Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

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

Latent Print Processing - Nonporous Surfaces
Test No. 22-5193 Summary Report

Each sample pack contained three pieces of simulated crime scene evidence. Participants were asked to process each piece for the presence of latent prints and report their findings. Data were returned from 65 participants and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample pack consisted of three items of simulated crime scene evidence. Each item was divided into labeled sections or pieces and contained one latent fingerprint. The items consisted of a plastic CD case (Item 1), a ceramic tile (Item 2), and four metal roofing discs (Item 3). Participants were asked to process the contents of each item for latent fingerprints, utilizing the method(s) deemed most appropriate for the substrate being examined.

SAMPLE PREPARATION:
The plastic CD cases, ceramic tiles and metal roofing discs were cleaned with a wet paper towel and then dried before the latent print was applied. Each item was divided into sections or pieces and labeled A, B, C, and D using a chemical-safe marker. For each item, an oil enhancer was applied to the individual's finger prior to deposition to assist in the longevity of the print.

SAMPLE PACK ASSEMBLY:
Each item was packed into its pre-labeled item envelope with necessary protective materials. Each item envelope was sealed with evidence tape and initialed with "CTS". These were then placed into a sample pack box with bubble wrap and sealed with packaging tape.

VERIFICATION:
Predistribution examiners were able to recover ridge detail in the expected section on all three items. Prior to shipment, a random selection of prepared test items were processed in-house for latent prints to verify their durability and proper latent print location.

Item Number	Test Material	Enhancer	Print Location
1	Plastic CD Case	Oil	B
2	Ceramic Tile	Oil	C
3	Metal Roofing Discs	Oil	D

Summary Comments

Each sample pack contained three items of evidence to be processed for latent prints: a plastic CD case (Item 1), a ceramic tile (Item 2), and four metal roofing discs (Item 3). Each item was divided into four labeled sections or pieces, which were labeled with the letters A-D. Participants were asked to determine in which of the four sections or pieces of evidence contained a latent print (Refer to the Manufacturer's Information for preparation details).

Due to the tenuous nature of latent fingerprints, it was expected that some participants may not be successful with the recovery of the deposited print on each item. Participants who did not develop a print on an item were therefore not flagged as outliers to the consensus.

All 65 responding participants were able to successfully recover friction ridge detail in the expected section for Items 1 and 2. For Item 3, 64 participants (98%) successfully recovered friction ridge detail in the expected section.

For all three items, the majority of participants began with a visual examination of the items of evidence. The most common development method used to process the items was fingerprint powder. The second most frequently reported method used to process the items was cyanoacrylate fuming.

Photography was the preferred preservation method, although some participants elected to lift the friction ridge detail after photography.

Print Location

TABLE 1 - Item 1

WebCode	Location	WebCode	Location	WebCode	Location
26DGFL	B	EJR2K9	B	QRK98V	B
279XU4	B	EKPCGB	B	T23U44	B
2ANR8F	B	ELJ3K6	B	TT8QZ8	B
2VRBMN	B	EMNPX9	B	TU46MY	B
32NPKU	B	EPWZUC	B	U9F8GT	B
3R4DAH	B	EXARJB	B	UE2ZTT	B
4264LC	B	FC346J	B	UE8APY	B
4UHDZH	B	FHRKGA	B	UFYBPV	B
4V2YWE	B	GFF6M9	B	UN83V6	B
64NDDP	B	GYUK8P	B	URVEWV	B
6VCJXM	B	HQJHLN	B	VHKCCV	B
7LQEQN	B	JAPDTK	B	VHM2FR	B
7MHFPJ	B	JD46JD	B	VQCRWT	B
8RNLKG	B	JDQGK8	B	W2TWMP	B
A7JP2C	B	KJNME2	B	WNHNGQ	B
A8BQ29	B	L3KD9A	B	XJ7XVW	B
B22UVE	B	LAH3PD	B	XU32YP	B
BRTGDB	B	LC4Q86	B	Y3ZT6Y	B
BTQRAD	B	LNX7B9	B	YNUYC2	B
CV96RF	B	MMJVX2	B		
CY9FMF	B	P3QWK3	B		
DZGPDR	B	QD6FDW	B		
E299UJ	B	QRHLNW	B		

Item 1 - Location Response Summary

Location	Total	Total Participants: 65
A	0	
B	65	
C	0	
D	0	
None	0	
Not Tested	0	

**NOTE: Tallies may not add up to the total number of participants, if a participant did not report a response.*

TABLE 1 - Item 2

WebCode	Location	WebCode	Location	WebCode	Location
26DGFL	C	ELJ3K6	C	TU46MY	C
279XU4	C	EMNPX9	C	U9F8GT	C
2ANR8F	C	EPWZUC	C	UE2ZTT	C
2VRBMN	C	EXARJB	C	UE8APY	C
32NPKU	C	FC346J	C	UFYBPV	C
3R4DAH	C	FHRKGA	C	UN83V6	C
4264LC	C	GFF6M9	C	URVEWV	C
4UHDZH	C	GYUK8P	C	VHKCCV	C
4V2YWE	C	HQJHLN	C	VHM2FR	C
64NDDP	C	JAPDTK	C	VQCRWT	C
6VCJXM	C	JD46JD	C	W2TWMP	C
7LQEQN	C	JDQGK8	C	WNHNGQ	C
7MHFPJ	C	KJNME2	C	XJ7XVW	C
8RNLKG	C	L3KD9A	C	XU32YP	C
A7JP2C	C	LAH3PD	C	Y3ZT6Y	C
A8BQ29	C	LC4Q86	C	YNUYC2	C
B22UVE	C	LNX7B9	C		
BRTGDB	C	MMJVX2	C		
BTQRAD	C	P3QWK3	C		
CV96RF	C	QD6FDW	C		
CY9FMF	C	QRHLNW	C		
DZGPDR	C	QRK98V	C		
E299UJ	C	T23U44	C		
EJR2K9	C	TT8QZ8	C		
EKPCGB	C				

Item 2 - Location Response Summary

Location	Total	Total Participants: 65
A	0	
B	0	
C	65	
D	0	
None	0	
Not Tested	0	

**NOTE: Tallies may not add up to the total number of participants, if a participant did not report a response.*

TABLE 1 - Item 3

WebCode	Location	WebCode	Location	WebCode	Location
26DGFL	D	ELJ3K6	D	TU46MY	D
279XU4	D	EMNPX9	D	U9F8GT	D
2ANR8F	D	EPWZUC	D	UE2ZTT	D
2VRBMN	D	EXARJB	D	UE8APY	D
32NPKU	D	FC346J	D	UFYBPV	D
3R4DAH	D	FHRKGA	D	UN83V6	D
4264LC	D	GFF6M9	D	URVEWV	D
4UHDZH	D	GYUK8P	D	VHKCCV	D
4V2YWE	D	HQJHLN	D	VHM2FR	D
64NDDP	D	JAPDTK	D	VQCRWT	D
6VCJXM	D	JD46JD	D	W2TWMP	D
7LQEQN	D	JDQGK8	D	WNHNGQ	D
7MHFPJ	D	KJNME2	D	XJ7XVW	D
8RNLKG	D	L3KD9A	D	XU32YP	D
A7JP2C	D	LAH3PD	D	Y3ZT6Y	D
A8BQ29	D	LC4Q86	None	YNUYC2	D
B22UVE	D	LNX7B9	D		
BRTGDB	D	MMJVX2	D		
BTQRAD	D	P3QWK3	D		
CV96RF	D	QD6FDW	D		
CY9FMF	D	QRHLNW	D		
DZGPDR	D	QRK98V	D		
E299UJ	D	T23U44	D		
EJR2K9	D	TT8QZ8	D		
EKPCGB	D				

Item 3 - Location Response Summary

Location	Total
A	0
B	0
C	0
D	64
None	1
Not Tested	0

Total Participants: 65

**NOTE: Tallies may not add up to the total number of participants, if a participant did not report a response.*

Development Methods

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
26DGFL	Visual Examination	coaxial incident light
	Cyanoacrylate Fuming	humidification: about 5 minutes ; processing time: about 15 minutes
279XU4	Visual Examination	Visual examination with white light source and with different light source examination: oblique light technique, spectroscopic technology, grazing light...
	Alternate Light Source	Examination with multi-spectrum forensic light: Poly-light ROFIN PL500R between the different light ranges from ultraviolet light to infrared light
	Cyanoacrylate Fuming	Application of cyanoacrylate reagent with cyanoacrylate fuming cabinet. The values of the hood have been: 70%-80% humidity and plate temperature up to 140°C.
	Visual Examination	Visual examination with light source. (develop one latent fingerprint in section B)
	Dye Stain	Application ARDROX Dye with spray and after rinse with tap water.
	Visual Examination	Visual examination with UV light (350Nm). Visualization one latent fingerprint in section B.
2ANR8F	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
2VRBMN	Visual Examination	Visual Exam with flashlight
	Cyanoacrylate Fuming	Fumed for 10 minutes. 2.5g of Cyanoacrylate Ester
	Dye Stain	Rhodamine 6G, viewed with a laser at approx. 532nm.
32NPKU	Cyanoacrylate Fuming	Initial Daylight & White Light Exam, Superglue visual, Superglue Dye stain
3R4DAH	Visual + blackmagnetic powder	mag brush
4264LC	Visual Examination	can see print in quadrant B, very poor contrast--no photos taken
	Cyanoacrylate Fuming	80% humidity for 18 minutes
	Dye Stain	Basic Yellow 40 followed by a DI water rinse
	Powder Dusting	Applied black powder with fiberglass brush
4UHDZH	Cyanoacrylate Fuming	10 minutes
	Dye Stain	Rhodamine 6G Aqueous
	Powder Dusting	Magnetic Powder
	Powder Dusting	Black Powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
4V2YWE	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
64NDDP	Powder Dusting	Black powder processing.
6VCJXM	Cyanoacrylate Fuming	12 minute fuming time. Let rest for at least 24hrs before handling.
	Dye Stain	Rhodamine. 3 minutes to coat. Let dry for several hours before handling.
	Powder Dusting	2 minutes.
7LQEQN	Visual Examination	Using oblique lighting, I observed an impression on the plastic CD case.
	Powder Dusting	Using black powder, I observed a developed impression from Section B on the plastic CD case.
7MHFPJ	Visual Examination	Normal and oblique lighting with flashlight - 5 minutes
	Alternate Light Source	Blue light - 420-470nm - 2 minutes
	Cyanoacrylate Fuming	Utilizing Foster + Freeman MVC1000 superglue chamber - 25 minutes
	Powder Dusting	Traditional bi-chromatic powder - 5 minutes
8RNLKG	Powder Dusting	Visual examination, black powder, magnetic black powder
A7JP2C	Visual Examination	Visual examination used prior to, and post powder processing with oblique lighting.
	Powder Dusting	20 minutes processing, sterile black powder processing followed by bleached wand with sterile magnetic powder.
A8BQ29	Visual Examination	visual examination conducted - faint latent observed in section B - inside of cover - photographed
	Alternate Light Source	latent observed under polilight - nultiple wavelengths with nil enhancement
	Cyanoacrylate Fuming	1 round of CA fuming - light development of latent - nil real improvement on original view
	Alternate Light Source	Polilight with different Nanometres - nil improvement
	Dye Stain	Rhodamine 6G - one treatment and dried.
	Alternate Light Source	Item viewed under polilight 505nm and orange filter with strong enhancement of latent
B22UVE	Powder Dusting	Standard black powder
BRTGDB	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	Rhodamine 6G
	Alternate Light Source	
	Powder Dusting	

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
BTQRAD	Powder Dusting	I processed the CD case (inside/outside) with standard black powder, yielding positive results. A latent print was developed on the interior side of the case in Area B. The process took approximately five minutes.
CV96RF	Visual Examination	Visual examination with a ceiling mount medical exam light was utilized to search for latent prints. The CD case was moved about through the light. A latent print appeared in the quadrant labeled B. The CD case and latent print were preserved with photographed.
	Cyanoacrylate Fuming	An Air Science Chamber with a temperature of 69'F and 70% humidity was used to fume the case with Evident Lot # 3027 Cyanoacrylate. A fume time of 15 minutes was followed by a purge time of 5 minutes. The CD case was removed from the chamber and allowed to stand in a positive flow fume hood for approximately an hour. The print was preserved via photography. Control latent prints on known plastic units were processed simultaneously for quality control purposes.
	Dye Stain	R.A.M. dye stain by Evident - lot # 3649, applied from a squeeze bottle, was used to enhance the detail of the fingerprint following CAO processing. An ALS using wavelengths of 455 and CSS combined with an Orange filter, #21 were used to enhanced latent print in quadrant B. The enhanced print was preserved with photography. Additional partial latent fingerprint detail was developed, with the RAM, on the rear of the CD case. The ridge detail not previously visible, was preserved with photography. Control latent prints on known plastic units were processed simultaneously for quality control purposes. Approximately 1430 hrs. the CD case was placed in a secure evidence locker and stored overnight.
	Powder Dusting	On 09/27/2022 black fingerprint powder was distributed on the CD case with a synthetic bristle brush. The faint fingerprint was developed to its peak clarity and preserved with photography. The fingerprint was not lifted with tape as the faintness of the remaining ridge detail was best preserved in the photographs. A lift would not have improved documentation. Control latent prints on known plastic units were processed simultaneously for quality control purposes.
CY9FMF	Visual Examination	I could see a latent print on the surface with the naked eye.
	Alternate Light Source	I used ALS at obtuse angles to determine the latent prints location.
	Cyanoacrylate Fuming	I used cyanoacrylate to preserve the latent print.
	Powder Dusting	I used black powder to develop the latent prints.
DZGPDR	Cyanoacrylate Fuming	15 minutes at 130 degrees and 80% humidity
E299UJ	Visual Examination	OMNIPRINT OP1000A
	Cyanoacrylate Fuming	PROJECTINA FUMING CAMBER+OMEGA-PRINT Cyanoacrylate Fuming Compound
	Powder Dusting	Sirchie Black Magnetic powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
EJR2K9	Visual Examination	Visual examination - with and without flashlight and oblique light
	Powder Dusting	Powder dusting - black sterile powder and sterile brush
	Photo comparison	Other - Photo comparison - completed comparison photos to include overview and midrange
	Powder Dusting	Powder dusting - black sterile magnetic powder using sterile wand and powder
	Photo comparison	Other - Photo comparison - completed comparison photos
EKPCGB	Powder Dusting	White powder was used to process the plastic CD case
ELJ3K6	Visual Examination	Optical examination utilising: ambient room lighting. Latent detail observed in quadrant B and determined suitable for comparison; recorded photographically.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 42S Blue and White +/- orange goggles). Nil additional fingerprint ridge detail observed.
	Cyanoacrylate Fuming	Item treated in Foster and Freeman MVC1000 for 5 minutes CA fume time.
	Visual Examination	Optical examination utilising: ambient room lighting. Minor improvement in latent contrast; recorded photographically. Additional latent detail observed on the back of the CD case (not photographed as deemed not part of test).
	Dye Stain	Rhodamine-6G in HFE solvent applied to surface with sprayer.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 82S Green with 522nm trimming filter + orange goggles. Good improvement in latent contrast obtained; recorded photographically.
EMNPX9	Visual Examination	Oblique lighting
	Powder Dusting	Black powder
EPWZUC	Visual Examination	White light and RUVIS
	Cyanoacrylate Fuming	White light and RUVIS after fuming
	Dye Stain	LASER after applying RAM dye stain
EXARJB	Powder Dusting	Black powder
FC346J	Visual Examination	Visual examination with white light and RUVIS. Latent print (1L1) detected in section B and photographed with RUVIS.
	Cyanoacrylate Fuming	Visual examination with white light and RUVIS after CAE fuming. Re-photographed 1L1 with RUVIS.
	Dye Stain	Processed with R6G dye stain. Visual examination with LASER. Re-photographed 1L1 with LASER.
FHRKGA	Visual Examination	The plastic CD case was first visually examined. A latent print was visible on Section B.
	Powder Dusting	The inside area of the plastic CD case was processed with black fingerprint powder. A latent print was developed on Section B.
GFF6M9	Powder Dusting	Black powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
GYUK8P	Cyanoacrylate Fuming	Time of process: 40 minutes. 1.- Cyanoacrylate. 2.- Black latent finger powder
HQJHLN	Cyanoacrylate Fuming	Processing time: 30 minutes. Type of dye stain: 1.-Cyanoacrylate. 2.- Black latent finger prints powder.
JAPDTK	Visual Examination	Regular black magnetic powder
JD46JD	Application of graphite in black, with a circular movement with a glass fiber brush on the subject item on a consistent surface.	For the treatment of the item, a time of 20 minutes was required. In the application, a white support is used to display the fingerprint.
JDQGK8	Cyanoacrylate Fuming	Processed using cyanoacrylate fuming and SPR and black powder
	SPR	
	Powder Dusting	
KJNME2	Powder	Black Magnetic
L3KD9A	Powder Dusting	I used fine magnetic powder with a magnetic brush. I began the test at 1737 and finished at 1805.
LAH3PD	Visual Examination	Under the ambient light, a latent mark was clear in section B
	Powder Dusting	Black powder was applied to the whole item, and the mark is clear
LC4Q86	Cyanoacrylate Fuming	Transmitted lighting
	Cyanoacrylate Fuming	CaptureBT Chamber, 20min cycle
	Dye Stain	RAM (mixed in house)
LNX7B9	Alternate Light Source	Mark search was done by following ways: 1. Blue Light (445 nm) using Goggle (495 nm). 2. Green Light (532 nm) using Goggle (550 nm). 3. White Light. Print found on Section B
	Cyanoacrylate Fuming	Processing Time: 45 mins, which includes Humidifying, Fuming and Purging. After 45 mins, Mark search was done using White Light. No additional mark found. Mark on Section B, enhanced
	Dye Stain	After Dying with BY40, kept to dry for 20 mins in fumehood. After 20 mins, Mark search was done using 445nm light (blue light) with goggle (495nm). No Additional marks found. But the mark on Section B, enhanced
MMJVX2	Powder Dusting	White powder
P3QWK3	Visual Examination	Used white light - latent print visible and captured with photography
	Cyanoacrylate Fuming	Examined under white light and RUVIS - latent print was not improved or enhanced.
	Dye Stain	Used R6G and examined under the Laser and UV light - latent print was not improved or enhanced.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
QD6FDW	Visual Examination	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. HILS - Dark Adaption Protocol followed utilising Dark Adaption Glasses. HILS - White Crime Lite 82S (400 nm - 700 nm); Blue Crime Lite 82S (420 nm - 470 nm); Green Crime Lite 82S (480 - 560 nm) and UV Crime Lite 82S (350 nm - 380 nm). Mark designated AP1 visualised in section B of CD cover. AP1 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP1 captured under white light, note: AP1 should also be searched - captured on transparent surface from outside in but mark possibly on inside of cover.
	Powder Dusting	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Powder - "TETRA" Black Onyx Powder Product # TFP0113J Expiry 03/2023 Conducted in "attestor POWDERado SH 131" provided by "Forente" (PA/21/016 JUSTICE ASSET AA10020164). A positive test card was also treated to ensure treatment performed correctly. AP1 developed in section B interior of CD cover. AP1 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP1 captured under white light.
	Cyanoacrylate Fuming	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Glue - "SURELOC ADHESIVES & SEALANTS" Ethyl-2-cyanoacrylate Lot # 213002 Expiry: 12/10/22. Conducted in "MVC 3000" Glue Cabinet provided by "foster + freeman" (PA/19/012 Serial No. 3114), and comprising of a 15 minute humidity cycle, 10 minute glue cycle, 20 minute purge cycle (temperature 120 ± degrees Celsius and humidity of 80 ± 5% RH). A positive test card was also treated to ensure treatment performed correctly. AP1 developed in section B interior of CD cover. AP1 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP1 captured under white light.
	Dye Stain	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. BY40 - Made in house. Expiry 11/08/23. Dried in "voigtlander VTR" drying cabinet provided by "Forente" (PA/21/004 JUSTICE ASSET AA10020161). No further enhancement to AP1. AP1 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP1 captured under blue light with filter GG495.
QRHLNW	Visual Examination	Flashlight and room lighting
	Cyanoacrylate Fuming	2.5 grams of CAE, Hot plate temperature 351 degrees F, Relative Humidity 50%, 0 minutes of dwell time, 10 minutes of fume time
	Dye Stain	Rhodamine 6G (MeOH), viewed with ~532 nm laser
QRK98V	Visual, Bichromatic Powder	
T23U44	Alternate Light Source	ultraviolet light source 254 nm - 365 nm
	Cyanoacrylate Fuming	The cyanoacrylate vaporization chamber "SAFEFUME CA 30T" was used for fingerprint development temperature: 130 ° C; humidity - 80 % time - 30 min.

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
TT8QZ8	Visual Examination	Latent print somewhat visible in indirect lighting.
	Cyanoacrylate Fuming	Processing time 8 minutes. Print visible after process.
	Dye Stain	Basic Yellow 40. Print visible after process.
TU46MY	Visual Examination	white light
	Alternate Light Source	High intensity light sources (UV, BLUE, GREEN)
	Cyanoacrylate Fuming	Exposing the item in an MVC cabinet with relative humidity of 85% and temperature of 120C to superglue fuming (2.5g glue)
	Dye Stain	Ethanol based Basic yellow staining
U9F8GT	Visual Examination	white light
	Powder Dusting	black powder
UE2ZTT	Visual Examination	No results.
	Alternate Light Source	No results.
	[No Methods Reported.]	RUVIS. Fingerprint# 1.
	Cyanoacrylate Fuming	Improvement Fingerprint#1
	Dye Stain	Basic Yellow 40. No results.
	Dye Stain	Gentian Violet. No results.
UE8APY	Powder Dusting	Visual Inspection, Black Powder Application, Latent Print Lifted
UFYBPV	Visual Examination	White light, various angles.
	Powder Dusting	Black powder
UN83V6	Visual Examination	White light, 0 photos. RUVIS, 3 photos.
	Lumicyano	17 minutes at 75% humidity. Hot plate at 250 degrees Fahrenheit. White light, 0 photos. LASER, 1 photo.
URVEWV	Powder Dusting	Black powder applied with brush
VHKCCV	Powder Dusting	White latent print powder
VHM2FR	Visual Examination	
	Powder Dusting	Black powder with sterile brush
VQCRWT	Visual Examination	Oblique lighting with a flash light
	Powder Dusting	Black powder
W2TWMP	Visual Examination	Visual/forensic light source, Cyanoacrylate, visual/forensic light, Panacryl, visual/ dcs5 camera
	Alternate Light Source	
WNHNGQ	Visual Examination	Visual exam with oblique lighting
	Powder Dusting	with magnetic black powder

TABLE 2 - Item 1

WebCode	Development Methods	Method Details
XJ7XVW	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	BY40 ETHANOL BASED DYE STAIN USED
XU32YP	Powder Dusting	White latent powder
Y3ZT6Y	Visual Examination	N/A
	Alternate Light Source	450nm - 510nm ALS
	Cyanoacrylate Fuming	80% humidity, 8 minute fume time
	Dye Stain	RAM (Rhodamine 6G, Ardrox, MBD) dye stain
	Alternate Light Source	450nm - 510 nm ALS
	Powder Dusting	Black powder dusting
YNUYC2	Visual Examination	No visible print in white or green light. Somewhat visible print in blue light.
	Cyanoacrylate Fuming	Processing time 8 minutes. Print visible after process.
	Dye Stain	Basic Yellow 40. Print visible after processing.

Item 1 - Development Response Summary

Participants: 65

Methods Utilized

Alternate Light Source	16	Physical Developer	0
Cyanoacrylate Fuming	35	Powder Dusting	39
DFO	0	Visual Examination	41
Dye Stain	23	Wet Powder Suspension	0
Ninhydrin	0	1,2-Indanedione	0

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
26DGFL	Visual Examination	coaxial incident light
	Cyanoacrylate Fuming	humidification: about 5 minutes ; processing time: about 15 minutes
279XU4	Visual Examination	Visual examination with white light source and with different light source examination: oblique light technique, spectroscopic technology, grazing light...
	Alternate Light Source	Examination with multi-spectrum forensic light: Poly-light ROFIN PL500R between the different light ranges from ultraviolet light to infrared light.
	Cyanoacrylate Fuming	Application of cyanoacrylate reagent with cyanoacrylate fuming cabinet. The values of the hood have been: 70%-80% humidity and plate temperature up to 140°C.
	Visual Examination	Visual examination with light source. (develop one latent fingerprint in section C)
	Dye Stain	Application ARDROX Dye and after rinse with tap water.
	Visual Examination	Visual examination with UV light (350Nm). Visualization one latent fingerprint in section C.
2ANR8F	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
2VRBMN	Visual Examination	Visually examined with a flashlight
	Cyanoacrylate Fuming	2.5g cyanoacrylate ester fumed for 10 mins
	Dye Stain	Rhodamine 6g dye stain viewed with a laser at approx 532nm.
32NPKU	Cyanoacrylate Fuming	Initial Daylight & White Light Exam, Fluorescent Light Exam, Powder, Superglue Dye stain
3R4DAH	Visual, blackmagnetic	mag. brush
4264LC	Visual Examination	can see a visible print in quadrant C, very poor contrast--no photos taken
	Powder Dusting	used a mixture of black and magna powder and applied with a magnetic wand
4UHDZH	Cyanoacrylate Fuming	10 minutes
	Dye Stain	Rhodamine 6G Aqueous
	Powder Dusting	Magnetic Powder
	Powder Dusting	Black Powder
4V2YWE	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
64NDDP	Powder Dusting	Black powder processing.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
6VCJXM	Alternate Light Source	Pre-screen showed detail in Area C, but could not be photographed with UV or 450nm.
	Cyanoacrylate Fuming	12 minute fuming time. Let rest for at least 24hrs before handling.
	Dye Stain	Rhodamine. 3 minutes to coat. Let dry for several hours before handling.
	Powder Dusting	2 minutes.
7LQEQN	Visual Examination	Using oblique lighting, I observed an impression on the ceramic tile.
	Powder Dusting	Using black powder, I observed a developed impression from Section C on the ceramic tile.
7MHFPJ	Visual Examination	Normal and oblique lighting with flashlight - 5 minutes
	Alternate Light Source	Blue light - 420-470nm - 2 minutes
	Cyanoacrylate Fuming	Utilizing Foster + Freeman MVC1000 superglue chamber - 25 minutes
	Powder Dusting	Traditional bi-chromatic powder - 5 minutes
8RNLKG	Powder Dusting	Visual examination, black powder, magnetic black powder
A7JP2C	Visual Examination	Visual examination used prior to, and post powder processing with oblique lighting.
	Powder Dusting	20 minutes processing, sterile black powder processing followed by bleached wand with sterile magnetic powder.
A8BQ29	Visual Examination	Visual inspection conducted with faint latent observed in section C of tile. Latent photographed.
	Powder Dusting	Magnetic Black Powder - strong enhancement produced and photographed
B22UVE	Powder Dusting	Standard black powder
BRTGDB	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	Rhodamine 6G
	Alternate Light Source	
	Powder Dusting	
BTQRAD	Powder Dusting	I used standard black powder to process the ceramic tile, yielding positive results. A developed latent print was observed in Area C. The process took approximately five minutes.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
CV96RF	Visual Examination	On 09/26/2022 a white light was used from a flashlight at oblique angles to search the tile for latent fingerprints. A fingerprint was observed in the area marked quadrant "C". Photography was used to preserve the latent print on the tile.
	Cyanoacrylate Fuming	An Air Science Chamber with a temperature of 69'F and 70% humidity was used to fume the tile with Evident -Lot # 3027 Cyanoacrylate. A fume time of 15 minutes was followed by a purge time of 5 minutes. The tile was removed from the chamber and allowed to stand in a positive flow fume hood for about an hour. The fingerprint was opaque but visible with oblique lighting. The print was preserved via photography. Control latent prints on known plastic units were processed simultaneously for quality control purposes. The tile was move to a secure evidence locker and stored overnight.
	Dye Stain	On 09/27/2022, R.A.M. dye stain by Evident - lot # 3649, was used to enhance the detail of the fingerprint following CAO processing. An ALS using wavelengths of 515 and CSS combined with an Orange filter, #21 were used to enhance the search for latent prints. The print in Quadrant C was ultimately enhanced and preserved with photography. Control latent prints on known plastic units were processed simultaneously for quality control purposes.
CY9FMF	Visual Examination	I could see a latent print on the surface with the naked eye.
	Alternate Light Source	I used ALS at obtuse angles to determine the latent prints location.
	Cyanoacrylate Fuming	I used cyanoacrylate to preserve the latent print.
	Powder Dusting	I used black powder to develop the latent prints.
DZGPDR	Cyanoacrylate Fuming	15 minutes at 130 degrees and 80% humidity
	Powder Dusting	carbon black
E299UJ	Visual Examination	OMNIPRINT OP1000A
	Cyanoacrylate Fuming	PROJECTINA FUMING CAMBER+OMEGA-PRINT Cyanoacrylate Fuming Compound
	Powder Dusting	Sirchie Black Magnetic powder
EJR2K9	Visual Examination	Visual examination - with and without flashlight and oblique light
	Powder Dusting	Powder dusting - black sterile powder and sterile brush
	Photo comparison	Other - Photo comparison - completed comparison photos to include overview and midrange
	Powder Dusting	Powder dusting - black sterile magnetic powder using sterile wand and powder
	Photo comparison	Other - Photo comparison - completed comparison photos
EKPCGB	Powder Dusting	Black powder was used to process the ceramic tile.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
ELJ3K6	Visual Examination	Optical examination utilising: ambient room lighting. Latent detail observed in quadrant C and determined suitable for comparison; recorded photographically.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 42S Blue and White +/- orange goggles). Nil additional fingerprint ridge detail observed.
	Cyanoacrylate Fuming	Item treated in Foster and Freeman MVC1000 for 5 minutes CA fume time.
	Visual Examination	Optical examination utilising: ambient room lighting as well as white torch. Nil improvement in latent contrast.
	Dye Stain	Rhodamine-6G in HFE solvent applied to surface with sprayer.
	Alternate Light Source	Optical examination utilising: alternative light source (Crime-lite 82S Green with 522nm trimming filter + orange goggles). Latent ridge clarity reduced, although contrast improved; recorded photographically. Liquid-stain marks observed on surface.
	Powder Dusting	Black emerald magentic powder applied to surface.
	Visual Examination	Optical examination utilising: ambient room lighting. Latent contrast improved; recorded photographically.
EMNPX9	Visual Examination	Oblique lighting
	Powder Dusting	Black powder
EPWZUC	Visual Examination	White light and RUVIS
	Cyanoacrylate Fuming	White light and RUVIS after fuming
	Dye Stain	LASER after applying RAM dye stain
EXARJB	Powder Dusting	Black powder
FC346J	Visual Examination	Visual examination with white light and RUVIS. Latent print (2L1) detected in section C and photographed with RUVIS.
	Cyanoacrylate Fuming	Visual examination with white light and RUVIS after CAE fuming. Re-photographed 2L1 with RUVIS.
	Dye Stain	Processed with R6G dye stain. Visual examination with LASER. Re-photographed 2L1 with LASER.
FHRKGA	Visual Examination	The ceramic tile was first visually examined. A latent print was visible on section C.
	Powder Dusting	Black fingerprint powder was used to develop the latent print on section C.
GFF6M9	Powder Dusting	Black powder
GYUK8P	Cyanoacrylate Fuming	Processing time: 40 minutes. 1.- Cyanoacrylate. 2.- Black latent finger powder
HQJHLN	Cyanoacrylate Fuming	Processing time: 30 minutes. Type of dye stain: 1.- Cyanoacrylate. 2.- Black latent finger prints powder.
JAPDTK	Visual Examination	Regular black magnetic powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
JD46JD	Graphite application in black, in a circular motion with a fiberglass brush on the surface of the item.	For the treatment of the item, approximately 20 minutes were required.
JDQGK8	Cyanoacrylate Fuming	Processed using cyanoacrylate fuming and SPR and black powder
	SPR	
	Powder Dusting	
KJNME2	Fuming	Cyanoacrylate - SPR - bichromatic powder (lot # 202101039)
L3KD9A	Powder Dusting	I used fine magnetic powder with a magnetic brush. I began the test at 1737 and finished at 1805.
LAH3PD	Visual Examination	Under the ambient light, a latent mark was clear in section C
	Powder Dusting	Black powder was applied to the whole item, and the mark is clear
LC4Q86	Visual Examination	Oblique lighting
	Cyanoacrylate Fuming	CaptureBT Chamber, 20min cycle
	Dye Stain	RAM (mixed in house)
LNX7B9	Visual Examination	Mark search was done by following ways: 1. White Light/Naked eye. Print found on Section C by White Light
	Alternate Light Source	Mark search was done by following ways: 1. Blue Light (445 nm) using Goggle (495 nm). 2. Green Light (532 nm) using Goggle (550 nm). Print found on Section C.
	Cyanoacrylate Fuming	Processing Time: 45 mins, which includes Humidifying, Fuming and Purging. After 45 mins, Mark search was done using White Light. No additional mark found. Mark on Section C, enhanced
	Powder Dusting	Item was dusted using Black Magnetic Powder. Mark found on Section C, Enhanced.
MMJVX2	Powder Dusting	Black powder
P3QWK3	Visual Examination	Used white light - latent print visible and captured with photography.
	Cyanoacrylate Fuming	Examined under white light and RUVIS - latent print was not improved or enhanced.
	Dye Stain	Used R6G and examined under the Laser and UV light - latent print was not improved or enhanced.

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
QD6FDW	Visual Examination	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. HILS - Dark Adaption Protocol followed utilising Dark Adaption Glasses. HILS - White Crime Lite 82S (400 nm - 700 nm); Blue Crime Lite 82S (420 nm - 470 nm); Green Crime Lite 82S (480 - 560 nm) and UV Crime Lite 82S (350 nm - 380 nm). Mark designated AP2 visualised in section C ceramic tile. AP2 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP2 captured under blue light with filter GG495.
	Powder Dusting	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Powder - "TETRA" Black Onyx Powder Product # TFP0113J Expiry 03/2023 Conducted in "attestor POWDERado SH 131" provided by "Forente" (PA/21/016 JUSTICE ASSET AA10020164). A positive test card was also treated to ensure treatment performed correctly. AP2 developed in section C of ceramic tile. AP2 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP2 captured under white light.
	Cyanoacrylate Fuming	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Glue - "SURELOC ADHESIVES & SEALANTS" Ethyl-2-cyanoacrylate Lot # 213002 Expiry: 12/10/22. Conducted in "MVC 3000" Glue Cabinet provided by "foster + freeman" (PA/19/012 Serial No. 3114), and comprising of a 15 minute humidity cycle, 10 minute glue cycle, 20 minute purge cycle (temperature 120 ± degrees Celsius and humidity of 80 ± 5% RH). A positive test card was also treated to ensure treatment performed correctly. AP2 developed in section C of ceramic tile. AP2 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP2 captured under white light.
	Dye Stain	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. BY40 - Made in house. Expiry 11/08/23. Dried in "voigtlander VTR" drying cabinet provided by "Forente" (PA/21/004 JUSTICE ASSET AA10020161). No further enhancement to AP2. AP2 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP2 captured under blue light with filter GG495.
QRHLNW	Visual Examination	Flashlight and room lighting
	Cyanoacrylate Fuming	2.5 grams of CAE, Hot plate temperature 351 degrees F, Relative Humidity 50%, 0 minutes of dwell time, 10 minutes of fume time
	Dye Stain	Rhodamine 6G (MeOH), ~532 nm laser used for visualization
QRK98V	Visual, Black Magnetic Powder	
T23U44	Alternate Light Source	ultraviolet light source 254 nm - 365 nm
	Cyanoacrylate Fuming	The cyanoacrylate vaporization chamber "SAFEFUME CA 30T" was used for fingerprint development temperature: 130 ° C; humidity - 80 % time - 30 min.
TT8QZ8	Visual Examination	Latent print somewhat visible in indirect lighting.
	Cyanoacrylate Fuming	Processing time 8 minutes. Print visible after process.
	Powder Dusting	Black magnetic powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
TU46MY	Visual Examination	
	Alternate Light Source	High intensity light sources (UV, BLUE, GREEN)
	Wet Powder Suspension	Carbon based powder suspension
U9F8GT	Visual Examination	white light
	Powder Dusting	black powder
UE2ZTT	Visual Examination	No results.
	Alternate Light Source	450 nm, orange filter. Fingerprint #2
	Cyanoacrylate Fuming	No results.
	[No Methods Reported.]	RUVIS. Improvement fingerprint #2.
	Dye Stain	Basic Yellow 40. No results.
	Dye Stain	Gentian Violet. No results.
UE8APY	Powder Dusting	Visual Inspection, Black Powder Application, Latent Print Lifted
UFYBPV	Visual Examination	White light, various angles
	Powder Dusting	Black powder
UN83V6	Visual Examination	White light, 0 photos. RUVIS, 2 photos. LASER, 0 photos.
	Lumicyano	17 minutes at 75% humidity. Hot plate at 250 degrees Fahrenheit. White light, 0 photos. LASER, 2 photos. RUVIS, 1 photo.
URVEWV	Powder Dusting	Black powder applied with brush
VHKCCV	Powder Dusting	Black latent print powder
VHM2FR	Visual Examination	
	Powder Dusting	Black powder with sterile brush
VQCRWT	Visual Examination	Oblique lighting with a flash light
	Powder Dusting	Black powder
W2TWMP	Visual Examination	Visual/forensic light source, Cyanoacrylate, visual/forensic light, Panacryl, visual/ DCS55 camera
WNHNGQ	Visual Examination	oblique lighting
	Powder Dusting	with magnetic black powder
XJ7XVW	Visual Examination	WHITE LIGHT
	Cyanoacrylate Fuming	
	Dye Stain	AS ITEM 1
	Wet Powder Suspension	CARBON BASE
XU32YP	Powder Dusting	Black latent powder

TABLE 2 - Item 2

WebCode	Development Methods	Method Details
Y3ZT6Y	Visual Examination	N/A
	Alternate Light Source	450nm - 510nm ALS
	Cyanoacrylate Fuming	80% humidity, 8 minute fume time
	Dye Stain	RAM (Rhodamine 6G, Adrox, MBD) dye stain
	Alternate Light Source	450nm - 510nm ALS
	Powder Dusting	black powder dusting
YNUYC2	Visual Examination	Print somewhat visible in white light. Print visible in blue and green light.
	Cyanoacrylate Fuming	Processing time 8 minutes. Print visible after processing.
	Powder Dusting	Print visible after processing.
	Dye Stain	Basic Yellow 40. Print visible after processing.

Item 2 - Development Response Summary

Participants: 65

Methods Utilized

Alternate Light Source	13	Physical Developer	0
Cyanoacrylate Fuming	31	Powder Dusting	44
DFO	0	Visual Examination	44
Dye Stain	18	Wet Powder Suspension	2
Ninhydrin	0	1,2-Indanedione	0

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
26DGFL	Cyanoacrylate Fuming	humidification: about 5 minutes ; processing time: about 15 minutes
279XU4	Visual Examination	Visual examination with white light source and with different light source examination: oblique light technique, spectroscopic technology, grazing light...
	Alternate Light Source	Examination with multi-spectrum forensic light: Poly-light ROFIN PL500R between the different light ranges from ultraviolet light to infrared light.
	Cyanoacrylate Fuming	Application of cyanoacrylate reagent with cyanoacrylate fuming cabinet. The values of the hood have been: 70%-80% humidity and plate temperature up to 140°C.
	Visual Examination	Visual examination with light source. (develop one latent fingerprint in section D)
	Dye Stain	Application ARDROX Dye and after rinse with tap water.
	Visual Examination	Visual examination with UV light (350Nm). Visualization one latent fingerprint in section D.
2ANR8F	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
2VRBMN	Visual Examination	Visual examination with flashlight
	Powder Dusting	Black powder used to dust item 3.
32NPKU	Cyanoacrylate Fuming	Fluorescent Light Exam, Superglue Dye stain
3R4DAH	Visual, coin box, and then biochromatic	brush
4264LC	Visual Examination	4 metal disks attached to cardboard backing, each disk in its own quadrant--A, B, C, D. Only processing disks (not cardboard backing)-- no visible prints
	Cyanoacrylate Fuming	80% humidity for 18 minutes
	Dye Stain	Basic Yellow 40 followed by a DI water rinse
4UHDZH	Cyanoacrylate Fuming	10 minutes
	Dye Stain	Rhodamine 6G Aqueous
	Powder Dusting	Black Powder
4V2YWE	Visual Examination	
	Cyanoacrylate Fuming	
	Powder Dusting	
64NDDP	Powder Dusting	Black powder processed

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
6VCJXM	Alternate Light Source	Pre-screen showed detail in Area D, but could not be photographed with UV or 450nm.
	Cyanoacrylate Fuming	12 minute fuming time. Let rest for at least 24hrs before handling.
	Dye Stain	Rhodamine. 3 minutes to coat. Let dry for several hours before handling.
	Powder Dusting	2 minutes.
7LQEQN	Visual Examination	Using oblique lighting, I did not observe any impressions.
	Powder Dusting	Using black powder, I observed a developed impression from Section D on the metal roofing discs.
7MHFPJ	Visual Examination	Normal and oblique lighting with flashlight - 5 minutes
	Alternate Light Source	Blue light - 420-470nm - 2 minutes
	Cyanoacrylate Fuming	Utilizing Foster + Freeman MVC1000 superglue chamber - 25 minutes
	Powder Dusting	Traditional bi-chromatic powder - 5 minutes
8RNLKG	Powder Dusting	Visual, black powder, magnetic black powder
A7JP2C	Visual Examination	Visual examination used prior to, and post powder processing with oblique lighting.
	Powder Dusting	20 minutes processing, sterile black powder processing followed by bleached wand with sterile magnetic powder.
A8BQ29	Visual Examination	Visual examination conducted with nil ridges observed.
	Alternate Light Source	visual inspection with Polilight under different wavelengths with nil ridges observed.
	Cyanoacrylate Fuming	One round of CA Fuming - nil ridges observed.
	Alternate Light Source	Polilight at 350NM - latent observed in section D and photographed
	Dye Stain	1 round of Rhodamine 6G, washed and dried.
	Alternate Light Source	Polilight at 505NM - Strong enhancement and photographed
B22UVE	Powder Dusting	Standard black powder
BRTGDB	Visual Examination	
	Cyanoacrylate Fuming	
	Dye Stain	Rhodamine 6G
	Alternate Light Source	
	Powder Dusting	
BTQRAD	Powder Dusting	I used standard black powder to process four metal roofing discs, yielding positive results. A developed latent print was observed on disc D. The process took approximately five minutes.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
CV96RF	Visual Examination	On 09/26/2022 A White light from a flashlight was used directly and at oblique angles in search of a latent print on the sheet metal discs. No latent prints were observed. An ALS using all light spectrums available, paired with orange and yellow goggles were utilized in search of latent fingerprints. No prints were observed
	Cyanoacrylate Fuming	An Air Science Chamber with a temperature of 69'F and 70% humidity was used to fume the sheet metal discs with Evident -Lot # 3027 Cyanoacrylate. A fume time of 15 minutes was followed by a purge time of 5 minutes. The discs were removed from the chamber and allowed to stand in a positive flow fume hood for approximately an hour. It was move to, and stored overnight in a secure evidence locker. Control latent prints on known plastic units were processed simultaneously for quality control purposes.
	Alternate Light Source	On 09/27/2022 an ALS, using all light spectrums available, paired with orange and yellow goggles were utilized in search for latent fingerprints. A latent fingerprint was observed with the ALS at 455 NM, paired with yellow goggles on the the disc marked D. I used photography to preserve the print.
	Dye Stain	R.A.M. dye stain by Evident - lot # 3649, applied from a squeeze bottle, applied to all four discs, was used to enhance the search for latent fingerprints. An ALS using wavelengths of 455 and CSS combined with an Orange filter, #21 and a Yellow # 8 filter were paired with orange and yellow goggles. Control latent prints on known plastic units were processed simultaneously for quality control purposes. A latent print was observed, with the ALS at 455 NM paired with yellow goggles, on disc D. The fingerprint was preserved using photography.
CY9FMF	Visual Examination	I could see a latent print on the surface with the naked eye.
	Alternate Light Source	I used ALS at obtuse angles to determine the latent prints location.
	Cyanoacrylate Fuming	I used cyanoacrylate to preserve the latent print.
	Powder Dusting	I used black powder to develop the latent prints.
DZGPDR	Cyanoacrylate Fuming	15 minutes at 130 degrees and 80% humidity
	Powder Dusting	carbon black
E299UJ	Visual Examination	OMNIPRINT OP1000A
	Cyanoacrylate Fuming	PROJECTINA FUMING CAMBER+OMEGA-PRINT Cyanoacrylate Fuming Compound
	Powder Dusting	Sirchie Safe cracker powder
EJR2K9	Visual Examination	Visual examination - with and without flashlight and oblique light
	Powder Dusting	Powder dusting - black sterile powder and sterile brush
	Photo comparison	Other - Photo comparison - completed comparison photos to include overview and midrange
	Powder Dusting	Powder dusting - black sterile magnetic powder using sterile wand and powder
	Photo comparison	Other - Photo comparison - completed comparison photos
EKPCGB	Powder Dusting	White powder was first used, unsuccessfully, followed by black powder to process the metal roof discs.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
ELJ3K6	Visual Examination	Optical examination utilising: ambient room lighting. Nil fingerprint ridge detail observed although a 'mark' was observed on disc D.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 42S Blue and White, Crme-lite 82S Blue-green +/- orange goggles). Latent detail observed on disc D; recorded photographically.
	Cyanoacrylate Fuming	Item treated in Foster and Freeman MVC1000 for 5 minutes CA fume time.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 42S Blue and White, Crime-lite 82S Blue-green +/- orange goggles). Nil improvement in latent detail observed.
	Powder Dusting	Black emerald magentic powder applied to surface. NOTE: Dye stains were tested on the remaining discs A - C (basic yellow 40, rhodamine-6G HFE, rhodamine-6G water-based) however produced too much background staining and were not applied to disc D.
	Visual Examination	Optical examination utilising: ambient room lighting. Latent contrast improved; recorded photographically.
	Alternate Light Source	Optical examination utilising: alternative light sources (Crime-lite 42S Blue + orange goggles). Latent detail observed however contrast not as good as that obtained under ambient lighting conditions; recorded photographically.
EMNPX9	Visual Examination	Oblique lighting
	Powder Dusting	Black powder
EPWZUC	Visual Examination	White light and RUVIS
	Cyanoacrylate Fuming	White light and RUVIS after fuming
	Dye Stain	LASER after applying RAM dye stain
EXARJB	Powder Dusting	White powder
FC346J	Visual Examination	Visual examination with white light and RUVIS. Latent print (3L1) detected in section D and photographed with RUVIS.
	Cyanoacrylate Fuming	Visual examination with white light and RUVIS after CAE fuming. Re-photographed 3L1 with RUVIS.
	Dye Stain	Processed with R6G dye stain. Visual examination with LASER. Did not improve 3L1. No photography.
FHRKGA	Visual Examination	The four metal discs were first visually examined. No visible or obvious ridge detail was noted on any of the discs.
	Alternate Light Source	The metal discs were then searched using the Crime Lite Alternate Light Source. A latent print was located on D.
	Powder Dusting	Black fingerprint powder was used to develop the latent print on D.
GFF6M9	Powder Dusting	Black powder
GYUK8P	Cyanoacrylate Fuming	Processing time: 40 minutes. 1.-Cyanoacrylate. 2.-Black latent finger powder
HQJHLN	Cyanoacrylate Fuming	Processing time: 30 minutes. Type of dye stain. 1.- Cyanoacrylate. 2.- Black latent finger prints powder.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
JAPDTK	Visual Examination	Dye stain, Polycyano UV evaporated at 230 C, RH 80%, Visualized with Crime Lite2, 350-380 nm UV
JD46JD	Graphite application in black, in a circular motion with a fiberglass brush on the surface of the item,	For the treatment of the item, a time of 20 minutes was required.
JDQGK8	Cyanoacrylate Fuming	Processed using cyanoacrylate fuming and SPR and black powder
	SPR	
	Powder Dusting	
KJNME2	Powder	Bichromatic
L3KD9A	Powder Dusting	I used fine magnetic powder with a magnetic brush and followed with a fiberglass brush to remove excess. I began the test at 1737 and finished at 1805.
LAH3PD	Visual Examination	Under the ambient light, not latent marks were visible
	Powder Dusting	Black powder was applied to the item, and the mark is clear in section D
LC4Q86	Alternate Light Source	FSIS (shortwave UV)
	Cyanoacrylate Fuming	CaptureBT Chamber, 20min cycle
	Dye Stain	RAM (mixed in house)
LNX7B9	Alternate Light Source	Mark search was done by following ways: 1. Blue Light (445 nm) using Goggle (495 nm). 2. Green Light (532 nm) using Goggle (550 nm) Print found on Section D.
	Powder Dusting	Item was dusted by using Yellow Florescent Powder.
MMJVX2	Powder Dusting	black powder
P3QWK3	Visual Examination	Used white light - No ridge detail
	Cyanoacrylate Fuming	Examined under white light and RUVIS - Latent print was visible under the RUVIS.
	Dye Stain	Used R6G and examined under the Laser and UV light - Latent was not visible with R6G

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
QD6FDW	Visual Examination	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. HILS - Dark Adaption Protocol followed utilising Dark Adaption Glasses. HILS - White Crime Lite 82S (400 nm - 700 nm); Blue Crime Lite 82S (420 nm - 470 nm); Green Crime Lite 82S (480 - 560 nm) and UV Crime Lite 82S (350 nm - 380 nm). Mark designated AP3 visualised on disc D. AP3 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP3 captured under blue light with filter GG495.
	Powder Dusting	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Powder - "TETRA" Black Onyx Powder Product # TFP0113J Expiry 03/2023 Conducted in "attestor POWDERado SH 131" provided by "Forente" (PA/21/016 JUSTICE ASSET AA10020164). A positive test card was also treated to ensure treatment performed correctly. AP3 developed on disc D. AP3 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP3 captured under white light.
	Cyanoacrylate Fuming	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. Glue - "SURELOC ADHESIVES & SEALANTS" Ethyl-2-cyanoacrylate Lot # 213002 Expiry: 12/10/22. Conducted in "MVC 3000" Glue Cabinet provided by "foster + freeman" (PA/19/012 Serial No. 3114), and comprising of a 15 minute humidity cycle, 10 minute glue cycle, 20 minute purge cycle (temperature 120 ± degrees Celsius and humidity of 80 ± 5% RH). A positive test card was also treated to ensure treatment performed correctly. AP3 developed on disc D. AP3 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP3 captured under white light.
	Dye Stain	CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. BY40 - Made in house. Expiry 11/08/23. Dried in "voigtlander VTR" drying cabinet provided by "Forente" (PA/21/004 JUSTICE ASSET AA10020161). No further enhancement to AP3. AP3 captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). AP3 captured under blue light with filter GG495.
QRHLNW	Visual Examination	Flashlight and room lighting
	Cyanoacrylate Fuming	2.5 grams of CAE, Hot plate temperature 351 degrees F, Relative Humidity 50%, 0 minutes of dwell time, 10 minutes of fume time
	Powder Dusting	White powder
QRK98V	Visual, Cyanoacrylate fuming, Bichromatic Powder	
T23U44	Alternate Light Source	Ultraviolet light source 254 nm - 365 nm
	Cyanoacrylate Fuming	The cyanoacrylate vaporization chamber "SAFEFUME CA 30T" was used for fingerprint development temperature: 130 ° C; humidity - 80 % time - 30 min.
	Physical Developer (PD)	Non-magnetic fingerprint powder (with carbon), squirrel hair brush.

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
TT8QZ8	Visual Examination	No visible latent print with white light, print visible in blue and green light.
	Cyanoacrylate Fuming	Processing time 8 minutes. No print visible after process.
	Dye Stain	Basic Yellow 40. Print visible after process.
TU46MY	Visual Examination	white light
	Alternate Light Source	High intensity light sources (UV, BLUE, GREEN)
	Cyanoacrylate Fuming	Exposing the item in an MVC cabinet with relative humidity of 85% and temperature of 120C to superglue fuming (2.5g glue)
	Dye Stain	Ethanol based Basic yellow staining
U9F8GT	Visual Examination	white light
	Powder Dusting	black powder
UE2ZTT	Visual Examination	No results.
	Alternate Light Source	450 nm, orange filter. Fingerprint #3.
	Cyanoacrylate Fuming	No results.
	[No Methods Reported.]	RUVIS. No results.
	Dye Stain	Basic Yellow 40. No results.
	Dye Stain	Gentian Violet. No results.
UE8APY	Powder Dusting	Visual Inspection, Black Powder Application, Latent Print Lifted
UFYBPV	Visual Examination	White light, various angles
	Powder Dusting	Black powder
UN83V6	Visual Examination	White light, 0 photos. RUVIS, 2 photos. LASER, 0 photos.
	Lumicyano	17 minutes at 75% humidity. Hot plate at 250 degrees Fahrenheit. White light, 0 photos. RUVIS, 2 photos. LASER, 0 photos.
URVEWV	Powder Dusting	Black powder, applied with brush
VHKCCV	Powder Dusting	Black latent print powder
VHM2FR	Visual Examination	
	Powder Dusting	Black powder with sterile brush
	Powder Dusting	Magnetic powder with sterilized wand
VQCRWT	Visual Examination	Oblique lighting with a flash light
	Powder Dusting	Black powder
W2TWMP	Visual Examination	Visual/forensic light source, Cyanoacrylate, visual/forensic light, Panacryl, UV-vis crime lite, visual/ dcs5 camera
WNHNGQ	Visual Examination	with oblique lighting
	Powder Dusting	using regular black powder

TABLE 2 - Item 3

WebCode	Development Methods	Method Details
XJ7XVW	LCNA	LUMICYANO GLUE
	Dye Stain	AS ITEM 1 AND 2
XU32YP	Powder Dusting	Black latent powder
Y3ZT6Y	Visual Examination	N/A
	Alternate Light Source	450nm - 510nm ALS
	Cyanoacrylate Fuming	80% humidity, 8 minute fume time
	Dye Stain	RAM (Rhodamine 6G, Adrox, MBD) dye stain
	Alternate Light Source	450nm - 510nm ALS
	Powder Dusting	black and fluorescent powder dusting
	Alternate Light Source	450nm - 510nm ALS
YNUYC2	Visual Examination	No visible print in white light. Print visible in blue light, somewhat visible in green light.
	Cyanoacrylate Fuming	Processing time 8 minutes. No print visible after processing.
	Dye Stain	Basic Yellow 40. Print visible after processing.

Item 3 - Development Response Summary

Participants: 65

Methods Utilized

Alternate Light Source	21	Physical Developer	1
Cyanoacrylate Fuming	32	Powder Dusting	42
DFO	0	Visual Examination	39
Dye Stain	19	Wet Powder Suspension	0
Ninhydrin	0	1,2-Indanedione	0

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

Preservation Methods

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
26DGFL	Photography	
279XU4	Photography	Firstly, the overall photograph was taken with the NIKON D850 camera and then the macro photograph was taken with the macro lens. The photo is saved in "JPG" and "TIFF" format.
2ANR8F	Lifting	
2VRBMN	Photography	Utilized a Nikon camera to document the latent prints developed for Item 1. 1-LP1 was captured at visual exam, and improved with subsequent processing. Photos of 1-LP1 taken at visual (Coaxial Lighting), Cyanoacrylate (Flashlight), and R6G (green laser 532nm with orange filter)
32NPKU	Photography	
3R4DAH	Lift card	tape
4264LC	Photography	Used a Polilight 450nm light with a yellow filter to capture print in quadrant B. Captured print in Quadrant B after powder dusting
4UHDZH	Photography	Rhomdamine 6G Aqueous
	Lifting	Magnetic Powder
	Lifting	Black Powder
4V2YWE	Lifting	
64NDDP	Lifting	Latent lifts collected by lift tape onto a latent lift card.
6VCJXM	Photography	Cyanoacrylate fuming Item 1: 5 photos of Area B using oblique white light Rhodamine Item 1: 5 photos of Area B using a laser and an orange laser filter
	Lifting	Bichromatic powder Item 1: 1 lift of Area B
7LQEQN	Lifting	Using fingerprint lifting tape, I preserved and collected one latent lift from the developed impression.
7MHFPJ	Lifting	Lifted utilizing lift tape and white lift card
8RNLKG	Photography	Photograph patent print
	Lifting	Lift print with lifting tape
A7JP2C	Photography	Overall photographs and comparison photography.
	Lifting	Latent print tape on a latent print card.
	Scanning	Latent print cards scanned.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
A8BQ29	Photography	Photographs taken at each stage of development. Orange filter utilised on camera lens to capture latent after staining
B22UVE	Lifting	Tape lift
BRTGDB	Photography	
	Lifting	
BTQRAD	Lifting	The developed latent print was lifted with clear tape and was placed on a white backing card.
CV96RF	Photography	A Nikon SLR digital format camera stand was utilized in a lighting controlled room. Direct and oblique lighting emitted from a hand held "white light" flashlight was used to visualize the print. Distant, medium view and close up photographs were used, in combination with the oblique lighting, to document the CD case and the latent fingerprint.
	Photography	Following the fuming of the CD case, the previously opaque latent print was clearly visible. Photographs of the fingerprint were obtained to preserve the print. A Blue # 80 filter with white light, also a # 21 orange filter with white light, and a # 8 yellow filter with white light, were utilized in attempts to enhance the detail of the fingerprint. Overall photographs, medium view and close up photographs were obtained to document and preserve the fingerprints location on the CD case.
	Photography	Photography was utilized to preserve developed latent prints enhance with dye stain, R.A.M. A camera stand in a controlled lighting room hosts a Nikon SLR digital camera. An ALS with wave lengths CSS and 515 matched with a#21 orange filter mounted to a macro lens enhanced the print to allow for preservation in the digital format.
	Photography	Photography was again utilized to preserve the fingerprint following the application of black powder. White light from a hand held flashlight shined directly and at oblique angles assisted in enhancing the print to it's nominal clarity. A camera stand and a Nikon SLR digital format were used to capture the detail of the fingerprint.
CY9FMF	Lifting	I used a tape lift to collect the latent prints, which was placed on a white latent lift card.
DZGPDR	Photography	
E299UJ	Photography	NIKON D5600+AF-S DX Micro Nikkor 85mm f/3.5G ED VR lens
EJR2K9	Photography	Photographed after applying black powder and then photographed after adding black magnetic powder for comparison quality photos.
	Lifting	Lifted each print with latent lift tape and placed onto a lift card.
	Scanning	Scanned in to the case record both side of the lift card.
EKPCGB	Lifting	Lifting tape was used to transfer the latent print to an acetate card.
	Photography	Photographs were taken to document the location of the latent print lifted.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
ELJ3K6	Photography	Digital SLR, Nikon D800 with AF-S Micro Nikkor 60mm 1:2.8G. Luminescence photography conducted with OG550 AG camera lens filter, incident light green Crime-lite 522nm trim filter. Unique identifier label assigned to latent: FEN100643793.
EMNPX9	Lifting	Lift tape with white backer
EPWZUC	Photography	Vis photographed with axial lighting.
EXARJB	Lifting	Using book tape to lift the print and place on an acetate.
FC346J	Photography	Latent print photographed using RUVIS after visual examination and after CAE. Also photographed with LASER after R6G.
FHRKGA	Photography	After the latent print was developed it was photographed. A scale ruler was placed next to the print and examination quality photographs were taken.
	Lifting	Using tape the developed print was then lifted and placed onto a latent print card. It was labelled with the Item number, location, date and name of Analyst.
GFF6M9	Lifting	Tape lift
	Photography	Tape lift did not have a lot of ridge detail, photographed print on the case to get additional detail
GYUK8P	Photography	1.- Close up photographs without and with scale. 2.- Photographs with macro lens
	Lifting	1.- Using latent print lifting tape, stick a clean and clear piece over fingerprint firmly and evenly. 2.- Lift up the piece of tape and stick it to the fingerprint card
HQJHLN	Lifting	1.- Use transplating tape. 2.- Stick a piece of clear tape over the fingerprint firmly, and then lift it up. 3.- Then stick it to contrasting paper.
	Photography	1.- Close up photography with and without rule. 2.- Macrophotography with and without rule.
JAPDTK	Photography	
JD46JD	For the application of the transparent adhesivem tape with the proteccion of the footprint, it is necessary to ensure that it does not contain particles of other types of material and air bubbles.	N/A
JDQGK8	Lifting	Print was visible on the interior side of the CD case in section B. Latent was lifted and placed onto a lift card.

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
KJNME2	Tape Lift	
L3KD9A	Lifting	I lifted the prints using standard lift tape and placed them onto standard latent cards.
LAH3PD	Lifting	
LC4Q86	Photography	Foster & Freeman DCS5 System w/ Nikon D5. *Only final product was photographed
LNX7B9	Photography	1. After Dye Stain, Mark photographed using 445nm light with 495nm Filter.
MMJVX2	Lifting	Tape lift
P3QWK3	Photography	Latent print was photographed in the visual examination step.
QD6FDW	Photography	Mark was captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). Prior to any photography the the DCS5 system was calibrated using a standard ruler provided by [Calibration Company] (PA/19/68 Serial No. 1368114/133). Following each individual develop method. As stated above alternative light sources and filters were utilised as appropriate.
QRHLNW	Photography	Photographed after visual with coaxial box, after cyanoacrylate with flashlight and after rhodamine6G with green light/orange filter.
QRK98V	Lift Tape, Lift Card	
T23U44	Photography	foto-documentation with photocamera: CANON EOS 700D magnification 1:3
TT8QZ8	Photography	Photographed in white light
TU46MY	Photography	mark photographed using technical photography, images saved as TIF and RAW
U9F8GT	Lifting	tape lift utilizing white backing card
UE2ZTT	Photography	RUVIS and Foster & Freeman DCS 5.
UE8APY	Lifting	Lift Tape Applied. Lift Tape Placed on Latent Card
UFYBPV	Photography Lifting	Scaled, macro Clear tape on white card
UN83V6	Photography	See above for photgraphy. [Table 2- Development Methods, Item 1]
URVEWV	Lifting	Clear tape and placed on acetate card
VHKCCV	Lifting	book tape was used, labeled and secured to an acetate

TABLE 3 - Item 1

WebCode	Preservation Methods	Method Details
VHM2FR	Photography	1:1 comparison photography
	Lifting	Lifting the print with lift tape and adhering it to a latent lift card
	Scanning	Scanning the collected lift cards and attaching them to the notes
VQCRWT	Lifting	White gel lifter
W2TWMP	Photography	Panacryl DCS5 camera and forensic light
	Photography	Photographed using DCS5 camera
WNHNGQ	Photography	with a scale
	Lifting	with tape onto a white lift card
XJ7XVW	Photography	
XU32YP	Lifting	Book tape used to lift latent from CD case and secured to a plastic acetate.
Y3ZT6Y	Photography	Photographs were taken at the following times: -Prior to any processing steps, -After CA Fuming, -After dye stain/ALS.

Item 1 - Preservation Response Summary

Participants: 64

Methods Utilized

Lifting	35
Photography	44
Scanning	3

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
26DGFL	Photography	
279XU4	Photography	Firstly, the overall photograph was taken with the NIKON D850 camera and then the macro photograph was taken with the macro lens. The photo is saved in "JPG" and "TIFF" format.
2ANR8F	Lifting	
2VRBMN	Photography	Nikon camera used to document the latent prints. 2-LP1 was captured at visual exam, and improved with subsequent processing. Photos of 2-LP1 taken at visual exam (Flashlight), Cyanoacrylate (Flashlight), and R6G (green laser 532nm with orange filter)
32NPKU	Photography	Also lifted after powdering.
3R4DAH	lift card	tape
4264LC	Photography	Captured the photo of the latent print in quadrant C
4UHDZH	Photography	Rhodamine 6G Aqueous
	Lifting	Magnetic Powder
	Lifting	Black Powder
4V2YWE	Lifting	
64NDDP	Lifting	Latent print collected with lift tape onto a latent lift card.
6VCJXM	Photography	Cyanoacrylate fuming: Item 2: 4 photos of Area C using oblique white light Rhodamine: Item 2: 4 photos of Area C using a laser and an orange laser filter
	Lifting	Bichromatic powder: Item 2: 1 lift of Area C
7LQEQN	Lifting	Using fingerprint lifting tape, I preserved and collected one latent lift from the developed impression.
7MHFPJ	Photography	Utilized DCS5 workstation
	Lifting	Lifted utilizing lift tape and white lift card
8RNLKG	Photography	Photograph of patent print
	Lifting	Lift print with lifting tape
A7JP2C	Photography	Overall photographs and comparison photography.
	Lifting	Latent print tape on a latent print card.
	Scanning	Latent print cards scanned.
A8BQ29	Photography	Latent photographed

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
B22UVE	Lifting	Tape lift
BRTGDB	Photography	
	Lifting	
BTQRAD	Lifting	I used clear tape to lift the developed latent print and placed it on a white backing card.
CV96RF	Photography	Photography was used to preserve the latent print on the tile. Overall, medium and close up photographs were obtained using a Nikon SLR digital format camera, on a stand, and white light from a flashlight, in a lighting controlled room
	Photography	Following the fuming of the tile. Photographs of the fingerprint were obtained to preserve the print. A Blue # 80 filter with white light, followed by the use of a # 21 orange filter followed up with the use of white light, were utilized in attempts to enhance the detail of the fingerprint. Overall photographs, medium view and close up photographs were obtained to document and preserve the fingerprints location on the CD case.
	Photography	Photography was utilized to preserve developed latent prints enhance with dye stain, R.A.M. A camera stand in a controlled lighting room hosts a Nikon SLR digital camera with a macro lens. An ALS with wave lengths CSS and 515 matched with a#21 orange filter mounted to a macro lens enhanced the print to allow for preservation in the digital format.
CY9FMF	Lifting	I used a tape lift to collect the latent prints, which was placed on a white latent lift card.
DZGPDR	Photography	
E299UJ	Photography	NIKON D5600+AF-S DX Micro Nikkor 85mm f/3.5G ED VR lens
EJR2K9	Photography	Photographed after applying black powder and then photographed after adding black magnetic powder for comparison quality photos.
	Lifting	Lifted each print with latent lift tape and placed onto a lift card.
	Scanning	Scanned in to the case record both side of the lift card.
EKPCGB	Lifting	Lifting tape was used to transfer the latent print to an acetate card.
	Photography	Photographs were taken to document the location of the latent print lifted.
ELJ3K6	Photography	Digital SLR, Nikon D800 with AF-S Micro Nikkor 60mm 1:2.8G. Luminescence photography conducted with OG550 AG camera lens filter, incident light green Crime-lite 522nm trim filter. Unique identifier label assigned to latent: FEN100643804.
EMNPX9	Lifting	Lift tape with white backer
EPWZUC	Photography	Vis photographed with direct reflection.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
EXARJB	Lifting	Using book tape to lift the print and place on an acetate.
FC346J	Photography	Latent print photographed using RUVIS after visual examination and after CAE. Also photographed with LASER after R6G.
FHRKGA	Photography	After the latent print was developed it was photographed. A scale ruler was placed next to the print and examination quality photographs were taken.
	Lifting	Using tape the developed print was then lifted and placed onto a latent print card. It was labelled with the Item number, location, date and name of Analyst.
GFF6M9	Lifting	Tape lift
GYUK8P	Photography	1.- Close up photographs without and with scale. 2.- Photographs with macro lens.
	Lifting	Using latent print lifting tape, stick a clean and clear piece over the fingerprint firmly and evenly, lift up the piece then stick it to the fingerprint card.
HQJHLN	Lifting	1.- Use transplating tape. 2.- Stick a piece of clear tape over the fingerprint firmly, and then lift it up. 3.- Then stick it to contrasting paper.
	Photography	1.- Close up photography with and without rule. 2.- Macrophotography with and without rule.
JAPDTK	Photography	
JD46JD	Transparent tape. For the application of the transparent adhesive tape with the protection of the footprint, it is necessary to ensure that is does not contain particles of other types of material and air bubbles.	N/A
JDQGK8	Lifting	Print was visible on the tile in section C. Latent was lifted and placed onto a lift card.
KJNME2	Tape Lift	
L3KD9A	Lifting	I lifted the prints using standard lift tape and placed them onto standard latent cards.
LAH3PD	Lifting	
LC4Q86	Photography	Foster & Freeman DCS5 System w/ Nikon D5. *Only final product was photographed
LNX7B9	Photography	1. After Magnetic Powder, Mark was photographed using White light.

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
MMJVX2	Lifting	Tape lift
P3QWK3	Photography	Latent print was photographed at the visual examination step
QD6FDW	Photography	Mark was captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). Prior to any photography the the DCS5 system was calibrated using a standard ruler provided by [Calibration Company] (PA/19/68 Serial No. 1368114/133). Following each individual develop method. As stated above alternative light sources and filters were utilised as appropriate.
QRHLNW	Photography	Photographed after cyanoacrylate with coaxial box and after rhodamine6G with green light/orange filter.
QRK98V	Lift Tape, Lift Card	
T23U44	Photography	foto-documentation with photocamera: CANON EOS 700D magnification 1:3
TT8QZ8	Photography	Photographed in white light
TU46MY	Photography	mark photographed using technical photography, images saved as TIF and RAW
U9F8GT	Lifting	tape lift utilizing white backing card
UE2ZTT	Photography	RUVIS and Foster & Freeman DCS 5.
UE8APY	Lifting	Lift tape Applied. Lift Tape Placed on Latent Card
UFYBPV	Photography	Scaled, macro
	Lifting	Clear tape, white card
UN83V6	Photography	See above for photgraphy. [Table 2- Development Methods, Item 2]
URVEWV	Lifting	Clear tape and placed on acetate card
VHKCCV	Lifting	book tape was used, labeled and placed on an acetate
VHM2FR	Photography	1:1 comparison photography
	Lifting	Lifting the print with lift tape and adhering it to a latent lift card
	Scanning	Scanning the collected lift cards and attaching them to the notes
VQCRWT	Lifting	White gel lifter
W2TWMP	Photography	visual/forensic light, Panacryl, visual/ dcs5 camera/ forensic light
	Photography	Photography/ dcs5 camera

TABLE 3 - Item 2

WebCode	Preservation Methods	Method Details
WNHNGQ	Photography	photograph with a scale
	Lifting	with fingerprint tape and white lift card
XJ7XVW	Photography	
XU32YP	Lifting	Book tape used to lift latent from ceramic tile and secured to a plastic acetate.
Y3ZT6Y	Photography	Photographs were taken at the following times: -Prior to any processing steps. -After visual examination. -After first ALS -After dye stain/ALS. -After Powder dusting
	Lifting	Lift Card collected of powder impression (after photography)

Item 2 - Preservation Response Summary

Participants: 64

Methods Utilized

Lifting	36
Photography	43
Scanning	3

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
26DGFL	Photography	
279XU4	Photography	Firstly, the overall photograph was taken with the NIKON D850 camera and then the macro photograph was taken with the macro lens. The photo is saved in "JPG" and "TIFF" format.
2ANR8F	Lifting	
2VRBMN	Photography	Nikon camera used to document latent prints Photos of 3D-LP1 developed with use of black powder (ambient room lighting).
32NPKU	Photography	
3R4DAH	Lift card	tape
4264LC	Photography	Used a Polilight 450nm light with a yellow filter to capture print in quadrant D
4UHDZH	Photography	Rhodamine 6G Aqueous
	Lifting	Black Powder
4V2YWE	Lifting	
64NDDP	Lifting	Latent print collected with lift tape onto a latent lift card.
6VCJXM	Lifting	Bichromatic powder: Item 3: 1 lift of Area D
7LQEQN	Lifting	Using fingerprint lifting tape, I preserved and collected one latent lift from the developed impression.
7MHFPJ	Photography	Utilizing the DCS5 workstation
	Lifting	Lifted utilizing lift tape and white lift card
8RNLKG	Photography	Photograph patent print
	Lifting	Lift of print with lifting tape
A7JP2C	Photography	Overall photographs and comparison photography.
	Lifting	Latent print tape on a latent print card.
	Scanning	Latent print cards scanned.
A8BQ29	Photography	Latent photographed after CA treatment with 350NM polilight then again after stain treatment under 505nm polilight
B22UVE	Lifting	Tape lift
BRTGDB	Photography	
	Lifting	

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
BTQRAD	Lifting	I used clear tape to lift the developed ridge detail and place it on a white backing card.
CV96RF	Photography	Overview photographs of the sheet metal circles were used to preserve the stage of processing. A Nikon SLR digital format camera mounted on an a camera stand was used in a controlled lighting room.
	Photography	A latent fingerprint was observed with the the ALS at 455 NM, paired with yellow goggles. I used photographs to preserve the print using the ALS at 455 NM paired with a # 8 yellow filter mounted to a macro lens, on a Nikon SLR digital format camera. The camera was mounted on a stand in a controlled lighting room.
CY9FMF	Lifting	I used a tape lift to collect the latent prints, which was placed on a white latent lift card.
DZGPDR	Scanning	
E299UJ	Photography	NIKON D5600+AF-S DX Micro Nikkor 85mm f/3.5G ED VR lens
EJR2K9	Photography	Photographed after applying black powder and then photographed after adding black magnetic powder for comparison quality photos.
	Lifting	Lifted each print with latent lift tape and placed onto a lift card.
	Scanning	Scanned in to the case record both side of the lift card.
EKPCGB	Lifting	Lifting tape was used to transfer the latent print to an acetate card.
	Photography	Photographs were taken to document the location of the latent print lifted.
ELJ3K6	Photography	Digital SLR, Nikon D800 with AF-S Micro Nikkor 60mm 1:2.8G Luminescence photography conducted with OG550 AG camera lens filter, incident light Crime-lite Blue-green 450 - 510nm and blue 420-470nm. Unique identifier label assigned to latent: FEN100643810.
EMNPX9	Lifting	Lift tape with white backer
EPWZUC	Photography	Vis - photographed with RUVIS. Cyanoacrylate fuming - photographed with RUVIS. RAM - photographed with LASER and orange filter.
EXARJB	Lifting	Using book tape to lift the print and place on an acetate.
FC346J	Photography	Latent print photographed using RUVIS after visual examination and after CAE.
FHRKGA	Photography	Prior to application of powder, photographs were taken with the Alternate Light Source being used. After the latent print was developed it was photographed again. A scale ruler was placed next to the print and examination quality photographs were taken under both conditions.
	Lifting	Using tape the developed print was then lifted and placed onto a latent print card. It was labelled with the Item number, location, date and name of Analyst.

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
GFF6M9	Lifting	Tape lift
GYUK8P	Photography	1.- Close up photographs without and with scale. 2.- Photographs with macro lens.
	Lifting	Using latent print lifting tape, stick a clean and clear piece over the fingerprint firmly and evenly, lift up the piece and then stick it to the fingerprint card.
HQJHLN	Lifting	1.- Use transplating tape. 2.- Stick a piece of clear tape over the fingerprint firmly, and then lift it up. 3.- Then stick it to contrasting paper.
	Photography	1.- Close up photography with and without rule. 2.- Macrophotography with and without rule.
JAPDTK	Photography	
JD46JD	For the application of the transparent adhesive tape wirh the protection of the footprint, it is necessary to ensure that it does not contain particles of other types of material and air bubbles.	N/A
JDQGK8	Lifting	Print was visible on metal disc D. Latent was lifted and placed onto a lift card.
KJNME2	Tape Lift	
L3KD9A	Lifting	I lifted the prints using standard lift tape and placed them onto standard latent cards.
LAH3PD	Lifting	
LC4Q86	None	No developed latent prints.
LNX7B9	Photography	Item was photographed after dusting by using 445nm light with 495nm Filter.
MMJVX2	Lifting	tape lift
P3QWK3	Photography	Latent print was photographed using the RUVIS after CAE.
QD6FDW	Photography	Mark was captured digitally using DCS5 system provided by "foster + freeman" (PA/21/013 Serial No. 6P71N63). Prior to any photography the the DCS5 system was calibrated using a standard ruler provided by [Calibration Company] (PA/19/68 Serial No. 1368114/133). Following each individual develop method. As stated above alternative light sources and filters were utilised as appropriate.
QRHLNW	Photography	Photographed after powder processing with flashlight

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details
QRK98V	Lift Tape, Lift Card	
T23U44	Photography	foto-documentation with photocamera: CANON EOS 700D magnification 1:3
TT8QZ8	Photography	Photographed in blue light with yellow filter.
TU46MY	Photography	mark photographed using technical photography, images saved as TIF and RAW
U9F8GT	Lifting	tape lift utilizing white backing card
UE2ZTT	Photography	Foster & Freeman DCS 5.
UE8APY	Lifting	Lift Tape Applied. Lift Tape Placed on Latent Card
UFYBPV	Photography	Scaled, macro
	Lifting	Clear tape, white card
UN83V6	Photography	See above for photgraphy. [Table 2- Development Methods, Item 3]
URVEWV	Lifting	Clear tape and placed on an acetate card
VHKCCV	Lifting	book tape was used, print was labeled and secured to an acetate
VHM2FR	Photography	1:1 comparison photography
	Lifting	Lifting the print with lift tape and adhering it to a latent lift card
	Scanning	Scanning the collected lift cards and attaching them to the notes
VQCRWT	Lifting	White gel lifter
W2TWMP	Photography	Panacryl visual/ dcs5 camera
	Photography	photography DCS5 camera
WNHNGQ	Photography	photo with a scale
	Lifting	with fingerprint tape and a white lift card
XJ7XVW	[No Methods Reported.]	AN AREA OF RIDGE DETAIL WAS LOCATED ON ROOF TILE D BUT INSUFFICIENT DETAIL TO BE USEFUL
XU32YP	Lifting	Book tape used to lift latent from roofing disk and secured to a plastic acetate.
Y3ZT6Y	Photography	Photographs were taken at the following times: -Prior to any processing steps, -After dye stain/ALS. -after powder dusting/ALS.
	Lifting	Lift Card collected of powder impression (after photography)

TABLE 3 - Item 3

WebCode	Preservation Methods	Method Details

Item 3 - Preservation Response Summary

Participants: 64

Methods Utilized

Lifting	35
Photography	38
Scanning	4

***Note**: Methods listed are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.*

Additional Comments

TABLE 4

WebCode	Additional Comments
3R4DAH	Only materials/methods available at the time were magnetic powder (black only), bichromatic (black and silver) powder and coin box powder (red). Unit unable to locate cyanoacrylate wand for fuming. All items appeared suitable for fuming if possible (which would be followed up by bichromatic powdering).
6VCJXM	Item 3 had an area visible in pre-screening that could not be photographed. Processing did not yield results in any area. One (1) lift was collected, but minimal detail was visible on the lift.
7LQEQN	Chemical processing for this test was limited to powder/physical processing due to current conditions of our chemical processing laboratory undergoing unplanned demolition (pipe burst). No dye stains were used.
ELJ3K6	Participant was unsure whether it is expected that one stop an examination once the latent was observed, deemed suitable for comparison and captured, or if further enhancements should be applied. Option to perform additional treatments for potential enhancement improvement selected.
FHRKGA	If these items had been located at a regular Crime Scene they would normally be collected, packaged properly and submitted to the laboratory for further processing. The Friction Ridge Section has more techniques for developing latent prints.
JD46JD	Of the three revealed latent prints, their grooves, ridges and footprint drawing are made visible. On the treated surfaces, the techniques used were the ideal ones to obtain the expected results. In the developed latent prints, pattern details were naturally visualized, presumably making latent prints suitable as they allow for individualization, characteristic points and pattern.
QD6FDW	Exhibit description: Taped White Box (Test No. 22-85193 Sample pack LPPN) Exhibit: 22-5193 LPPN. Containing: 3 Sealed A5 brown envelopes labeled as "Test No. 22-5193 Item 1", "Test No. 22-5193 Item 2" and "Test No. 22-5193 Item 3". "Test No. 22-5193 Item 1" contained a plastic CD case with black backing and clear colourless front cover, cover is divided into 4 sections labelled "A", "B" , "C" & "D" in black ink. "Test No. 22-5193 Item 2" contained a ceramic tile (approx 15 cm x 7.5 cm), with white glossy top surface which is divided into 4 sections labelled "A", "B" , "C" & "D" in black ink and a 'terracotta' bottom surface embossed with "1234567 MADE IN TURKEY" and a downward pointing arrow, an unknown white substance is also present. "Test No. 22-5193 Item 3" contained a cardboard sheet divided into 4 sections labelled "A", "B" , "C" & "D" in black ink with a metal disc (approx diameter of 4 cm) affixed in each. Exhibit treatment: The full exhibit was treated in each instance. Consequently, The black backing of the CD case was also examined as follows; 30/8/22 22-5193 LPPN Backing of CD Case - Powder, Type: Aluminium. Evidence of additional touch on black casing but insufficient ridge detail. 30/8/22 22-5193 LPPN Backing of CD Case - Glue, Cabinet #:1 (SL FVL). 2 Marks developed (AP4 & AP5). 30/8/22 22-5193 LPPN Backing of CD Case - Marks AP4 & AP5 captured using DCS5-1 (SL FVL) and the rUV image capture technique. 30/8/22 22-5193 LPPN Backing of CD Case - Fluorescent Dye (BY40). 3 Marks enhanced (AP4 - AP6). 30/8/22 22-5193 LPPN Backing of CD Case - Marks AP4 - AP6 captured using DCS5-1 (SL FVL). Methods & materials: CAST manual 1st edition January 2014 ISBN:978-1-78246-234-7 was referenced prior to all treatments performed. HILS - Dark Adaption Protocol followed utilising Dark Adaption Glasses. HILS - White Crime Lite 82S (400 nm - 700 nm); Blue Crime Lite 82S (420 nm - 470 nm); Green Crime Lite 82S (480 - 560 nm) and UV Crime Lite 82S (350 nm - 380 nm). Powder - "TETRA" Black Onyx Powder Product # TFP0113J Expiry 03/2023 Powder - "TETRA" Aluminium Powder Batch: 166131400 Lot: 2130 Exp: 30/11/23 Glue - "SURELOC ADHESIVES & SEALANTS" Ethyl-2-cyanoacrylate Lot # 213002 Expiry: 12/10/22. rUV - UV Crime Lite 82S (350 nm - 380 nm) and "BAADER U- Filter" "60nmHBW/320-380nm Fully blocked VIS & IR" Lens. BY40 - Made in house. Expiry 11/08/23

TABLE 4

WebCode	Additional Comments
T23U44	Examination of traces was carried out. All fingerprints are valid for identification, two of them are - the loop type and one - arc type.
UN83V6	Processing of these items was completed during a pre-distribution test. All results used for this test were from the pre-distribution exam.

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 22-5193: Latent Print Processing - Nonporous Surfaces

DATA MUST BE SUBMITTED BY **Oct. 17, 2022, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: H7BHB3

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.

Scenario:
During the week of 25 July 2022, several items of evidence were recovered from a crime scene. Police have requested that you process each item of evidence for latent prints. These items will not undergo additional testing in other departments, so you may use destructive testing if necessary.

- All item packaging has been labeled with a CTS item number and each item divided into four sections, which have been indicated as A-D. A single latent print has been deposited in one of these areas for each item.
- Packaging and protective material is not intended to be processed.

Items Submitted (Sample Pack LPPN):
Item 1: Plastic CD Case, inside area divided into sections A-D.
Item 2: Ceramic Tile, divided into sections A-D.
Item 3: Four Metal Roofing Discs, labeled A-D

Please inspect your sample sets upon receipt. If the packaging of any of your individual items appears to be compromised, please contact CTS for replacement samples.

1.) For each item, in which section or on which piece (A, B, C, D) was the latent ridge detail recovered?

Please indicate only the single letter of your determined location from the dropdown menu. Further explanation may be provided in the Additional Comments. If no ridge detail was recovered, please select "None." If you do not process the type of evidence offered, please select "Not Tested". ***A selection of "Not Tested" for an item will lock the corresponding methodology tab for that item. No methodology data will be captured in the report for that item.***

1
2
3

Results for Item 1:

Plastic CD Case, inside area divided into sections A-D.

1-1.) Date Samples Received:

1-2.) Date(s) Samples Analyzed:

1-3.) What method(s) of development were used during your examination?
Please list in order used.

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

1-4.) What method(s) of preservation were used, if any, following latent print development?
Please list in order used.

Method Used	Methodology-specific information

Results for Item 2:

Ceramic Tile, divided into sections A-D.

2-1.) Date Samples Received:

2-2.) Date(s) Samples Analyzed:

2-3.) What method(s) of development were used during your examination?
Please list in order used.

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

2-4.) What method(s) of preservation were used, if any, following latent print development?
Please list in order used.

Method Used	Methodology-specific information

Results for Item 3:

Four Metal Roofing Discs, labeled A-D

3-1.) Date Samples Received:

3-2.) Date(s) Samples Analyzed:

3-3.) What method(s) of development were used during your examination?
Please list in order used.

Method Used	Methodology-specific information (ex. processing time, type of dye stain)

3-4.) What method(s) of preservation were used, if any, following latent print development?
Please list in order used.

Method Used	Methodology-specific information

4.) 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)