]
3DHCXU	Findings: Item Description Comparison Conclusion #1: one (1) rectangular piece of metal N/A 6HJB4N (serial number restored) Remarks: The remaining submitted item from Item #1 was not examined at this time. All evidence will be returned to the submitting agency. Analytical Detail: Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques. [Participant submitted data in a format that could not be reproduced in this report.]
3M7C8C	[No Conclusions Reported.]
3RYCL8	Serial number partially restored to read '6HJ?4N' The ? could either be 8 or B.
4BDYX8	1. The obliterated area on Exhibit 1 (Metal Block) was restored and the following characters were observed: 6 H J B 4 N. TECHNICAL NOTES Serial number restoration is dependent upon multiple factors to include the original stamping/engraving method, material type, obliteration method, and depth of material removed. The reported characters convey only the appearance of characters or partial characters that the examiner observed after the application of standard serial number restoration techniques. These characters are not considered absolute to the exclusion of other possible characters with similar shape or form. [Participant submitted data in a format that could not be reproduced in this report.]
4DZKK3	Item: 1 A piece of cold rolled steel bar stock with suspected obliterated serial number. RESULTS: Item 1 was physically and microscopically examined. The serial number area of Item 1 was prepared and chemically processed. As a result of these actions, the serial number was restored to read 6 H J B 4 N.

TABLE 2

WebCode	Conclusions
4EFX9Z	1. Examination of Exhibit 1 revealed one (1) ferromagnetic piece of metal bar stock measuring 63.87mm in length, 25.34mm in width, and 6.24mm in thickness, with a thinner area (5.96mm) at the center, which appears to have been obliterated. The obliterated surface of the metal bar stock exhibited thin parallel striations consistent with being created by an abrasive machine tool, such as a grinding wheel. However, the toolmarks present on the exhibit were unsuitable for comparison. 2. Serial number restoration was performed on the obliterated area of Exhibit 1 and the following characters were observed: 6 H J B 4 N. 3. All Measurements are approximate. Technical Notes Serial number restoration is dependent upon multiple factors to include the original stamping/engraving method, material type, obliteration method, and depth of material removed. The reported characters convey only the appearance of characters or partial characters that the examiner observed after the application of standard serial number restoration techniques. These characters are not considered absolute to the exclusion of other possible characters with similar shape or form. [Participant submitted data in a format that could not be reproduced in this report.]
4F4F7Q	Chemical etching to the obliterated area on the steel bar stock, Item 1, revealed the serial number to be: 6HJB4N.
4J6N4A	The serial number of the steel bar stock, Exhibit ITEM1, was restored and observed to be "6HJB4N".
4KKY89	Serial number restoration using chemical processing was performed on the Item 1 obliterated serial number. The Item 1 obliterated serial number, located on the mid-section of the bar stock, was restored to read “6HJB4N”.
4RFQPB	The serial number of the steel bar, Exhibit ITEM1, was restored and observed to be "6HJB4N".
4ZNM98	The alphanumeric serial number was restored to read 6HJB4N.
63V8MZ	A chemical restoration method was applied to the milled surface area of the steel bar stock, which resulted in the restoration of a six character number and letter stamping which read: 6HJB4N.
68NCF4	Examination of the submitted cold rolled steel bar stock found the manufacturer’s serial number to have been obliterated. The obliterated, original serial number was restored to read “6HJB4N”.
6AAZR4	Serial number restoration techniques were applied to Item 1. The serial number was determined to be 6HJB4N.
6FZH29	The serial number on the bar stock, Exhibit 1, was determined to be 6HJB4N.
6GGMQY	Forensic restoration methods applied to the area restored a series of characters. The restored characters were consistent in font and style with the sample characters on the supplied standard and were interpreted to read: 6HJB4N.
6LBGNZ	I was able to restore the serial number to read 6HJB4N
6ZT8M3	The recovered serial number was: 6HJB4N.
72XBM4	Restored number is "6HJB4N".
73QXK2	The obliterated serial number on the Item 1 piece of bar stock was microscopically examined and chemically restored to reveal the serial number 6HJB4N.
73TUP6	After using sand paper, Regula 7505M device was used to restore the obliterated serial number. Fry was also used and we got the same results.
7HH2L4	The serial number of the piece of cold rolled steel bar, described in Item 1, was restored and correspond to: 6HJB4N.
7KFYLY	ITEMS EXAMINED: Item One of Proficiency Test 25-5251of [Initials] Forensic case number 256001980. On Tuesday 29th July 2025 at the [Initials] I examined a Proficiency Test steel rectangle metal bar stock that was milled or similar through the centre. RESULTS OF EXAMINATION: Forensic restoration methods applied to the ground area of the metal bar stock restored a series of characters with similar font and style to the “Aluminium standard” bar stock supplied. The restored and interpreted serial number read: 6HJB4N. [Participant submitted data in a format that could not be reproduced in this report.]

TABLE 2

WebCode	Conclusions
7L77L3	Using chemical serial number restoration techniques, an attempt was made to restore the obliterated serial number with the following results: Serial Number 6HJBN4 was restored on Item 1
7NUVRZ	The metal bar was subjected to physical and chemical restoration methods revealing the following serial number: 6 H J B 4 N.
7PK4Q4	The obliterated serial number has been restored and can be read as: 6HJB4N.
7R8NW8	The section of metal bar stock Q1 (Item 1) was visually analyzed, and through polishing and chemical processes was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on the interpretations/opinions of this author. Work performed began on 07/31/2025.
88MY92	The serial number on the metal bar was restored to read 6HJB4N using magnetic particle inspection and chemical etching techniques.
8A7XGP	The serial number on Item #1 was chemically restored to read 6HJB4N.
8CCH46	Item 1: Serial number was restored: 6HJB4N. Method(s) employed: magnaflux-black, Davis Reagent, Turner's Reagent, Fry's Reagent.
8G98LW	Examination and restoration of the serial number on Item 1 revealed the following characters: "6HJB4N".
8GCM44	An obliterated area was observed on Item 1. Standard chemical restoration techniques were used on the obliterated area. The following characters were revealed: 6HJB4N Multiple factors could have had an effect on the interpretation of the restored characters.
8M72D4	The serial number recovery was completed and successfully managed to recover the six characters 6HJB4N
8N66AZ	The obliterated serial number on Item 1 was polished and chemically restored to reveal 6 H J ? 4 N. The fourth character is 8 or B.
8NPKP3	The Item 1 metal bar was physically and chemically processed in an attempt to restore the obliterated serial number with the following result: The serial number was restored to read 6HJB4N. The restored serial number was not searched in any databases.
9DH828	Using chemical etching techniques, the serial number was restored to read 6 H J B 4 N.
9UUUFV	Chemical etching of the steel plate revealed a sequence of numbers and letters determined to be 6HJB4N.
9XTBQ4	The obliterated serial number was chemically processed and restored to read "6HJB4N".
A2PGKZ	The defaced serial number on the silver-colored bar was restored using chemical and magnetic particle inspection restoration techniques and appears to read 6HJB4N.
A3GD9U	1) Examination of Exhibit 1 revealed one ferromagnetic metal bar consistent with steel containing an area of obliteration on one side. 2) A toolmark was observed on the obliterated area of Exhibit 1 consistent with an undetermined grinding type tool. This toolmark is not suitable for microscopic comparison. 3) The obliterated area of Exhibit 1 was restored and the following characters were observed: 6 H J B 4 N. 4) See photos for markings and measurements. Please note all measurements are approximate. TECHNICAL NOTES Serial number restoration is dependent upon multiple factors to include the original stamping/engraving method, material type, obliteration method, and depth of material removed. The reported characters convey only the appearance of characters or partial characters that the examiner observed after the application of standard serial number restoration techniques. These characters are not considered absolute to the exclusion of other possible characters with similar shape or form. [Participant submitted data in a format that could not be reproduced in this report.]
A3KYL2	The obliterated serial number located on the Exhibit 1 steel bar stock was processed. The characters were concluded to be “6HJB4N”.

TABLE 2

WebCode	Conclusions
A4C37V	Item 1 was physically and microscopically examined. The serial number area of Item 1 was prepared and chemically processed. As a result of these actions, the serial number was restored to read 6HJB4N.
A66V7L	Chemical etching of the obliterated area on the steel bar stock, Item 1, revealed the serial number to be 6HJB4N.
AERWF4	The serial number of the bar stock, Exhibit ITEM1, was restored and observed to be "6HJB4N".
AGLBGZ	[No Conclusions Reported.]
AHDE2V	The obliterated Ser number was chemically processed and restored to read (6HJB4N)
AKJRUU	The alphanumeric characters '6HJB4N' were restored from Item 1 using MPI. This was confirmed with a chemical etch resulting in the restoration of the alphanumeric characters '6HJB4N'.
AVCME3	The serial number of the steel bar, Exhibit ITEM1, was restored and observed to be '6HJB4N'
AW86G4	The serial number on the piece of steel bar stock, Exhibit 1, was determined to be 6HJB4N.
AX73GZ	The serial number on the Item 1 was successfully restored to 6HJB4N.
B3GJ6U	Item #1 was chemically processed. Its serial number was restored to read: 6 H J B 4 N.
BCLQKU	Examinations showed the serial number of Item 1 to be obliterated. The serial number was restored using chemical etching techniques and was found to be "6HJB4N".
BEA3LL	The serial number was restored to "6HJB4N". The remaining submitted item from Item 1 was not examined at this time. All evidence will be returned to the submitting agency. Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques.
BLAH98	The above item was visually examined, photographed, and the obliterated area was processed for an identifiable serial number. The obliterated area on the item was observed to be a ferrous metal, without a coating. The obliterated area on the item was prepared prior to attempts at recovery with sanding, and polishing methods, using 120 grit sand paper and 100 grit steel wool. The item was chemically treated with Fry's reagents. A full serial number was restored, and observed to be 6 H J B 4 N.
BU4REW	Evidence Description Item Description/Visual Examination 1 A piece of cold rolled steel bar stock with a suspected obliterated serial number. Conclusion Restoration techniques were used to restore the serial number to 6 H J B 4 N. Methods Physical, Visual, and Microscopic Examination Physical and Chemical Serial Number Restoration Technical Review Completed By: [Name] Evidence Disposition All items in the Evidence Description will be returned to the submitting agency unless otherwise noted. [Participant submitted data in a format that could not be reproduced in this report.]
C9VRY6	The original marking was removed by mechanical sanding, and the chemical etching method was applied, using a special agent for iron-based metal items. The original content of the marking was: 6HJB4N.
CHN3AZ	Item 1.2 with obliterated serial number, located in the center of the bar, was chemically/magnetically processed and determined to be "6HJB4N:.
CQEMFX	The serial number of the metal piece, described in piece 1, corresponding to "Item 1", was restored and corresponds to: 6HJB4N. [Initials] 10/September/2025
CZ2L74	As received, the serial number on the steel bar was obliterated. Using chemical etching techniques, the serial number was restored to 6HJB4N. Please refer to Serial Number Restoration Worksheet for further information on the chemical restoration process. The firearm was photographed during the restoration process on 7/21/25. Twenty-five images were uploaded to Dataworks.
DBJHQ2	The obliterated serial number, located on the top of the steel bar stock, was chemically and magnetically processed and restored to read "6HJB4N."
DFWCRR	The erased serial number was forensically restored and read '6HJB42'.

TABLE 2

WebCode	Conclusions
DJFDT7	On analysis, I found filling marks on the surface of the steel bar and no number was observed. Upon electrochemical treatment on the filed surface, the number '6HJB4N' was restored. Therefore, I am of the opinion that the obliterated serial number on the steel bar was restored and read as 6HJB4N.
DKL6C7	After electrochemical analysis was done, the number 6HJB4N appear.
DUDCF7	The serial number of piece of cold steel bar stock, described in item 1, was restored and correspond to: 6HJB4N. [Initials] 10/september/2025
E73NAU	The serial number on the steel bar stock was successfully restored to read 6HJB4N.
EAMMJJ	The serial number on Item 1 was determined to be "6HJB4N". The interpretations & opinions in this document are based upon my knowledge of the case factors and/or manufacturer information available at the time this report was authored.
ECMZXV	[No Conclusions Reported.]
EDHHZW	The serial marking on the sample submitted (item 1) has been removed from the centre of the plate. After application of the electromagnetic and chemical processes, I determined the serial marking of item 1 as 6HJB4N.
EEFEZT	The serial number of the piece of steel bar stock, Exhibit Item 1, was restored and observed to be "6HJB4N".
EFC6XU	A serial number restoration was attempted on the steel bar using chemical etching techniques. The serial number was restored to read "6HJB4N".
EXAMMP	The characters 6HJB4N were restored on the 001.001 bar stock. This should be considered the complete serial number.
EXD34W	The obliterated serial number on Lab Item 1 was restored to read: "6HJB4N"
EY6ZC3	Examinations showed the serial number of Item 1 to be obliterated. Item 1 was processed using magnetic particle inspection, and the serial number appeared to read 6H0B4N.
F4A99X	The serial number on the piece of bar stock, Item 1, was restored and observed to be "6HJB4N".
F7HGEW	Serial number restoration and recovery techniques were applied to the steel bar stock, item 001. The serial number was restored to read: 6HJB4N
FF7Z7N	I undertook a chemical etching serial number restoration process and the serial number characters were identified to be 6HJB4N
FM8GA3	Numbers and latters were in one line close to each other. Arrow symbol was helpful in terms of orientation. Even when longer etching times were applied number 6 was still hardly visible.
FQ49GE	The sequence of characters imprinted mechanically was removed only to such a depth that after the acid etching treatment it could be restored.
FUJM3Y	The obliterated serial number in item SNR2 was restored to read either "6HJ84N" or "6HJB4N"
FZNLB4	Visual examination and chemical treatment restored the obliterated serial number on Item 1 to read "6HJB4N."
G3CENY	Using chemical methods, the obliterated serial number located on Item 001A, was restored to read: 6 H J B 4 N. Item 001B was inventoried and not further examined.
G3FQWN	The serial number was restored to read 6HJB4N.
G67UPV	The obliterated serial number located on the Exhibit 1.1 piece of metal was processed. The characters were concluded to be 6HJB4N. No Firearms or Toolmark examinations were requested or conducted on Exhibit 1.2.
G8CCNQ	The following characters were recovered: 6 H J ? 4 N ? = B or 8
G8TH2V	Item 1-1 was submitted with a defaced serial number. Magnetic restoration and chemical etching techniques were used to restore the serial number. The serial number was restored and found to be: 6HJB4N.

TABLE 2

WebCode	Conclusions
G94KMU	Examination and restoration of the obliterated area on Item 1 (a piece of metal bar stock with an obliterated serial number) revealed a six-character serial number interpreted as the following: 6HJB4N.
GFMNUW	The section of metal bar stock Q1 (item 001.001) was visually analyzed and, through polishing, magnetic, and chemical processes, was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on the interpretations/opinions of this author. Work performed began on 08/12/2025.
GVEKWR	The serial number on the Item 1 bar stock was restored to read 6HJB4N using chemical etching techniques.
H2F88R	Visual examination and chemical treatment of the serial number area on the middle of the bar stock, Item 1.A, reveal the following number: 6 H J B 4 N
H479BU	After examination and processing of the aluminum bar stock, the original obliterated serial number was determined to be 6HJB4N
H6EFNV	The piece of cold rolled steel bar stock's (Item #1) obliterated serial number located on the front of the plate was chemically processed and restored to read "6HJB4N".
HQD4RW	As received, the serial number was obliterated. Using chemical etching techniques, the serial number was restored to read: 6HJB4N. Twenty photographs were taken during the restoration process and will be submitted with this report.
HRBZRR	The submitted plate was found to have an obliterated serial number. Mechanical and chemical processing have revealed the original serial number to be 6HJB4N.
HT33DM	Examination and restoration of the serial number on Item 1 revealed the following characters: "6H0B4N".
HY82NC	The defaced area of Item 1 was sanded, polished and chemically treated and the following characters were noted: 6HJB4N.
J8E3FQ	The serial number of the metal plate described in item 1 is mutilated, has been restored, and corresponds to: 6HJB4N. [Initials] September 10th, 2025
JB48FP	Using chemical and physical serial number restoration techniques, an attempt was made to restore the obliterated serial number with the following results: Serial Number: 6HJB4N was restored on Item 1.
JCGVYP	A serial number restoration was attempted on the steel bar stock using magnetic particle inspection and chemical etching techniques. The serial number was restored to read 6HJB4N.
JJUVBR	The obliterated serial number has been restored and can be read as follow: 6HJB4N.
JM8ZFZ	[No Conclusions Reported.]
JPGKQV	The obliterated serial number was chemically restored to show the characters: 6HJB4N.
JQRMCU	The piece of cold rolled steel bar stocks' (Item #1) obliterated serial number located on the front of the plate was chemically processed and restored to read "6HJB4N".
JV8DKA	Examination and chemical processing of the obliterated serial number located on the bar stock was restored and determined to be '6HJB4N'.
JY38FQ	The serial number on the metal bar (Exhibit 1B) was mechanically and chemically treated and restored to read 6HJB4N. The metal bar (Exhibit 1A) was documented and photographed; however, no further analysis was performed.
JYMR7V	The serial number on the bar stock, Exhibit 1, was determined to be 6HJB4N.
K2AJWR	The serial number of the metal bar stock, Item 1 (Lab Evidence# 001-A1) was restored and determined to be 6HJB4N. Methods Used: Macroscopic Exam, Microscopic Exam, Magnetic Particle Inspection and Chemical Etching.
K2BG8M	The serial number was fully restored to read 6HJ84N.

TABLE 2

WebCode	Conclusions
K33G6X	1. On 2025-08-14 during the performance of my official duties I received an intact sealed evidence bag with number PA6003143951, not marked, from Case Administration of the Ballistics Section. I opened the bag and found the following exhibits: 1.1 One (1) metal bar with an obliterated serial number marked by me “421465/25 1”. 1.2 One (1) metal bar with the alphanumeric characters “ABCDEFHJKN” and “0123456789”, respectively, marked by me “421465/25 2”. 2. The intention and scope of this forensic examination comprises of the following Ballistics techniques: 2.1 Techniques associated with the recovering and restoration processes of obliterated alpha-numeric figures on metals. 3. After the application of the electro-magnetic process I determined the serial number of the metal bar mentioned in paragraph 1.1 as 6HJB4N. 4. The conclusions arrived at were based on facts, established by means of an examination and process which require a knowledge and skill in Forensic Ballistics. 5. After examination the exhibits mentioned in paragraphs 1.1 and 1.2 respectively, were disposed of as follows: 5.1 On 2025-08-15 the exhibits mentioned in paragraphs 1.1 and 1.2 were sealed in an evidence bag with number PA5003449893 and handed over to Case Administration of the Ballistics Section. [Participant submitted data in a format that could not be reproduced in this report.]
K6AR4M	Lab Item #1 (steel bar with obliterated serial number) was examined on 7/17/2025 and found to contain an area of obliteration with linear signatures. Serial number restoration commenced on 7/17/2025 was completed on 7/18/2025. Serial number restoration was successful. The serial number on Lab Item #1 (steel bar) was recovered as: 6HJB4N.
KFBBPN	The serial number was restored to read: 6 H J B 4 N The standard was not examined further.
KGYW6R	Upon electrochemical treatment on the filed surface which initially bears no alphanumerics visually, the number 6HJB4N was restored. Based on my findings, I am of the opinion that 6HJB4N was the original number stamped on the surface that was subsequently obliterated.
KHWYZN	The Exhibit's surface was lightly polished, using grinding paper 600. The polished surface was then treated with Fry's reagent. The results were successfully photographed.
KQR6UP	The serial number on the piece of metal (Exhibit 1A) was mechanically and chemically treated and restored to read 6HJB4N. No analysis was performed on the piece of metal (Exhibit 1B).
KQWFWM	Item 1 was chemically processed, and the following characters were restored: 6HJB4N.
KX9KHT	The piece of cold rolled steel bar stock's (Item #1) obliterated serial number located on the front of the plate was chemically processed and restored to read "6HJB4N."
L68F7J	6HJB4N. A serial number restoration was carried out on a piece of cold rolled steel bar stock with suspected obliterated serial number (Forensic Case Number 2503569 Item 001). After the application of a chemical reagent, the following characters were developed - 6HJB4N The characters were confirmed using a known reference sample of alphanumeric numbers used in the manufacturing process. The developed characters had similar font and size to the reference sample provided. Sand paper - 400, 800, 1200 Fry's reagent - 3 min process
L94BHQ	Serial number restoration and recovery techniques were applied to the defaced serial number on Item 001. The serial number was restored to read: 6HJB4N
LECMLJ	The serial number was successfully restored in the normal manner using a standard chemical etching techique (FRY'S Reagent)
LQ9HXT	The serial number 6HJB4N was restored.
LR28H9	The serial number stamped on the plate studied was removed, so it was subjected to a restoration process after which the number 6HJB4N was obtained.
LZDMPA	Chemical etching of the obliterated area on steel bar, Item 1, revealed the serial number to be 6HJB4N.
M49J7M	The serial number of the piece cold rolled steel bar stock, described in item 1, was restored and correspond to: 6HJB4N. [Initials] 12/sept/2025
M4QJDJ	The serial number of the steel bar, Exhibit ITEM 1, was restored and observed to be "6HJB4N".

TABLE 2

WebCode	Conclusions
MB84EA	Serial Number Restored to read: 6HJB4N
ME8CJK	The serial number on the piece of cold rolled steel bar stock, item 1, was restored to read “6HJB4N”.
ME9AMN	Regula device was used to restore the obliterated serial number by using sand paper.
MKAN9P	The serial number of the steel bar, Exhibit ITEM1, was restored and observed to be " 6HJB4N"
MW4ZMN	The obliterated serial number located on Item 1 was mechanically and chemically processed and fully restored to read 6HJB4N.
N6DLBH	Using standard laboratory magnetic and chemical restoration techniques, the obliterated serial number on Item 1 was restored to read: 6 H J B 4 N.
N6JXWU	Physical and chemical restoration of the obliterated area on the Item 1 piece of steel bar stock revealed the following number: 6 H J B 4 N.
NB47BR	The serial number "6 H J B 4 N" was stamped on the examined piece of stainless steel bar stock.
NGAUUL	The serial number on the piece of metal (Exhibit 1A) was mechanically and chemically treated and restored to read 6HJB4N. No analysis was performed on the piece of metal (Exhibit 1B).
NQKWH8	Examination of Item number 1 revealed it possessed an obliterated serial number. The obliterated area was sanded and polished, magnetically and chemically treated and the following characters were noted: 6HJB4N. Item 2 was not examined further.
NTQ8HG	The serial number was fully restored to read '6HJB4N'.
NUXUPU	The serial number of the metal piece (steel bar), described in item 1, was restored and corresponds to: 6HJB4N. [Initials] 11/sep/2025
P37Q87	The serial number was restored to read "6HJB4N". The remaining submitted item from item #1 was not examined at this time. All evidence will be returned to the submitting agency. Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques.
PUQ8M7	Findings Item: Item #1: One (1) piece of cold rolled steel bar stock with suspected obliterated serial number Comparison: N/A Conclusion: Serial number restored to read: 6HJB4N Analytical Detail Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques. [Participant submitted data in a format that could not be reproduced in this report.]
Q33E8G	Item 1 (Steel bar stock) was submitted for serial number restoration. The bar stock was sanded and polished. Chemical etchants were applied to the area of the obliteration and a serial number was revealed. The restored serial number is: 6HJB4N
Q4UL8J	The serial number on the metal stock was restored. The serial number is 6HJB4N. The aluminum exemplar was not used during testing.
Q8VRHJ	The serial number, located on a stainless steel bar stock, appeared to have been deliberately obliterated by milling. I used methods of sanding, magnetic particle inspection, and chemical etching techniques to restore the serial number to 6HJB4N.
Q9LTLL	The abiliterated number Item1, stainless steel metal place, after the examination was completely restored. The restored characters are:6HJB4N.
QAP8JF	The serial number of the steel bar, Exhibit ITEM 1, was restored and observed to be "6HJB4N"
QG44YM	The serial number of the steel bar, Exhibit ITEM1, was restored and observed to be "6 H J B 4 N".
QJ9PTE	The obliterated serial number on the steel bar stock was chemically processed and fully restored to read "6HJB4N".
QLED7J	The serial number on the metal plate (Exhibit 01) was mechanically and chemically treated and restored to read 6HJB4N. No analysis was performed on the metal plate (Exhibit 02).
QR89DH	CTS Item 1 was physically and chemically processed to attempt to recover the serial number. The serial number was recovered as 6HJB4N.
QZUBBJ	The Item 1 serial number was restored and found to be: 6HJB4N.

TABLE 2

WebCode	Conclusions
QZYJND	A Magnetic Particle Insprection and chemical etching process was undertaken of Item 1. In my opinion, the restored serial number is 6HJB4N.
R7LTBG	The serial number was chemically restored to read: 6 H J B 4 N
R9KB63	The piece of steel bar stock from Item 1 was visually / microscopically examined and determined to have an area of apparent obliteration present on the front face. Sanding and chemical etching of this obliterated area revealed the serial number to be "6HJB4N". The piece of Aluminum bar stock from Item 1 was visually examined and used for reference purposes during the serial number restoration process. All evidence will be returned to the submitting agency.
RCPYQJ	Visual examination of this item revealed the presence of grind marks on one side of the bar. This area was magnetically processed and etched with acid solutions, and the following was restored: 6 H J B 4 N
RDG3BE	Examinations showed the serial number of Item 1 to be obliterated. The serial number was restored using magnetic and chemical etching techniques and was found to be: 6HJB4N.
RQ2HED	The obliterated serial number on Item 001-01 was restored to read: 6HJB4N.
RQNQNH	Serial number restoration techniques were applied to Item 1A. The serial number was determined to be 6HJB4N.
TCGA2D	Serial Number Analysis: Methodology: Physical (Visual Examination) Microscopy (Comparison Microscope) MPI- Magnetic Particle Inspection Chemical (Reagent Etching) Serial number restoration procedures revealed the serial number on Item 1 to be: 6 H J B 4 N. [Participant submitted data in a format that could not be reproduced in this report.]
TGU37K	The section of metal bar stock Q1 (Item 1) was visually analyzed and through chemical process, was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on interpretations/opinions of this author. Work performed began on 09/05/2025.
TNBHUN	Primary meaning of the serial number obliterated was 6HJB4N.
TX24YL	[No Conclusions Reported.]
U3TNM3	6HJB4N (serial number restored) All evidence will be returned to the submitting agency. Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques.
U7UREP	The serial number of the metal piece, described in Item 1, was restored and corresponds to: 6HJB4N. [Initials] September 8, 2025
UGD3Q2	6HJB4N (serial number restored)
UHKKMC	Using standard laboratory magnetic and chemical restoration techniques, the obliterated serial number on Item 1 was restored to read 6HJB4N.
UHLFAN	I attempted a serial number restoration on the cold rolled steel bar stock with a suspected obliterated serial number using an electromagnetic method and chemical etching and obtained the following characters of the serial number: 6HJB4N
UKDEL2	Findings Item 1: steel bar 6HJB4N (serial number restored) Remarks The remaining submitted item from Item 1 was not examined at this time. All evidence will be returned to the submitting agency. Analytical Detail Serial number restoration findings offered above were determined using sanding and/or chemical etching techniques.
V39BFG	The obliterated serial number was processed utilizing the magnetic particle inspection method (MPI) and was fully restored to read: 6 H 0 B 4 N.
V6FN4A	Serial number restoration was performed on the item 1 bar stock. The characters 6HJB4N were restored. This should be considered the complete serial number.
VBZZZB	The serial number of Item 1 was examined using magnetic particle inspection and then chemically processed and determined to be 6HJB4N.

TABLE 2

WebCode	Conclusions
VFCR6H	The obliterated six alphanumeric characters on the steel bar stock (Item 1) couldn't be restored. It's assumed that milling depht was problably to big. Caliper measurements showed material removal of approximately 0.5 mm (0,019685 inches).
VFVL3L	3. On 2025-08-11 during the performance of my official duties, I received an intact sealed evidence bag with number PA6003144011 marked inter alia CTS OTHER NUM 25-52 from Case Administration of the Ballistics Section. I opened the bag and found the following exhibits: 3.1 One (1) steel stock bar with suspected obliterated number, marked by me “421433/25 Item 1”. 3.2 One (1) aluminium reference standard bar, not marked by me. 4. The intention and scope of this forensic examination comprises of the following: 4.1 Techniques associated with the recovering and restoration processes of obliterated alpha-numeric figures on metals. 5. After application of the electro-magnetic process, I determined the number on the steel stock bar mentioned in paragraph 3.1 as 6HJB4N. [Participant submitted data in a format that could not be reproduced in this report.]
VN8VBZ	We utilize a chart format. The conclusion box would say "serial number restored to read 6HJB4N".
VV6MHA	Item 1 is a section of steel bar stock with an obliterated serial number. Using standard restoration techniques, the obliterated serial number on Item 1 was restored to read: 6 H J B 4 N. Item 1 was submitted with a section of aluminum bar stock stamped with numbers and letters as reference material.
VWFC2L	After application of electro acid etching process I determined the serial number of the steel bar mentioned as 6HJB4N
W8X7YZ	Restored to read: 6HJB4N (Chart form)
WBVPXD	The obliterated number was restored to read: "6 H J B 4 N."
WHTJPJ	After application of electro acid etching process I determined the serial number of the steel bar mentioned as 6HJB4N
WQ8DVE	The obliterated serial number on Item 1 was chemically restored and determined to be 6HJB4N.
X3ET9W	Magnetic and chemical serial number restoration techniques were applied to Item 1 in an attempt to restore the serial number. The serial number of 6HJB4N was restored.
XA37FC	Examination of the submitted cold rolled steel bar stock found the manufacturer's serial number to have been obliterated. The obliterated, original serial number was restored to read "6HJB4N".
XC68GA	The 01-AA steel bar was received with a defaced serial number. Using magnetic partial restoration and the acid etch method, the serial number on the 01-AA steel bar was completely restored to read: 6 H J B 4 N .
XCANE8	The serial number of the steel bar, Exhibit ITEM 1, was restored and observed to be " 6 H J B 4 N ".
XDZWEB	Chemical restoration techniques were applied to the steel bar stock of item #1 and the original serial number was restored as 6HJB4N.
XFLGJE	The hypothesis that the serial number is 6 H J B 4 N is supported.
XHWCAD	The obliterated serial number on the metal piece (Item 1) was chemically restored and determined to be 6HJB4N.
XKJZLD	Examination and restoration of the obliterated area on Item 1 (a piece of cold rolled steel bar stock with suspected obliterated serial number) revealed the following characters interpreted as "6HJB4N".
XQKCGB	Serial number restoration techniques were applied to Item 1b. The serial number was determined to be 6HJB4N.
XRYGF9	1A One rectangular metal bar with an obliterated serial number The serial number had been obliterated from the rectangular metal bar. Chemical serial number restoration techniques via yielded the full serial number 6HJB4N. 1B One piece of aluminum standard The aluminum standard was used as a reference for the size, shape and positioning of the alphanumeric characters on Item 1A. [Participant submitted data in a format that could not be reproduced in this report.]

TABLE 2

WebCode	Conclusions
XUKMDA	The serial number was restored to read 6HJB4N using magnetic particle inspection and chemical etching techniques. The aluminum standard was visually inspected.
XUPXF9	A set of original serial number was restored to be "6HJB4N".
XV3ENF	The section of metal bar stock (Q1) was visually analyzed and through chemical processes was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on the interpretations/opinions of this author. Work performed began on September 8, 2025.
XY2PKF	The obliterated serial number on the bar stock in Exhibit #1 was completely restored by means of chemical etching and found to be 6 H J B 4 N.
XZF8P7	At 1600hrs 12/08/2025, BSgt [Name] at [Initial] Examination Room, conducted a serial number restoration examination on an item sealed within a sealed Gold Envelope marked CTS Proficiency Test 25-5251 Sample Pack SNR2. Frys Macro Reagent Item described as a rectangular metal Batch #34 utilised. Block with a machined section in centre. Conclusion: Characters 6HJB4N restored successfully. Appearance of number: Block style numbers stamped evenly in a straight line on Centre of machined section of block. Characters matched the sample provided. No other characters identified on item. [Participant submitted data in a format that could not be reproduced in this report.]
Y3V7AE	The section of metal bar stock Q1 (Item 001.001) was visually analyzed and through polishing, magnetic and chemical processes was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on the interpretations of this author. Work performed began and concluded on 08/25/2025.
Y89QEF	The number was found to be grinded. The restored genuine number is "6HJB4N".
YBNGLV	Polishing, magnetic particle inspection, and chemical serial number restoration techniques were applied to Item 1. The serial number of 6HJB4N was restored. Item 2 was used for reference only.
YC6DCA	the restored serial number is 6HJB4N
YFGNYC	After using sand paper, Regula 7505M device was used to restore the obliterated serial number. Fry was also used to double check.
YGEQU9	The obliterated serial number on the submitted steel plate (Item 1) was recovered to read 6HJB4N.
YGUVLE	The piece of cold rolled steel bar stock's (Item #1) obliterated serial number located on the front of the plate was chemically processed and restored to read "6HJB4N"
YGVX2B	Visual examination and chemical treatment of the serial number area on the front of the steel bar stock, Item 1.A, reveal the following partially restored number: 6H_B4N. The 3rd character appears to be a J or a U. Item 1.B was inspected to verify and document contents. No analysis was performed on the item listed.
YNW8HC	Serial Number restoration was conducted using drimel too 4000 for polishing. The surface was well polished, non-destructive method was applied using the maganaflux, ,magnavvis 7HF was applied some alphabets were clearley visible then repeating the process more that 2 time but still haven't got the convincing result. Then shifted the destructive method using SIRCHIE master number restoration kit and got the convincing result (6 H J B 4 N). In conclusion to the serial number restoration both destructive and non destructive methods was applied to get the result.
YRVHEB	The number of the piece of cold rolled steel bar stock has been sanded with an electrical machine. The surface is smooth and even, so after performing a visual inspection, Fry acid was used. After a few seconds, numbers began to appear on the stamped steel bar.
YTQ2FD	Upon electrochemical treatment on the filled surface, the number restored is 6HJB4N. Hence, I am the opinion that the original number is "6HJB4N".
YW9CJ9	Item 1. A serial number restoration was attempted using magnetic particle inspection and chemical etching techniques. The serial number was restored to read 6HJB4N.

TABLE 2

WebCode	Conclusions
Z479WD	The section of metal bar stock Q1 (Item 001.001) was visually analyzed and through polishing and chemical processes was fully restored to read 6HJB4N. This report contains examination results that relate only to the items tested and conclusions based on the interpretations/opinions of this author. Work performed began on 9/8/2025.
Z9GLDC	The number was successfully restored and is 6HJN4N
ZA9JLJ	At first, I used the electro-magnetic process but the results were not clear enough to determine the serial number. After that , I used the the electro-acid etching process with Green Mamba acid with which the serial number appeared but not clear enough to take a picture. I then wiped over the plate with the Nitric acid a few times and got a very clear visual of the serial number and took a picture. My conclusion is that the serial number on the plate was 6HJB4N
ZE3JZE	The serial number on the bar stock, Exhibit 1, was determined to be 6HJB4N.
ZNR8VG	After application of the Electro Acid Etching and Electro Magnetic process, i determined the serial number on the steel bar as 6HJB4N.
ZPMJ2H	The serial number was restored to read 6 H 0 B 4 N.
ZQH7F7	Item 1 was physically and microscopically examined. The serial number area of Item 1 was prepared and chemically processed. As a result of these actions, the serial number was restored to read “6 H J B 4 N”.
ZXE43A	Physical and chemical methods were used to process item 1. The complete restored serial number is 6HJB4N
ZXHE68	The obliterated area on Item 1 was physically and chemically restored to read: 6 H J B 4 N An aluminum block with numeric and alpha characters was received and used as a reference standard.

Sample Preparation

(listed in order of use)

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
22AE88	None		
244T96	Cleaning	CrackTest High Performance Cleaner Aerosol	
24YJ77	None		
278VN9	Polishing	Dremel	
28JH99	Sanding	Sand paper	400
29CLT3	Polishing	Dremel	
2A84U4	Visual	Stereoscope	
2BYXUT	Polishing	Sand paper	
2DBTH7	Visual		
2FURRU	Visual	Stereoscope	
2GRVPC	None		
2LFR2F	Sanding	Dremel	600 (Medium) grit
2MYLU3	Sanding	Sand paper	P360
	Sanding	Sand paper	P1200-dry
	Sanding	Sand paper	P1200-wet
	Cleaning	Acetone	
2PZR99	Sanding	Sand paper	100 Medium
2QRVU3	Visual		
2UTRM4	Cleaning	CrackTest High Performance Cleaner Aerosol	
2VNGK7	Polishing	Rotary Tool	Fine
2Y7JRB	Polishing	Steel wool	120
	Cleaning	Acetone	
2ZXGZH	Cleaning	Acetone	
37LL9C	Polishing	Dremel	
3CQJX4	None		
3D6VM2	None		
3DHCXU	None		
3M7C8C	Cleaning	Acetone	
3RYCL8	None		
4BDYX8	None		
4DZKK3	Visual	Microscope	

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
4EFX9Z	None		
4F4F7Q	None		
4J6N4A	Polishing	Sand paper	320 to 600
4KKY89	Polishing	Steel wool	
4RFQPB	None		
4ZNM98	Visual		
	Sanding	Sand paper	1000 & 2000 (wet and dry)
	Cleaning	Acetone	
63V8MZ	Polishing	Rotary Tool	Rubber buffing wheel
	Polishing	Emery paper	P800 Fine Grit Wet/Dry
68NCF4	Polishing	Dremel	
6AAZR4	Polishing	Dremel	
6FZH29	Polishing	Dremel	
6GGMQY	Polishing	Sand paper	1200
6LBGNZ	Sanding	Sand paper	Ultra Fine
	Visual		
6ZT8M3	Visual		
	Sanding	Dremel	
	Sanding	Sand paper	
	Polishing	Sand paper	
72XBM4	Cleaning	Acetone	
73QXK2	None	Stereoscope	
73TUP6	Sanding	Sand paper	P1000, P600, P400
7HH2L4	Visual	Microscope	
	Sanding	Sand paper	Grit Size: #500
7KFYLY	None		
7L77L3	None		
7NUVRZ	Polishing	Dremel	
7PK4Q4	Visual	Eyes	
7R8NW8	Polishing	Dremel	
88MY92	Visual	Stereoscope	
	Visual	Microscope	
	Visual	Digital Camera	
8A7XGP	None	Stereoscope	
8CCH46	Visual	no tools used	
8G98LW	Cleaning	Acetone	
8GCM44	Visual	Stereoscope	

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
8M72D4	Sanding	Sand paper	P40, P80, P120 & P180
	Polishing	Dremel	
8N66AZ	Polishing	Dremel	
8NPKP3	Polishing	Dremel	
9DH828	Visual	Stereoscope	
	Sanding	Sand paper	P1200
	Polishing	Dremel	
9UUUFV	None		
9XTBQ4	None	Kim Wipe	
A2PGKZ	None		
A3GD9U	Cleaning	Dry wipe	
	Sanding	Sand paper	400
A3KYL2	Visual	Stereoscope	
A4C37V	Visual	Stereoscope	
	Sanding	Sand paper	400
	Polishing	Steel wool	
A66V7L	Visual	Stereoscope	
AERWF4	Polishing	Sand paper	
	Polishing	Steel wool	
AGLBGZ	None		
AHDE2V	Polishing	Steel wool	fine wool
AKJRUU	Visual	Torch	
	Cleaning	Ethanol	
	Cleaning	Acetone	
	Polishing	Dremel	
AVCME3	Sanding	Sand paper	600 to 200
AW86G4	Polishing	Dremel	220
AX73GZ	Visual	Stereoscope	
	Polishing	Dremel	
B3GJ6U	None		
BCLQKU	None		
BEA3LL	None		
BLAH98	Sanding	Sand paper	120 grit
	Polishing	Steel wool	100 grit
BU4REW	Visual	Stereoscope	
C9VRY6	Visual	Microscope	
	Cleaning	Ethanol	
CHN3AZ	Visual		

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
CQEMFX	Visual	Magnifying Glass	Grit size #220 and #500
	Polishing	Sand paper	
CZ2L74	Visual	Microscope	
	Grinding	Dremel	120
DBJHQ2	None		
DFWCRR	Polishing	Rotary Tool	
DJFDT7	Cleaning	Acetone	
DKL6C7	Visual	Acetone	
DUDCF7	Sanding	Emery paper	#220
	Visual	magnifying glass	
E73NAU	None		
EAMMJJ	None		
ECMZXV	Polishing	Sand paper	
EDHHZW	Visual	Stereoscope	
	Sanding	Sand paper	40
	Sanding	Emery paper	800
	Sanding	Emery paper	400
EEFEZT	Cleaning	Spotchek SKC-S Cleaner/Remover	
EFC6XU	Visual	Microscope	
EXAMMP	None		
EXD34W	Visual	Stereoscope	
EY6ZC3	Visual	Stereoscope	
F4A99X	None		
F7HGEW	Visual	Stereoscope	
FF7Z7N	None		
FM8GA3	Cleaning	Acetone	
FQ49GE	Visual	Stereoscope	
	Cleaning	Acetone	
FUJM3Y	Visual	Stereoscope	
FZNLB4	None		
G3CENY	Sanding	Sand paper	180
G3FQWN	Visual		
	Sanding	Sand paper	p400
	Sanding	Emery paper	wet and dry
	Polishing	Emery paper	with metal polishing paste
G67UPV	Visual	Stereoscope	

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
G8CCNQ	Visual	Stereoscope	
	Polishing	Dremel	not prior; done very lightly before last round of Fry's/Turner's
G8TH2V	Cleaning	Acetone	
G94KMU	Polishing	Dremel	Fine grit
GFMNUW	Visual		
	Polishing	Dremel	
GVEKWR	Visual	Eyes	
	Visual	Photographic	
H2F88R	Sanding	Sand paper	100
H479BU	None		
H6EFNV	None	Visual	
HQD4RW	Visual	Microscope	
	Polishing	Dremel	
HRBZRR	Polishing	Emery paper	1000
HT33DM	Visual	Stereoscope	
HY82NC	Polishing	Steel wool	
	Sanding	Sand paper	150 through 3000
J8E3FQ	Visual	Magnifying Glass	
	Visual	Microscope	
	Polishing	Sand paper	Grit Size: #500 and #220
JB48FP	None	Stereoscope	
JCGVYP	Visual	Microscope	
JJUVBR	Polishing	Rotary Tool	
JM8ZFZ	Polishing	Rotary Tool	
JPGKQV	None		
JQRMCU	None	Visual	
JV8DKA	None		
JY38FQ	None		
JYMR7V	Polishing	Steel wool	
K2AJWR	None		
K2BG8M	Polishing	Dremel	
K33G6X	None		
K6AR4M	Cleaning	Acetone	
KFBBPN	None		

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
KGYW6R	Visual	Naked Eye	
	Cleaning	Acetone	
KHWYZN	Sanding	Sand paper	600
KQR6UP	Polishing	Dremel	
KQWFWM	Visual	Stereoscope	
	Cleaning	Acetone	
	Polishing	Dremel	
KX9KHT	Visual	Visual	
L68F7J	Sanding	Sand paper	400, 800, 1200
L94BHQ	None		
LECMLJ	Polishing	Steel wool	
LQ9HXT	Polishing	Dremel	
LR28H9	Cleaning	Ethanol	
LZDMPA	Visual	Stereoscope	
M49J7M	Visual	Stereoscope	Initial inspection
	Polishing	Sand paper	220, 500
M4QJDJ	Sanding	Sand paper	150 and 400 grit
MB84EA	None		
ME8CJK	None		
ME9AMN	Sanding	Sand paper	Size 400 was used, then 380, then 320
MKAN9P	Visual		
MW4ZMN	None		
N6DLBH	None		
N6JXWU	Polishing	Dremel	
	Polishing	Steel wool	
NB47BR	Polishing	Emery paper	P800-P1200
NGAUUL	Cleaning	Water	
	Polishing	Dremel	
NQKWH8	Visual	Microscope	
	Cleaning	Acetone	
	Polishing	Sand paper	1000
NTQ8HG	Sanding	Emery paper	P400 and P800 respectively
NUXUPU	Visual	Stereoscope	
	Sanding	Sand paper	500
P37Q87	Visual		
PUQ8M7	None		

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
Q33E8G	Sanding	Sand paper	100, 120, 180, 220, 320
	Polishing	Dremel	
Q4UL8J	None		
Q8VRHJ	Visual	Stereoscope	
	Sanding	Sand paper	Fine
Q9LTLL	None	Sand paper	P500-P1000
QAP8JF	None		
QG44YM	None		
QJ9PTE	Sanding	Sand paper	320
QLED7J	None		
QR89DH	Polishing	Dremel	Ex-Fine Cratex
QZUBBJ	None		
QZYJND	Sanding	Sand paper	400, 600, 1200
R7LTBG	Visual	Stereoscope	
R9KB63	Sanding	Sand paper	400 grit
RCPYQJ	None		
RDG3BE	None		
RQ2HED	Polishing	Emery paper	500
RQNQNH	Polishing	Dremel	
TCGA2D	Visual	Microscope	
TGU37K	None		
TNBHUN	Polishing	Sand paper	1000
TX24YL	Cleaning	Acetone	
U3TNM3	None		
U7UREP	Visual	Magnifying Glass	
	Polishing	Stereoscope	Grit size #220 and #500
UGD3Q2	Visual	Stereoscope	
UHKKMC	Visual	Stereoscope	
UHLFAN	Visual		
	Cleaning	Acetone	
UKDEL2	Visual	Stereoscope	
V39BFG	Visual	Magnifier	
V6FN4A	Visual	Stereoscope	
	Polishing	Dremel	
VBZZZB	Polishing	Dremel	

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
VFCR6H	Sanding	Dremel	Self-adhesive Paper at various grit sizes were utilized (from rough till fine): 80, 120, 250, 500, 800 and afterwards polishing(1200).
VFVL3L	None		
VN8VBZ	None		
VV6MHA	Polishing	Dremel	
VWFC2L	Sanding	Dremel	600 (Medium) grit
W8X7YZ	Visual	Stereoscope	
WBVPXD	Polishing	Sand paper	2000
WHTJPJ	Sanding	Dremel	600 (Medium) grit
WQ8DVE	Cleaning	Stereoscope	
X3ET9W	Cleaning		
XA37FC	Polishing	Dremel	
XC68GA	None		
XCANE8	Visual		
	Sanding	Sand paper	200
XDZWEB	None		
XFLGJE	Cleaning	Acetone	
XHWCAD	None		
XKJZLD	None		
XQKCGB	None		
XRYGF9	Polishing	Dremel	
XUKMDA	Visual		
XUPXF9	Visual	Microscope	
XV3ENF	None		
XY2PKF	None		
XZF8P7	Sanding	Sand paper	P600/P1200
	Polishing	Steel wool	
Y3V7AE	Polishing	Dremel	
Y89QEF	Polishing	Sand paper	P1000
YBNGLV	Sanding	Sand paper	150-2000
	Polishing	Steel wool	Flitz
YC6DCA	Visual	Stereoscope	
	Polishing	Dremel	600
YFGNYC	Sanding	Sand paper	P1000,P600,P400,P320

TABLE 3

Sample Preparation			
WebCode	**Method**	**Tool Used**	**Grit Size**
YGEQU9	None	Microscope	
YGUVLE	None	visual	
YGVX2B	None	Microscope	
YNW8HC	Polishing	Dremel	
YRVHEB	Visual	MAGNIFYING GLASS	
YTQ2FD	Visual	Stereoscope	
	Sanding	Sand paper	1000 grit
	Cleaning	Acetone	
YW9CJ9	Visual	Stereoscope	
Z479WD	Visual	Stereoscope	
	Polishing	Dremel	
Z9GLDC	Polishing	Sand paper	1200
ZA9JLJ	Sanding	Dremel	600Grit
ZE3JZE	Polishing	Dremel	
ZNR8VG	Sanding	Dremel	600 (Medium) grit then after polishing
ZPMJ2H	Grinding	Bench Grinder	
ZQH7F7	Visual	Stereoscope	
	Polishing	Steel wool	
ZXE43A	Visual	Stereoscope	
ZXHE68	None		

Response Summary **Participants: 234**

Sample Preparation

Visual Method: 72

Sanding Method: 42

Polishing Method: 73

None: 68

Note: Participants may use more than one sample preparation method therefore the total number of preparation methods reported may not be equivalent to the total number of participants.

Recovery Methods

(listed in order of use)

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
22AE88	Fry's Reagent	5 minutes
244T96	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	10 mins - Swabbing
24YJ77	Fry's Reagent	Used cotton swabs and slowly wiped on surface for 5 minutes
278VN9	MagnaFlux	One minute
	MagnaFlux	One minute
	Davis' Reagent	One minute
	Turner's Reagent	One minute
	Fry's Reagent	One minute
	Fry's Reagent	One minute
28JH99	Fry's Reagent	various times with multiple applications
	MagnaFlux	
29CLT3	Fry's Reagent	20 Minutes
2A84U4	Fry's Reagent	20 minutes off and on swabbing
	Nitric acid	30 seconds
	sanding	light polishing with 220 grit
2BYXUT	Magnetic Particle Inspection (MPI)	
	25% Nitric Acid	less than one minute
2DBTH7	MagnaFlux	
	Turner's Reagent	used a cotton swab, to apply acid consistently
	Fry's Reagent	used a cotton swab, to apply acid consistently
2FURRU	Fry's Reagent	5 minutes
2GRVPC	Magnetic Particle Inspection (MPI)	
	Davis Reagent	1 minute
	Turner's Reagent	1 minute
	Davis	1 minute
	Turner's Reagent	1 minute
2LFR2F	Electro-acid	60 seconds
2MYLU3	Fry's Reagent	2 applications, 2 minutes per application.
2PZR99	Fry's Reagent	

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
2QRVU3	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	
	Fry's Reagent	
	Nitric Acid	
2UTRM4	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	20 minutes of swabbing
2VNGK7	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Approx. 3 minutes
2Y7JRB	Acidic Ferric Chloride	5 minutes
2ZXGZH	Electro-magnetic	
37LL9C	Davis Reagent	Few seconds per swab.
	Turner's Reagent	Few seconds per swab.
	Fry's Reagent	Few seconds per swab.
3CQJX4	Acid Etch Method	Frys, Davis - ~ 2.5-3 minutes total each acid
3D6VM2	MagnaFlux	
	Davis Reagent	1 min
	Turner's Reagent	1 min
	Fry's Reagent	1 min
3DHCXU	Fry's Reagent	Brushed with cotton swab
3M7C8C	Fry's Reagent	
3RYCL8	Acid Etch Method	continuous application for several minutes
	Turner's Reagent	continuous application for several minutes
	Fry's Reagent	continuous application for several minutes
	MagnaFlux	
	Dremel Polish	
4BDYX8	Turner's Reagent	0 - Test Only
	Fry's Reagent	2 min each application
4DZKK3	Davis Reagent	10 seconds
	Turner's Reagent	10 seconds
	Fry's Reagent	2 minutes
	Turner's Reagent	3 seconds
4EFX9Z	MagnaFlux	
	Davis Reagent	5min
	Turner's Reagent	5min
	Fry's Reagent	10min

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
4F4F7Q	Fry's Reagent	Several swipes with cotton swab dipped in Fry's reagent
4J6N4A	Fry's Reagent	30 minutes
4KKY89	Davis	~ 3 minutes
	Turner's Reagent	~ 5 minutes
	Fry's Reagent	~ 5 minutes
4RFQPB	MagnaFlux	
	Turner's Reagent	not recorded
	Fry's Reagent	not recorded
4ZNM98	MagnaFlux	
	Fry's Reagent	30 minutes
63V8MZ	Fry's Reagent	Approximately 1 minute
68NCF4	MagnaFlux	
6AAZR4	Magnetic Particle Inspection (MPI)	
	Davis's Reagant	1 minute
	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	1 minute
6FZH29	Fry's Reagent	
6GGMQY	Fry's Reagent	Approx. 15 Minutes
6LBGNZ	Fry's Reagent	10min
6ZT8M3	MagnaFlux	
	Turner's Reagent	
	Davis' Solution	
	Fry's Reagent	
72XBM4	Fry's Reagent	15 minutes
73QXK2	MagnaFlux	
	25% Nitric Acid	10 seconds
73TUP6	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	2 minutes
7HH2L4	Acid Etch Method	Total Process: 53 minutes
	Davis Reagent	20 minutes
	Turner's Reagent	18 minutes
	Fry's Reagent	10 minutes
	Saturated Sodium Bicarbonate Solution	5 minutes
7KFYLY	Fry's Reagent	30mins Swabbing
7L77L3	Fry's Reagent	~ 5 minutes

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
7NUVRZ	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	variable
7PK4Q4	MagnaFlux	
	Acid Etch Method	5 minutes
7R8NW8	Davis' Reagent	2 minutes
	Turner's Reagent	2 minutes
	Fry's Reagent	10 minutes
	Fort's Solution	5 minutes
	25% Nitric Acid Solution	2 minutes
	Aqua Regia Reagent	5 minutes
88MY92	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	30 min.
	Fry's Reagent	25 min.
8A7XGP	Fry's Reagent	5 minutes
8CCH46	MagnaFlux	
	Davis Reagant	applied with a cotton swab-3 mins
	Turner's Reagent	applied with a cotton swab-3 mins
	Fry's Reagent	applied with a cotton swab-3 mins
	Turner's Reagent	applied with a cotton swab-3 mins
8G98LW	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	10 Minutes (Three applications: 2mins/4mins/4mins)
8GCM44	MagnaFlux	
	Acid Etch Method	40
8M72D4	MagnaFlux	
	Nitric Acid Solution	
8N66AZ	Turner's Reagent	~1/2 hour total
	Fry's Reagent	~1/2 hour total
8NPKP3	Fry's Reagent	1 to 2 minutes
9DH828	Davis Reagent	approx: Swiping 1 min (Alternating)
	Turner's Reagent	approx: Swiping 1 min (Alternating)
	Turner's Reagent	approx: Swiping 1 min (Alternating)
9UUUFV	Fry's Reagent	5 min
9XTBQ4	10 % Sodium Hydroxide	3-5 minutes
	25% Nitric Acid	3-5 Minutes

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
A2PGKZ	Fry's Reagent	5-7x 5 min applications
	Magnetic Particle Inspection (MPI)	
A3GD9U	MagnaFlux	
	Acid Etch Method	approximately 10 minutes
A3KYL2	Magnetic Particle Inspection (MPI)	
	Davis Reagent	1 minute
	Turner's Reagent	1 minute
	Fry's Reagent	1 minute
	Turner's Reagent	1 minute
	Fry's Reagent	1 minute
	Turner's Reagent	1 minute
A4C37V	Davis Reagent	5 minutes
	Turner's Reagent	5 minutes
	Fry's Reagent	15 minutes
A66V7L	Fry's Reagent	Less than 5 minutes.
AERWF4	MagnaFlux	
	Fry's Reagent	One minute, then wiped clean
AHDE2V	DAVIS	30 seconds -1 min
	Turner's Reagent	1-2 minute
	Fry's Reagent	1-3 minutes
AKJRUU	Magnetic Particle Inspection (MPI)	
	MagnaFlux	
	Griffin Reagent	5-10 minutes
AVCME3	MagnaFlux	
	Fry's Reagent	swipe passes with a cotton swab with acid removed and re-applied each time
AW86G4	Fry's Reagent	
AX73GZ	Magnetic Particle Inspection (MPI)	
	Davis Reagent	
	Fry's Reagent	
B3GJ6U	Fry's Reagent	10 min continuous swiping
BCLQKU	MagnaFlux	
	Acid Etch Method	2 Minutes
BEA3LL	Fry's Reagent	
BLAH98	Fry's Reagent	25 seconds
BU4REW	Fry's Reagent	Rubbing for 3 Minutes

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
C9VRY6	Turner's Reagent	120
CHN3AZ	Davis Reagent	
	Turner's Reagent	
	Fry's Reagent	
CQEMFX	Acid Etch Method	35 minutes
	Davis Reagent	10 minutes
	Turner's Reagent	10 minutes
	Fry's Reagent	10 minutes
	Sodium Bicarbonate	5 minutos
CZ2L74	Davis	1-2 minutes
	Fry's Reagent	1-2 minutes
	Turner's Reagent	used as a highlighter
DBJHQ2	MagnaFlux	
	Davis	~ 5 minutes
	Turner's Reagent	~ 5-10 minutes
	Fry's Reagent	~ 5-10 minutes
DFWCRR	Fry's Reagent	2 minutes.
DJFDT7	Acid Etch Method	10 minutes
DKL6C7	Fry's Reagent	
DUDCF7	Fry's Reagent	6
	Turner's Reagent	6
	Davi's Reagent	10
	Acid Etch Method	22 minutos
E73NAU	MagnaFlux	
	Acid Etch Method	25% HNO3, (13) swabs dipped in the acid solution, and each swab was swabbed across the steel bar
EAMMJJ	Magnetic Particle Inspection (MPI)	
	Davis	1 min
	Fry's Reagent	30 sec
	Davis	1 min
	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	30 sec
	Davis	
	Fry's Reagent	1 min
	Davis	1 min

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
EDHHZW	Electro-magnetic	
	Fry's Reagent	one minute
EEFEZT	Magnetic Particle Inspection (MPI)	
	25% Nitric Acid	5 minutes
EFC6XU	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	2.5 minutes
	Fry's Reagent	2.5 minutes
EXAMMP	Electro-magnetic	
	Acid Etch Method	Davis' - Swabbed
	Turner's Reagent	Swabbed
	Fry's Reagent	Swabbed
EXD34W	MagnaFlux	
	MagnaFlux	
	Turner's Reagent	~2 minutes
	Fry's Reagent	5-10 minutes
	Turner's Reagent	~2 minutes
	MagnaFlux	
	Fry's Reagent	~ 5 minutes
	Turner's Reagent	~1 minute
	MagnaFlux	
EY6ZC3	Magnetic Particle Inspection (MPI)	
F4A99X	MagnaFlux	
	Fry's Reagent	10 min
	Acidic Ferric Chloride	20 min
F7HGEW	Davis Reagent	30 seconds
	Turner's Reagent	45 seconds
	Fry's Reagent	1 minute
	25% Nitric Acid	10 seconds
FF7Z7N	Fry's Reagent	5 min
FM8GA3	Magnetic Particle Inspection (MPI)	5 min.
FQ49GE	Fry's Reagent	2 x 1 min
FUJM3Y	Magnetic Particle Inspection (MPI)	
	Davis Reagent (chemical etchant)	Swiped over area with multiple swabs
FZNLB4	Turner's Reagent	A few minutes at a time
	Fry's Reagent	1-5 minutes or less
G3CENY	Fry's Reagent	15 min

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
G3FQWN	Fry's Reagent	1 minute
G67UPV	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	~1 Min
G8CCNQ	MagnaFlux	
	Fry's Reagent	approx. 2 min alternating with Turner's 3X
	Turner's Reagent	approx. 2 min alternating with Fry's 3X
	MagnaFlux	
	Turner's Reagent	approx. 7 min alternating with Fry's 2X
	Fry's Reagent	approx. 7 min alternating with Turner's 2X
	MagnaFlux	
	Fry's Reagent	approx. 15 min
	Turner's Reagent	approx. 15 min
	MagnaFlux	
G8TH2V	MagnaFlux	
	Turner's Reagent	5 minutes
	MagnaFlux	
	Turner's Reagent	5 minutes
	MagnaFlux	
	Turner's Reagent	5 minutes
	Turner's Reagent	5 minutes
G94KMU	Fry's Reagent	2.5 Minutes
GFMNUW	MagnaFlux	
	Davis Reagent	20-30 minutes spent processing.
	Turner's Reagent	20-30 minutes spent processing.
	Fry's Reagent	1 hour spent processing.
	Turner's Reagent	10 minutes spent processing.
GVEKWR	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Alternating Frys and Turners for 10 min
	Turner's Reagent	See above [Location of report not provided.]
H2F88R	Fry's Reagent	~3-5 Minutes
H479BU	25% Nitric Acid	seconds
H6EFNV	Davis Reagent	~2min
	Turner's Reagent	~2min
	Fry's Reagent	~2min

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
HQD4RW	Davis Reagent	applied with cotton swabbing
	Turner's Reagent	applied with cotton swabbing
	Fry's Reagent	applied with cotton swabbing
	Nitric Acid	applied with cotton swabbing
	Fry's Reagent	applied with cotton swabbing
HRBZRR	Fry's Reagent	5
HT33DM	Fry's Reagent	Total of 23 minutes
	MagnaFlux	
HY82NC	Turner's Reagent	10 min. (X3)
	Fry's Reagent	15 min. (X2)
J8E3FQ	Davis' Reagent	21 minutes
	Turner's Reagent	25 minutes
	Fry's Reagent	20 minutes
	Sodium Bicarbonate	3 minutes
JB48FP	Fry's Reagent	10 minutes
JCGVYP	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	intervals of 1-2 minutes
	Fry's Reagent	intervals of 1-2 minutes
	Nitric Acid 25%	30 seconds
JJUVBR	MagnaFlux	
	Fry's Reagent	10 minutes
JM8ZFZ	Acid Etch Method	1 minute
JPGKQV	Fry's Reagent	Approximately 30 seconds
JQRMCU	Davis' Reagent	Approximately 2 minutes (repeated)
	Turner's Reagent	Approximately 2 minutes (repeated)
	Fry's Reagent	Approximately 2 minutes (repeated)
JY38FQ	MagnaFlux	
	Turner's Reagent	1 minute
	Fry's Reagent	1 minute
JYMR7V	Fry's Reagent	
K2AJWR	Magnetic Particle Inspection (MPI)	
	Acid Etch Method	10% Nitric Acid and Davis' Reagent - alternating for approximately 10 minutes
K2BG8M	MagnaFlux	
	MagnaFlux	
	MagnaFlux	

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
K6AR4M	MagnaFlux	
KFBBPN	Fry's Reagent	a few seconds
	Fry's Reagent	thirty seconds
KGYW6R	Acidic Ferric Chloride	10 MINUTES
KHWYZN	Fry's Reagent	The polished surface was treated with Fry's reagent for about 15 minutes. The process (using Fry's Reagent) was alternate repeatedly several times, till the serial number was restored completely.
KQR6UP	MagnaFlux	
	Davis	One minute
	Turner's Reagent	One minute
	Fry's Reagent	One minute
KQWFWM	Acid Etch Method	50 minutes
	Fry's Reagent	15 minutes
KX9KHT	Davis Reagent	~ 2 minutes (repeated)
	Turner's Reagent	~ 2 minutes (repeated)
	Fry's Reagent	~ 2 minutes (repeated)
L68F7J	Fry's Reagent	3 minutes
L94BHQ	Fry's Reagent	total <15 min
	Turner's Reagent	total <10 min
	Magnetic Particle Inspection (MPI)	total <15 min
	Davis Reagent	total <10min
	25% Nitric Acid	<1 minute
LECMLJ	Fry's Reagent	3 minutes
LQ9HXT	MagnaFlux	
	Davis	15 minutes
	Turner's Reagent	5 minutes
LR28H9	Fry's Reagent	15 minutes
LZDMPA	Fry's Reagent	5-10 minutes
M49J7M	Acid Etch Method	Total
	Davis Reagent	10 min
	Turner's Reagent	11 min
	Fry's Reagent	13 min
M4QJDJ	MagnaFlux	
	Fry's Reagent	Applied and swabbed in increments over a period of 45 minutes

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
MB84EA	Fry's Reagent	For 5 minutes at a time.
ME8CJK	Davis Reagent	~1 minute
	Turner's Reagent	~1 minute
	Fry's Reagent	~15 minutes
ME9AMN	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	2 minutes
MKAN9P	MagnaFlux	
	Fry's Reagent	1 hour
	MagnaFlux	
MW4ZMN	Acid Etch Method	~10 minutes
	Fry's Reagent	
	Turner's Reagent	
	Davis Reagent	
N6DLBH	MagnaFlux	
	Acid Etch Method	1 minute
N6JXWU	Davis Reagent	5 mins
	Fry's Reagent	10 mins
NB47BR	Acid Etch Method	20-25 min.
NGAUUL	MagnaFlux	
	Davis Reagent	1 min
	Turner's Reagent	1 min
	Fry's Reagent	1 min
NQKWH8	MagnaFlux	
	25% Nitric	30 seconds (repeatedly)
	Davis Reagent	30 seconds (repeatedly)
	Turner's Reagent	30 seconds (repeatedly)
	Fry's Reagent	30 seconds (repeatedly)
NTQ8HG	Fry's Reagent	5 minutes
NUXUPU	Davis Reagent	20 minutes
	Turner's Reagent	10 minutes
	Fry's Reagent	10 minutes
P37Q87	Acid Etch Method	
PUQ8M7	Fry's Reagent	Approximately 10 minutes
Q33E8G	Fry's Reagent	rubbed on with swab, wiped off with tissue
	Turner's Reagent	rubbed on with swab, wiped off with tissue

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
Q4UL8J	Fry's Reagent	~ 10 minutes
Q8VRHJ	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	10 minutes
	Davis	3 minutes
Q9LTLL	Turner's Reagent	5-10 min
QAP8JF	MagnaFlux	
	Fry's Reagent	~30 minutes
QG44YM	MagnaFlux	
	Fry's Reagent	20 mins.
	Turner's Reagent	10 mins.
	Cupric Ammonium Chloride	10 mins.
QJ9PTE	Davis	5 minutes
	Turner's Reagent	5 minutes
QLED7J	MagnaFlux	
	Turner's Reagent	1 minute
	Fry's Reagent	1 minute
QR89DH	MagnaFlux	
	Davis Reagent	approximately 2 minutes
	Griffin Reagent	approximately 2 minutes
QZUBBJ	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	10 minutes
QZYJND	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Applied using a cotton swab
R7LTBG	MagnaFlux	2 minutes
	10% Nitric Acid	20 minutes
R9KB63	Fry's Reagent	5 - 10 minutes
RCPYQJ	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	~ 1 minute
RDG3BE	Magnetic Particle Inspection (MPI)	
	Davis Reagent	approximately 1 minute
	Turner's Reagent	approximately 1 minute
	Fry's Reagent	approximately 1 minute
	Davis Reagent	approximately 1 minute
	Turner's Reagent	approximately 1 minute
	Fry's Reagent	approximately 1 minute
	Fry's Reagent	approximately 1 minute

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
RQ2HED	Turner's Reagent	5 min
	Fry's Reagent	5-10 min
RQNQNH	MagnaFlux	
	Davis's Reagent	1 minute
	Turner's Reagent	1 minute
	Fry's Reagent	2 minutes
	MagnaFlux	
	Davis's Reagent	30 seconds
TCGA2D	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	60 seconds
	Fry's Reagent	60 seconds
	Fry's Reagent	60 seconds
TGU37K	Fort's Solution	5 minutes
	Fry's Reagent	3 minutes
	Aqua Regia Reagent	1 minute
TNBHUN	Acid Etch Method	15 min
TX24YL	Electro-acid	
	Electro-magnetic	
	MagnaFlux	
U3TNM3	Fry's Reagent	3 - 5 minute intervals
U7UREP	Acid Etch Method	60 minutes
	Davis Reagent	30 minutes
	Turner's Reagent	15 minutes
	Fry's Reagent	10 minutes
	Sodium bicarbonate	5 minutes
UGD3Q2	Fry's Reagent	approx. 30 min.
UHKKMC	MagnaFlux	
	Davis	about 30sec
	Turner's Reagent	about 30sec
	Fry's Reagent	about 15 mins total
UHLFAN	MagnaFlux	
	Fry's Reagent	approximately 30-35 minutes
UKDEL2	Fry's Reagent	5 to 10 minute intervals
V39BFG	Magnetic Particle Inspection (MPI)	MPI Magnaflux 7HF (Black)

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
V6FN4A	Horseshoe magnet	
	MagnaFlux	
	Davis	
VBZZZB	MagnaFlux	
	Fry's Reagent	10 min
	Turner's Reagent	15 min
	Davis' Reagent	15 min
	25% Nitric Acid	10 min
VFCR6H	Acid Etch Method	Applying Valensky Reagent by wiping approximately 10 minutes.
	Acid Etch Method	Applying Adler Reagent by wiping approximately 5 minutes.
	Acid Etch Method	Applying Fry Reagent by wiping approximately 5 minutes.
	Acid Etch Method	Applying Wazau Reagent by wiping approximately 5 minutes.
VN8VBZ	Fry's Reagent	30 minutes
VV6MHA	Acidic Ferric Chloride	30 minutes
VWFC2L	Electro-acid	60 seconds
W8X7YZ	Fry's Reagent	10-15 minutes
	Nitric Acid	5 minutes
WBVPXD	Restor-A-Gel	Approximately 30 minutes
WHTJPJ	Electro-acid	60 seconds
WQ8DVE	Fry's Reagent	Approx 2 min each time
	25% Nitric Acid	
X3ET9W	Magnetic Particle Inspection (MPI)	
	25% Nitric Acid	Less than one minute
XA37FC	MagnaFlux	
	Fry's Reagent	2 minutes
	Fry's Reagent	3 minutes
XC68GA	MagnaFlux	
	Turner's Reagent	1 minute
XCANE8	MagnaFlux	
	Fry's Reagent	5
XDZWEB	Davis Reagent	Several passes via cotton-tipped swabs
	Fry's Reagent	Several passes via cotton-tipped swabs
	Davis Reagent	Several passes via cotton-tipped swabs
XFLGJE	Acid Etch Method	5

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
XHWCAD	Fry's Reagent	5 minutes
	Turner's Reagent	2 minutes
	Fry's Reagent	5 minutes
XKJZLD	Fry's Reagent	15 MIN
XQKCGB	Magnetic Particle Inspection (MPI)	
	Acid Etch Method	Davis Reagent (ten minutes)
XRYGF9	25% Nitric Acid	10 seconds
XUKMDA	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	5
	Turner's Reagent	5
XUPXF9	Hume Rothery Solution	Less than 10 minutes
XV3ENF	Acid Etch Method	
	Aqua Regia	Approximately 3 minutes
	Forts solution	Two applications over approximately 3 minutes
	Acidic Ferric Chloride	approximately 2 minutes
XY2PKF	Fry's Reagent	~ 5 minutes
XZF8P7	Fry's Reagent	Three applications with constant agitation using a cotton swab over an approximately 15 minute period
Y3V7AE	MagnaFlux	
	Davis Reagent	1 minute
	Turner's Reagent	3 minutes
	Fry's Reagent	30 Seconds
Y89QEF	Acid Etch Method	For 1-2 minutes with interval
	Fry's Reagent	For 1-2 minutes with interval
YBNGLV	MagnaFlux	
	Davis's Reagent	15 min
	Turner's Reagent	15 min
	Fry's Reagent	15 min
YC6DCA	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	
YFGNYC	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Approximately 3 minutes
YGEQU9	Fry's Reagent	4-7 MINUTES

TABLE 4

Recovery Methods		
WebCode	**Method**	**Time**
YGUVLE	Davis	~ 1 min (repeated)
	Turner's Reagent	~ 1 mins (repeated)
	Fry's Reagent	~ 2-3 mins (repeated)
YGVX2B	Fry's Reagent	5 seconds, washed with DI water, applied four times
	25% Nitric Acid	15-20 seconds, washed with DI water, applied several times
YNW8HC	MagnaFlux	magnavis 7HF was left for few seconds
	Fry's Reagent	less then a minute
YRVHEB	Fry's Reagent	1 MINUTE
YTQ2FD	Fry's Reagent	
YW9CJ9	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	5 minutes of swiping
	Fry's Reagent	10 minutes of swiping
Z479WD	Davis' Reagent	about 1 minute
	Turner's Reagent	about 1 minute
	Fry's Reagent	about 3 minutes
	Turner's Reagent	about 1 minute
	Aqua Regia Reagent	about 30 seconds
Z9GLDC	"Mipro Acier"	1h
ZA9JLJ	Electro-acid	20sec
ZE3JZE	Fry's Reagent	
ZNR8VG	Electro-acid	60 seconds
ZPMJ2H	MagnaFlux	
	Fry's Reagent	5, 10, 30, 60 second increments
	Nitric Acid	5-10 seconds at a time
ZQH7F7	Acid Etch Method	Davis Reagent - 2 minutes
	Turner's Reagent	2 minutes
	Fry's Reagent	8 minutes
ZXE43A	Acid Etch Method	45 min
ZXHE68	Fry's Reagent	~1 minute

Response Summary	Participants: 229

Recovery Methods

Chemical Processing:	218
Magnetic Processing:	99

Note: Participants may use more than one sample recovery method therefore the total number of recovery methods reported may not be equivalent to the total number of participants.

Additional Comments

TABLE 5

WebCode	Additional Comments
244T96	The item's surface topography was such, that no preparation in respect of sanding/polishing of the surface prior to magnetic particle inspection or acid etching was deemed necessary.
2ZXGZH	The polishing part was not done after the surface was inspected. The plate was just cleaned and the process to retrieve the number was followed.
3DHCXU	I would recommend against using letters or numbers that might be similar for proficiency testing to avoid confusion... Example (1 / I) / (5 / S) or in this case (B / 8) In this test the "B" took a substantially longer time to restore to the point i was confident it was a "B". It was clear the character was either "B" or "8" when the other characters became visible.
4RFQPB	Acids were applied with cotton swabs and continuously monitored and re-applied. Turner's reagent was too weak, so the steel bar was cleaned and Fry's reagent was applied in the same manner.
6GGMQY	A serial number restoration was attempted including preparing the surface by polishing with 1200 grit, then using Forensic Restoration methods for ferrous metals (determined with the use of a magnet and information supplied by CTS). A series of six previously applied characters were restored and interpreted to read: 6HJB4N. Approximate etching time was about 15 minutes using Fry's only. Restoration was observed and verified by [Initials].
6ZT8M3	photographs were taken of the recovered serial number and submitted with the report.
7HH2L4	The aluminum plate (Aluminum Standard Test No. 25-5251) with the following printed characters: (top row) 0 1 2 3 4 5 6 7 8 9 (bottom row) A B C D E F H J K N, was used as a reference guide to structure the characters to be restored. The reliability test of the reagents used to carry out the serial number restoration process as well as the confirmation of the recovered characters was done by: [Name], Firearms Examiner. The technical case review was completed by: [Name], Firearms and Toolmark Section Supervisor.
9XTBQ4	The obliterated serial number was chemically processed and restored to read "6HJB4N".
A2PGKZ	Using characters such as B/8 and J/0 are very hard to decipher using MPI so acid was introduced to see further details of the characters
CQEMFX	1. The metal piece, identified as "Aluminum Standard", describe in piece 1 "Item 1", was a character reference. [Initials] 08/September/2025 2. After restoration process, sodium bicarbonate solution was used to neutralize acid residues on the surface. [Initials] 10/September/2025
CZ2L74	As received, the serial number on the steel bar was obliterated. Using chemical etching techniques, the serial number was restored to 6HJB4N. Please refer to Serial Number Restoration Worksheet for further information on the chemical restoration process. The firearm was photographed during the restoration process on 7/21/25. Twenty-five images were uploaded to Dataworks.
DKL6C7	After chemical analysis was done by using fry reagent, the number 6HJB4N was appear on the surface
DUDCF7	1. The magnet was used to determine magnetic properties and the magnifying glass used for inspection. [Initials] 9/september/2025 2. A sodium bicarbonate solution was used to neutralize the acids used in the stainless steel piece, described in item 1. [Initials] 9/september/2025
EXAMMP	Some of the characters were not well defined and difficult to discern. "4" in particular.

TABLE 5

WebCode	Additional Comments
EXD34W	Results with Magnaflux were poorly resolved. Multiple attempts were made throughout process to see if any change. The serial number was difficult to photograph, especially if laying bar stock flat. The serial number was best viewed in natural light when held at an angle or oblique side lighting. The 1st digit, 4th digit, and 5th digit were initially difficult to see. The first digit could have been a 6 or a G, the 4th digit could have been an 8 or a B, and the 5th digit could have been a 4 or an A. Over time, it was clear that the alpha-numeric characters were 6, B, and 4, respectively. As the 6 fully connected and had curved features. The B had a vertical line on the left side of the character. The 4 had a vertical line on the right side of the character and the horizontal line in the center extended past the vertical line.
FQ49GE	After cleaning the surface with acetone, we treated it with freshly prepared Fry's reagent. The reagent was applied to the surface by rubbing with cotton, then wiped off and the surface was wiped again with cotton moistened with distilled water.
H6EFNV	The listed acids were swabbed over the obliterated area and wiped away multiple times for approximately five minutes.
J8E3FQ	The aluminum plate (Aluminum Standard Test No. 25-5251) with the following printed characters: 0123456789 ABCDEFHJKN, was used as a reference guide for the structure of the characters to be restored. [Initials] September 10th, 2025 The reliability test of the reagents used to carry out the restoration process as well as the confirmation of the recovered characters was done by: [Name] / Firearms Examiner. [Initials] September 10th, 2025 The case review was completed by: [Name], on September 11th, 2025. [Initials] September 11th, 2025
JCGVYP	The submitted item(s) will be transferred to the Evidence Section for return to your agency. Questions regarding this report should be addressed to: [Email].
JJUVBR	Magnaflux method was unconclusive
JQRMCU	Acid was not left on the material for an extended time, but was swabbed over the obliterated area and wiped away multiple times for approximately 10 minutes.
K2BG8M	Magnaflux was attempted first prior to polishing and the serial number was restored to read 6H(J,U) (B,8) 4N. Polishing was then attempted to remove some of the finer marks on the surface before magnaflux was attempted again.
KX9KHT	No acid was left on the surface for an extended time. The surface containing the obliterated serial number was swabbed and wiped multiple times for approximately 8-10 minutes.
LECMLJ	Nothing really more to say about this. The restoration of the test piece worked just fine.
M49J7M	The acid was cleaned with dedicated task wipers, constantly, to write down to characters appearing during each step. Sodium Bicarbonate was added to neutralize the acid residue in the piece cold rolled steel bar stock. [Initials] September/12/2025
N6DLBH	The first restoration technique used was magnetic particle inspection with magnaflux. It revealed all characters but not to a legible degree. Then 25% Nitric acid was tested on the surface above the obliterated serial number and showed a desirable reaction rate with the metal. Approximately three swipes of 25% nitric acid with a cotton swab on the obliterated serial number with about one minute of wait time restored all six obliterated characters to a legible degree.
NQKWH8	All reagents were tested for effervescence/color change with positive reactions. Lot numbers were noted. Serial number results were visually verified by a second examiner.
NUXUPU	After the restoration process sodium bicarbonate was used to neutralize the acid residues on the surface. [Initials] 11/sep/2025

TABLE 5

WebCode	Additional Comments
QZYJND	1 x sealed white envelope was received, with red sawtooth sealing tape and a label MIP 'Forensic Case 62010' and 'CTS-25-5251'. This was opened and found to contain: 1 x yellow envelope, with red sawtoth tape, MIP 'Test NO. 25-5251' and 'Sample Pack: SNR2'. This was opened and found to contain: 1 x sealed yellow envelope, MIP 'Test No. 25-5251 Aluminium Standard', which contained one metallic block, impressed with the numerals 0 - 9 and a series of letters A-F, H, J, K, N, wrapped in a cardboard sleeve. 1 x sealed yellow envelope, MIP 'Test No. 25-5251 Item 1', which contained one metallic block, with a machined area and an arrow on the left edge. The area on Item 1 was sanded using sandpaper with grit size 400, 600 and 1200. When the sanding was completed, the item was cleaned with acetone and a MPI undretaken. Following the MPI, Fry's reagent was applied to the surface, using a cotton swab. The chemical etching process revelaed the obliterated number to be 6HJB4N. The serial number was checked using the FSC. This area was cleaned and oil applied.
U7UREP	1. The metal piece, identified as "Aluminum Standard", describe in Item 1, was used as a character reference. [Initials] September 08, 2025 2. After restoration process, sodium bicarbonate solution was used to neutralize acid residues on the surface. [Initials] September 08, 2025
XC68GA	All but one character restored with Magnaflux only. Alternated Turners, Nitric acid, and magnaflux to complete restoration.
XDZWEB	Used Davis reagent (minimal reaction), Fry's reagent (stronger reaction), then Davis reagent again (increased clarity).
XQKCGB	Nature of Offense: Weapons Offense Other Evidence Received: Container 1 1 - Tape-sealed manila envelope (Test No 25-5251) Container 1a 1- Tape sealed manila envelope containing: Test No. 25-5251 Aluminum Standard Item 1a 1- Section of Aluminum metal supporting alphanumeric characters Container 1b 1- Tape sealed manila envelope containing: Test No. 25-5251 Item 1 Item 1b 1- Section of metal with an arrow on one side Results: Serial number restoration techniques were applied to Item 1b. The serial number was determined to be 6HJB4N. The interpretation of the data and authorization of the results were performed by the undersigned forensic analyst. Other staff members may have performed laboratory activities concerning evidence associated with this report. For a complete listing of all staff members who performed laboratory activities in this case, please contact the laboratory via the telephone number above. [Name] State Police Specialist Firearms/Toolmarks Unit [Email]. [Participant submitted data in a format that could not be reproduced in this report.]
XV3ENF	No polishing was necessary to prepare the surface for the application of etching solutions.
XZF8P7	Safety: Hand/Eye and Breathing protection used. Further methods used included oblique white light in order to view and photograph the serial number. Good images of serial number captured digitally. (can be provided if required)
Y89QEF	During the chemical treatment, photographs were taken at regular intervals to ensure that the numbers that appear are captured with clarity and precision.
YGUVLE	No acid was left on the surface for an extended time. The surface containing the obliterated serial number was swabbed and wiped multiple times for approximately 5-10 minutes.
YW9CJ9	REMARKS: The submitted item(s) will be transferred to the Evidence Section for return to your agency.
ZNR8VG	Electro Magnetic process was also used to conduct the test and the number 6HJB4N was retrieved.
ZPMJ2H	Prepped/smoothed surface with bench grinder before chemical applications. Applied multiple applications of each reagent before number could be restored.

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 25-5251: Serial Number Restoration

DATA MUST BE SUBMITTED BY **Sept. 15, 2025, 11:59 p.m. EDT** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: NBL3QY

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Please Note: A piece of aluminum bar stock labeled as 'Aluminum Standard' is also included in the sample set and is intended as a reference for size, shape and positioning of the available stamped alphanumeric characters used in the serial number.

-Use caution when handling the samples, as there may be sharp areas on the Item 1 bar stock and aluminum standard.

-An arrow symbol has been stamped in an upward position on the Item 1 bar stock to represent orientation.

-Please ignore any manufacturing ink on the aluminum standard and refer only to the stamped characters.

Items Submitted (Sample Pack SNR2):
Item 1: A piece of cold rolled steel bar stock with suspected obliterated serial number.

1.) Please record the restored characters below.

The serial number on this material consists of 6 characters.

Item 1: | | | | | | |

2.) What would be the wording of the Conclusions in your report?

Note: *Please use appropriate punctuation to indicate the end of sentences, sections, and statements in the free-form space below. Extra spacing and returns used for separation within your text will not transfer and may cause your information to be illegible in the Summary Report. The use of lists and tabular formats to deliver information is also cautioned against, as these do not transfer.*

3.) What preparation methods were used prior to attempts at restoration?

eg. Sanding, Polishing, Visual, etc. (Please describe in order.)

Method	Tool Used	If sanding was done what grit size was used?

4.) What restoration methods were used during your examination?

eg. Fry's, Acid Etch, MagnaFlux, etc. (Please list in order of use)

Method	If an acidic method was used how long was the acid left on the material?

5.) Additional Comments

Note: *Please use appropriate punctuation to indicate the end of sentences, sections, and statements in the free-form space below. Extra spacing and returns used for separation within your text will not transfer and may cause your information to be illegible in the Summary Report. The use of lists and tabular formats to deliver information is also cautioned against, as these do not transfer.*

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ANAB and/or A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- ○ This participant's data is intended for submission to ANAB and/or A2LA. (Accreditation Release section below must be completed.)
- ○ This participant's data is **not** intended for submission to ANAB and/or A2LA.

Have the laboratory's designated individual complete the following steps
only if your laboratory is accredited in this testing/calibration discipline
by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory

ANAB Certificate No.

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)