



Serial Number Restoration

Test No. 22-5251 Summary Report

Each participant received a sample pack containing a piece of metal bar stock stamped with a six-character serial number that was then obliterated. An arrow was also stamped to indicate directionality. Also included was 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 and report their findings. Data were returned from 233 participants and are compiled into the following tables:

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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 set consisted of a piece of steel bar stock that contained an obliterated serial number (Item 1) and a piece of aluminum bar stock intended as a standard for the size, shape, and positioning of the stamped digits. Participants were requested to attempt to restore the obliterated serial number utilizing their laboratory restoration methodologies and report the recovered serial number. The serial number to be restored consisted of 6 characters (3JA17C).

SAMPLE PREPARATION:

Each sample set contained a piece of steel bar stock that was stamped with six characters (3JA17C), along with an arrow for directionality. The serial number was first obliterated by a milling machine, then a second process of light sanding with a Dremel was performed to ensure full obliteration.

A piece of aluminum bar stock was also included in the sample as a reference standard. The alphanumeric characters provided are digits 0-9 and letters A-F, H, J, K, and N.

SAMPLE SET ASSEMBLY:

Each Item 1 steel bar stock and aluminum standard bar stock were separately enclosed in chip board, with the sides taped for security and then placed in their respective pre-labeled envelopes. Every sample pack was packaged to contain an Item 1 and aluminum standard. This process was repeated until all of the sample packs were prepared. Once verification was completed, all sample packs were sealed with a piece of evidence tape and initialed "CTS."

VERIFICATION:

Three of the four predistribution laboratories restored all six obliterated serial number characters and one laboratory restored five of the six characters. Chemical restoration methods were used by all four predistribution laboratories.

Summary Comments

This test was designed to allow participants to assess their proficiency in the restoration of an obliterated serial number. Participants were provided with a piece of metal bar stock that contained an obliterated serial number (Item 1) and a piece of aluminum bar stock intended as a standard for the size, shape, and positioning of the stamped characters. Participants were requested to restore the obliterated serial number utilizing their laboratory recovery methodologies and report the recovered serial number. The serial number to be restored consisted of six characters - 3JA17C (Refer to Manufacturer's Information for preparation details).

Of the 233 responding participants in Table 1, 226 (96.9%) restored the six characters consistent with the Manufacturer's Information. Six participants restored five of the six characters and one participant could not restore any of the characters.

In Table 3 (Sample Preparation), the majority of participants used polishing, sanding, and visual methods to prepare their sample. In Table 4 (Recovery Methods), the majority of participants used a combination of both chemical and magnetic restoration methods. No trends were seen between the methods used and the challenges experienced by participants.

Recovered Characters

Please record the recovered characters below.

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
27ZCML	3	J	A	1	7	C
2BU97L	3	J	A	1	7	C
2FQV4F	3	J	A	1	7	C
2HBT7C	3	J	A	1	7	C
33GGFN	3	J	A	1	7	C
37YPUE	3	J	A	1	7	C
38MCX3	3	J	A	1	7	C
3F3ZPJ	3	J	A	1	7	0
3MNPVM	3	J	A	1	7	C
3QYYLV	3	J	A	1	7	C
3VZ2RK	3	J	A	1	7	C
3WF7HV	3	J	A	1	7	C
3WMNYD	3	J	A	1	7	C
3WUPAF	3	J	A	1	7	C
462Q6E	3	J	A	1	7	C
4DT9G3	3	J	A	1		C
4DUW48	3	J	A	1	7	C
4ET8P3	3	J	A	1	7	C
4H68UG	3	J	A	1	7	C
4JF2QG	3	J	A	1	7	C
4JM84X	3	J	A	1	7	C
4UGLTA	3	J	A	1	7	C
4WM4TQ	3	J	A	1	7	C
4XFV4B	3	J	A	1	7	C
67TAF6	3	J	A	1	7	C
68ZNN7	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
6APYJ6	3	J	A	1	7	C
6B46EM	3	J	A	1	7	C
6JA96D	3	J	A	1	7	C
6JDLXG	3	J	A	1	7	C
6KBWTJ	3	J	A	1	7	C
6KEMUZ	3	J	A	1	7	?
6MEQA2	3	J	A	1	7	C
6V7AQV	3	J	A	1	7	C
6VBJPM	3	J	A	1	7	C
6VTHZY	3	J	A	1	7	C
6XX7FP	3	J	A	1	7	C
6Z4LTM	?	?	?	?	?	?
7A4LWD	3	J	A	1	7	C
7B2V43	3	J	A	1	7	C
7FPRDK	3	J	A	1	7	C
7HXTCD	3	J	A	1	7	C
7NUEKT	3	J	A	1	7	C
7UXFKM	3	J	A	1	7	C
7XDM9W	3	J	A	1	7	C
84VNVD	3	J	A	1	7	C
86ND68	3	J	A	1	7	C
8BYHXL	3	J	A	1	7	C
8GJGFT	3	J	A	1	7	C
8HTQ8Q	3	J	A	1	7	C
8J6J4D	3	J	A	1	7	C
8NKTBQ	3	J	A	1	7	C
8Q7VZB	3	J	A	1	7	C
8TFLPE	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
8WBG3L	3	J	A	1	7	C
92Zfv8	3	J	A	1	7	C
96Yw7G	3	J	A	1	7	C
97VCE8	3	J	A	1	7	C
9GEPQA	3	J	A	1	7	C
9Q2KZX	3	J	A	1	7	C
9Q3B92	3	J	A	1	7	C
9QKLKE	3	J	A	1	7	C
A9FE6D	3	J	A	1	7	C
AAB2DB	3	J	A	1	7	C
AEQHxz	3	J	A	1	7	C
AFCF2W	3	J	A	1	7	C
AGV6KD	3	J	A	1	7	C
AHQTUZ	3	J	A	1	7	C
AP7E2J	3	J	A	1	7	C
ART39C	3	J	A	1	7	C
ARVPRC	3	J	A	1	7	C
AT29RT	3	J	A	1	7	C
ATUUJR	3	J	A	1	7	C
B38LEE	3	J	A	1	7	C
B4K2JF	3	J	A	1	7	C
BK7PQP	3	J	A	1	7	C
BVD9MR	3	J	A	1	7	C
C29PG4	3	J	A	1	7	C
C9TKLE	3	J	A	1	7	C
CA6NQQ	3	J	A	1	7	C
CRND8C	3	J	A	1	7	C
CUY2YP	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
D3FBLV	3	J	A	1	7	C
D4KMKD	3	J	A	1	7	C
DFD7YJ	3	J	A	1	7	C
DHCPJ6	3	J	A	1	7	C
DMMN4B	3	J	A	1	7	C
DWAR6H	3	J	A	1	7	C
E9673U	3	J	A	1	7	C
EBDGVG	3	J	A	1	7	C
EF6KPG	3	J	A	1	7	C
EGXJZ9	3	J	A	1	7	C
EJ326V	3	J	A	1	7	C
EJHLQE	3	J	A	1	7	C
ELBCZY	3	J	A	1	7	C
EPAMWY	3	J	A	1	7	C
EUYAJR	3	J	A	1	7	C
EZRECW	3	J	A	1	7	C
F3BN2M	3	J	A	1	7	C
F63MG8	3	J	A	1	7	C
FB6VLE	3	J	A	1	7	C
FFFQKW	3	J	A	1	7	C
FGAE3R	3	J	A	1	7	C
FJKDCT	3	J	A	1	7	C
FKE3VN	3	J	A	1	7	C
FXF24T	3	J	A	1	7	C
FYXP6L	3	J	A	1	7	C
FZ3D86	3	J	A	1	7	C
G2CZ4A	3	J	A	1	7	C
G2VTRZ	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
G37NHY	3	J	A	1	7	C
G838N4	3	J	A	1	7	C
GA77XB	3	J	A	1	7	C
GAN7RZ	3	J	A	1	7	C
GH7C7K	3	J	A	1	7	C
GHLTPR	3	J	A	1	7	C
GJCT7B	3	J	A	1	7	C
GKA99Z	3	J	A	1	7	C
GMHBBY	3	J	A	1	7	C
GRXRUN	3	J	A	1	7	0
GV9UQT	3	J	A	1	7	C
GXTRUP	3	J	A	1	7	C
GZJ2RW	3	J	A	1	7	C
HHCAGE	3	J	A	1	7	C
HHZDCB	3	J	A	1	7	C
HNQX84	3	J	A	1	7	C
HUWMTH	3	J	A	1	7	C
HVQBAR	3	J	A	1	7	C
J4EFP7	3	J	A	1	7	C
JJ4RVL	3	J	A	1	7	C
JTQTCV	3	J	A	1	7	C
JXVYPH	3	J	A	1	7	C
K23ZV6	3	J	A	1	7	C
K4MYY3	3	J	A	1	7	C
K7TJM3	3	J	A	1	7	C
K7XWE6	3	J	A	1	7	C
KBRT2B	3	J	A	1	7	C
KDG286	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
KMZHV7	3	J	A	1	7	C
L3TL32	3	J	A	1	7	C
L7PC3L	3	J	A	1	7	C
LAELD8	3	J	A	1	7	C
LFHME3	3	J	A	1	7	C
LM2VXR	3	J	A	1	7	C
LNUJGM	3	J	A	1	7	C
LRVM9A	3	J	A	1	7	C
LT4RRQ	3	J	A	1	7	C
LTNKH3	3	J	A	1	7	C
LVPQVM	3	J	A	1	7	C
MB67T6	3	J	A	1	7	C
MEYZFK	3	J	A	1	7	C
MHKV94	3	J	A	1	7	C
MP2HQM	3	J	A	1	7	C
MPNQBC	3	J	A	1	7	C
N3HVLТ	3	J	A	1	7	C
NTHX6L	3	J	A	1	7	C
P29UE2	3	J	A	1	7	C
PB3XZB	3	J	A	1	7	C
PFAPLU	3	J	A	1	7	C
PFNB4H	3	J	A	1	7	C
PHEAJ2	3	J	A	1	7	C
PWFWZV	3	J	A	1	7	C
Q6AEWJ	3	J	A	1	7	C
Q93CBP	3	J	A	1	7	C
QDFHLP	3	J	A	1	7	C
QE8FWG	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
QFHBKU	3	J	A	1	7	C
QL8TY6	3	J	A	1	7	C
QML6UP	3	J	A	1	7	C
QMZR9X	3	J	A	1	7	C
QQY34X	3	J	A	1	7	C
QU2UJP	3	J	A	1	7	C
QUKP2Q	3	J	A	1	7	C
QVXGRM	3	J	A	1	7	C
R3D82K	3	J	A	1	7	C
RBA2HR	3	J	A	1	7	C
RWPMVJ	3	J	A	1	7	C
RXDB4D	3	J	A	1	7	C
RXHK4Q	3	J	A	1	7	C
RZHWVK	3	J	A	1	7	C
T2XDRX	3	J	A	1	7	C
T6U7LT	3	J	A	1	7	C
T9ETHM	3	J	A	1	7	C
TAQQRX	3	J	A	1	7	C
TJB2XJ	3	J	A	1	7	C
TK9CTL	3	J	A	1	7	C
TP6UDT	3	J	A	1	7	C
TWKJTT	3	J	A	1	7	C
TXVLF	3	J	A	1	7	C
TZ22TP	3	J	A	1	7	C
TZ4PCN	3	J	A	1	7	C
U6ZEQZ	3	J	A	1	7	C
U8EF9Y	3	J	A	1	7	C
UFCXVN	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
UHGEDT	3	J	A	1	7	C
UMV8CX	3	J	A	1	7	C
UVNKAC	3	J	A	1	7	C
UZGLE8	3	J	A	1	7	C
V36AEE	3	J	A	1	7	C
VFM8DN	3	J	A	1	7	C
VHP88T	3	J	A	1	7	C
VJ7CVJ	3	J	A	1	7	C
VLXBAG	3	J	A	1	7	C
VTTDCT	3	J	A	1	7	C
W2ZJEA	3	J	A	1	7	C
W4AGYH	3	J	A	1	7	C
W4GDWW	3	J	A	1	7	C
W4QHYY	3	J	A	1	7	C
WCQYJ7	3	J	A	1	7	C
WF3XNJ	3	J	A	1	7	0
WFAULX	3	J	A	1	7	C
WM33V3	3	J	A	1	7	C
WQ4BZD	3	J	A	1	7	C
WRZR6M	3	J	A	1	7	C
WU4HFA	3	J	A	1	7	C
X6G42P	3	J	A	1	7	C
X9DU6F	3	J	A	1	7	C
XAXBZA	3	J	A	1	7	C
XDNXX3	3	J	A	1	7	C
XP7K6H	3	J	A	1	7	C
XPND2L	3	J	A	1	7	C
XVRBVK	3	J	A	1	7	C

TABLE 1

Recovered Characters						
WebCode	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
Y3WDQC	3	J	A	1	7	C
Y78N8L	3	J	A	1	7	C
YB4C2Y	3	J	A	1	7	C
YDTNRR	3	J	A	1	7	C
YMWRUG	3	J	A	1	7	C
YPKAXM	3	J	A	1	7	C
Z2BEEY	3	J	A	1	7	C
Z4HGJH	3	J	A	1	7	C
ZCURUH	C	J	A	1	7	C
ZGK9ZG	3	J	A	1	7	C
ZJ9HEN	3	J	A	1	7	C

Response Summary						Participants: 233
	Character 1	Character 2	Character 3	Character 4	Character 5	Character 6
Consensus	3	J	A	1	7	C
Number	231	232	232	231	231	228
Percent	99.1%	99.6%	99.6%	99.1%	99.1%	97.9%

Conclusions

TABLE 2

WebCode	Conclusions
27ZCML	EXAMINATIONS SHOWED THE SERIAL NUMBER OF ITEM 1 TO BE OBLITERATED. THE SERIAL NUMBER OF ITEM 1 WAS RESTORED USING MECHANICAL POLISHING, MAGNETIC AND CHEMICAL ETCHING TECHNIQUES AND APPEARS TO BE: 3JA17C.
2BU97L	Item 1.1 was sanded and polished and then was subjected to magnetic particle inspection in an attempt to restore the serial number. The serial number 3JA17C was observed.
2FQV4F	Visual inspection of the Item 1 piece of steel bar stock revealed a defaced area where a serial number is normally observed. The defaced area on the Item 1 bar stock was magnetically and chemically processed, resulting in a full recovery of the Item 1 serial number. The recovered number reads as follows: 3JA17C.
2HBT7C	Examination and restoration of the obliterated area of Item 1 revealed the following characters: "3JA17C".
33GGFN	Examination of the surface of the cold rolled steel bar stock revealed evidence of an obliterated serial number. The surface was treated and the following original serial number was restored: 3 J A 1 7 C
37YPUE	1. Examination of Exhibit 1 revealed it to be one metal ferromagnetic bar with an obliterated area on one side in the approximate center of the bar. a. Exhibit 1 measured approximately 70.3mm long, 25.4mm wide, and 6.47mm tall. b. The obliterated area on Exhibit 1 was restored and the following characters were observed: 3 J A 1 7 C.
38MCX3	The serial number on the piece of metal (Exhibit 01) was chemically treated and restored to read 3JA17C.
3F3ZPJ	Una vez preparada la superficie de la platina en acero inoxidable , se pule con lija 1200 la superficie que presentaba una área con desgaste de material , aplicando la prueba no destructiva método magnético y se revelaron los caracteres alfanuméricos 3JA170. [English translation of comments was not obtained by the time of report publication.]
3MNPVM	Restoration of the serial number on Item #1 revealed the characters 3JA17C.
3QYYLV	The serial number of the cold rolled steel bar stock, described in Item 1, was restored and corresponds to: 3JA17C.
3VZ2RK	The serial number on the cold rolled steel bar stock was restored using mechanical polishing and chemical etching techniques and was found to be "3JA17C".
3WF7HV	The serial number of the bar stock, Exhibit ITEM 1, was observed to be "3JA17C"
3WMNYD	Item SNR2 contains item 1 and an alphanumeric standard. Item 1 is a rectangular piece of metal with machining marks that obliterated the serial number. Through a combination of mechanical polishing and magnetic particle inspection, the item 1 serial number was restored to read 3JA17C.
3WUPAF	Item 1: A piece of cold rolled steel with suspected obliterated serial number. Analysis Result: The serial number 3JA17C was restored on the piece of steel.
462Q6E	Restoration Results: 3JA17C
4DT9G3	The serial number on the metal plate (Exhibit 1) was mechanically and chemically treated and restored to read 3JA1*C. The * represents an unrestored character. No analysis was performed on the metal plate (Exhibit 2).
4DUW48	Examination and restoration of the obliterated area on Item 1 (a piece of cold rolled steel bar stock) revealed the following characters: "3JA17C".
4ET8P3	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 "3JA17C".
4H68UG	Examinations showed the serial number of Item 1 to be obliterated. The serial number was restored using magnetic particle inspection and chemical etching techniques and was found to be: 3JA17C.

TABLE 2

WebCode	Conclusions
4JF2QG	After application of acid solution we were able to reveal the following characters : 3JA17C
4JM84X	A serial number restoration was performed on this item. Based upon paperwork from CTS the expected serial number configuration is six characters. The serial number was fully restored and appeared to be 3JA17C.
4UGLTA	The item 1 serial number was restored. The item 1 serial number is 3JA17C.
4WM4TQ	Examination and magnetic processing of [Laboratory] Item 001 restored the original obliterated serial number which was determined to be 3JA17C.
4XFV4B	Standard restoration techniques revealed the following characters on the piece of steel bar stock in Item #1: 3JA17C.
67TAF6	The serial number was restored to read 3JA17C.
68ZNN7	The obliterated serial number was restored to read 3JA17C.
6APYJ6	The number on cold rolled steel bar stock was found to be tampered and restored number is 3JA17C.
6B46EM	Restoration Results: 3JA17C
6JA96D	Categorical, unegurvocal
6JDLXG	Polishing, magnetic particle inspection, and acid etching serial number restoration techniques were applied to the 1.1 piece of metal. The serial number 3JA17C was restored.
6KBWTJ	Restoration results: 3JA17C
6KEMUZ	Using standard serial number restoration techniques, Item 1 obliterated serial number was partially restored to be "3JA17?". Where the "?" could either be a "6" or a "C".
6MEQA2	The following characters were restored on Item 1: 3JA17C.
6V7AQV	Restoration Results: 3JA17C
6VBJPM	The serial number on the bar stock (1) was determined to be 3 J A 1 7 C.
6VTHZY	Restoration results: 3JA17C
6XX7FP	The serial number was restored and determined to be "3JA17C".
6Z4LTM	The suspected obliterated serial number on the steel bar stock (Item 1) could not be determined.
7A4LWD	the hypothesis that the serial number is 3 J A 1 7 C is very strongly supported.
7B2V43	Examination of the submitted bar stock found the manufacturer's serial number to have been obliterated. The obliterated, original serial number was restored to read "3JA17C".
7FPRDK	EVIDENCE SUBMITTED: Lab Item #, Agency Item #, Description: 1 SNR2: One (1) piece of cold rolled steel bar stock with obliterated serial number and one (1) aluminum standard. CONCLUSIONS OF ANALYSIS: The serial number on the piece of cold rolled steel bar stock, item 1, was restored to read 3JA17C.
7HXTCD	As a conclusion of the studies "3JA17C" letters and numbers were determined by us.
7NUEKT	The section of steel bar stock provided for examination bore a machined area. The machined area had also then been subsequently ground as well. The application of Forensic procedures to the ground area restored a series of previously stamped characters that read 3JA17C.
7UXFKM	A chemical method serial number restoration was undertaken on a magnetic metal bar (approx. 70mm x 25mm x 7mm) seen with grinding marks across one surface. Restored alpha-numerical stamping appears to be '3JA17C'. Each digit is approx. 5mm x 3mm (Height, Width).
7XDM9W	Recovered characters: 3JA17C

TABLE 2

WebCode	Conclusions
84VNVD	1. Examination of Exhibit 1 revealed one cut metal bar stock with an area of obliteration. The obliterated area on Exhibit 1 was fully restored and the following characters were observed: 3 J A 1 7 C.
86ND68	Based on my finding, I am of the opinion that the steel bar was tempered and after electrochemical restoration process, the serial number was restored and read as 3JA17C.
8BYHXL	I was able to restore the serial number, it read 3JA17C.
8GJGFT	Restoration Results: 3JA17C {in a table format}
8HTQ8Q	The magnetic metal bar was successfully restored when treated with Fry's Reagent and determined to be 3JA17C
8J6J4D	Using standard laboratory physical and chemical restoration techniques, the obliterated serial number on Item 1 was restored to read 3JA17C.
8NKTBQ	The serial number of the metal piece (steel bar), described in item 1, was restored and corresponds to: 3JA17C.
8Q7VZB	Item 1 is a piece of steel bar stock with an obliterated serial number. Using standard restoration techniques, the obliterated serial number on Item 1 was restored to read: 3 J A 1 7 C.
8TFLPE	Using laboratory standard physical and chemical restoration techniques, the serial number on Item 1 was restored to read: 3JA17C.
8WBG3L	It was determined on the said bar the serial numbers consisting of the letters and numbers "3JA17C" in the course of the chemical studies applied on the bar Steel the matter of examinitorial.
92ZFB8	All items were visually examined. Attempts to restore the obliterated area of Q1 were made using polishing, magnetic, and chemical means of restoration. These attempts successfully restored the number: 3JA17C.
96YW7G	[No Conclusions Reported.]
97VCE8	[No Conclusions Reported.]
9GEPQA	1. Examination of Exhibit 1 revealed it is a ferromagnetic metal bar stock with an obliterated area approximately at the center. Standard restoration techniques were conducted, the obliterated area was restored, and the following characters were observed: 3 J A 1 7 C 2. Exhibit 1 measures 70.92 mm long, 25.39 mm wide and 6.31 mm thick. All measurements are approximate.
9Q2KZX	The obliterated surface on the steel bar stock (Item 1) was sanded and chemically processed. All characters could have been seen during the examination, but not all at the same time. Some have been visible later than other ones. The difficulty of the test this year was comparable to the test on 2020.
9Q3B92	Lab Item 1 Restoration Results: 3JA17C
9QKLKE	A serial number restoration was conducted on the area of obliteration on the piece of metal in Item #1. Standard restoration techniques revealed the following characters: "3JA17C".
A9FE6D	Recovered characters: 3JA17C
AAB2DB	The obliterated number on Item #1 (Q1) was polished and chemically restored to reveal the serial number 3 J A 1 7 C
AEQHYZ	The serial number was restored as 3JA17C.
AFCF2W	The erased number consisted of six characters, all of which i was able to restore. The obliterated serial number on the piece of metal was restored to read 3JA17C.
AGV6KD	THE RESULT OF THE SERIAL NUMBER REVEALING TEST ON THE PLATINUM WAS 3JA17C.
AHQTUZ	As a result of an attempted obliterated number restoration the above characters were observed.

TABLE 2

WebCode	Conclusions
AP7E2J	Visual examination and chemical treatment restored the obliterated serial number on Item 1 to read "3JA17C". Item E1 was inventoried. Items 1 and E1 are being returned.
ART39C	The examination and processing of the obliterated serial number on the Item 1 piece of steel was restored to read "3JA17C".
ARVPRC	The cold rolled steel bar which was submitted to our examination has been milled, thus obliterating the serial number. We used an acid etching technique to restore this number, which reads as follows: 3JA17C
AT29RT	Serial number restoration techniques revealed the characters "3JA17C".
ATUUJR	Item 1 was physically processed to attempt to recover the serial number. The serial number was recovered as 3JA17C.
B38LEE	The following characters were restored "3JA17C"
B4K2JF	The examination and chemical processing of the obliterated serial number using restoration solutions #1, #2 and #3 restored the original obliterated serial number which was determined to be 3JA17C. The procedure was photographed and documented accordingly.
BK7PQP	Standard restoration techniques revealed the following characters: 3JA17C
BVD9MR	The following characters were recovered: 3JA17C
C29PG4	Examination of the bar stock in Item #1 revealed an obliterated area. Restoration Results: 3JA17C
C9TKLE	The serial number of Submission 001 as restored is 3JA17C.
CA6NQQ	In table format: Serial Number Restoration: Lab Item(s)#: 1-1. Restoration Results: 3JA17C.
CRND8C	The Exhibit's surface was lightly polished, using grinding paper 120 and 600. The polished surface was then treated with Fry's reagent. The results were successfully photographed.
CUY2YP	The serial number was restored to read: 3JA17C.
D3FBLV	A request has been made to determine if the obliterated serial number or marking on the item submitted can be recovered. The serial marking of the steel bar stock, SNR2, has been removed from one flat side. After application of the electromagnetic and the chemical process, I determined the serial marking of the steel bar stock, Item SNR2, to be 3JA17C.
D4KMKD	Item 1 comprised a piece of cold rolled steel bar stock, from which the serial number had been erased. The serial number was restored to read 3JA17C.
DFD7YJ	Serial Number Restoration Analysis: Methodology: Physical (Visual Examination, Sanding), Microscopy (Comparison Microscope), Chemical (Reagent Etching), Magnetic Particle Inspection. Serial number restoration procedures revealed the serial number on Item 1, the steel bar stock, to be: 3 J A 1 7 C
DHCPJ6	The restored serial number is 3JA17C
DMMN4B	After application of the magnetic particle inspection and acid etch methods the obliterated number of Item 1 was recovered and interpreted as "3JA17C".
DWAR6H	After chemical restoration the serial number was fully restored to read "3JA17C".
E9673U	The recovered characters are 3JA17C.
EBDGVG	Serial Number Restoration Analysis: Methodology: Physical (Visual Examination), Microscopy (Stereo/Comparison Microscope), Chemical (Reagent Etching), MPI (Magnetic Particle Inspection). Serial number restoration procedures revealed the serial number on Item 1, the piece of stainless steel bar stock, to be: 3 J A 1 7 C.

TABLE 2

WebCode	Conclusions
EF6KPG	The primary serial number, located in the middle of the bar stock, appeared to have been deliberately obliterated through grinding. I used polishing, magnetic particle inspection, and chemical etching techniques to fully restore the following serial number: 3 J A 1 7 C. According to the submitted paperwork, the serial number for this item should have six characters. The examination was documented with a series of 26 images.
EGXJZ9	The deleted or altered series die was restored and the die was determined to be 3JA17C
EJ326V	Restoration of the obliterated area on Item #1 revealed the following characters "3JA17C."
EJHLQE	The serial number on the Item 01-01 steel bar stock was restored to read "3JA17C". The Item 01-02 aluminum bar stock was not analyzed.
ELBCZY	The obliterated serial number on Item 001-01 was restored to read 3JA17C.
EPAMWY	Chemical restoration revealed the serial number to be 3JA17C.
EUYAJR	The serial number on Item 1 was restored to read 3JA17C using magnetic particle inspection and chemical etching techniques.
EZRECW	The serial number for Item 1 was restored to read: 3JA17C.
F3BN2M	The serial now is 3JA17C
F63MG8	Item 1.1 was sanded and polished and then was subjected to magnetic particle inspection in an attempt to restore the serial number. The serial number 3JA17C was observed.
FB6VLE	[No Conclusions Reported.]
FFFQKW	Unique: It was obtained a full restoration of the metallic alloy steel bar described in digit ITEM 1; the serial number is 3JA17C, which corresponds to the size and shape of the characters engraved on the reference plate described and identified in digit ITEM 2.
FGAE3R	Upon electrochemical treatment on the filled surface, the number restored is 3JA17C. Hence, I am the opinion that the original number is "3JA17C.
FJKDCT	Examination of the submitted steel bar stock found the applied serial number to have been obliterated. The obliterated, original serial number was restored to read "3JA17C."
FKE3VN	As received, no characters were visible on Item 1 (steel bar stock). After sanding with increasingly fine sand paper and polishing with a Dremel tool, there were still no visible characters. Chemical etchants were applied to Item 1, and the serial number was restored. The restored serial number is: 3JA17C
FXF24T	After using sand paper and applying fry etch the serial number mentioned above was found.
FYXP6L	The restored serial number was: 3JA17C
FZ3D86	The serial number on the piece of cold rolled steel bar stock (item 1) was restored and found to be "3JA17C".
G2CZ4A	The serial number of the block of metal (1) was restored as 3JA17C.
G2VTRZ	The serial number on the steel bar stock, Item 1, was determined to be: 3 J A 1 7 C
G37NHY	Lab Item(s)#: 1. Restoration Results: 3JA17C
G838N4	Using standard chemical and physical laboratory techniques, the obliterated serial number on Exhibit 1a was restored to read "3JA17C." No examination was performed on the standard in Exhibit 1b.
GA77XB	Lab Item #1 (one piece of ~steel bar stock with apparent obliterated serial number) was examined between 08/22/2022 and 08/23/2022 and found to contain an area of obliteration with overlapping circular signatures, horizontal scratches, and vertical abrasions. Serial number restoration commenced on 08/22/2022 and was completed on 08/23/2022. Serial number restoration was successful. The serial number on Lab Item #1 (~steel bar stock) was recovered as: 3JA17C.

TABLE 2

WebCode	Conclusions
GAN7RZ	The serial number on the bar stock, Exhibit 1, was determined to be 3JA17C.
GH7C7K	Item 1 was physically and chemically processed to recover the obliterated serial number. The serial number was recovered as 3JA17C.
GHLTPR	Examination of the steel bar in Item #1 revealed an obliterated area. Standard restoration techniques revealed the following characters: "3JA17C"
GJCT7B	The obliterated area was chemically etched and the following characters were visualised: 3 J A 1 7 C
GKA99Z	1. Examination of Exhibit 1 revealed one (1) ferromagnetic piece of metal bar with an obliterated area measuring 71.28mm in length, 25.40mm in width, and 6.28mm thick. Standard restoration techniques were performed and the following characters were observed on the obliterated area of Exhibit 1: 3 J A 1 7 C. 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.
GMHBBY	The obliterated serial number on the steel bar stock was chemically processed and fully restored to read: "3JA17C"
GRXRUN	The defaced characters on the Item 1 bar stock were restored to read "3JA170".
GV9UQT	Examination and restoration of the serial number on Item 1 (a piece of metal bar stock) revealed the following characters: "3JA17C".
GXTRUP	[No Conclusions Reported.]
GZJ2RW	The obliterated serial number on Item 001-01 was restored to read: 3JA17C.
HHCAGE	The defaced serial number was restored to read "3JA17C".
HHZDCB	In this test range, we were able to find the answer '3JA17C'.
HNQX84	ITEM #1: Serial number restored to read: 3JA17C. Magnaflux, Chemical etching, and sanding were performed during the restoration process of the serial number.
HUWMTH	I was able to restore the serial number to read 3JA17C.
HVQBAR	The serial number was restored to read: 3 J A 1 7 C. The standard was not examined further.
J4EFP7	Items: Description/Visual Examination: Item 1: A piece of metal bar stock with suspected obliterated serial number. Examination Results: Item 1: metal bar stock. Using chemical and physical serial number restoration techniques, an attempt was made to restore the obliterated serial number with the following results: Serial Number: 3 J A 1 7 C was restored on Item 1.
JJ4RVL	The serial number on the piece of metal (Exhibit 1) was mechanically and chemically treated and restored to read 3JA17C.
JTQTCV	Serial number restoration was performed on item 1. The serial number 3JA17C was restored.
JXVYPH	i restored the obliterated serial number to read 3JA17C.
K23ZV6	Items: Description/Visual Examination: Item 1: One (1) piece of cold rolled steel bar stock with a suspected obliterated serial number. Examination Results: Item 1 (cold rolled steel bar stock): Using chemical and physical serial number restoration techniques, an attempt was made to restore the obliterated serial number with the following results: Serial Number: 3 J A 1 7 C was restored on Item 1.
K4MYY3	The stainless steel plate described as Evidence-1, maintains the filed series, where the corresponding reagent was applied, managing to observe the digits 3JA17C.

TABLE 2

WebCode	Conclusions
K7TJM3	in the result of examination the testing material the following signs would be restored/recovered: "3 J A 1 7 C"
K7XWE6	I concluded that the restored suspected obliterated serial number of Item 1 consists of six (6) characters, these being 3JA17C.
KBRT2B	two methods were used for examining the CTS. the first method was a non destructive method using magnet and magnaflux (MV 740) and the second method was a destructive method using chemical (fry's reagent).
KDG286	Once the procedure is done. mediate polishing of the surface and applying the magnetic particle spray, the characters 3 J A 1 7 C can be observed.
KMZHV7	The obliterated serial number on the metal piece (Item 1) was restored to read: 3 J A 1 7 C.
L3TL32	Serial number restoration techniques via chemical restoration techniques yielded the full serial number 3JA17C.
L7PC3L	[No Conclusions Reported.]
LAELD8	The serial number on the bar stock was determined to be "3JA17C."
LFHME3	An obliterated area was observed on the steel bar stock in Item 1. Standard restoration techniques revealed the characters "3JA17C".
LM2VXR	A serial number restoration was performed on item 1.1 and was found to be: 3JA17C.
LNUJGM	Results: Serial Number Restoration: Lab Item(s)#: 1. Restoration Results: 3JA17C.
LRVM9A	Examined the cold rolled steel bar stock with the obliterated serial number. The obliterated serial number was chemically/magnetically processed and was restored to read 3JA17C.
LT4RRQ	After examination and processing of the stainless steel bar stock, the original obliterated serial number was determined to be 3JA17C.
LTNKH3	The number serial 3JA17C was recovered using the technical not destructive and not invasive "MAGNETICAL O MAGNAFLUX", and complemented with the chemical technique
LVPQVM	After using sand paper and applying fry etch method the serial number mentioned above was found. [See Table 1 - Recovered Characters].
MB67T6	The original stamping on the rolled steel bar stock had been removed by a combination of milling and horizontal filing. A six character stamping, containing a mixture of letter and number stamps was restored to read: 3 J A 1 7 C.
MEYZFK	Restoration techniques were applied to item #1 and the original serial number was restored as 3JA17C.
MHKV94	Item 1 was examined and determined to be a ferromagnetic metal block, silver in color, approximately ~7.2 cm in length, ~2.5 cm in width and ~7 mm in thickness. On one side there is a centrally located area where material has been removed ~2.6 cm in width. This suspected area of obliteration has material removed and presents two (2) sets of different toolmarks; arced tool markings consistent with having been produced by an edged cutting/facing type machine tool and scratch marks. (See: photos) [Photos not attached by participant]. The obliterated area on Item 1 metal block was processed using standard serial number restoration techniques (MagnaFlux). The characters were revealed and observed as follows: 3JA17C.
MP2HQM	Restoration of obliterated stamped marking was performed on the questioned surface of the Item 1, and the restored serial numbers were found to be "3JA17C".
MPNQBC	The serial number of the Piece of cold steel bar stock, Exhibit Item 1, was observed to be "3JA17C".
N3HVLT	Restoration Results: 3JA17C

TABLE 2

WebCode	Conclusions
NTHX6L	Examination and restoration of the obliterated area on Item 1 (a piece of cold rolled steel bar stock) revealed the following characters: "3JA17C".
P29UE2	Item U8555A was a piece of metal with an obliterated area. No information was provided as to what the general structure of the expected serial number should be but an alpha/numeric standard was provided. Magnetic particle inspection (MPI) and chemical enhancement were used on the obliterated area and six characters were recovered: 3JA17C.
PB3XZB	The serial number of the bar of cold rolled steel was observed to be "3JA17C".
PFAPLU	1) Examination of Exhibit 1 revealed one ferromagnetic metal bar containing an obliterated area in the center of one side. a. Exhibit 1 measures 70mm long, 25mm wide, and 5mm thick. b. Standard serial number restoration techniques were used on the obliterated area and the following characters were observed: 3 J A 1 7 C. All measurements are approximate. The point of contact for this report is [Name & Email]. 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.
PFNB4H	Restoration Results: 3JA17C
PHEAJ2	On examination, I found that there were filing mark on the steel bar stock and no numbers were observed. After electrochemical treatment, the obliterated serial number was restored and read as "3JA17C".
PWFWZV	1. Examination of Exhibit 1 revealed one bar of ferromagnetic metal with an obliterated area located in the approximate center of the bar. a. Exhibit 1 measured approximately 70.01mm long, 25.30mm wide, and 6.33mm thick. b. The obliterated area of Exhibit 1 was restored and the following characters were observed: 3 J A 1 7 C.
Q6AEWJ	Physical, magnetic, and chemical processing of the submission 001-1 piece of metal restored the serial number to read: 3JA17C.
Q93CBP	The serial number on the metal plate (Exhibit 01) was mechanically and chemically treated and restored to read 3JA17C. The metal plate (Exhibit 02) was documented and photographed; however, no further analysis was performed.
QDFHLP	Restoration Results: 3JA17C
QE8FWG	Item detail: Item 1: A piece of cold rolled steel bar stock with suspected obliterated serial number. Materials used: Steel wool, magnetic particle Inspection (MPI). Area/Items Processed: Item #1 was received for serial number processing on 8/4/2022. The serial number was obliterated by grinding (Grinder smooth surface). The area of interest was determined to be a ferrous (magnetic) surface. The area was polished with steel wool prior to processing. After it was determined to be a ferrous (magnetic) surface, magnetic particle Inspection (MPI) was utilized in an attempt to visualize the obliterated characters. Through examination and processing, the obliterated serial number was fully restored to read '3JA17'.
QFHBKU	A physical/chemical serial number restoration procedure was conducted on the above described evidence (Item #1) on 09/08/2022 with the following results: The defaced serial number on Item #1 was restored to read: 3JA17C [See Table 1 - Recovered Characters].
QL8TY6	[No Conclusions Reported.]
QML6UP	Serial number was defaced by an abrasive method, restored the serial number using the chemical etching method.
QMZR9X	After applying the serial number restoration procedure, the highlighting of the alphanumeric digits corresponding to 3JA17C was obtained.

TABLE 2

WebCode	Conclusions
QQY34X	The identification number of the steel bar was restored to read 3JA17C this conclusion was verified by firearms expert [Name].
QU2UJP	The Item #1 bar stock was physically and chemically processed. Its serial number was restored to read: 3 J A 1 7 C.
QUKP2Q	The obliterated six alphanumeric characters on the steel bar stock (Item 1) were restored as followed: 3 J A 1 7 C
QVXGRM	The serial number of the Item 1 bar stock was restored and found to be: 3JA17C
R3D82K	3JA17C
RBA2HR	1. Examination of Exhibit 1 revealed one ferromagnetic metal bar of dimensions 25.37mm x 6.25mm x 71.20mm. The following symbol was observed on the surface as received: [Arrow symbol]. 2. One damaged area was observed on Exhibit 1. The following characters were observed during restoration of this damaged area: 3 J A 1 7 C. All measurements are approximate. The point of contact for this report is [Name & Email]. 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.
RWPMVJ	The obliterated serial number located on Exhibit 1 was microscopically examined and magnetically and chemically processed. The characters were concluded to be 3JA17C.
RXDB4D	The obliterated serial number was restored using magnetic particle inspection and chemical etching. The serial number was determined to be 3JA17C.
RXHK4Q	Item #1 contained an area with obliterated characters which were restored as "3JA17C".
RZHWWK	The obliterated serial number on Item 001 was physically and chemically processed and the serial number was able to be restored as 3JA17C.
T2XDRX	Item #1 was received with a suspected obliterated serial number. Attempts to restore the serial number with polishing and chemical processing were done. The best observation of the obliterated serial number is "3JA17C".
T6U7LT	Using magnetic and chemical methods, the obliterated serial number located on the recessed portion of Item 001A was restored to read 3JA17C. Item 001B was inventoried, photographed, and used as a reference for letter/number structure.
T9ETHM	The recovery techniques applied, has allowed us to obtain the previously obliterated sequence: 3 J A 1 7 C.
TAQQRX	The serial number of Item 1 was partially restored using Magnetic Particle Inspection (MPI). I then used sand paper to file down some of the imperfections in the metal. I then used the Magnetic Particle Inspection (MPI) again and was able to fully restore the serial number which was 3JA17C. Photographs were taken to document the results.
TJB2XJ	The serial number of the steel bar, ITEM 1, was restored and observed to be "3JA17C".
TK9CTL	Serial number removed, restored to read 3 J A 1 7 C
TP6UDT	The submitted metal bar (Lab item number 1.01 and the Aluminum standard plate (Lab item number 1.02) were visually and microscopically examined. The center of metal bar (Lab item number 1.01) possessed an area of toolmarks. This area was sanded, polished, and cleaned. The metal bar (lab item number 1.01) was magnetically inspected to restore any letters or digits. The following characters were noted in the center area of the metal bar (lab item number 1.01) during the magnetic inspection process: 3JA17C
TWKJTT	[No Conclusions Reported.]

TABLE 2

WebCode	Conclusions
TXVLF	[No Conclusions Reported.]
TZ22TP	The obliterated serial number on the steel bar stock in Item #1 was completely restored and found to be 3 J A 1 7 C.
TZ4PCN	Item 1 had an obliterated serial number. Restoration techniques recovered the following characters "3JA17C".
U6ZEQZ	In my opinion, the characters '3 J A 1 7 C' presented visually after chemical treatment
U8EF9Y	The restoration of obliterated serial number have been done using physical and chemical processing. The following characters have been restored: 3JA17C.
UFCXVN	The serial number for the piece of cold rolled steel bar stock (Item 1) was restored to read 3JA17C.
UHGEDT	1. Exhibit 1 is a piece of metal bar stock with the center obliterated. Restoration techniques were used on the obliterated area. The following characters were observed: 3 J A 1 7 C
UMV8CX	The serial number was restored to read 3JA17C
UVNKAC	Examination and mechanical processing of the submitted steel bar stock revealed that the original serial number is 3JA17C.
UZGLE8	Lab Item(s)#: 1-1. Restoration Results: 3JA17C.
V36AEE	3JA17C: current Examination revealed an obliterated area. Restoration revealed the following characters: 3JA17C: past
VFM8DN	The following evidence was received, analyzed on the below listed date and marked for identification as follows: Item 1: One (1) piece of cold rolled steel bar stock with suspected obliterated serial number, marked Q1. (Also received: One (1) piece of aluminum bar stock labeled "Aluminum Standard" for reference, not marked) The visual analysis and the obliterated serial number restoration of the above listed bar stock Q1 was initiated on August 15, 2022. Attempts to restore the obliterated serial number on bar stock Q1 were successful by means of polishing and chemical etching methods. The restored serial number reads 3JA17C. The above listed evidence will be retained within the Firearms Analysis Unit's evidence room.
VHP88T	The obliterated serial number was restored using chemical etchants. The restored number is "3JA17C".
VJ7CVJ	The serial number was fully restored using chemical restoration techniques. The serial number was determined to be "3JA17C".
VLXBAG	Restoration Results: 3JA17C
VTTDCT	The obliterated serial number on Item 1 was restored to read 3JA17C
W2ZJEA	The obliterated serial number was attempted to be restored utilizing Magnetic Particle Inspection, yielding positive results. The serial number was restored to be "3JA17C."
W4AGYH	The obliterated serial number on the steel bar stock was chemically processed and fully restored to read: "3JA17C"
W4GDWW	Serial number successfully restored. Last digit partially visible pre-restoration. Fry's reagent very effective in this case. Surface polished using fine sandpaper and metal polish. Decreased using Acetone. No problems encountered.
W4QHYY	Light sanding. Used Fry's Reagent. Restored to read 3JA17C.
WCQYJ7	The serial number of the CTS unknown was processed using mechanical polishing and chemical etching. The serial number was restored and determined to be: 3 J A 1 7 C.
WF3XNJ	Examination and magnetic processing of the Item 1 steel bar restored the original obliterated serial number which was determined to be '3JA170'.

TABLE 2

WebCode	Conclusions
WFAULX	A serial number restoration was carried out on a piece of bar stock (Item 2203800/001) with an obliterated number. After the application of a chemical reagent, the following characters were developed: 3JA17C. The characters were compared using a known reference sample of alphanumeric numbers used in the manufacturing process. The developed characters had a similar font and size to the reference sample provided.
WM33V3	The serial number of the piece cold rolled steel bar stock, described in item 1, was restored and correspond to: 3JA17C.
WQ4BZD	Restoration results 3JA17C
WRZR6M	1. Examination of Exhibit 1 revealed a ferromagnetic metal bar with an obliterated area. a. Serial number restoration techniques were used and the following characters were observed on the obliterated area of Exhibit 1: 3 J A 1 7 C.
WU4HFA	The obliterated serial number from the bar stock received with item 001 was processed by magnetic particle inspection and acid etching and determined to be 3JA17C.
X6G42P	We have used appropriate chemical reaction for the restoration of the serial number obliterated on the plate. Six (06) characters were revealed, three (03) digits and three (03) letters. see photos [Photographs not submitted by participant].
X9DU6F	1. The characters are obliterated. 2. The recovered characters from the steel bar stock with Fry Reagent are: 3JA17C, which identify the piece.
XAXBZA	Examination and mechanical processing of the submitted piece of cold rolled steel bar stock revealed that the original serial number is 3JA17C.
XDNXX3	Recovered characters : 3JA17C
XP7K6H	The analysis of the evidence was initiated on September 6, 2022. The stainless steel bar stock was visually examined. Attempts to restore the serial number using a polishing tool, magnetic methods, and chemical processing were successful. The restored serial number is 3JA17C. The evidence will be retained in the FAU FER/FEV.
XPND2L	The serial number on the metal bar, Exhibit 1, was determined to be 3 J A 1 7 C.
XVRBVK	Examination of Item #1 revealed an obliterated area on the center of the steel bar stock. Standard restoration techniques revealed the following characters "3JA17C".
Y3WDQC	The serial number was restored to read: 3JA17C.
Y78N8L	Item# 1: One metal plate. Item# 1 is a metal plate bearing an obliterated serial number. The serial number was chemically restored and found to be "3JA17C".
YB4C2Y	Upon chemical etching on the steel bar in Item 1, six characters "3JA17C" were revealed. The six characters were found to agree in style and size with the corresponding characters stamped on the Aluminum Standard.
YDTNRR	Standard serial number restoration techniques revealed the following characters "3JA17C"
YMWRUG	Restoration Results: 3JA17C
YPKAXM	1) Exhibit 1 contains a piece of metal bar stock with an obliterated area. The obliterated area on Exhibit 1 was restored and the following characters were observed: 3 J A 1 7 C.
Z2BEEY	The serial number of the metal piece (steel bar), describe in item 1, was restored and corresponds to: 3JA17C.
Z4HGJH	The serial number on the piece of bar stock was determined to be 3 J A 1 7 C.
ZCURUH	A piece of steel bar stock was submitted with an obliterated area observed. Upon restoration, the characters C J A 1 7 C were restored.

TABLE 2

WebCode	Conclusions
ZGK9ZG	Serial number restoration was completed via the use of chemical etching. Metal was a magnetic material. Serial number chemicals used consisted of Fry's Reagent, Turner for highlight. Light sanding was completed prior to first step. Please refer to S/N Restoration worksheet and photographs for further information. The following steps were taken to obtain the serial number: Visual, Photograph, Light sanding- photograph document findings, Fry- photograph document findings, Turner to highlight- photograph, document findings and had full restoration of 3JA17C. [Worksheet and photographs not submitted by participant].
ZJ9HEN	After preparing the surface of the aluminum piece through sanding and polishing, the MagnaFLux method was applied and later the Fry's reagent where the following serial number was revealed: 3JA17C

Sample Preparation

(listed in order of use)

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
27ZCML	Visual	Stereoscope	
	Polishing	Dremel	
2BU97L	Polishing	Sand paper	220 - 3000
2FQV4F	Visual	Stereoscope	
	Polishing	Steel wool	
2HBT7C	Polishing	Dremel	Extra fine
33GGFN	Cleaning	Ethanol	
	Sanding	Sand paper	P400
37YPUE	Sanding	Sand paper	400
38MCX3	None		
3F3ZPJ	Sanding	Emery paper	1.200
3MNPVM	Polishing	Dremel	
3QYYLV	Visual	Magnifying Glass	
	Visual	Stereoscope	
	Cleaning	Ethanol	
	Sanding	Sand paper	220
	Polishing	Sand paper	500
	Cleaning	Acetone	
3VZ2RK	Polishing	Rotary Tool	120
3WF7HV	Sanding	Sand paper	400
	Polishing	Dremel	
3WMNYD	Polishing	Dremel	
3WUPAF	Visual	Stereoscope	
	Polishing	Dremel	
462Q6E	Polishing	Rotary Tool	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
4DT9G3	Polishing	Dremel	
	Cleaning	Water	
4DUW48	Polishing	Rotary Tool	
4ET8P3	Polishing	Dremel	
4H68UG	Visual	Stereoscope	
	Sanding	Sand paper	150
4JF2QG	Sanding	Sand paper	160
	Cleaning	Acetone	
4JM84X	Cleaning	Acetone	
	Cleaning	SKC-S Cleaner	
	Polishing	Dremel	
4UGLTA	Polishing	Emery paper	
4WM4TQ	Polishing	Dremel	
4XFV4B	Polishing	Dremel	Unknown
67TAF6	Polishing	Sand paper	80
	Sanding	Dremel	
68ZNN7	Polishing	Dremel	
6APYJ6	Polishing	Sand paper	80 - 120
6B46EM	Polishing	Dremel	
6JA96D	Polishing	Sand paper	600-800
6JDLXG	Polishing	Sand paper	240, 400, 800, 1000
6KBWTJ	Polishing	Dremel	
6KEMUZ	Visual	Stereoscope	
	Polishing	Dremel	
6MEQA2	None		
6V7AQV	Visual		
	Polishing	Dremel	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
6VBJPM	Sanding	Sand paper	220
6VTHZY	Polishing	Dremel	
6XX7FP	None		
6Z4LTM	Polishing	Dremel	
7A4LWD	None		
7B2V43	Polishing	Dremel	
7FPRDK	Polishing	Dremel	
7HXTCD	Sanding	Emery paper	1200 sand
7NUEKT	Polishing	Emery paper	1200
7UXFKM	Sanding	Sand paper	360, 800, 1200
7XDM9W	Polishing	Dremel	
84VNVD	Sanding	Sand paper	180
86ND68	Visual	Eyes inpection	
	Cleaning	Acetone	
8BYHXL	Visual		
	Sanding	Sand paper	240 & 800 grit
	Sanding	Emery paper	
	Polishing	Emery paper	
8BYHXL	Cleaning	Acetone	
	Visual	Stereoscope	
8GJGFT	Visual	Stereoscope	
8HTQ8Q	None		
8J6J4D	Visual		
	Polishing	Dremel	
	Sanding	Sand paper	220
8NKTBQ	Visual	Stereoscope	
	Sanding	Sand paper	100 & 220
8Q7VZB	Polishing	Dremel	

TABLE 3

Sample Preparation			
<u>WebCode</u>	<u>Method</u>	<u>Tool Used</u>	<u>Grit Size</u>
8TFLPE	None		
8WBG3L	Sanding	Emery paper	medium size / 120
92ZFY8	Polishing	Dremel	
96YW7G	Sanding	Sand paper	400
97VCE8	Visual	HAND LENCE	
9GEPQA	Visual	Microscope	
	Polishing	Sand paper	400
	Cleaning	Acetone	
9Q2KZX	Sanding	Sand paper	P240, wet
9Q3B92	Polishing	Dremel	
9QKLKE	Visual	None	
	Polishing	Dremel	
A9FE6D	Visual	Stereoscope	
	Polishing	Dremel	
AAB2DB	Polishing	Emery paper	
AEQHXZ	Polishing	Steel wool	
	Sanding	Sand paper	800-1000
AFCF2W	Sanding	Sand paper	240, 2000 grit
	Cleaning	Acetone	
AGV6KD	Visual	Sand paper	200
AHQTUZ	Visual		
	Polishing	Dremel	soft white cloth wheel
AP7E2J	Visual	Stereoscope	
ART39C	None		
ARVPRC	Sanding	Rotary Tool	500
	Cleaning	Acetone	
AT29RT	Polishing	Dremel	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
ATUUJR	Sanding	Sand paper	100 grit
	Polishing	Dremel	fine Cratex polishing wheel
B38LEE	Polishing	Dremel	
B4K2JF	Sanding	Sand paper	120 GRIT
	Sanding	Sand paper	1500 GRIT
	Polishing	Dremel	
BK7PQP	Visual	Stereoscope	
BVD9MR	Polishing	Dremel	(after 1st Magnaflux)
C29PG4	Visual	Naked eye	
	Polishing	Dremel	
	Cleaning	Acetone	
	Visual	Naked eye	
C9TKLE	Visual	Stereoscope	
	Sanding	Sand paper	220 and 400
CA6NQQ	None		
CRND8C	Polishing	Sand paper	grinding paper 120 and 600
CUI2YP	None	Filing - Hand File	
	Sanding	Sand paper	P240
	Sanding	Sand paper	P800
	Sanding	Sand paper	Ultra Fine
	Sanding	Sand paper	P240
	Sanding	Sand paper	P800
	Sanding	Sand paper	Ultra Fine
	Sanding	Sand paper	P240
	Sanding	Sand paper	P800
	Sanding	Sand paper	Ultra Fine
	Cleaning	Paper Towel	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
D3FBLV	Visual	Microscope	
	Sanding	Sand paper	100
	Sanding	Sand paper	150
	Sanding	Emery paper	600
	Polishing	Rotary Tool	
D4KMKD	Visual	Stereoscope	
	Sanding	Rubber wheel	
	Polishing	metal polish	
DFD7YJ	Visual	Microscope	
DHCPJ6	Polishing	Sand paper	180
DMMN4B	Polishing	Rotary Tool	Fine
DWAR6H	Visual	Stereoscope	
E9673U	Polishing	Dremel	
EBDGVG	Visual	Stereoscope	
EF6KPG	Polishing	Sand paper	medium/ fine
EGXJZ9	Polishing	Dremel	
EJ326V	Polishing	Dremel	
EJHLQE	Polishing	Dremel	
	Sanding	Sand paper	400
	Cleaning	SKC-S	
ELBCZY	Polishing	Emery paper	400
EPAMWY	Sanding	Sand paper	220
EUYAJR	Visual	Stereoscope	
EZRECW	Visual		
F3BN2M	Polishing	Rotary Tool	
F63MG8	None		
FB6VLE	None		

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
FFFQKW	Polishing	Dremel	
FGAE3R	Visual	Stereoscope	
	Sanding	Sand paper	1000 grit
	Cleaning	Acetone	
FJKDCT	Sanding	Sand paper	400
FKE3VN	Sanding	Emery paper	120, 220, 320
	Polishing	Dremel	
FXF24T	Sanding	Sand paper	1000, 600 and 320 Grit
FYXP6L	Grinding	Dremel	
	Polishing	Dremel	
FZ3D86	Visual	Stereoscope	
G2CZ4A	Sanding	Dremel	
	Sanding	Sand paper	220
	Polishing	Dremel	
G2VTRZ	Visual	Stereoscope	
	Grinding	Dremel	
	Sanding	Sand paper	600
	Polishing	Steel wool	
G37NHY	Visual	Camera with zoom lens	
	Polishing	Dremel	
G838N4	None		
GA77XB	Polishing	Dremel	MEDIUM SOFT
	Cleaning	Acetone	OIL REMOVAL
GAN7RZ	Sanding	Sand paper	
	Polishing	Dremel	
GH7C7K	Polishing	Dremel	Cratex Tip
	Polishing	Steel wool	
GHLTPR	Visual	Stereoscope	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
GJCT7B	Sanding	Sand paper	120 and 800
GKA99Z	Polishing	Sand paper	400
GMHBBY	Sanding	Sand paper	320
GRXRUN	None		
GV9UQT	Sanding	Dremel	Extra Fine
GXTRUP	Visual	Microscope	
	Cleaning	Acetone	
	Sanding	Sand paper	320
	Polishing	Dremel	
GZJ2RW	Polishing	Emery paper	400
HHCAGE	Polishing	Dremel	
HHZDCB	Polishing	Sand paper	P320, P2000
HNQX84	Sanding	Sand paper	150
	Sanding	Sand paper	300
HUWMTH	Sanding	Emery paper	240, 400, 800 AND 1200
	Polishing	Cloth	Autosol
	Cleaning	Acetone	Liquid
HVQBAR	Visual		
	Visual	Stereoscope	
	Polishing	Sand paper	P80
J4EFP7	Polishing	Dremel	
JJ4RVL	Visual	Eyes	
	Polishing	Dremel	polishing wheel
JTQTCV	Polishing	Dremel	Magnaflux was used before sample was polished the first time.

TABLE 3

Sample Preparation			
<u>WebCode</u>	<u>Method</u>	<u>Tool Used</u>	<u>Grit Size</u>
JXVYPH	Visual	Stereoscope	
	Cleaning	Steel wool	
	Sanding	Emery paper	P80 (dry)
	Polishing	Sand paper	P800 (wet)
K23ZV6	Polishing	Dremel	
K4MY3	Visual	Stereoscope	
K7TJM3	Visual	Stereoscope	
K7XWE6	Sanding	Sand paper	130 and P400
	Polishing	Dremel	Polishing compound
KBRT2B	Polishing	Dremel	
	Cleaning	Acetone	
	Visual	Microscope	
KDG286	Grinding	Dremel	120 - 200 - TOW
KMZHV7	Visual	Stereoscope	
L3TL32	Polishing	Dremel	
L7PC3L	None		
LAELD8	None		
LFHME3	Polishing	Dremel	
LM2VXR	Sanding	Sand paper	600
	Visual	Stereoscope	
LNUJGM	Visual	Stereoscope	
LRVM9A	Polishing	Dremel	
LT4RRQ	None		
LTNKH3	Visual	Stereoscope	
	Cleaning	Acetone	
	Sanding	Sand paper	400
	Polishing	Emery paper	600
LVPQVM	Sanding	Sand paper	1000, 600, 320 Grit

TABLE 3

Sample Preparation				
WebCode	Method	Tool Used	Grit Size	
MB67T6	Sanding	Wet & Dry Abrasive	3M 734 Ultra Fine	
	Polishing	Rotary Tool		
MEYZFK	Polishing	Dremel		
MHKV94	Polishing	Dremel		
MP2HQM	Sanding	Sand paper	120, 800, 1200	
MPNQBC	Cleaning	Acetone		
	Grinding	Dremel		
	Sanding	Sand paper	600	
	Polishing	Rotary Tool		
N3HVL	Visual	Microscope		
	Polishing	Rotary Tool		
NTHX6L	Visual	Stereoscope		
	Polishing	Rotary Tool	fine polish wheel	
P29UE2	Sanding	Sand paper	120 and 220	
	Visual	Stereoscope		
PB3XZB	Sanding	Sand paper	600	
	Polishing	Rotary Tool		
PFAPLU	Sanding	Sand paper	180	
	Sanding	Sand paper	400	
PFNB4H	Visual	Stereoscope		
PHEAJ2	Visual	Physical Observation		
	Cleaning	Acetone		
PFWWZV	Sanding	Sand paper	400	
Q6AEWJ	Polishing	Dremel		
Q93CBP	Polishing	Dremel		
QDFHLP	Polishing	Dremel		
QE8FWG	Visual	Magnifying Glass		
	Polishing	Steel wool		

TABLE 3

Sample Preparation			
<u>WebCode</u>	<u>Method</u>	<u>Tool Used</u>	<u>Grit Size</u>
QFHBKU	Polishing	Dremel	Fine
QL8TY6	None		
QML6UP	Polishing	Stereoscope	100
QMZR9X	Polishing	Dremel	
QQY34X	Visual	Stereoscope	
	Sanding	Dremel	180
	Polishing	Sand paper	240
	Cleaning	Acetone	
QU2UJP	Polishing	Dremel	
QUKP2Q	Sanding	Dremel	Self-adhesive Paper at various grit sizes were utilized (from rough till fine): 80, 120, 250, 500, 800 and afterwards polishing(1200).
QVXGRM	Visual	Stereoscope	
	Polishing	Dremel	
R3D82K	Polishing	Dremel	
RBA2HR	Visual		
RWPMVJ	None		
RXDB4D	None	Stereoscope	
RXHK4Q	Visual	Stereoscope	
	Polishing	Dremel	
RZHVK	Sanding	Sand paper	80
	Polishing	Sand paper	150
T2XDRX	Polishing	Dremel	No
T6U7LT	Polishing	Dremel	
T9ETHM	Cleaning	Acetone	
	Cleaning	Ethanol	
	Polishing	Steel wool	

TABLE 3

Sample Preparation			
<u>WebCode</u>	<u>Method</u>	<u>Tool Used</u>	<u>Grit Size</u>
TAQQRX	Sanding	Sand paper	120
TJB2XJ	Visual		
TK9CTL	Polishing	Sand paper	fine
TP6UDT	Sanding	Sand paper	400 thru 3000
	Cleaning	Acetone	
	Visual	Stereoscope	
TWKJTT	Sanding	Dremel	80 grit
	Polishing	Dremel	
TXVLFY	Sanding	Sand paper	super fine
TZ22TP	None		
TZ4PCN	Polishing	Dremel	
U6ZEQZ	Polishing	Sand paper	800 & 1200
U8EF9Y	Polishing	Sand paper	no. 50
	Polishing	Sand paper	no. 600
	Cleaning	Acetone	
UFCXVN	Polishing	Dremel	
UHGEDT	Polishing	Rotary Tool	
UMV8CX	Polishing	Rubber Wheel	
	Sanding	Sand paper	Ultra Fine
UVNKAC	Polishing	Sand paper	220
UZGLE8	Cleaning	Magnaflux SKC-S cleaner	
	Polishing	Rotary Tool	
V36AEE	Polishing	Dremel	
VFM8DN	Visual	Stereoscope	
	Polishing	Dremel	
VHP88T	Sanding	Sand paper	320 grit
VJ7CVJ	Polishing	Dremel	

TABLE 3

Sample Preparation			
<u>WebCode</u>	<u>Method</u>	<u>Tool Used</u>	<u>Grit Size</u>
VLXBAG	Visual	Stereoscope	
	Polishing	Dremel	
VTTDCT	Sanding	Sand paper	120
W2ZJEA	Polishing	Dremel	
W4AGYH	Sanding	Sand paper	320
W4GDWW	None	Sand paper	Ultra fine
W4QHYY	Sanding	Sand paper	180 grit then 320 grit
WCQYJ7	Visual	Stereoscope	
	Polishing	Dremel	Fine
	None		
WF3XNJ	None		
WFAULX	Sanding	Emery paper	400, 600, 1200
WM33V3	Visual	Stereoscope	initial inspection
	Polishing	Sand paper	220, 500
WQ4BZD	Visual		
WRZR6M	Visual		
WU4HFA	Visual	Stereoscope	
	Polishing	Sand paper	
X6G42P	Sanding	Emery paper	small grain of sand paper
	Cleaning	Stereoscope	
	Visual	Microscope	
X9DU6F	Sanding	Sand paper	80
	Cleaning	Thinner	
XAXBZA	Polishing	Sand paper	220
XDNXX3	Visual		
	Polishing	Dremel	
XP7K6H	Visual		
	Polishing	Dremel	

TABLE 3

Sample Preparation			
WebCode	Method	Tool Used	Grit Size
XPND2L	Sanding	Sand paper	80, 180, 600
XVRBVK	Polishing	Dremel	
Y3WDQC	Visual	Stereoscope	
	Sanding	Sand paper	80 Grit
	Polishing	Dremel	
Y78N8L	Sanding	Sand paper	1500
YB4C2Y	Visual	Microscope	No sanding.
YDTNRR	Visual	Stereoscope	
	Polishing	Dremel	
YMWRUG	Polishing	Dremel	
YPKAXM	Visual		
Z2BEEY	Visual	Stereoscope	
	Sanding	Sand paper	100
Z4HGJH	Polishing	Sand paper	
ZCURUH	Polishing	Dremel	
ZGK9ZG	Sanding	Dremel	60
ZJ9HEN	Visual	Stereoscope	
	Sanding	Sand paper	100 Y 400
	Polishing	Dremel	

Response Summary		Participants: 233
Sample Preparation		
Visual Method:	73	
Sanding Method:	75	
Polishing Method:	140	
None:	23	
<p>Note: The total number of preparation methods used is not equivalent to the total number of participants because some participants used more than one sample preparation method.</p>		

Recovery Methods

(listed in order of use)

TABLE 4

Recovery Methods		
WebCode	Method	Time
27ZCML	Acid Etch Method	SEVERAL MINUTES
	MagnaFlux	
	Turner's Reagent	SEVERAL MINUTES
	Fry's Reagent	LESS THAN A MINUTE
2BU97L	Magnetic Particle Inspection (MPI)	
2FQV4F	MagnaFlux	
	Fry's Reagent	approximately one minute
2HBT7C	Fry's Reagent	5-6 minutes
	Fry's Reagent	5-6 minutes
	Fry's Reagent	5-6 minutes
33GGFN	Turner's Reagent	10 MINS
	Fry's Reagent	1 HOUR
37YPUE	MagnaFlux	
	Fry's Reagent	4 minutes
38MCX3	Fry's Reagent	a few seconds per application
3F3ZPJ	MagnaFlux	
3MNPVM	MagnaFlux	
	Fry's Reagent	multiple swabs, total 30 seconds
	20% Nirtic Acid	multiple swabs, 10 seconds total
3QYYLV	Acid Etch Method	Total: 20 minutes
	Davis Reagent	12 minutes
	Turner's Reagent	6 minutes
	Fry's Reagent	2 minutes
3VZ2RK	MagnaFlux	
	Acid Etch Method	2 minutes
3WF7HV	MagnaFlux	
	Fry's Reagent	no more than 5 minutes
3WMNYD	Magnetic Particle Inspection (MPI)	

TABLE 4

Recovery Methods		
WebCode	Method	Time
3WUPAF	MagnaFlux	
	Davis	Applied with cotton swab
	Turner's	Applied with cotton swab
	Fry's Reagent	Applied with cotton swab
	25% Nitric Acid	Applied with cotton swab
462Q6E	MagnaFlux	
	Fry's Reagent	
	Nitric Acid - 20%	3 times - approximately 30 seconds each
4DT9G3	MagnaFlux	
	Fry's Reagent	30 seconds
	Turner's Reagent	30 seconds
	Davis Reagent	30 seconds
4DUW48	Magnetic Particle Inspection (MPI)	
	MagnaFlux	
4ET8P3	MagnaFlux	
4H68UG	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Approximately 5 minutes
4JF2QG	Fry's Reagent	10 minutes
4JM84X	MagnaFlux	
4UGLTA	MagnaFlux	
4WM4TQ	Electro-magnetic	
4XFV4B	MagnaFlux	
	Fry's Reagent	~15 minutes
	20% Nitric Acid	~5 minutes
67TAF6	Fry's Reagent	10 min total multiple applications
	nitric acid	10 min total multiple applications
68ZNN7	Turner's Reagent	2 minutes
	Fry's Reagent	20 minutes
6APYJ6	Acid Etch (Nitric Acid Solution 25% & Modified Fry's Solution)	Two minutes alternatively
6B46EM	Fry's Reagent	
	20% Nitric Acid	
6JA96D	Acid Etch Method	12 minutes
6JDLXG	Magnetic Particle Inspection (MPI)	
	Acid Etch Method	25% HNO3 for about 1 minute total

TABLE 4

Recovery Methods		
WebCode	Method	Time
6KBWTJ	Acid Etch Method	multiple swabs, in total, a few minutes, fry's and nitric acid
	MagnaFlux	
6KEMUZ	MagnaFlux	
	Turner's Reagent	5 minutes
	Fry's Reagent	10 minutes
	Nitric Acid	10 minutes
6MEQA2	MagnaFlux	
	Fry's Reagent	3 minutes
6V7AQV	MagnaFlux	
	Acid Etch Method	Fry's reagent was left on for a minute or so between swabs, 25% Nitric swabs that were alternated between the Fry's were left on for about a minute each
6VBJPM	Fry's Reagent	approximately two minutes
6VTHZY	Acidic Ferric Chloride	30 seconds per application
	20% Nitric Acid	30 seconds per application
	MagnaFlux	
6XX7FP	MagnaFlux	
	Davis	30 sec.
	MagnaFlux	
	Fry's Reagent	30 sec.
	Turner's Reagent	30 sec.
6Z4LTM	MagnaFlux	
	Turner's Reagent	5
	Fry's Reagent	5
	Turner's Reagent	10
	Fry's Reagent	10
	25% HNO3	10
	MagnaFlux	
	Turner's Reagent	10
Fry's Reagent	30	
7A4LWD	Acid Etch Method	7 minutes
	MagnaFlux	
7B2V43	Magnetic Particle Inspection (MPI)	

TABLE 4

Recovery Methods		
WebCode	Method	Time
7FPRDK	Davis Reagent	~1 minute
	Turner's Reagent	~2 minutes
	Fry's Reagent	~5 minutes
7HXTCD	Electro-magnetic	
	Turner's Reagent	60 second
	Fry's Reagent	120 second
7NUEKT	Fry's Reagent	30 minutes
7UXFKM	Fry's Reagent	10mins
7XDM9W	Acidic Ferric Chloride	10 minutes
	MagnaFlux	
	25% Nitric Acid	10 minutes
84VNVD	MagnaFlux	
86ND68	Fry's Reagent	1 to 2 minutes
8BYHXL	Fry's Reagent	result within 20 seconds
8GJGFT	MagnaFlux	
8HTQ8Q	Fry's Reagent	2-3 Minutes
8J6J4D	Magnetic Particle Inspection (MPI)	
	Davis reagent	~5 mins
	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	~5 mins
	Magnetic Particle Inspection (MPI)	
	Turner's Reagent	~5 mins
	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	~ couple of mins
Turner's Reagent	~ 2 hours	
8NKTBQ	Davi's Reagent	20 minutes
	Turner's Reagent	15 minutes
	Fry's Reagent	10 minutes
8Q7VZB	Acidic Ferric Chloride	approximately 5 minutes

TABLE 4

Recovery Methods

WebCode	Method	Time
8TFLPE	MagnaFlux	
	220 grit sand paper	
	MagnaFlux	
	Davis reagent	continuous wiping
	Turner's Reagent	continuous wiping
	Fry's Reagent	continuous wiping
	25% HNO3	continuous wiping
8WBG3L	Electro-magnetic	5 minute
	Turner's Reagent	5 Minute
	Fry's Reagent	5 Minute
92ZV8	MagnaFlux	
	Fry's Reagent	5 Minutes
96YW7G	MagnaFlux	
97VCE8	Turner's Reagent	10 SECONDS
	Fry's Reagent	10 SECONDS
9GEPQA	MagnaFlux	
	Davis Reagent	~10 minutes
	MagnaFlux	
	Turner's Reagent	~20 minutes
	MagnaFlux	
	Fry's Reagent	~5 minutes
9Q2KZX	Acid Etch Method	different acids, all in all about 15 minutes
9Q3B92	MagnaFlux	
	Fry's Reagent	1 minute
9QKLKE	Fry's Reagent	15-45 second increments of application (alternating between Fry's and 20% Nitric Acid)
	Acid Etch Method	15-45 second increments of application (alternating between Fry's and 20% Nitric Acid)
A9FE6D	MagnaFlux	
	Fry's Reagent	1 minute
	Acid Etch Method	1 minute
	Acidic Ferric Chloride	1 minute
AAB2DB	Fry's Reagent	Less than one (01) minute

TABLE 4

Recovery Methods

<u>WebCode</u>	<u>Method</u>	<u>Time</u>
AEQHXZ	MagnaFlux	
	Fry's Reagent	30-60 seconds
	Phosphoric/Nitric	10-15 seconds
AFCF2W	MagnaFlux	
AGV6KD	MagnaFlux	Not
AHQTUZ	.25 % Nitric Acid	10 minutes
	Davis Reagent	15 minutes
AP7E2J	MagnaFlux	
ART39C	MagnaFlux	
ARVPRC	Acid Etch Method	5 minutes
AT29RT	MagnaFlux	
	Fry's Reagent	~2 minutes
	MagnaFlux	
ATUUJR	Magnetic Particle Inspection (MPI)	
B38LEE	Fry's Reagent	
	MagnaFlux	
	20% nitric acid	
B4K2JF	Acid Etch Method	10 Minutes
BK7PQP	MagnaFlux	
BVD9MR	MagnaFlux	(before and after polishing)
	Fry's Reagent	approx. one minute
	Turner's Reagent	approx. one minute
	MagnaFlux	
C29PG4	MagnaFlux	1-3 minutes
	Fry's Reagent	1-3 minutes
	20% Nitric Acid	1-3 minutes
C9TKLE	Fry's Reagent	approximately 5 minutes
CA6NQQ	MagnaFlux	
	Polishing	
	20% Nitric Acid	swiped with cotton swabs
	Acidic Ferric Chloride	swiped with cotton swabs
	Fry's Reagent	swiped with cotton swabs
	MagnaFlux	

TABLE 4

Recovery Methods		
WebCode	Method	Time
CRND8C	Fry's Reagent	The polished surface was treated with Fry's reagent for about 20 minutes. The process (using Fry's Reagent) was alternate repeatedly several times, till the serial number was restored completely.
CUY2YP	Fry's Reagent	39 minutes total
D3FBLV	MagnaFlux Fry's Reagent	
D4KMKD	Fry's Reagent	Two minutes - appeared immediately
DFD7YJ	Magnetic Particle Inspection (MPI) Acid Etch Method	Fry's Reagent (approx. 10 minutes)
DHCPJ6	Turner's Reagent Fry's Reagent	
DMMN4B	Magnetic Particle Inspection (MPI) Fry's Reagent	Approx. 5 minutes
DWAR6H	MagnaFlux Turner's Reagent Fry's Reagent Electro-acid	2 minutes 2 minutes 30 seconds
E9673U	Fry's Reagent MagnaFlux Acidic Ferric Chloride	
EBDGVG	Magnetic Particle Inspection (MPI) MagnaFlux Davis Fry's Reagent	30 - 45 seconds 1 - 1 1/2 minutes
EF6KPG	Magnetic Particle Inspection (MPI) Fry's Reagent Fry's Reagent	30 seconds 2 min
EGXJZ9	MagnaFlux	
EJ326V	Fry's Reagent 25% Nitric Acid	~ 15 min total ~ 1 min
EJHLQE	MagnaFlux	
ELBCZY	Fry's Reagent	5-10 minutes
EPAMWY	Fry's Reagent	10 minutes

TABLE 4

Recovery Methods		
WebCode	Method	Time
EUYAJR	MagnaFlux	
	Davis Reagent	6 minutes
	Fry's Reagent	11 minutes
EZRECW	Fry's Reagent	Ten minutes
F3BN2M	Fry's Reagent	
	Magnetic Particle Inspection (MPI)	
FFFQKW	MagnaFlux	15
	Fry's Reagent	30
FGAE3R	Fry's Reagent	
FJKDCT	MagnaFlux	
FKE3VN	Fry's Reagent	
	Turner's Reagent	
	Davis Reagent	
FXF24T	Fry's Reagent	1 minute
FYXP6L	MagnaFlux	
FZ3D86	Fry's Reagent	3 to 5 minutes
	25% Nitric Acid Solution	3 to 5 minutes
G2CZ4A	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	3 minutes
	Turner's Reagent	1 minute
G2VTRZ	MagnaFlux	
	Fry's Reagent	10 minutes
G37NHY	MagnaFlux	
	Fry's Reagent	Swabbed repeatedly every few seconds, then wiped away to view surface
	20% Nitric Acid	Swabbed repeatedly every few seconds, then wiped away to view surface
G838N4	MagnaFlux	
	Turner's Reagent	continuous application
	Fry's Reagent	continuous application
GAN7RZ	MagnaFlux	
	Fry's Reagent	

TABLE 4

Recovery Methods		
WebCode	Method	Time
GH7C7K	Turner's Reagent	Less than 5 minutes.
	Davis Reagent	Less than 5 minutes.
	Griffin Reagent	Approximately 1 minute.
	Acidic Ferric Chloride	Approximately 1 minute.
	Magnetic Particle Inspection (MPI)	
GHLTPR	MagnaFlux	
GJCT7B	Fry's Reagent	60 minutes
GKA99Z	MagnaFlux	
	Davi's Reagent	2 to 3 minutes
	MagnaFlux	
	Turner's Reagent	2 to 3 minutes
	MagnaFlux	
	Fry's Reagent	2 to 3 minutes
GMHBBY	Davis	10min
	Acid Etch Method	60 seconds
GV9UQT	Magnetic Particle Inspection (MPI)	
GXRUP	Electro-acid	
GZJ2RW	Fry's Reagent	5-10 minutes
HHCAGE	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Approx 7 minutes on and off
	Nitric Acid	Approx 2-3 minutes on and off
HHZDCB	Acid Etch Method	3-5min
HNQX84	MagnaFlux	
	Fry's Reagent	~2 minutes
	MagnaFlux	
	Fry's Reagent	~2 minutes
	Fry's Reagent	~2 minutes
HUWMTH	Fry's Reagent	20 min
HVQBAR	MagnaFlux	
	Fry's Reagent	(Modified); applied multiple times
J4EFP7	Fry's Reagent	approx. 10 minutes

TABLE 4

Recovery Methods		
WebCode	Method	Time
JJ4RVL	MagnaFlux	
	Turner's Reagent	5 minutes (swabbing)
	Fry's Reagent	5 minutes (swabbing)
JTQTCV	MagnaFlux	
	Davis	Several minutes
	Turner's Reagent	several minutes
	Fry's Reagent	several minutes
JXVYPH	Fry's Reagent	5-10 minutes
	Running hot water	3 minutes
K23ZV6	Fry's Reagent	25 minutes of wiping/rubbing
K4MY3	MagnaFlux	no acid was used
K7TJM3	Reagent by Adler	nearly 4 hours
	Fry's Reagent	nearly 2 hours
K7XWE6	Turner's Reagent	10 second intervals
	Fry's Reagent	10 second intervals alternating with Turner's
KBRT2B	Fry's Reagent	2 to 5 min
	MagnaFlux	
KDG286	MagnaFlux	NOT
KMZHV7	Magnetic Particle Inspection (MPI)	
	sanding/polishing	coarse, 240, 400 and 600 grit
	Turner's Reagent	swab to apply in wiping motion
	Davis' Reagent	swab to apply in wiping motion
L3TL32	Fry's Reagent	swab to apply in wiping motion
	25% Nitric Acid	chemical reagent was continually swiped across the surface of the bar stock with a swab
	Turner's Reagent	chemical reagent was continually swiped across the surface of the bar stock with a swab
L7PC3L	Fry's Reagent	chemical reagent was continually swiped across the surface of the bar stock with a swab
	MagnaFlux	

TABLE 4

Recovery Methods		
WebCode	Method	Time
LAELD8	Magnetic Particle Inspection (MPI)	
	Polished	
	Davis Reagent	~30 seconds
	Fry's Reagent	~ 30 seconds
	Fry's Reagent	~30 seconds
	Turner's Reagent	~ 10 seconds
	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	~30 seconds
	Turner's Reagent	~10 seconds
LFHME3	MagnaFlux	
	Fry's Reagent	1 minute with continuous swabbing
LM2VXR	MagnaFlux	
LNUJGM	MagnaFlux	
	Fry's Reagent	1 minute or less
	25% Nitric Acid	1 minute or less
LRVM9A	Fry's Reagent	15 to 20 minutes
	MagnaFlux	5 minutes
LT4RRQ	25% Nitric Acid	seconds
LTNKH3	MagnaFlux	
	Fry's Reagent	10 Minutes
LVPQVM	Fry's Reagent	1 minute
MB67T6	Fry's Reagent	3 - 4 minutes
MEYZFK	Fry's Reagent	1
	Fry's Reagent	5
	Fry's Reagent	1
	Fry's Reagent	5
MHKV94	MagnaFlux	
MP2HQM	Fry's Reagent	5 seconds
MPNQBC	MagnaFlux	5 minutes
	Fry's Reagent	10 minutes
	Acid Etch Method	20 minutes

TABLE 4

Recovery Methods		
WebCode	Method	Time
N3HVLТ	MagnaFlux	
	Acidic Ferric Chloride	20-25 seconds, swabbed
	Nitric Acid	20-25 seconds, swabbed
	Fry's Reagent	10-15 seconds, swabbed
	Stabilized with oil	
NTHX6L	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	3 minutes
P29UE2	Fry's Reagent	Very briefly as it was wiped off with a swab
	Magnetic Particle Inspection (MPI)	
	Davis	Very briefly as it was wiped off with a swab
PB3XZB	MagnaFlux	
PFAPLU	MagnaFlux	
PFNB4H	MagnaFlux	
	25% Nitric Acid	5 minutes
	Acidic Ferric Chloride	5 minutes
	Fry's Reagent	5 minutes
PHEAJ2	Acid Etch Method	5 Minutes
PFWZV	MagnaFlux	
	Fry's Reagent	30 seconds
Q6AEWJ	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	several minutes
Q93CBP	MagnaFlux	
	Fry's Reagent	1 minute
QDFHLP	Fry's Reagent	5 minutes
	MagnaFlux	10 minutes
	20% Nitric Acid	5 minutes
QE8FWG	Magnetic Particle Inspection (MPI)	
QFHBKU	Acid Etch Method	10 minutes while abrading surface with cotton swab
QML6UP	Fry's Reagent	3 min
QMZR9X	MagnaFlux	2 hours
	Acidic Ferric Chloride	45 minutes
QQY34X	MagnaFlux	

TABLE 4

Recovery Methods		
WebCode	Method	Time
QU2UJP	Fry's Reagent	8 application of 1-2 min each
QUKP2Q	Magnetic Particle Inspection (MPI)	Applying Valensky Reagent by wiping approximately 10 minutes.
	Acid Etch Method	Applying Adler Reagent by wiping approximately 5 minutes.
QVXGRM	MagnaFlux	
	Fry's Reagent	15 minutes
R3D82K	MagnaFlux	
RBA2HR	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	~2 minutes
	Magnetic Particle Inspection (MPI)	
	Acidic Ferric Chloride	~2 minutes
	Fry's Reagent	~2 minutes
	Magnetic Particle Inspection (MPI)	
RWPMVJ	MagnaFlux	
	Davis	~5 minutes
	Fry's Reagent	~2 minutes
RXDB4D	Magnetic Particle Inspection (MPI)	
	Fry's Reagent	Surface wiped with saturated cotton swab
RXHK4Q	MagnaFlux	
	Fry's Reagent	less than 5 minutes
	Acid Etch Method	less than 5 minutes
RZHWWK	Fry's Reagent	Less than 10 minutes
T2XDRX	Fry's Reagent	30 sec X 2
T6U7LT	Davis Reagent	5 minutes
	MagnaFlux	2 minutes
	Turner's Reagent	5 minutes
T9ETHM	Fry's Reagent	About 1 Hour.
TAQQRX	Magnetic Particle Inspection (MPI)	
TJB2XJ	MagnaFlux	
TK9CTL	Acid Etch Method	
TP6UDT	Electro-magnetic	
TWKJTT	Electro-acid	approximately 10 minutes

TABLE 4

Recovery Methods		
WebCode	Method	Time
TXVLF	Electro-acid	5 minutes
TZ22TP	Fry's Reagent	~ 5 minutes
TZ4PCN	Fry's Reagent	swiped with swab
	Acid Etch Method	Nitric acid (20%)
	Rem-oil	added after restoration
U6ZEQZ	Magnetic Particle Inspection (MPI)	10minutes
	Fry's Reagent	5minutes
U8EF9Y	Fry's Reagent	2 x 2' of acid application
UFCXVN	Davis Reagent	15 seconds
	Turner's Reagent	15 seconds
	Fry's Reagent	15 seconds
UHGEDT	Fry's Reagent	
	MagnaFlux	
UMV8CX	Fry's Reagent	18 minutes in total
UVNKAC	MagnaFlux	
UZGLE8	MagnaFlux	
	MagnaFlux	
V36AEE	Fry's Reagent	10 - 15 seconds - repeated 2-3 times
	Acidic Ferric Chloride	10 - 15 seconds - repeated 2-3 times
	MagnaFlux	10 - 15 seconds - repeated 2 times
VFM8DN	Acid Etch Method	4 minutes total of swabbing
	Turner's Reagent	1 Minute
	Fort's Solution	3 minutes
VHP88T	Fry's Reagent	x2, approximately 2-3 minutes
	Davis	x3, approximately 2-3 minutes
VJ7CVJ	25% Nitric Acid	chemical reagent was continually swiped across the surface of the bar stock with a swab
VLXBAG	MagnaFlux	
	Acid Etch Method	
VTTDCT	Fry's Reagent	repeatedly wiped with q-tip for total of ~1 minute
W2ZJEA	Magnetic Particle Inspection (MPI)	
W4AGYH	Davis	10min

TABLE 4

Recovery Methods		
WebCode	Method	Time
W4GDWW	Fry's Reagent	3 minutes
W4QHYY	Fry's Reagent	5 minutes.
WCQYJ7	Fry's Reagent	Minimal
	Turner's Reagent	Minimal
	Davis Reagent	Minimal
WF3XNJ	Magnetic Particle Inspection (MPI)	
WFAULX	Fry's Reagent	30 minutes
WM33V3	Acid Etch Method	Total
	Davis Reagent	10 min
	Turner's Reagent	11 min
	Fry's Reagent	13 min
WQ4BZD	MagnaFlux	
WRZR6M	MagnaFlux	
WU4HFA	Magnetic Particle Inspection (MPI)	
	Acid Etch Method	Intermittent
X6G42P	Fry's Reagent	a few minutes
X9DU6F	Fry's Reagent	Few minutes
XAXBZA	Magnetic Particle Inspection (MPI)	
XDNXX3	MagnaFlux	
	Acid Etch Method	few minutes
XP7K6H	MagnaFlux	
	MagnaFlux	
	Davis' & Turner's Reagent	5 minutes
	Fry's Reagent	2 minutes
XPND2L	MagnaFlux	
	Fry's Reagent	
XVRBVK	MagnaFlux	
Y3WDQC	MagnaFlux	
	Fry's Reagent	3 minutes
	10% Nitric Acid	30 secs
	Phosphoric Acid	30 secs
Y78N8L	Davis Reagent	approximately 20-30 minutes total
YB4C2Y	Fry's Reagent	about 15 minutes

TABLE 4

Recovery Methods		
WebCode	Method	Time
YDTNRR	Fry's Reagent	swipe with cotton swab
	MagnaFlux	
	Acid Etch Method	swipe with cotton swab
YMWRUG	MagnaFlux	
YPKAXM	Fry's Reagent	10-20 seconds per use
Z2BEEY	Davi's Reagent	20 Minutes
	Turner's Reagent	15 Minutes
	Fry's Reagent	10 Minutes
Z4HGJH	MagnaFlux	
	Fry's Reagent	
ZCURUH	MagnaFlux	
ZGK9ZG	Fry's Reagent	approximately 5 mins
	Turner's Reagent	just to used to highlight
ZJ9HEN	MagnaFlux	
	Fry's Reagent	5 MINUTES

Response Summary		Participants: 229
Recovery Methods		
Chemical Processing:	177	
Magnetic Processing:	139	
<p>Note: The total number of recovery methods used is not equivalent to the total number of participants because some participants used more than one recovery method.</p>		

Additional Comments

TABLE 5

WebCode	Additional Comments
37YPUE	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.
3F3ZPJ	Los caracteres alfanuméricos del resultado obtenido son similares en morfología (Fuente de texto) a las muestras impresas del ensayo numero 20-5251(Standar de aluminio). [English translation of comments was not obtained by the time of report publication.]
3WUPAF	This test seemed to be better than previous tests.
67TAF6	Need to provide a standards exemplar using the actual numbers contained in the questioned and using the exact font as what is present on the questioned. The standard is no good if it cannot actually assist you in knowing what the numbers you are restoring look like.
86ND68	The original serial number was restored and read as 3JA17C
8NKTBQ	After the restoration process sodium bicarbonate was used to neutralize the acid residues on the surface.
8TFLPE	The initial condition of the barstock was suspect. The dremel/grinding marks over the milled surface appeared haphazard - this would be accurate for casework in general, but for proficiency testing this type of random damage (looks handheld) does not lend itself well for consistent test production and meaningful statistical results in my opinion.
9GEPQA	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.
9Q2KZX	After smoothening the surface softly with sand paper we rubbed the surface with acid saturated cotton swabs.
9QKLKE	The overall area of obliteration appears to consist of coarse arcs and a secondary obliteration in the middle of the obliterated area appears to be smooth horizontal marks. The material is magnetic. There is an arrow stamped into the surface indicated orientation. An aluminum standard was provided as a reference for size and shape of the alphanumeric characters used in the serial number.

TABLE 5

WebCode	Additional Comments
ART39C	Methods: Serial Number: Magnetic, thermal, and chemical methods may be used for the restoration of serial numbers. Conclusions regarding restored characters are made by visual examination of the restored surface under a variety of lighting conditions. Information regarding the alpha-numeric structure or the general location of serial numbers is obtained when necessary from reference sources or from firearms in the Laboratory's Reference Firearms Collection. Limitations: Serial Number Restoration: Except for the magnetic method, serial number restoration is a destructive examination and it is possible that the obtained results may not be reproduced in any subsequent examinations. Restored serial numbers are sometimes only visible during a portion of the reconstruction process, and are not necessarily visible at the conclusion of the process.
C29PG4	Acid and Magnaflux were used alternatively throughout the restoration. Total time restoring using acidic chemicals was approximately 15 minutes. Magnaflux was used prior to polishing to ascertain the location of the obliterated characters.
D4KMKD	Restored serial photographed and corroborated by [Initials].
EGXJZ9	At the time of applying Magnaflux, the development time was approximately 4 minutes.
HHCAGE	Partial recovery except last character with MPI. Q-Tip swipes with Fry's made whole number visible but faint. Q-Tip swipes with Nitric acid to make the characters stand out.
JXVYPH	Tested the metal stock (work piece) for its magnetic properties prior to deciding on the recovery method (VPFSC Method M55 V3.0). The work piece was magnetic. Having decided on the recovery method, I 'spot tested' the reagent on a surface area of the work piece away from the suspect area. After the second application of Fry's Reagent, I applied a steady stream of hot water for approximately 3 minutes. This technique further highlighted the obliterated characters. At the completion of my examination I cleaned the work piece with 'WD-40' and applied oil to preserve it.
K4MY3	A little more degree of difficulty was presented with the last stamping on the metal plate.
K7TJM3	no preparing by sanding or polishing first, because in case of "no result" we couldnt prepare further everytime
KDG286	Magnetic medium was used since this laboratory has the respective equipment for the development of serial numbers.
KMZHV7	MPI and sanding were done back and forth for most of the recovery process. Turner's, Davis', and Frye's reagents were done in quick succession using swabs to apply the reagent. The reagent may have been left on the surface in a thin layer for a few seconds between coats and a stereo microscope used occasionally to view progress between attempts.
LFHME3	Obliterated characters were visualized using MagnaFlux. Characters confirmed using Fry's Reagent.
LRVM9A	Examined the cold rolled steel bar stock with the obliterated serial number. The obliterated serial number was chemically/magnetically processed and was restored to read 3JA17C. As received the following was observed: first character top of three and the fourth character top of one. The obliterated serial number was polished and the MPI process was applied. The characters were not clearly observed when the MPI process was applied. The obliterated serial number was restored to read 3JA17C when using FRY'S chemical reagent. FRY'S: 3JA17C

TABLE 5

WebCode	Additional Comments
MEYZFK	Serial number visualization was best after third application of Fry's Reagent, which is when it was confirmed. The area was then briefly polished via dremel and then more Fry's reagent was applied (5 seconds), with diminishing results.
MPNQBC	The first 5 characters were identifiable using Magnaflux. Fry's/acid etching was used to confirm final character as the obliteration method resulted in a deeper gouge in a critical area. Based on the supplied character samples, the final character was identified as a "C", and not a "6" or "0".
PFWZV	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.
QE8FWG	No acidic chemicals were needed as a full restoration was able to be made utilizing MPI once the surface of interest was polished.
QQY34X	positive result with the magnetic method "Magna-flux"
QUKP2Q	The milling depth was less than 2 millimeters on "item 1" bar stock so utilizing a non-destructive method seemed to be the first choice. Unfortunately it didn't work. None of the obliterated signs/characters got visible. Finally, Acid Etch Method turned out as quite helpful. Best results were achieved by applying Adler Reagent. All characters came up clearly.
UHGEDT	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.
UZGLE8	Magnaflux 14AM and Magnaflux 7HF each used before and after polishing.
WCQYJ7	I received one magnetic unknown sample block and one standard sample block. The unknown sample block had repeating circular machining marks and horizontal machining marks in the middle cut out. Stereo-microscopic examination did not reveal any unknown characters. Mechanical polishing with a Dremel tool and subsequent stereo-microscopic examination did not reveal any unknown characters. Fry's, Turner's, and Davis reagents were used in chemical etching to reveal: 3 J A 1 7 C. The 'C' character could be a 'C' or '0.' Further mechanical polishing and chemical etching did not reveal '0.' Comparing the character to the sample block, it appears to be more similar to the 'C' than the '0.' The unknown character appears to have a clear delineation for the top part of the 'C,' but the bottom part is faded and unclear. Final Result: 3 J A 1 7 C
WFAULX	Photographed with 60mm 1:1 lens
WM33V3	The acid was cleaned with delicatated task wipers, constantly, to write down the characters appearing during each step. [Initials & Date].
X6G42P	six (06) characters were revealed, three (03) digits and three (03) letters. see photos [Photographs not submitted by participant].

TABLE 5

WebCode	Additional Comments
X9DU6F	1. Stock bar well packed. 2. I liked that it had the known and unknown material. 3. I liked the challenge to compare each character in the stock bar with the recovered one. 4. It will be a good idea if there are different proficiency test at the same time so different experts can participate.
Y78N8L	Prior to using Davis Reagent Magnaflux was used with positive results for six possible characters.
YDTNRR	The addition of the arrow was very helpful during processing
YPKAXM	Technical Note: 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.
Z2BEEY	After the restoration process sodium bicarbonate was used to neutralize the acid residues on the surface.
ZGK9ZG	Please refer to photographs and serial number restoration worksheet [Photographs & Worksheet not submitted by participant].

-End of Report-
(Appendix may follow)

Test No. 22-5251: Serial Number Restoration

DATA MUST BE SUBMITTED BY **Sept. 12, 2022, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: LRFCNA

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' was also included in the sample set and is intended as a reference for size, shape and positioning of the stamped alphanumeric characters used in the serial number.

-Use caution when handling the sample, as there may be sharp areas on the Item 1 bar stock.

-An arrow has been stamped, facing upward, on the bar stock to assist participants with directionality and orientation.

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?

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

3.) What methods were used to prepare the sample prior to attempts at recovery?

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

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

4.) What recovery 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

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

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

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety.

Authorized Contact Person and Title

Laboratory Name

Location (City/State)