



## Serial Number Restoration Test No. 15-5251 Summary Report

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This test was sent to 196 participants. Each participant received a sample pack containing a piece of stainless steel bar stock which had been stamped with a six character serial number which was then obliterated. Also included was a piece of aluminum bar stock intended as a standard for the size, shape and positioning of the stamped characters. Participants were asked to restore the obliterated serial number. Data were returned from 150 participants (77% response rate) 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 stainless 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 (K25DFK).

### **SAMPLE PREPARATION-**

Each sample set contained a piece of 1" x 1/4" x 2.5" stainless steel bar stock that was stamped using a punch press. The stamp consisted of 6 characters (K25DFK) that are 1/8" in height. The serial number was then obliterated by removing material from the bar stock using a vertical milling machine. A consistent amount of material was removed from each piece of bar stock.

A piece of aluminum bar stock was also included in the sample set and was intended as a standard for size, shape, and positioning of the stamped alphanumeric characters used in the serial number. The alphanumeric characters are digits 0-9 and letters A-F, H, J, K and N that are 1/8" in height.

**SAMPLE SET ASSEMBLY:** An Item 1 was enclosed in chip board and the sides taped to securely contain the sample. The aluminum standard was wrapped in chip board and both were placed in their respective pre-labeled envelopes. Each sample pack was packaged with 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 predistribution laboratories restored the obliterated six character serial number and reported "K25DFK". All three laboratories used a chemical restoration method for recovery.

## **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 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 6 characters (K25DFK). (Refer to Manufacturer's Information for preparation details.)

Of the 150 responding participants in Table 1: "Recovered Characters", 149 (99.3%) recovered the six digits consistent with the Manufacturer's Information. The remaining participant recovered five of the six digits.

Of the 150 responding participants in Table 4: "Recovery Methods", 106 participants used only chemical processing for the serial number restoration. Another 32 participants used only magnetic processing and 12 reported using a combination of magnetic and chemical processing.

## Recovered Characters

Please record the restored characters below.

TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
22CKJX	K	2	5	D	F	K
2BFNUM	K	2	5	D	F	K
2G9QXL	K	2	5	D	F	K
2J6YKU	K	2	5	D	F	K
2MZTHV	K	2	5	D	F	K
2P7BGQ	K	2	5	D	F	K
2R7RDC	K	2	5	D	F	K
2VQFWN	K	2	5	D	F	K
2ZG3FB	K	2	5	D	F	K
3DJQAP	K	2	5	D	F	K
3EVK PQ	K	2	5	D	F	K
3FKTW7	K	2	5	D	F	K
3GFC2T	K	2	5	D	F	K
3GXNER	K	2	5	D	F	K
3PW2LM	K	2	5	D	F	K
3Q63LZ	K	2	5	D	F	K
424BQN	K	2	5	D	F	K
4C3XNL	K	2	5	D	F	K
4TR2C3	K	2	5	D	F	K
4WPRCM	K	2	5	0	F(?)	K(?)
4YZF8K	K	2	5	D	F	K
6BK92L	K	2	5	D	F	K
6GCK7H	K	2	5	D	F	K

TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
6J9TTP	K	2	5	D	F	K
6LK29Q	K	2	5	D	F	K
6QGMZU	K	2	5	D	F	K
6TYEYN	K	2	5	D	F	K
6VEZ7R	K	2	5	D	F	K
76MZHN	K	2	5	D	F	K
77LCRK	K	2	5	D	F	K
7B2XKR	K	2	5	D	F	K
7DRRUF	K	2	5	D	F	K
7RAU4Q	K	2	5	D	F	K
7VWECP	K	2	5	D	F	K
8F8T37	K	2	5	D	F	K
8M8BEX	K	2	5	D	F	K
92WDZK	K	2	5	D	F	K
9333N6	K	2	5	D	F	K
94QN7U	K	2	5	D	F	K
96NR8H	K	2	5	D	F	K
9AWAAR	K	2	5	D	F	K
9CLFUN	K	2	5	D	F	K
9ETN7U	K	2	5	D	F	K
9FNBDQ	K	2	5	D	F	K
9HELKC	K	2	5	D	F	K
9HQCEN	K	2	5	D	F	K
9JLUFP	K	2	5	D	F	K

TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
9LDZ6F	K	2	5	D	F	K
9VQJ7P	K	2	5	D	F	K
A78QHJ	K	2	5	D	F	K
A7UJPX	K	2	5	D	F	K
AA72DJ	K	2	5	D	F	K
ABR3RW	K	2	5	D	F	K
ALARE9	K	2	5	D	F	K
ALP34Z	K	2	5	D	F	K
B2BL2K	K	2	5	D	F	K
B9J8KX	K	2	5	D	F	K
BGPCDE	K	2	5	D	F	K
BJDMAY	K	2	5	D	F	K
BUDDRZ	K	2	5	D	F	K
BYDHTL	K	2	5	D	F	K
C38LCR	K	2	5	D	F	K
C77W8R	K	2	5	D	F	K
CBZ84B	K	2	5	D	F	K
CFDMX9	K	2	5	D	F	K
CMWZQG	K	2	5	D	F	K
CW4PED	K	2	5	D	F	K
D2D7N2	K	2	5	D	F	K
D694PD	K	2	5	D	F	K
DUVWXJ	K	2	5	D	F	K
E4VVZP	K	2	5	D	F	K
EGKXFW	K	2	5	D	F	K

TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
EWJLCE	K	2	5	D	F	K
EZQA4C	K	2	5	D	F	K
FPQ2XF	K	2	5	D	F	K
G3F6A7	K	2	5	D	F	K
GCYRWR	K	2	5	D	F	K
GF4AH3	K	2	5	D	F	K
GUJG98	K	2	5	D	F	K
GWPUZ8	K	2	5	D	F	K
GZ3QBB	K	2	5	D	F	K
H2VWDM	K	2	5	D	F	K
HBHTG9	K	2	5	D	F	K
HCW9WV	K	2	5	D	F	K
HELQNV	K	2	5	D	F	K
HGMUFH	K	2	5	D	F	K
HRUK6Z	K	2	5	D	F	K
HTDVMC	K	2	5	D	F	K
J2RU2M	K	2	5	D	F	K
JAJAQR	K	2	5	D	F	K
JG3BAB	K	2	5	D	F	K
JM9647	K	2	5	D	F	K
JQBVJY	K	2	5	D	F	K
JXTDQE	K	2	5	D	F	K
JZHMZF	K	2	5	D	F	K
KMQFH6	K	2	5	D	F	K

TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
L2M39X	K	2	5	D	F	K
LMG6TC	K	2	5	D	F	K
LVP9R9	K	2	5	D	F	K
M99AM7	K	2	5	D	F	K
MFJTGF	K	2	5	D	F	K
MNB97J	K	2	5	D	F	K
N762QH	K	2	5	D	F	K
NPKDGM	K	2	5	D	F	K
NRN7D7	K	2	5	D	F	K
P68AVM	K	2	5	D	F	K
P696GE	K	2	5	D	F	K
P9ADLN	K	2	5	D	F	K
PHG2NM	K	2	5	D	F	K
Q4RHC6	K	2	5	D	F	K
Q9PRQD	K	2	5	D	F	K
QGFDWB	K	2	5	D	F	K
RFFBA6	K	2	5	D	F	K
RFPJKT	K	2	5	D	F	K
RMHTY4	K	2	5	D	F	K
RU4YHW	K	2	5	D	F	K
T2EHE2	K	2	5	D	F	K
TMFHG7	K	2	5	D	F	K
U76AY3	K	2	5	D	F	K
U76EEC	K	2	5	D	F	K
U8VKQV	K	2	5	D	F	K



TABLE 1

<b>WebCode</b>	<b>Character1</b>	<b>Character2</b>	<b>Character3</b>	<b>Character4</b>	<b>Character5</b>	<b>Character6</b>
UN82XX	K	2	5	D	F	K
UUX4AB	K	2	5	D	F	K
UVPD6X	K	2	5	D	F	K
V7ZET3	K	2	5	D	F	K
V8UZK8	K	2	5	D	F	K
VBKVUV	K	2	5	D	F	K
VF8RB7	K	2	5	D	F	K
VR3ZVU	K	2	5	D	F	K
W7R64Z	K	2	5	D	F	K
WEWAPF	K	2	5	D	F	K
WHC2F9	K	2	5	D	F	K
WM8J6L	K	2	5	D	F	K
WMPMNE	K	2	5	D	F	K
WMQGA7	K	2	5	D	F	K
WV72WZ	K	2	5	D	F	K
WYFEB4	K	2	5	D	F	K
X93W63	K	2	5	D	F	K
XDXLNV	K	2	5	D	F	K
XJM44R	K	2	5	D	F	K
XKVDU4	K	2	5	D	F	K
XLBE2C	K	2	5	D	F	K
XLW2LF	K	2	5	D	F	K
Y47PYY	K	2	5	D	F	K
Y7XGHX	K	2	5	D	F	K

TABLE 1

<b>WebCode</b>	<u>Character1</u>	<u>Character2</u>	<u>Character3</u>	<u>Character4</u>	<u>Character5</u>	<u>Character6</u>
Z6BGQC	K	2	5	D	F	K
ZCVNCQ	K	2	5	D	F	K
ZK7WTR	K	2	5	D	F	K
ZMV728	K	2	5	D	F	K
ZW4NMC	K	2	5	D	F	K

<b>Response Summary</b>						Participants: <b>150</b>
	<u>Character1</u>	<u>Character2</u>	<u>Character3</u>	<u>Character4</u>	<u>Character5</u>	<u>Character6</u>
Consensus	K	2	5	D	F	K
Number	150	150	150	149	150	150
Percent	100.0%	100.0%	100.0%	99.3%	100.0%	100.0%

# Conclusions

TABLE 2

WebCode	Conclusions
22CKJX	An attempt was made to restore the serial number on item 1. The following number was restored: K25DFK.
2BFNUM	Serial number restoration procedures revealed the serial number on Item 1, the stainless steel bar stock, to be: K 2 5 D F K.
2G9QXL	Serial Number Restoration Analysis: Methodology - Chemical Reagent Etching/Microscopy/Physical. Serial number restoration procedures revealed the serial number on Item 1, the bar stock, to be: K 2 5 D F K.
2J6YKU	The exhibit consisted of a rectangular piece of stainless steel with a recessed portion(area) measuring approximately 25mm in length. The recessed area appears to be a portion of the exhibit where the serial number has been obliterated utilising a milling machine. After performing a chemical restoration process on the obliterated area the number K25DFK became visible.
2MZTHV	On the surface of the metal foil to study received prior polished, Fry's reagent is applied for obtaining the alphanumeric characters shown K25DFK.
2P7BGQ	The Item 1 obliteration was chemically restored to read 'K25DFK.'
2R7RDC	The serial number was restored and is "K25DFK". The chemical restoration restored the obliterated numbers with sufficiency to make a determination of all six, alpha and numeric, characters.
2VQFWN	The standard aluminum bar stock was not examined further. Through standard techniques and procedures the obliterated area was restored to read K25DFK.
2ZG3FB	The obliterated serial number on Item 1 was restored to read K 2 5 D F K.
3DJQAP	Item #1 serial number, K25DFK, fully restored using the magnaflux process.
3EVKPK	Serial number in question located in middle portion of the bar stock was defaced by an unknown abrasive method. The area was cleaned, polished and the chemical etchant process was utilized. The serial number was restored to read: K25DFK.
3FKTW7	Serial number recovered by chemical etching method.
3GFC2T	Chemical restoration of the obliterated serial number on the submitted piece of stainless steel bar stock from Item #1 revealed the following sequence: K25DFK
3GXNER	Examination and chemical processing of Item 1 determined the original obliterated serial number to be K25DFK.
3PW2LM	The serial number was restored to read K 2 5 D F K.
3Q63LZ	THE SERIAL NUMBER ON THE STEEL BAR WAS RESTORED TO READ K25DFK.
424BQN	[No Conclusions Reported.]

TABLE 2

WebCode	Conclusions
4C3XNL	Serial number restoration procedures were performed on item 1 and it was determined to be fully restored to read K25DFK.
4TR2C3	One (1) piece of stainless steel (approx 2 7/8" x 1" x 1/4") submitted with a suspected obliterated serial number. A one inch square area of surface removed by a drilled/cutting device. Serial number "K25DFK" restored using chemical etching process, scribed with number "15-5251 by examiner.
4WPRCM	Q1 - The submitted aluminum bar stock with obliterated serial number was visually examined and photographed. Using etching solution, the six digit serial number was partially restored to read: K 2 5 0 1 or F(?)K(?). The last two digits were unable to be completed restored.
4YZF8K	The laboratory examination of the stainless block, Item 1, including polishing and chemical etching techniques, restored the obliterated serial number to "K 2 5 D F K".
6BK92L	Serial number restoration procedures were performed and it was determined that the serial number was restored to read: K25DFK.
6GCK7H	Serial Number Restoration Analysis: Methodology - Chemical Reagent Etching/Microscopy/Physical Serial number restoration procedures revealed the serial number on Item 1, to be K 2 5 D F K.
6J9TTP	Using standard restoration techniques, the serial number on Item 1 was restored to read K25DFK.
6LK29Q	The serial No (K25DFK) was recovered using the chemical etching process.
6QGMZU	The examination and chemical processing of the above item revealed a full serial number, with sufficient characteristics to allow the Examiner to make a positive identification. The characters recovered are as follows, K25DFK.
6TYEYN	@ Number before examination was invisible. @ Number after examination was K25DFK
6VEZ7R	Item #1 was examined and found to be one piece of stainless steel bar stock with an obliterated serial number. Chemical restoration of the obliterated serial number revealed the following sequence -- K25DFK.
76MZHJ	made the restoration procedure serial number by the magnetic method Magnaflux , the highlight of the alphanumeric digits corresponding to K25DFK , printed earlier in the metal piece was obtained.
77LCRK	Item #1 is a stainless steel bar with suspected obliterated serial number. Serial number located in the center of bar. Serial number restoration procedures were performed and the serial number was restored to read K25DFK.
7B2XKR	The submitted piece of stainless steel bar stock, item #1, was examined and found to have an obliterated area present. Sanding and chemical etching of the obliterated area revealed the serial number to be K25DFK. The additional submitted item was not examined at this time.
7DRRUF	1. The obliterated area on Exhibit 1 (metal block) was visually examined and processed using magnetic particle reagent. The characters were restored to read: K 2 5 D F K.

TABLE 2

WebCode	Conclusions
7RAU4Q	Item #1 was examined and found to contain one stainless steel bar stock with an obliterated serial number. The serial number was chemically restored to read K25DFK.
7VWECP	When performing the procedure with the non-destructive method in deck stainless steel, revealed the following six alphanumeric characters K25DFK achieved.
8F8T37	The serial number of the submitted metal bar (Item 1) was fully restored to read "K25DFK".
8M8BEX	Item A1-1: The obliterated serial number on item A1-1 was restored and found to be K-2-5-D-F-K.
92WDZK	Using a serial number restoration technique, "Magnaflux" the obliterated characters were identified as above. Surface was obliterated. By Magnetic restoration we found K25DFK, in accordance with aluminum pattern.
9333N6	I polished the obliterated serial number on the submitted piece of metal and performed chemical restoration techniques with the following results: The serial number was fully restored to read K25DFK
94QN7U	The serial number of Item 1 as restored is K25DFK.
96NR8H	I restored the obliterated serial number and found it to be K 2 5 D F K.
9AWAAR	The examination and chemical processing of Item #1 revealed a full serial number, with sufficient characteristics to allow examiner to make a positive identification. The serial numbers recovered are as followed, K25DFK.
9CLFUN	The obliterated area on Exhibit 1 (A piece of stainless steel bar stock with suspected obliterated serial number) was visually examined and processed using magnetic particle reagent. The serial number was restored to read K25DFK.
9ETN7U	WHEN THE PIECE OF METAL IS TESTED, IT REVEALS SIX NUMERIC CHARACTERS. THIS NUMBER ARE THE SERIAL NUMBER OF THE OBJECT IN QUESTION.
9FNBDQ	After application of the Fry's reagent in the questioned surface above mentioned numbers where restored.
9HELKC	The obliterated serial number on the stainless steel bar stock (item 1) was chemically restored and determined to be K25DFK.
9HQCEN	On examination, I found that the surface of the stainless steel bar stock had been filed. No number was observed. On electrochemical treatment, I developed the serial number "K25DFK".
9JLUPP	An apparent serial number was obliterated. Examination and restoration of the serial number revealed the following characters "K25DFK"
9LDZ6F	The characters "K25DFK" were restored in the area of defacement on the stainless steel bar stock using the acid etch method.
9VQJ7P	using the method of magnetic non-destructive testing
A78QHJ	2.1 The serial number of the item was erased. 2.2 The serial number recovered is: K25DFK

TABLE 2

WebCode	Conclusions
A7UJPX	The obliterated serial number has been restored as K25DFK
AA72DJ	THE EXAMINATION OF THE SURFACE OF THE ALUMINUM BAR REVEALED AN OBLITERATED SERIAL NUMBER TO READ K25DFK
ABR3RW	Examination of Item #1 revealed an obliterated area. Standard serial number restoration techniques revealed the characters "K 2 5 D F K".
ALARE9	The submitted piece of bar stock, item 001, was found to have an obliterated serial number. Magnetic processing restored the serial number to read: K 2 5 D F K.
ALP34Z	Item 1 was physically and microscopically examined. The serial number area of Item 1 was prepared and chemically processed with restoration reagents. As a result of these actions, the serial number was restored to read K25DFK.
B2BL2K	Forensic restoration methods were applied to Test No. 15-5251, ITEM 1 (Stainless Steel bar). A series of previously stamped characters were fully restored. Those characters read: K25DFK.
B9J8KX	(Item #1) one (1) piece of steel measuring 1" x 3" with defaced serial #. Serial # K25DFK recovered through the chemical etching process.
BGPCDE	After the application of an electromagnetic process, the obliterated serial number of Item 1 was determined to be K25DFK.
BJDMAY	Item 1 was physically and microscopically examined. The serial number area of Item 1 was prepared and chemically processed with restoration reagents. As a result of these actions, the serial number was restored to read K25DFK.
BUDDRZ	The serial number was determined to be K25DFK.
BYDHTL	Standard serial number restoration techniques revealed the following characters: K 2 5 D F K.
C38LCR	Attempts to restore the obliterated serial number of Item 1 were successful. The restored serial number is K25DFK.
C77W8R	The serial number recovered is K25DFK.
CBZ84B	Serial Number Restoration Analysis: Methodology - Chemical Reagent Etching/Microscopy/Physical. Serial number restoration procedures revealed the serial number on Item 1, to be: K 2 5 D F K.
CFDMX9	The serial number on the submission 001-01 stainless steel bar stock was fully restored to read: K 2 5 D F K.
CMWZQG	The serial number of Item 1 was fully restored to read K25DFK.
CW4PED	Item # 1 was processed using standard serial number restoration techniques and the serial number was restored to read K25DFK.

TABLE 2

WebCode	Conclusions
D2D7N2	Examinations showed the serial number of Item 1 to be obliterated. The serial number was restored using mechanical polishing and chemical etching techniques and was found to be: K25DFK.
D694PD	Through the chemical restoration process, was determined: 1. The serial number of the piece of metal, described in item 1, was restored and corresponds to: K25DFK.
DUVWXJ	The serial number on the Item 1 bar stock was restored and reads K25DFK
E4VZP	The obliterated serial number on Item 1 was restored to read K25DFK.
EGKXFW	Using standard laboratory restoration techniques, the obliterated serial number on Item #1 was restored to read: K 2 5 D F K.
EWJLCE	The restoration of the six alphanumeric characters was achieved K25DFK.
EZQA4C	After application of the electromagnetic process, we determined the number of this steel bar as "K25DFK"
FPQ2XF	The digits of the number "K25DFK" are restored after the electromagnetic method.
G3F6A7	Visual examination of this item revealed the presence of grind marks on the center of the bar on one side. This area was etched with acid solutions and the following was restored: K 2 5 D F K
GCYRWR	Submitted in small tan envelope marked "Test No. 15-5251 Item 1": One rectangular in shape, piece of aluminum bar stock; measuring approx. 1" x 2 3/4" x 1/4" and weighing 1,352 grms. Serial number defaced by circular abrasions. Serial number restored using chemical etching process. Serial number reads: K25DFK.
GF4AH3	The Item/Exhibit #1 serial number was restored and found to be K25DFK.
GUJG98	The steel block was examined when it was noted that the central area had been mechanically erased - no details were observed. This central area was chemically treated when the following details were recovered:- K 2 5 D F K
GWPUZ8	The submitted metal block, item 1, was examined, and serial number restoration was attempted using both polishing and chemical etching techniques. The following serial number was restored: K 2 5 D F K.
GZ3QBB	Serial number restoration procedures were performed and it was determined to read K25DFK on 10-8-15 by [Name].
H2VWDM	Item #1 - The serial number on the stainless steel bar stock was restored to read K-2-5-D-F-K.
HBHTG9	Item 1 was received with the serial number obliterated. Attempts to restore the serial number were made by sanding and polishing the surface with a Dremel tool and by acid etching. This attempt yielded the serial number to read, "K25DFK."

TABLE 2

WebCode	Conclusions
HCW9WV	Item 1 - One piece of metal bar stock. The submitted specimen marked Item 1 was examined and identified as a metal bar stock with a suspected obliterated serial number. The obliterated serial number was chemically processed and successfully restored. The serial number is concluded to be "K25DFK".
HELQNV	The obliterated serial number on the stainless steel bar stock piece (Item 2)[sic] is K25DFK.
HGMUFH	The serial number was chemically restored and found to be "K25DFK."
HRUK6Z	Examination of the submitted Item 1 found the manufacturer's serial number to have been obliterated. Magnetic processing of the submitted Item 1 restored the obliterated, original serial number to read "K25DFK".
HTDVMC	In the examination with "Physical Etching" and "Electromagnetic" methods, it has been determined that the scraped and destroyed characters on Item 1 consist of "K25DFK" letters-numbers.
J2RU2M	Serial number "K25DFK" successfully restored using chemical etching method.
JAJAQR	Using standard laboratory restoration techniques, the obliterated serial number on Item 1 was restored to read K25DFK.
JG3BAB	The stainless steel plate (Item #1) was physically/chemically processed. On 10/13/2015, it's serial number was fully restored to read: K25DFK.
JM9647	On November 13, 2015, I conducted a serial number restoration on a known aluminum standard and unknown stainless steel bar provided by the Collaborative Testing Service. Both substrates (aluminum and stainless steel bar) were processed with Acidic Ferric Chloride, Ferric Chloride, 25% Nitric Acid, and 10% Sodium Hydroxide and yielded positive results. The restored serial number for Test No. 15-5251 (Item 1) is K 2 5 D F K.
JQBVJY	Magnetic processing of the submitted bar stock restored the obliterated, original serial number to read "K25DFK."
JXTDQE	The obliterated area on the piece of stainless steel bar stock in item 1 was chemically etched and the serial number was determined to be K25DFK.
JZHMZF	Examination and restoration of the obliterated area on Item 1 (a piece of stainless steel bar stock with suspected obliterated serial number) revealed the following characters interpreted as "K25DFK".
KMQFH6	Examination of the surface of the stainless steel bar revealed evidence of an obliterated serial number. The surface was treated and the following original serial number was restored: K25DFK.
L2M39X	Examination of the submitted stainless steel bar stock found the original serial number to have been obliterated. Physical and chemical processing of the submitted bar stock restored the obliterated, original serial number to read "K25DFK".
LMG6TC	Item #1 is piece of stainless steel bar stock with an obliterated serial number. Examination and chemical processing of item #1 fully restored the original, obliterated serial number to "K25DFK."



TABLE 2

WebCode	Conclusions
LVP9R9	on the surface of the presented exhibit has been detected (recovered) following serial number: "K25DFK"
M99AM7	Categorical, unequivocal.
MFJTGF	AFTER PERFORMING THE SERIAL NUMBER RESTORATION TEST OVER THE PROVIDE[sic] STAINLESS STEEL THE FOLLOWING SERIAL NUMBER WAS RECOVERED : K25DFK
MNB97J	Conclusion: Serial number defaced by abrasion, however restored using a chemical etching process.
N762QH	The surface was treated with Fry's reagent. The restored serial number is K25DFK. The results were successfully photographed.
NPKDGM	Using standard laboratory restoration techniques, the obliterated serial number on Item 1 was restored to read : K 2 5 D F K
NRN7D7	The steel bar was chemically processed. Its serial number was restored to read: K25DFK on 8-07-15.
P68AVM	Using standard laboratory restoration techniques, the obliterated serial number on Item 1 was restored to read K25DFK.
P696GE	IN THE PIECE OF STAINLESS STEEL BAR STOCK WITH SUSPECT OBLITERATED SERIAL NUMBER THAT COMES IDENTIFIED AS "TEST NO. 15-5251 ITEM 1", IS SUBMITTED OF DEVELOPING OF SERIAL NUMBER THE FOLLOWING ALPHANUEMRIC[sic] SERIES WAS OBTAINED : K25DFK
P9ADLN	The serial number on the submitted plate (Item 1) was restored to read "K25DFK".
PHG2NM	Restoration procedures on Item 1 revealed the serial number to be: K25DFK
Q4RHC6	On the examined piece of stainless steel bar stock was stamped the serial number "K25DFK".
Q9PRQD	THE METAL PIECE RECEIVED FOR RESTORATION OF SERIAL NUMBERS WAS REVELATED[sic] BY THE CHEMICAL REVEALING METHOD (FRY); THE SERIAL NUMBER REVELATED[sic] WAS K25DFK.
QGFDWB	IN THE METAL PART RECEIVED FOR SERIAL NUMBER RESTORATION, A SERIAL NUMBERS WAS IDENTIFIED BY THE FRY CHEMICAL METHOD. THE SERIAL NUMBER FOUND WAS K25DFK.
RFFBA6	Forensic restoration techniques applied to the heavily ground area of the metal bar restored a series of previously stamped characters that read: K25DFK
RFPJKT	Attempts to restore the obliterated serial number of Item 1 were successful. The restored serial number is K25DFK.
RMHTY4	The recovered serial number is K25DFK
RU4YHW	The serial number had at sometime been erased, however, it was recovered at the laboratory using "Magnaflux", a non-destructive technique, when it was found to be "K25DFK".

TABLE 2

WebCode	Conclusions
T2EHE2	An area of obliteration was observed on the metal bar stock. Standard restoration techniques revealed the characters "K25DFK".
TMFHG7	The Exhibit 001A obliterated serial number, located in the middle portion of the stainless steel bar stock, was chemically/magnetically processed and determined to read, "K25DFK".
U76AY3	The obliterated area on the piece of the stainless steel bar stock in item 1 was chemically etched and the serial number was determined to be K25DFK.
U76EEC	After the application of the acid etch method to Item 1 the recovered serial number was perceived as K25DFK.
U8VKQV	Using standard laboratory techniques, the serial number on Item 001 was restored to read K25DFK.
UN82XX	Item #1 is a stainless steel bar, serial number obliterated. The obliterated serial number is located in the middle of the bar. Serial number restoration procedures were performed and it was determined that the serial number is K25DFK.
UUX4AB	Examination of Item #1 revealed one (1) portion of metal bar stock with obliterated serial number. Using standard laboratory restoration techniques, an attempt was made to restore the serial number with the following results: Serial Number: K 2 5 D F K was restored to Item #1.
UVPD6X	The obliterated six-character serial number was restored to read K25DFK.
V7ZET3	The submitted piece of steel bar stock, item #1, was examined and found to have an obliterated area present. Chemical etching of the obliterated area revealed the serial number to be K25DFK. No examination was performed on the aluminum standard block.
V8UZK8	DURING THE RESTORATION OF THE SERIAL NUMBER OF THE ITEM 1, WE IDENTIFIED SIX ALPHANUMERIC CHARACTERS "K25DFK" WHICH CORRESPOND TO THE TYPE OF STAMPING USED BY THE MANUFACTURER COLLABORATIVE TESTING SERVICES (CTS).
VBKVUV	The serial number was determined to read: K 2 5 D F K
VF8RB7	Chemical restoration of number on stainless steel sample Start time : 15h00 / Finish time : 15h15 Number stamped : K25DFK
VR3ZVU	Examination and chemical and magnetic processing restored the obliterated serial number, which was determined to be "K25DFK".
W7R64Z	After application of chemical method could reveal the identifying serial of the piece, wich[sic] corresponds to K25DFK.
WEWAPF	Using standard laboratory restoration techniques the obliterated serial number on Item 1 was restored to read, "K 2 5 D F K".
WHC2F9	Ex #1 was examined and found to have an obliterated area. Standard restoration techniques revealed the following characters: "K25DFK".

TABLE 2

WebCode	Conclusions
WM8J6L	THE SUBMITTED PIECE OF STAINLESS STEEL BAR STOCK, LABELED ITEM 1 WAS EXAMINED AND AN AREA OF OBLITERATION WAS OBSERVED. PHYSICAL AND CHEMICAL PROCESSING OF THE SUBMITTED ITEM 1 RESTORED THE OBLITERATED, ORIGINAL SERIAL NUMBER TO READ K25DFK.
WMPMNE	Using standard laboratory restoration techniques, the obliterated serial number on Item #1 was restored to read K25DFK.
WMQGA7	THE PIECE OF STAINLESS STEEL[SIC] BAR STOCK SENT TO STUDY, PRESENTS SIX CHARACTERS PRINTED AS FOLLOWS: K25DFK, BY TESTING MAGNAFLUX.
WV72WZ	I was able to restore the sequence of characters K25DFK
WYFEB4	See Attached. [Table 5: Additional Comments]
X93W63	Restoration of the obliterated serial number was performed on questioned surface of the stainless steel bar stock marked "Item 1". The restored serial number was found to have six characters – "K25DFK"
XDXLNV	Chemical treatment was successful in chemically restoring a serial number on the bar. The serial number on the bar was restored to read K 2 5 D F K.
XJM44R	The obliterated serial number was found to be K 2 5 D F K after restoration.
XKVDU4	Examination and processing of the obliterated serial number on the Item 1 piece of stainless steel was restored to read "K25DFK". (see attached 1 page) [Table 5: Additional Comments]
XLBE2C	Item: 1 A piece of stainless 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 with restoration reagents. As a result of these actions, the serial number was restored to read "K25DFK".
XLW2LF	Item 1 - Piece of stainless steel bar stock with suspected obliterated serial number. The submitted specimen marked Item 1 was examined and identified as a stainless steel bar stock with a suspected obliterated serial number. As a result of examination and chemical processing, it was concluded that the obliterated serial number was restored to read, "K25DFK."
Y47PYY	Restoration of obliterated stamped markings was performed on the surface of Item 1, and the serial number was found to be "K25DFK".
Y7XGHX	The serial number was restored to be "K25DFK".
Z6BGQC	Item # 1 (steel bar) was examined on 10/27/2015 and found to be a stainless steel bar of approximately 1 x 2.8 x .25 inches, with an area of obliteration approximately .95 inches wide, produced by an end mill type tool, having arched signature. This area is suspected to have contained a serial number. Restoration was attempted using standard laboratory techniques. The serial number was successfully restored to: K25DFK.

TABLE 2

WebCode	Conclusions
ZCVNCQ	Sub #001-1 was examined and photographed before polishing the obliterated area with a dremel tool. Physical methods were applied to the polished surface in an attempt to restore the serial number. The restoration techniques were able to produce a discernable serial number: K 2 5 D F K.
ZK7WTR	The serial number of the metal piece described in the item # 1 was obliterated. The method for recovery of the serial number during the examination was the acidic method. The serial number was restored and corresponds to: K25DFK.
ZMV728	The serial number was restored to read: K25DFK
ZW4NMC	The serial number was restored to read K25DFK.

# Sample Preparation

TABLE 3

WebCode	Sample Preparation
22CKJX	Dremel tool with an abrasive wheel.
2BFNUM	Smoothed surface with Dremel tool (fine sand paper).
2G9QXL	Sanding with sand paper.
2J6YKU	Utilising number 600 and 1200 grade sanding paper, I removed the excess marks from the surface of the milled area. After this process I used a buffing wheel and polished the milled area to a mirror surface in preparation before attempting[sic] the restoration process.
2MZTHV	Polishing of the surface to achieve the look of mirror.
2P7BGQ	Polishing using a Dremel rotary tool.
2R7RDC	Steel wool was used to smooth the surface.
2VQFWN	Sample was photographed and evaluated prior to any recovery attempts. Then wiped clean with kimwipe.
2ZG3FB	None
3DJQAP	Wiping down with cloth.
3EVKPK	Cleaned and polished
3FKTW7	Polishing
3GFC2T	None
3GXNER	Polishing with a Cratex polishing wheel.
3PW2LM	Polishing with sandpaper
3Q63LZ	THE SURFACE OF ITEM 1 WAS PREPARED USING A DREMEL TOOL TO SAND FINE AND POLISHES THE SURFACE. PUT A STEEL BAR ON THE MAGNETIC YOKE AND SPRAYED IT WITH SKC-S REMOVER AND / ITF BLACK BATH.
424BQN	Magnaflux, sanding.
4C3XNL	In preparation prior to recovery I cleaned the sample with acetone and then used a dremmel[sic] to polish the surface.
4TR2C3	Polished
4WPRCM	Photography, Emery clothe, Newly prepared etching solutions.
4YZF8K	Polishing the obliterated surface with a polishing wheel.
6BK92L	Determine what chemicals were needed to complete the restoration process.
6GCK7H	Sanding

TABLE 3

WebCode	Sample Preparation
6J9TTP	Sanding
6LK29Q	Cleaning using acetone[sic].
6QGMZU	polished
6TYEYN	Fine Polishing through sand paper
6VEZ7R	hand sanding
76MZHN	The piece was cleaned with acetone in order to remove grease and dirt affecting the procedure
77LCRK	1. Initial inspection of the serial number area. 2. Record the as received condition of the serial number area by stereo microscope. 3. The serial number area was cleaned with acetone. 4. The serial number was polished slightly with abrasive tool.
7B2XKR	Sanding.
7DRRUF	none - visual examination and documentation of received item.
7RAU4Q	1. Dremel and hand sanding using sandpaper.
7VWCEP	After making photographic imaging element, a detailed observation is made to determine the type of metal that constitutes (ferrous/non-ferrous) stainless steel, aluminum, etc.; above to select the method used; then finely polished surface of the erased area.
8F8T37	Polished
8M8BEX	The surface of the sample was not prepped.
92WDZK	I took a photograph to document the "as received" condition. 1. Inspecting initial area of the serial number for coating and to also determine the method used for obliteration. 2. Recording the condition of the area of obliterated serial number as received by taking a photograph. 3. Cleaning the area of the obliterated serial number of any coating with solvent. 4. Polish the area to be etched mirror smooth and clean it again before etching.
9333N6	I polished the area with a dremel tool until the area had a mirror like finish. I then applied a polish compound (FRITZ) to the obliterated area.
94QN7U	Hand sanding with 150 & 400 grit sand paper.
96NR8H	None - before 1st attempt w/ Magnaflux. Sanding - before 2nd attempt w/ Magnaflux & etching.
9AWAAR	The surface of aluminum was polished with dremal[sic] tool.
9CLFUN	None.
9ETN7U	THE OBJECT IN QUESTIONS WAS SUBMITTED TO THE DISPOSITION OF MAGNETICS PARTICLES TO REVEAL THE MARKS ON THE MATERIAL IN QUESTION THROUGH[sic] THE MAGNAFLUX

TABLE 3

WebCode	Sample Preparation
9FNBDQ	1) Chemical etching using Fry's reagent. 2) Polishing of the surface using sand paper and polishing tool.
9HELKC	polished with a rotary tool
9HQCEN	No.
9JLUFP	The area was polished.
9LDZ6F	None
9VQJ7P	no
A78QHJ	None
A7UJPX	The sample was emiered using an emery cloth.
AA72DJ	1. SAMPLE CLEANING WITH ACETONE AND SANDING WITH ABRASIVE PAPER 400 CC-CW AND 1000 CC-CW
ABR3RW	Photos were taken. Microscopic and visual examination performed.
ALARE9	Polish w/ a dremel tool.
ALP34Z	Polish with sandpaper 120, 220, 320, 600, and 1200 grits followed by 00 steel wool.
B2BL2K	1, [State] Police Forensic Services Centre [Agency], Vehicle Examination Unit (VEU) method 1 version 1 - Clean surface. 2, [Agency] VEU method 2 version 1 - Make cast of surface using Reprisil. 3, Continued [Agency] VEU method 1 version 1 - polish surface.
B9J8KX	Polish
BGPCDE	Dremel tool with 180 grit sanding disk; Dremel tool with 240 grit sanding disk; Hand applied 1200 grit sanding paper; Dremel tool with polishing disk; Clean with acetone
BJDMAY	Sand paper and steel wool were used to prepare the sample.
BUDDRZ	1.) Grinding with Dremmel[sic] tool & 2.) Polishing with steel wool.
BYDHTL	A Dremel tool with an eraser wheel was used to polish the area of the serial number.
C38LCR	The obliterated area was polished using a rotary tool with a polishing wheel attached.
C77W8R	Remove machining marks; Polish area with sandpaper 1200; Clean SKC-S
CBZ84B	Sanding
CFDMX9	Sanding
CMWZQG	None
CW4PED	visual examination.
D2D7N2	Stereoscopic examination and mechanical polishing.

TABLE 3

WebCode	Sample Preparation
D694PD	After the initial inspection of the surface, the piece of metal was polished with soft sandpaper and cleaned with delicate task wipes, prior to beginning the chemical restoration process.
DUVWXJ	Emery paper light sanding and determined if magnetic or not.
E4VVZP	Polish with sand paper
EGKXFW	Sanded to remove arc-shaped toolmarks created during removal process
EWJLCE	1. Alcohol was used to clean the surface. 2. 280 grade sandpaper was used to polish the sample surface.
EZQA4C	[No Sample Preparation Reported.]
FPQ2XF	The area is photographed before examination. The surface is cleaned. It is applied electromagnetic methot[sic].
G3F6A7	Acid Etch
GCYRWR	Polishing
GF4AH3	Examined visually/microscopically; Tested with magnet; Photographed; Polished with Dremel tool
GUJG98	Simple sanding with an abrasive paper
GWPUZ8	Polished with a Dremel tool and bit.
GZ3QBB	1. Cleaned sample with acetone. 1. Rubbed with brillo pad.
H2VWDM	Visual Stereomicroscope
HBHTG9	Sanding and polishing using a Dremel tool and by acid etching.
HCW9WV	Steel wool
HELQNV	Polishing.
HGMUFH	A magnet was used to determine the material was non-magnetic. A portion of the material away from the area in question was polished. Etching agents were tested on the polished area to observe the reactivity of the material.
HRUK6Z	No other methods were used prior to recovery attempts.
HTDVMC	The area is photographed before examination. The surface is cleaned. Electromagnetic method is applied.
J2RU2M	Surface wiped clean with a damp cloth. Surface then lightly polished.
JAJAQR	Surface preparation was done with the Dremel.
JG3BAB	Sanding



TABLE 3

WebCode	Sample Preparation
JM9647	The methods used to prepare the sample prior to attempts at recovery were that I wear personal protective equipment, such as gloves, lab coat, and/or safety glasses. I visually inspected the item for possible trace evidence such as hair, fibers, wood, etc. I noted the circular pattern located in the obliterated area of the evidence item. I was unable to visually determine the location of the obliterated pattern prior to processing. I cleaned the test area prior to processing with cotton – tipped swab saturated with acetone. In addition to cleaning the surface area, I polished the surface to remove any excess marks prior to processing.
JQBVJY	None
JXTDQE	Dremel tool with polishing wheel #425.
JZHMZF	Wiped off with acetone polish with #400 grit metal polish wheel strong oblique lighting.
KMQFH6	The surface of the stainless steel bar was cleaned with acetone.
L2M39X	Polishing with a dremel.
LMG6TC	Cleaning with water and methanol, then wiped dry.
LVP9R9	The surface of the exhibit has been examined with "Crime-line M2" by applying UV light 395-425nm, along with GG455-AG filter. The surface of the exhibit has been polished by sandpaper (Emory[sic] paper; Emery Clth). The surface of the exhibit has been cleaned with METAL SURFACING SOLUTION (#RAG 5003 SIRCHIE)
M99AM7	Polishing, degreasing
MFJTGF	THE SAMPLE WAS CLEANED BY DIRECT APPLICATION OF A CLEANER /REMOVER PRODUCT FOLLOWING THE MANUFACTURES DIRECTIONS THE CLEANER USED WAS SKC-S CLEANER/REMOVER BY MAGNAFLUX.
MNB97J	Polish
N762QH	The sample was cleaned with acetone.
NPKDGM	None
NRN7D7	acid etching/ sanding
P68AVM	Polishing with Dremel tool.
P696GE	A. OBSERVATION ACROSS INSTRUMENT OF INCREASES B. DETERMINATION OF THE TYPE OF MATERIAL TO ANALYZING C. SELECTION OF METHOD OF DEVELOPING.
P9ADLN	Fry reagent, H2O, and a steel plate.
PHG2NM	Surface was polished with an emery wheel.
Q4RHC6	Surface of sample was prepared by sandpaper and polisher.
Q9PRQD	CLEANING AND POLISHING OF THE AREA OF ANALYSIS.

TABLE 3

WebCode	Sample Preparation
QGFDWB	DETERMINE THE FERROUS CHARACTERISTICS OF THE ELEMENT UNDER CONSIDERATION. POLISH THE AREA OF INTEREST USING SANDPAPER, AND CLEANED TO THE REMOVE DIRT.
RFFBA6	Tested the metal plate (Item 1) with a paint thickness guage[sic] that displays the type of metal when held against it. "N" displayed- Non Ferrous Tested metal plate with a magenet- Non magenetic Metal plate - Stainless Steel Method One Version One Prep of surface, clean surface M1-V1 Prep of surface- Polish [sic]
RFPJKT	None
RMHTY4	1. No Method was used prior using Regula Electronic Scanner. 2. Used sanding method before applying Fry's solution.
RU4YHW	surface cleaned with a dry cloth
T2EHE2	The area of obliteration was polished using a polishing wheel attached to a dremel-type rotary tool.
TMFHG7	No surface preparation conducted prior to chemical processing.
U76AY3	Visual examination. Polishing, obliterated area with dremel tool.
U76EEC	Initially none. After initial application of acid a very light grit sandpaper was used.
U8VKQV	NA
UN82XX	A dremel was used to polish the surface where the serial number was obliterated prior to using chemical etchant.
UUX4AB	None
UVPD6X	A magnet was applied to differentiate between ferrous and non-ferrous metals.
V7ZET3	None
V8UZK8	1. PHOTOGRAPHIC RECORDING OF THE SURFACES. 2. IDENTIFICATION OF THE MATERIAL. 3. REMOVAL SYSTEM IDENTIFICATION. 4. POLISHING AND CLEANING OF THE SURFACE.
VBKVUV	None
VF8RB7	Cleaning with sandpaper
VR3ZVU	None, followed by MPI, then polish.
W7R64Z	First the piece was cleaning using a toothbrush[sic] and cleaner industry, then the piece was cleaned again with pure acetone, finally was polishing using different types of sandpaper (320-400-600 and 1000) until to have mirror shene[sic].
WEWAPF	None
WHC2F9	No polishing necessary

TABLE 3

WebCode	Sample Preparation
WM8J6L	POLISHING
WMPMNE	The surface of Item #1 was cleaned with a paper towel prior to attempts at recovery.
WMQGA7	OBSERVATION OF THE PIECE OF STAINLESS STEEL BAR STOCK POLISH WITH FINE SAND PAPER. INSTALLATION OF THE JOCKE ADHERING THE PIECE APPLICATION OF THE REAGENT MAGNAFLUX.
WV72WZ	Polishing of the sample surface with emery paper and then a buffing wheel with chromium oxide paste. The surface was then cleaned with an alcohol wipe.
WYFEB4	[No Sample Preparation Reported.]
X93W63	Polishing with sandpaper of various grades (roughness). Cleaning the surface with ethanol.
XDXLNV	Polished with an electrical rotary tool then cleaned with acetone.
XJM44R	I applied sand paper to the area in question, beginning with coarser grades and moving towards finer grades until the sample had a mirror-like surface.
XKVDU4	Photo as received, visual, microscopic, lightly polished at the area of obliteration.
XLBE2C	The area was prepared using 300 grit sandpaper.
XLW2LF	steel wool
Y47PYY	The sample was polished using coarse and fine sand paper until a smooth surface was obtained.
Y7XGHX	(i) Clean the surface with organic solvents (acetone: ethyl acetate: petroleum ether = 1:1:1). (ii) Polish by abrasive papers.
Z6BGQC	Polished the ridges using a Cratex wheel on a Dremel at low speed. Tested with a magnet and the stainless steel bar did not have an attraction.
ZCVNCQ	Polishing with a dremel tool.
ZK7WTR	The methods used to prepare the sample prior to attempt the recovery were: polishing the surface on the direction from obliterated area, and after polishing, the surface was cleaned.
ZMV728	Polish
ZW4NMC	Polishing

# Recovery Methods

TABLE 4

WebCode	Recovery Methods
22CKJX	Fry's Reagent. I used a cotton swab that had been dipped in the Fry's solution and then rubbed back an[sic] forth on the questioned area. I repeated this procedure until the number appeared.
2BFNUM	Davis Reagent, 3 mins; Turner's Reagent, 5 mins; Fry's Reagent, 5 mins x 2.
2G9QXL	Turner's Reagent, 1 minute intervals; Fry's Reagent, 30 second intervals.
2J6YKU	I utilised a non-destructive magnetic particle method for approximately 5-10 min but could only see partial characters K*5**K where the * equals unreadable characters. After utilising Fry's Reagent for approximately 30 seconds the obliterated number started becoming visible and after approximately 1 min the number K25DFK was clearly visible.
2MZTHV	Magnetic particle inspection "Magnaflux", 1 minute; Chemical etching "Fry's" reagent, 1 minute.
2P7BGQ	1) Davis Reagent, approximately one minute; 2) Turner Reagent, approximately one minute; 3) Fry Reagent, approximately five minutes
2R7RDC	Recovery utilized included: steel wool, Frye's[sic], Davis and Phosphoric/Nitric Acid reagents. Acids were wiped across the surface with a swab. Total time for recovery was approximately 5 minutes.
2VQFWN	Sample was lightly hand sanded using sand paper. Acidic Method 1, approx 30 seconds; Acidic Method 2, approx 30 seconds; Acidic Method 3, approx 50 seconds; Acidic Method 4, approx 2 minutes
2ZG3FB	Magnaflux
3DJQAP	Magnaflux (Fully restored serial # K25DFK).
3EVKPK	25% Nitric Acid, approximately 5 minutes; Ferric Chloride, approximately 2 minutes; Acidic Ferric Chloride, approximately 1 minute; Acetone, approximately 10 seconds
3FKTW7	Fry's Reagent, 5 minute; Ferric Chloride, 3 minute; 25% Nitric Acid.
3GFC2T	Modified Fry's reagent was rubbed on the area for approximately five minutes.
3GXNER	Griffin's reagent for 1 minute.
3PW2LM	10% Nitric Acid applied with multiple swabs; Fry's Reagent applied with multiple swabs.
3Q63LZ	METHOD: INSPECTION METHOD OF MAGNETIC PARTICLES VISIBLES IN FERROUS MATERIALS MAGNAFLUX.
424BQN	Fry's Reagent
4C3XNL	Ferric Chloride, 15 min; Acidic Ferric Chloride, 15 min.
4TR2C3	Davis Reagent, 2 min; Turner's Reagent, 2 min.

TABLE 4

WebCode	Recovery Methods
4WPRCM	Acidic acid for aluminum was used. Two solutions each a minute at a time were alternately applied to the metal surface. The area was wiped clean between each solution.
4YZF8K	Polishing & Visual; Fry's Reagent, 1 minute w/ swiping w/ cotton applicator for about 2 minutes.
6BK92L	Filing (lightly), 2 min; Applied Ferric Chloride, 5 min; Applied Acidic Ferric Chloride, 5 min.
6GCK7H	Visual, N/A; Sanding, N/A; Turner's Reagent, 2 minutes; Fry's Reagent, 1 - 2 minutes.
6J9TTP	Chemical Etch, 5 min.
6LK29Q	Chemical etching using Fry's solution, approx. 10 min; Polished by dry cotton.
6QGMZU	Ferric chloride, repeated swipes for 5 minutes; Acidic Ferric Chloride, repeated swipes for 4 minutes; Phosphoric / Nitric Acid, repeated swipes for 4 minutes; Sodium Hydroxide, repeated swipes for 5 minutes; polished; Ferric Chloride, repeated swipes for 8 minutes
6TYEYN	Chemical Etching Used Acidic Ferric Chloride for 3 minutes and the number appeared.
6VEZ7R	Acid etching: Ferric Chloride, time unknown; Nitric Acid, time unknown; Modified Fry's Reagent, less than two minutes
76MZHN	The magnetic procedure or Magnaflux® technique, time used in the procedure is the 5 minutes.
77LCRK	Acetic Acid Ferric Chloride, 10 mins; Acetic Acid Ferric Chloride, 10 mins; Acetic Acid Ferric Chloride, 10 mins; Acetic Acid Ferric Chloride, 10 min; Fry's Reagent, 10 mins.
7B2XKR	Chemical etching was the method performed. Reagent was applied with swabs until the number was restored.
7DRRUF	Magnetic Particle reagent restoration (Magna Flux), - 1 minute
7RAU4Q	1. Ferric Chloride, 10 minutes; 2. Modified Fry's, 5 minutes
7VWECP	Method No. 1: Method Visible Magnetic Particle Inspection, One (1) Minute; Method No. 2: Fry's reagent applied to the sample, Five (5) Minute.
8F8T37	Davis, <10 seconds each application; Turner's, <10 seconds each application; Fry's, ~5 seconds each application.
8M8BEX	Magnetic Particle Inspection
92WDZK	Magnaflux, Magnetic Particle Test; Black Magnaflux; Photographs were taken of serial number restoration during the process.
9333N6	Chemical etching technique was used to recover the serial number. Acidic Ferric Chloride was used. A cotton swab was dipped in the acid and was gently wiped across the surface of the obliteration multiple times in the same direction. This process was used until the serial number was recovered.

TABLE 4

WebCode	Recovery Methods
94QN7U	Ferric Chloride (Lot: 102014), 5-10 seconds per swipe; ~15 swipes.
96NR8H	Magnaflux; Fry's (with swabs), 1 - 2 seconds; HNO <sub>3</sub> (with swabs), 1 - 2 seconds.
9AWAAR	Ferric Chloride, 2 min; Acidic Ferric Chloride, 2 min; Phosphoric/Nitric, 2 min; Nitric Acid, 2 min; Sodium Hydroxide, 2 min.
9CLFUN	Visual inspection (naked eye/stereomicroscope); Magnaflux.
9ETN7U	METHOD: ONLY THE DEPOSITION OF MAGNETIC PARTICLES TO THE DEVELOPEMENT OF BEARING IN FERROMAGNETIC MATERIALS BY MAGNAFLUX-MAGNETIC METHOD WAS PERFORMED.
9FNBDQ	chemical etching using Fry's reagent, 15 minutes
9HELKC	~10% NaOH; ferric chloride; acidic ferric chloride, <1 minute; Davis Reagent; Turner's Reagent; Frye's[sic] Reagent
9HQCEN	Electrochemical treatment; Acidic Method, 15 minute,
9JLUFP	Fry's Reagent was used 3 times for approximately 5 minutes per time.
9LDZ6F	Turner's - wiped across for five seconds; Fry's - wiped across for one minute; 25% Nitric Acid - wiped across for five seconds; Fry's - wiped across for five seconds; 25% Nitric Acid - wiped across for five seconds; Fry's - dropped on and sat for thirty seconds, then wiped away; 25% Nitric Acid - dropped on and sat for thirty seconds, then wiped away; Fry's - dropped on and sat for thirty seconds, then wiped away; 25% Nitric Acid - dropped on and sat for thirty seconds, then wiped away; Fry's - dropped on and sat for thirty seconds, then wiped away; 25% Nitric Acid - dropped on and sat for thirty seconds, then wiped away; Fry's - dropped on and sat for thirty seconds, then wiped away; Acetone - squirted on and quickly wiped away; Polished Fry's - dropped on and sat for thirty seconds, then wiped away; 25% Nitric Acid - dropped on and sat for thirty seconds, then wiped away; Fry's - dropped on and sat for thirty seconds, then wiped away; Acetone - squirted on and quickly wiped away
9VQJ7P	Magnetic nondestructive testing method
A78QHJ	1. Application of nitric acid for 5 minutes; 2. Application of modified Fry Reagent (Cupric Chloride, Chloric Acid, water) for 10 minutes.
A7UJPX	Chemotechnical etching using solutions containing hydrochloric acid, copper chloride and distilled water (2 solutions with different concentrations), 30 min.
AA72DJ	1. ETCHED WITH NaOH and NITRIC ACID, 3 MIN X 2 TIMES 2; ACID SOLUTION (ETCHING SOLUTION) FOLLOWED BY WATER RINSE, 3 MIN X 3 TIMES
ABR3RW	Polished area in question. Then used Acidic Ferric Chloride and 25% Nitric Acid Solution. Multiple strokes across surface. Did not sit for any period of time.
ALARE9	Magnaflux; Polish; Magnaflux; Magnaflux; Magnaflux.
ALP34Z	Fry's Reagent, approximately one minute on material

TABLE 4

WebCode	Recovery Methods
B2BL2K	obliterated characters in Ferrous Metals (Iron and Steel) using Fry's reagent for approximately 30 minutes; 2, Photographed with oblique lighting.
B9J8KX	Chemical etching, UNK Approximate 25 minutes off and on.
BGPCDE	Magnaflux electromagnet with particles suspended in water
BJDMAY	Davis reagent, approximately 1 minute; Fry's reagent, approximately 2 minutes
BUDDRZ	1.) Fry's Reagent, 2 min; 2.) Fry's Reagent, 2 min; 3.) Cupric Chloride, 3 min; 4.) Fry's Reagent, 30 min.
BYDHTL	Fry's Reagent (~20 swabs), less than a min/swab.
C38LCR	Magnaflux, N/A; Fry's Reagent, 5 minutes.
C77W8R	Magnaflux
CBZ84B	Visual; Sanding; Turner's Reagent, 30 seconds; Fry's Reagent, 30 seconds; Fry's Reagent, 45 seconds.
CFDMX9	Fry's Reagent, Various lengths of time.
CMWZQG	Magnaflux (9 cm prepared bath)
CW4PED	Fry's reagent, several hours
D2D7N2	Turner's reagent, 1 min.; Fry's reagent, 1 min.; mechanical polishing; Fry's reagent, 3 min.; Turner's reagent, 1 min.
D694PD	Acidic Method: Time on material: Ferric Chloride, 4 minutes; Acidic Ferric Chloride, 4 minutes
DUVWXJ	Phosphoric/Nitric Acid (30 mins); Ferric Chloride (30 mins); Acidic Ferric Chloride (10 mins)
E4VZP	Fry's reagent, 5 minutes
EGKXFW	1. Visual exam - nothing noted; 2. MagnaFlux exam - noted * 2 5 D F K, where the * is either a 'K' or 'R'; 3. Tested 25% Nitric Acid with no reaction; 4. Tested 50% Nitric Acid with no reaction; 5. Tested Etching Solution #1 (for cast steel)with no reaction; 6. Tested Etching Solution #2 (for cold rolled steel - Frye's[sic]) with reaction observed. After approximately 5 minutes, characters began to appear. Complete characters visible in 5-7 minutes.
EWJLCE	1. Magnetic method, using Magnaflux model Y7 AC-DC yoke and Magnavis 7HF prepared bath; 2. Chemical method, using Fry's reagent, 35 minutes.
EZQA4C	Electromagnetic
FPQ2XF	Electromagnetic methot[sic].
G3F6A7	Acid Method - Several seconds at a time over the course of 45 minutes

TABLE 4

WebCode	Recovery Methods
GCYRWR	Chemical Etching Process: (5 times); A - Acidic Ferric Chloride, 10 sec; B - Ferric Chloride, 10 sec; C - Phosphoric/Nitric Acid, 15 sec.
GF4AH3	Swabbed with 10% Sodium Hydroxide, approximately 5 minutes; Swabbed with Acidic Ferric Chloride, approximately 5 minutes; Swabbed with Fry's Reagent, approximately 5 minutes; Photographed
GUJG98	Fry's Reagent was applied for an approximate time of 2 hours which includes intermittent wiping and re-application
GWPUZ8	Fry's Reagent, 45 minutes.
GZ3QBB	1. Dremel Polish; 2. Ferric Chloride, 6 - 7 min; 3. Acidic Ferric Chloride, 4 - 5 min.
H2VWDM	1. 25% Nitric Acid - 10 minutes; 2. Fry's - 15 minutes
HBHTG9	1. No surface preparation; 2. Application of Frys Reagent, 1 minute; 3. Application of Turners Reagent, 1 minute; 4. Application of 10% Nitric Acid, 1 minute; 5. Polish surface using Dremel tool; 6. Application of Frys Reagent, 1 minute.
HCW9WW	Acidic Ferric Chloride, 2-3 minutes; Nitric Acid, >1 minute
HELQNV	Acidic Ferric Chloride, approximately 30 minutes.
HGMUFH	Chemical restoration, ~2 hours.
HRUK6Z	Magna-Flux
HTDVMC	1-Physical Etching Method; 2-Electromagnetic Method.
J2RU2M	Light Polishing, 1 minute; Application of chemicals.
JAJAQR	Magnetic Particle restoration, RESTORATION COMPLETE; Acidic Method 1: 50% Nitric Acid, 2 minutes; Acidic Method 2: Turner's Reagent, 2 minutes. RESTORATION COMPLETE
JG3BAB	Acid Etch - Davis Reagent, approximatley[sic] 1 minute; Acid Etch - Acidic Ferric Chloride, approximately[sic] 1 minute; Acid Etch - Fry's Reagent, approximatley 1 minute
JM9647	The chemical etchants used on the non-magnetic surface are listed below: Chemical Etchants Method (Strongest to Weakest: Acidic Ferric Chloride, 60 seconds-90 seconds; Ferric Chloride, N/A; 10%; Sodium Hydroxide, N/A; 25% Nitric Acid, 60 seconds – 90 seconds
JQBVJY	Magnaflux
JXTDQE	Fry's reagent, 4 minutes
JZHMZF	Fry's Reagent, 6 min.
KMQFH6	Acidic Method - Turner's Reagent, 10 minutes; Acidic Method - Acid Copper II Sulphate, 10 minutes; Acidic Method - Fry's Reagent, 10 min.



TABLE 4

WebCode	Recovery Methods
L2M39X	Polishing Fry's reagent, approximately 2 minutes
LMG6TC	Acidic Ferric Chloride, swabbed heavily and left for 3 minutes; Acidic Ferric Chloride, pooled on and left for 10 minutes.
LVP9R9	The surface of the exhibit has been processed with RESTOR-A-GEL STEEL (RAG- 1001 SIRCHIE). The exhibit has been processed with this gel 3 times. Once the gel was changing the colour, old layer of the gel was being cleaned and replaced with new layer. Following serial number K25DFK has been recovered upon placing the the[sic] third layer of the gel.
M99AM7	Chemical etching reagent Adler
MFJTGF	MAGNETIC PARTICLE METHOD.
MNB97J	Fry's, 10 mins; Turner, 10 mins; Davis, 10 mins.
N762QH	The surface was treated with Fry's reagent for about 15 minutes. The process (using Fry's Reagent followed by contrast solution) was alternate repeatedly several times, till the serial number was restored completely.
NPKDGM	Magnaflux method
NRN7D7	1. acid, approx. 10 minutes on metal bar
P68AVM	Magnaflux for ~30 seconds.
P696GE	METHOD: MAGNAFLUX-SPAY OF MAGNETIC PARTICLES (7HF PREPARED BATH)
P9ADLN	Fry Reagent, 1 min; H2O, 1 min; Fry Reagent, 2.5 min; H2O, 4 min.
PHG2NM	1.) Magnetic Particle Inspection; 2.) Fry's Reagent (5 min.)
Q4RHC6	Acidic Method, 30-40 min.
Q9PRQD	METHOD: CHEMICAL METHOD (REAGENT FRY); TIME ON MATERIAL: FIVE MINUTES.
QGFDWB	METHOD: CHEMICAL RESTORATION TECHNIQUE BY APPLYING THE REAGENT FRY (CUPRIC CHLORIDE, HYDROCHLORIC ACID[sic], DISTILLID[sic] WATER) ON METAL SURFACES. TIME ON MATERIAL: 8 MINUTES.
RFFBA6	Method One Version One Prep of surface M2-V1; Cast of surface M1-V1; Prep of surface-Polish M9-V1; Chemical Restoration Acid used for around 1Hour. Frys reagent used.
RFPJKT	Magnetic Particle Inspection (MPI80 Black), Less than 1 minute
RMHTY4	1- Regual Electronic Scanner Model 7505 M; 2- Etching method, approx. 2 minutes
RU4YHW	Magnaflux, applied for approximately 5 seconds to the metal surface of the questioned sample.
T2EHE2	1. Polishing area of obliteration; 2. Chemical Restoration: Cotton swabs soaked with alternating Acidic Ferric Chloride and 20% Nitric Acid Solution (four swabs per chemical; eight swabs in total) were applied to the area of obliteration. Each swab was applied for a

TABLE 4

WebCode	Recovery Methods
	duration varying between 30 seconds to 2 minutes; Swab 1: Acidic Ferric Chloride, applied for approximately 30 seconds; Swab 2: 20% Nitric Acid, applied for approximately 30 seconds; Swab 3: Acidic Ferric Chloride, applied for approximately 1 minute; Swab 4: 20% Nitric Acid, applied for approximately 45 seconds; Swab 5: Acidic Ferric Chloride, applied for approximately 1 minute; Swab 6: 20% Nitric Acid, applied for approximately 1 minute; Swab 7: Acidic Ferric Chloride, applied for approximately 2 minutes; Swab 8: 20% Nitric Acid, applied for approximately 1 minute
TMFHG7	Magnetic Particle Inspection - Magnaflux
U76AY3	Fry's Reagent, 1 min. Repeat 2 more times.
U76EEC	Acidic Method 1 (Ferric Chloride), 5 minutes; Acidic Method 2 (Chromic Acid), 5 minutes; Acidic Method 3 (Fry's Reagent), 1 minute
U8VKQV	Magnetic Particle Inspection.
UN82XX	Ferric Chloride, 10 mins; Acidic Ferric Chloride, 10 mins; Nitric Acid, 10 mins.
UUX4AB	Swabbed with etching acid. Acid was not ponded on serial number area.
UVPD6X	Mechanical polishing and chemical etching. Acidic ferric chloride - continuous applications for ~15 minutes until first partial characters developed, then allowed to sit for ~20 minutes to fully develop the remaining characters.
V7ZET3	Fry's Reagent
V8UZK8	MAGNETIC PARTICLE INSPECTION METHOD USING THE MAGNAFLUX.
VBKVUV	Magnetic particle inspection
VF8RB7	Acidic method, 15 min
VR3ZVU	Magnetic Particle Inspection (MPI); Polish; MPI; Davis Reagent, ~ 1 min; MPI; Davis Reagent, ~1 min; Fry's Reagent, ~1 min; Fry's Reagent, ~1 min; Davis Reagent, ~2 mins; Fry's Reagent, ~1 min; Davis Reagent, ~1 min; Turner's Reagent, ~1 min; Fry's Reagent, ~1 min; Davis Reagent, ~2 min
W7R64Z	Fry's, 5 min.
WEWAPF	Magnaflux Magnavis 7HF
WHC2F9	Fry's Reagent on cotton swabs, 20 total minutes.
WM8J6L	FRY'S REAGENT, 5 MIN
WMPMNE	#1 Magnavis was applied to the surface of Item #1 followed by it's placement within a magnetic field. The serial number was successfully restored to read K25DFK.
WMQGA7	METHOD: THE METHOD OF PROOF OF MAGNAFLUX.
WV72WZ	Hydrochloric Acid (32%) with mild heat applied to catalyse (approx 47 minutes).

TABLE 4

<b>WebCode</b>	<b>Recovery Methods</b>
WYFEB4	[See Table 5: Additional Comments.]
X93W63	Etching using Fry's reagent (4 times), 10s each time
XDXLNV	Fry's Reagent, (2 minutes)
XJM44R	Sodium Hydroxide, 2 hours; Nitric Acid, 2 hours; Fry's Reagent, 5 minutes.
XKVDU4	Magna-Flux bath, magnetic; Cupris Ammonium Chloride solution, chemical.
XLBE2C	Turner's reagent, 30 seconds; Fry's reagent, 30 seconds each (3-4 applications)
XLW2LF	Ferric Chloride, Less than 2 min; Acidic Ferric Chloride, Less than 2 min; Nitric Acid, Less than 2 min
Y47PYY	Fry's reagent
Y7XGHX	Chemical etching by Villela's reagent (glycerine: conc. HF: conc. HNO <sub>3</sub> = 3:2:1), 15 min.
Z6BGQC	Ferric Chloride / Acidic Ferric Chloride, 2/3; Magnetic Particle Inspection; Davis' reagent[sic], 1; Turner's reagent[sic], 1.
ZCVNCQ	Magnaflux
ZK7WTR	Acidic Method (Ferric Chloride), 20 minutes.
ZMV728	Acidic Ferric Chloride, 2 minutes - no reaction; Fry's, 5 minutes - Number recovered.
ZW4NMC	Acidic methods 1-6: Acidic Ferric Chloride, 10% Sodium Hydroxide and 25% Nitric Acid was alternately swiped on the area for approximately 30-40 min. A shallow reservoir was then made around the area of the obliteration and Acidic Ferric Chloride was placed in the area and left for approx. 10-15 min.

<b>Response Summary</b>		<b>Participants: 150</b>
<b>Recovery Methods</b>		
<b>Chemical Processing:</b>	<b>106</b>	
<b>Magnetic Processing:</b>	<b>32</b>	
<b>Combined Magnetic and Chemical Processing:</b>	<b>12</b>	
<b>None:</b>	<b>0</b>	

## Additional Comments

TABLE 5

WebCode	Additional Comments
2J6YKU	After the serial number was recovered and documented the surface was washed with ethanol to remove the chemicals. The surface was then dried and photographed. After completion the whole surface was sprayed with a clear lacquer for storage purposes.
2MZTHV	The polishing of the surface to achieve the look of mirror is a fundamental part of the serial number revealed.
6LK29Q	Digital images were captured after recovery of the obliterated serial No.
6TYEYN	AFC (Acidic Ferric Chloride) was used for examination.
7VWECP	Although stainless steel (test object) generates no apparent magnetic attraction with magnets (ferromagnetic attraction) it is a ferrous metal; which should work initially with non-destructive methods such as Magnaflux; surely good results are obtained, without damaging the evidence analyzed.
92WDZK	The number K25DFK became visible almost immediately. A good positive result was obtained during the first attempt and therefore only the electromagnetic process was applied.
9AWAAR	The above chemicals were used multiple times to produce serial number.
9ETN7U	MAGNAFLUX EFFECTED TWO ATTEMPTS OF DEVELOPING FOR THE MAGNETIC METHOD, THE FIRST REACTION LAST APROXIMATELY 1 MINUTE AND PARTIALLY FIVE CHARACTERS WERE DEMONSTRATED, THE PROCEDURE REPEATS IT SELF AGAIN FOR THE SAME METHOD, AND THEY SHOW COMPLETE AND LEGIBLE SIX CHARACTERS OF THE SERIAL NUMBER TO 2 MINUTES.
A78QHJ	We suggest to use other materials for the bar stock, such as aluminium or molten iron.
A7UJPX	The method "Serial Number Restoration" is accredited according to ISO 17025.
AA72DJ	THE SERIAL NUMBER REVEAL IN SECOND TIME OF ACID SOLUTION PROCESS
ABR3RW	Cotton swabs were used. Soaked in each acidic solution used. Then 1 swab at a time was wiped across the obliterated surface multiple times. This process was used until characters were clearly observed. Gun oil was placed on the area when finished to stop further erosion.
D694PD	The acid was cleaned with delicate task wipers, constantly, to write down characters appearing during each step.
EWJLCE	The restoration of the number was achieved since the beginning by using the magnetic technique and before polishing the surface; the chemical method was used because there was a doubt about the first character.
GF4AH3	Material was thought to be non-magnetic after initially testing with magnet. Sodium Hydroxide and Acidic Ferric Chloride not reactive. Re-tested material with magnet and found it to be very slightly magnetic. Switched to Fry's reagent.
M99AM7	Test (diegestion[sic]) lasting about 10 minutes, after which time all of the characters have been revealed.

TABLE 5

WebCode	Additional Comments
NPKDGM	Using Magnaflux solution without any other prep to obliterated area, the obliterated SN# was restored to read in just a few minutes. Photo's of the restored SN# were made.
T2EHE2	After the chemical restoration was complete the area of obliteration was washed with water and acetone and then covered with Rem oil to prevent corrosion.
UVPD6X	Item 1 described as both aluminum bar stock and stainless steel bar stock in the CTS provided documentation.
WHC2F9	Magnaflux not used due to steel being non-magnetic.
WYFEB4	Results of Examinations: Examination and processing of the obliterated serial number on the submitted plate restored the serial number to read "K25DFK". Methods: Magnetic, thermal and chemical methods may be used for the restoration 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: With the exception of 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.
XKVDU4	Results of Examinations: Serial Number: Examination and processing of the obliterated serial number on the submitted plate restored the serial number to read "K25DFK". Methods: Magnetic, thermal and chemical methods may be used for the restoration 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: With the exception of 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.
ZMV728	Photo documented per policy.

# Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

## Test No. 15-5251: Serial Number Restoration

DATA MUST BE RECEIVED BY November 16, 2015 TO BE INCLUDED IN THE REPORT

Participant Code:

Webcode:

### Accreditation Release Statement

CTS submits external proficiency test data directly to ASCLD/LAB and ANAB. 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 and/or ANAB. (Accreditation Release section on the last page must be completed and submitted.)

This participant's data is NOT intended for submission to ASCLD/LAB or ANAB.

### Online Data Entry

Visit [www.cts-portal.com](http://www.cts-portal.com) to enter your proficiency test results online. If you have any questions please do not hesitate to contact 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.

#### Items Submitted (Sample Pack SNR2):

Item 1: A piece of stainless 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?

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Please return all pages of this data sheet.

Participant Code:  
Webcode:

Additional Testing Information

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4.) What methods of recovery were used during your examination?  
(Please list in order of use)

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

Method	
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5.) Additional Comments

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Return Instructions:** Data must be received via online data entry, fax (please include a cover sheet), or mail by **November 16, 2015** to be included in the report. Emailed data sheets are not accepted.

QUESTIONS?  
TEL: +1-571-434-1925 (8 am - 4:30 pm EST)  
EMAIL: [forensics@cts-interlab.com](mailto:forensics@cts-interlab.com)  
[www.ctsforensics.com](http://www.ctsforensics.com)

Participant Code:

ONLINE DATA ENTRY: [www.cts-portal.com](http://www.cts-portal.com)  
FAX: +1-571-434-1937  
MAIL: Collaborative Testing Services, Inc.  
P.O. Box 650820  
Sterling, VA 20165-0820 USA

Please return all pages of this data sheet.

Participant Code:

Webcode:

Collaborative Testing Services ~ Forensic Testing Program

**RELEASE OF DATA TO ACCREDITATION BODIES**

The following Accreditation Releases will apply only to:

Participant Code:

Webcode:

for Test No. **15-5251: Serial Number Restoration**

This release page must be completed and received by **November 16, 2015** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

**ASCLD/LAB RELEASE**

If your lab has been accredited by ASCLD/LAB and you are submitting this data as part of their external proficiency test requirements, have the laboratory's designated individual complete the following.

**The information below must be completed in its entirety for the results to be submitted to ASCLD/LAB.**

ASCLD/LAB Legacy Certificate No. \_\_\_\_\_ ASCLD/LAB International Certificate No. \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Laboratory Name \_\_\_\_\_

Location (City/State) \_\_\_\_\_

**ANAB RELEASE**

If your laboratory maintains its accreditation through ANAB, please complete the following form in its entirety to have your results forwarded.

ANAB Certificate No. \_\_\_\_\_

Signature and Title \_\_\_\_\_ Date \_\_\_\_\_

Laboratory Name \_\_\_\_\_

Location (City/State) \_\_\_\_\_

**Accreditation Release****Return Instructions**

*Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.*

*Questions? Contact us 8 am-4:30 pm EST  
Telephone: +1-571-434-1925  
email: forensics@cts-interlab.com*

**Please return all pages of this data sheet.**

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