Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

Paint Analysis Test No. 10-545 Summary Report

This test was sent to 175 participants. Each sample pack consisted of two sets of "questioned" paint chips and a "known" paint sample. Participants were requested to compare the items and report their findings. Data were returned from 147 participants (84% 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 pack consisted of three items of layered paint and primer: one known sample (Item 1) and two questioned paint chips (Items 2 and 3) were cut from painted drywall substrate. Items 2 and 3 were prepared with the same primer and topcoat. Item 1 was prepared with a different primer and the same topcoat that was used for Items 2 and 3. Examiners were instructed to examine the questioned paint chips and determine if either could have originated from the known recovered paint.

SAMPLE PREPARATION-
The drywall substrate was wiped down to remove dust before painting. For the following preparations, each coat was allowed to dry overnight before applying the next coat. The painted drywall substrates were then stored at room temperature in a controlled humidity environment for several days. The known paint sample was packaged into a glassine envelope and prelabeled coin envelope. Each of the questioned paint chips were packaged into separate glassine envelopes and prelabeled coin envelopes after removal from the drywall substrate.

ITEM 1 (KNOWN): Item 1 was prepared by applying two coats of primer (Zinsser BIN® Shellac-Base Interior and Spot Exterior, White Tintable) to a drywall substrate. Then two layers of top coat (Glidden® Semi-Gloss Interior Paint, Natural Linen™ (40YY 60/103)) were applied. From the painted drywall, paint samples were scored and chiseled out using a utility knife and packaged as described above.

ITEMS 2 and 3 (ELIMINATION): Items 2 and 3 were prepared by applying two coats of primer (Kilz® Latex Interior/Exterior Water-base primer-sealer-stain blocker, White) to a drywall substrate. Then two layers of topcoat (Glidden® Semi-Gloss Interior Paint, Natural Linen™ (40YY 60/103)) were applied. Several paint chips were scored and chiseled out using a utility knife. Items 2 and 3 were taken in close spatial proximity to one another, within three inches, and were kept together as a batch and packaged as described above.

SAMPLE PACK ASSEMBLY: For each sample pack, an Item 2 and an Item 3 from the same batch along with an Item 1 were placed into a prelabeled sample pack envelope and sealed with invisible tape. This process was repeated until all of the sample pack envelopes were prepared. Once verification was completed, the sample pack envelopes were sealed with evidence tape and initialed with "CTS".

VERIFICATION-
The expected elimination results were confirmed by predistribution laboratories, who used the following combined list of techniques: Microscopic Examinations, FTIR, and SEM/EDX.

Summary Comments

This test was designed to allow participants to assess their proficiency in the examination, comparison and interpretation of multi-layered architectural paint chips. Each sample pack consisted of three items of layered paint and primer: one known sample (Item 1) and two questioned paint chips (Items 2 and 3) were cut from painted drywall substrate. Items 2 and 3 were prepared with the same primer and topcoat. Item 1 was prepared with a different primer and the same topcoat that was used for Items 2 and 3. [Refer to the Manufacturer's Information for preparation details.]

Of the 147 participants that reported results, 143 (97%) reported that the Items 2 and 3 paint chips could not have originated from the Item 1 known paint sample. Two participants associated both Items 2 and 3 with Item 1. Two participants reported Inconclusive for the association or elimination between both Items 2 and 3 and Item 1. All of the participants who reported a possible association or were inconclusive of Items 2 and 3 with Item 1 reported performing only a limited range of examinations.

Examination Results

Could the questioned paint chips recovered from the two sources (Items 2 and/or 3) have originated from the damaged wall of the library (Item 1)?

TABLE 1

WebCode	Item 2	Item 3	WebCode	Item 2	Item 3
2APUDB	No	No	9RJZKH	No	No
2C9JH2	Inc*	Inc*	9WGJN2	No	No
2TXQDE	No	No	9ZTJQV	No	No
2VZ9FV	Yes	Yes	A9KYRP	No	No
2ZJANN	No	No	AD3WM8	No	No
32MWPC	No	No	AGF62D	No	No
3CQEG2	No	No	AJNK9J	No	No
3DLXH3	No	No	BAUQDX	No	No
4F3MFK	No	No	BLNKUE	No	No
4LTWPJ	No	No	BRXWTZ	No	No
63UVXQ	No	No	BVWJGH	No	No
67CKAV	No	No	C36437	No	No
6884CW	No	No	CCT2RQ	No	No
6DXGDK	No	No	CHM49R	No	No
6TNEGZ	No	No	CLZ46J	No	No
779T3R	No	No	D2QZRQ	No	No
7E2QMT	No	No	D4GRWP	No	No
7FFX9A	No	No	D6CPC4	No	No
7FVQRC	No	No	DQWMUF	No	No
7FXGZF	No	No	DUEC7K	No	No
7THJBZ	Inc*	Inc*	E7HVHK	No	No
873XWQ	No	No	EUAMQ8	No	No
89R6E3	No	No	F3ZP6M	No	No
8EK4VJ	No	No	F7FZJR	No	No
8HE7VC	No	No	FDWTAG	No	No
8LG476	No	No	G2GT7F	No	No
8QBN62	No	No	GFKU9X	No	No
8R7774	No	No	GM23G8	No	No
8TYCU2	No	No	GYRWNU	No	No
8UB9Y7	No	No	HAV8X6	No	No
8W2XEZ	No	No	HCY3G8	No	No
99MNKW	No	No	HUCLBQ	No	No
9DJP44	No	No	HWMQNE	No	No

TABLE 1

WebCode	Item 2	Item 3	WebCode	Item 2	Item 3
J7NXW7	No	No	QQ8LT7	No	No
JA9DFR	No	No	QV4Z9N	No	No
JEFGBE	No	No	QY2TDW	No	No
JFBAFQ	No	No	R6K4Q8	No	No
JTKCUG	No	No	RL9G6Y	No	No
JUBBTR	No	No	RLAQ7P	No	No
JZZQL7	No	No	TDNRU4	No	No
K4F6HX	No	No	TL4WZN	No	No
K9QTZM	No	No	TMM3GL	No	No
KC9QV4	No	No	TTMY8Q	No	No
KPVZFN	No	No	TWRMN2	No	No
KQPL9F	No	No	TZQNJC	No	No
L4DBJ6	No	No	U3C6JN	No	No
LGF7UY	No	No	UCY2J4	No	No
LPTRNF	No	No	UGRVAX	No	No
LTDG9T	No	No	UGTZYK	No	No
LUKMEA	No	No	ULKRZA	No	No
M2HCXY	No	No	UPJ7LD	Yes	Yes
M3TDJX	No	No	UTLGNL	No	No
M7URDV	No	No	VCQAWK	No	No
M88W2E	No	No	VQV6FM	No	No
MB4CXL	No	No	VY68L2	No	No
MTP4C9	No	No	W7ZNDH	No	No
N2XMXW	No	No	WFT6FN	No	No
N4ML6M	No	No	WJ9CMF	No	No
NCE2R6	No	No	WPWLP6	No	No
NKAXNF	No	No	WZGTNU	No	No
NPNHZV	No	No	X6KPUT	No	No
NRRAR9	No	No	X7F8VU	No	No
PDN78E	No	No	XEADPV	No	No
PFTYW8	No	No	XL839K	No	No
PHDFY6	No	No	XTD7CK	No	No
Q6TN4Q	No	No	XZABCU	No	No
Q7Z73L	No	No	Y7GREB	No	No
QKMKCT	No	No	YJKDGZ	No	No
QNG4F7	No	No	YQZWYE	No	No

TABLE 1

WebCode	Item 2	Item 3	WebCode	Item 2	Item 3
YREVZV	No	No			
YW66AT	No	No			
Z44EAE	No	No			
Z6VBGZ	No	No			
Z9FPZM	No	No			
ZABH3E	No	No			
ZDCLWL	No	No			
ZJZ7Z2	No	No			
ZWL9BL	No	No			

Response Summary

Responses	Item 2	Item 3
Yes	**2**	**2**
No	**143**	**143**
Inc	**2**	**2**

Participants: 147

** See Conclusions (Table 3) and/or Additional Comments (Table 4).*

Examination Methods

TABLE 2

WebCode	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry	Other
2APUDB	✓				✓					
2C9JH2	✓	✓			✓					
2TXQDE	✓				✓			✓		
2VZ9FV	✓	✓	✓							Raman Spectroscopy
2ZJANN	✓			✓	✓		✓			
32MWPC	✓				✓					
3CQEG2	✓				✓	✓				
3DLXH3	✓			✓	✓					
4F3MFK	✓	✓	✓		✓			✓		RAMAN
4LTWPJ	✓				✓					
63UVXQ	✓				✓					
67CKAV	✓				✓					
6884CW	✓	✓			✓			✓		
6DXGDK	✓				✓	✓		✓		
6TNEGZ	✓		✓							
779T3R	✓				✓					Raman Spectroscopy
7E2QMT	✓				✓					
7FFX9A	✓				✓					
7FVQRC	✓				✓			✓		
7FXGZF	✓				✓	✓				
7THJBZ	✓				✓					
873XWQ	✓				✓					
89R6E3	✓				✓					
8EK4VJ	✓		✓		✓					
8HE7VC	✓				✓			✓		
8LG476	✓	✓	✓		✓			✓		
8QBN62	✓			✓	✓					
8R7774	✓				✓	✓				
8TYCU2	✓				✓		✓			
8UB9Y7	✓	✓	✓		✓		✓			X-Section

TABLE 2

WebCode	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry	Other
8W2XEZ	✓				✓	✓				
99MNKW	✓			✓	✓			✓		
9DJP44	✓				✓			✓		
9RJZKH	✓	✓			✓			✓		
9WGJN2	✓				✓					
9ZTJQV	✓				✓					transmitted light microscopy of pressed film samples.
A9KYRP	✓				✓	✓				
AD3WM8	✓	✓			✓					Physical Characteristics/Texture
AGF62D	✓	✓			✓			✓		
AJNK9J					✓					
BAUQDX	✓	✓		✓	✓					
BLNKUE	✓				✓					macroscopic/visual
BRXWTZ	✓				✓					
BVWJGH	✓				✓					Colorimetry
C36437	✓					✓		✓		
CCT2RQ	✓	✓	✓		✓	✓				
CHM49R	✓	✓	✓		✓	✓				
CLZ46J	✓		✓		✓			✓		
D2QZRQ	✓				✓					
D4GRWP	✓				✓	✓				
D6CPC4	✓				✓			✓		
DQWMUF	✓				✓					
DUEC7K	✓				✓					Raman Spectrometry
E7HVHK	✓	✓			✓			✓	✓	
EUAMQ8	✓			✓	✓	✓				
F3ZP6M	✓			✓						
F7FZJR	✓	✓			✓	✓				Pyrolysis GC-MS
FDWTAG	✓	✓	✓		✓					
G2GT7F	✓				✓			✓		
GFKU9X	✓				✓			✓		
GM23G8	✓		✓			✓				Colorimetry

TABLE 2

WebCode	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry	Other
GYRWNU	✓	✓	✓		✓	✓		✓		
HAV8X6	✓		✓		✓	✓				
HCY3G8	✓			✓	✓					
HUCLBQ	✓	✓			✓		✓			
HWMQNE	✓		✓	✓	✓	✓				
J7NXW7	✓		✓	✓	✓			✓		Raman
JA9DFR	✓		✓		✓					
JEFGBE	✓	✓			✓					
JFBAFQ	✓	✓	✓		✓					
JTKCUG	✓							✓		Pyrolysis GC-MS, FTIR-ATR
JUBBTR	✓				✓					
JZZQL7	✓	✓		✓	✓					
K4F6HX	✓			✓	✓			✓		
K9QTZM	✓		✓	✓	✓	✓		✓		
KC9QV4	✓	✓	✓	✓	✓					
KPVZFN	✓				✓			✓		Illumination with short and long wave UV
KQPL9F	✓	✓			✓			✓		
L4DBJ6	✓				✓		✓			
LGF7UY	✓				✓					
LPTRNF	✓				✓					
LTDG9T	✓	✓			✓					
LUKMEA	✓				✓			✓		Raman spectroscopy
M2HCXY	✓	✓			✓			✓		
M3TDJX	✓	✓			✓			✓		
M7URDV	✓				✓	✓		✓		
M88W2E	✓				✓					
MB4CXL	✓				✓					UV
MTP4C9	✓		✓		✓					
N2XMXW	✓			✓	✓	✓				
N4ML6M	✓				✓					
NCE2R6	✓				✓					ALS
NKAXNF	✓				✓	✓	✓	✓		

TABLE 2

WebCode	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry	Other
NPNHZV	✓	✓	✓		✓			✓		
NRRAR9	✓				✓		✓			
PDN78E	✓				✓					
PFTYW8	✓				✓					
PHDFY6	✓	✓			✓					
Q6TN4Q				✓	✓					
Q7Z73L	✓		✓		✓					Comparison Microscopy
QKMKCT	✓	✓			✓	✓				Comparison Microscopy
QNG4F7	✓					✓				
QQ8LT7	✓		✓	✓	✓	✓		✓	✓	
QV4Z9N	✓				✓					
QY2TDW	✓		✓		✓					
R6K4Q8	✓	✓			✓	✓		✓		Alternate light source
RL9G6Y	✓	✓	✓		✓					RAMAN
RLAQ7P	✓				✓					
TDNRU4	✓	✓	✓		✓					
TL4WZN	✓				✓			✓		
TMM3GL	✓				✓					
TTMY8Q	✓				✓					
TWRMN2	✓	✓	✓		✓					
TZQNJC	✓				✓	✓	✓			
U3C6JN	✓				✓	✓		✓		
UCY2J4	✓	✓			✓					
UGRVAX	✓				✓					
UGTZYK	✓		✓		✓					
ULKRZA	✓				✓	✓				
UPJ7LD	✓				✓			✓		
UTLGNL	✓				✓		✓		✓	
VCQAWK	✓	✓	✓							
VQV6FM	✓	✓			✓			✓		
VY68L2	✓	✓			✓					
W7ZNDH	✓				✓					

TABLE 2

WebCode	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry	Other
WFT6FN	✓	✓			✓			✓		
WJ9CMF	✓	✓	✓			✓				texture
WPWLP6	✓				✓			✓		
WZGTNU					✓					
X6KPUT	✓				✓	✓				
X7F8VU	✓				✓					
XEADPV	✓				✓			✓		
XL839K	✓					✓		✓		
XTD7CK	✓	✓		✓	✓	✓		✓		
XZABCU	✓	✓			✓	✓				
Y7GREB	✓			✓	✓					
YJKDGZ	✓		✓		✓			✓		
YQZWYE	✓	✓			✓			✓		
YREVZV	✓				✓					
YW66AT	✓				✓	✓				
Z44EAE	✓				✓					
Z6VBGZ	✓				✓			✓		
Z9FPZM	✓			✓	✓			✓		ATR accessory for FTIR
ZABH3E	✓	✓	✓		✓		✓			ALS
ZDCLWL	✓				✓	✓				
ZJZ7Z2	✓	✓	✓		✓	✓				
ZWL9BL	✓	✓			✓			✓		

Response Summary

Participants	Stereomicroscope	Polarized Light	Fluorescence	Pyrolysis GC	FTIR	Solubility/ Chemical	XRS/XRF	SEM/EDX	Microspectrophotometry
147	144	44	33	20	137	35	10	46	3
Percent	*98%*	*30%*	*22%*	*14%*	*93%*	*24%*	*7%*	*31%*	*2%*

Conclusions

TABLE 3

WebCode	Conclusions
2APUDB	The source of the exemplar paint sample, Item 1, is excluded as a possible source of the unknown paint samples, items 2 and 3, based on class characteristics.
2C9JH2	The outer off-white layers of the questioned paint chips from the backseat of the vehicle and from the screwdriver (Items 1-2 and 1-3) were consistent in microscopic appearance and instrumental properties with the outer off-white layer of the wall paint standard (Item 1-1). The inner white layers from the questioned paint chips from the backseat of the vehicle and from the screwdriver (Items 1-2 and 1-3) were different in microscopic appearance and instrumental properties from the inner white layer of the wall paint standard (Item 1-1). At this point no conclusion has been drawn as to the association of the questioned paint chips to the known paint chip and it is recommended that more samples be taken of the known wall paint. Further analysis upon request.
2TXQDE	Each of the known paint from the damaged library wall item 1, the questioned paint chip recovered from the backseat of the suspect's vehicle item 2 and the questioned paint chip recovered from a screwdriver in the suspect's trunk item 3 comprised a double-layered paint fragment, having an off-white first layer and a white second layer. The off-white first layer of the question paint chip item 2 was found to agree in colour and chemical composition with the off-white first layer of the control paint chip sample item 1. However, the white second layer of the question paint chip item 2 was found to resemble in colour but differed in chemical composition with the white second layer of the control paint chip item 1. The off-white first layer of the question paint chip item 3 was found to agree in colour and chemical composition with the off-white first layer of the control paint chip sample item 1. However, the white second layer of the question paint chip item 3 was found to resemble in colour but differed in chemical composition with the white second layer of the control paint chip item 1. Based on the above findings, the questioned paint chip items 2 and 3 did not originate from the same source as the control paint chip item 1.
2VZ9FV	[No Conclusions Reported.]
2ZJANN	Items 1 to 3 have been examinated[sic]. Macroscopic and microscopic examinations couldn't show any difference between all three samples. Item 1, Item 2 and Item 3 present a same paint system of three layers (beige, white and grey). The FTIR, XRF and Pyrolysis GC analyses of these layers show that the white layer composition of Item 1 is different than Item 2 and Item 3. So the questioned paint chips recovered from the two sources (Items 2 and 3) can't provide from the damaged library wall (Item 1).
32MWPC	The paint in Items 2 and 3 did not originate from the same source as the paint in Item 1.
3CQEG2	On analysis, I found the questioned paint chip recovered from the backseat of the suspect's vehicle (Item 2) and the questioned paint chip recovered from the screwdriver in the suspect's trunk (Item 3) to be dissimilar to the known paint sample from the damaged library wall (Item 1) in texture of surface layer, solubility properties and IR spectrums of inner layer. I am of the opinion that the questioned paint chips in Item 2 and Item 3 could not have come from the damaged library wall.
3DLXH3	The paint chip contained in items 1, 2 and 3 were microscopically and instrumentally examined, and the resulting data were compared. The examination revealed: 1. That item 1, 2 and 3 have similar physical characteristics, but Item 1 was dissimilar in pyrolysis GC with respect to items 2 and 3, therefore it is concluded that the paint chips recovered from the suspect's back seat and screwdriver, did not originate from the damaged library wall. 2. Items 2 and 3 originated from

WebCode	Conclusions
	the same source, but not from the library wall.
4F3MFK	Layer 1 in items 1, 2 and 3 was physically and chemically indistinguishable (the same) in each case. Layer 2 in Item 1 was physically and chemically distinguishable (different) from layer 2 in Items 2 and 3. There are two possible propositions: Proposition 1 - The paint chips recovered from the two sources (items 2 and 3) have not originated from the damaged wall of the library (item 1). This proposition assumes that all of the library wall has been painted the same. Proposition 2 - Given that layer 1 is a match in all three items it is possible that the paint chips in items 2 and 3 might be from a differently painted area (on the library wall) as the sample of paint provided by item 1. This proposition assumes that Item 1 might not be a representative control sample from the library wall.
4LTWPJ	Conclusion: Analysis indicates that Item-1 is distinct. Item-2 and Item-3 are indistinguishable by ITR-FTIR. Item-2 and Item-3 do not share a share[sic] a common provenance with Item-1.
63UVXQ	Items 1, 2 and 3 consisted of two-layer beige/white paint over a paper substrate. The top beige paint layers of Items 1, 2 and 3 were indistinguishable with respect to color, texture and chemical characteristics. However, Item 2 questioned paint chip from the suspect's vehicle and Item 3 questioned paint chip from the screwdriver in the suspect's trunk differed from Item 1 known paint sample from the damaged library wall with respect to chemical characteristics of the white paint layers. Therefore, neither of the questioned paint chips (Item 2 or Item 3) could have originated from the same location of the library wall where Item 1 known sample was obtained. Providing that Item 1 known paint sample was obtained from the damaged area where the brackets were pried off, the questioned paint samples can be eliminated as originating from the damage to the library wall.
67CKAV	The known paint sample (Item 1) and the questioned paint chips (Item 2 en[sic] Item 3) consist each of two paint layers, a first (top) layer and a second (under) layer. The second paint layers of Item 2 and Item 3 differ in chemical composition from the second paint layer of Item 1. Therefore the questioned paint chips (items 2 and 3) could not have originated from the damaged wall of the library (Item 1).
6884CW	Item 1 was found to be different from Items 2 and 3. Therefore, Item 1 is excluded as being a possible source of Item 2 and Item 3.
6DXGDK	On analysis, I found the questioned paint chip in Item 2 and Item 3 to be dissimilar with the known paint sample in Item 1.
6TNEGZ	Items 2 & 3 were found to be microscopically indistinguishable from each other by detailed microscopy under a range of lighting conditions. These samples were however found to differ by these means from item 1 from the scene of the incident. The paint comprising items 2 & 3 cannot therefore have originated from the damaged library wall as represented by item 1.
779T3R	Item 1 consisted of a two layer (light beige/white) paint sample. Item 2 consisted of a two layer (light beige/white) paint chip. Although Item 2 demonstrated similar physical characteristics as the paint sample in Item 1, chemical analysis revealed significant differences in composition. Accordingly Item 1 is excluded as a source of the paint in Item 2. Item 3 consisted of a two layer (light beige/white) paint chip. Although Item 3 demonstrated similar physical characteristics as the paint sample in Item 1, chemical analysis revealed significant differences in composition. Accordingly Item 1 is excluded as a source of the paint in Item 3.
7E2QMT	Paint chips recovered from the two sources (Item 2 and Item 3) have not originated from the damaged wall of the library (Item 1).

TABLE 3

WebCode	Conclusions
7FFX9A	All three items consisted of two white layers. Although the FT-IR spectrum of top layer in item 1 was the same with those in item 2 and 3, the spectrum of the bottom layer in item 1 was different from those in item 2 and 3. Therefore we concluded that item 2 and 3 did not originate from item 1.
7FVQRC	All three submitted items exhibited a two-layer paint structure composed of a beige-colored topcoat and a white primer. The topcoats of the three samples were similar to each other in color, organic binder characteristics, and inorganic filler/pigment characteristics. The primer layers of Items 2 and 3 exhibited distinctly different organic binder characteristics and inorganic filler/pigment characteristics compared to the primer layer of Item 1. These differences demonstrate that neither Item 2 nor Item 3 originated from the damaged wall of the library (Item 1).
7FXGZF	The questioned paint chip recovered from the backseat of the suspect's vehicle & the questioned paint chip recovered from the screwdriver in the suspect's truck[sic] are different than the known paint sample from the damaged library wall. It is our opinion that the questioned paint chips did not originate from the sampled area of the library wall.
7THJBZ	Microscopic examination of Item 1, Item 2 and Item 3 revealed the same paint layer sequence (clear coat, cream, white). The top layer (clear coat) of the Questioned paint chip removed from the backseat of the suspect's vehicle (Item 2) and the top layer of the Questioned paint chip recovered from the screw driver in the suspect's trunk were found to have the same structural properties as the top layer (clear coat) of the known paint sample from the damaged library wall (Item 1). I was unable to determine wheter[sic] or not the second and third layers were structurally similar.
873XWQ	Examination of Items #1, #2, and #3 revealed the presence of paint chips with the following layer structure: off-white/white. The paint chips in Items #2 and #3 were compared to the known paint standard in Item #1 and were found to be chemically different than the paint in Item #1.
89R6E3	The paint chip from the backseat of the suspect's vehicle (Item 2) and the paint chip from a screwdriver in the suspect's trunk (Item 3) were chemically different than the paint sample from the damaged library wall (Item 1); therefore, the paint chip from the backseat of the suspect's vehicle (Item 2) and the paint chip from a screwdriver in the suspect's trunk (Item 3) are not from the library wall.
8EK4VJ	Analysis: The questioned paint samples from Exhibits 2 and 3 were compared to the known paint from Exhibit 1 utilizing the following analytical techniques: Stereomicroscopic observations, Fluorescence microscopy, Fourier Transform Infrared (FTIR) microscopy. Results/Conclusion: Based on the results of the FTIR microscopic analysis, it was determined that the bottom white layer on both Exhibits 2 and 3 were chemically different than the bottom white layer of Exhibit 1; therefore, the paint from the suspect's backseat (Exhibit 2) and screwdriver (Exhibit 3) did not originate from the damaged area of the library wall (Exhibit 1).
8HE7VC	The questioned paint chips recovered from the backseat (Item 2) and screwdriver (Item 3) from the suspect's vehicle were physically and analytically dissimilar to the known paint sample from the damaged library wall (Item 1).
8LG476	Two layers of paint (beige/white), on a fibrous substrate, were located in submissions #2 (Questioned paint chip recovered from the backseat of the suspect's vehicle) and #3 (Questioned paint chip recovered from a screwdriver in the suspect's trunk). These paint samples exhibited dissimilar characteristics to the two layers of paint (beige/white) located in submission

WebCode	Conclusions
	#1 (Known paint sample from the damaged library wall).
8QBN62	Both the questioned paint chips from the backseat of the suspect's vehicle (Item 2) and the screwdriver in the suspect's trunk (Item 3) could not have come from the damaged library wall (Item 1).
8R7774	I am of the opinion that: The questioned paint chip recovered from the backseat of the suspect's vehicle, 'Item 2' and the questioned paint chip recovered from a screwdriver in the suspect's trunk, 'Item 3' were found to be different from the known paint sample from the damaged library wall, 'Item 1' and therefore could not have come from the damaged library wall.
8TYCU2	The paint sample from the wall (Exhibit 1) was examined and compared to the paint from the backseat of the suspect's vehicle (Exhibit 2) and the paint from the screwdriver in the suspect's trunk (Exhibit 3). Differences were observed in the chemical composition of the white undercoat from the wall and the white undercoat of each of the questioned paint samples. These differences serve as the basis for the conclusions that the questioned paint samples (Exhibits 2 and 3) could not have originated from the source (wall) as represented by the submitted paint standard (Exhibit 1).
8UB9Y7	The paint chips (items 2 and 3) from the suspect's vehicle could not have originated from the same source as Item 1 (the known paint sample from the damaged library wall).
8W2XEZ	On examination, I found 'Item 2' and 'Item 3' not come from same source as 'Item 1 (known paint)'. Furthermore, I found 'Item 2' to be similar to 'Item 3'. Therefore, both questioned paint 'Item 2' and 'Item 3' come frome same source. [sic]
99MNKW	The questioned paint chips recovered from the two sources (Item 2 and Item 3) have not originated from the damaged wall of the library (Item 1).
9DJP44	The paint samples from the "library wall" (Item 1), "suspect's vehicle" (Item 2) and suspect's trunk (Item 3) each consisted of a cream top coat and white 2nd layer. Significant differences in chemical composition were detected between the white 2nd layer from the "library wall" (Item 1) and the white 2nd layers from the "suspect's vehicle" (Item 2) and "suspect's trunk" (Item 3). In my opinion, the paint samples from the "suspect's vehicle" (Item 2) and "suspect's trunk" (Item 3) could not have originated from the same source as the paint from the "library wall" (Item 1).
9RJZKH	The paint samples from Items 1.1, 1.2, and 1.3 consist of an outer, off-white layer and an inner, white layer. The inner layers of the samples from Items 1.2 and 1.3 have different chemical compositions and different elemental content than the inner layer of the sample from Item 1.1. The paint samples from Items 1.2 and 1.3 did not come from the same source as the paint sample from Item 1.1.
9WGJN2	All Items consisted of two different layers, namely a light white basecoat (the second layer) and a dark white topcoat (the first layer). According to the FTIR analysis Item 2 and Item 3 are different from Item 1 in the second layer. Item 2 and Item 3 in the second layer exhibit strong absorption peak at 1011 cm-1, weak absorption peaks at 1410 cm-1 and 870 cm-1 respectively. Otherwise Item 1 in the second layer just exhibits strong absorption peak at 1022 cm-1.
9ZTJQV	Exhibits 1, 2 and 3 each consisted of a paint sample with the layer sequence: light brown topcoat / white primer. The light brown topcoat layers of Exhibits 1, 2 and 3 were indistinguishable from each other in physical characteristics and chemical composition. The white primer layers of Exhibits 2 and 3 were indistinguishable from each other in physical characteristics and chemical composition. The white primer layer of Exhibit 1 was different in

TABLE 3

WebCode	Conclusions
	physical characteristics and chemical composition from the white primer layers of Exhibits 2 and 3. The recovered paint samples, Exhibits 2 and 3, did not originate from the same painted surface as the control paint sample, Exhibit 1.
A9KYRP	The paint in Items 2 and 3 was different from the paint in Item 1. This means the paint in Items 2 and 3 did not come from the same source as Item 1.
AD3WM8	Items 1, 2 and 3 contain architectural paint samples. All three samples have a cream-colored top layer and a second white layer. The texture and chemical composition of the second white layer of the control paint sample in Item 1 is dissimilar to that of questioned paint samples in Item 2 and Item 3. Questioned paint samples in Item 2 and Item 3, recovered from the suspect vehicle, did not originate from the paint of the damaged library wall.
AGF62D	Item 1, the known paint sample from the damaged library wall, item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk were examined by stereo microscopy, light microscopy, polarized light microscopy, Fourier Transform infra-red spectroscopy, and scanning electron microscopy / energy dispersive X-ray analysis and are beige, two layer paint samples. Item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk, are not consistent with item 1, the known paint sample from the damaged library wall. A conclusion of "not consistent" indicates that the physical, chemical, and/or optical characteristics of the analyzed sample are different from those of the comparison sample or from a unique source.
AJNK9J	Each Item consists of two layers coating system a ivory colored layer and a white underlayer.[sic] The white underlayer of Items 2 and 3 is different from the white underlayer of Item 1.
BAUQDX	Three paint samples (Item 1, Item 2 and Item 3) consisted of two layers. Top coat layer of the paint samples are similar in color and morphology. Second layer of Item 1 sample was different with those of Item 2 and Item 3 in morphology and amount of component. Aromatic component of item 1 was more than the others.
BLNKUE	The known paint sample in Item 1 (library wall) was stereomicroscopically and instrumentally different from the questioned paint samples in Items 2 (back seat - Suspect's vehicle) and 3 (screwdriver - Suspect's trunk) with respect to the texture and infrared spectra of the white (bottom) layer. This indicates that the paint in Items 2 and 3 did not originate from the known damaged wall paint in Item 1.
BRXWTZ	Layer 1 (grey) of Items 2 and 3 (both questioned samples) was indistinguishable to the Layer 1 (grey) of Item 1 (known sample) with respect to FT-IR spectroscopy. Layer 2 (white) of Items 2 and 3 was distinguishable from L2 (white) of Item 1, therefore Items 2 and 3 were not common to Item 1.
BVWJGH	Items 1 through 3 each represent two layer paint systems, in which the top layer is off-white in color and the bottom layer is white. Chemical differences exist in the white layer of Item 1 as compared to the white layer of Items 2 and 3. Therefore, no association is made between Item 1 with either Item 2 or Item 3.
C36437	Questioned paint (item 2), reportedly from the backseat of the suspect's vehicle, was examined and found to be a beige over white paint. This questioned paint was subsequently found to be inconsistent with the known paint (item 1) regarding the physical properties and gross elemental composition of the white layer. Questioned paint (item 3), reportedly from a screwdriver in the suspect's trunk, was examined and found to be a beige over white paint. This questioned paint

TABLE 3

WebCode	Conclusions
	was subsequently found to be inconsistent with the known paint (item 1) regarding the physical properties and gross elemental composition of the white layer.
CCT2RQ	It was determined through chemical and instrumental analysis that (item 1) the paint in the known sample was chemically different from the paint samples from the suspect (items 2 and 3), and therefore no association exists between item 1 and items 2 and 3.
CHM49R	Items #1 (known sample from library wall), #2 (questioned sample from backseat of suspect's vehicle) and #3 (questioned sample from screwdriver in the suspect's trunk) were analyzed and compared utilizing microscopy, fluorescence, solubility and Fourier Transform Infrared Spectroscopy. All three items were two layer coatings with a white bottom layer and beige top layer. The beige layer of all three samples was indistinguishable in all tests performed. The white layer of Item #1 was dissimilar in chemical composition (FTIR) to the white layer of Items #2 and #3. Items #2 and #3 are eliminated as having originated from the damaged library wall (Item #1).
CLZ46J	The questioned paint chips recovered from the backseat of the suspect's vehicle (item 2) and the questioned paint chips recovered from a screwdriver in the suspect's trunk (item 3) have been proved to be different in the investigated criteria from the known paint sample from the damaged library wall (item 1). The questioned paint chips item 2 and item 3 do not originate from the library wall.
D2QZRQ	The questioned paint chips (Items 2 and 3) were examined for the purpose of determining whether or not there is any paint present like that on the library wall (Item 1). Microscopical and instrumental examination and comparison of the questioned paint chips (Items 2 and 3) with the paint standard from the library wall (Item 1) revealed that both Item 2 and Item 3 are dissimilar from Item 1 with respect to texture and binder characteristics of layer 2 (white finish coat). It is therefore concluded that the questioned paint chips (Items 2 and 3) did not originate from the library wall as represented by Item 1.
D4GRWP	On examination and analysis, I found that the paint chip 'Item 2' and 'Item 3' are similar but different from paint chip 'Item 1'.
D6CPC4	I formed the opinion based on the techniques used, that the questioned paint chip recovered from the backseat of the suspect's vehicle (item 2) was different to and could not have originated from the control paint sample taken from the damaged library wall (item 1). I also formed the opinion based on the techniques used, that the questioned paint chip recovered from a screwdriver in the suspect's trunk (item 3) was different to and could not have originated from the control paint sample taken from the damaged library wall (item 1).
DQWMUF	Physical and microscopic comparison of the questioned paint from Items 2 and 3 with the known paint from Item 1 revealed them to be inconsistent with respect to binder composition. Therefore, the questioned paint chips recovered from the backseat of the suspect's vehicle and from the screwdriver in the suspect's trunk could not have originated from the damaged library wall.
DUEC7K	Item 1 (inner layer) is different from Item 2 and Item 3 (inner layers).
E7HVHK	The paint in each item consisted of an off-white layer over a white layer. The paints were analyzed via microscopy, infrared spectrophotometry, microspectrophotometry and scanning electron microscopy-energy dispersive spectroscopy. The off-white layer in each item was found to be similar in color, chemical composition and elemental composition. The white layer in Items 2 and 3 was found to be dissimilar in chemical composition and elemental composition to

TABLE 3

WebCode	Conclusions
	the white layer in Item 1, therefore, Items 2 and 3 did not originate from the same source as Item 1.
EUAMQ8	The questioned paint recovered from the suspect's vehicle and screwdriver in the suspect's trunk are a different paint type than the known paint from the damaged library wall. It is my opinion the paint recovered from the suspect's vehicle and screwdriver in the trunk did not originate from the damaged library wall.
F3ZP6M	The light beige over white multi-layer paint chips in items 2 and 3 were determined to be chemically (pyrolysis gas chromatography) different than the light beige over white multi-layer paint chip from the library wall, item 1, and; therefore, could not have a common origin.
F7FZJR	The known paint sample from the damaged library wall in Item 1 consists of one (1) paint sample having the following layer structure: 1. Light tan acrylic latex enamel topcoat. 2. White undercoat. This paint sample exhibits characteristics consistent with architectural paint and was used as a standard for comparison purposes. The questioned paint items, represented to have been recovered from the backseat of the vehicle in Item 2 and a screwdriver in the trunk in Item 3, each contain one (1) paint chip having the following layer structure: 1. Light tan acrylic latex enamel topcoat. 2. White acrylic-styrene latex enamel undercoat. These samples exhibit characteristics consistent with architectural paint. Microscopic, microchemical and instrumental examination and comparison of each questioned paint chip with the known paint sample in Item 1 revealed similarities with respect to the color, texture, microchemical reactivity and general binder type of the light tan acrylic latex enamel topcoats (Layer 1). However, these examinations and comparisons revealed significant differences with respect to the textures, microchemical reactivities, extender pigments and binder characteristics of the white undercoats (Layer 2). It is therefore concluded that the questioned paint chips recovered from the screwdriver and the vehicle's backseat did not come from the damaged library wall as represented by the paint standard in Item 1.
FDWTAG	Stereomicroscopical examination of the above paint samples reveals that each of them exhibits a double layer. The "top coat" layers are a semi-gloss white paint layer while the "base coat" layers exhibit an even "brighter-white" matte finish. Comparison by Fourier Transform Infrared (FTIR) microspectrophotometry of these paint layers reveals that all three topcoats have a similar chemical composition, but Item #2 and Item #3's base coats are different in their infrared spectra when compared to Item #1. Therefore the paint samples labeled "Item #2" and "Item #3", did not originate from the known paint sample labeled "Item #1".
G2GT7F	Our studies allowed us to determine that physical and chemical specifications of the paint sample from the damaged wall of the library (item 1) are different from the paint chips recovered from the backseat of the suspect's vehicle (item 2) and a scewdriver[sic] found in the suspect's trunk (item 3).
GFKU9X	The known paint sample (Item #1) was examined and compared to the questioned paint samples (Items #2 and #3). All of the paint samples consisted of a beige top layer and a white bottom layer. Microscopic and instrumental (FTIR and SEM/EDX) analyses and comparisons performed on the layers of the known paint sample (Item #1) and the questioned paint samples (Items #2 and #3) revealed the questioned samples to be different with regard to elemental and chemical properties from the known sample. Based on these findings, the questioned samples do not have the same origin as the known sample.
GM23G8	Items 1, 2, and 3 were analyzed using stereomicroscopy, microsolubility tests, microchemical tests, fluorescence microscopy, and Colorimetry. The Item 2 and 3 off-white paint chips could not be associated with Item 1 due to differences in fluorescence and chemical composition.

TABLE 3

WebCode	Conclusions
GYRWNU	The paint samples collected from the backseat of the suspect's vehicle (item #2) and the screwdriver from the suspect's trunk (item #3) were both dissimilar to the paint sample submitted from the library wall (item #1) and therefore did not originate from this wall based upon the sample given for comparison.
HAV8X6	Items 1, 2 and 3 were analyzed using stereomicroscopy, microsolubility tests, microchemical tests, fluorescence microscopy and Fourier Transform Infrared Spectrophotometry (FTIR). The tan nonmetallic paint particle in each of Items 2 and 3 could not be associated with the Item 1 tan nonmetallic paint particle due to differences in organic composition.
HCY3G8	The non-metallic off-white paints in items 2 and 3 were visually consistent but microscopically and instrumentally inconsistent with the non-metallic off-white paint in item 1. This indicates that the paints in items 2 and 3 do not share a common origin with the paint in item 1.
HUCLBQ	The paint samples in Items 2 and 3 were found to be dissimilar to the paint sample in Item 1 based on differences found in the undercoat layers from Items 2 and 3 to Item 1.
HWMQNE	Comparative examinations of the paint chip from Item #1 (Known) to the paint chips Items #2 and #3 (Questioned) gave different instrumental results, indicating that, in the opinion of this examiner, Items #2 and #3 do not have common origin with Item #1.
J7NXW7	The paint chips recovered from the back seat of the suspect's vehicule[sic] (item 2) and the paint chips recovered from a screwdriver in the suspect's trunk (item 3) contain magnesium silicate (Talc) and calcium carbonate in the first white layers. The paint chips from the damaged library wall contain in the first white layer aluminium silicate (Kaolinite) and not Talc and CaCO3. The questioned paint chips item 2 and item 3 don't came[sic] from the damaged library wall.
JA9DFR	The paint samples in Item 2 and Item 3 were found to be different in chemical composition from the paint sample in Item 1. Therefore, Item 2 (paint chip recovered from the back seat of the suspect's vehicle) and Item 3 (paint chip recovered from a screwdriver in the suspect's trunk) could not have come from the damaged library wall, Item 1.
JEFGBE	The questioned paint samples from the backseat (Item 2) and from the screwdriver (Item 3) were compared to the known paint from the wall (Item 1) using microscopy and infrared spectroscopy. All three samples consisted of an off-white layer over a white layer. The white layer of each questioned paint sample differed in composition from the white layer of the known sample. Neither questioned sample originated from the wall.
JFBAFQ	The known paint sample, Item 001 - #1, has an off-white top paint layer, over a white layer, over another white layer on brown paper. I compared the two questioned paint chips, Items 001 - #2 and 001 - #3, to the known paint sample. I used stereo microscopy, fluorescence microscopy, polarized light microscopy, and infrared microspectrophotometry in this examination. I found the second paint layer (white layer under the off-white top layer) in Items 001 - #2 and 001 - #3 exhibit significant differences in fluorescence and chemical composition when compared to the second paint layer of the known sample, Item 001 - #1. Assuming that the paint on the library wall is uniform in paint layer sequence and composition, the questioned paints, Items 001 - #2 and 001 - #3, did not come from the same paint source as the known sample, Item 001 - #1.
JTKCUG	The paint in Exhibits #2 and #3 did not originate from the same area of the same wall represented by the paint in Exhibit #1.
JUBBTR	Item 2 and Item 3 have different class characteristics when compared to the known paint from

TABLE 3

WebCode	Conclusions
	the library wall (Item 1) and do not share a common source.
JZZQL7	The beige paint in Item 2 (backseat) was instrumentally different from the beige paint in Item 1 (library wall) with respect to the white layer. This indicates that the beige paint in Items 1 and 2 do not share a common origin. The beige paint in Item 3 (screwdriver) was instrumentally different from the beige paint in Item 1 with respect to the white layer. This indicates that the beige paint in Items 1 and 3 do not share a common origin.
K4F6HX	Instrumental analysis and comparison of the paint stain Ex 1 with the paint samples in Exs 2 & 3 revealed dissimilarities; therefor[sic], Exs 2 & 3 did not originate from the same source as Ex 1.
K9QTZM	The two layers off-white/white paints in items 2 & 3 are dissimilar in appearance and chemical composition to the paint in item 1. The paints in items 2 & 3 did not originate from the same source as the paint sample in item 1.
KC9QV4	Item 2, multi-layered paint chip from the backseat of the suspect's vehicle, and item 3, multi-layered paint chip from the screwdriver in the suspect's trunk, are distinctly different from item 1 (known paint sample from the library wall) and did not originate from that source.
KPVZFN	1. The paint samples/chips submitted as Items 1, 2 and 3 were found to be two layered paints with the following color/layer structure: off white exterior / white primer. 2. Comparative examinations of the off white exterior layers of the known and questioned paint samples/chips (Items 1, 2 and 3) disclosed them to be similar in appearance and consistent in their major organic and elemental compositions. However, additional comparative examinations of the white primer layers of the known and questioned paint chips disclosed them to be dissimilar in composition. As a result of these findings, the questioned paint chips (Items 2 and 3) did not originate from the exact source for the known paint (Item 1). 3. Due to the similarity of the appearance and major organic and elemental composition of the exterior layers of the known and questioned paint samples/chips (Items 1, 2 and 3), additional samples of known paint should be collected from the damaged area(s) of the library wall and submitted along with the questioned chips (Items 2 and 3) for comparative process.
KQPL9F	Exam of Items 1, 2, and 3 revealed the presence of a two-layer architectural paint consisting of a topcoat and a primer layer. The primer layer of Item 2 and Item 3 revealed significant chemical differences when compared with the primer layer of Item 1. The paint from Items 2 and 3 could not have originated from the same source as the paint from Item 1.
L4DBJ6	Examination: The paint samples of exhibits 1, 2, and 3 were observed visually and with a stereomicroscope. Each of the three paint samples consisted of two layers, an off-white layer over a white layer. The samples were then subjected to instrumental analysis using Fourier Transform Infrared Spectroscopy (FTIR) and X-ray Fluorescence (XRF). Results/Conclusions: Instrumental analysis and comparison of the known paint sample (exhibit 1) to the questioned paint samples (exhibits 2 and 3) revealed differences in chemical composition of the white layer of the known sample and the white layers of the questioned samples. Therefore, the paint samples recovered from the backseat of the suspect's vehicle (exhibit 2) and from the screwdriver in the suspect's trunk (exhibit 3) did not originate from the damaged library wall as represented by the known sample provided (exhibit 1).
LGF7UY	There are differences in the IR spectra that reveals differences between the questioned items and the known one (These differences are mainly in the following bands: 3694, 3622, 3080, 3061, 3027, 2956, 2870, 2517, 1798, 1715, 1461, 1440, 1376, 1250, 940, 918, 877 cm-1): There are also differences in the texture of the items. Samples from items 2 and 3 are not consistent with sample from item 1.

TABLE 3

WebCode	Conclusions
LPTRNF	The cream colored top layers of Items 1, 2 and 3 were found to be similar in color (SM), microscopic appearance (SM) and chemical composition (FTIR). The white colored bottom layer of Item 1 was found to be similar in color (SM), dissimilar in microscopic appearance (SM) and dissimilar in chemical composition (FTIR) to the white colored bottom layers of Items 2 and 3. The white colored bottom layers of Items 2 and 3 were found to be similar in color (SM), microscopic appearance (SM) and chemical composition (FTIR).
LTDG9T	Neither the questioned paint chip recovered from the backseat of the suspect's vehicle (item 2) nor the questioned paint chip recovered from a screwdriver in the suspect's trunk (item 3) could have originated from the known paint sample from the damaged wall of the library (item 1).
LUKMEA	Items 1, 2 and 3 were found to be two-layered paint chips, each containing a creamy topcoat and a white basecoat. The creamy topcoats of items 1, 2 and 3 were found to be indistinguishable from each other in terms of their colour and chemical compositions. The white basecoats of items 2 and 3 were found to be similar but different from item 1 in terms of their chemical compositions. Hence items 2 and 3 could not have shared a common origin with item 1.
M2HCXY	Item 1, the known paint sample from the damaged library wall, item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk were examined by stereo microscopy, light microscopy, polarized light microscopy, Fourier Transform infra-red spectroscopy, and scanning electron microscopy / energy dispersive X-ray analysis, and are beige, two layer paint samples. Item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk, are not consistent with item 1, the known paint sample from the damaged library wall. A conclusion of "not consistent" indicates that the physical, chemical, and/or optical characteristics of the analyzed sample are different from those of the comparison sample or from a unique source.
M3TDJX	Based on analytical differences observed between the white layers, the two layer beige/white paint from the damaged library wall (Item #1) was excluded as being the source of the two layer beige/white paint chip from the backseat of the suspect's vehicle (Item #2) and the two layer beige/white paint chip from the screwdriver in the suspect's trunk (Item #3).
M7URDV	Differences were noted between the known sample submitted in Item #1 and the questioned paint chips submitted in Items #2 and #3; therefore, the questioned paint chips (Items #2 and #3) could not have originated from the damaged wall of the library (Item #1).
M88W2E	According to the methods used, item 2 and item 3 could not have been[sic] originated from item 1 (paint sample from the damaged library wall).
MB4CXL	1. Examinations of Items 1, 2 and 3 disclosed the presence of paint on a wall-like paper surface with the following color and layer sequence: Item 1 - cream/white, Item 2 - cream/white, Item 3 - cream/white. 2. Although the cream paint layers in Items 2 and 3 were similar to the cream paint layer in Item 1 in their physical characteristics and chemical compositions, comparative examinations of the white paint layers in Items 2 and 3 disclosed them to be dissimilar to the white paint layer of Item 1 in their elemental and organic compositions. Therefore, the paint samples in Items 2 and 3 could not have originated from the same source as the paint sample in Item 1.
MTP4C9	All 3 Items consist of double layered paint chips (beige top layer = acrylic, white primer). The top layer of Item 1, Item 2 and Item 3 could not be differenciated[sic] with all used methodes[sic]. The primer of Item 1 (wall) is different to the primers of Item 2 and Item 3. Item

WebCode	Conclusions
	2 and Item 3 can not originate from the source area on the wall as Item 1.
N2XMXW	The questioned tan paint chips recovered from the suspect's vehicle (items 2 and 3) are a different type of paint than the known tan paint sample from the damaged library wall (item 1). It is my opinion that the paint chips recovered from the suspect's vehicle could not have come from the sampled area of the library wall.
N4ML6M	Based on the analyses performed, Item 1 is a different material than Item 2, and the paint samples could not have originated from the same source. Based on the analyses performed, Item 1 is a different material than Item 3, and the paint samples could not have originated from the same source.
NCE2R6	Items #2 (paint chip - suspect's vehicle) and #3 (paint chip - suspect's trunk) are dissimilar microscopically and chemically from item #1 (known paint sample - library wall).
NKAXNF	According to the results of examinations, item 1 is different from Items 2 and 3.
NPNHZV	The questioned paints recovered from the backseat of the suspect's vehicle and from a screwdriver in the suspect's trunk, item 2, and item 3 respectively, do not exhibit the same results in all tested properties in the second layer in quemical[sic] and elemental composition as the known paint sample from the library wall, item 1, therefore the questioned and the known fragments could not have originated from the same source.
NRRAR9	The paint chips of the three items (1, 2 and 3) are composed of two layers: a beige surface layer and a white undercoat. The paint chips of item 1 differ from the paint chips of items 2 and 3 by the composition of the white undercoat. The beige surface layers are the same in the three items. The white undercoat of item 1 contains kaolinite whereas the white undercoats of items 2 and 3 contain magnesium silicate and calcium carbonate.
PDN78E	On examination and analysis, I found that Item 2 and Item 3 are dissimilar to Item 1. Hence, I am of the opinion that the questioned paint chips recovered from the two sources (Item 2 and Item 3) have come from other[sic] source.
PFTYW8	The questioned paint (item 2 and 3) was found to be unconsistent[sic] with known paint (item 1) on chemical composition. Therefore item 2 and 3 could not have come from the same source than[sic] item 1.
PHDFY6	The Item 2 questioned paint from the backseat of the suspect's vehicle and the Item 1 paint standard from the library wall are different in chemical composition. The Item 3 questioned paint from the suspect's trunk and the Item 1 paint standard from the library wall are also different in chemical composition; therefore, the Item 2 and Item 3 questioned paint samples did not originate from the same source as the Item 1 paint standard.
Q6TN4Q	The chemical characteristics of the paint submitted as Item 1 were not consistent with the chemical characteristics of the paint submitted as Item 2 or Item 3.
Q7Z73L	The paint samples marked Item 1, Item 2 and Item 3 were examined and in each case the colour, cross sectional layer structure and chemical composition were determined. In each case the cross sectional layer structure was found to be: Cream/White. All paint samples were found to be indistinguishable in colour and cross sectional layer structure, however there were differences in the chemical composition of the lower white layer such that, in our opinion, the paint samples Item 2 and Item 3 could not have had a common origin with Item 1. It was noted that the paint samples Item 2 and Item 3 were similar to each other.

TABLE 3

WebCode	Conclusions
QKMKCT	Two-layer paint samples consisting of a beige coat and a primer layer were recovered from the damaged library wall (Item 1), the backseat of the suspect's vehicle (Item 2), and a screwdriver in the suspect's trunk (Item 3). The questioned paint from Item 2 and Item 3 are both different from the known paint of Item 1.
QNG4F7	Item 2 and Item 3 are found to be different from Item 1 in terms of chemical properties and texture. However, the three items are found to be similar in terms of color and layer.
QQ8LT7	Item 1 (known paint from damaged library wall) was a two layered paint. The top, beige layer, was consistent with Items 2 (questioned paint from the backseat of the suspect's vehicle) and 3 (questioned paint from the screwdriver in the suspect's trunk) with regard to appearance (stereomicroscope-beige and pliable), chemical solubilities, infrared spectra (FTIR), elemental composition (SEM-EDS), and pyrograms (PGC). However, the bottom white layer of Item 1 was different from Items 2 and 3 with regard to appearance (Item 1 was more brittle), infrared spectra (FTIR), and elemental composition (SEM-EDS). Therefore, the paints from Items 2 or 3 are not consistent with originating from the same area as the paint from Item 1. It must be noted that different areas may have different paint systems. Further comparisons can be performed if additional known samples are submitted.
QV4Z9N	The known paint from the damaged library wall (Item #1/#1.1), the questioned paint from the back seat of the suspect's vehicle (Item#2/#2.1) and the questioned paint recovered from the screwdriver in the suspect's trunk (Item #3/#3.1), were each found to be composed of two layers. The top layer is light beige in color and the bottom layer is white in color. Microscopic and FTIR instrumental analyses and comparisons performed on the known paint from the damaged library wall, the questioned paint from the back seat of the suspect's vehicle and the questioned paint recovered from the screwdriver in the suspect's trunk, revealed them to be the same with respect to color and layer sequence; however the two questioned paints were found to be different from the known paint with respect to layer thickness, microscopic appearance of the beige paint layers and organic chemical composition of the white paint layers. Based on these findings the two questioned paint samples (Items #2 & #3) could not have originated from the same source as the known paint from the damaged library wall (Item #1).
QY2TDW	Items 1, 2 and 3 were examined visually and were analyzed using stereomicroscopy, fluorescence microscopy and Fourier Transform Infrared Spectrophotometry (FTIR). The Item 2 and 3 two-layered off-white paint particles could not be associated with the Item 1 two-layered off-white paint due to differences in chemical composition.
R6K4Q8	Examination and comparison of Items 1, 2, and 3 revealed that Item 1 could not be associated with either Item 2 or Item 3 due to differences in chemical composition.
RL9G6Y	The questioned paint chips (item 1) could not come from the sources item 2 & 3.[sic]
RLAQ7P	The library, as represented by item 1, is excluded as a possible source of the two layer paints recovered from the suspect's vehicle, items 2 and 3.
TDNRU4	Item 2 and 3 are regarded as not of same origin as item 1, because the second layer shows differences in appearance and chemical composition.
TL4WZN	Examination of Known (control) Sample from Library Wall (item 1). Item 1 comprised a paint chip with a cream topcoat and white undercoat. The cream topcoat was identified as an acrylic paint containing titanium dioxide. The white undercoat was identified as an acrylic paint containing titanium dioxide and kaolinite. Elemental analysis indicated the presence of the elements titanium, aluminium, silicon and iron in the cream and titanium, silicon, aluminium,

TABLE 3

WebCode	Conclusions
	magnesium, chlorine, calcium and iron in the white. Examination of Two Questioned Paint Chips Recovered from Backseat of the Suspect's Vehicle and a Screwdriver in the Suspect's Trunk (Items 2 and 3). Item 2 and Item 3 comprised paint chips with a layer sequence consistent to item 1, with no significant differences located between the cream topcoats of all 3 items. However, significant differences in the composition of the white undercoat were detected, with calcite and talc but no kaolinite indicated in the two questioned samples. These results do not support the proposition that items 2 and 3 had a common origin with item 1.
TMM3GL	Comparison of the questioned paint chip from the backseat of the suspect's vehicle (item 2) with the known paint from the library wall (item 1) revealed the samples to be different with respect to chemical composition. Based on these findings, the samples did not originate from the same source. Comparison of the questioned paint chip from the screwdriver (item 3) with the known paint from the library wall (item 1) revealed the samples to be different with respect to chemical composition. Based on these findings, the samples did not originate from the same source.
TTMY8Q	The paint found in Item #1 is physically and chemically dissimilar to the paint found in Item #2 and Item #3. The paint found in Item #1 is excluded as having a common origin with the paint found in Item #2 and Item #3.
TWRMN2	Examination of Item 1 revealed a paint chip with the following paint layers: medium beige/white. Examination of Item 2 also revealed a paint chip with the following paint layers: medium beige/white. In addition, examination of Item 3 revealed a paint chip with the following paint layers: medium beige/white. The paint chip from Item 2 was not consistent with the paint chip from Item 1. The paint chip from Item 3 was not consistent with the paint chip from Item 1.
TZQNJC	The questioned paint chips recovered from the two sources (Item 2 and Item 3) were not originated from Item 1.
U3C6JN	Differences were noted between the known sample (Item #1) and the questioned samples (Items #2 and #3). Items #2 and #3 could not have originated from Item #1.
UCY2J4	Examination of the paint chips recovered from the backseat of the suspect's vehicle (Item #2) and from a screwdriver in the suspect's trunk (Item #3) revealed the following layer structure: beige and white on a brown cardboard substrate. The beige paint chips were not chemically consistent with the known paint sample collected from the damaged library wall (Item #1), therefore, the paint chips froms[sic] Item #2 & 3 did not originate from the same source as the paint chip from Item #1.
UGRVAX	Items 2 and 3 were examined and compared to Item 1. All three items consist of an off-white topcoat over a white undercoat. Based on the examinations conducted, however, Items 2 and 3 differ from Item 1 in chemical composition of their white undercoat layers. Therefore, Items 2 and 3 do not share a common source with Item 1. Visual, microscopical, and FTIR examinations were utilized in the examination of these items of evidence.
UGTZYK	Instrumental examination and comparison of the paint layers using Fourier transform infrared spectroscopy (FTIR) reveals that the white "primer" layers from the known paint (Item 1) and the questioned paint samples (Items 2 and 3) are chemically dissimilar. Assuming that the submitted known paint sample is a representative sample of the of the[sic] damaged wall it can be concluded that neither questioned sample originated from the wall.
ULKRZA	The paint chip recovered from the backseat of the suspect's vehicle (item 2) and paint chip recovered from a screwdriver in the suspect's trunk (item 3) couldn't have come from the paint sample from the damaged library wall (item 1).

TABLE 3

WebCode	Conclusions
UPJ7LD	The paint chips recovered from the two sources (Item 2 and 3) may have originated from the damaged wall of the library (Item 1).
UTLGNL	The top (off-white) layers of paint in items 1, 2 and 3 are similar in all examined characteristics and may be the same type of paint. The lower (white) layers of both item 2 and item 3 are of different composition from the lower (white) layer of paint in item 1. Neither item 2 nor item 3 could have originated from the library wall as represented by item 1.
VCQAWK	Microscopic and FTIR analyses determined the following: Items 2 and 3 have microscopic and chemical properties dissimilar to the known item 1.
VQV6FM	Each paint chip consisted of two white to off white paint layers. Both paint layers from Items 2 and 3 were similar in composition and are likely from the same source. Neither of the paint layers from Item 1 was similar in composition to Items 2 and 3. Therefore, Items 2 and 3 could not have originated from Item 1.
VY68L2	The known top light beige paint layer from the library wall (Item 1T) was found to be similar in chemical composition (FTIR), appearance, and color (SM) to the questioned top light beige paint layers taken from both the backseat (2T) and the screwdriver in the trunk (3T) of the suspect's vehicle. The known bottom white primer layer from the library wall (Item 1B) was found to be dissimilar in chemical composition (FTIR) and consistency (SM) to the questioned bottom white primer layers taken from both the backseat (2B) and the screwdriver in the trunk (3B) of the suspect's vehicle.
W7ZNDH	Both of the questioned paint chips (Items 2 and 3) exhibit significant differences from the known paint in item 1. Neither item 2 nor item 3 are from the same source as item 1 as represented by the known paint sample.
WFT6FN	The examined features of Items #2 and #3 are similar. The first layers are compact, the second layers are porous. The first layer of Item #1 is morphologically similar to the first layers of Items #2 and #3. The SEM image and EDS spectrum of the second layer of Item #1 is different from the second layers of Items #2 and #3.
WJ9CMF	Based on the assumptions that 1) item 1 is representative of the library wall and 2) the white primer layers for items 1, 2, and 3 are part of the paint proficiency rather than part of the "wall substrate". Items 1, 2, and 3 consist of a very light brown paint layer over a white primer layer. The white primer layer in item 1 is different by texture, solubility/chemical behavior, mineral content, and fluorescence to the white primer layers in items 2 and 3. Therefore, the paint chips in items 2 and 3 did not originate from the same source as item 1.
WPWLP6	Gross and stereomicroscopic examinations were conducted on the paint on items 1, 2 and 3. The paint on each item consists of two layers; a tannish top coat and a white undercoat. Instrumental examinations revealed that the white layer of item 1 is different from the white layers of items 2 and 3. Therefore, Item 1 is excluded as a possible source of the paint on items 2 and 3.
WZGTNU	The paint found in items 2 and 3 were found to be chemically different to that of item 1. That is the white under coat was found to be chemically different. Therefore the paint flakes of items 2 and 3 could not have originated from the same source as item 1.
X6KPUT	Microscopic examination of the known paint in Item 1 revealed the following layer structure: Tan, White primer. Examination of the questioned paint in Items 2 and 3 revealed the following layer structure: Tan, White primer. Comparison of the questioned paint in Items 2 and 3 with the known paint in Item 1 revealed the white primer layers were different with respect to

TABLE 3

WebCode	Conclusions
	composition, chemical solubilities and texture. Therefore, the paint in Items 2 and 3 is not consistent with having originated from the same source as the known paint in Item 1. The evidence is available for pickup.
X7F8VU	The white primer coating from the paint chips in items 2 and 3 exhibits different chemical composition from the white primer coat found in item 1. The texture features of the beige paint found in items 2 and 3 were different from the texture features found in item 1. Therefore, the paint chips from item 2 and 3 may be excluded as sharing a common origin with the paint sample in item 1.
XEADPV	Microscopic and instrumental comparison of item 2, paint from backseat of suspect's vehicle, and item 3, paint from screwdriver in suspect's trunk, to item 1, paint from damaged library wall, revealed them to be inconsistent with respect to binder composition and pigment composition. Therefore, the paint from the backseat and the paint from screwdriver could not have come from the damaged library wall.
XL839K	The individual paint layers from items 1, 2 and 3 were each examined by stereomicroscopy, solvent/microchemical tests, and by scanning electron microscopy with energy-dispersive x-ray analysis. The questioned paint chips from items 2 and 3 and the known paint from item 1 differed with respect to the chemical composition and gross elemental composition of the white primer layers. Based on these results, the paint from item 1 could not share a common source with the paint chips from items 2 and 3.
XTD7CK	The paint in Item #2 is dissimilar in chemical composition to the paint in Item #1 and could not have originated from the same source as the paint in Item #1. The paint in Item #3 is dissimilar in chemical composition to the paint in Item #1 and could not have originated from the same source as the paint in Item #1.
XZABCU	The questioned paint chips recovered from the suspect's vehicle, Items #2 and #3, exhibit a layer sequence different from the known paint chip from the library wall. The questioned paint chips from the suspect's vehicle could not share a common origin with the known paint chip.
Y7GREB	[No Conclusions Reported.]
YJKDGZ	Paint samples Item 2 and Item 3 could not have originated from the area from which Item 1 was sampled.
YQZWYE	The known paint sample from the damaged library wall, as represented by item 1, can be excluded as a possible source of the paint recovered from the backseat of the suspect's vehicle, item 2 and from the screwdriver in the suspect's trunk, item 3.
YREVZV	Examination of the paint chip collected from the backseat of the suspect's vehicle, Item #2, revealed the presence of a textured off-white paint chip with the following layer structure: off-white and white on a cardboard substrate. The off-white paint chip was not chemically consistent with the known paint standard collected from the damaged library wall, Item #1. Examination of the paint chip collected from a screwdriver in the suspect's trunk, Item #3, revealed the presence of a textured off-white paint chip with the following layer structure: off-white and white on a cardboard substrate. The off-white paint chip was not chemically consistent with the known paint standard collected from the damaged library wall, Item #1.
YW66AT	The beige paint fragments found in items 2 and 3 exhibit a different chemical composition from the beige paint fragment found in item 1. Therefore, the beige paint fragments found in items 2 and 3 may be excluded as sharing a common origin with the beige paint fragment found in item

TABLE 3

WebCode	Conclusions
	1.
Z44EAE	The paint in Items 2 and 3 is similar in color to the paint in Item 1, however it is dissimilar in infra-red absorbance spectrum. Therefore the paint in Items 2 and 3 could not have originated from the same source as the paint in Item 1.
Z6VBGZ	Examination of Item 1 "Known paint sample from the damaged library wall" revealed the presence of an off-white architectural paint that is different in physical and chemical properties, in comparison to the off-white architectural paint from Item 2 "Questioned paint chip recovered from the backseat of the suspect's vehicle" and Item 3 "Questioned paint chip recovered from a screwdriver in the suspect's trunk".
Z9FPZM	The paint in Exhibits 2 and 3 is dissimilar to the paint standard in Exhibit 1.
ZABH3E	The paint samples recovered from the backseat of the suspect's vehicle (Item 2) and the screwdriver from the suspect's trunk (Item 3) are dissimilar to the reference paint from the damaged library wall (Item 1). If Item 1 is representative of the paint on the damaged wall, then Items 2 and 3 are from a source other than the damaged library wall.
ZDCLWL	The light beige questioned paint chip recovered from the backseat of the suspect's vehicle (Item 2) is dissimilar in paint type to the known light beige paint from the damaged library wall (Item 1). The light beige questioned paint chip recovered from a screwdriver in the suspect's trunk (Item 3) is dissimilar in paint type to the known light beige paint from the damaged library wall (Item 1). It is our opinion that the questioned paint chips from Item 2 and Item 3 did not come from the damage[sic] library wall (Item 1).
ZJZ7Z2	The paint chip from the backseat of the suspect's vehicle (Item 2) and the paint chip from a screwdriver in the suspect's trunk (Item 3) both exhibited physical characteristics different from the library wall (Item 1) and therefore could not have come from the library wall.
ZWL9BL	Item 1, the known paint sample from the damaged library wall, item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk were examined by stereo microscopy, light microscopy, polarized light microscopy, Fourier Transform infra-red spectroscopy, and scanning electron microscopy / energy dispersive X-ray analysis, and are beige, two layer paint samples. Item 2, the questioned paint chip recovered from the backseat of the suspect's vehicle, and item 3, the questioned paint chip recovered from a screwdriver in the suspect's trunk, are not consistent with item 1, the known paint sample from the damaged library wall. A conclusion of "not consistent" indicates that the physical, chemical, and/or optical characteristics of the analyzed sample are different from those of the comparison sample or from a unique source.

Additional Comments

TABLE 4

WebCode	Additional Comments
2ZJANN	The analyses show that the beige layers are the same for the three samples (Items 1 to 3). The white layers of Items 2 and 3 present Calcium Carbonate and Styrene.
3CQEG2	Item 2 and Item 3 to be similar in texture of surface layer, solubility properties and IR spectrums of paint layers.
4F3MFK	It might be useful, in further such tests, that you state that "it is known that the substrate (wall, vehicle body etc) has only been painted with the same two layers and that there is not expected to be any additional paint layers present on the substrate.[sic] In the above case with this additional information I would have opted for proposition 1 only!
6DXGDK	I found the questioned paint chip in Item 2 and Item 3 to be similar to each other.
6TNEGZ	In light of the observed differences further testing has not been considered.
779T3R	If a real case would present the same examination results as in this test, I certainly would have contacted the investigator that collected the sample to confirm the representative aspect of the known sample.
7THJBZ	I was unable to separate the second and 3rd layers of the chips for further analysis.
8R7774	The questioned paint chip recovered from the backseat of the suspect's vehicle, 'Item 2' was found to be similar with the questioned paint chip recovered from a screwdriver in the suspect's trunk, 'Item 3' and therefore could have come from the same source.
F3ZP6M	The light beige over white multi-layer paint chips in items 2 and 3 were determined to be and[sic] chemically (pyrolysis gas chromatography) indistinguishable.
F7FZJR	In keeping with the stated purpose of the test, the substrate materials were not analyzed or compared.
G2GT7F	Our results are the following ones: 1 - macroscopic observation: All the items are composed of two layers on the wall: a white "ivory" upper layer and a white lower layer. 2. - FTIR: *Upper layer: Same binder system of acrylic resin with titanium dioxyde[sic] for all items.
GYRWNU	Although not requested, the two paint sample[sic] from the suspect's vehicle (item #2 and #3) were also compared to each other. The paint sample from the backseat of the suspect's vehicle (item #2) and the screwdriver from the suspect's trunk (item #3) were both physically and chemically similar to each other and therefore could share a common origin. The origin of these paint samples is unknown at this time.
JUBBTR	Item 2 and Item 3 share class characteristics and could share a common source.
LUKMEA	The elemental compositions of the white basecoat of item 1 determined by SEM/EDX spectra were Si, Ti, O, Al, Mg with small amount/trace of Cl and Fe and that of items 2 and 3 were Si, Ca, Ti, Mg, O, Al with small amount/trace of K and Fe. The Infrared spectra of the white basecoat of item 1 showed presence of aluminium silicate and that of item 2 and 3 showed presence of calcium carbonate and magnesium silicate.

TABLE 4

WebCode	Additional Comments
M7URDV	Good common-sense proficiency.
MTP4C9	FT-IR spectra of the primer layer of Item 1 show a large amount of silicate filler, probably alluminium silicat. FT-IR spectra of the primer layers of Item 2 and Item 3 show a large amount of silicate (Mg silicat) and carbonate, probably calcium carbonat. Additional samples of paint from other areas within the library should be collected. [sic]
NRRAR9	The procedure used is: macroscopic and microscopic examination, infrared microspectroscopy (IRTF) and X-ray Fluorescence (XRF). IRTF: Beige surface layer (items 1, 2 and 3): acrylic/titane dioxyde/ CaCO3 (low content). White undercoats (items 2 and 3): magnesium silicate (high content)/CaCO3/styrene/acrylic (perhaps and very low content). White undercoats (item 1): aluminium silicate (high content)/titane dioxyde/magnesium silicate (low content)/alkyd (perhaps and very low content). XRF: Si, Ca (content is lower in items 1), Ti, Fe, Zr(in items 2 and 3 only). [sic]
RLAQ7P	If this was a real case I would request additional samples from all areas of damage because the top layers are indistinguishable in IR and different areas of a wall maybe[sic] painted or repainted differently.
TDNRU4	It is not fully clear, which part denotes the wall substrate. We would request further information, e.g. photos showing the position where the samples were taken. There are also differences between item 2 and 3 observed.
VCQAWK	Kaolin was detected in item 1. Talc was detected in items 2 and 3. Fluorescence of the paint layers of items 2 and 3 are dissimilar to the layers of the known item 1. [From Table 2 - Examination Methods: Examiner wrote "Stereo" next to the response Fluorescence.]
YJKDGZ	The topcoat in Items 1, 2 and 3 could not be distinguished, and the above conclusion assumes that Item 1 is fully representative of the damaged area of the library wall, and that there is no variation in the undercoat layer used on that wall. If additional information and analysis showed that this was[sic] assumption was not valid, then the conclusion at 3) above would need to be reviewed.
ZDCLWL	Please note that different areas of sampling can exhibit different paint layer systems. If additional analysis is necessary, please resubmit the above evidence along with an additional known paint standard from a damaged area of the library wall.

Collaborative Testing Services ~ Forensic Testing Program

Test No. 10-545: Paint Analysis

DATA MUST BE RECEIVED BY *June 01, 2010* TO BE INCLUDED IN THE REPORT

Participant Code: WebCode:

Please Note: The Accreditation Release Section Has Moved

CTS submits external proficiency test data directly to ASCLD/LAB and FQS-International. 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 FQS-International. (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 FQS-International.

Scenario:

Police are investigating a break-in of a library in which a valuable painting was stolen. The painting had been secured to the wall with brackets which were pried off during the break-in. The police have a suspect in custody and have collected paint chips recovered from the backseat of the suspect's vehicle and a screwdriver found in the suspect's trunk. Police are requesting you to examine the paint chips from these sources and determine if they could have come from the damaged wall.

Please Note: The purpose of this test is the examination of the paint and not of the wall substrate.

Items Submitted (Sample Pack P1):

1: Known paint sample from the damaged library wall.

2: Questioned paint chip recovered from the backseat of the suspect's vehicle.

3: Questioned paint chip recovered from a screwdriver in the suspect's trunk.

1.) Could the questioned paint chips recovered from the two sources (Items 2 and/or 3) have originated from the damaged wall of the library (Item 1)?

Item 2:	Yes ☐		No ☐		Inconclusive ☐
Item 3:	Yes ☐		No ☐		Inconclusive ☐

Please return all pages of this data sheet.

2.) Indicate the procedure(s) used to examine the submitted items:

Microscopic Examinations:

☐ Stereomicroscope ☐ Polarized Light ☐ Fluorescence

☐ Pyrolysis GC ☐ FTIR ☐ Solubility/Chemical

☐ XRS/XRF ☐ SEM/EDX ☐ Microspectrophotometry

☐ Other (specify): _____

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

4.) Additional Comments

Return Instructions Participant Code:

Data Sheets can be mailed or faxed (please include a cover sheet) and must be received by *June 01, 2010* to be included in the report.

MAIL: Collaborative Testing Services, Inc.
Forensic Testing Program
P.O. Box 650820
Sterling, VA 20165-0820 USA

FAX: +1-571-434-1937
or Toll-Free (U.S. only): 1-866-FAX-2CTS (329-2287)
TEL: +1-571-434-1925 *(8 am - 4:30 pm EST)*
EMAIL: forensics@cts-interlab.com

www.ctsforensics.com

Please return all pages of this data sheet.

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. **10-545: Paint Analysis**

This release page must be completed and received by ***June 1, 2010*** 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) _____

FQS-INTERNATIONAL RELEASE

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

FQS-International 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.