



Questioned Documents Examination

Test No. 21-5211 Summary Report

Each sample set consisted of a questioned robbery note (Q1) and a known spiral notepad (K1) for examination and analysis. Participants were requested to examine the items to determine if the questioned note could have originated from the recovered notepad. Data were returned from 176 participants and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample set contained one wire-bound spiral notepad (K1) and one questioned robbery note (Q1). Participants were asked to compare the known and questioned materials to determine if the note in question could have originated from the recovered notepad.

SAMPLE PREPARATION -

Each spiral notepad was inspected for defects before production. On the first page, the phone message "John 703-555-1289" was written using a Pilot Acrobath black ballpoint pen. Using a straightedge, the message was torn from the notepad. On the second page, the statement "All the money in the drawer I have a gun" was written using the same pen. Using a straightedge, this note was torn from the notepad and maintained with the source notepad. On the third page, a store list of "bread milk eggs flour" was written with the same pen.

SAMPLE SET ASSEMBLY -

After visual quality reviews of both known and questioned items were complete, each item was packed into a pre-labeled item envelope. The mated known and questioned items were maintained together in an unsealed sample set envelope. Following predistribution testing, all item envelopes were sealed and initialed with "CTS," then packed together within sample set envelopes, which were also sealed and initialed.

VERIFICATION -

Predistribution examiners determined that the questioned bank robbery note (Q1) originated from the recovered notepad (K1). This was supported by the following observations: indented writing that corresponded between the questioned note and the known notepad; fracture matching of the questioned note's torn edge and one of the torn edges remaining in the notepad; similar responses to UV lighting between the known and questioned items; and similar physical measurements of page dimensions and line layout between known and questioned items.

Summary Comments

Each sample set consisted of a questioned robbery note (Q1) and a recovered spiral notepad (K1). Investigators are trying to determine whether or not the note could have originated from the notepad. The Q1 note was created using the K1 notepad (Refer to the Manufacturer's Information for preparation details).

For question 1, "Based on the findings of your examination, to what degree can it be confirmed or refuted that the note originated from the spiral notepad?" 174 of 176 (98.9%) responding participants reported the note originated from the recovered notepad ("A", 170 participants) or probably originated ("B", 4 participants). One participant gave a response of "1" that was not an offered option, and one participant left this question blank.

A majority of participants provided the following observations to support their conclusion that the questioned note originated from the recovered notepad: Measurements of the features and dimensions of both items were comparable. The two items and their ink entries exhibited analogous reactions under varied light sources and wavelengths. Most participants attempted a fracture match of the torn edge of the questioned note with the torn edges of paper remaining in the notepad and found a match between the note and the second torn edge. Finally, indented writing was recovered and associated between the questioned item, the known notepad, and a third indeterminate source of writing.

Across the 176 responding participants, 676 methods of analysis were reported in total. Some of these methods were reported more than once by a single participant, indicating the technique was possibly performed more than once to examine different features of the document or to use different equipment settings. The most commonly reported technique utilized was ESDA, reported 111 times for both the examination of indented writing and for fracture match purposes. Additionally, participants reported Video Spectral Comparator (VSC) 110 times; it was primarily used for determining optical properties of the documents and the inked entries. Other frequently reported methods include Visual Examination (93), Microscopic Examination (71), and Oblique Light (67). The methods listed in the response summary are the preloaded options for selection via the CTS Portal and do not reflect all answers provided by participants.

In the Methods and Observations or Conclusions sections, many participants reference images, photos, and supplemental reports that would normally be provided as part of their casework. CTS is unable to collect and provide these additional materials, so references to these addenda are not applicable to the CTS Summary Report.

Examination Results

Based on the findings of your examination, to what degree can it be confirmed or refuted that the note originated from the spiral notepad?

TABLE 1

WebCode	Q1	WebCode	Q1	WebCode	Q1
2BU2CB	A	6QZL7B	A	9JLRZ4	A
2EGPTG	A	6YBT3D	A	9ZVXRE	A
2EXYLH	A	7BXEKE	A	ACXN68	A
2HX67F	A	7LKDHB	A	APCGZ9	A
2LR7ZG	A	7PLEKT	A	AQGFP8	A
3236NE	A	7QDMGB	A	B3ABML	A
3DG4EF	A	7QRWHP	A	B6ZA2K	A
3QMBDL	A	83XELC	A	B7U4H2	A
3XNEJJ	A	84HXT6	A	B8LZ6B	A
49LUNE	A	88G86R	A	B9ZKXK	A
4L9VMU	A	89RARQ	B	BKEH3N	A
4PTPGA	A	8CC4L7	A	BR9PE3	A
4QLK4H	A	8FN92C	A	BUX2D8	A
4TRXUW	A	8NK2CR	A	C2D4U9	A
4ZC7AF	A	8V66G9	A	C2TFEZ	A
67DWWJ	A	9B83YB	A	C4GRD6	A
686XVE	A	9DY2D9	A	CF9KJ8	A

TABLE 1

WebCode	Q1	WebCode	Q1	WebCode	Q1
CL2HC6	A	FB8B8W	A	K2MTJ6	A
CUXF4D	A	FEQBJ6	A	K8D4T4	B
CXU4HZ	A	FN2QDK	A	K8XRBX	A
D42QB4	A	FPA3TZ	A	KBE8MB	A
DA339L	A	G2B3V4	A	KHVMDZ	A
DCVW46	A	G7DWZZ	A	KLU2X4	A
DD439H	A	G86RM9	A	KNYQYR	A
DWD8QZ	A	GQK6FY	A	KPTCU4	A
DY2JP7	A	GRC6EV	A	L6H37C	A
DY2LB4	A	H8Y84X	A	LJHQBY	A
E24227	A	HLJKLZ	A	M2ZAMW	A
E7XXQX	A	HQTTVG	A	M626EC	A
E9LAP3	A	HR6H92	A	M92GAC	A
EBP697	A	J6ATJU	A	MHMM2P	A
EYHAXG	A	JFALU8	B	MKBYZU	A
F2XALV	A	JJV9MU	A	MRT8NQ	A
F7EA93	A	JXTCT7	A	MRVXWU	A
F7R4JW	A	JY3LGW	A	MY99MZ	A
F9LPE9	A	K28DQX	A	N6TK2T	A

TABLE 1

WebCode	Q1	WebCode	Q1	WebCode	Q1
NFVL2T	A	RDWJJU	1	VHEDNG	A
NGL8AA	A	RGFW3V	A	VQ6W3P	A
NLLZLT		RH8W2R	A	VRLTVN	A
NMRPKV	A	RJHUDN	A	VU68YP	A
NQX72Z	A	RNTPDR	A	VYMZH4	A
NRP82W	A	RRYB6X	B	VZVG9M	A
P33MMV	A	RUKWXL	A	W4RJU3	A
PEW8JR	A	RZ6BH7	A	W98QH2	A
PTET8R	A	T2GBWR	A	WKWYRN	A
Q3EMYV	A	TFFBR2	A	WLUZ3L	A
Q68U4T	A	TH6PBK	A	WPUCXL	A
Q96BH9	A	TKT2AP	A	XHNYBM	A
Q9M72V	A	TPK2RR	A	XNCHVQ	A
QHFC49	A	TRCY7P	A	XQ4HUM	A
QJQEP8	A	UAUHF3	A	XYD3XJ	A
QNYM6Q	A	UBXH9L	A	Y7U6DK	A
QW99WR	A	UR7ABR	A	YATGAK	A
R4P4DL	A	UW4LE4	A	YDCAUY	A
R9LNJQ	A	V9A79G	A	YEKQJH	A

TABLE 1

WebCode	Q1	WebCode	Q1	WebCode	Q1
YMEVDJ	A				
YXZZKJ	A				
YY98RH	A				
Z4HKAG	A				
Z8JLCY	A				
ZBKUDN	A				
ZFWHEK	A				
ZKMWYK	A				
ZQX77G	A				
ZRP2TQ	A				
ZZJADG	A				

Response Summary - Q1

Total Participants: 176

Based on the findings of your examination, to what degree can it be confirmed or refuted that the note originated from the spiral notepad?

Response Q1

A	170
B	4
C	0
D	0
E	0

Response Key:

- A. The questioned note ORIGINATED from the recovered notepad.
- B. The questioned note PROBABLY ORIGINATED from the recovered notepad.
- C. CANNOT DETERMINE whether or not the questioned note originated from the recovered notepad.
- D. The questioned note PROBABLY DID NOT ORIGINATE from the recovered notepad.
- E. The questioned note DID NOT ORIGINATE from the recovered notepad.

Methods and Observations

What methods/techniques did you utilize? What observations were made from each method/technique?

TABLE 2

WebCode	Methods/Techniques	Observations
2BU2CB	Video Spectral Comparator (VSC)	vsc by using 1- Flood Light : Examining general visible features of the questioned note and the notepad. 2-Annotation and Measurements: Used for measure the dimensions of the paper , the vertical and horizontal distances between the lines and the edges of the questioned note and the notepad. All measurements of them are identical.
	Oblique Light	To reveal indented features within the surface of the questioned note. The indented writing was not clear enough.
	ESDA	The indented writing in the surface of the questioned notepad was deciphered.(All the money in the drawer I have a gun) was the sentence recovered from the questioned notepad which identical with same sentence on questioned note.
2EGPTG	Oblique Light	The room was darkened and fiber optic light was shone at the edge of the page which contained a handwritten grocery list. Several letters from the robbery note could e detected.
	Microscopic Examination	Remnants of two pages torn from the front of the notebook were still contained under the metal spiral binding. When the edges were compared to the torn edge of the robbery note,there were miniscule matches of divots in some areas of the second page remnant.
	ESDA	When the page containing the grocery list was subject to ESDA testing, images of some of the letters of the robbery note appeared in the same horizontal and vertical locations as exist on the robbery note.
	Infrared Light	Ink from both the robbery note and the grocery list were subjected to infrared luminescence. They appeared to reflect the same. This does not confirm both entries were written w/the same pen. It only notes there were no differences in refraction.
2EXYLH	Visual Examination	Type of paper and characteristics of pre-printing and edges are observed
	Oblique Light	You can see the surface of the sheet written on the spiral notepad recovered from the suspect's car, where you can see low relief which corresponds to the spelling of the robbery note provided to the bank teller.
	Magnification	Observe the paper cut at the top of the front of the robbery note provided to the bank teller which matches the cut observed on the spiral notepad recovered from the suspect's car
	Video Spectral Comparator (VSC)	Corroborate the previous observations
2HX67F	Visual Examination	
	Macroscopic/Microscopic Examination	(Stereoscopic microscope).
2LR7ZG	ESDA	Marks were found in the document, and the study was carried out with the ESDA 2 equipment and the "handwriting mark examination Method" was used.
	Video Spectral Comparator (VSC)	The document was comprehensively analyzed in the specialized equipment Video Spectral Comparator VSC 6000 h / s with oblique or side light, transmitted light, ultraviolet, which allowed us to see if the document had marks.

TABLE 2

WebCode	Methods/Techniques	Observations
	Indented Writing	With all of the above, handwriting marks could be observed on the document, which could be clearly read
	Microscopic Examination	the marks found on the upper edge of the questioned note are examined and compared with the marks found on the notepad where a sheet was torn, this in order to establish whether they coincide
	Overlays	an overlay of the questioned note is made with the marks that were revealed in the notepad, to show that the note did come from that notepad
3236NE	Microscopic Examination	obligated rays
	Video Spectral Comparator (VSC)	transmitted rays, normal rays, and obligated rays.
3DG4EF	Método De Análisis Para Autenticidad De Documentos	To determine that the robbery note delivered to the bank teller (Q1) is an authentic document from the spiral notepad recovered from the suspect's vehicle (K1), the Document Authenticity Analysis Method was used. When using this method, it was determined that there is a match between the characteristics of the document (Q1) and the document (K1), likewise jagged marks were found using epicopic lights of the VSC equipment, due to this the Method for the Revelation Examination was used. De Surcos, in order to obtain evidence of the revealed marks; Evidence called comparison basis 2, using this new evidence and comparing it with the document (Q1) in this authenticity study, a correspondence was found between the revealed jagged marks and the writing of the note.
	Método Para El Examen De Revelado De Surcos	Using specialized ESDA2 equipment, irregular markings were revealed on the notepad (K1). These irregular markings reveal the text with the legend "All the money in the drawer I have a gun"
3QMBDL	Microscopic Examination	Matched the questioned note to the fragment 2 from the known notebook.
	ESDA	Writing impressions from Q1 were found on K1.
3XNEJJ	Ultraviolet Light	Same type of paper
	Handwriting Examination	The handwriting caparsion
	Indented Writing	the indented writing in the notepad
49LUNE	Visual Examination	We note upon visual examination the presence of black handwriting on: the front side of piece Q1; the front of the first visible sheet on the spiral notebook K1. The first two sheets of K1 have been used, the two stumps of these sheets remain.
	Indented Writing	Vacuum box: The research was done on the front and back of: the piece Q1; and the first visible page of the booklet K1. On the transfers of traces of treading of the recto and verso of the piece Q1 we observe the presence of visible writings and non-visible writings (John 703-555- 1289). On the transfers of traces of treading of the recto and the verso of the first sheet of the spiral notebook K1, we observe the presence of visible writings and nonvisible writings ("John 703-555- 1289" and "All the money in the drauwer I have a gun".
	Video Spectral Comparator (VSC)	We observe that the inks visible on Q1 and K1 (lines of the sheets and handwritten mentions) react in an identical way under: infrared radiation with different filters; fluorescent spotlight with different filters.
	image processing software	The stigmata visible on the upper part of the piece Q1 correspond to the stigmata of the second strain of the spiral notebook K1.

TABLE 2

WebCode	Methods/Techniques	Observations
4L9VMU	ESDA	1.The indentation of K1 corresponds with the writing shown on Q1. 2.there are indented writing "John 703-555-1289" on both K1 and Q1.
	Video Spectral Comparator (VSC)	The upper side pattern of K1 physically matches the paper debris left on K1.
4PTPGA	Video Spectral Comparator (VSC)	Torn edge; paper and ink consistencies
	ESDA	Indented writing on Item Q1 and Item K1. Writing and indented writing from Item Q1 consistent with indented writing on Item K1.
	Oblique Light	Indented writing observed on Item Q1 and Item K1.
	Visual Examination	Torn edge (fracture)
	Macroscopic/Microscopic Examination	Torn Edge (fracture)
4QLK4H	Visual Examination	The notepad (K1) has remains of its first two pages, which are mutilated. It is appreciated that the rest of the second sheet of the notepad (K1) fits in its lower irregular edges with the note sheet (Q1) in its upper irregular edges. Text grooves are seen against the light, on the third sheet of the notepad (K1), without being well defined.
	Macroscopic/Microscopic Examination	(Q1) There are bristly fibrils on their upper edge due to a mutilation defect. The second stroke of the notepad K1 sheet is confirmed to fit the top edge of the note sheet Q1.
	Video Spectral Comparator (VSC)	Applying transmitted light to the note sheet (Q1) reconfirms how the irregular edges of the mutilated upper part fit with the mutilated lower edge of the notepad (K1). With the application of the coaxial light, it is appreciated in the note (Q1), grooves of text "Jhon and several numbers". With the application of coaxial light, grooves of letters can be seen on the third sheet of the notepad (K1). When superimposing the note sheet (Q1) with the third sheet of the notepad (K1), two latent texts can be seen, the first of them with the following letters "Alle the money in the drawer I have a gus", the second of them with the following letters and number "John 7034555 12994".
	ESDA	It is confirmed, both documents present marks coinciding the development of the text of the pad (K1) with the writing in the note (Q1).
4TRXUW	ESDA	The strongest impressions were found when developing the reverse of the documents. K1 pages 1, 2, and 3 contain impressions from Q1. K1 page 1 (and page 2 to a lesser extent) contains impressions from an unknown source. The text reads "John 703-555-1289" (same impressions found on Q1). K1 page 2 contains impressions from page 1. Q1 contains impressions from an unknown source. The text reads "John 703-555-1289" (same impressions found on K1).
	Video Spectral Comparator (VSC)	White light confirms class characteristics such as paper shape, color, size, thickness, and line spacing are consistent between K1 and Q1. Oblique lighting showed indentations on K1 that match the handwriting on Q1. Transmitted light reveals additional detail of torn edge delamination which assisted in the fracture match. Ultraviolet light and spot fluorescence reveal no difference between exhibits.
	Ruler	A metric ruler was used to measure the size of the exhibits. The combined vertical measurements of the K1 tab 2 and Q1 are consistent with the page sizes of the untorn sheets within K1. Horizontal measurements are consistent between K1 and Q1.

TABLE 2

WebCode	Methods/Techniques	Observations
	Micrometer	A micrometer measurement of the paper thickness confirms K1 and Q1 consistency.
	Adobe Photoshop	Photoshop was used to create an overlay of Q1 and the ESDA lift of page 1 of K1 to show their common source association.
	Microscopic Examination	The Keyence digital microscope was used to compare the torn edges of K1 (tab 2) and Q1 and indicates the fractures are a match.
4ZC7AF	Oblique Light	Grazing light: allowed to identify invisible grooves that correspond to the text of the questioned note.
	Microscopic Examination	Microscopic examination: With which it was determined that the theft note sheet comes from the second sheet (previous) to the manuscript of the notebook recovered from the suspect car, once the texture of the cuts of both substrates was analyzed and matched.
	Handwriting Examination	Graphological Examination: in which it was determined that the identifying characteristics of the links and forms of the closing "r", the generative movements of the "a", "d", "o" and "g" are coincident between the elements calligraphic compared.
67DWWJ	Microscopic Examination	
	ESDA	Indented writing from the Q1 note found on the third page inside the K1 notepad Additionally, on pages Q1 and K1 the indented text "John 703-555-1289" was found. The source of this text might be the first missing page of the notepad (not available)
	Video Spectral Comparator (VSC)	optical similarities in ink characteristics between the Q1 note and the handwriting figuring in the K1 notepad
	Keyence 5000	fracture match between the torn edge of the Q1 note and the torn edge of the second remnants remaining inside the K1 notepad
686XVE	Video Spectral Comparator (VSC)	Using different magnifications, the fractures of the document are observed on the notepad and lined up against the note sheet; finding that the second fragment attached to the spiral presents a coincidence. Additionally, it is found that the paper and the printed scratch lines of the note match the sheets and size of the notepad.
	Oblique Light	through the use of oblique light, on the first blank sheet of the notepad, indented texts are appreciated, which when superimposed in an image on the sheet with the handwritten text, it can be found that they coincide
6QZL7B	Visual Examination	Item K1: Approximately 3" x 5" "Memo Pad" spiral notebook with at least 2 pages torn or cut out and 58 pages remaining. Two paper tabs remain spirally connected where pages were removed. Bottom left and right corners of pages are rounded. Short list written on the first page (page 3) "Bread, milk, eggs, flour". Item Q1: Single sheet of lined paper approximately 3" x 4.5" in size. Top of sheet appears to have been torn or cut. Bottom corners of sheet are rounded. Short sentence written that says "All the money in the drawer I have a gun"
	ESDA	Item Q1: Latent indentations revealed of the name "John" and the numbers "703-555-1289". Item K1: Latent indentations revealed of the handwriting from Item Q1 "All the money in the drawer I have a gun" and the same indentations found on Item Q1, the name "John" and the numbers "703-555-1289"
	Video Spectral Comparator (VSC)	Item Q1 and the first page of Item K1 were examined under Ultraviolet light. Both pages luminesced similarly.

TABLE 2

WebCode	Methods/Techniques	Observations
	Paper Fracture Match	A microscopic examination of the paper fibers between the top edge of Item Q1 and the bottom of the second tab on Item K1 was performed. Paper fibers connecting the two were observed.
	Handwriting Examination	An attempt to compare the handwriting from Item Q1 to the handwriting on Item K1 was made. There was not enough comparable handwriting present.
6YBT3D	Visual Examination	Similarities in size, shape, color of paper and printed lines between Q1 and K1. Overlapping of paper Q1 and K1 - matching size and shape.
	Microscopic Examination	Comparison of torn edge of second page in K1 with Q1. Torn edges are matching.
	Video Spectral Comparator (VSC)	Similarities between Q1 and K1: UV 312 and 254nm (visible dark fibers in paper). IR luminescence (same reaction of paper and ink of the written text). IR filters (same reaction of printed lines on paper). side light (indented impressions on Q1 and K1). transmitted light (same look of paper structure)
	ESDA	Q1 shows indented writing "John 703-555-1289". K1 shows indented writings "All the money in the drawer I have a gun" and "John 703-555-1289"
7BXEKE	Visual Examination	Item Q1: Sheet notes of white color with blue lines, with cut of irregular edges in the upper section of the sheet, semicircular lower corners with a writing in black ink that reads "All the money in the drawer I have a gun". 1. The words "All the money" are located in the fourth line of the page from top to bottom. 2. "In the drawer" is located on the seventh line of the sheet from top to bottom ". 3. "I have" is located on the seventh line of the sheet from top to bottom ". 4. "a gun", is located on the seventh line of the sheet from top to bottom ". Illegible grooves are also observed in the middle section of the note. Item K1: Spiral notepad with black paste with a legend on the paste with white letters that reads "memo pad". Inside there are two white capos showing detachment with irregular edges. The sheets of the block are white with blue lines in which on the first sheet there is a writing made with black ink that reads "bread, milk, eggs, flower".
	Microscopic Examination	Item Q1. Detachment cut is observed in the upper section, with irregular edges and small fragments protruding from the edge in the middle section and at the end of the right side of the cut. Item K1. Two white detachment capos with irregular edges are observed in the cut of the blade. It is observed that the second capo due to detachment lacks a fragment in the shape of a triangle in the middle and on the right side. When you join the note with the second capo of the notepad, the edges of both parts coincide.
	Video Spectral Comparator (VSC)	Item Q1. Evidence of indented writing is observed. On line 6 of the sheet from top to bottom it reads "703-555". On line 8 of the sheet from top to bottom it reads "1289". Item K1. Indented writing is observed, which is read: "All the money In the drawer I have a gun" and "703-555-1289" 1. The words "All the money" are located on the fourth line of the sheet from top to bottom. 2. "703-555" is located on the sixth line of the sheet from top to bottom. 3. "in the drawer" is located on the seventh line of the sheet from top to bottom. 4. "1289" is located on the eighth line of the sheet from top to bottom. 5. "I have" is located on the 11th line of the sheet from top to bottom. 6. "a gun" is located on the thirteenth line of the sheet from top to bottom.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Item Q1. No indented writing data is revealed on the front of the sheet, so we proceed to analyze the back of the sheet where the numbers are revealed: "703-555" is located in row six, from top to bottom. "1289" is located in row eight, from top to bottom. Item K1. The writing development analysis is carried out on the front of the notepad sheet, no writing data is observed, then we continue with the reverse of the first sheet of the notepad, finding latent writing which is read: 1. The words "All the money" are located on the fourth line of the sheet from top to bottom. 2. "703-555" is located on the sixth line of the sheet from top to bottom. 3. "in the drawer" is located on the seventh line of the sheet from top to bottom. 4. "1289" is located on the eighth line of the sheet from top to bottom. 5. "I have" is located on the 11th line of the sheet from top to bottom. 6. "a gun" is located on the thirteenth line of the sheet from top to bottom. To confirm the revealed writing, we proceeded to analyze the front of the second sheet, resulting in the same writing content that was given on the back of the first sheet.
7LKDHB	Macroscopic Examination	The Q-1 paper measures approximately 7.5 mm wide. Notebook paper from the K-1 (K-1 1) also measures approximately 7.5 mm wide. Both the Q-1 and the K-1 1 have 15 blue lines on the paper with the bottom corners being rounded. Measuring from the top line to the bottom of the paper on both the Q-1 and K-1 1, measures approximately 11 cm.
	Microscopic Examination	Two (2) paper remnants were observed attached to the K-1 notebook. The remnants were labeled K-1 2 and K-1 3. Both remnants were microscopically compared to the Q-1 exhibit. Based on this examination no conclusion was reached regarding either remnant once being an integral part with the Q-1 exhibit.
	Micrometer	Micrometer measurements were taken in four (4) random locations within the Q-1, K-1 1 and K-1 4 exhibits. All of the exhibits revealed consistent paper thickness measurements of 0.003 inches. Refer to working copies.
	ESDA	An ESDA examination was conducted on the first two sheets of paper within the K1 (K-1 1 and K-1 4), which revealed Latent writing impressions of the Q-1 handwritten text on these K-1 sheets of paper.
	Overlays	Overlays of the transparency prints derived from the K-1 1 ESDA results and the Q-1 text found that the writings superimposed very closely. Refer to working copies.
7PLEKT	Visual Examination	Observed that suspected known source for the questioned note had two pages that had been torn from the spiral binding. Tear marks were straight across the page and not at the binding itself (indicative of a straight edge of some form being used to tear the page out against or it would have separated at the holes used for binding).
	Oblique Light	Oblique light – low angle incidental lighting with fiber optics from microscope: Observed that indentations were certainly present on #3 of the known (first page that was still bound in the notepad) and that they appeared to contain portions that may correspond to the questioned document.
	Ultraviolet Light	Ultraviolet light – 365nm by VSC4 #3 from known was removed the notepad for further examination. UV response was similar between the questioned and known, they could not be differentiated by this examination.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Indentations were developed on the questioned item and the known (#3). ESDA lifts were made from the front and reverse of these documents. The handwritten text on the questioned item was recovered as indentations on the known (#3). This is proof that item was written on top of K1. Additionally, indentations were recovered on both the Q and known (#3) of an additional text indicating that the Q was on top of known #3 when the other text was written above both pages. This unsourced text was deciphered to read: "John 703-505-1289"
	Overlays	Overlays – developed indentations (ESDA) compared with each other by placing film sheets over one another to determine if writings aligned. The indentations on #2 (also on #3) aligned with each other for the page being properly positioned on top of each other – as if the Questioned Item (Q) was still attached to the tab for #2 in the notepad.
	Microscopic Examination	Torn paper edge/fiber examination -Edge was torn with a guide of some form – too uniform in the line. One point of a laminate tear was noted at the upper right corner, but the lack of other identifying characteristics may have precluded an identification based on this one examination type. - The fiber used in the creation of the paper is all relatively small and the method of tearing reduced the amount of possible points for identification (no large surface fibers could be traced across torn edges).
7QDMGB	Oblique Light	Indentations were found present on the first page of the recovered notepad.
	ESDA	The recovered indentations from the first page of the recovered notepad matched completely the writing on the questioned document.
7QRWHP	Video Spectral Comparator (VSC)	Verifications with different types of light, suitable, enlargements, filter sweeps at different scales allowed corroborating details that match on sheet Q1 versus those observed on notepad K1, for example they are the same: the measurements of the sheets, tonality and opacity of the paper. Similar chromatic behavior of the blue lines and the texts of the investigated supports. Shoes most edges the Q1 sheet with the second position K1 notepad sheet fragment. Low relief produced on the first sheet of notepad K1, matches the strokes of the text written on sheet Q1.
	Macroscopic/Microscopic Examination	The evaluation carried out on the paper sample (Q1) and (K1) in the Stereomicroscope, allowed to corroborate several qualities that register similarity in the investigated paper prototypes, for example: White tint and opacity of the paper samples. Characteristics of the blue streaking of the leaves. Perfect fit of most of the edges or filaments produced by the tear of the sheet Q1 with the second fragment of paper of the notepad K1.
83XELC	Visual Examination	A- The support or paper on which the manuscript under study or doubted is found presents the same characteristics of the sheets that are part of the notepad in the following; Size, design, distribution and color of the lines, shape of the contours or bottom edges
	Microscopic Examination	Under observation with a magnifying glass and stereoscopic microscope, the total coincidence of the teeth formed on the edges of the upper cut of the sheet under study and the second butt in the notepad can be seen.
	Oblique Light	Under observation with oblique or flush lighting (white light) especially on the first page of the notebook (page with manuscripts), the ductus of the signs or letters left when writing the note reason for study can be appreciated, through which You can read what is written on the sheet, in addition there is total coincidence in the location of the signs when making the comparison by overposition of the compared documents.

TABLE 2

WebCode	Methods/Techniques	Observations
84HXT6	Oblique Light	Indented writing visible on the Q1 document reads "John 703-555-1289" and two curved lines. Indented writing on the K1 document reads "All the money in the drawer I have a gun"
	Video Spectral Comparator (VSC)	UV paper for Q1 and K1 reacts consistently. IR ink used in Q1 and K1 reacts consistently. Magnification used for the physical match of Q1 to paper chad in K1
	Handwriting Examination	No opinion given due to lack of comparable writing.
88G86R	ESDA	1. Indented impressions were found on the item "Q1". The indented writing deciphered on front page of "Q1" reading as "John" and "703-555-1289". 2. Indented writing was found on the item "K1" reading as "John", "All the money in the drawer", "I have a gun" and "703-555-1289". 3. Indented writing revealed on "Q1" was identical to the indented writings revealed on "K1".
	Video Spectral Comparator (VSC)	Physical match of torn edges between "Q1" and the second counterfoil of "K1".
89RARQ	Visual Examination	K1 was found to be a spiral bound notepad containing 58 pages of white lined paper and the top parts of two further pages. The first complete page bore handwriting, in black ball point ink, on the front. The paper in K1 was found to be visually similar to that in Q1. Q1 was found to bear handwriting, in black ball point ink, on one side only.
	Microscopic Examination	The torn edges for the two part pages in K1 was compared to the torn edge at the top of Q1. No physical fit could be established between the part pages in K1 and Q1.
	Video Spectral Comparator (VSC)	The torn edges for the two part pages in K1 was compared to the torn edge at the top of Q1. No physical fit could be established between the part pages in K1 and Q1. The paper in Q1 and K1 was found to have similar UV fluorescent properties. The ink in Q1 and K1 was found to have similar UV fluorescent properties.
	ESDA	Indented impressions from an unknown source were found on Q1. These were "John 703-555-1289". These impressions and impressions from the handwriting on Q1 were found on the first complete page in K1. These impressions, impressions from Q1 and impressions from the handwriting on the first complete page in K1, were found on the second complete page in K1.
	Handwriting	There was insufficient handwriting in Q1 and K1 for a useful comparison to be carried out.
8CC4L7	Microscopic Examination	
	Visual Examination	
	Video Spectral Comparator (VSC)	
8FN92C	ESDA	Indentations were located on Q1 reading "John 703-555-1289". These indentations, along with indentations of the writing on the questioned note, were located on the first page in K1. Examination of the intersection points of the indentations and ink entries show "John 703-555-1289" was written before the questioned note was written, and the questioned note was written before the shopping list on first page of K1 was written.
	Visual Examination	Q1 consistent in size, shape, and line rulings with pages in K1.

TABLE 2

WebCode	Methods/Techniques	Observations
	Microscopic Examination	Gross and subtle similarities between the tear pattern on the top of Q1 and that on the second stub in the front of the notepad K1.
8NK2CR	Visual Examination	Indented impressions observed on Q1 and first page in K1 (K1A), physical match between Q1 and small piece of perforated paper right above K1A.
	Oblique Light	Indented impressions observed on Q1 and first and second pages in K1 (K1A, K1B).
	Microscopic Examination	Ball point pen (K1, Q1), physical match between Q1 and small piece of perforated paper right above K1A.
	ESDA	Indented impressions observed on Q1 (front and back), K1A (front and back), K1B (back).
	Indented Writing	Indented impressions observed on Q1, K1A, K1B.
8V66G9	Visual Examination	Similar size, color, and ruling between the demand note and comparison notebook.
	Ultraviolet Light	Similar UV response between the demand note and comparison notebook.
	ESDA	Indentations recovered in the demand note that share a common source with impressions recovered in the notebook. Indentations recovered in page 3 sourced to the visible writing on the demand note.
	Oblique Light	Writing indentations visible in the demand note and comparison notebook.
	Microscopic Examination	Torn paper edges examined microscopically and exhibit similar edge morphology including partial thickness tears. (horizontal shearing)
	Video Spectral Comparator (VSC)	Similar IRL response between the demand note and comparison notebook.
9B83YB	Visual Examination	The links, inclination and shape of manuscripts are observed
	Microscopic Examination	The links, inclination and shape of manuscripts are observed
	Oblique Light	The links, inclination and shape of manuscripts are observed
9DY2D9	Visual Examination	The note "Q1" appears to be consistent in physical appearance with the pages in the spiral notepad "K1", including the following: 1. Colour and size of the paper; 2. Colour and spacing of the ruled lines.
	ESDA	The handwriting impressions 'John 703-555-1289' were observed on the ESDA lifting of "Q1". The handwriting impressions 'All the money in the drawer I have a gun' were observed on the ESDA lifting of the top page (excluding the cover) of "K1". This corresponds to the handwriting on "Q1". In addition, the handwriting impressions 'John 703-555-1289' were also observed, but they were fainter compared with the handwriting impressions observed on "Q1".
	Microscopic Examination	The torn top edge of the note "Q1" were found to be physically fitted to the torn edge of the second stub in "K1".
9JLRZ4	Visual Examination	Visual examination shows that Q1 and the sheets in K1 are the same size and shape. This was confirmed by measurement of the width with a ruler. In both Q1 and K1 the blue printed lines are 7 mm apart and the final line is 11 mm from the bottom edge. K1 includes two partial fragments of pages (pages 1 and 2) before the first intact sheet (page 3). The top edge of Q1 appear to have been torn.

TABLE 2

WebCode	Methods/Techniques	Observations
	Oblique Light	Oblique light shows impressions present on page 3 of K1 from the writing on Q1. Impressions relating to a phone number were also found on Q1 and were faintly visible on K1. These results were confirmed using ESDA. All other pages of the notepad were examined using oblique light; no additional impressions were observed.
	ESDA	ESDA examination revealed indented impressions of all writing from Q1 on the first full page of K1 (page 3). Impressions of the entry 'John 703-555-1289' were also found on both Q1 and K1 and appear to originate from writing on a sheet that was part of page 1 of K1. The position of the impressions suggests the pages were all in alignment and were likely to be intact when the writing was added.
	Video Spectral Comparator (VSC)	The Projectina Inspec8S was used to show that the ultraviolet properties of the paper used for Q1 and K1 are similar. The inks used to write the entries on K1 and Q1 were found to be indistinguishable when viewed using infrared light; they exhibited fluorescence under similar lighting conditions. Ultraviolet and transmitted lights were used to compare the tear patterns; the pattern was found to match between the top of Q1 and the fragment of page 2 in K1.
	Handwriting Examination	There are similarities between the handwritings on Q1 and K1. These include the letters a, e, o, r and g. However there are several features of the writing on Q1 that are not present in K1 for comparison. It is not possible to determine whether or not the handwritings on Q1 and K1 are the work of the same writer due to the relatively small amount of writing available; the evidence in relation to handwriting alone would be inconclusive.
9ZVXRE	ESDA	Indentations of writing from an unknown source were developed on the front and back sides of Q1. The indentations were deciphered by me as: "John 703-555-1289". Indented impressions from the same unknown source also developed on the front and back sides of K1c. This is evidence that associates Q1, K1c, and the unknown source writing to a shared common source. Indentations from the writing on Q1 developed on the front and back sides of K1c. This is evidence that supports that when the writing ("All the money in the drawer I have a gun") on Q1 was written, Q1 was on top of K1c. This is further evidence that Q1 and K1c share a common source.
	Paper Tear Match	K1b and Q1 were physically aligned, examined visually, and a scanned image was captured. The K1b remnant (paper fragment) and Q1 physically align in all aspects and were at one time joined as a single piece of paper.
ACXN68	Oblique Light	Indentations were observed on the notepad.
	transparent film	Copied Q1 to a transparent film, and overlapped the transparent film with K1--it is found that indentations of K1 were matched with Q1.
	ESDA	Indentations were observed on the first page of the notepad(K1).
	edge-to-edge realignment	The upper edge of Q1 matched with the fragment of K1.
APCGZ9	Visual Examination	No differences were noted in the appearance of the Q1 and K1 papers. The width of the papers was the same (3"), however, Q1 had been trimmed, making a vertical measurement comparison not possible. Both papers had blue rulings and rounded bottom corners.
	Microscopic Examination	The trimmed edges of Q1 and the second remaining remnant of paper from K1 (still attached to the spiral) matched with respect to a physical tear.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	On Q1 was found the following in indented form "John 703-555-1289". The writing on Q1 and "John 703-555-1289" was found on the K1.1 page in indented form. Page K1.2 bore "John 70-3555-1289" and the writings from both Q1 and K1.1 in indented form.
	Oblique Light	With oblique light, the following was visualized: Q1 - "John 703555 1289". K1.1 - the text from Q1. K1.2 - "bread"
	Transmitted Light	No differences in paper morphology noted when examining under transmitted light.
	Video Spectral Comparator (VSC)	Spectral examinations revealed no visible differences in UV fluorescence in the papers or infrared reflectance or luminescence of the writing or rulings on the Q1 and K1.1 papers.
AQGFP8	Visual Examination	Physical characteristics of paper: Q1 - It measures 11.5 centimeters long by 7.5 centimeters width (being a data only for reference), and is a support with a rectangular shape. Bond paper, white background, 15 blue horizontal stripes. Opaque paper. Smooth bracket texture. Presents autograph writing with black ink pen and the text that says: "all the money in the drawer i have a gun". K1 - It is a notebook with 58 sheets and in the top part 2 segments of sheets; each sheet measures 12.6 centimeters long by 7.5 centimeters width (being a data only for reference), each being a support with a rectangular shape. Bond paper, white background, 15 blue horizontal stripes. Opaque paper. Smooth bracket texture. The first sheet of the notebook presents the text in black ink bread, milk, eggs, flour
	Oblique Light	Q1 - The questioned support does not show bends, folds, clip or staple marks, holes, wavy marks; however, it contains latent writing on the fourth line; being the letters jo; and in the sixth line the numbers 703-55 and in the eighth line, the numbers 1089; and in the eleventh line it presents a curved groove. K1 - The indubitable supports do not present bends, folds, clip or staple marks, holes, wavy marks; however, on the first sheet of the indubitable element, it presents latent writing "all the money in the drawer i have a gun" that coincides in location with the autograph writing of the questioned document.
	Macroscopic Examination	The macroscopic alignment of the upper edge of the questioned element with the lower edges of the segments contained in the book, noting that the tear pattern of the second segment coincides with the upper edge of the questioned element.
	Video Spectral Comparator (VSC)	Q1 - When applying ir light at 780 nanometers, i observed that the ink in the blue lines is absorbed; latent writing is revealed; the text you present is not absorbed; and when applying the uv light, i appreciated that it presents fluorescence. K1 - When applying ir light at 780 nanometers, i observed that the ink in the blue lines is absorbed; latent writing is revealed; the text you present is not absorbed; and when applying the uv light, i appreciated that it presents fluorescence.
B3ABML	Visual Examination	Disclosed that Q1 has similar physical dimensions to the pages of the notepad K1, the full sheets being approximately 74.5 mm by 126 mm. This included the rounded edges of the lower portion. The printed lines for the ruling have a similar spacing measured to be approximately 7.5 mm between ruled lines. Q1 was observed to have a similar visual appearance to the pages within K1. A tear pattern is present at the top of Q1 which could be compared to two stubs within the coil binding of the notepad K1.

TABLE 2

WebCode	Methods/Techniques	Observations
	Magnification	Used for visual examination of the tear pattern comparison between the document Q1 and K1. The second stub, i.e. the stub closest to the full sheet within K1 was found to have a similar tear/fracture pattern.
	Oblique Light	Raking illumination (oblique or grazing illumination) disclosed the presence of indented writings on the first full page that was present in the notepad.
	ESDA	The first full page of the notepad K1 was developed for indented writings. The indented writings were observed to include the entirety of the visible writing on document Q1. An image of the developed indented writing would usually be included with the report.
B6ZA2K	Macroscopic/Microscopic Examination	Abundant morphotypic characteristics were found between the doubted and undoubted material; These similarities occur in: their format, substrate color, inks of the pre-printed lines, die-cutting (edges) and coincidence in the cut (tear), such as: cutting the edges of both the left and right sides as well as the area bottom, distribution, caliber and color of the blue tone lines, interlinear spaces, finishing in the lower corners, the coincidence of the deformation of the surface that the first sheet of the notebook presents (grooves per footprint of writings) K1, with the writings that contain the investigated sheet Q1, generated by the pressure exerted when they were prepared; as well as the perfect match between the upper edge of the Q1 sheet (doubted) and the lower part of the second fraction or paper stub of the notebook referenced K1.
	Video Spectral Comparator (VSC)	Abundant morphotypic characteristics were found between the doubted and undoubted material; These similarities occur in: their format, substrate color, inks of the pre-printed lines, die-cutting (edges) and coincidence in the cut (tear), such as: cutting the edges of both the left and right sides as well as the area bottom, distribution, caliber and color of the blue tone lines, interlinear spaces, finishing in the lower corners, the coincidence of the deformation of the surface that the first sheet of the notebook presents (grooves per footprint of writings) K1, with the writings that contain the investigated sheet Q1, generated by the pressure exerted when they were prepared; as well as the perfect match between the upper edge of the Q1 sheet (doubted) and the lower part of the second fraction or paper stub of the notebook referenced K1.
B7U4H2	Visual Examination	Initial overall assessment of suitability for comparison/examination
	Oblique Light	Observation of disturbance of paper fibers, indented writing or other impressions which may be present
	ESDA	Visualization and documentation of indented writing observed with oblique lighting
	Macroscopic/Microscopic Examination	Examination of the edges of the paper for fracture patterns, suitability for paper fiber examinations, and other observations and assessments
	Transmitted Light	To check for watermarks and to visualize paper fibers/fracture pattern
	Video Spectral Comparator (VSC)	Source of microscopic examination with transmitted lighting that allowed for imaging/documentation of the agreement/disagreement between the items
	Ruler	Used for generalized assessment of similarity between the items to determine if class characteristics were in agreement
B8LZ6B	Visual Examination	Notepad item K1, presents 2 fragments of sheet, handwriting and indented writing. 2.Note Item Q1, presents cut on the upper edge, handwriting that reads "All The money in tha drower I have a gun" and indented writing

TABLE 2

WebCode	Methods/Techniques	Observations
	Microscopic Examination	Item K1, the fragment of the second sheet, the lower edge (cut) is concordant with the top edge of item Q1 2. Item Q1 The handwriting "All The money in tha drawer I have a gun" matches the indented writing of item K1.
	Video Spectral Comparator (VSC)	Macroscopic-microscopic examination, concordances are observed in the cut of the lower border of fragment No. 2 of item K1, with the upper border of item Q1. 2. Item K1, with oblique light it is observed indented writing that reads "John 703-55 1289" and "All the Money in the drawer i have a gun", this last writing coincides with the pen handwriting of the note Q1.
	Document Analysis Method	Matches between the indented writing and handwriting with pen, "All the Money in the drawer I have a gun" and the distance between lines of note Q1 and K1 notebook
	Handwriting Analysis Method	The handwriting of the note (Q1) made with a ballpoint pen matches the handwriting made with a ballpoint pen on the notepad (K1).
B9ZKXX	Visual Examination	Physical aspects of both the note and the pages of the note pad were consistent.
	Macroscopic/Microscopic Examination	Microscopic comparison of the torn edge of the note and second remaining page of the note pad were consistent.
	Ultraviolet Light	Ultraviolet light comparison exhibited consistent color between the note and the notepad.
	ESDA	ESDA development of the note pad revealed the exact wording of the note. The transparent overlay of the developed note pad was consistent with the words and the word alignment of the note. The development also revealed additional writing impressions probably from other previous note pad pages.
BKEH3N	Visual Examination	The originality of the study elements was observed. The general structure of the sheets is observed, with respect to the size, color of printed lines of sheet Q1 and notepad K1.
	Ultraviolet Light	To verify paper reactions and possible stains caused by abrasive elements or possible safety existing on its surface or glued between documents Q1 and K1.
	Oblique Light	To observe writings on the surface of the paper pressure product by amanuense, establishing possible ductus or footprints and matching content between note Q1 and first sheet of the notepad K1.
	Macroscopic Examination	Analysis of paper structure, printed lines, color, size, to establish general source between questioned note Q1 and notepad K1.
	Microscopic Examination	To check if the paper filaments, product of tearing in the questioned note Q1, have perfect match to the filaments of any of the paper fragments, which presents the notepad K1.
	Handwriting Examination	To verify reading and position and topographical distribution of the signs that make up the inked writings of the note questioned Q1 and the ductus or footprints of non-inking signs, which work on the first sheet of the notepad K1.
	Video Spectral Comparator (VSC)	To match or not the paper filaments of questioned note Q1 and notepad K1, in addition to appreciating the surface of the first sheet of the notebook to obtain evidence of grooves or sign footprints from manual pressure. Obtaining images to show the results obtained.

TABLE 2

WebCode	Methods/Techniques	Observations
BR9PE3	Macroscopic Examination	Visual examination with ambient lighting; similarities in class characteristics between questioned and known items (color, dimensions, number of holes, manufacturer's printed lines). Examination of general fracture/tear pattern.
	Microscopic Examination	Detailed analysis of fracture and feathering pattern of torn edges of questioned and known - agreement in identifying characteristics between questioned item and page 2 fragment within known notebook.
	Video Spectral Comparator (VSC)	Similar optical properties between questioned and known items (using various lighting and filter settings, such as UV, IR). Magnified visualization of fracture and feathering pattern using both flood and transmitted lighting. Agreement in identifying characteristics between questioned item and page 2 fragment within known notebook.
	Indented Writing	Oblique lighting and ESDA used. Indented writing best read as "John 703-555-1289" observed on questioned item. The same aforementioned indented writing was also observed on pages 3 and 4 of the known notebook (using ESDA). Additional indented writing was observed on pages 3 and 4 of the known notebook which corresponds to the visible writing on the questioned item (using side-lighting and the ESDA). No other indented writing/indented writing of value was observed on the submitted items using side-lighting and/or the ESDA.
BUX2D8	Visual Examination	Spacing and format between lines appearing on Q1 is consistent with pages found in K1. Remnants of what appears to be two missing pages were noted.
	Magnification	Remnants of what appears to be two missing pages were noted. Magnification was used to compare the tear patterns appearing on the remnants of the two missing pages in K1 and the tear pattern on the edge of Q1. Tear patterns between the remnant of what appears to be the second missing page were found to be consistent.
	Indented Writing	Partial indented impressions of what appears to be the letters "hn" and numbers "555 289" were found on Q1. Impressions were found on the page in K1 that were consistent with the writings and text appearing on Q1. Additionally, the impressions of what appears to be the numbers "703-555-1289" and a partial impression of what appears to be the letters, "John" were found on the page from K1.
C2D4U9	Ultraviolet Light	The type of paper material
	Microscopic Examination	
	Indented Writing	The indented writing
	Handwriting Examination	Handwriting comparison
C2TFEZ	Microscopic Examination	The ripped edge of the questioned note (Q1) is compatible with the ripped edge of the second small fragment of the notepad (K1).
	Ruler	The width of the questioned note (Q1) and the width of the sheets of the notepad (K1) are the same.
	Video Spectral Comparator (VSC)	Indent traces are noted on the third sheet of the notepad (K1), which are similar to the letters of the text existing on the questioned note (Q1). The distance between the lines and the color of the lines are the same on the sheet of the questioned note (Q1) and on the sheets of the notepad (K1).
C4GRD6	Indented Writing	Side lighting images of the internal notebook page with handwriting revealed indentations consistent with the Q note. A digital image overlay of the note above the indentations image, matched.

TABLE 2

WebCode	Methods/Techniques	Observations
	Macroscopic/Microscopic Examination ESDA	Comparison of the torn paper edge from the Q note matched the paper remnant closest to the note bearing handwriting within the spiral notebook. ESDA processing of the page with writing within the notebook revealed indentations that matched the handwriting on the Q robbery note.
CF9KJ8	Video Spectral Comparator (VSC) Microscopic Examination ESDA	It's observed parts of the indentation (Phone Number). The matching of the fibers was observed on the edges of the document, which was identified where it was detached. The matching of the fibers was observed in the edges of the documents which was identified where it was detached. When the first three sheets were processed, the indentation were observed in them specifically those of the theft note: All the money in the drawer I have a gun."
CL2HC6	Video Spectral Comparator (VSC)	K1 has indentations from Q1's writing. K1 and Q1 have the same paper material. There is no obvious differences at K1 and Q1's tearing
CUXF4D	ESDA Oblique Light Microscopic Examination	There are indentations on the first page of K1 from the writing on Q1 A/A The page Q1 was torn from K1
CXU4HZ	Visual Examination ESDA Oblique Light Video Spectral Comparator (VSC) Handwriting Examination Overlays	Description of Q1: Approx. 11.6 by 7.5 cm, white, lined paper torn from a pad or similar. Clean torn edge along the top - no signs of perforations. Bearing handwriting, in a black ball point pen ink - "All the money in the drawer I have a gun". Description of K1: Memo pad - green front cover, cardboard back cover. Cover states "memo pad". Spirally bound along top edge. Approx. 12.5 by 7.6cm. Examination of the pages inside - white lined paper. Two pages appear to have been removed, by tearing against a straight edge (a ruler?). First complete page bears writing in a black ball point pen ink, which appears to be a shopping list : "bread milk eggs flour" ESDA to reveal indented writing: Q1 reveals "John 703 - 555 -1289". K1 reveals "All the money in the drawer I have a gun" plus faint traces of indentations found on Q1. ESDA also used for physical fit - second torn edge of pad, still attached to the spiral fits with the torn edge of Q1 Used to reveal indented writing before ESDA No differences found between inks used to write Q1 and the shopping list in K1 Comparison, where possible, of the writing on Q1 with the visible writing within K1 shows some similarities, in the "o", "d", "u", "e" and "g". Sufficient to give only a very weak opinion, but sufficient to indicate that handwriting samples/ course of business writings should be obtained. Overlays of ESDA transparencies of writing on Q1 with indentations on K1
D42QB4	Visual Examination Oblique Light ESDA	Macroscopic observation of overall similar characteristics of the paper in Q1 and K1; observation that top of Q1 had torn edge and there were two paper fragments at the front of Exhibit K1 with torn bottom edges (K-1-1 and K-1-2). Observation of Exhibit Q1 and pages within K1; visualized indented impressions on Exhibit Q1 and on select pages within Exhibit K1 Indented impression examination of Exhibits Q1 and K-1-3 showing unsourced indented impressions

TABLE 2

WebCode	Methods/Techniques	Observations
	Video Spectral Comparator (VSC)	Captured images of oblique lighting of indented impressions on Exhibit Q1 and K-1-3; unsourced indented impressions observed on Exhibit Q1 were also observed on Exhibit K1; sourced indented impressions caused by the handwriting on Exhibit Q1 was observed on Exhibit K-1-3. Different light sources and filters were used to examine the paper in Exhibit Q1 and K1 to show similar class characteristics. High magnification was used to conduct a fracture match examination between Exhibit Q1 (top) and the bottom of the Exhibit K-1-1 and K-1-2 fragments.
	Ruler	Took approximate measurements of overall dimensions of Exhibit Q1 and select full pages within Exhibit K1, and measured interlinear spacing and spacing between bottom edge and last printed line. Similarities in approximate measurements observed.
	Microscopic Examination	Microscopic examination to examine the torn edges of Exhibit Q1, K-1-1 (first fragment), and K-1-2 (second fragment). Additionally conducted microscopic handwriting evaluation of the handwriting on Exhibit Q1 and Exhibit K-1-3 (first full sheet in Exhibit K-1)
DA339L	ESDA	ESDA examination on page 1 of the recovered notepad "K1" revealed indented writing consistent to the handwritten note on the questioned note "Q1".
	Video Spectral Comparator (VSC)	1. Indented handwriting was deciphered on page 1 of the spiral notepad recovered from the vehicle of the suspect (the recovered notepad) marked "K1" using side lighting. 2. Indented handwriting was deciphered on page 1 of the recovered notepad marked "K1" and the treated with ESDA2 was overlapped to a piece of the questioned note marked "Q1" and it matched each other.
	Visual Examination	1) The questioned note marked "Q1" showed similar paper characteristic in size and line spacing with the recovered notepad marked "K1". 2) The questioned note "Q1" also showed a physical match at the torn edge when compared to the torn edge on the leftover piece on notepad "K1".
DCV46	Visual Examination	3-26-2021 Items Q1 and K1 were assessed. Item K1 contains 2 remnants of torn away pages. Item K1 also contains one top page with writing consisting of the words "bread milk eggs flour".
	Microscopic Examination	3-26-2021 Microscopic examination of Items Q1 and K1 revealed original writing is in black ball point ink. Edges of paper tear on Item Q1 and 2 portions of torn away paper left behind in K1 also examined under the microscope.
	ESDA	3-26-2021 Processed Item Q1 and the top page of Item K1 for indented writing impressions. The top page of Item K1 was cut from the notepad. Test strip positive and uploaded to the S drive, evidence images drop box. Indentations of the top page of Item K1 were developed on Item Q1. These indentations line up with the original writing of Item Q1. Additional indentations of the word and letters "John 703 - 555 1289" were also developed on Item Q1 and the top page of Item K1. The original electrographs were marked as Items 1.1.1 (from Q1) and 1.2.1 (from K1).
	Ultraviolet Light	3-29-2021 Items Q1 and the first page of Item K1 were examined under ultraviolet lighting. Optical brighteners are consistent. Image saved to a temporary file folder.
	Infrared Light	3-29-2021 Items Q1 and the first page of Item K1 were examined under infrared lighting. No ink differentiation was observed. Images saved to a temporary file folder.

TABLE 2

WebCode	Methods/Techniques	Observations
	Physical match	3-29-2021 Microscopic examination of edges of paper from Item Q1 to the torn paper portions left in the notepad of Item K1. The 2nd paper portion and the top portion of Item Q1 were once joined together. 3-30-2021 Images taken on the VSC6000 to document the physical match. Images saved to a temporary file folder.
	Handwriting Examination	4-12-2021 Handwriting comparison of the hand printing on Q1 and the hand printing appearing on the top sheet of K1. Due to a lack of comparable letters and letter combinations, it could not be determined if the hand printing was written by the same person. The submission of a 3 page exemplar form along with the submission of multiple repetitions of the questioned material may allow for a more definitive conclusion.
DD439H	Macroscopic/Microscopic Examination	The techniques used taking into account macroscopy-microscopy, using in the letter different magnifications with diascope and episcopic illumination, of verifying intensity and degree of incidence.
	Video Spectral Comparator (VSC)	The techniques used taking into account macroscopy-microscopy, using in the letter different magnifications with diascope and episcopic illumination, of verifying intensity and degree of incidence.
DWD8QZ	Visual Examination	As part of the initial assessment, I observed Item 1 (Q1) exhibited class characteristics consistent with the notebook pages in Item 2 (K1). I observed a torn edge along the top edge of Item 1 (Q1) and torn edges on the first 2 fragments in Item 2 (K1).
	Oblique Light	I observed indented writing on Item 1 (Q1) and p. 3 of Item 2 (K1).
	ESDA	Indented writing was observed on Items 1 and 2 (Q1 and K1). The indented writing on Item 1 (Q1) is best read as "John 703-555-1289," and was also observed on page 3 of Item 2 (K1). The additional indented writing on page 3 of Item 2 (K1) originated from the questioned writing on Item 1 (Q1).
	Cut/torn edge	The fracture pattern of the torn edge on Item 1 (Q1) aligned with the fracture pattern of the torn edge on the page 2 fragment from the Item 2 (K1) notepad.
DY2JP7	Visual Examination	Visual examination between the questioned robbery note (Q) and the known notepad (K) to identify indented writing and other possible evidence. Both Q and K appear to be written in black ball point ink.
	Oblique Light	Oblique lighting enhanced indented writing on the questioned robbery note (Q) and from the known notepad (K).
	Handwriting Examination	A handwriting comparison showed that the indented writing on the questioned robbery note (Q) is not related to the existing wet ink writing in the known notepad (K). The indented writing in K is related to the wet ink writing on Q.
	Perforation examination	An examination was conducted between the two perforated tabs in the known notepad (K) to the top perforated edge in the questioned robbery note (Q). The perforation between the top edge of Q corresponded with the perforations in the second perforated tab in K.
DY2LB4	Microscopic Examination	It was possible to observe a correspondence between the detachment pattern with the questioned document and the known
	Video Spectral Comparator (VSC)	Using lights in different positions, especially IR, marks grooves that do not correspond to the text written in both documents (questioned and known) were observed.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	In both documents (questioned and known), texts other than those contained in the documents were recovered.
E24227	Visual Examination	Step 1: was examine both sides of the item Q1 to determine whether the questioned document is suitable for examination and comparison, was searched any forms of contamination on the document (such as well as stains from food or drink, dirt smudges of grease or chemicals). Appears to have been cut from a notepad, the cut was very precisely done. The activity was repeated with Item K1 (Spiral notepad recovered), also was observe two tabs (the 1st and 2th pages that were removed), the 1st page complete has a handwritten text. Step 2: Was searched any differences in the substrate, such as the use of different paper. it was also done comparison (by juxtaposition) of the edges of the two items (the tabs contained in the notepad against the edges of the sheet item Q1) taking into account notches, fibers of the substrate, among other features.
	Microscopic Examination	Step 1: was examine the 2th tab contained in the notepad against the edges of the item Q1, the comparison of which yielded as a result that sheet it was matches of the tab.
	Video Spectral Comparator (VSC)	Step 1: Was applied a light sources oblique (side-light), to determine if have indented text in the 1st page complete of notepad. The activity was repeated with the 2th and 3th page complete of notepad. This analysis yielded as a result that sheets it was contained indented text. Step 2: A comparison was made of the indented text of pages 1st, 2th and 3th of item K1 vs the text of item Q1, the revealed text matches.
	ESDA	Step 1: ESDA exam revealed an indent text in the 1st, 2th and 3th full page consecutive of item K1, the text of item Q1 matches in shape and size.
E7XXQX	Oblique Light	Obliques light. Impressions of writing are found on a sheet of paper notepad(K1). It shows letter are similar to the note(Q1).
	ESDA	ESDA - Indent impressions found on a writhing notepad (K1) are "All the money in the drawer I have a gun" and "John 703-555-1289". Indent impressions found on a writing note (Q1) is "John 703-555-1289". The result of the notepad(K1) examination by ESDA shows the same message that is on the suspect paper note(Q1).
	Microscopic Examination	Microscopic Examination. Torn documents - It shows that the tear of paper note(Q1) is similar to the second page of notepad. Fiber Analysis to examine the paper grains. Grains short/long of the torn paper note(Q1) match to grain of the second page of notepad (K1).
E9LAP3	ESDA	After careful processing of Questioned Robbery Note (Q-1) and Reference spiral notepad (K-1) using Electro Static Detection Apparatus (ESDA2), following observations are noted: a) Indentations deciphered from Reference spiral notepad (K-1) corresponds to writing on Questioned Robbery Note(Q-1). b) Indentations deciphered from Questioned Robbery Note (Q-1) were also deciphered from Reference spiral notepad (K-1).
	Video Spectral Comparator (VSC)	After careful examination and comparison of Questioned Robbery Note(Q-1) and Reference spiral notepad (K-1) using Video Spectral Comparator (VSC-6000, software version 6.6), following observations were noted: a) Paper fluorescence of Questioned Robbery Note(Q-1) is similar to Reference spiral notepad (K-1). b) Torn edges of Questioned Robbery Note (Q-1) match with torn edges found in Reference spiral notepad(K-1).

TABLE 2

WebCode	Methods/Techniques	Observations
EBP697	Indented writing (ESDA2 and Oblique Light)	Indented writing of the words "All the money in the drawer I have a gun" which were written on the robbery note (Q1) was revealed on the spiral notepad (K1). Indented writing of the words "John 703-555-1289" was revealed both on the robbery note (Q1) and the spiral notepad (K1).
	Side by side comparison/overlying comparison	The indented writing "All the money in the drawer I have a gun" recovered from the spiral notepad (K1) correspond/overlay with the original writing on the robbery note (Q1). The indented writing "John 703-555-1289" recovered from the spiral notepad (K1) correspond/overlay with the indented writing "John 703-555-1289" recovered from the robbery note (Q1).
	Physical match	The torn edge of the robbery note (Q1) physically fit with the torn edge of the second paper fragment of the spiral notepad (K1).
	Paper examination /Visual examination /Macroscopic and microscopic examination	Pages edges of the robbery note (Q1) are similar to those of the spiral notepad (K1). The printed lines on the robbery note (Q1) are manufactured in the same distance, printing process, colour and width of lines in comparison to the line pattern of the pages in the spiral notepad (K1). Dimensions (length, width, thickness) of the robbery note (Q1) are similar to those of the spiral's notepad (K1) papers (except the hard cover papers).
	ALS examination (UV examination/ Transmitted light)	Under UV light, no differences were observed between the robbery note (Q1) and the spiral notepad (K1) papers. Under transmitted light, no differences were observed between the robbery note (Q1) and the spiral notepad (K1) papers.
	Ink Examination: -RAMAN spectroscopy	The RAMAN spectra of the handwriting Ink on the robbery note (Q1) and on the spiral notepad (K1) were not discriminated at 685nm.
EYHAXG	Microscopic Examination	By means of the stereoscope microscope, the edges of the paper are observed in detail, in the place that presents the break, likewise the features that individualize said cut since the fibers when they break, leave on each side of the surface of the paper, a particular sign.
	Video Spectral Comparator (VSC)	Through the use of the VSC6000 Spectral Video Comparator, the simultaneous observation is made between the lower edges of the paper fragments: fragment No. 1, No. 2 that belong to the K1 agenda and the upper edge of note Q1, observing that between No. 2 and Q1, there is exact coincidence between the edges of one and the other.
	Micro spectrophotometry	This technique is carried out by means of the VSC6000 spectral comparator video, which allows observing the spectral reaction of the components of the paper support and the inks used for the texts that are being analyzed and verifying how they react.
F2XALV	Electrostatic Detection Method	In item k1 indented writing is revealed: "All the money in the drawer, I have a gun" and "John 703 -555-1289". In Item Q1 indented writing is revealed: "John 703 -555-1289".
	Handwriting Analysis Method	The handwriting of item K1: "bread milk eggs flour", was compared with the handwriting of item Q1: "All the money in the drawer, I have a gun" and it was determined that both handwriting have the same graphic origin.
	Visual Examination	Condition of item k1 and item Q1 is established. Interferences are determined. The general characteristics of Q1 and K1 handwriting are analyzed finding concordances.

TABLE 2

WebCode	Methods/Techniques	Observations
	Macroscopic/Microscopic Examination	A macroscopic examination of items Q1 and K1 was performed to search for indented writing; and to determine writing characteristics. A microscopic examination of the characteristics of the cuts was carried out in the sheet fragments of item K1 and note Q1, finding correspondence between the lower edge of the fragment of sheet 2 of the notepad item K1 and the cut of the upper edge of the note Q1.
	Video Spectral Comparator (VSC)	With lateral light, indented writing is observed in Item K1 and Item Q1. The cut of the sheet fragment of Item K1 was compared with the cut of the upper edge of the note Item Q1, finding correspondence. Overlays and handwriting comparison of items K1 and Q1 is performed observing the same graphic origin.
	Overlays	Overlapping of the indented writing of item K1 (All the money in the drawer, I have a gun) with the handwriting of item Q1, finding similarities. Overlapping of indented writing of item K1 (-555-1289) with indented writing of Item Q1 (John 703 -555-1289) finding similarities.
	ESDA	In item k1 indented writing is revealed: "All the money in the drawer, I have a gun" and "John 703 -555-1289". In Item Q1 indented writing is revealed: "John 703 -555-1289".
F7EA93	Visual Examination	No significant differences between Q1 and K1 in size and shape of the page
	Oblique Light	Indented impressions on Q1 and K1
	Video Spectral Comparator (VSC)	No significant differences in optical properties of the documents (paper, printed grid)
	ESDA	Matching indented impressions on Q1 and K1: the written text on Q1 was observed as indentation on the uppermost page of K1. On both samples, matching indented impressions (John 703-555-1289) were observed.
	Overlays	Analysis of indented impressions on ESDA sheets from samples Q1 and K1.
F7R4JW	Visual Examination	Visual exam to observe the type of paper and overall characteristics of k1 and q1.
	Video Spectral Comparator (VSC)	VSC to magnify and backlight the torn edges of k1 and q1 to observe fracture pattern and any fibers
	ESDA	ESDA for indented writing exams. observed IW that was the same on k1 and q1 as well as indentations from q1 on k1.
	Transmitted Light	Transmitted light via the VSC and the keyence microscope to observe the torn edge.
	Macroscopic/Microscopic Examination	Macroscopic/Microscopic exams to observe fracture pattern and potential paper fibers.
	Ruler	Ruler to measure line spacings and margin widths as well as overall width/length of q1 and k1.
F9LPE9	Indented Writing	Q1 and K1 were examined for indented writings or other impressions with oblique lighting and ESDA (Electrostatic Detection Apparatus) processing. Indented writings "All the money in the drawer I have a gun" were detected on the top page of K1 with oblique lighting and ESDA processing. Indented writings "John 703-555-1289" were detected on Q1 and the top page of K1 with oblique lighting and ESDA processing.

TABLE 2

WebCode	Methods/Techniques	Observations
	Overlays	Developed indented writings were compared with computer assisted overlays. The indented writings detected on the top page of K1 approximately align with the writing of the Q1 note. The "John 703-555-1289" indented writings detected on Q1 and the top page of K1 approximately align.
	Paper	The physical characteristics of the Q1 and K1 paper were examined to determine if they could be associated or differentiated. No differences were observed that could differentiate the Q1 and K1 paper.
	Physical Match	Q1 and the two K1 paper fragments were examined and compared for tear patterns utilizing appropriate light sources with and without magnification. The top paper fragment of K1 differs in tear patterns from Q1. The bottom paper fragment of K1 corresponds in tear patterns with Q1.
	Handwriting Examination	Due to a lack of sufficient comparable writing between Q1 and K1, no opinion could be reached as to whether or not the same writer authored the Q1 and K1 writing.
FB8B8W	ESDA	Oblique light examinations and examinations with the ESDA revealed indented impressions on the K1-3 grocery type list present as the first full page in the small spiral notebook, K1. The indented impression visualized were lifted and a layover was conducted with the robbery note Q1. This means the robbery note was written while Q1 was laying above the first page present in the spiral note book, K1-3.
	ESDA	Oblique light examinations and examinations with the ESDA revealed indented impressions on the robbery note Q1. These impressions were not clearly visualized in areas however, the following numbers were interpreted as 5_5 and 1289. Much of the indented impressions could not be visualized clearly.
	Transmitted Light	Transmitted light examinations revealed the paper tear present on the top edge of the robber note Q1 was not a physical match to the first partial page remnant (K1-1) present in the spiral notebook (K1). Transmitted light examinations revealed the paper tear present on the top edge of the robber note Q1 was a physical match to the second partial page remnant (K1-2) present in the spiral notebook (K1). This means the robbery note (Q1) and the second partial page (K1-2) present in the notebook (K1) were once a single page.
	Microscopic Examination	The writing ink used to produce the writing on the grocery type note (K1-3) is a black ball point ink. The writing ink used to produce the writing on the robbery note (Q1) is a black ball point ink.
	Video Spectral Comparator (VSC)	The writing ink used to produce the writing on the grocery type note (K1-3) reacted similarly to the writing ink used to produce the writing on the robbery note (Q1) when examined with all the light source and filter combinations of the VSC. Examinations of the papers used to produce the grocery type note (K1-3) and the robbery note (Q1) reacted similarly and differently when examined with all the light source and filter combinations of the VSC. The blue lines on both documents reacted similarly. The paper used to produce the robbery note (Q1) and the paper used to produce the grocery type note (K1-3) reacted slightly differently, as the grocery note did not appear as bright as the robbery note.
	Ruler	Measurements of the paper pages present in Q1 and K1-3, as well as the measurements of the line spacing(s) on each of the pages revealed the paper sizes and line spacing format were similar between the two pages.

TABLE 2

WebCode	Methods/Techniques	Observations
	Handwriting Examination	Handwriting examinations between the writings present on the grocery type note (K1-3) and the writings present on the robbery note (Q1) was not conclusive. There is no conclusion if the writer who produced the writing on the grocery type note (K1-3) was or was not the same writer who produced the writing on the robbery note (Q1).
	Scientific Working Group for Forensic Document Examiners (SWGDOC) and standards distributed by the American National Standards Institute/Academy Standards Board (ANSI/ASB)	As part of my examinations, I also rely, in part, on numerous published standards distributed by the Scientific Working Group for Forensic Document Examiners (SWGDOC) and standards distributed by the American National Standards Institute/Academy Standards Board (ANSI/ASB)
FEQBJ6	Visual Examination	Q-1: Impressions present on Q-1, but not fully readable. Evidence of document Q-1 having been torn along the top edge. K-1: Faint impressions seen on the first full sheet of paper inside K-1. Two paper fragments are also present from sheets that would have been on top of this first sheet.
	Oblique Light	Q-1: Impressions present. Impressions were revealed to read: "John 703-555- 1289" K-1: Impressions on top sheet of Q-1 revealed to read: "All the money in the drawer I have a gun". These impressions appear to correspond to the questioned hand printed words on document Q-1.
	Video Spectral Comparator (VSC)	Impressions were visualized and photographed on document Q-1. Impressions on K-1 page 1 were also visualized and photographed. Document K-1 fragments A and B were also compared to tear pattern at top of document Q-1. Tear pattern on document Q-1 was not similar in shape to fragment A on K-1. Tear pattern on document Q-1 did closely align on fragment B on K-1.
	Microscopic Examination	Document K-1 fragments A and B were also compared to tear pattern at top of document Q-1. Tear pattern was not similar in shape to fragment A on K-1. Tear pattern shape and fracture areas did align on fragment B on K-1 to tear pattern on Q-1.
FN2QDK	Video Spectral Comparator (VSC)	When Item K1 is examined using side light, pressure marks containing the contents of item Q1 are observed on the surface of item K1.
	Visual Examination	The cutting plane at the top of item Q1 and the cutting plane found in item K1 are identical.
FPA3TZ	Visual Examination	Clearly visible indentations on the shopping list
	Microscopic Examination	Clearly visible indentations on the shopping list
	Oblique Light	Clearly visible indentations on the shopping list (Text: All the money in the drawer, I have a gun).
	ESDA	Clearly visible indentations on the shopping list (Text: All the money in the drawer, I have a gun).
G2B3V4	Video Spectral Comparator (VSC)	
	Macroscopic/Microscopic Examination	

TABLE 2

WebCode	Methods/Techniques	Observations
G7DWZZ	ESDA	Using the ESDA, the impressions that were visible became readable when the ESDA lift was created.
	Video Spectral Comparator (VSC)	Using the VSC 5000, both the note and the pad were examined with IR, UV and Spot light sources to determine if the inks were similar or different.
	Oblique Light	Using Oblique light, impressions were visible and photographed.
	Ruler	Using a ruler, the width of the paper was measured. The length was not measured due to the top being spiral bound and the note was torn from the notebook.
G86RM9	Visual Examination	The note Q1 appears to be the same size and type of paper as present in the notepad K1. The colour, thickness and spacing of the lines appears consistent. Two torn remnants of pages are in the front of the notepad.
	Oblique Light	Impressions that appear to be the handwritten entries of Q1 were observed on the first full intact page of the notepad K1.
	ESDA	The first full intact page of the notepad K1 was removed from the notepad for examination. Impressions of the handwritten entries of Q1 were detected on this page. Impressions of other entries ("John 703-555-1289") were detected on both Q1 and the examined page from notepad K1.
	Microscopic Examination	The torn edges of the two remnants of pages within notepad K1 were compared to the torn edge of note Q1, utilising a microscope, as well as overlays of scans in Adobe Photoshop. The torn edges of the first remnant and Q1 do not fit together. The torn edges of the second remnant page from K1 and Q1 do physically fit together.
GQK6FY	Visual Examination	The class characteristics of Q1 and the paper from K1 did not appear to differ. When juxtaposed, the contours of the top torn edge of Q1 and of the bottom torn edge of the second fragment from K1 aligned while those from Q1 and the first fragment from K1 did not.
	Macroscopic/Microscopic Examination	Agreement exists between the conspicuous and subtle contours of the top torn edge of Q1 and the bottom torn edge of the second fragment in K1. Subtle areas of agreement can be seen under magnification.
	ESDA	Discernible indented impressions from the writing on Q1 were developed on the first two whole pages of K1. Discernible impressions from an unknown source were developed on Q1 and on the first two pages of K1.
	Oblique Light	Visible indented impressions were observed on the front and back of Q1 and the first two whole pages of the notepad K1.
	Transmitted Light	Feathering was observed in some corresponding areas of the top torn edge of Q1 and the bottom torn edge of the second K1 fragment, whereas the opposite was true for Q1 and the first K1 fragment.
	Video Spectral Comparator (VSC)	No dissimilarities in the optical properties of Q1 and the paper from K1 were observed utilizing the alternate light sources of the VSC. Indented impressions were visible on Q1 and the first three pages of K1 using the VSC's oblique lighting source, and transmitted light allowed visualization of feathering along the edges of Q1 and the fragments from K1.
	Overlays	Verification that the writing impressions on the first and second whole pages of K1 were attributable to the writing on Q1 was achieved using transparencies and digital overlays. Overlays were also used to verify that the impressions present on Q1 and on some on K1 were both attributable to the same unknown source.

TABLE 2

WebCode	Methods/Techniques	Observations
	Adobe Photoshop CS6	Used for digital overlay of indented writing impressions. Impressions on first whole page of K1 attributable to text on Q1 and the unknown source impressions on Q1 and the first whole page of K1 superimpose. Digital alignment of Q1 and K1 fragments was achieved using Photoshop. Q1 and the second fragment from K1 align whereas Q1 and the first fragment do not.
	Handwriting Examination	Comparison of the writing on Q1 and the first full page of K1 revealed a lack of sufficient comparable features for a meaningful analysis in terms of writership.
GRC6EV	Oblique Light	The indented handwriting have been found on: The questioned note (Q1). The top and second sheet of spiral notepad (K1) (full page)
	ESDA	The indented handwriting could be read as follows: The questioned note (Q1) : "John 703-555-1289". The top sheet of spiral notepad (K1) (full page) : "John 703-555-1289" and "All the money in the drawer I have a gun". The second sheet of spiral notepad (K1) (full page) : "John 703-555-1289" , "All the money in the drawer I have a gun" and "bread, milk, eggs, flour"
	Overlays	The handwriting "All the money in the drawer I have a gun" and the indented handwriting "John 703-555-1289" on the questioned note (Q1) completely overlays to the indented handwriting on the spiral notepad (K1).
	Magnification	The paper tear of the questioned note (Q1) physically matches with the remaining part of the paper that was torn from the spiral notepad (K1).
H8Y84X	Visual Examination	The analysis of the documents subject to study (K1 and Q1) begins, ruling out interferences and identifying characteristics. Applying the document alteration method, it is observed in the first place, remains of bristling fibers in the 2 pieces of paper (lower edge) which are part of the beginning of the notepad (K1) in the same way in the upper edge of the theft note (Q1). Probable writing grooves were observed with the naked eye. The theft note (Q1) is compared with the 2 pieces of paper from the notepad (K1).
	Macroscopic/Microscopic Examination	The presence of bristly fibers resulting from the mutilation of both documents (Q1 and K1) is confirmed. Writing grooves and numbers are confirmed in the upper and upper middle part of the theft note (Q1) as well as writing grooves in the notepad (K1) in the lower and upper middle part.
	Video Spectral Comparator (VSC)	The documents subject to study (K1 and Q1) are analyzed by spectral equipment, applying different types of light, such as: lateral light (left and right) confirming the presence of grooves, with UV and transmitted light, paper fibers are detected, With projected light and image modes, overlap is carried out and coincidence of the piece of paper (second sheet) of the pad (K1) lower edge with the theft note (Q1) upper edge is confirmed, in the same way coincidence in the writing grooves, size and design.
	ESDA	Using the graphic display method. The development process is carried out in both documents (K1 and Q1 (3)) confirming the above described with respect to the grooves, the development of the pad (K1) coinciding with what is written in the theft note (Q1).
HLJKLZ	Visual Examination	Q-1 was a one page handwritten note written with a black ballpoint ink on lined note pad paper. K-1 was a note pad containing multiple lined blank pieces of note paper with one page handwritten in black ballpoint ink and at least two missing pieces of paper above the note.
	Ultraviolet Light	No differences were noted in the paper of Q1 and K1 when visualized with UV lighting.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	The ESDA of Q-1 contained impressions of a note "John 703-555-1289". The ESDA of the handwritten page from K1 contained the impressions identified on Q-1 and the impressions of the writing from Q-1, "All the money in the drawer I have a gun".
	Video Spectral Comparator (VSC)	The writing and printing inks of Q-1 and K-1 were examined under infrared lighting and the colored lines on the note paper fall out of view at the same wavelength. Under spot fluorescence, the writing on Q-1 and K-1 fluoresced under the same wavelength. Based on the uniqueness and characteristics of the tear pattern from the torn perforated edge from the remnant of the second missing page in K-1 and the torn perforated edge from Q-1, it was determined that Q-1 must have come from the K-1.
	Oblique Light	Under oblique lighting, the impressions, "All the money in the drawer I have a gun", from Q-1 were seen into K-1.
HQTTVG	Visual Examination	Q & K notebook pages both had same number and color of ruling lines and rounded page corners. K notebook had two stubs and 58 full pages attached to the spiral spine. Q had hand printing done with black ballpen ink. First full page of K notebook had hand printing done with black ballpen ink
	Ruler	Q/K page width measured approx. 2 15/16 in. First full page of K notebook measured approx. 5 in. long
	Oblique Light	Q – indented writing "Jo-- ... 703-555-1289". K1-3 (first full page) – indented writing "All the money... I have a gun". K1-4 (second full page) – indented writing "bread eggs... flour"
	ESDA	Q – indented writing "John 703-555-1289". K1-3 (first full page) – indented writing: "John 703-555-1289" (fainter than on Q1) "All the money in the drawer I have a gun"
	Video Spectral Comparator (VSC)	Q and K1-3 had similar characteristics using incident light, UV, reflected IR and IR luminescence; the Q1 paper did not have any prominent fibers
	Macroscopic/Microscopic Examination	viewed torn edges of Q1, K1-1, and K1-2 with magnification and incident and transmitted light; there was a positive fracture match between Q1 and K1-2
HR6H92	ESDA	ESDA: Indented writing from the note Q1: "All the money in the drawer I have a gun", was found on the the first whole page in the note pad K1. further, indented writing from another note was found on both the note Q1 and the notepad K1. The indentations were: "John", "703-555-1289".
	Visual Examination	Notepad K1: There were found remains of missing paper sheets in the notepad, from two sheets. Both of the missing paper-remains had torn edges. The note Q1 also had torn edges.
	Magnification	The torn edges on the missing sheets in the notepad and on the note Q1, were examined. There were found a match in the torn edges on the note Q1 and on the remains of the missing sheet (placed as second from the top) in the notepad K1.
	Overlays	To further examine the torn edges on the note and on the notepad, the ESDA from the notepad showing the torn edges was layd next to the torn edges in the missing sheet (second from the top).
	Oblique Light	As a pre-examination the notepad and the note were examined in oblique light in order to look for indented writing or traces.
J6ATJU	ESDA	ESDA conduct on questioned sheet and top sheet of pad.

TABLE 2

WebCode	Methods/Techniques	Observations
	Indented Writing	Indented writing observed on questioned sheet and top sheet of pad.
	Visual Examination	General analysis of writing.
	Microscopic Examination	Cut edge comparisons.
JFALU8	ESDA	ESDA examination has revealed the following. Q1 (front) bears writing impressions which clearly read "John 703-555-1289". The first complete page within K1 ("K1 p1") bears writing impressions on the front and corresponding writing embossments of those impressions on the back. These writing impressions (and embossments when reversed) correspond exactly with the original writing on (the front of) Q1 and with the writing impressions on Q1. The lowest word component "gun" of the impressions of the writing on Q1 was more clearly seen on the reversed ESDA image of the embossments of this word on the back of K1 p1 than on the ESDA image of the impression of this word on the front of K1 p1. (K1 p1 was removed from K1 by applying a sharp knife, aligned horizontally with a ruler, and with cardboard immediately underneath the page, just below the metal spiral binding for the purpose of ESDA examination (with nominal permission to do so).)
	ESDA sequence examination	Clear intersections (white on the copy, 11 in number) and no dark intersections were observed between the clear images of the original ink writing on Q1 and the dark writing impressions of the name and telephone number on the ESDA image of Q1. Because of the quality of the ESDA image it was not possible to determine a sequence of writing between the writing which caused the impressions on K1 p1 and the original writing on this page.
	Oblique Light	Oblique lighting observation also revealed the presence of the writing impressions on Q1 and K1 p1 as imaged using the ESDA. However, the ESDA transparencies (being more convenient and bearing more complete images of impressions) were used in the analysis of the origins of some of those impressions. Oblique lighting observation of K1 P2 revealed writing impressions which appeared to originate in the writing on Q1 and in that on K1 p1 ("bread milk eggs flour").
	Infrared Light	The infrared absorption and infrared luminescence properties of the black ballpoint pen ink writing on Q1 and that on K1 p1, examined with a VSC 6000, were indistinguishable. This result (and the ink microscopic properties result - see below) would be expected if the same pen/ink had been used to write the entries on these two pages. However, it does not prove that the one pen/ink had been used as many pens/inks of this type would contain indistinguishable inks.
	Ultraviolet Light	Blue fluorescence of paper and printed lines was observed in response to long (365nm), medium (312nm) and short (254nm) wave UV using a VSC 6000: Q1 was indistinguishable from K1 p1 in terms of theses fluorescence responses.

TABLE 2

WebCode	Methods/Techniques	Observations
	Microscopic Examination	Microscope examination (x6 to x40) did not reveal any difference in the appearance of the black ballpoint pen writing on Q1 and K1 p1. Such examination did not reveal any difference in the appearance of the paper of these two pages. Examination of the upper edge of Q1 and the lower edges of the two paper butts located above K1 p1 did not reveal sufficient gross tear patterns to be certain or to provide a qualified opinion that K1 p1 and the second butt once formed a single sheet of paper, although there is some complementary similarity in some of the paper edge shapes, taking account of some delamination effects (observed with transmitted light). Differences with the first butt edge detail indicate that it was not once continuous with Q1.
	Overlays	This revealed no difference in the horizontal dimensions of Q1 and K1, in the asymmetrically shaped machine cut lower left and right corners and in the locations of the printed lines on the pages. The vertical dimension of the combined Q1 and second stub located above the originally existing pages of K1 and partly within the metal spiral binding appeared similar to that of K1 p1 as a whole before removal from K1.
	Handwriting Examination	(Preliminary). Some similarities were noted in the handwriting on Q1 and that on K1 p1 but insufficient to draw a conclusion on whether the two pages were or were not written by the one person.
JJV9MU	Visual Examination	After a meticulous inspection with the use of wide-field optical light instruments, correspondence is established in the cuts of one of the tabs of the notebook (K1) and of the note (Q1).
	Video Spectral Comparator (VSC)	Likewise, with the use of the document comparator, the Q1 note was superimposed on the K1 notebook and vice versa, by applying lights in a position from top to bottom and from bottom to top, resulting in a perfect match of the reflected texts. in note Q1 and found in notebook K1 on the occasion of the pressure exerted in the production of doubt texts.
JXTCT7	Visual Examination	The physical features of the Q1 page are consistent with the features of the pages within the K1 notepad.
	Indented Writing	The following indentations (originating from an unknown source) were observed on Q1 and pages within the notepad: "John 703 - 555 -1289". Indentations were detected on pages within the notepad originating from the handwritten entries on Q1. The positioning of the two sets of indentations with each other and with respect to the pages indicates that Q1 was lined up with K1 Pg 3 (and therefore the rest of the notepad) when the HW entries were produced on Q1 and when the indentations "John..." were produced on a page above.
	Microscopic Examination	The torn edge of Q1 was compared to the torn edges of K1 Fragments 1 and 2. Q1 has not originated from K1 Fragment 1. A tear match was observed between Q1 and K1 Fragment 2.
JY3LGW	Visual Examination	Visual examination of items K1 and Q1 and photographic documentation
	Infrared Light	Observation under infrared light to verify items and composition
	Microscopic Examination	Microscopic examination so verify cut line

TABLE 2

WebCode	Methods/Techniques	Observations
K28DQX	Macroscopic/Microscopic Examination	<p>The note in Q1 is white, notebook paper measuring approximately 2 31/32 inches wide by 4 1/2 inches high. There are blue, horizontal printed lines printed 9/32 inches apart. The top edge is torn and the bottom two corners are rounded. There is writing in black, ballpoint ink that reads "All the money in the drawer I have a gun". The notebook in K1 contains the following features: a metal spiral ring at top, a green cover with "memo pad" in white text, a brown cardboard back, two paper stubs in front of the full sheets, and 58 white notebook pages attached to the metal ring. The notebook pages measure approximately 2 15/16 inches wide by 5" high. The blue horizontal printed lines on each page are approximately 9/32 inches apart. The pages were labeled 1 – 58 by the analyst for examination purposes. These features are consistent to the Office Depot brand wirebound top-opening memo book, which is listed as originally containing 60 sheets. Information about this notebook was recovered on April 9, 2021 from the following website: https://www.officedepot.com/a/products/764426/Office-Depot-Brand-Wirebound-Top-Opening/. The metal ring on the notebook in K1 was disassembled and the pieces repacked and sealed in their own manila envelope to stay with K1. Only the first page of notebook paper contains writing in black, ball point ink reading "bread milk eggs flour".</p>
	Indented Writing	<p>An electrostatic detection device (EDD) examination was conducted on the note in Q1 and the first six pages in the notebook in K1. The indented impressions that developed from the note in Q1 may be viewed on the EDD lifts uniquely identified as Q1A1 and Q1A2 in Item Q1A. The indented impressions that developed from pages 1 – 6 in the notebook in K1 may be viewed on the EDD lifts uniquely identified as K1A1 – K1A6 in Item K1A. Indented impressions are subject to more than one interpretation when deciphered. Side lighting examination was conducted on pages 7 - 58 in the K1 notebook and no indented impressions were visible on those pages. Q1A: The following unsourced, indented impressions developed on the lifts in Q1A, uniquely identified as Q1A1 and Q1A2, from the front and reverse of the note in Q1: John 703 – 555 – 1289. Additional indented impressions developed that were sourced to the writing on the evidence envelope for Q1. K1A Several layers of indented impressions developed on the lifts in K1A, uniquely identified as K1A1 through K1A6, from the front and reverse of pages 1 – 6 in the notebook in K1. One layer is decipherable as the unsourced, indented impressions deciphered on the lifts in Q1A. Another layer is indented impressions of the writing in black ink on the front of the note in Q1. This means that the note in Q1 was in contact with the K1 notebook when the unsourced and sourced writing on the front of Q1 was executed. The only other indented impressions that developed on the lifts in K1A were from the writing on page 1 in the K1 notebook indented onto the pages below. All of these indented impressions were darkest on K1A1 and K1A2 (from the front and reverse of page 1 and page 2 in the notebook in K1) but then minimally decipherable on the K1A5 and K1A6 lifts (from the front and reverse of page 5 and page 6 in the notebook in K1).</p>

TABLE 2

WebCode	Methods/Techniques	Observations
	Handwriting Examination	The writing on the note in Q1 and page 1 in the notebook in K1 is original and suitable for comparison. The unsourced indented impressions of "John 703 – 555 – 1289" deciphered on lift Q1A and on the lifts in K1A is also suitable for comparison but limited because some features are difficult to assess on the lifts. The writer of the hand printing on Q1 cannot be identified to nor eliminated as the same writer of the hand printing on page 1 in the notebook in K1. There is a limited amount of comparable characters and the overall small amount of writing on each are significant limitations to the handwriting comparison. No conclusion is offered regarding whether the writer of the unsourced indented impressions on the lift Q1A and on the lifts in K1A was the same writer as Q1 or page 1 in the K1 notebook. There are very few characters in common and the overall small amount of writing on each were significant limitations to a handwriting comparison.
	physical match examination	The note in Q1 and the two stubs of paper (S1 and S2) in the K1 notebook contained torn edges. The torn edge on the note in Q1 was compared to the torn edges on the S1, S2 stubs in the K1 notebook to determine whether or not these pieces of paper were at one time physically connected. The paper color and width of the note in Q1 is consistent to the stubs from the notebook in K1. Furthermore, the tear pattern on the note in Q1 was consistent to the S2 stub in the K1 notebook. Upon microscopic examination, it was determined that the note in Q1 was at one time connected to the S2 stub from the K1 notebook. The tear pattern on the note in Q1 and fiber placement was not consistent to the S1 stub in the K1 notebook.
K2MTJ6	ESDA	Indentations were detected on the robbery note, item Q1, which were caused by the handwritten entries from an unknown source. Multiple generations of indentations were detected on the first page of the spiral notepad, item K1, which were caused by the handwritten entries appearing on the robbery note, item Q1, and the same unknown source that caused indentations on the robbery note, item Q1.
	Microscopic Examination	A positive tear line match between the robbery note, item Q1, and the second portion of a page in the spiral notepad, item K1.
	Video Spectral Comparator (VSC)	Optical features of both the robbery note, item Q1, and the spiral notepad, item K1, including IR response of the printed lines, appearance of the paper under IR, UV and transmitted light. No differences were detected between the spiral notepad, item K1, and the robbery note, item Q1.
	Macroscopic Examination	Physical observations including paper dimensions, paper line colour and size.
K8D4T4	Macroscopic Examination	q1 similar paper, ink, and handwriting style, slant, size, and placement to k1 page3 (k1p3). q1 appears to have been torn from remnant 2 of k1 (k1r2).
	ESDA	text of q1 appears indented on the face of k1p3. additionally, indented writing found on the face of q1 includes: CTS John 703-555-1289
	Physical Match	Gross features of the edge of q1 match the edge of k1r2, with the exception of areas of paper delamination
	Handwriting Examination	Insufficient individualizing characteristics common to q1 and k1p3 require an inconclusive finding
K8XR BX	Esda/Oblique Light	Impressions found which link K1 to Q1. Other impressions also found.

TABLE 2

WebCode	Methods/Techniques	Observations
	Physical Fit	Possible match between second stub in Q1 and K1 but can not be certain in view of ESDA findings not looked at further.
KBE8MB	Macroscopic Examination	On macroscopic examination, clear concordances are found in the type of paper, tonality and grading.
	Microscopic Examination	On microscopic examination, the edges of the second detached sheet are found to agree with the edges of the threat note.
	Oblique Light	With oblique light, you can see the depth of the stroke on the non-detached paper, due to the pressure exerted with the writing element, finding the text of the threat note.
	Video Spectral Comparator (VSC)	The spectral comparator video, allows to see the similar reaction between the paper of the threat note and the paper of the notepad.
KHVMDZ	ESDA	Handwriting impressions lifted from page 3 of Item K1 corresponds to the handwritten text on Item Q1, indicating that page 3 was beneath Item Q1 when the text was written.
	Macroscopic/Microscopic Examination	Similar cutting edge at the bottom of page observed between Page 3 of Item K1 and Item Q1. The 2nd remnant piece of paper physically fitted to the note marked Item Q1, indicating that they were originally a single piece of paper.
	Oblique Light	Handwriting impressions lifted from Page 3 of Item K1 corresponded to the handwriting impressions observed on Item Q1, indicating that both Page 3 of Item K1 and Item Q1 were beneath when the words and numerals were written on another piece of paper.
	Video Spectral Comparator (VSC)	No significant differences in optical properties of paper between the 2nd remnant piece of paper of Item K1 and Item Q1.
KLU2X4	Visual Examination	Fracture match between Q and known notebook paper fragments
	Ultraviolet Light	No optical UV differences between paper in Q and K
	ESDA	Indentations on the Q and K, indentations from Q found on K
KNYQYR	Visual Examination	Overall document, color of ink, color of ruled lines, whether writing was original and freely prepared
	Macroscopic/Microscopic Examination	Torn edge, fracture pattern
	Oblique Light	indentations
	ESDA	indentations
	Video Spectral Comparator (VSC)	edge comparisons, paper comparisons, ink comparisons
KPTCU4	Indented Writing	Conducted indented writings exams on Q1 and K1. Indented writing from Q1 was on K1 and indented writing from an unknown source "703-555-1289" was on both Q1 and K1.
	Fracture Match	Conducted a fracture match exam. Q1 matched one of the remnants in the K1 notepad.
L6H37C	ESDA	By submitting the questioned document to the ESDA it is revealed "All the money in the drawer I have a Gun "John" "703-555" and "1289"

TABLE 2

WebCode	Methods/Techniques	Observations
	Video Spectral Comparator (VSC)	By submitting the questioned document to the ESDA it is revealed "All the money in the drawer I have a Gun "555". The information disclosed and supplied as a comparison is overridden, determining that both are equivalent. In addition, morphological similarities are noted in the questioned document and the comparison document.
LJHQBY	Ultraviolet Light	Type of paper
	Handwriting Examination	Handwriting comparison
	Indented Writing	
	Magnification	
	Infrared Light	
M2ZAMW	Magnification	In order to observe the characteristics of printing, location and chromatic tonality of the lines or lines of the sheets of the spiral notepad recovered from the suspect's car as undisputed material compared to the handwritten note sheet as questioned material, in addition, inspected the characteristics of the cut left in the doubtful material with the undoubted material. Likewise, doubted and undoubted manuscripts were examined and magnified to verify the graphonomic characteristics.
	Video Spectral Comparator (VSC)	Projected light and magnification were used to observe the characteristics of the doubtful and undoubted document, as well as the graphonomic characteristics left in the doubtful and undoubted document.
	Visual Examination	In order to observe the characteristics of printing, location and chromatic tonality of the lines or lines of the sheets of the spiral notepad recovered from the suspect's car as undisputed material compared to the handwritten note sheet as questioned material, in addition, inspected the characteristics of the cut left in the doubtful material with the undoubted material. Likewise, doubted and undoubted manuscripts were examined and magnified to verify the graphonomic characteristics.
M626EC	Video Spectral Comparator (VSC)	When Item K1 is examined using side light, pressure marks containing the contents of item Q1 are observed on the surface of item K1.
	Visual Examination	The cutting plane at the top of item Q1 and the cutting plane found in item K1 are identical.
M92GAC	Video Spectral Comparator (VSC)	When Item K1 is examined using side light, pressure marks containing the contents of item Q1 are observed on the surface of item K1.
	Visual Examination	The cutting plane at the top of item Q1 and the cutting plane found in item K1 are identical.
MHMM2P	ESDA	The original text proof detector (ESDA) is able to clearly locate the original text in a suspect's diary, and in order to be more precise, other tools, such as a document proof detector, are required. (VSC6000 / HS) made it clear that the writing paper the suspect brought to the bank officer was from a diary that the police seized from the fleeing car.
	Video Spectral Comparator (VSC)	
	Magnification	

TABLE 2

WebCode	Methods/Techniques	Observations
MKBYZU	Visual Examination	Q1 page is similar in size, color, and style to the K1 notebook. At least two pages are missing from the K1 notebook which has 58 remaining pages in it. The handwriting in Q1 and K1 appear to be freely and naturally executed.
	Oblique Light	Indentations were visible on both Q1 and first page in the K1-1 notebook. See images for details.
	Transmitted Light	The Q1 fracture pattern matched the second stub in the K1 notebook. See image.
	Microscopic Examination	The Q1 fracture pattern matched the second stub in the K1 notebook.
	Ultraviolet Light	Transmitted UV light at 254, 313, and 365nm did not reveal any differences in the Q1 and K1 paper.
	Video Spectral Comparator (VSC)	At this level of analysis, no differences were noted in the ink used to prepare Q1 and the ink used to prepare the first page of the K1 notebook. See images for details.
	ESDA	Indentations were recovered from the Q1 note which read "John 703-555-1289". The first page in K1 was removed for processing. Indentations were recovered from the first page of the K1 notebook which read " All the money in the drawer I have a gun" and John 703-555-1289"
MRT8NQ	Macroscopic/Microscopic Examination	Observed cut/torn edges on Q1 and 2 portions of pages in the K1 notepad. Q1 and pages of K1 correspond in general class characteristics. Edges of Q1 and K1 portion of page 2 correspond in tear pattern, feathering and some paper fibers continue across tear pattern.
	ESDA	Performed indented writing examinations on both the Q1 and K1 item. Indented writing on page 3 and 4 of the K1 notebook corresponds to the original handwriting on the Q1 document. Indented writing of unknown value was observed on the Q1 document as well as pages 3 and 4 of the K1 notebook.
	Video Spectral Comparator (VSC)	Observed paper fibers that corresponded between the Q1 and K1 portion of page 2.
MRVXWU	Visual Examination	no visible differences between Q1 and K1
	ESDA	positive: in K1 the lettering of Q1 is visible as a print-through trace in the same position and wording. in K1 and Q1 a name (John) and a number (possibly a telephone number) as a print-through trace are visible
	Transmitted Light	no visible differences between Q1 and K1
	Microscopic Examination	incident light: rip edge from Q1 is identical to the second page/rip edge from K1. handwritten inscription on K1 and Q1 using a black pasty writing colourant. in the handwritten entries on K1 and Q1, conspicuous features can be seen which indicate a defect in the writing medium. oblique light: in K1 and Q1 print-through trace are visible
	Ultraviolet Light	no visible differences between Q1 and K1
	Infrared Light	no visible differences between Q1 and K1
	MY99MZ	Magnification

TABLE 2

WebCode	Methods/Techniques	Observations
	Oblique Light	Using the oblique lighting in the VSC6000/HS indented writing was observed on both Q1 and the top full page of K1. "John 703-555-1289" was observed on Q1 and the text from Q1 along with "John 703-555-1289" was observed on the top full page of K1.
	ESDA	"John 703-555-1289" was developed as indented writing on Q1. The handwritten text on Q1 and "703-555-1289" was developed as indented writing on the top full page of K1.
N6TK2T	Microscopic Examination	Conducted a physical match examination between Item 2 (Q1) and Item 1 (K1.1 and K1.2). K1.2 is a physical match with Item 2 (Q1).
	ESDA	Conducted indented writing examinations. Item 2 (Q1) recovered indented impression "John 703-555-1289". Item 1 (K1.3) recovered indented impression "John 703-55-1289" and "All the money in the drawer I have a gun". Item 1 (K1.4) recovered indented impressions "John 703-555-1289", "All the money in the drawer I have a gun" and "bread milk eggs flour".
	Video Spectral Comparator (VSC)	Similar optical brightness when comparing Item 2 (Q1) and Item 1 (K1.2).
	Ultraviolet Light	Used the Chromato-Vue C-70G--Ultraviolet viewing system to examine Item 2 (Q1) and Item 1 (K1.2). No optical differences observed.
	Oblique Light	Visually scanned the pages of Item 1 (K1.1-K1.60) looking for additional indented impressions. None observed.
	Photocopier and Transparencies	Used the photocopier and transparencies to document the physical match between Item 2 (Q1) and Item 1 (K1.2).
NFVL2T	Visual Examination	Q1 is the same type of page as the pages of K1.
	ESDA	Indented writing found on the first page of k1: the writing from Q1 and: John 703-555 1289. Indented writing found on Q1: John 703-555 1289.
	Indented Writing	Indented writing found on the first page of k1: the writing from Q1 and: John 703-555 1289. Indented writing found on Q1: John 703-555 1289.
	Macroscopic/Microscopic Examination	The tear contour of Q1 and the 2nd stub of K1 matches.
	Video Spectral Comparator (VSC)	The tear contour of Q1 and the 2nd stub of K1 matches.
	Overlays	The location of the indented writing on Q1 and K1 is identical/
NGL8AA	Indented Writing	(ESDA/Oblique lighting): Indentations of the writing on Q1 found on the first remaining full page of K1. Alignment is such that Q1 and K1 were in close page alignment when Q1 written.
	Indented Writing	(ESDA/Oblique lighting): Indentations of writing from an unknown source on Q1 and first page of K1. Interpreted as: John 703-555- 1289 Alignment is such that K1 and Q1 were in close page alignment when the above was written
	Video Spectral Comparator (VSC)	Paper of K1 and Q1 identical. Ink of writing on K1 and Q1 indistinguishable.
	Macroscopic/Microscopic Examination	Physical fit between the torn top edge of Q1 and the second torn stub in K1.
	Materials research	58 intact sheets and 2 torn stubs remain in K1. Materials research suggest that K1 is an Office Depot item #765798 (Wirebound Top-Opening Memo Books, 3" x 5") and should contain 60 sheets. Therefore there are only two sheets missing from K1 corresponding to the two torn stubs.

TABLE 2

WebCode	Methods/Techniques	Observations
NLLZLT	Visual Examination	Similar overall dimensions and appearance between K1 and Q1. 60 pages including the two remnants.
	Microscopic Examination	Examined the tear but could not confirm a physical fit between K1 and Q1.
	Video Spectral Comparator (VSC)	Similar paper properties between K1 and Q1. Possible physical fit K1 to second remnant but cannot confirm.
	ESDA	Indentations on K1 which read 'John 703-555-1289'. Indentations on first page of pad same as indentations on K1 plus indentations of visible writing on K1.
NMRPKV	Visual Examination	The visual examination showed a indentations and I observed the first and second page were tear out.
	ESDA	The indented impressions were recovered from documents Q1 and K1a. The indentation of the document Q1 reads "John 703-555-1289". The indentation of the document K1a reads "John 703-555-1289 All the money in the drawer I have a gun".
	Video Spectral Comparator (VSC)	I observed indentations. Perform the optical analysis of the ink and did not observe any changes in the ink.
	Microscopic Examination	When I performed the microscopic examination of document Q1 with document K1b I observed differences in the fibers at the top of the document (the tear part). The microscopic examination of document Q1 with document K1c I observed similarities in the fibers, individual and class characteristics at the top of the document (the tear part).
NQX72Z	Indented Writing	Q1 and K1 (front/back covers and all sheets) were observed with an oblique light source. The first two sheets had prominent indented writing and were processed on the ESDA. Q1, K1 sheets 1 and 2 had the following impressions: Recovered on Q1 – "John 703-555-1289". Recovered on K1 sheet 1 – "John 703-555-1289" (same source as the impressions on Q1) "All the money in the drawer I have a gun" (Q1 is the source of these impressions). Recovered on K1 sheet 2 – has all the same impressions as the above, including the writing from K1 sheet 1 K1 2a remnant and Q1 were processed on the ESDA. The alignment of the torn edges can also be observed on the EDD lifts where the toner has outlined and enhanced those areas of agreement.
	Physical Match	Q1 and K1 1a remnant did not physically match. Q1 and K1 2a remnant: In order to examine both items flat, the notepad was carefully dismantled. The spiral wire endings were straightened out and the wire was removed by turning it out of the holes at the top. Although both items appear to have been torn with a straight edge instrument, there were subtle undulations that aligned with agreement. Therefore, the two items appear to have been a single document.
	Ink(s) and Paper	Q1 questioned note bears handwriting that reads "All the money in the drawer I have a gun". It appears to be freely and naturally prepared with a black ballpoint pen. K1 exemplar "Memo" notepad's first full sheet bears handwriting that reads "bread milk eggs flour". Appears to be freely and naturally prepared with a black ballpoint pen. There were no discriminating factors between the Q1 and K1 documents that could be discerned.
	Handwriting Examination	No determination could be made as to whether or not the questioned Q1 writing was produced by the writer of the K1 exemplar. This examination was limited because the exemplar does not contain sufficient writing or letter combinations for comparison purposes. Some letters that were missing for comparison: A, t, h, n, y, w, l, and v.

TABLE 2

WebCode	Methods/Techniques	Observations
NRP82W	Visual Examination	After analyzing the documents (doubtful and undoubted) it was observed that the lines present the same injection printing system, likewise, the spacing between the lines of the documents is the same. In addition, the texts that make up the full of each of the documents, especially the characters "o", "r" and "a" present the same morphology in their elaboration.
	Video Spectral Comparator (VSC)	The cut (torn) presented by the doubtful document was analyzed compared to the undoubted one, where it was verified that they present the same tear characteristic.
	Magnification	It was verified that the tear of the document presents the same characteristics.
P33MMV	Macroscopic/Microscopic Examination	Using the VSC for a paper edge exam: the paper tear morphology on Exhibit Q1 is similar with the tear morphology on Exhibit K1-2 and dissimilar with the tear morphology on Exhibit K1-1
	Indented Writing	The same indented handwriting impressions were observed on Exhibits Q1 and K1-3. The handwritten entries on Exhibit Q1 were observed as indented impressions on Exhibit K1-3. No further indented impressions were observed.
	Handwriting Examination	The writer of the known handwriting on Exhibit K1-3 could neither be identified, nor eliminated, as the writer of the questioned hand printed/cursive entries on Exhibit Q1 a, due to insufficient amount of comparable known writing.
PEW8JR	Video Spectral Comparator (VSC)	When performing the examination to the first sheet of the notepad found in the getaway vehicle, identified as K1, applying the automatic sequencing of filters with the lights, sideways, incident white, infra-red, ultra violet, fluorescence point of the Spectral Video Comparison (VSC 8000), the indented information that reads: "All The Money in the drawer I have a gun" was revealed, the revealed text being the same text, reflected in the questioned note left in the bank, identified as Item. Q1.
	Handwriting Examination	When performing the examination of the handwritten writing reflected in the questioned note left in the bank, identified as Item Q1, with the handwriting reflected in the first sheet of the spiral notepad recovered from the getaway vehicle, identified Item K1, applying the automatic sequencing of filters with lights, white and zoom with different magnifications of the VSC 8000 Spectral Comparison Video and the Leica EZ4D Stereoscope microscope, it was observed that it presents identifying characteristics, such as: 1. Beginning of letter "r", straight and inhibited and its end, curved and long. 2. Wide letter "e". 3. Initial and final point of letter "L", abrupt and the same, long. 4. Underword for letter "d", cut and reviewed. 5. Letter "a", long and prolonged ending. 6. Oval letter "g", detached from the main line.
PTET8R	ESDA	The ESDA results revealed evidence of indented writing on Exhibits Q1 and K1. Indented text from Exhibit K1 was observed to closely overlay with the Exhibit Q1 ink-written text. This indicates that Exhibit K1 had to have been underneath Exhibit Q1 when the text was written. Additionally, the following indented handwriting was observed on Exhibit Q1 and Exhibit K1: John 703-555-1289.
	Oblique Light	ESDA results and oblique lighting observations of indented handwriting were consistent with one another.
	Ultraviolet Light	Exhibits Q1 and K1 sheets of paper reacted consistently with one another as observed under the same ultraviolet lighting conditions.

TABLE 2

WebCode	Methods/Techniques	Observations
	Handwriting Examination	Indications were observed that the person who wrote the text on Exhibit K1 also wrote the text on Exhibit Q1, however, the evidence is far from conclusive. The brevity of the available text and absence of corresponding textual content limited the examination of the handwritten entries on both exhibits.
	Overlays	The VSC MIX function was used to provide a video overlay of the indented writing ESDA results with the visible text on Exhibits K1 and Q1. The visible and indented handwriting closely conformed to one another. Line spacing was also confirmed to be the same using this overlay technique.
	Transmitted Light	Transmitted light enabled an observation of corresponding details in the torn edges of Exhibits Q1 and K1 that indicated the Exhibit Q1 document was torn from the Exhibit K1 document.
	Infrared Light	The writing inks on Exhibits Q1 and K1 reacted consistently with one another under the same infrared luminescent (IRL) conditions.
	Ruler	A ruler was used to measure the length and width of the Exhibits Q1 and K1 sheets of paper.
	Microscopic Examination	A stereoscopic microscope was used to assess fine details of the Exhibits Q1 and K1 torn edges as well as the handwriting on these exhibits.
Q3EMYV	ESDA	Identified document Q1 contains indentation that reads "John 703-555-1289". The indentation was lifted, preserved and identified as Q1a. Document identified K1a contains indentation that reads "All the money in the drawer" "John 703-555-1289" and "I have a gun". The indentation was lifted, preserved and identified as K1a1
	Video Spectral Comparator (VSC)	When performing the optical analysis of the ink of the identified document Q1 and K1a, no differences were observed. When performing the comparative optical analysis between the identified document K1a with the identified document Q1, no differences were observed.
	Microscopic Examination	When performing the microscopic analysis, observe similarity of individual characteristics when comparing the cut pattern of the identified document Q1 with the fragment of paper identified K1b. When performing the microscopic analysis, observe that there is no similarity of individual characteristics when comparing the cutting pattern of the identified document Q1 with the fragment of paper identified K1c.
Q68U4T	Visual Examination	K1 : Spiral notepad - 58 sheets and 2 remains of sheet - each sheet : white paper with 15 blue lines per page. Q1 : white paper with 15 blue lines per page. Torn on one edge
	Macroscopic Examination	By their torn edge, Q1 and the second remains in the notepad (K1) could be put together
	ESDA	1 indented impressions on Q1 : "John 703-555-1289". 2 indented impressions on the first sheet of K1 : "John 703-555-1289" and "All the money in the drawer I have a gun". The 2 indented impressions "John 703-555-1289" are stackable, as the text of Q1 and the indented impressions "All the money in the drawer I have a gun" on K1.
	Thickness	thickness of Q1 paper and K1 papers not significantly different
	Ruler	size of K1 papers is not significantly different than size of the whole Q1 paper + the second remains in the notepad K1
	Video Spectral Comparator (VSC)	paper and blue lines of Q1 and K1 are not significantly different
	FFT2	spectra of Q1 and K1 are not significantly different

TABLE 2

WebCode	Methods/Techniques	Observations
	Raman	paper and blue lines analyzed : spectra of Q1 and K1 are not significantly different
Q96BH9	Visual Examination	Relative size of Q1 and K1 are consistent. Also relative size of space between ruled lines is consistent.
	Ultraviolet Light	Optical brightness of Q1 paper and K1 paper is consistent.
	ESDA	Indented writing was developed on Q1 and on the first page of K1. "John 703-555 1289" was developed on Q1. "John 703-555 1289" and "All the money in the drawer I have a gun" were developed on the first page of K1.
	Microscopic Examination	The writing on Q1 and the first page of K1 was accomplished using black ballpoint pen. Also, the torn edge of Q1 and the second tab of K1 were consistent. The torn edge of Q1 and the first tab of K1 were not consistent.
	Oblique Light	Indented writing was observed on the surfaces of Q1 and K1. "J 703-555 1289" could be read on Q1. The first page of K1 appeared to bear the text of Q1 (robbery note).
	Micrometer	Using a micrometer, both Q1 and the first page of K1 were approximately .165 mm thick.
	Overlays	I created an overlay on a transparent layer in photoshop from the writing developed on the first page of K1 that repeated the text of the robbery note(Q1). The overlay aligned with the writing on Q1.
	Transmitted Light	No watermarks present. I used transmitted light to examine the torn edges of the tabs in K1 to the torn edge of Exhibit Q1. The torn edge of the first tab was not consistent with Q1. The torn edge of the second tab was consistent with Q1.
	Infrared Light	The reactivity of the written ink on Q1 was consistent with the reactivity of the written ink on page 1 of K1 (longpass, bandpass and spot). The reactivity of the ink of the ruled lines of K1 and the ruled lines of Q1 was consistent (longpass, bandpass and spot).
	Ruler	The width of Q1 and the pages of K1 are both approximately 7.5mm. For both Q1 and the pages of K1, the distance from the top ruled line to the bottom ruled line is approximately 10mm.
Q9M72V	Visual Examination	Observation of grooves and indented writing
	Macroscopic/Microscopic Examination	Observation of grooves and indented writing
	Video Spectral Comparator (VSC)	Agreement between the indented writing on the notepad K1 sheet with the handwriting on the questioned sheet Q1 Match in the cut of the upper edge of the questioned sheet with the lower edge of the second sheet of the notepad
	Document analysis method	Agreement between the indented writing on the notepad K1 sheet with the handwriting on the questioned sheet Q1 Match in the cut of the upper edge of the questioned sheet with the lower edge of the second sheet of the notepad
	Handwriting analysis method	Q1 note handwriting and K1 spiral notepad handwriting have the same graphic origin.
QHFC49	Oblique Light	Indented writing was observed on Q1 and K1. The indented writing on Q1 appears to be a name and a phone number. The indented writing on K1 appears to be the note from Q1 "All the money in the drawer" "I have a gun" and some other indented writing.

TABLE 2

WebCode	Methods/Techniques	Observations
	Visual Examination	A hand lens, a microscope, and ruler were part of the visual examination. The paper used in Q1 appears visually similar to the paper in K1 in terms of dimensions based on a side by side comparison. Approximate measurements were taken. Two pages were removed from the front of K1 based on the remnants. The first remnant appears to have been cut and the second remnant appears to have been torn. Q1 appears to have been torn and looks like it may have come from the second remnant in K1. The ink on Q1 and on K1 are both black ball point ink.
	Video Spectral Comparator (VSC)	Used various light sources to examine Q1 and K1. Oblique light was used to view the indented writing on Q1 and K1. The indented writing viewed on the VSC is consistent with the prior oblique light examination. Transmitted, UV, and IR light was used to examine the paper and the inks on the papers in Q1 and K1. The inks and papers could not be differentiated based on this examination method. Magnification was used on the VSC to examine the fracture patterns on Q1 and K1. The fracture pattern from Q1 is consistent with the pattern from the second remnant in K1.
	ESDA	Q1 and the first remaining page in K1 were processed for indented writing. The developed indented writing consists of: Q1 "John" "703-555-1289"; K1 "All the money in the drawer" "I have a gun" "John" "703-555-1289"
QJQEP8	Video Spectral Comparator (VSC)	Observations in VIS, UV, IR showed no difference in the optical properties of papers and printed blue lines Q1 and K1. An oblique light on Q1 and K1 you can see reveal indentations with the same text "John 703-555-1289". In the oblique light on K1, you can see reveal indentations the indented text "All the money in the drawer I have a gun" that were written with a ballpen on Q1. Mix image mode - the reveal indented writing on K1 and entry written with a ballpen on Q1 "All the money in the drawer I have a gun" have the same topography and constructions of analogical letters.
	Microscopic Examination	The entries made with a pen on Q1 and K1 have the same optical properties.
	ESDA	On Q1 and K1 was revealed indentations with the same text "John 703-555-1289". On K1 was revealed indentations the indented text "All the money in the drawer I have a gun" that were written with a ballpen on Q1.
	Laser induced breakdown spectroscopy	Paper analysis of Q1 and K1 showed no differences in the ratios of the elements.
QNYM6Q	Visual Examination	Items K1 and Q1 were both physically examined under normal light. I observed indents on both exhibits. I noted that the indents on item K1 of the word 'All' have similar margin habits and settle on the fourth (from the spirals) pre-printed line as seen on item Q1
	Oblique Light	The oblique light feature on the VSC8000 in the visible and IR region was used to examine the first page of Item K1. Indented writings similar to those seen on item Q1 were observed on item K1 by application of oblique light on the left and right side of the note. The indents 'All the money in the drawer I have a gun' were observed on item K1
	Ultraviolet Light	UV Light at 254nm and 312nm at was subjected to items K1 and Q1 and similar optical properties of the papers were observed.
	Magnification	The fibres of the paper on item Q1 and K1 were similar including their random arrangement. The tears on the shorter side of Q1 was examined under high magnification and inter-compared with the second tear on item K1 and they were found to match.

TABLE 2

WebCode	Methods/Techniques	Observations
	Ruler	Measurements of the width of the paper of item Q1 and K1 were taken and found to be the same. The measurements were taken along similar positions on the paper of both items and were as follows; Q1 width 7.6cm. K1 width 7.6cm
	physical examination and matching	The tear on exhibit K1 was physically examined and matched to the tear on item Q1 and they were found to fit perfectly well.
QW99WR	ESDA	As a result of an ESDA examination, latent impressions of handwriting were recovered from Item Q1 as follows: "John" "703-555-1289". Latent impressions of handwriting were recovered from Item K1 (first intact page) as follows: "John" "703-555-1289" "All the money in the drawer I have a gun". The impressions of handwriting recovered from Item K1 bearing the text "All the money in the drawer I have a gun" are superimposable with position and the visible handwriting entries appearing on Item Q1. The impressions of handwriting recovered from Item K1 bearing the text "John" "703-555-1289" are superimposable with the position and impressions of handwriting recovered from Item Q1 bearing the text "John" "703-555-1289".
	Oblique Light	When examined using oblique light, the following impressions of handwriting were observed on Item Q1 "John" "703-555-1289". When examined using oblique light, the following impressions of handwriting were observed on Item K1 "All the money in the drawer I have a gun". An overlay examination was conducted to compare the visible handwriting entries appearing on Item Q1 bearing the text "All the money in the drawer I have a gun" with the latent impressions of handwriting recovered from Item K1. As a result of this examination the visible handwriting entries appearing on Item Q1 were observed to be superimposable with text and relative placement of the latent impression of handwriting recovered from Item K1.
	Macroscopic/Microscopic Examination	As a result of a microscopic and macroscopic examination, the paper tear pattern observed at the top tear edge of Item Q1 forms a physical fit with the paper tear pattern displayed at the tear edge of the second paper stub appearing in the spiral bound notebook Item K1.
	Video Spectral Comparator (VSC)	A visible and spectral comparison of the ink used to create the visible handwritten entries appearing on Item Q1 and Item K1 was conducted. As a result of this examination, the visible handwritten entries appearing on Items Q1 and K1 were observed to be visibly and spectrally similar. (Microscope, VSC, infra-red, UV lights) When compared with Item K1, the paper style, size and appearance of the single page Item Q1 was observed to be similar to the paper appearing in Item K1. (Microscope, VSC, Reflected light, UV light, transmitted light)
R4P4DL	Visual Examination	Initial assessment of Q and K paper dimensions and type and color
	Oblique Light	Side light to look for indentations of Q and K ... indentations observed
	ESDA	To capture indentations on both Q and K ... indented writing was the same content
	Overlays	To see if Q indentations and original writing overlaid K indentations ... they overlaid
	Video Spectral Comparator (VSC)	To do torn edge exam and determine whether Q page was attached to any K fragments ... Q page was attached to page 2 fragment

TABLE 2

WebCode	Methods/Techniques	Observations
R9LNJQ	Microscopic Examination	It was observed that there were two torn pieces of paper attached to the binding on the inside front of the notebook (K1) indicating that at least two original pages of the notebook have been removed/torn off. The torn edges of the handwritten note (Q1) and the torn edges of the pieces of paper on the front of the notepad (K1) were physically compared under the microscope. There was no physical fit observed between the torn areas of the note (Q1) and the first torn piece of paper in the notepad (K1). There was a physical fit between the torn edges of the note (Q1) and the second torn piece of paper of the notepad (K1).
	Video Spectral Comparator (VSC)	The torn edges were also examined using the VSC and showed the same clear physical fit that was observed between the torn edges of the note (Q1) and the torn edges of the second piece of paper of the notepad (K1). Indentations were observed under the oblique light of the VSC. These indentations were further clarified by ESDA examination and the findings are discussed under the ESDA results section. The ink of the note (Q1) was compared with the ink of the notepad (K1) using the IR dropout and spot fluorescence filters. There were no detectable differences between the ink present on the handwritten note (Q1) and the ink present on notepad (K1). Please note that the VSC ink comparison methods used cannot conclusively determine if two inks are from the same source, but can often help to highlight when there are differences in ink compositions.
	ESDA	The note (Q1) and the first two full pages of the notepad (K1) were examined using the ESDA (Electrostatic Detection Apparatus). Indentations were developed from the the note (Q1) and the text "John...703 555...1289" could be read. Indentations were developed from the first full page of the notepad (K1) and the text "money...the drawer...l h" could be read. The text indentations developed from page one of the notepad (K1) matches a portion of the writing present on the handwritten note (Q1). No indentations were developed from the second full page of the notepad (K1).
RDWJJU	Visual Examination	2 torn pages were observed in the K notepad.
	Ultraviolet Light	The paper in the Q and the ones in the K notepad were of similar origin. The pen used to write on the Q and on the K notepad were similar.
	Indented Writing	Indented written notes were observed in the Q note and also on the K notepad. On the first page of the K notepad, the indented appeared to be worded as "All the money in the drawer I have a gun" On the Q note, indentation appeared to display written numeral: '703 505 1089'
	Microscopic Examination	Microscopic examination on the torn edges in the Q and on the 2 torn edges in the K notepad. The 2nd page of the torn edges in the K notepad matches the ones in the Q.
	Oblique Light	To identify indentation and to take photograph of the indentation using a camera
	Handwriting Examination	There were insufficient characters between the notes written on the K notepad and the Q to opine that the writer in the notepad is of same authorship as the one in the Q note.
	Overlays	Using the photoshop to overlay the note on the Q and the indentation on the K notepad, it is observed that the notes written on the Q matches the indentation found on the K notepad in spacing between word, spacing between lines, size and form.

TABLE 2

WebCode	Methods/Techniques	Observations
	Infrared Light	Using the infrared light, the following similarities were observed between the Q and the K notepad: 1. the paper on the notepad and the paper used in the Q note were from similar origin. 2. the pen used to write the noted in Q and K were similar 3. Indentations were observed on K and Q
RGFW3V	Visual Examination	The note Q1 has the same shape, size and line pattern as the papers in K1.
	Ultraviolet Light	The note Q1 has the same reaction as papers in K1 under UV-light.
	ESDA	Indented writing exactly matching the writing on Q1 has been found on the first paper in K1. Indented writing (a name and a phone number) has been found on the note Q1 as well as on the first paper in K1.
	Microscopic Examination	The top tear edge on Q1 seems to correspond well to the second "tab" left from a torn out paper in K1. No deeper examination has been performed.
RH8W2R	Magnification	In order to observe the characteristics of the cut of the note of the robbery versus the cut of the spiral notepad recovered from the suspect's car
	Video Spectral Comparator (VSC)	Grazing light was used to observe the grooves left in the sheet of the spiral notepad recovered from the suspect's car, which correspond to the spellings observed in the robbery note.
RJHUDN	Oblique light / ESDA / indented writing	The oblique light and ESDA application allowed to show intended impression of handwriting: "All the money in the drawer I have a gun" and "John 703-555-1289" on the third existing page of the recovered notepad (item K1). "John 703-555-1289" on the robbery note (item Q1). Handwriting on the robbery note (item Q1) and intended impressions with the same content on the third existing page of the recovered notepad (item K1) are identical.
	Macroscopic/Microscopic Examination	The upper edge of the robbery note paper (item Q1) matches to the edge of the second fragment of paper left in the recovered notepad (item K1).
	Video Spectral Comparator (VSC)	There were no difference in optical properties of the robbery note paper (item Q1) and paper in the recovered notepad (item K1). There were no difference in optical properties of black ballpoint pen ink on the robbery note (item Q1) and black ballpoint pen ink on the third existing page in the recovered notepad (item K1).
RNTPDR	Visual Examination	There is agreement in the format (sheet size, blue tone line and distribution of space between lines) in the sheets of the notepad, item K1 and the questioned note, item Q1.
	Macroscopic/Microscopic Examination	The cut of the second sheet fragment observed in the notepad K1 agrees with the cut observed in the upper edge of the questioned note Q1, both in general and in the notch present in the extreme left of both documents.
	Oblique Light	The text made with black ink in the questioned note Q1 is reproduced in the K1 notepad, by means of indented writing, both the content and the form and distribution of letters and lines of text.
	Video Spectral Comparator (VSC)	In overlaying, concordance is observed between the indented writing in the notepad K1 and the handwriting in the questioned note Q1, in its content, size, shape and distribution of letters and lines of text.
RRYB6X	Visual Examination	Similarities observed in size, shape (rounded corners), paper colour, line colour, and line spacing between K1 and Q1. Overall size of Q1 is too large to fit with the first remnant left in K1 notepad. Overall size and tear profile on Q1 and second remnant left in K1 is similar.

TABLE 2

WebCode	Methods/Techniques	Observations
	Oblique Light	Indentations of Q1 on K1 (1st page). Indentations of K1 (1st page) on K1 (2nd page). Indentations not attributable to K1 or Q1 on Q1 and K1 (1st page)
	ESDA	Indentations of the writing on Q1 and "John 703-555 1289" observed on the first page of K1. Indentations of "John 703-555 1289" were also observed on Q1. The "John 703-555 1289" indents on Q1 and K1 superimpose when the page edges are aligned.
	Video Spectral Comparator (VSC)	No differences in paper reaction when exposed to UV light.
	Handwriting Examination	Limited comparable handwriting on Q1 and K1. Some similarities in slope, skill, "o" direction and "o" connection.
RUKWXL	Visual Examination	When carrying out the visual examination and with the use of direct light, a striped sheet with handwritten writings was observed in sample Q1, as well as in comparison sample K1.
	Ultraviolet Light	When exposing under ultraviolet light (365 nm), it is observed that in the questioned sample Q1 against the sample K1, they present a similar reaction between them.
	ESDA	When using the ESDA device, applying the laboratory procedure [Number], Examination of indented impressions with flush light and ESDA (function and use), indented marks were highlighted.
	Indented Writing	With the ESDA device, the following was highlighted in the questioned document Q1: John 703-555 1289, while in comparison sample K1 the following was highlighted: All the money In the drawer I have a gun.
	Microscopic Examination	With the use of the Regula 5001 MK Microscope, it was possible to identify that both documents, both the Q1 and the K1 sample, were made by means of the sphere-tip writing element, in black ink.
	Oblique Light	With the use of oblique light, indented marks were observed in the questioned sample Q1 and in the sample provided as a comparison element K1.
	Magnification	Using the 6000 HS Video Spectrum Comparator and the Regula 5001 MK Microscope, the following were identified in both Q1 and K1 samples: 1. Ink color. 2. Paper rips on its edges. 3. Tonality and ultraviolet reaction of the paper. 4. impression of indented marks.
	Video Spectral Comparator (VSC)	Using the 6000 HS Video Spectrum Comparator and the Regula 5001 MK Microscope, the following were identified in both Q1 and K1 samples: 1. Ink color. 2. Paper rips on its edges. 3. Tonality and ultraviolet reaction of the paper. 4. impression of indented marks.
	Handwriting Examination	With the use of the 6000 HS Video Spectrum Comparator equipment and the Regula 5001 MK Microscope, it was identified that the handwritten writings in the sample Q1 and K1 are original and were made by means of the sphere tip writer element in colored ink. black.
	Overlays	With the use of the VSC 6000 HS, a comparative physical analysis was carried out between sample Q1 and comparison sample K1, managing to observe the following: 1. Paper fractures at its edges. 2. Reaction of paper under UV light. 3. Reaction of ink under infrared filters.
	Infrared Light	With the use of the VSC 6000 HS, a comparative physical analysis was carried out between sample Q1 and comparison sample K1, managing to observe the following: 1. Paper fractures at its edges. 2. Reaction of paper under UV light. 3. Reaction of ink under infrared filters.

TABLE 2

WebCode	Methods/Techniques	Observations
RZ6BH7	Macroscopic/Microscopic Examination	These examinations revealed similarities between the Q1 document and the K1 memo pad in terms of paper size/dimension, layout of ruled lines, and ink morphology. Further, the microscopic examination revealed the tear-pattern from the top edge of Q1 completed the corresponding portion of K1 still attached in the memo pad. The tear pattern and paper fiber examination shows that Q1 was conjoined with K1, specifically with the remaining portion of page 2 (still in pad).
	Video Spectral Comparator (VSC)	Spectral examination revealed no differences in the responses of the inks on Q1 and K1 to various lighting conditions.
	Indented Writing	Both side-lighting and instrumental analysis were conducted to determine if any latent indentations were present. These techniques revealed impressions from Q1 which indented onto the first page of K1, however unsourced impressions from another interleaving page were also found indented onto both the Q1 document and the first page of K1, indicating that another sheet from the memo pad had been written upon with both Q1 and K1 pages underneath.
T2GBWR	Visual Examination	Indented writing is observed, a cut is observed in the upper part of document Q1, which corresponds to the cut presented by the notepad marked as document K1, using the document analysis method.
	Macroscopic/Microscopic Examination	Bristly fibers are observed in the upper cut of note Q1, presenting concordances to the cut presented by notepad K1, correspondence in distance between lines of note Q1 and notepad K1.
	Video Spectral Comparator (VSC)	Indented writing is observed in oblique light and IR light, overlays were made between note Q1 and notepad K1, and concordances were observed between indented writing of note Q1 and handwriting of notepad K1.
	Document analysis method	Correspondence between indented writing and handwriting, corresponds to the distance between lines of note Q1 and notepad K1.
	Handwriting analysis method	The handwriting of the Q1 note and the handwriting of the K1 notepad have the same graphic origin.
TFFBR2	Visual/microscopic	Visual and microscopic examinations of Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b were conducted. No differences in size and color of the paper in Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. The handwriting on Exhibit Q1(a) appears to be naturally written and contains a sufficient amount of characteristics to be compared with submitted known writing.
	Video Spectral Comparator (VSC)	Alternate light source examinations of Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b were conducted. Physical and microscopic edge examinations of Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a and K1(2)b were conducted. Exhibits Q1(a) and Q1(b) were compared with Exhibits K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b. No differences in optical properties of the paper in Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b originated from a common source (i.e., notebook).

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b were examined for the presence of indented impressions using the Electrostatic Detection Apparatus (ESDA). Indented handwriting impressions were observed on Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. The original hand printed entries present on Exhibit Q1(a) and indented handwriting impressions present on Exhibits Q1(a) and Q1(b), were observed as indented handwriting impressions on Exhibits K1(3)a and K1(3)b. No further indented impressions were observed on Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. The result of the ESDA examination was preserved by lifting.
	Digital processing and preservation	Exhibits Q1(a), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a, K1(3)b and the ESDA indention lifts were digitally processed and preserved. Exhibit Q1(b) was digitally preserved.
	Physical and microscopic edge examination	Exhibits Q1(a) and Q1(b) and Exhibits K1(2)a and K1(2)b were at one time joined. Exhibits Q1(a) and Q1(b) and Exhibits K1(1)a and K1(1)b were not at one time joined.
TH6PBK	Visual Examination	Examination and initial assessment of Items. Torn edge observations between Item 1 (Item Q1) and Item 2 (Item K1)
	ESDA	Partial indented writing developed during examinations of Item 2 (Item K1). Indented writing developed during the examination of Item 1 (Item Q1).
	Indented Writing	Preliminary assessment of Items 1 (Item Q1) and Item 2 (Item K1) revealed indented writing using side-lighting and microscopic resources.
	Oblique Light	Extreme side-lighting developed indented writings on Item 1 (Item Q1) and Item 2 (Item K1). Secondary evidence created.
	Overlays	Overlays created of Items 1 (Item Q1) and Item 2 (Item K1) showing torn edge comparison.
TKT2AP	Microscopic Examination	Examination under 200 magnification revealed the note in question appears to have been torn from page two of the notebook.
	Oblique Light	Oblique light revealed indented writing that is identical to the note in question.
	Handwriting Examination	comparing the handwriting of both the notepad and the note in questions show the writing appears to have been made by the same hand.
TPK2RR	Visual Examination	Paper and preprinted lines: Identical class characteristics of paper of the Q1 note and paper of the sheets from the K1 notepad were found such as: colour of paper, sheet dimensions, colour of preprinted line ruling and line spacing.
	Video Spectral Comparator (VSC)	Paper and preprinted lines: Identical features of paper of the Q1 note and paper of the sheets from the K1 notepad were found such as: colour of paper, optical reaction to NIR and UV light, sheet dimensions, colour of preprinted line ruling and line spacing, optical reaction these lines to NIR and UV light etc.
	Video Spectral Comparator (VSC)	Ballpoint pen: Some similarities in ink characteristics between the Q1 note and the handwriting in the K1 notepad were found, e.g. the same optical reaction to NIR and UV light.
	Oblique Light	Indented writing from unknown note was found on the Q1 note. The content of the revealed indented writing was read with some limitations / (...) - unrecognized characters/: "Jo(...)n 703-(...)55- 1(...)89"

TABLE 2

WebCode	Methods/Techniques	Observations
	Oblique Light	Indented writing from the Q1 note ("All the money in the drawer I have a gun") and faintly visible indented letters and digits from the unknown note (mentioned above) were found on the first page inside the K1 notepad.
	Microscopic Examination	Paper and preprinted lines: Identical features of paper of the Q1 note and paper of the sheets from the K1 notepad were found, such as morphology of paper, the same printing technique of line ruling. A fracture match between the torn edge of the Q1 note and the torn edge of the second remnants remaining inside the K1 notepad was found.
	Microscopic Examination	Ballpoint pen ink: Some similarities in shape of striations (white lines) in ballpoint pen's strokes were found on the Q1 note and on the K1 writings. These striations might be the individual features of particular ballpoint pen.
	ESDA	Indented writing from unknown note was found on the Q1 note. The content of the revealed indented writing was read as: "John 703-555-1289"
TRCY7P	Macroscopic Examination	Q-1 paper measures approx. 2.9 in wide. Paper from K1 displaying grocery list (K1b) also measures approx. 2.9 in wide. Q-1 and K1b also each have 15 blue lines printed on the paper with rounded corners. Refer to working copies.
	Microscopic Examination	One of the paper remnants found attached to the K1 notepad (K1a) was compared to the Q-1 exhibit. The K1a remnant and the Q-1 exhibit were found to have a very similar tear morphology, thus there is a strong probability that the K1a remnant and the Q-1 exhibit were once integral parts of one another. Refer to working copies.
	ESDA	An ESDA examination of the first two whole sheets of paper found in the K1 notebook (K1b and K1c) revealed latent writing impressions of the Q-1 text on these K1 sheets of paper. An overlay of transparency prints of the K1b ESDA results and the Q-1 text found that the texts superimposed in a very precise manner. Refer to working copies.
	Micrometer	Micrometer measurements of the K1b and Q-1 sheets of paper revealed consistent paper thickness measurements of 0.003 in. for each paper. Refer to working copies.
UAUHF3	Macroscopic/Microscopic Examination	Physical Edge - Exhibits Q1(a and b) and K1(2)(a and b) were visually and microscopically compared; did not at one time join to form a single piece of paper. Exhibits Q1(a and b) and K1(3)(a and b) were visually and microscopically compared; were at one time joined to form a single piece of paper
	ESDA	Indented handwriting impressions were observed on Exhibits Q1a, Q1b, K1(4)(a and b). Preserved by lifting. No further indentations were observed.
	Microscopic Examination	Writing inks on Exhibits Q1a and K1(4)a were black ballpoint ink.
	Video Spectral Comparator (VSC)	Writing inks on Exhibits Q1a and K1(4)a were not distinguishable at this level of non-destructive analysis.
	Overlays	Indented handwriting impressions on Exhibit K1(4)(a and b) are from the questioned handwriting on Exhibit Q1a. Indented handwriting impressions on Exhibits Q1(a and b) and K1(4)(a and b) are the same indented handwriting impressions.
	Common source -origination	Exhibit Q1 originated from Exhibit K1.
	Handwriting Examination	Naturally written; contains sufficient handwriting characteristics for comparison with a known writer.

TABLE 2

WebCode	Methods/Techniques	Observations
UBXH9L	Visual Examination	The questioned note Q1 is of the similar paper design and blue lines interdistance to those of the recovered notepad K1.
	Video Spectral Comparator (VSC)	Under normal light, the overlapping of Q1 and K1 shows that the blue lines are superimposed showing that they are of the same interdistance. Under high magnification: 1. The side-by-side comparison of the torn edges of Q1 and the first torn page of K1 shows no physical match of the tear pattern. 2. The side-by-side comparison of the torn edges of Q1 and the second torn page of K1 shows physical match of the tear pattern. Under oblique light: 1. The indentation on Q1 shows handwritten entries legible as "J... 703-555 1289" 2. The indentation on the third page of K1 shows handwritten entries "All the money in the drawer I have a gun" which are similar to the handwritten entries on Q1.
	ESDA	1. The lift of indented impressions on Q1 shows handwritten entries deciphered as "J..n 703-555 1289" 2. The lift of indented impressions on the third page of K1 shows a mixture of handwritten entries deciphered as: i) "All the money in the drawer I have a gun" which are consistent with the handwritings on the Q1 note ii) "J..n 703-555 1289" which are consistent to the indented impressions found on Q1
UR7ABR	Macroscopic/Microscopic Examination	Through microscopic / macroscopic examination, coincidences found in the cut at the lower edge of fragment No. 2 of item K1, with the cut of the upper edge of item Q1, are observed and are confirmed by juxtaposition of the edges of items K1 and Q2.
	Video Spectral Comparator (VSC)	Left and right oblique light, indented writing is observed in items Q1 and K1.
	ESDA	Indented writing revealed: 1) Handwriting that reads "John 703-555-1289" was observed in items Q1 and K1 the same position and distribution. 2) Handwriting that reads: "All the money in the drawer I have a gun" on item K1, matches the handwriting of item Q1 made with a ballpoint pen
	Indented Writing	1) indented writing method Handwriting that reads "John 703-555-1289" was observed in items Q1 and K1 the same position and distribution. 2) Handwriting that reads: "All the money in the drawer I have a gun" on item K1, matches the handwriting of item Q1 made with a ballpoint pen
UW4LE4	Macroscopic Examination	All general characteristics (size, paper colour, rulings, etc) of the Q note match those of the K notepad.
	Indented Writing	Using both side/oblique lighting and electrostatic detection (ESDA) methods, unsourced indentations found on Q1 that read "John 703-555-1289". Both sourced and unsourced indentations were found on K1(3) - first full page still in suspect notepad; with the sourced indentations corresponding to the visible writing on Q1 and unsourced being the same as those observed on Q1 (and described above).
	Video Spectral Comparator (VSC)	Similar response for both Q1 and pages present in K1 notepad at all wavelengths. Nothing significant was observed but some fibers do appear dark under 312nm UV.

TABLE 2

WebCode	Methods/Techniques	Observations
	Macroscopic/Microscopic Examination	The tear profile on the upper edge of Q1 was examined and compared to the torn edges of the paper stubs, K1(1) and K1(2), remaining in the notepad, with the following observations: For Q1 vs K1(1), the 1st torn stub present in the K notepad, there was a complete non-correspondence in features at all levels of the tear profile. For Q1 vs K1(2), the 2nd torn stub present in the K notepad, there was an exact correspondence in the physical tear profile all along the torn edges and at all levels of examination (e.g., general macroscopic profile, microscopic tear profile, fiber cross-overs, and areas of oblique/diagonal tearing).
V9A79G	Visual Examination	Visual examination of the questioned and known.
	Ultraviolet Light	UV light utilized to determine if the questioned paper was consistent or inconsistent with the known spiral notebook.
	ESDA	Humidified questioned document and processed to determine if there were indentations.
	Indented Writing	Indentations visible with visual examination and oblique light. Two different areas of indented writing on the Q and K.
	Microscopic Examination	Examined Q and K with stereo microscope for physical match regarding paper.
	Macroscopic/Microscopic Examination	Utilized VSC for macroscopic examination of physical match of paper.
	Oblique Light	Utilized to determine there were indentations on the Q and the K.
	Micrometer	To determine of the paper thickness was consistent between the Q and K.
	Handwriting Examination	Examined handwriting on the Q and the K, limited writing sample.
	Video Spectral Comparator (VSC)	Utilized to determine if inks were consistent/inconsistent, magnification, UV, IRR/IRL. Inks were consistent.
	Transmitted Light	Determine any staining on paper. None.
	Ruler	Utilized to measure Q and K.
	Preserve and forward to FBI Bank Robbery Database	Same as VSC.
VHEDNG	Visual Examination	Visual examination was carried out to record and document the substrate, design and condition of K1 and Q1. K1 is a spiral notepad with a green cover with text "memo pad". The notepad contains 58 pages with "tear off" edges. In the spiral notebook, there are two torn edges from two missing pages. On the first visual page of K1, the words "bread milk eggs flour" are written in black ink. Q1 is a single piece of paper with the text "All the money in the drawer I have a gun" written in black ink.
	Ultraviolet Light	The reaction of the substrates was recorded under UV light: both the pages in K1 and Q1 fluoresces in a similar bluish color (neither are optically dull).

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	ESDA was used to detect the writing indentations in both K1 and Q1. The first visual page in K1 was examined with ESDA for writing indentations and the examination confirmed two different texts: "John 703-555-1289" and "All the money in the drawer I have a gun". The second page in K1 was also examined and the writing indentations: "John 703-555-1289", "All the money in the drawer I have a gun" and "bread milk eggs flour" were recorded. Q1 was also examined and the following writing indentation resulted: "John 703-555-1289". Check of random pages throughout K1 showed no result.
	Indented Writing	Examinations of the indented writing of both K1 and Q1 were undergone first with oblique light and then in ESDA (see ESDA observations). Oblique light recorded very little, and therefore ESDA was utilized.
	Macroscopic/Microscopic Examination	Both the Lab's VSC8000 and a stereo microscope were utilized to examine the substrates, and the fibers of the torn edges of both K1 and Q1. Examination of the fibers from the tear pattern of the torn off edges from K1 and Q1 resulted in a high degree of certainty that Q1 matched the second torn off edge in K1. The substrates of K1 and Q1 were also comparable (see observations under "ruler").
	Video Spectral Comparator (VSC)	Oblique light was used in the VSC8000 as a visual examination of the surface of the substrates and the indented text (see also observations under "indented writing"). In addition, the spectroscopy tool in the VSC8000 was used to take examples of the spectra of the pre-printed, blue horizontal lines of the substrate of both Q1 and K1, as well as spectra of the black ink of the written text on the first visual page of K1 and the written text on Q1. The results were both comparable and were determined to have a high degree of certainty of similarity for both the blue and black ink. (See also "overlays" below)
	Overlays	In the VSC8000, the overlay tool was utilized. An image of the ESDA film (also taken in the VSC) from Q1 was placed as an overlay on top of a photo of the ESDA film of the first visual page of the book of K1 for comparing the size of the paper and the placement of the text. The results showed a high degree of similarity of the placement of the letters and text "All the money in the drawer I have a gun".
	Ruler	The measurements of the substrates were taken with a ruler: K1 measured 75x130mm with torn edges intact; Q1 measured 75x111mm. The ruler was also used to measure the size and the space between the pre-printed blue lines of each substrate. In both Q1 and K1, the lines are 0,5mm thick and there measures 7mm between the horizontal lines.
	Infrared Light	K1 and Q1 were examined under infrared light, which yielded no results.
VQ6W3P	Video Spectral Comparator (VSC) Overlays Infrared Light	Scientific Method, applying the phases of: observation, signaling of the characteristics distinctives, comparison and identity judgments.
VRLTVN	Video Spectral Comparator (VSC) Macroscopic/Microscopic Examination Magnification	Which allows juxtaposing, overlapping the collated documents and the use of special lighting such as transmitted, flush and oblique light Allows detailed observation of physical characteristics; displayed by each of the documents under study, especially the sections of the analyzed sheets Portable magnifiers. Allows to reveal details of the documents face

TABLE 2

WebCode	Methods/Techniques	Observations
VU68YP	[No Methods Reported.]	
VYMZH4	Visual Examination	In a first impression Q1 seems to belong to K1 and using a ruler, the measurements and distances are made to coincide.
	Macroscopic Examination	Examination of the top cut of note Q1 and comparison with both trimmed edges found in k1.
	Oblique Light	Examination of K1 to see latent writing (identified markings)
	Overlays	Overlay latent image K1 together with the script of Q1 to see if they are a match.
	Infrared Light	To determine if the pen response is coincident between Q1 and K1.
	Handwriting Examination	Comparison of Q1's handwriting with that of K1
	ESDA	Analysis to identify possible identified marks left on K1
VZVG9M	Video Spectral Comparator (VSC)	A video spectral comparator, brand Projectina, model Docucenter Nirvis, and a brand LEICA, model S6D microscope were used for the study of inks and the development of underlying writing and fitting of paper fibers. With the Docucenter Nirvis, using a side light, the underlying writing on Q1 and K1 has been revealed. The presence of several digits and two letters of a name, that are supposed to belong to a previous sheet has been observed. With the microscope can be seen the questioned sheet comes from the second sheet of the notepad.
W4RJU3	Visual Examination	Same or similar paper, Side light determined writing on both the robbery note and the first page of the notebook
	Ultraviolet Light	Same/similar paper reaction to UV
	ESDA	Phone number found on robbery note. handwriting from robbery note found on first page of notebook
	Magnification	Fracture pattern consistent with 2nd tear strip left in the notebook
	Video Spectral Comparator (VSC)	Tear strip fracture pattern, UV and side light captured with VSC8000
	Handwriting Examination	Some similarities found b/w questioned handwriting and the shopping list in the note book. Indications that it is same writer.
W98QH2	ESDA	1. ESDA examination on front page of the questioned note "Q1" revealed indented writing reading as "John 703-555-1289". 2. ESDA examination on reverse page of the questioned note "Q1" revealed indented writing reading as "John 703-555-1289" and "All the money in the drawer I have a gun". 3. ESDA examination on front page of page 1 of the recovered notepad "K1" revealed indented writing reading as "All the money in the drawer I have a gun" and "John 703-555-1289". 4. ESDA examination on reverse page of page 1 of the recovered notepad "K1" revealed indented writing reading as "All the money in the drawer I have a gun", "John 703-555-1289" and "bread milk eggs flour". 5. Therefore, ESDA examination on page 1 of the recovered notepad "K1" revealed indented writing consistent to the handwritten entries on the questioned note "Q1" and also the indented writing deciphered on the questioned note "Q1".
	Video Spectral Comparator (VSC)	The papers of questioned note "Q1" and recovered notepad "K1" showed no differences under UV light. Both papers of "Q1" and "K1" fluoresce under the UV light.

TABLE 2

WebCode	Methods/Techniques	Observations
	Visual Examination	The torn edges of the questioned note "Q1" showed matching continuation along the lines as the torn edges of the second remnant of the recovered notepad "K1".
WKWYRN	Indented Writing	Impressions were observed on document Q-1 and K-1.
	Video Spectral Comparator (VSC)	Examination to determine what were the impressions noted on Q-1. First Line: "John", Second Line: "733-555-", third line:"1289"
	Microscopic Examination	To possibly match the paper tears of document Q-1 and K-1. There were a match.
WLUZ3L	Visual Examination	Two pages were removed from the notepad with remnants left behind. Impressions were visible on Q1 and the first full page of K1.
	Indented Writing	The note and notepad were examined for indented writing using oblique light and the EDD. Impressions were developed on the note and notepad. The writing of the note Q1 was developed on the notepad (K1).
	Microscopic Examination and Video Spectral Comparator	The edges of the two portions were microscopically compared to determine if a physical match exists between item Q1 and item K1. The torn edges of Q1 and the second remnant of K1 align.
WPUCXL	Oblique Light	Apparent latent writing impressions were observed on Q1, K1-3, and K1-4.
	Video Spectral Comparator (VSC)	Magnification, various light sources, and filters showed a physical edge match between Q1 and K1-2. Latent writing impressions were observed on K1-3 using oblique lighting.
	Macroscopic/Microscopic Examination	Class characteristics were observed between Q1 and K1. Physical edge match was observed between the top edge of Q1 and the bottom edge of K1-2.
	ESDA	Latent writing impressions were developed on Q1 and K1-3—K1-6. Impressions of Q1 were found on the document, K1-3. Latent writing impressions were observed on Q1 and appear to be a name and a series of numbers.
XHNYBM	Visual Examination	To solve the present case, the DOCUMENT ALTERATION Method was used, observing that the upper edge of the note (item Q1) corresponds to the lower edge of the second fragment of the notepad sheet (item K1).
	Microscopic Examination	A zoom is made of the upper edge of the note (item Q1), as well as the lower edge of the two sheets fragments, of the notepad (item K1), confirming that the upper edge of item Q1 agrees with the lower edge of the second sheet fragment of item K1
	Video Spectral Comparator (VSC)	In order to corroborate whether the upper edge of item Q1 corresponds to the edge of the lower fragment of sheet 2 of item K1, Coaxial light was applied, observing concordances. An overposition of the handwriting of the note (item Q1) was carried out, with the latent writing of the notepad (K1), confirming the coincidence of the grooves and indented writing.
	ESDA	It is observed in notepad (item K1) indented writing with the legend: "All the money in the drawer I have a gun" on the sheet with writing with ink and also in the 2 subsequent sheets of which is not achieved perceive the legend completely.
XNCHVQ	Macroscopic Examination	The 1st and 2nd pages of the spiral notepad K1 were partially ripped out, paper fragments of 1st and 2nd pages were still attached to the spiral ring.
	Microscopic Examination	The questioned note Q1 and the inner pages of the spiral notepad K1 were agreed in color, design and spacing of printed lines.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Examination of the 3rd page of the spiral notepad K1 revealed indented marks of writing "All the money in the drawer I have a gun". The indented marks of writing were found to be superimposable to the handwriting on the questioned note Q1.
	ESDA	Examination of questioned note Q1 and the 3rd page of the spiral notepad K1 revealed indented marks of writing "John 703-555-1289" on each of them.
	Oblique Light	Indented marks of writing "All the money in the drawer I have a gun" were deciphered on the 3rd page of the spiral notepad K1. The indented marks were found to be superimposable to the handwriting on the questioned note Q1.
	Microscopic Examination	The torn edge of the questioned note Q1 could be physically fitted together with the torn edge of the paper fragment of the 2nd page of the spiral notepad K1.
XQ4HUM	Visual Examination	When observing with the naked eye the Q1 sheet in front of the K1 notepad, it is observed that it has the same size on its sheet, dimension, the horizontal lines have the same distance and its sheet have the same texture.
	Video Spectral Comparator (VSC)	Through the analysis of the document comparator, by means of grazing light, it is observed in the K1 note book ducts of handwritten texts, which when superimposed and by exposing lights from the bottom up and vice versa, it was found that they coincide with the handwritten texts from sheet Q1, Likewise, when making a superimposition of the fragment of the paper seen in the upper part of the ring of the notebook K1 with the sheet Q1, these fractures or features of the paper coincide perfectly
XYD3XJ	Visual Examination	The K1 notepad bears two remnants and 58 full sheets of paper all bound with a spiral/coil spine and further described as follows: K1.1 – Remnant with torn edge. K1.2 - Remnant with torn edge. K1.3 – Full sheet of paper with handwriting K1.4 through K1.60 – 57 full sheets of paper, none of the 57 sheets bear any handwriting. Q1 consistent in overall size, cut chamfered edge at bottom of paper, unlined background color, blue line color, and line width and line spacing with item K1.3 through K1.60
	Macroscopic Examination	Stereo Macroscopic Exam at 10x and 12x magnification Q1 and K1.1 not consistent – torn edge to edge – many differences noted. Q1 and K1.2 are consistent – torn edge to edge – several corresponding layer tears present
	Ultraviolet Light	No difference in paper reflectivity between Q1 and K1.3 in the visible spectrum, illumination at: @ 365nm, 312nm and 254nm
	Infrared Light	Black and White Infrared examination: Q1 and K1.3 consistent in printed blue line response @ 780nm (transmit). Infrared Luminescence: Q1 and K1.3 consistent in printed blue line response
	Indented Writing	Item Q1: Positive results utilizing the ElectroStatic Detection Apparatus and oblique lighting resulted in the following positive indented impression being visualized: "John 703-555-1289". For item K1.3: "All the money in the drawer I have a gun" and also the following: "John 703-555-1289". Note: The handwriting found on item Q1 was superimposable with the indented impression results found on K1.3.
Y7U6DK	ESDA	Checked for indentation on Q-1 using the ESDA. The indentation "John 703-555-1289" was recovered.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Checked for indentations on the first two sheets of paper still attached in the mrmo pad. Indented writing of the robbery text on Q1 and the text "John 555-1289" were recovered on the first and second sheets in the memo pad.
	Visual Examination	Examined original robbery note on Q-1. Text is original black ink writing. Each sheet of paper can be removed from the memo pad due to a serrated break line at the top of each sheet. Examination revealed one serrated tab evidence a sheet had been removed. Q-1 serrated top aligns with the serrated edge in the memo pad
YATGAK	Visual Examination	The Document Alteration Analysis method is applied, detecting with the naked eye bristly fibers on the upper edge of the note (Q1), as well as on the lower edges of the two pieces at the beginning of the block (K1), analyzing the document of left to right, top to bottom, front and back.
	Macroscopic/Microscopic Examination	A zoom is made on the upper edge of the note (Q1), as well as on the lower edges of the two pieces at the beginning of the block (K1), where the ruffled fibers are confirmed. It was confirmed that if the upper edge of the Q1 fits with the lower edge of the second sheet of the k1
	Video Spectral Comparator (VSC)	The grazing and oblique light is applied, on the left and right side where grooves are detected in the note (Q1), as well as in the block (K1). Using a contrast where the grooves detected in the note (Q1), as well as in the block (K1), can be seen in relief. It is made an overposition of the sheet with the notepad (K1), applying a comparison and verifying if there is a coincidence of what is written in the note (Q1) with what is observed in the block (K1), confirming the coincidence of the grooves in both documents. The edges of Q1 and K1 are verified, and it is obtained that the lower edge of the second cut of the block (K1) corresponds to the upper edge of the cut that the note (Q1) presents.
	ESDA	The development of grooves is applied in the note (Q1), and in the block (K1), where it is confirmed that both documents present marks, the development of the block (K1) coinciding with what is written in the note (Q1).
YDCAUY	Microscopic Examination	Tear pattern examinations between the torn edge of Q1 and the shorn edges of the spiral bound page remnants. Agreement in fracture pattern between Q1 and the second spiral bound page remnant.
	Oblique Light	Examination for indentations present on Q1 and K1. Visible indentations present on Q1 "John 703-555-1289". Visible indentations present on K1 (p1) depict the writing present on Q1 as well as partially visible indentations matching those observed on Q1.
YEKQJH	Visual Examination	Notepad size and shape
	Video Spectral Comparator (VSC)	Inks used in the notepad(K1)and in the robbery note provided to the bank teller (Q1)
	Macroscopic/Microscopic Examination	Break zones in the remains of the leaves that item K1 had and in the robbery note
	ESDA	Indented writing
YMEVDJ	Ultraviolet Light	Same light absorption in (Q1) & (K1)
	Oblique Light	Same writing of(Q1) founded in (K1), by detecting the hand writing pressure

TABLE 2

WebCode	Methods/Techniques	Observations
	Video Spectral Comparator (VSC)	Agreement in all comparison Factors between (Q1) & (K1)
YXZZKJ	Oblique Light	Side-lighting revealed indentations from the writing in question.
	ESDA	The ESDA process confirmed the indentations of the questioned writing aligned with the robbery demand note.
	Ultraviolet Light	The optic brightness of the questioned page and pages from the spiral notebook was consistent.
YY98RH	ESDA	
	Video Spectral Comparator (VSC)	
	Oblique Light	
Z4HKAG	Visual Examination	General observation of Q1 and K1: same shape, size, color of sheets. K1 presents 2 portions of cut sheets prior to the first page.
	Macroscopic Examination	Lines from Q1 and K1 correspond (tint, size, placement), first portion of cut sheet in K1 does not fit with Q1 but second one fits on a macroscopic level.
	Microscopic Examination	fit of the tear-cut pattern between Q1 and the second portion of sheet of K1
	Transmitted Light	Flocculation pattern of paper the same for Q1 and K1
	Ultraviolet Light	UV response identical for Q1 and K1 (rectos and versos)
	Oblique Light	Latent writing present on Q1 and first complete page of K1: latent writing on Q1: John 703-555-1289. Latent writing on K1: visible writing of Q1 and portion of latent writing of Q1 (555)
	ESDA	As described in Oblique Light portion
Z8JLCY	Visual Examination	At least 2 sheets have been removed from the K1 notepad. The Q1 note have similar paper sheet dimensions and same line pattern like the notepad.
	Microscopic Examination / Video Spectral Comparator	There is similar ballpoint pen writing on the Q1 note and on one of the pages inside the K1 notepad. The optical properties of the black writing ink used on the first page inside the K1 notepad are not different from those that were used on the Q1 note.
	Oblique light / ESDA	Indented writing from the Q1 note was found on one of the pages inside the K1 notepad.
	Raman spectroscopy	Chemical composition of the black writing ink in the K1 notepad – based on their Raman spectra – is indistinguishable from the chemical composition of the black writing ink on the Q1 note. Chemical composition of the blue ink of the line pattern on the sheets in the K1 notepad – based on their Raman spectra – is indistinguishable from the chemical composition of the blue ink of the line pattern on the Q1 note.
ZBKUDN	ESDA	
	Microscopic Examination	
ZFWHEK	Microscopic Examination	Physical fit - top of Q1 note, clear and definite physical fit with remnant of torn perforations from notepad K1.

TABLE 2

WebCode	Methods/Techniques	Observations
	Visual Examination	Manufacture - dimensions & manufacturing flaw
	ESDA	Indentations - Q1 and K1 first page share same set of indentations/ indentations of Q1 appear on K1, first page
	Video Spectral Comparator (VSC)	Inks Paper Physical fit
ZKMWYK	Visual Examination	Was established the coincidence of the configuration of the breaking-line in the notebook recovered from the vehicle of the suspect (item K1) with the configuration of the breaking-line of the note provided to the bank teller (item Q1), including the similarity of both objects (item K1 and Q1) according to the color of the paper.
	Oblique Light	Was established the presence of the deformation on the paper from the spiral notebook formed as a result of the analog handwriting content of the note provided to the teller.
	Video Spectral Comparator (VSC)	Was established the coincidence of the text in item Q1 with the latent text that appeared as a result of the pressure on item K1, according to the content and the mutual placement of the elements (words).
ZQX77G	Microscopic Examination	Two remnant pieces of paper from previous pages were in the spiral of the memo pad. The remnant pieces appear to have been the remainder of the first two pieces of paper originally in the memo pad. There is a fracture pattern match between the BR Note and the second page remnant piece from the spiral bound pad.
	ESDA	The writing on the bank robbery note is indented into first full page in the Memo Pad. The bank robbery note and the first full page in memo pad contain indented writing that reads "John 703-555-1289."
ZRP2TQ	Visual Examination	Item Q1 is a small piece of paper with a tear line across the top edge, containing handwriting "All the money in the drawer I have a gun". Item K1 is a small blue memo pad containing handwriting "bread milk eggs flour" on page 1, and 2 pieces of torn stubs of paper in the front. I observed similarities in paper size, colour, and lines between Item Q1 and pages in Item K1.
	Macroscopic Examination	Tear pattern comparison of each portion to Q1 conducted. Tear pattern match observed between top of Q1 and bottom of second torn portion in K1. Differences in tear pattern observed between Q1 and first torn portion in K1.
	ESDA	ESDA examination of Q1 recovered indentations "John 703-555-1289". ESDA examination of first full page in K1 recovered overlapping indentations "John 703-555-1289" and "All the money in the drawer I have a gun"
	Overlays	Indentations "John 703-555-1289" recovered on Q1 are super-imposable with indentations "John 703-555-1289" recovered in K1. Indentations "All the money in the drawer I have a gun" recovered on K1 are super-imposable with handwriting on Q1.
ZZJADG	Visual Examination	The robbery note Q1 shows the same features – size (sheet format), blue printed lines in the same distance from one another, radius and size of the rounded corners - like the pages of the notepad K1.
	Ultraviolet Light	The robbery note Q1 shows the same degree of fluorescence like the pages of the notepad K1.

TABLE 2

WebCode	Methods/Techniques	Observations
	ESDA	Latent indented impressions of the handwritten note "All the money in the drawer I have a gun" become visible on the first page, showing the note "bread milk eggs flour" of the notepad K1 when applying the ESDA method. The text of the robbery note Q1 and the visualized indented impressions on the first page of the notepad K1 are congruent.
	Macroscopic/Microscopic Examination	The first two pages of the notepad K1 were ripped out. The remaining two stripes of paper in the area of the spiral binding of the notepad show a characteristic tear-off edge when viewing it under the microscope. The tear-off edge of the remaining paper stripe of the second page of the notepad K1 matches with the tear-off edge of the robbery note Q1 along the entire length.
	Video Spectral Comparator (VSC)	The robbery note Q1 shows the same IR fluorescence like the pages of the notepad K1.
	Transmitted Light	The robbery note Q1 shows the same paper structure like the pages of the notepad K1.

Response Summary

Participants: 176

Methods Utilized

ESDA	111	Magnification	15	Thickness	1
Handwriting Examination	29	Micrometer	5	Transmitted Light	12
Indented Writing	30	Microscopic Exam	71	UV Light	28
Infrared Light	14	Oblique Light	67	Visual Exam	93
Macroscopic Exam	15	Overlays	23	VSC	110
Macroscopic/Microscopic Exam	38	Ruler	14		

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

Conclusions

TABLE 3

WebCode	Conclusions
2BU2CB	The questioned note is originated from the recovered notepad. It was detected by using VSC 6000/HS , VSC8000 (flood light , annotation and measurements) , oblique lighting and ESDA2 . For more details please refer to methods and techniques utilized.
2EGPTG	Utilizing the SWGDOC standards, I would state: it is my opinion that the robbery note in question can be identified as having been sourced from the green 3" x 5" spiral bound memo pad found in the suspect's auto.
2EXYLH	The physical characteristics of the doubtful document (Robbery note provided to the bank teller, reading 'All the money in the drawer I have a gun) ARE CORRESPONDING to the master sample (Spiral notepad recovered from the vehicle of the suspect)
2HX67F	In our opinion, the questioned note has been separated from the spiral notepad recovered from the driver's side door pocket.
2LR7ZG	the questioned note originated from the recovered notepad
3236NE	The edge of the sheet of the test sheet was matched to the small pieces of paper remaining in the notebook, and it was found that the edge of the sheet of the test sheet matched the remaining sheet in the notebook according to the dividing lines. They have common dividing lines. In addition, it was found that the currently existing page I in the notebook (formerly page III) revealed colorless bed studies where the text is read, which matches the content and configuration of the letters, as well as the location of the text placed on the folded sheet. The above testifies that the sheet of the examination notebook is from the second sheet of the notebook presented.
3DG4EF	Result of Analysis Method for Authenticity of Documents: The questioned document 1 (Q1) and the comparison base document (K1) coincide in characteristics and dimension, in addition there is a coincidence between the grooves or jagged marks revealed in the comparison base document 2 (Evidence generated in ESDA2 equipment using the Groove Development Examination Method) and the writings of the questioned document (Q1), for Therefore, it is determined that the questioned note belonged to the block of collation base notes and that the writings of the note were reflected using the note block as support. Method Result for Groove Development Examination: The questioned document identified as item K1 presents readable grooves or toothed marks with the legend "All the money in the drawer I have a gun" in addition to the numbers "733", "555" and "128"
3QMBDL	Exhibit 2 was once part of Exhibit 1. Exhibit 1 was examined for the presence of indented writing impressions. Indented writing impressions from Exhibit 2 were found on Exhibit 1. Exhibit 2 was examined for the presence of indented writing impressions. Indented writing impressions bearing "John 703-555-1289" were found on both Exhibit 1 and 2.
3XNEJJ	The questioned note ORIGINATED from the recovered notepad.
49LUNE	The piece Q1 comes from the spiral notebook K1.
4L9VMU	Based on the findings mentioned above, the questioned note originated from the recovered notepad.
4PTPGA	It was determined that Item 1 (Item Q1) was at one time attached to Item 2 page 2 (Item K1). Indented writing which best reads "John 703-555-1289" was observed on Item 1 (Item Q1) and Item 2 (Item K1) using oblique lighting and electrostatic processing. Additionally, indented writing consistent with the Item 1 (Item Q1) writing was observed on Item 2 pages 3 and 4 (Item K1) using oblique lighting and/or electrostatic processing. Three electrostatic lifts, used to capture and retain the indented writing, have been designated Item 3 and are considered secondary evidence. No other additional indented writing of value was observed on the remaining pages of Item 2 (Item K1). Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.

TABLE 3

WebCode	Conclusions
4QLK4H	CONCLUSION: The note (item Q1) did originate from the notepad (K1)
4TRXUW	The Q1 note originated from the K1 notepad. Specifically, the Q1 note was torn from the second remaining tab found within the K1 notepad. This finding is supported by the fracture match along the tear between the top of the Q1 note and the bottom of the K1 notepad tab 2. The K1 notepad tab 1 was excluded as being the origin of the Q1 note. In addition to the fracture match there is indented writing linking the K1 notepad and the Q1 note. Class characteristics are consistent between the Q1 note and the K1 notepad - including paper shape, color, size, thickness, and line spacing. An ESDA examination of the K1 notepad revealed the presence of indentations that originate from the visible writing found on the Q1 note. Additionally, indentations from an unknown source were found on both the Q1 note and the K1 notepad. The text reads as follows: John 703-555- 1289
4ZC7AF	The note of the theft in question comes from the seized notebook.
67DWWJ	The questioned note originated from the recovered notepad
686XVE	Its established that the bank note sheet matches and comes from the notepad found in the vehicle.
6QZL7B	After analyzing the evidence in this case, the following opinions have been formed: It has been determined that the Robbery Note in Submission 001-A was attached or at least came in contact with the Spiral Notepad in Submission 001-B. This is the strongest statement of association expressed by document examiners. No conclusion could be reached as to whether not the writer of Submission 001-B (page 3) also wrote the Robbery Note in Submission 001-A. Insufficient significant similarities and insufficient significant dissimilarities were observed. There may be some similarities or dissimilarities or both. Limitations associated with absent characters, individualizing characteristics, or quantity of writing may be present. Submissions 001-A and 001-B were examined visually, with sidelighting, and with the electrostatic detection apparatus (ESDA) for the presence of indentations from indented writings. Indentations of this sort are often caused on one document when writing is done on another document that is physically on top of it. Latent indentations of the name "John" and the phone number "703-555-1289" were revealed on Submission 001-A. Latent indentations of the name "John", the phone number "703-555-1289", and the writing on Submission 001-A "All the money in the drawer I have a gun" were revealed on Submission 001-B. As per [Laboratory] standard operating procedures the ESDA lifts were given a Submission number and have been returned with the evidence. A fracture match examination of the paper fibers between the top of Submission 001-A and the paper tabs still connected to the spiral ring in Submission 001-B was conducted. Magnified examination of the fibers showed Submission 001-B was at one time attached to the second paper tab. Images of the paper fibers are attached to this report. A non-destructive paper examination was performed with the Video Spectral Comparator (VSC) on the Robbery Note in Submission 001-A and the paper in Submission 001-B. Both Submissions reacted similarly under 365nm Ultraviolet illumination. Images are attached to this report. All requested examinations have been completed on this evidence. Submissions 001-A and 001-B will be forwarded to the [Laboratory] in [City] and will be returned to the submitting agency upon completion of the analysis. If further examinations are required, these submissions should be resubmitted along with any additional materials.
6YBT3D	The results of the investigation show that the questioned note Q1 originated from the recovered notepad K1. There were no limitations to the investigation. Our expert opinion is, that the questioned robbery note Q1 originated from the spiral notepad recovered from the vehicle of the suspect K1.
7BXEKE	The questioned note (Item K1) ORIGINATED from the recovered notepad (Item Q1).
7LKDHB	Upon completion of an examination and comparisons of the Q-1 exhibit to the K-1 notebook, it is the opinion of this examiner that the Q-1 exhibit was once an integral part of the K-1 notepad. A macroscopic examination of the Q-1 exhibit and sheets of paper within the K-1 notebook reveals, both share physical characteristic with one another. An ESDA examination of the first two sheets of paper within the K-1 notepad revealed indented impressions of the Q-1 hand written text on both sheets of

TABLE 3

WebCode	Conclusions
	paper.
7PLEKT	The questioned item (Q1) was examined to determine whether the note originated from the submitted spiral notepad (K1). Q1 and K1 were examined for indented impressions. Indentations of this sort commonly occur when writing is done on one document producing indentations of that writing on a document underneath. The results of this examination are as follows: Indentations were recovered from Q1. These appear to read: "John 703-555 1289". Indentations were recovered from K1. These appear to contain both the indentations recovered from Q1 (indicating that Q1 was on top of K1 when the original indentations were impressed into Q1) and indentations of the written note on Q1 – which appear to read: "All the money in the drawer I have a gun". An overlay of the recovered indentations was made to determine the alignment of the writing as it was placed on the paper in the notebook (which led to the developed indentations). This examination demonstrated that Q1 and the first page of K1 were in alignment on top of each other when the "John" entries were written on a page above these two and that the "All the money" entries were written on top of the first page of K1 while these two pages were in the same alignment. This is consistent with the pages being bound in the spiral notebook when the entries were written on them. Q1 was examined against the two paper tabs that were retained in the notepad (from the two pages that had been removed). The torn edge was found to be markedly different from the first remaining edge in the notebook. The second remaining edge shared common tear characteristics (to include a laminated tear in the upper right corner) but the use of some form of straight edge for the tear limited further potential identifying detail and precluded a fully conclusive opinion for this portion of the examination – however, it is consistent with the Q1 page having been attached to the second stub in the spiral-bound notebook (K1). Based on the examinations, it is this examiner's opinion that the questioned note (Q1) did originate from the known notepad (K1).
7QDMGB	The examination showed that the writing on the questioned document was executed with the questioned document placed on top of the first page of the recovered notepad.
7QRWHP	The paper supplied to the cashier indicated as Q1 comes from the recovered notepad K1, both the support and the physical qualities contained in the Q1 sheet present identity with the qualities shown on the K1 notepad sheets.
83XELC	The foregoing is sufficient evidence to conclude that the note delivered by the bank teller originated from the recovered notepad.
84HXT6	As a result of examination and comparison based solely on the material submitted the following conclusions and observations are opinions based upon my experience, education and training and are as follows: 1. The Q1 and K1 documents were scanned for preservation by Forensic Document Examiner [Name]. 2. The K1 spiral notebook, which measures approximately 127mm x 75mm, has a black front with the words "memo pad" printed in white. There is no company or production information printed on the notebook. The spiral is located at the top of the notebook and has 11 holes for the metal spiral. The notebook has 57 pages and 2 remaining 'chad' pieces at the top. The 'chads' have jagged torn bottom edges. 3. A VSC (Video Spectral Comparator) examination using various microscopic, infrared, ultraviolet, and alternate light source examination techniques was performed on the Q1 and K1 documents. The inks used in writing the list on the Q1 document and the K1c document reacted similarly under infrared and ultraviolet lighting. The paper in the Q1 and the K1 documents reacted similarly under infrared and ultraviolet lighting. 4. Using oblique lighting from the VSC, indented writing was visible on the Q1 document. This was deciphered as "John 703-555-1289" and two additional curved lines to the right of the numbers. This indicates that there was a piece of paper located above the Q1 document that contained this information. 5. Using oblique lighting from the VSC, indented writing was visible on the K1c document. This was deciphered as "All the money in the drawer I have a gun". This indicates that the Q1 document was above the K1c document when it was written. 6. An ESDA (ElectroStatic Detection Apparatus) examination for the detection and reading of indented writing, typing or other identifying impressions was not performed on the K1 document due to the thickness of the notebook. No impressions were recovered from the Q1 document. 7. A physical match examination demonstrates that the Q1 document matches to the K1b 'chad' remaining in the K1 spiral notebook. Both edges demonstrate torn edges that agree under magnification. 8. It is my opinion that the Q1 document originated from the K1 spiral notebook. 9. No opinion can be given on the handwriting when

TABLE 3

WebCode	Conclusions
	<p>comparing the Q1 document to the K1c document. Handwriting on both documents appear to be naturally executed, however the limited amount of writing on both documents and the lack of comparable words prevents a full examination and opinion as to authorship. 10. The Q1 document was forwarded to the Latent Print Section for processing and evaluation. 11. The Q1 document was forwarded to DNA section for processing and evaluation. If suspects are developed, request and non-request known handwriting specimens are requested from each suspect repeating the questioned information verbatim 15 -20 times on comparable exemplar forms, along with normal course of business specimens (drivers license, bank signature card, cancelled checks, applications, letters, forms of extended writing if possible, etc.), as this may provide a basis for comparison. Should the known handwriting specimens be procured, this case should be resubmitted for examination. Copies and/or scans of this evidence will be retained with the case file.</p>
88G86R	<p>On further examination and comparison, I found as follows: 1.The writing on questioned note "Q1" matched the indented writing on "K1". 2.Physical match of torn edges between "Q1" and the second counterfoil of "K1". Hence, I am of the opinion that the questioned note marked "Item Q1" originated from the recovered notepad marked as "Item K1".</p>
89RARQ	<p>3) Indented impressions of the handwriting on the note Q1 were recovered on the uppermost sheet of paper in the notepad, K1. Furthermore impressions "John 703-555-1289" (from an unknown source) were recovered on both the note Q1 and the uppermost sheet of notepaper in the notepad. As such the handwriting that produced the impressions "John 703-555-1289" was made on a piece of paper whilst this was resting on top of Q1 and on the uppermost sheet of paper in the notepad, K1. In the absence of a physical fit we cannot entirely exclude the possibility that Q1 originated from a similar notepad to K1, however the nature of our findings provides strong support Q1 was originally part of K1.</p>
8CC4L7	<p>1.- In my opinion, the inspection of the striped type sheet (horizontal) when fitting it directly on the ring-shaped red paste "memo pad" (obverse) matches and fits perfectly in its shape and linear scratching. 2.- It is observed that two of its first sheets have been cut from the "memo pad", thus I set out to place the Q1 substrate on the first cut sheet to see directly if the upper edges coincide: When locating the edges they do not coincide . 3.- When taking the second sheet cut out at the top of the "memo pad" and joining it in front of the Q1 substrate, it coincides in its irregular edges, being so and having carried out this exercise I consider that the Q1 sheet was taken from the second substrate of the memo pad 4.- Upon analysis of the letter "g" and the vowel "e" found on the page that is the reason for questioning Q1, they coincide morphologically with the letters "g" and Vowel "e" that are written on the third page of the "memo pad ".K1</p>
8FN92C	<p>The notepad (K1) has two stubs above the current top page of the notepad, showing at least two pages have been torn from the front of K1. The questioned note (Q1) and the top page of the of the notepad (K1) were examined for indentations. Indentations of the handwriting seen on Q1 were located on the top page of the notepad (K1). This shows that when Q1 was written it was resting above the top page of K1. Additionally, indentations of an entry reading "John 703-555-1289" were also found on the top page of K1. These same indentations were also located on Q1. This shows that when the entry "John 703-555-1289" was completed the page it was written on was resting above both Q1 and the top page of K1. An examination of the intersections of the indentations and ink entries on Q1 and K1 shows that the entry "John 703-555-1289" was written prior to the questioned note, and the questioned note was written prior to the shopping list on K1. Gross and subtle similarities were noted between the tear pattern along the top of Q1 and the tear pattern along the bottom of the second stub in K1. Based on the similarities in tear pattern observed, it is my opinion that the questioned note Q1 was torn from the notepad K1 leaving this second stub.</p>
8NK2CR	<p>Laboratory item #1, Invoice #Q200824 and Laboratory item #2, Invoice #Q200824 were at one time joined together. See page 3 for interpretation. Laboratory item #1 (K1 Front and Back, K1B Back), Laboratory item #2 (Q1 Front and Back) Invoice #Q200824 was examined utilizing oblique/side lighting and ESDA (Electrostatic Detection Apparatus) for the possible presence of indented impressions. Multiple impressions were found. K1B Back used as a representative sample. See page 4 for interpretation. Laboratory item #1 (K1B Front), Invoice #Q200824 was examined utilizing oblique/side lighting and ESDA (Electrostatic Detection Apparatus) for the possible presence of indented impressions.</p>

TABLE 3

WebCode	Conclusions
	Aside from the laboratory number, lab item number, envelope outline, paper outline, or extraneous markings - no impressions were found. Laboratory item #2, Invoice #Q200824 was entered into the Robbery Note Database of the Police Laboratory's Questioned Documents Unit for further analysis. A subsequent report regarding the results of the search will follow.
8V66G9	Results of Examinations: Indented Writing Exam: The questioned demand note (1A) and the first full page of the comparison notebook (1B3) were examined for the presence of any indented writing, typing, or other identifying impressions. These are impressions sometimes left on paper from writing, typing, or other markings done on another page while it was superimposed over the questioned material. Impressions were recovered and sourced as follows: 1A: Indentations were recovered in the front of the document that read, "John 703-555-1289." These impressions were not sourced to the visible writing on any of the documents submitted for examination. 1B3: Indentations were recovered in the front of the document that were sourced to the visible writing on the 1A document. Additional impressions that read, "John 703-555-1289," were also recovered in the front of the document and share a common source with the impressions of "John 703-555-1289," in the 1A document. Paper Exam: The questioned demand note (1A) and the comparison notebook (1B) were compared visually, microscopically, and with alternate light sources and filters. These examinations revealed that the questioned demand note (1A) was at one time joined to the 2nd partial page of the comparison notebook (1B2) to form a single sheet of paper. Therefore, it is my opinion that item 1A was at one time contained in the comparison notebook (1B). Remarks: The evidence was imaged. In the event that a handwriting examination is desired, the original questioned documents should be resubmitted. Please contact the Questioned Document Unit regarding obtaining known writing samples, if necessary.
9B83YB	The questioned note is ORIGINATED from the recovered notepad
9DY2D9	The evidence shows that the questioned note "Q1" originated from the spiral notepad "K1".
9JLRZ4	Impressions of the handwriting from Q1 were found on the first full sheet (page 3) of K1. A further set of impressions was also found on both Q1 and page 3 of K1. The tear pattern was shown to match between Q1 and the fragment of page 2 of K1. In my opinion, there is conclusive evidence that Q1 originated from the notepad, K1, and that Q1 was written whilst the sheet was present within the notepad.
9ZVXRE	Indentations from an unknown source developed on Q1 and K1c. The indentations read: "John 703-555-1289". Q1 and K1 share a common source. This is a definitive opinion with the highest degree of certainty and is supported by the fact that: indentations from the same unknown source were developed on Q1 and K1c; indentations from the writing on Q1 were developed on K1c; and the K1b paper fragment and Q1 physically align in all aspects.
ACXN68	Indentations of K1 were observed, the full texts as following "All the money in the drawer I have a gun". Besides, every single word of Q1 overlapped with the indentations of K1. Furthermore, the upper edge of Q1 physically matched with the fragment of K1. In conclusion, Q1 originated from K1.
APCGZ9	This report refers to exhibits by Lab Number. The following results only apply to the items tested. The examination of item Q1 for indentations revealed "John 703-555-1289" in indented form. Item K1.1 (first page in notebook) also revealed "John 703-555-1289" and the writings on Q1, in indented form. Page K1.2 (second page in notebook) bore "John 703-555-1289" and all of the writings from both Q1 and K1.1 in indented form. A physical match examination was performed on the top edge of the Item Q1 and the edges of the two remaining torn remnants from Item K1, and one of those appeared to match in significant detail to Item Q1. Spectral examinations revealed no visible differences in UV fluorescence between the Q1 and K1 papers nor were there differences in infrared reflectance or luminescence between the writings or rulings on these papers. No differences were found in the thickness or general paper morphology between Q1 and K1. Forensic document examiners use a scale of opinions to describe the strength of an opinions resulting from handwriting comparisons. Opinions with various strengths were used in this report. The scale of opinions used in this laboratory follows this paragraph. Although some of the opinions on this scale were not used in this report, they are provided

TABLE 3

WebCode	Conclusions
	<p>here so that the relative strength of the conclusions may be understood. Identification - This is the highest degree of confidence expressed. Based on evidence contained in the handwriting, the examiner has no reservations that the known writer actually wrote the writing in question. Strong Probability - The evidence is very persuasive, yet some critical feature or quality is missing so that an identification is not in order. The examiner is virtually certain that the questioned and known writings were written by the same individual. Probable - The evidence contained in the handwriting points rather strongly toward the questioned and known writings having been written by the same individual; however, it falls short of a "virtually certain" degree of confidence. Indications - A body of writing has few features that are of significance for handwriting comparison purposes, but those features are in agreement with another body of writing. No Conclusion - This is the zero point of the confidence scale. The examiner does not have even a leaning one way or another. Indications Did Not - A body of writing has few features that are of significance for handwriting comparison purposes, but those features are in disagreement with another body of writing. Probably Did Not - The evidence points rather strongly against the questioned and known writings having been written by the same individual, but it is not quite up to the "virtually certain" range. Strong Probability Did Not - There is a virtual certainty that the questioned and known writings were not written by the same individual. Elimination - The examiner has no doubt that the questioned and known writings were not written by the same individual.</p>
AQGFP8	The Q1 note with text "All the money in the drawer I have a gun" YES comes from the same notebook recovered K1.
B3ABML	Macroscopic and microscopic examination of the features between Q1 and K1 was conducted to determine whether or not Q1 was originally part of the notepad K1. Several similarities were found including paper size/geometric shape, printing and appearance. Comparison of the tear pattern of Q1 and the second stub within K1 disclosed several similarities in tear shape. Visual and electrostatic development of the first full page within K1 disclosed the presence of indented writings. Along with other indented writings, the writing from Q1 was observed to be on the first page of K1. Accordingly, Q1 with the visible handwriting as seen, originated from K1.
B6ZA2K	The loose sheet of white bond paper, with blue horizontal lines Item Q1, originated from the second fraction or butt of the folded pocket notebook (notes), Item K1.
B7U4H2	Due to agreement in fracture pattern, physical characteristics, and indented writing, it was determined that the Item 1 (Item Q1) questioned note and the Item 2 (Item K1) notebook, Page 2, were at one time attached. Indented writing corresponding to writing on the Item 1 (Item Q1) questioned note was observed on Item 2 (Item K1), page 3. In addition, indented writing of unknown value was observed on both Item 1 (Item Q1) and Item 2 (Item K1), page 3. This indented writing is best read as "John 703-555-1289". The indented writing observed on Item 1 (Item Q1) and Item 2 (Item K2) page 3 was visualized using side-lighting and the Electrostatic Detection Apparatus (ESDA). The ESDA lifts, used to capture and retain the indented writing, are considered secondary evidence and have been designated Item 3. Images of the Item 3 ESDA lifts are enclosed for your investigative assistance. Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.
B8LZ6B	Note item Q1 with handwritten writing in black ink with the legend "All the money in the drawer I have a gun" if it originated from the notepad item K1.
B9ZKXX	It was determined that the note, Q-1, originated from the spiral note pad, K-1.
BKEH3N	Performed comparative technical analyses of the filaments that are part of the tear in the questioned note Q1 and the second piece of paper in the notepad K1, it was found that these present matches in the position of their fibers and irregular cuts denoting a perfect case. Other identity features include paper size, color and number of printed lines, leading spaces, and uniform cuts made by the company that produced the notebook during assembly. With these features it is established that the questioned note Q1, ORIGINATED from the notepad K1.
BR9PE3	Due to agreement in identifying characteristics, it was determined that Item 1 (Item Q1) was at one time

TABLE 3

WebCode	Conclusions
	<p>attached to the page 2 fragment within the Item 2 (Item K1) notepad. Indented writing of unknown value was observed on Item 1 (Item Q1) using side-lighting and the Electrostatic Detection Apparatus (ESDA). The indented writing is best read as: "John 703-555-1289". It should be noted that the same aforementioned indented writing was also observed on pages 3 and 4 of Item 2 (Item K1) using the ESDA. Furthermore, additional indented writing was observed on pages 3 and 4 of Item 2 (Item K1) using side-lighting and the ESDA, which corresponds to the visible writing on Item 1 (Item Q1). The ESDA lifts, used to capture and retain the indented writing, are considered secondary evidence and have been designated Item 3. No other indented writing/indented writing of value was observed on the submitted items using side-lighting and/or the ESDA. The hand printing on Item 1 (Item Q1) is suitable for future hand printing comparisons. If future examinations are desired, dictated and undictated known writing should be obtained from any logical suspect(s). The known writing should be comparable to the questioned writing in wording, style, and format. Dictated known writing should be hand printed and prepared in the exact wording as the questioned writing and obtained on separate lined sheets of paper similar to the questioned item. Each repetition should be removed from the writer's view upon completion and numerous repetitions may be necessary in order to obtain naturally prepared writing. Undictated known writing consists of writing prepared during normal course of business activity. Possible sources of undictated known writing include business papers, letters, canceled checks, and/or applications.</p>
BUX2D8	<p>Significant evidence in the form indented impressions and tear patterns were found that establish that Q1 originated from K1. Indented impressions were found on one of the remaining pages in K1 appear to be consistent with the questioned hand-printed text on Q1. There were also impressions of what appears to be the letters "John" and the numbers "703-555-1289" found on K1. Additionally, there appears to be remnants of two missing pages in K1. The tear patterns appear to be consistent between the edges of Q1 and one of the remnants of a missing page.</p>
C2D4U9	<p>The questioned note ORIGINATED from the recovered notepad.</p>
C2TFEZ	<p>The questioned note (Q1) and the second small fragment of the notepad (K1) were forming one integral sheet, before their separation.</p>
C4GRD6	<p>Examination confirmed the Q1 robbery note was written on a page within the submitted spiral notebook. Indentations recorded with side-lighting and ESDA processing on the top page within the notebook, matched the handwriting of the Q1 robbery note. Visual examination with magnification confirmed the remnant pattern of the torn edge of a paper remnant within the notebook matched the torn edge pattern of the Q1 robbery note.</p>
CF9KJ8	<p>The fibers on the edge of the identified document Q-1 correspond in Physical and Individual characteristics when compared with the 2nd piece of paper (in the spiral) in the identified document K-1.</p>
CL2HC6	<p>Q1 Originated from K1.</p>
CUXF4D	<p>Q1 was torn from K1. The ESDA result reveals that Q1 was written on while on top of the first page of writing on Q1.</p>
CXU4HZ	<p>1. ESDA examination of Q1 revealed indentations which read "John 703 - 555 - 1289". 2. ESDA examination of K1 revealed indentations of the visible writing on Q1 "All the money in the drawer I have a gun". 3. ESDA examination was also able to demonstrate a physical fit between the torn edge of Q1 and the torn edge of the second page of K1. 4. It is probable that the author of the writing on Q1 is the author of the writing on K1. 5. It was not possible to differentiate between the inks used to complete the writing on Q1 or K1. 6. In my opinion Q1 (the hold up note) originated from K1 (the spiral pad). An Illustration is attached which demonstrates the basis for my conclusions.</p>
D42QB4	<p>Based on visual and instrumental examinations of Exhibits Q-1 and K-1, it was determined Exhibit Q-1 originated from Exhibit K-1. This finding is based on the following determination: Fracture match examination shows that Exhibit Q-1 and Exhibit K-1-2 were once one continuous sheet of paper. Sourced indented impressions were observed on Exhibit K-1-3. These impressions were sourced to the</p>

TABLE 3

WebCode	Conclusions
	handwriting on Exhibit Q-1. The same unsourced indented impressions were observed on Exhibits Q-1 and K-1-3; an image of these impressions is below. Note: Image is not to scale. (Image of unsourced indented impressions would be included in the report).
DA339L	On further examination and comparison, I found that ESDA examination on page 1 of the recovered notepad marked "K1" revealed indented writing consistent to handwritten entries on the questioned note marked "Q1". The torn edge on the questioned note "Q1" also showed a physical match against the torn edge on the leftover piece on the recovered notepad "K1". Hence, I am opinion that, the questioned note originated from the recovered notepad.
DCV46	Microscopic examination revealed that Item Q1 and the second torn away portion of paper left behind in Item K1 were once attached. Item Q1 and the top page of Item K1 were examined for indented writing impressions. The indentations of the text appearing on Item Q1 were observed on the top page of Item K1. Additional unsourced indentations of the word "John" and numbers "703 - 555 - 1289" were also developed on the top page of Item K1 and Item Q1. Due to a lack of comparable letters and letter combinations, it could not be determined if the hand printing appearing on Item Q1 and the hand printing appearing on Item K1 was written by the same person. The submission of a 3 page exemplar form along with the submission of multiple repetitions of the questioned material may allow for a more definitive conclusion.
DD439H	The questioned note (Q1) originated from the retrieved notepad (K1).
DWD8QZ	It was determined the Item 1 (Q1) robbery note originated from the Item 2 (K1) notepad. The torn edge on Item 1 (Q1) was at one time attached to the page 2 fragment from the Item 2 (K1) notepad. Indented writing was observed on Items 1 and 2 (Q1 and K1) using side-lighting and the Electrostatic Detection Apparatus (ESDA). The indented writing on Item 1 (Q1) is best read as "John 703-555-1289," and was also observed on page 3 of Item 2 (K1). The additional indented writing on page 3 of Item 2 (K1) originated from the questioned writing on Item 1 (Q1). The ESDA lifts of the indented writing on Items 1 and 2 (Q1 and K1) are considered secondary evidence and have been designated Item 3. Images of Item 3 are enclosed. If future handwriting examinations are desired, dictated and undictated known writing should be obtained from any logical suspect(s). The known writing should be comparable to the questioned writing in style, wording and format. Dictated known writing should be obtained on separate pages similar to the questioned item. Numerous repetitions may be necessary in order to obtain naturally prepared writing, and each repetition should be removed from the writer's view upon completion. Undictated known writing consists of handwriting prepared during normal course of business activity. Possible sources of undictated known writing include business papers, letters, canceled checks, and/or applications.
DY2JP7	Based upon the evidence submitted, the questioned robbery note originated from the recovered notepad. The indented writing in the recovered notepad is identified as the handwriting from the questioned robbery note. In addition, the perforations on the questioned robbery note correspond to the perforations on the second perforated tab in the recovered notepad.
DY2LB4	The document with identification code DC-21-5211-DQ-Q1 did come from the document with code DC-21-5211-DBC-K1.
E24227	1.- The top edge of item Q1 match that of 2th tab of item K1. 2.- Indented text were observed on the pages following the were removed pages of the notepad (item K1). 3.- the shape and size of the indented figures in item K1, are similar at the handwriting text on the item Q1.
E7XXQX	The questioned note originated from the recovered notepad.
E9LAP3	After careful examination and comparison of Questioned Robbery Note (Q-1) and Reference spiral notepad (K-1), it is concluded that Questioned Robbery Note (Q-1) is originated from the original Reference spiral Notepad (K-1).
EBP697	The robbery note (Q1) originated from the spiral notepad (K1).

TABLE 3

WebCode	Conclusions
EYHAXG	According to the analyzes carried out, the doubted material had for the present study and the technical reasoning presented above, it is determined that the document "theft note" Q1 comes from the ring-bound notepad K1, since it is the complement of the fragment of paper "No. 2" that is there.
F2XALV	The questioned note ORIGINATED from the recovered notepad.
F7EA93	Significant differences were not observed in size, shape or properties of the paper material between sample Q1 and the pages of sample K1. Indented impressions matching with the written text present on Q1 were observed on the uppermost page of K1. Moreover, on sample Q1 and the uppermost page of sample K1, matching indented impressions reading "John 703-555-1289" were observed. (The indented impressions are presented in picture x.) Based on the aforementioned findings, it is concluded that questioned note Q1 originates from the notepad K1.
F7R4JW	This report contains the results of the questioned document examinations. Results of Examinations: It was determined that the Item 1 (Item Q1) demand note and the portion of page 2 from the Item 2 (Item K1) spiral notepad were at one time attached due to agreement in identifying characteristics. Indented writing was observed on Item 1 (Item Q1) and Item 2 (Item K1) using electrostatic processing and side lighting. The same indented writing of unknown value was observed on Item 1 (Item Q1) and Item 2 (Item K1) and is best read as "John 703-555-1289". Indented writing from the Item 1 (Item Q1) demand note was also observed on page 3 and page 4 of the Item 2 (Item K1) spiral notepad. The electrostatic lifts, used to capture and retain the indented writing, are considered secondary evidence and have been designated Item 3. The Item 1 (Item Q1) writing is suitable for future hand printing comparisons. If future examinations are requested, dictated and undictated known writing from any logical suspects should be submitted. The known writing should be comparable to the questioned writing in wording, style, and format. Dictated known writing should be prepared in the exact wording as the questioned writing and obtained on separate pieces of lined paper similar to the questioned item. Each repetition should be removed from the writer's view upon completion and numerous repetitions may be necessary in order to obtain naturally prepared writing. Undictated known writing consists of writing prepared during normal course of business activity. Possible sources of undictated known writing include business papers, letters, canceled checks, and/or applications. Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.
F9LPE9	Based on examination of the Q1 note and K1 notepad the following conclusions were reached: The Q1 note originated from the K1 notepad. The Q1 note was in direct or indirect contact with the K1 notepad when the Q1 note was written. An unknown document was in direct or indirect contact with the Q1 note and K1 notepad when the text, "John 703-555-1289" was written.
FB8B8W	The robbery note (Q1) was once physically connected to the partial page still within the spiral notebook (K1-2) which is included in the spiral notebook (K1). This paper tear physical match places the robbery note (Q1) above the grocery like note (K1-3) when it was originally present in the spiral notebook (K1). Indented writing impressions visualized on the grocery type note (K1-3) were interpreted and the ESDA lift created was layed over the robbery note Q1. This revealed the indented impressions on K1-3 and the physical writing present on the robbery note (Q1) are a physical match. This means the robbery note (Q1) was laying above the grocery like note (K1-3) when the handwriting was produced on the robbery note (Q1). There is additional indented impressions visualized on the robbery type note (Q1) which could not be fully interpreted. Numbers visualized were interpreted as 5_5 and 1289. However, as stated previously, there are additional indented impressions present on Q1 which can not be fully interpreted. There is no conclusion if the handwriting present on the robbery note (Q1) was or was not produced by the same writer who produced the writing on the grocery type note (K1-3).
FEQBJ6	Document Q-1 was examined for impressions with positive results, using the Foster and Freeman VSC 6000 H/S and an oblique lighting source. Examination of the document using oblique lighting and the Foster and Freeman VSC 6000 H/S assisted in deciphering the indentations present on document Q-1 to read: "John 703-555- 1289". Document K-1 was examined for impressions with positive results, using the Foster and Freeman VSC 6000 H/S and an oblique lighting source. Examination of the document using oblique lighting and the Foster and Freeman VSC 6000 H/S assisted in deciphering the

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WebCode	Conclusions
	indentations present on the first full page of document K-1 to read: "All the money in the drawer I have a gun". CONNECTED AT ONE TIME: The document Q-1 fragment and fragment B of document K-1 were at one time joined and part of the same sheet, due to correspondence in individualizing characteristics between document Q-1 fragment and fragment B of document K-1.
FN2QDK	Item Q1 is originated from Item K1.
FPA3TZ	The note from the bank robbery undoubtedly came from the notepad found in the suspects car.
G2B3V4	Based on the result of the expertise, I conclude that the document/sheet with writing "All the money in the drawer I have a gun" from Q1 evidence originated from the notebook of notes "memo pad" from evidence K1.
G7DWZZ	It is concluded that the notepad, K1, is the source of the robbery note, Q1.
G86RM9	The questioned note Q1 originated from the recovered notepad K1.
GQK6FY	<p>Conclusion: There is an extremely high probability that the K1 notepad is the source of the Q1 note, in particular, that Q1 and the second fragment in K1 were at one time joined as a single piece of paper. The following findings are the reasons supporting this conclusion: 1. There is agreement between the conspicuous and subtle contours of the top torn edge of Q1 and the bottom torn edge of the second fragment in K1. The numerous areas where the contours align mean it is highly unlikely that a torn paper other than Q1 could have been joined to this K1 fragment. 2. Writing impressions from the Q1 note were found on the first full page in the notepad K1 and, more faintly, on the second full page. This means that the Q1 text was written while it was on top of the first full page in the K1 notepad. Note this does not necessarily mean that Q1 was joined to the second fragment in K1 at the time the Q1 note was written. 3. Writing impressions from an unknown source were found on both Q1 and the first full page of K1. This means that the unknown source document was on top of both Q1 and the first full page of K1 when it was written. The impressions from the unknown source appear to read: John 703-555-1289 Note the foregoing decipherment is an interpretation based in part on context clues and may be open to other interpretations. No determination could be made whether the same person wrote Q1 and the first full page of K1 because the writing was unsuitable for a meaningful comparison. There were insufficient comparable features. Methods: Q1 and the pages of K1 were examined with the unaided eye. Q1 and the first four pages of K1 were examined with a microscope capable of 160x magnification and were scanned at a resolution of 1200 ppi. Physical Match Examination: The SWGDOC Standard for Physical Match of Paper Cuts, Tears, and Perforations in Forensic Document Examinations and the [Laboratory] Questioned Documents Unit's Physical Match Comparison test method were followed. Class characteristics of the paper and ink for Q1 and K1 were compared through visual inspection, microscopic examination, and using the alternate light sources of the Video Spectral Comparator (VSC). The torn edges of Q1 and the two fragments at the beginning of the K1 notepad were examined visually and under magnification. The edge of Q1 and each K1 fragment were juxtaposed to determine if the contours aligned. Microscopic alignment was recorded with the VSC camera using magnification and, where elucidating results were seen, using transmitted light. Adobe Photoshop was also used to digitally align the Q1 and K1 fragments. Using the 1200 ppi scans, the torn edges were added to one Photoshop image as separate layers. The Q1 image was first rotated 4 degrees counterclockwise using the Transform tool in order to line up next to the K1 fragment edges. This rotation was needed because of the difficulty in placing multiple document fragments, in turn, on the scanning bed at precisely the same alignment. Each K1 fragment layer was added on top of a Q1 layer, and the Blending Mode was changed to Lighten on the K1 layers, allowing juxtaposition of the Q1 torn edge to that of each of the K1 fragments. Indentations Examination: The ANSI/ASB Standard for Examination of Documents for Indentations and the [Laboratory] Questioned Documents Unit's Indentations test method were followed. Both sides of all intact pages of the K1 memo book and Q1 were examined using the Crime-lite 80L oblique lighting instrument to observe indented writing or other impressions. Writing impressions were found on Q1 and the first two full pages of K1. These impressions were recorded using the VSC camera. The Electrostatic Detection Apparatus (ESDA), which is an instrument that allows latent impressions on a</p>

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	<p>document to be revealed as visible images suitable for further study and interpretation, was used on Q1 and the first two full pages of K1 to better visualize the impressions. The visible result is called an ESDA lift, and the lifts on this case will be booked as evidence. Q1 and K1 were each humidified for two minutes prior to processing on the ESDA. A transparency of Q1 was made to overlay with the ESDA lifts to determine whether Q1 was the source of the writing impressions. A transparency of the ESDA lift of the front of Q1 was also made to overlay with the ESDA lift of the back of the first full page of K1 to determine whether the writing from the unknown source was impressed on both Q1 and K1. The ESDA lifts were scanned at 600 ppi to confirm the results of the visual inspection using the transparencies. Lift images were enhanced using "levels adjustment" in Photoshop, which adjusts the shadows, midtones, and highlights of an image to increase contrast. The scan of Q1, with opacity reduced to 41%, was added as a layer on top of the ESDA scan of the first full page in K1 to inspect the superimposition of the Q1 writing and writing impressions. To determine whether the unknown source impressions on Q1 and K1 superimposed, the ESDA lift of the back of the first full page of K1 was used because it had the clearest impressions. First, an area without impressions from the lift background was saved as a pattern. Part of the interfering impressions from the writing on the first full page of K1 was then painted over to help accentuate the unknown source impressions. The resulting image was copied and pasted as a layer, with opacity reduced to 53%, on top of the image of the ESDA lift of the front of Q1 to inspect the superimposition. Handwriting Examination: The SWGDOC Standard Guide for Examination of Handwritten Items and the [Laboratory] Questioned Documents Unit's Handwriting test method were followed. It was determined that the writing on Q1 and the first full page of K1 did not have sufficient comparable features, and the examination was discontinued. Interpretation and Results: No differences between class characteristics, such as paper features, were found between Q1 and the pages in K1. Macroscopic, microscopic, and digital analysis of the contour alignment between the top edge of Q1 and the bottom edge of the two fragments in K1 demonstrated that the Q1 and first K1 fragment did not match. The Q1 and the second K1 fragment did align. It is highly unlikely to find that degree of alignment between two fragments that were not at one time joined. Indented writing examination revealed writing impressions from an unknown source on Q1. Those same impressions, along with impressions of the Q1 writing, were found on the first full page in K1. Impressions of Q1 and the first full page in K1 were found on the second full page in K1. No other discernible writing impressions were found in K1. The Q1 writing superimposes with the impressions found on the first full page in K1, demonstrating that Q1 was written while on top of the first full page of K1. These findings further strengthen the support for the conclusion that Q1 was at one time joined to the second K1 fragment. Comparison of the writing on Q1 and the first full page of K1 revealed a lack of sufficient comparable features for a meaningful analysis in terms of writership.</p>
GRC6EV	Based on the aforementioned evaluations, it is determined that the questioned note (Q1) originated from the recovered notepad (K1).
H8Y84X	The robbery note (Q1) if it corresponds to the spiral notepad (K1).
HLJKLZ	My opinion is based on the observations I made during my examinations and my ability to evaluate these observations, based on the training and experience I have in the area of document examination. It is my opinion that Q-1 came from the notepad labeled K-1.
HQTTVG	<p>Document Q1 is a single page of lined paper with a tear along the top edge. Document K1 is a spiral notebook containing two stubs remaining from pages having been torn away (K1-1 and K1-2) and 58 intact pages. The first two intact pages were labelled K1-3 and K1-4. Indentations: The questioned document Q1 and Items K1-3 and K1-4 were examined for the presence of impressions from indented writing. Indentations of this sort are often caused on one document when writing is done on another document that is physically on top of it. On Item Q1, indentations were found of writing from an unknown source ("John 703-555-1289"). On Item K1-3, the first full page in the K notebook, the following were found: indentations of the writing from an unknown source ("John 703-555-1289") as found on Q1, and indentations that matched the hand printed entry ("All the money in the drawer I have a gun") from Item Q1. The latter indentations indicate that when the entry was written, Item Q1 was physically on top of Item K1-3. On Item K1-4, the second full page in the K notebook, indentations were found that matched the hand printed entries ("bread milk eggs flour") from Item K1-3. Fracture match:</p>

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WebCode	Conclusions
	Macroscopic and microscopic exams reveal a positive fracture match between the top edge of Q1 and the bottom edge of stub K1-2. Therefore, Q1 was at one time attached to the stub K1-2. Based on the indentations and the fracture match evidence, the original order of pages in the notebook are: Stub K1-1 (missing the remainder of the page), Stub K1-2 and Q1, K1-3, and K1-4.
HR6H92	The forensic findings provide strong support for the note Q1 originating from the notepad K1.
J6ATJU	It was determined that the Item 1 (Item Q1) note originated from the Item 2 (Item K1) pad based on the indented writing found on the first page of the Item 2 (Item K1) pad that corresponds to the text found on the Item 1 (Item Q1) note and that the Item 1 (Item Q1) note was at one time attached to the second perforated tab in the Item 2 (Item K1) pad. Indented writing was observed on the Item 1 (Item Q1) note which is best read "John 703-555-1289" and on two pages of Item 2 (Item K1) using oblique lighting and/or the Electrostatic Detection Apparatus (ESDA). Two ESDA lifts are considered secondary evidence, are designated Item 3, and will be retained. No other indented writing of value was observed on Item 2 (Item K1). Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.
JFALU8	There is strong support for the proposition that Q1 originated from the notepad K1 rather than for the alternative proposition that it did not come from this notepad. This is the second strongest conclusion (point 2) on a 9 point scale which compares the degree of qualitative support for a particular proposition with that for the alternative proposition.
JJV9MU	As a conclusion, it is determined that the questioned note is ORIGINATED from the recovered notepad.
JXTCT7	In my opinion, based on the physical features, indentations and tear match, Q1 has originated from K1 notepad.
JY3LGW	Item Q1 has similar class characteristics with the sheets of item K1 with regard to color (white), line color (blue), type printing of blue lines (offset), texture (smooth), with (7.5 centimeters, chemical composition of the surface (cotton, length of sheets from bottom to tear point 11.6 centimeters, width between blue lines 0.67 centimeters, width of blue lines 0.36 millimeters, absorbance of the printed blue line and absorbance of the ink in the writing on both sheets. Item identify as K1 (spiral notepad) and item Q1 (robbery note), correspondence was found on the cut line.
K28DQX	The note in Q1 and the notebook in K1 were assessed and examined based on methodology described in the Test Methods (unless otherwise noted). The methodology included macroscopic, microscopic, indented impression, handwriting assessment, and physical match comparison. The note in Q1 is white, notebook paper measuring approximately 2 31/32 inches wide by 4 1/2 inches high. There are blue, horizontal printed lines printed 9/32 inches apart. The top edge is torn and the bottom two corners are rounded. There is writing in black, ballpoint ink that reads "All the money in the drawer I have a gun". The notebook in K1 contains the following features: a metal spiral ring at top, a green cover with "memo pad" in white text, a brown cardboard back, two paper stubs in front of the full sheets, and 58 white notebook pages attached to the metal ring. The notebook pages measure approximately 2 15/16 inches wide by 5" high. The blue horizontal printed lines on each page are approximately 9/32 inches apart. The pages were labeled 1 – 58 by the analyst for examination purposes. These features are consistent to the Office Depot brand wirebound top-opening memo book, which is listed as originally containing 60 sheets. Information about this notebook was recovered on April 9, 2021 from the following website: https://www.officedepot.com/a/products/764426/Office-Depot-Brand-Wirebound-Top-Opening/ . The metal ring on the notebook in K1 was disassembled and the pieces repacked and sealed in their own manila envelope to stay with K1. Only the first page of notebook paper contains writing in black, ball point ink reading "bread milk eggs flour". Indented Impression Examination: The note in Q1 and the notebook in K1 were examined for the presence of indented impressions. These, generally, are impressions left on a sheet of paper which has been in contact with another during the writing process. Side lighting indicated that no indented impressions were present on pages 7-58 and the front and back covers of the notebook in K1. An electrostatic detection device (EDD) examination was conducted on the note in Q1 and the first six pages in the notebook in K1. The indented impressions that developed from

TABLE 3

WebCode	Conclusions
	<p>the note in Q1 may be viewed on the EDD lifts uniquely identified as Q1A1 and Q1A2 in Item Q1A. The indented impressions that developed from pages 1 – 6 in the notebook in K1 may be viewed on the EDD lifts uniquely identified as K1A1 – K1A6 in Item K1A. Indented impressions are subject to more than one interpretation when deciphered. Side lighting examination was conducted on pages 7 - 58 in the K1 notebook and no indented impressions were visible on those pages. Q1A: The following unsourced, indented impressions developed on the lifts in Q1A, uniquely identified as Q1A1 and Q1A2, from the front and reverse of the note in Q1: John 703 – 555 – 1289. Additional indented impressions developed that were sourced to the writing on the evidence envelope for Q1. K1A: Several layers of indented impressions developed on the lifts in K1A, uniquely identified as K1A1 through K1A6, from the front and reverse of pages 1 – 6 in the notebook in K1. One layer is decipherable as the unsourced, indented impressions deciphered on the lifts in Q1A. Another layer is indented impressions of the writing in black ink on the front of the note in Q1. This means that the note in Q1 was in contact with the K1 notebook when the unsourced and sourced writing on the front of Q1 was executed. The only other indented impressions that developed on the lifts in K1A were from the writing on page 1 in the K1 notebook indented onto the pages below. All of these indented impressions were darkest on K1A1 and K1A2 (from the front and reverse of page 1 and page 2 in the notebook in K1) but then minimally decipherable on the K1A5 and K1A6 lifts (from the front and reverse of page 5 and page 6 in the notebook in K1). Physical Match: The note in Q1 and the two stubs of paper (S1 and S2) in the K1 notebook contained torn edges. The torn edge on the note in Q1 was compared to the torn edges on the S1, S2 stubs in the K1 notebook to determine whether or not these pieces of paper were at one time physically connected. The paper color and width of the note in Q1 is consistent to the stubs from the notebook in K1. Furthermore, the tear pattern on the note in Q1 was consistent to the S2 stub in the K1 notebook. Upon microscopic examination, it was determined that the note in Q1 was at one time connected to the S2 stub from the K1 notebook. The tear pattern on the note in Q1 and fiber placement was not consistent to the S1 stub in the K1 notebook. Handwriting Examination: The writing on the note in Q1 and page 1 in the notebook in K1 is original and suitable for comparison. The unsourced indented impressions of “John 703 – 555 – 1289” deciphered on lift Q1A and on the lifts in K1A is also suitable for comparison but limited because some features are difficult to assess on the lifts. The writer of the hand printing on Q1 cannot be identified to nor eliminated as the same writer of the hand printing on page 1 in the notebook in K1. There is a limited amount of comparable characters and the overall small amount of writing on each are significant limitations to the handwriting comparison. No conclusion is offered regarding whether the writer of the unsourced indented impressions on the lift Q1A and on the lifts in K1A was the same writer as Q1 or page 1 in the K1 notebook. There are very few characters in common and the overall small amount of writing on each were significant limitations to a handwriting comparison.</p>
K2MTJ6	<p>The documents, items 1.1 and 1.2, were examined with the following results: 1. Indentations were detected on the questioned document, item 1.1, which were caused by an unknown source and interpreted as: “John 703 – 555 – 1289”. 2. Multiple generations of indentations were detected on the first page of the note pad, item 1.2, which were caused by: a. The handwritten entries appearing on the questioned document, item 1.1; b. The same unknown source that caused the indentations on the questioned document, item 1.1, and interpreted in point (1) above. The indentation results create a nexus between the document, item 1.1 and the note pad, item 1.2. 3. A positive tear line match was detected between the questioned document, item 1.1, and the second portion of a page of the note pad, item 1.2. 4. Due to the indentation results and the positive tear line match, the evidence provides strong support for the proposition that the questioned document, item 1.1, has originated from the note pad, item 1.2.</p>
K8D4T4	<p>I have concluded that the q1 document was probably originally a part of the k1 spiral notepad, i.e., that q1 was probably torn from the pad leaving remnant 2 within the spiral of the k1 notepad.</p>
K8XRBX	<p>CTS Trial [Laboratory]/21/51030/01 Report 1. I have been instructed to determine whether the note, Q1, could have originated from the notepad, K1. 2. I have noted that there is a page missing from the front of the notepad, K1, and two short stubs remain. The first full page within this notepad bears a number of handwritten entries headed “bread”. 3. I have examined this page for impressions of indented handwriting using both an oblique light source and ESDA. I have found impressions on this page from</p>

TABLE 3

WebCode	Conclusions
	the handwriting on the questioned note, Q1. In my opinion, these findings provide conclusive evidence that Q1 was written out whilst above the current top page within the notepad K1. 4. I have also noted that the questioned note also bears impressions of handwriting, and I have examined this note using an oblique light source and ESDA. 5. I have found impressions of handwriting on Q1 which appear to consist of a name and telephone number. As our ISO accreditation does not include interpretations/decipherment of impressions our policy would be to attach an image of these impressions within our report.
KBE8MB	The threatening note studied comes from the cut-out of the second sheet of the notebook provided for confrontation.
KHVMDZ	In view of the evidence, Item Q1 originated from Item K1.
KLU2X4	1. A fracture match examination was conducted between Exhibits 1 and 2. Exhibit 2 was once a part of Exhibit 1. 2. Exhibit 1(1) was processed for the presence of indented writing impressions. Impressions were found and were sourced to the questioned handwritten entries on Exhibit 2. 3. Exhibit 2 was processed for the presence of indented writing impressions. Impressions were found. The impressions "John" and "703-555-1289" were found indented on both Exhibit 2 and Exhibit 1(1).
KNYQYR	It was determined that the Item 1 (Item Q1) demand note and the second partial page of Item 2 (Item K1) were at one time directly attached (Figure 1). Indented writing corresponding to the writing on the Item 1 (Item Q1) demand note was observed on pages of the Item 2 (Item K1) notebook. Additionally, indented writing of unknown value was observed on the Item 1 (Item Q1) demand note and pages of the Item 2 (Item K1) notebook. This indented writing is best read "John 703-555-1289" (Figures 2 and 3). The electrostatic lifts used to capture and retain the indented writing are considered secondary evidence and have been designated Item 3. No other indented writing of value was observed during the examination of the submitted items using electrostatic processing and side lighting. No other physical characteristics of value were observed during the examination of the submitted items. The Item 1 (Item Q1) writing is suitable for future hand printing comparisons. If future examinations are requested, dictated and undictated known writing from any logical suspects should be submitted. The known writing should be comparable to the questioned writing in wording, style, and format. Dictated known writing should be prepared in the exact wording as the questioned writing and obtained on separate pieces of lined paper similar to the questioned item. Each repetition should be removed from the writer's view upon completion and numerous repetitions may be necessary in order to obtain naturally prepared writing. Undictated known writing consists of writing prepared during normal course of business activity. Possible sources of undictated known writing include business papers, letters, canceled checks, and/or applications. Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.
KPTCU4	Q1 originated from K1.
L6H37C	In the questioned document, it corresponds to a red notebook type small spring book, on the cover "memo pad" with lined sheets. The first folio presents manuscript that read "bread milk eggs flour", the other folios without manuscripts, it is possible to reveal the following heavy writing that reads "All the money in the drawer I have a fun", made in cursive typeface in the language, which is equivalent to the visible writing in the comparison document provided and corresponds to a sheet of small lined paper with the manuscripts that read "All the money in the drawer I have a gun" made in italic typeface in the English language. By virtue of what is indicated above in the questioned document, heavy writing is detected and which is equivalent to the writing of the comparison element.
LJHQBY	The questioned note ORIGINATED from the recovered notepad.
M2ZAMW	The physical characteristics of the theft note of the document of doubt that says "all the money in the drawer I have a gun" match the spiral notebook recovered from the suspect's car that served as undisputed material

TABLE 3

WebCode	Conclusions
M626EC	Item Q1 is originated from Item K1.
M92GAC	Item Q1 is originated from Item K1.
MHMM2P	The writing paper in the questioned note is a piece of paper that has been written and drawn from the recovered notepad
MKBYZU	The questioned note (Exhibit Q1) originated from the K1 notebook. Due to an insufficient amount of comparable handwriting, no conclusion could be rendered as to whether or not the writer of Exhibit K1 wrote Exhibit Q1. Indentations were recovered from Exhibit Q1 and the first page of Exhibit K1. See images for details.
MRT8NQ	It was determined that the Item 1 (Item Q1) document was at one time attached to the Item 2 (Item K1) notebook due to agreement in identifying characteristics. Indented writing on page 3 and 4 of the Item 2 (Item K1) notebook corresponds to the original handwriting on the Item 1 (Item Q1) questioned document. Indented writing of unknown value was observed on the Item 1 (Item Q1) document as well as pages 3 and 4 of the Item 2 (Item K1) notebook using side lighting and electrostatic detection. Indentations on the following items are best read as: Item 1 (Item Q1) "C_S John 703-555-1289". Item 2 (Item K1) page 3 "Al_ the m_ney in the d_a_r_l _ve a gun" from Item 1 (Item Q1) as well as "J____" and "703 ___1289". Item 2 (Item K1) page 4 "All _he __ney _____drawer l _ve a gun". The electrostatic lifts used to capture and retain the indented writing are considered secondary evidence and have been designated Item 3. Images of the Item 3 electrostatic lifts are enclosed for your investigative assistance. Additional observations and assessments have been made regarding the submitted items and recorded for possible future examinations.
MRVXWU	The result of the forensic examination is that Q1 was a part of K1.
MY99MZ	A paper tear comparison was conducted between items Q1 and K1 resulting in the following conclusion: Item Q1 originated from item K1. Item Q1 was processed for indented writing using an Electrostatic Detection Apparatus (ESDA). "John 703-555-1289" was developed as indented writing on item Q1. The top full page of item K1 was processed for indented writing using an Electrostatic Detection Apparatus (ESDA). The handwritten text on Q1 and "703-555-1289" was developed as indented writing on the top full page of K1. Items Q1a and K1a, derivative indented writing lifts, were returned with the submitted evidence. Images of items Q1a and K1a were retained in the case file.
N6TK2T	ITEMS: Item: 1 Item K1: One green spiral memo pad containing 58 complete sheets and 2 torn top portions for a total of 60 sheets (K1.1-K1.60). Item: 1.1 First torn tab from Item 1 (K1.1). Item: 1.2 Second torn tab from Item 1 (K1.2). Item: 1.3 First full page of Item 1 (K1.3). Item: 1.3.1 ESDA Lift from Item K1.3. Item: 1.4 Second full page of Item 1 (K1.4). Item: 1.4.1 ESDA Lift from Item K1.4. Item: 2 Item Q1: One partially torn sheet of paper containing the message "All the money in the drawer I have a gun". Item: 2.1 ESDA Lift from Item 2 RESULTS: Item 2 (Q1) has been identified as having been torn from Item 1.2 (K1.2). Item 2 (Q1) and Item 1.2 (K1.2) were once part of the same sheet of notebook paper. Indented writing that reads "John 703-555-1289" was recovered from Item 2 (Q1). One ESDA lift sheet was created from Item 2 and was made sub-item 2.1 (Q1.1). The transparent plastic-like lift used to recover the indentations is being returned to you in container #B along with a copy of the indentations. The lift should be retained as evidence. Indented writing that reads "John 703-555-1289" and "All the money in the drawer I have a gun" was recovered from Item 1.3 (K1.3). An ESDA lift sheet was created from Item 1.3 (K1.3) and was made sub-item 1.3.1 (K1.3.1). The transparent plastic-like lift used to recover the indentations is being returned to you in container #B along with a copy of the indentations. The lift should be retained as evidence. Indented writing that reads "John 703-555-1289" and "All the money in the drawer I have a gun" was recovered from Item 1.4 (K1.4). An ESDA lift sheet was created from Item 1.4 (K1.4) and was made sub-item 1.4.1 (K1.4.1). The transparent plastic-like lift used to recover the indentations is being returned to you in container #B along with a copy of the indentations. The lift should be retained as evidence. The "All the money in the drawer I have a gun" impressions on Items 1.3 and 1.4 (K1.3 and K1.4) indicate that Item 2 (Q1) was in contact with Items 1.3 and 1.4 (K1.3 and K1.4) when Item 2 (Q1) was written. The "John 703-555-1289" impressions on

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WebCode	Conclusions
	Items 1.3 and 1.4 (K1.3 and K1.4) and Item 2 (Q1) are products of the same original writing.
NFVL2T	I found a full correspondence between Q1 and K1 in the the following properties: The physical properties of the paper. A physical match between the torn edge of Q1 and the torn edge of the 2nd stub on K1. Indented writing on the first page of K1 which is identical and exactly in the same location on the page as the visible writing on Q1. Indented writing on the first page of K1 which is identical and exactly in the same location on the page as the indented writing on Q1. in my opinion, the both originated from the same source
NGL8AA	In my opinion, Q1 once formed an intact page corresponding to the second torn stub in K1. In my opinion, the writing seen on Q1 was made when Q1 was in K1. In my opinion, writing from an unknown source was made resting on both Q1 and K1 when Q1 and K1 pages were in close alignment. I consider it likely that this writing was made on the missing page corresponding to the first torn stub in K1. I have interpreted this writing from an unknown source as follows: John 703-555- 1289
NLLZLT	Indentations of writing from K1 were found on the first intact page of the pad, showing that K1 was resting on the pad when it was written out. Indentations from an unknown source were found on K1 and the same indentations were recovered from the first page of the pad, showing K1 was in contact with the pad when the unknown impressions were made. Due to the nature of the tear it cannot be determined if K1 was torn from the pad.
NMRPKV	The document Q-1 comes from the identified document K-1c.
NQX72Z	The questioned Q1 note and exemplar K1 notepad were examined for latent writing or marking impressions. Indented writing was recovered on the questioned and exemplar documents that reads "John 703-555-1289". Therefore, these documents shared a common source. In addition, indented writing was recovered on the K1 notepad that reads "All the money in the drawer I have a gun", which originated from the writing on the Q1 note. A physical match examination of the questioned Q1 note and the exemplar K1 remnants was conducted. There was agreement between the torn edges of the questioned note and one of the exemplar remnants. Therefore, the two items appear to have been a single document at one point. Based on the examinations mentioned above, the questioned Q1 note originated from the K1 notepad. No determination could be made as to whether or not the questioned Q1 writing was produced by the writer of the K1 exemplar. This examination was limited because the exemplar did not contain sufficient writing or letter combinations for comparison purposes.
NRP82W	the questioned note is originated from the recovered notepad.
P33MMV	Visual, microscopic and physical edge examinations of Exhibits Q1(a and b), K1-1(a and b) and K1-2(a and b) were conducted. Exhibits Q1(a and b) were compared with Exhibits K1-1(a and b) and K1-2(a and b). Exhibits Q1(a and b) and K1-2(a and b) were at one time joined. Exhibits Q1(a and b) and K1-1(a and b) were not at one time joined. Exhibit Q1 originated from Exhibit K1. Electrostatic Detection Apparatus (ESDA) examination of Exhibits Q1(a and b) and K1-3(a and b) was conducted. The same indented handwriting impressions were observed on Exhibits Q1(a and b) and K1-3(a and b). In addition, the original handwritten entries on Exhibit Q1a were observed as indented writing impressions on Exhibits K1-3(a and b). No further indented impressions were observed on Exhibits Q1(a and b) and K1-3(a and b). The result of the ESDA examination was preserved by lifting. Exhibit Q1a was compared with Exhibit K1-3a. The writer of the known handwriting on Exhibit K1-3a could neither be identified, nor eliminated , as the writer of the questioned hand printed/cursive entries on Exhibit Q1a, due to an insufficient amount of comparable known writing. Exhibits Q1(a and b), K1-1(a and b), K1-2(a and b), K1-3(a and b) and four ESDA lifts were digitally preserved and processed. The submission of fifteen to twenty known comparable normal course-of-business writing samples and exact-text exemplars of all subjects, on similar size and shape paper as the questioned exhibit, may provide the basis for an additional conclusion. Exhibits Q1, with two original ESDA indentation lifts, and K1, with two original ESDA indentation lifts, will be returned to the submitting agency.
PEW8JR	CONCLUSIONS: From the first sheet of the notepad found in the getaway vehicle, identified Item K1, the indented information that reads: "All The Money in the drawer I have a gun" was revealed. being the

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WebCode	Conclusions
	revealed text, the same text, reflected in the questioned note left in the bank, identified as Item Q1. The handwritten writing reflected in the questioned note left in the bank, identified as Item Q1, has been made by the same person who produced the handwritten writing reflected in the first page of the notepad recovered from the getaway vehicle, identified as Item K1. The questioned note, identified as Item Q1, has been originated from the notepad recovered from the getaway vehicle, identified as Item K1.
PTET8R	A microscopic, instrumental and comparative examination of the submitted exhibits resulted in the following opinion. The examination revealed a combination of significant corresponding characteristics between Exhibits Q1 and K1 that support the conclusion that Exhibit Q1 was originally part of the Exhibit K1 spiral bound notepad. Corresponding characteristics would include, but are not necessarily limited to the following observations. The length, width, line spacing and color of the Exhibit Q1 sheet of paper are the same as the sheets of paper in Exhibit K1. A comparison of the torn edges revealed corresponding paper fiber contours indicating that Exhibit Q1 was torn from the K1 spiral bound notepad. Exhibits Q1 and K1 sheets of paper reacted consistently with one another when viewed under the same ultraviolet source. Writing ink used for the handwritten entries on Exhibits Q1 and K1 reacted consistently with one another under the same infrared source. The examination revealed evidence of indented handwriting on Exhibits Q1 and K1. Indented text from Exhibit K1 was observed to closely overlay with the Exhibit Q1 ink-written text. This indicates that Exhibit K1 had to have been underneath Exhibit Q1 when the text was written. Additionally, the following indented handwriting was observed on Exhibit Q1 and Exhibit K1: John 703-555-1289. There are indications that the person who wrote the text on Exhibit K1 also wrote the text on Exhibit Q1, however the evidence is far from conclusive. The brevity of the available text and absence of corresponding textual content limited the examination of the handwritten entries on both exhibits.
Q3EMYV	The identified paper fragment K1b corresponds to the identified document Q1. Which indicates that both formed a single sheet of paper The identified paper fragment K1c does not correspond to the identified document Q1. Optical analysis of the ink used in the identified document Q1 and K1a revealed that the ink used in both documents shared class characteristics. Lift and preserve the indentation present in the identified document Q1 and identify the derived evidence as Q1a. Lift and preserve the indentation present in the identified document K1a and identify the derived evidence as K1a1.
Q68U4T	In summary, papers of Q1 and K1 are not significantly different. Stackable indented impressions were found on Q1 and on the first sheet of K1, and the text of Q1 was found as an indented impressions on the first sheet of K1. By their torn edge, Q1 and the second remains in the notepad (K1) could be put together. The findings of our examination provide very strong support for the proposition that the note (Q1) originated from the spiral notepad K1 rather than from another notepad.
Q96BH9	The Exhibit Q1 note originated from the Exhibit K1 notebook. Examination of the exhibits for possible indented writing with the ESDA2 (Electrostatic Detection Apparatus) instrument and also with oblique lighting found the text of Exhibit Q1 indented into the front side of page 1 of Exhibit K1. Furthermore, the text "John 703-555 1289" was found to be indented into the surfaces of both Exhibit Q1 and the first page of Exhibit K1. Examination with specialized lighting and magnification found that the torn edge of Exhibit Q1 is consistent with the torn edge of the 2nd tab in the binding of Exhibit K1. No significant differences between Exhibit Q1 and Exhibit K1 were observed using magnification and instrumentation.
Q9M72V	The questioned note Q1 originated from the spiral notepad K1
QHFC49	Methods: Items Q1 and K1 were examined visually utilizing a hand lens and a microscope. They were also examined instrumentally with various light sources and processed for indented writing. Questioned to Known Comparisons: Source Identification- The note in item Q1 came from the memo pad in item K1. This is based on a comparison of the paper, the inked lines on the paper, the pen ink, the indented writing, and the fracture pattern. The paper, the inked lines on the paper, and the pen ink could not be differentiated between items Q1 and K1. The fracture pattern on item Q1 is consistent with the fracture pattern from the remnants of the second page of the memo pad in item K1. Indented writing was developed on items Q1 and K1. The indented writing on item Q1 is a name and a phone number "John

TABLE 3

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	703-555-1289". The indented writing on the first remaining full page of item K2 is the message written on item #2 "All the money in the drawer....I have a gun" as well as the name and phone number found indented onto item #2 "John 703-555-1289". Remarks: No comparison was done on the handwriting on items Q1 and K1. Should a handwriting examination be requested, please, submit cursive and hand printed samples from the subject(s). All items are available for return. If additional items are submitted, please, return items Q1 and K1 in their original packaging.
QJQEP8	The questioned note ORIGINATED from the recovered notepad.
QNYM6Q	I have found conclusive evidence to show that the questioned note Item Q1 originated from the recovered notepad Item K1.
QW99WR	It is my opinion that there is evidence to support the proposition that Item Q1 was once part of the notebook Item K1.
R4P4DL	It was determined that Item 1 (Item Q1) was at one time attached to Item 2 (Item K1). Furthermore, indented writing corresponding to the Item 1 (Item Q1) writing was observed on Item 2 (Item K1) page 3. Additional indented writing of unknown value was observed during the examination of Items 1 (Item Q1) and 2 (Item K1) using side light and the Electrostatic Detection Apparatus (ESDA)®. The indented writing lifts are considered secondary evidence and have been designated as Item 3 and are enclosed for your investigative assistance. If future handwriting comparisons are desired, dictated and undictated known writing should be obtained from any logical suspect(s). The known writing should be comparable to the questioned writing in wording, format, and style. Dictated known writing should be obtained on lined paper similar in size to the questioned item and should be removed from the writer's view upon completion. Numerous repetitions may be necessary in order to obtain naturally prepared writing. Undictated known writing consists of writing prepared during normal course of business activity. Possible sources of undictated known writing include business papers, letters, canceled checks, and/or applications. Additional assessments and observations have been made regarding the submitted items and are recorded for possible future comparisons.
R9LNJQ	In my opinion, the handwritten note (Q1) originated from the recovered notepad (K1).
RDWJJU	Based on the examination and results in the matching on the paper, the torn edges, the pen used and indentation writing between the Q note and the spiral notepad K, there were sufficient evidence to opine that the note in the Q were originated from the spiral notepad, K.
RGFW3V	The results extremely strongly support that the questioned note originates from the recovered notepad.
RH8W2R	The physical characteristics of the document of doubt theft note that says "All the money in the drawer I have a gun" MATCH against the sample Spiral Notepad pattern recovered from the suspect's car.
RJHUDN	The item Q1 originates from the item K1. The robbery note was in the notepad when the sentences "All the money in the drawer I have a gun" were written.
RNTPDR	The questioned note item Q1 originated from the item K1 notepad.
RRYB6X	Item Q1 was written on top of the first page of K1.
RUKWXL	It is concluded that the questioned note of the theft delivered to the cashier identified as Q1, comes from the same source of origin of the notepad provided as a comparison element identified as K1.
RZ6BH7	Based upon the observations and assessment of findings from the submitted evidence, the questioned note (Q1) was determined to have been part of the memo pad (K1), that is, it was conjoined to the second paper vestige remaining in K1. (Images would accompany this conclusion)
T2GBWR	The question note item Q1, yes, was original from the notepad item marked K1.

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TFFBR2	<p>Visual, microscopic and alternate light source examinations of Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b were conducted. Physical and microscopic edge examinations of Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a and K1(2)b were conducted. Exhibits Q1(a) and Q1(b) were compared with Exhibits K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b. Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b originated from a common source (i.e., notebook). Additionally, Exhibits Q1(a) and Q1(b) and Exhibits K1(2)a and K1(2)b were at one time joined. Exhibits Q1(a) and Q1(b) and Exhibits K1(1)a and K1(1)b were not at one time joined. Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b were examined for the presence of indented impressions using the Electrostatic Detection Apparatus (ESDA). Indented handwriting impressions were observed on Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. The original hand printed entries present on Exhibit Q1(a) and indented handwriting impressions present on Exhibits Q1(a) and Q1(b), were observed as indented handwriting impressions on Exhibits K1(3)a and K1(3)b. No further indented impressions were observed on Exhibits Q1(a), Q1(b), K1(3)a and K1(3)b. The result of the ESDA examination was preserved by lifting. The handwriting on Exhibit Q1(a) appears to be naturally written and contains a sufficient amount of characteristics to be compared with submitted known writing. Exhibits Q1(a), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a, K1(3)b and the ESDA indention lifts were digitally processed and preserved. Exhibit Q1(b) was digitally preserved. The digital images will be retained.</p>
TH6PBK	<p>Results of Examinations: Indented writing that best reads as: 'John 703-555-1289' was observed during the examination of Item 1 (Item Q1) using side-lighting and the Electrostatic Detection Apparatus (ESDA). In addition, indented writing from Item 1 (Item Q1) that best reads as 'All the money in the drawer I have a gun' was observed during the examination of Item 2 (Item K1) using side-lighting and the ESDA. The resulting indented writing is considered secondary evidence and has been designated Item 3 and Item 4. No other indented writing of value was observed on the remaining pages of Item 2 (Item K1). The torn edge of Item 1 (Item Q1) and the torn edge from one of the pieces of paper located in the spiral of Item 2 (Item K1) were at one time attached. Additional assessments and observations have been made regarding the submitted items and recorded for possible future comparisons. Initial Assessment, Physicals and Indented Writing Methodology: The methodology utilized when conducting an initial assessment or other non-comparison examination of documentary evidence involves an assessment of the submitted evidence to observe and note features of the submitted item(s), record characteristics which may be important for future examinations, assess the feasibility of the requested examinations, and identify other potentially probative examinations. 1) Analysis: The examination begins with a macroscopic (visual) examination using ambient lighting. If necessary, microscopic, optical, and/or electrostatic analysis of the submitted item(s) and the use of additional specialized equipment, lighting, and/or reference materials may be employed. The aforementioned methods and techniques will be utilized to assess the various substrates (to include polyethylene film products), writing, machine printing, mechanical impressions, indentations, watermarks, writing/printing mediums, and/or other documentary components of the submitted evidence. When conducting these types of initial assessments and physical examinations of the evidence, at a minimum, any probative characteristics observed that may be altered or destroyed by any other examinations (e.g. latent processing) must be recorded. These examination records may be used in future comparisons. The following equipment, methods and techniques may also be utilized during the initial assessment of the submitted evidence: Electrostatic Detection Apparatus (ESDA); Video Spectral Comparator (VSC); Hyperspectral Imaging (HSI Examiner); Digital Microscopy; Stereoscope/other microscopy; Various forms of specialized lighting; 3M Glare-Stop polarizing filters of various sizes; Various measuring devices such as calipers, rulers, etc.; Various reference materials and/or software. 2) Evaluation: Upon completion of the initial assessment the examiner will proceed to the appropriate procedure as determined by the assessment. In instances when examinations do not continue into a comparison procedure, results of the initial assessment deemed probative, indented writing results, and/or watermark results will be reported. These results may include, but are not limited to, the following information (as applicable): Writing medium(s) and/or printing process(es) used to produce an item; Presence/absence of watermark and/or manufacturer's information; Self-adhesive/moisture-activated properties of an item; Presence/absence of indented writing and possible interpretation of the indentations; Suitability of an item for future examinations; Request for additional items. Any additional observations and assessments that are made and recorded for future examinations. The equipment, methods, and techniques utilized during the initial assessment to</p>

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	<p>assist with a reported result should be included in the "Results of Examinations" section with the reported result. In addition, any limitations of the evidence deemed significant by the examiner should be included with the reported results. 3) Verification and Review: Verifications are performed in instances when a printing process or an interpretation of the content of the indented writing is included in the results of examinations section of the report. Verifications ensure the accuracy of these examinations while additional reviews ensure the appropriate examinations have been conducted, the examiner's conclusions are consistent with technical notes, the technical notes contain sufficient supporting data and are within the limits of the discipline, and all records conform to Laboratory standards. Limitations: Factors that may affect the examination process and/or the results rendered include: Prior destructive examinations; Non-original writing; Insufficient quantity of original material; Insufficient quantity of physical characteristics/class characteristics associated with the item(s); Limited/Lack of comparability; Oversized/bulky items; Poor condition (stretched, warped, cut, torn, or melted material for polyethylene film product exams). Torn Edge Examination Methodology: The methodology utilized when conducting a torn/cut edge examination involves a four-stage process. 1) Analysis: The first stage is the visual examination of the items to be compared using lighting and magnification sufficient to allow fine detail to be distinguished, and the notation of their physical properties in the examination documentation. Some of the characteristics that can be observed include: Type of paper/material; Dimensions; Color; Relative spacing of components (space between lines, perforations, etc.); Markings such as printing and/or writing; Edge characteristics such as feathering and/or fracture patterns. 2) Comparison: The second stage is the side by side comparison of the items to assess the class and/or individual characteristics. 3) Evaluation: The third stage is the formulation of an opinion based on any similarities, differences, and limitations, if present. The range of opinions that can be reached is as follows: The torn/cut items were at one time attached - The torn/cut items were at one time attached, either in whole or in part, due to agreement in identifying characteristics. No differences that would preclude an identification were observed. May Have Been at one time attached - A less than definite determination that the items were at one time attached. There is a correspondence between the item(s); however, there is limited agreement in identifying characteristics and limitations are present. This opinion requires explanation of the limiting factors. No Conclusion/No Determination - No determination could be reached whether the torn/cut items were at one time attached, usually due to limiting factors such as insufficient quantity of material, poor condition of edges, and lack of sufficient suitable characteristics for comparison. In instances when meaningful examinations can be conducted, the weight of the combination of characteristics in common observed is counterbalanced by the weight of the combination of non-corresponding characteristics or unexplained characteristics observed. This opinion requires explanation of limiting factors. May Not Have Been at one time attached – A less than definite determination that the items were not at one time attached. There is a lack of correspondence in characteristics between the items and some inconsistencies are noted; however, limitations are present. This opinion requires explanation of the limiting factors. The torn/cut items were not at one time attached - The torn/cut items were not at one time directly attached due to sufficient disagreement in class and/or individualizing characteristics. 4) Verification: The final stage of the examination process is the verification. This stage of the process is performed to ensure the appropriate examinations have been conducted, the examiner's conclusions are accurate and consistent with technical notes and are within the limits of the discipline, there is supporting data, and all records conform to Laboratory standards. Limitations: The following factors that can affect the examination process and/or the results rendered include: Insufficient quantity of original material; Poor condition of the edges; Prior destructive examinations such as latent print processing; Lack of sufficient suitable characteristics for comparison</p>
TKT2AP	<p>A comprehensive forensic examination was conducted on the evidence provided. The edges of the pages from the notebook in question were compared to the edge of the questioned note. The edges of page two and the suspect note both show ample similarities in the tear marks to opine the suspect page was from page two of the notebook. Additional testing with oblique lighting revealed the text of the suspect note on the third page of the notebook which read, 'bread, milk, eggs, flour.' Comparison of the hand printing of the suspect note to the hand printing in the questioned notebook appear to have been written by the same hand.</p>
TPK2RR	<p>1.The evidences provide that the questioned note (Q1) originated from the recovered notepad (K1). Additional findings: 2.The indentation writing from the Q1 note ("All the money in the drawer I have a</p>

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	gun") was found on the first page in the K1 notebook. It means that the entries on the Q1 note were created before the Q1 sheet was removed from the K1 notepad. 3.Indented writing from unknown note was found on the Q1 note. The content of the revealed indented writing was read as: "John 703-555-1289"
TRCY7P	Upon completion of an examination and comparison of the Q-1 exhibit to the K1 notepad, it is the opinion of this examiner that the Q-1 exhibit was once an integral part of the K1 notepad. The Q-1 exhibit shares physical characteristics with the sheets attached within the K1 notepad. The Q-1 exhibit also shares a strong morphological tear pattern with the second paper remnant that was found attached within the K1 notepad. An ESDA examination of the first two whole sheets of paper attached within the K1 notepad revealed impressions of the Q-1 text on these sheets of paper.
UAUHF3	Electrostatic Detection Apparatus (ESDA) examination of Exhibits Q1a, Q1b, K1(4)a, and K1(4)b were conducted. Indented handwriting impressions were observed on Exhibits Q1a, Q1b, K1(4)a, and K1(4)b. No further indented impressions were observed on Exhibits Q1a, Q1b, K1(4)a, and K1(4)b. The result of the ESDA examination was preserved by lifting. The original hand printed entries on Exhibit Q1a were observed as indented handwriting impressions on Exhibits K1(4)(a and b). Additionally, indented handwriting impressions observed on Exhibits Q1a and Q1b are the same as the indented handwriting impressions observed on Exhibits K1(4)a and K1(4)b. Visual and microscopic examinations of Exhibits Q1a and K1(4)a were conducted. The questioned hand printed entries Exhibits Q1a and K1(4)a were prepared using black ballpoint ink. Alternate light source examinations of Exhibits Q1a and K1(4)a were conducted. The ink on Exhibit Q1a was compared with the ink on Exhibit K1(4)a. The inks on Exhibits Q1 and K1(4)a were not distinguishable at this non-destructive level of analysis. If chemical analysis of the inks is requested, the evidence should be sent to a laboratory that conducts destructive ink examinations. Visual, physical, alternate light source, and microscopic edge examinations of Exhibits Q1(a and b), K1(2)(a and b), and K1(3)(a and b) were conducted. Exhibits Q1(a and b) and Exhibits K1(2)(a and b) were not at one time joined. Exhibits Q1(a and b) and Exhibits K1(3)(a and b) were at one time joined. Therefore, Exhibit Q1 originated from Exhibit K1. The questioned hand printed entries on Exhibit Q1a appear to be naturally written and contain a sufficient amount of characteristics to be compared with submitted known writing. Exhibits Q1(a and b), K1(1)(a and b) through K1(62)(a and b) were digitally preserved. The original ESDA indentation lifts and alternate light sources images were digitally preserved and processed.
UBXH9L	The questioned note Q1 and the second torn page of the recovered notepad K1 were at one time joined and part of the same sheet. Therefore, in my professional opinion, the questioned note Q1 originated from the recovered notepad K1.
UR7ABR	the questioned note (Q1) if it originated from the retrieved notepad (K1).
UW4LE4	It is my opinion that Q1 originated from the recovered suspect notepad, K. In addition, Q1 was physically positioned above and on top of K1(3) when the questioned handprinted note was written onto Q1. Both Q1 and K1(3) were present with K1(3) beneath Q1 when additional writing was executed on a missing/absent page or piece of paper.
V9A79G	As a result of examination and comparison based solely on the material submitted, the following conclusions and observations are opinions based upon my experience, education and training and are as follows: 1. No conclusion can be rendered on the questioned printing present on the robbery note submitted in exhibit Q1 when compared to exhibit K1 due to a limited writing sample. The questioned printing appears to be naturally prepared. 2. A sufficient comparable sampling of handwriting is essential to represent the ability and natural variation of a known writer. The limited printed standards submitted may not fully represent the full range of this writer's ability. Additional known standards should be obtained and submitted as this may provide a better basis for comparison. 3. Exhibit Q1 was scanned for preservation by Forensic Document Examiner [Name]. 4. An ESDA (ElectroStatic Detection Apparatus) examination for the detection and reading of indented writing, typing or other identifying impressions was performed on the original anonymous note and no indentations of value were obtained with the ESDA. 5. Exhibit Q1 was examined with oblique lighting conditions and contains indentations below the printed text of the robbery note. The text can be deciphered as: "John, 703-555-1089". This

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	demonstrates that there was a page above containing the deciphered text which is now indented into Q1. The original of this document is missing. 6. Exhibit K1 is a spiral notebook approximately 4 10/16" X 3" and is college ruled. The notebook contained two paper remnants in the metal spiral and an additional 57 full pages. Spiral notebooks of this type typically contain 60 pages. 7. A physical match examination was conducted between exhibit Q1 and the known (K1B) second piece of paper remnant. Exhibit Q1 does correspond to the torn edge of the paper remnant and is of a common source. The paper tear appears straight and may have been completed with a straight edge. 8. The first full page in the spiral notebook contains indentations of the bank robbery note from exhibit Q1 and black ball point ink containing a small grocery list. 9. The second full page in the spiral notebook contains slight indentations of the bank robbery note from exhibit Q1 and does not contain any additional writings. 10. Non-destructive ink examinations were conducted with the VSC on the questioned and known inks and they react consistently when examined with IRR and IRL. 11. The paper on the questioned and known documents reacts consistently when examined with ultra-violet lighting. 12. Exhibit Q1 and K1 should be forwarded to the Latent Print and DNA Sections for processing. 13. The case will be forwarded to the FBI Bank Robbery Database.
VHEDNG	The [Laboratory] does not usually conduct examinations of this kind. [Laboratory] carries out examinations for authentication and alteration of questioned documents. Our conclusion scale is based on a sliding scale for certainty of authentication. In this test - in order to relate it to our methods - we have used the spiral notebook (K1) as a reference specimen for the questioned document (Q1). After the examination of the indented writing conducted in ESDA, could we conclude that Q1 originated from K1. Our conclusion in our report would read, "the document is in all probability genuine."
VQ6W3P	The questioned note ORIGINATED from the recovered notepad.
VRLTVN	The questioned sheet "Q1" was juxtaposed and superimposed with the two cuts that the undisputed booklet "K1" presents, where it was observed that the second tab of the book's cut coincides with the cuts shown on the doubt sheet. As for its cut form, I already have complementary ones. Furthermore, a ductus or cause of the text that appears in the questioned document was observed on the page of the notebook that presents the texts "bread", "milk", "eggs" and "flour"; which affirms that this message was written on the attached notebook as undisputed material
VU68YP	[No Conclusions Reported.]
VYMZH4	Dubbed handwritten note Q1 originated from the K1 note blog.
VZVG9M	3.1.- The questioned note, referenced as Q1, has been made using the notepad referenced as K1. 3.2.- The person who has made the handwriting that appears in the questioned note Q1, is the same person who has made the handwriting that appears in the notepad K1.
W4RJU3	Item Q1 (Robbery Note) originated from Item K1 (Notebook)
W98QH2	On further examination and comparison, I found as follows : (i) ESDA examination on page 1 of the recovered notepad "K1" revealed indented writing consistent to the handwritten entries and the deciphered indented writing on the questioned note "Q1". (ii) The questioned note "Q1" showed matching torn edges to the second remnant of the recovered notepad "K1". Hence, I am of the opinion that the questioned note "Q1" originated from the recovered notepad "K1".
WKWYRN	Document Q-1 and the known exemplar K-1 were at one time joined and part of the same sheet of paper due to correspondence in individualizing characteristics between Q-1 and K-1.
WLUZ3L	The questioned note originated from the recovered notepad. The paper fragments of items Q1 and K1 were at one time joined to form a single piece of paper.
WPUCXL	The questioned document, Q1, and known document, K1, were viewed macroscopically and microscopically and with the aid of various light sources, filters, and magnification. There are similar class characteristics between the interior pages of K1 and Q1; this indicates that questioned document

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	<p>may have originated from the known notepad. The remnants in the notepad, K1-1 and K1-2, and the questioned document, Q1, were microscopically examined for a physical edge match. Q1 and K1-2 could be reconstructed. Copies of the reconstructed document, Q1 and K1-2, will be mailed to you under a separate cover for your review and interpretation. Latent writing impressions were developed on the questioned document, Q1, and the known document, K1. Impressions of Q1 were found on the document, K1-3. Therefore, it can be determined that the questioned document, Q1, was written on top of page K1-3. Copies of the ESDA lifts will be mailed to you under a separate cover for your review and interpretation. The questioned document, Q1, originated from the recovered notepad, K1.</p>
XHNYBM	<p>The (item Q1) robbery note delivered to bank teller with the legend "all money in drawer, I have a gun" IF originated from (item K1) spiral notepad recovered from suspect's vehicle</p>
XNCHVQ	<p>a) The spiral notepad K1 was examined. As received, the 1st and 2nd pages of the notepad were partially ripped out. The paper fragments of these two pages were still attached to the spiral ring. The handwriting "bread milk eggs flour" was found on the 3rd page of the notepad. The remaining inner pages were all blank. b) The questioned note Q1 was examined. The handwriting "All the money in the drawer I have a gun" was found written on one side while the other side was blank. Torn edge was found on the top margin of the questioned note. c) Examination of the 3rd page of the spiral notepad K1 revealed indented marks of writing "All the money in the drawer I have a gun". These indented marks were found to be superimposable to the handwriting on the questioned note Q1. The above findings indicate that the questioned note Q1 was on top of the 3rd page of the spiral notepad K1 when the handwriting was executed. d) In addition, examination of questioned note Q1 and the 3rd page of the spiral notepad K1 revealed indented marks of writing "John 703-555-1289" on each of them. d) Moreover, the torn edge of the questioned note Q1 could be physically fitted together with the torn edge of the paper fragment of the 2nd page of the spiral notepad K1. The above findings indicate that the questioned note Q1 had been ripped out from the spiral notepad K1. e) Furthermore, the questioned note Q1 and the inner pages of the spiral notepad K1 were agreed in color, design and spacing of printed lines. f) In view of the above findings, I am of the opinion that the questioned note Q1 originated from the recovered spiral notepad K1.</p>
XQ4HUM	<p>Conclusion, the questioned sheet Q1 is determined to be ORIGINATED from the retrieved notepad. Q1 (A)</p>
XYD3XJ	<p>Date of Testing Activities: 2/25/2021 to 3/19/2021. Findings: A visual, macroscopic, infrared, infrared luminescence and indented impression examination revealed the following results. 1) Item Q1 originated from item K1. 2a) Item Q1 was examined utilizing oblique lighting and the ElectroStatic Detection Apparatus (ESDA) with positive results. The following impressions were found: "John 703-555-1289" 2b) Item K1.3 was examined utilizing oblique lighting and the ElectroStatic Detection Apparatus (ESDA) with positive results. The following impressions were found: "All the money in the drawer I have a gun" "John 703-555-1289". Remarks: The developed indented impression lifts are being saved as item # 01.01. Evidence Disposition: Items #01 and #01.01 are being retained at the Crime Laboratory vault.</p>
Y7U6DK	<p>Q-1 was examined to determine if it was attached to the mrmo pad. An ESDA examination was conducted on Q-1. An indentation of the "John 703-555-1289" was recovered. An ESDA examination was conducted to check for indentations on the first two sheets of paper still attached to the memo pad notebook when the robbery note was written on Q1. Indented writing of the robbery text on Q1 and the text "John 703-555-1289" were recovered on the first and second sheets in the Memo book. The examination of aligning the serrated top of the Q-1 note and the serrated tab in the memo pad revealed alignment. This indicates Q-1 came from the memo pad. The indentations of "John 703-555-1289" on Q-1 and the robbery text on Q-1 were recovered on the first two sheets attached to the memo pad. This is evidence that robbery note Q-1 was attached to the memo pad when it was written.</p>
YATGAK	<p>The questioned note Q1 originated from the block of notes K1, because it presents a coincidence of the grooves in both documents; In addition, it is confirmed that if the upper edge of the Q1 fits with the lower edge of the second sheet of K1.</p>
YDCAUY	<p>[No Conclusions Reported.]</p>

TABLE 3

WebCode	Conclusions
YEKQJH	One of the sheets torn from item K1 included the handwritten text "John 703-555-1289". The second sheet torn from item K1 is the item Q1 (Q1 with visible text "All the money in the drawer I have a gun" and indented text "John 703-555-1289"). The first full page of item K1 - with the words "bread", "milk", "eggs" and "flour" - also includes indented text "All the money in the drawer I have a gun" and "John 703-555-1289". The item Q1 (robbery note) belonged to item K1 (notepad)
YMEVDJ	The questioned note (Q1) ORIGINATED from the recovered notepad (K1)
YXZZKJ	Indentations from the first page of the spiral notebook were recovered using both a visual inspection with the use of side-lighting as well as with an Electrostatic Detection Device. The indentations recovered with the ESDA aligned with the visible writing from the bank robber demand note in question.
YY98RH	It is concluded that the paper in Q1, originated from the notepad, K1
Z4HKAG	The performed examinations have permitted to conclude that, on the basis of the characteristics exhibited by both Q1 and K1, the questioned note Q1 originated from the recovered notepad K1.
Z8JLCY	The questioned note originated from the recovered notepad.
ZBKUDN	[No Conclusions Reported.]
ZFWHEK	In my opinion the bank robbery note Q1 originated from the notebook K1.
ZKMWYK	The questioned note originated from the recovered notepad.
ZQX77G	A microscopic comparison of a remnant piece of paper from the Exhibit K1 memo pad and the Exhibit Q1 message was conducted. A fracture pattern match exists between the Exhibit Q1 message and the second remnant found in the memo pad. Therefore, at one time the sheet of paper used to prepare the Exhibit Q1 message was part of the Exhibit K1 memo pad. Indented writing was found on the first full page of paper in the K1 memo pad that repeats the questioned material appearing on the Exhibit Q1 message. Further, Indented writing on the Exhibit Q1 message and the first sheet of paper in the Exhibit K1 memo pad that reads "John 703-555-1289."
ZRP2TQ	I have conducted visual, magnified, ESDA and overlay examinations of Item Q1 and Item K2. As a result I have observed a match in tear patterns between top of Q1 and bottom of second torn portion in K1, latent handwriting impressions on Q1 and the first page of K1 with the impressions on Q1 super-imposable with impressions on K1 and other impressions on K1 super-imposable with the handwriting on Q1. As a result of this evidence I conclude that the questioned note in Item Q1 originate from the Item K1 specimen notepad. That is, the paper of item Q1 came from Item K1 and the handwriting on Q1 was produced whilst within K1.
ZZJADG	During the forensic examination it could be proven that robbery note Q1 originated from the spiral notepad K1 which was recovered in the suspected car. The handwritten note Q1, handed over from the bank robber, fits to remaining paper stipes in the notepad K1. Also the characteristics of the paper of note Q1 and the pages of the notepad K1 are the same.

Additional Comments

TABLE 4

WebCode	Additional Comments
2EGPTG	It was not asked to make a determination whether the handwritings matched. It may not be relevant as the suspect may have borrowed someone's pad to write the note (or not). It did not mention whether or not the robber wore gloves, but if not, ninhydrin testing might be done for fingerprints
2HX67F	The edge of the questioned note fits perfectly with the edge of the remaining part of the missing second sheet that is present in the notepad recovered.
2LR7ZG	the features found on the top edge of the burglary note, if they correspond to the peel marks that were located in the notepad. The notepad features indented marks including the phrase "All the money in the drawer I have a gun" present on the burglary note.
3DG4EF	In order to determine that the questioned document (Q1) originated in the collation base document (K1), two methods were used, since when using the authenticity method it was found that the notepad contained jagged marks, therefore It is chosen to use the groove development method in order to generate the same evidence that was used in the authenticity study to determine that the note was authentic from the notepad
49LUNE	Writings were written on the first sheet of the spiral notebook K1. We find these writings at the time of the research of latent traces of crushing on the piece Q1 and on the first visible sheet of the spiral notebook K1. The piece Q1 was written on the second sheet of the spiral notebook K1.
4QLK4H	the method for document analysis (alterations) was applied
4TRXUW	A handwriting examination was not requested by the submitter and was not performed.
6QZL7B	There was not enough comparable writing on Submissions 001-A and 001-B to perform a handwriting examination. It should be noted that the Technical Review was conducted by [Analyst], sole proprietor of [Laboratory].
7QDMGB	We made a forensic handwriting comparison regarding the questioned document and the known specimen, and the handwriting samples in both were homogenous. We also found that a class characteristic trace of the cutting of the pages was present.
8FN92C	The handwriting on the questioned note Q1 appears fluently completed. If suitable handwriting specimens can be obtained from any suspects a handwriting comparison with the questioned writing could be undertaken.
8V66G9	The evidence was imaged. In the event that a handwriting examination is desired, the original questioned documents should be resubmitted. Please contact the Questioned Document Unit regarding obtaining known writing samples, if necessary.
9JLRZ4	ESDA examination of page 3 of K1 was carried out with the page intact. In normal casework, permission may have been sought from the client to remove the sheet(s) from the notepad for ease of examination.
B8LZ6B	In items Q1 and K1 indented writing is observed that read "John 703-55 1289"
BKEH3N	Cuts caused by sharp tears differ morphologically on different leaves, so irregular edges are not the same. Because of this morphology, only two (2) areas of the leaf that have been detached will always match. Other characteristics demonstrating provenance relate to grooves or footprints of noninked signs that are perceived on the surface of the first sheet of the notebook K1, the writings of which are coincident with the questioned texts Q1, in terms of content, reading, font style, size and topographic distribution of graphic signs.
C2TFEZ	The same person made the existing handwriting on the questioned note (Q1) and on the notepad (K1).
CXU4HZ	An illustration would be produced which would demonstrate the results of the various examinations made, which form the basis for my conclusion.
D42QB4	The first three fragments/pages within Exhibit K-1 were sub-designated in this laboratory as Exhibits K-1-1 (fragment), K-1-2 (fragment), and K-1-3 (page with handwritten list). If further attention is warranted in this matter, it will be necessary to submit requested and normal course of business writing

TABLE 4

WebCode	Additional Comments
	from any subject under consideration. The requested writing specimens should be written in ballpoint pen and repeat the questioned entries ten (10) to fifteen (15) times each on separate sheets of lined paper similar to the questioned document. Normal course of business writing should include numerous cancelled checks, legal documents, and driver's license, bank, mortgage, and rental applications, etc.
DA339L	Indented handwriting was deciphered on page 1 of the recovered notepad marked "K1" and the treated with ESDA2 was overlapped to a piece of the questioned note marked "Q1" and it matched each other.
DCW46	The original electrographs, marked as Items Q1.1 and K1.1, will be submitted for your records and review.
DY2LB4	In order to conclude more effectively, the development of the grooves of the known element was carried out and compared by superposition with the questioned sheet to observe that the writing of the questioned document was transferred to sheet 3 and these correspond in shape and position. In the same way, the same technique was carried out with the questioned and other data were observed that in the same way were appreciated in sheet 3.
E24227	The Item Q1, was once part of the Item K1.
E7XXQX	Latent Fingerprints and DNA on documents can be found if they are fresh. You can use the examination of latent (visible) handwriting indentations.
EBP697	-The handwriting "All the money in the drawer I have a gun" appearing on the robbery note (Q1) were written before removing the robbery note (Q1) from the spiral notepad (K1). The same indented writing "John 703-555-1289" revealed both on the robbery note (Q1) and on the spiral notepad (K1) indicates that these two documents (Q1 and K1) were beneath the document bearing the handwriting "John 703-555-1289" when it was written. All These findings prove that the robbery note (Q1) originated from the spiral notepad (K1).
EYHAXG	4.1 The individualizing features present in the note and in the fragment of paper that is part of the ring-bound notepad, such as broken fibers, location of said fibers, morphology of the cut, "cace" or perfect splicing of one edge of the paper in front of one of the fragments, they allow to establish that the note is part of the notepad. 4.2 The comparison by superposition used to determine the uniprocedence between the folios of the agenda K1 and the theft note (Q1), as well as, to identify whether or not the data filled out on this folio left a relief on the constituent sheets of the agenda (K1), allowed: Identify that the folios of K1 have identical physical characteristics such as morphology, size, color, pre-printing of lines, etc., with theft note Q1. Also identify that the inscription of the text that works in Q1 ("All the money in the drawer I have a gun), coincides with the low relief found on the folio of the agenda K1 that has manuscripts (" bread, milk, eggs, flour "), since the same graphical paths of the manuscript that work in Q1 are observed, in terms of the content of the text, its topographic distribution, size, shape, among others.
F2XALV	The indented writing of item K1 was compared with the handwriting of item Q1. The indented writing of item K1 was compared with the indented writing of item Q1. The sheet cuts of item K1 were compared with the cuts of the note of item Q1. The handwriting of item K1 was compared with the handwriting of item Q1.
F7EA93	In an actual case we would ask the permission from the officer in charge of the investigation to detach the uppermost page of the notepad K1 for analysis. In an actual case, the observed indented impressions would be reported as a picture instead of writing them out.
FB8B8W	The handwriting examinations were limited because most of the writing present on the robbery note (Q1) was produced in a cursive - printed combo style writing and the writing present on the grocery type note (K1-3) was produced mostly in a hand printed style writing. In addition, there were not any comparable letters, letter combinations or words present between the two bodies of writings. If additional writing is submitted to this laboratory, from the person who wrote the grocery type note (K1-3), which contains comparable letters, letter combinations, and words as they are present in the robbery note (Q1) in a hand printed - cursive style writing further examinations/comparisons will be conducted and a more definitive opinion may be reached.
FPA3TZ	Indentations (presumably a name and phone number) could also be found on the threatening letter itself

TABLE 4

WebCode	Additional Comments
	(Text: John, 703-555-1289)
G86RM9	This finding is predominately based on the detection of indented impressions of the contents of note Q1 on the first full page of the notepad K1, as well as the detection of other indented impressions common to both the examined page of the notepad and the questioned note.
H8Y84X	In order to reach the conclusion, 2 methods were taken into account: Alteration of documents and Graphic visualization, for the latter it was necessary to detach sheet number 3 from the notepad (K1) which allowed us to confirm that both documents (K1 and Q1) they had grooves and that they coincided.
HR6H92	The resultst from the ESDA examinations also provided a name and a what seems to be a telephone number, which could be a lead to the perpetrator. Our lab have a conclusion scale with 9 levels. 4 positive, 1 inconclusive and 4 negative. The given conclusion "strong support" is a positive level 3 conclusion. In this lies only a hypothetical doubt.
JFALU8	The conclusion expressed is based primarily on the writing impressions evidence and similarities in the notepaper of Q1 and that in K1. The conclusion is slightly qualified because it cannot be determined from the cut/torn edge profiles of Q1 and one of the stubs of K1 whether or not Q1 was part of K1 (i.e. whether or not Q1 was previously continuous with the existing second stub within K1). Thus the possibility exists that Q1 came from a different but similarly styled notepad to K1, with the writing on Q1 written whilst placed (directly or indirectly) over K1 p1 (see below for other conclusion). In this scenario, the writing that caused the impression of the name and telephone number on Q1 and K1 p1 must have been written on a document whilst located (directly or indirectly) over Q1 (not being part of K1) and over K1 p1. This scenario therefore appears intrinsically implausible given all the observations but is theoretically possible. The simplest explanation for the observations is that the name and telephone number (John 703-555-1289) was written on the then first note in the pad (and subsequently removed from the pad) leaving impressions of this writing on the second page (which subsequently became Q1) and on the then third page (which subsequently became K1 p1). The writing on Q1 ("All the money...") was then made on the second page (forming Q1) and removed from the pad leaving impressions of this writing on the page under (K1 p1) and at least one other page K1 p2. This sequence of writing impressions followed by original writing on Q1 is supported by the ESDA sequence observations given in section 2(b). The most important conclusion to be drawn from the observations is that there is extremely strong support for the proposition that Q1 was written whilst located (directly or indirectly) over K1 p1 rather than for the proposition that Q1 was written in a different location not over K1 p1. This is the strongest conclusion (point 1) on a 9 point scale which compares the degree of qualitative support for a particular proposition with that for the alternative proposition. The alternative proposition here implies the extremely remote proposition that the writing impressions found on K1 p1 that correspond to the writing on Q1 have arisen by chance or design from the writing on another document, written whilst located (directly or indirectly) over K1 p1, which matches that on Q1. Thus the conclusion links at the strongest level the questioned document Q1 with the notepad K1 in terms of the writing on Q1 and impressions left on K1 p1, irrespective of whether or not the notepaper of Q1 originally formed part of K1. The name and telephone number found as a writing impression on Q1 may provide useful investigative information. There is scope for handwriting evidence evaluation. This would require submission for comparison purposes of suitable handwriting specimens of any person or persons suspected of having written Q1. This may also allow a determination of whether the specimen writer wrote the writing on K1 p1 and/or the writing found as an impression on Q1 (name and telephone number).
K28DQX	Images of the items listed above are being retained. More definitive handwriting opinions may be possible with the submission of known, request writing from subjects of interest to the investigation. This writing should contain 10 – 15 repetitions of the writing on Q1 (and K1 if in question) and the unsourced indented impressions of "John 703 – 555 – 1289" deciphered on lift Q1A and on the lifts in K1A. Definition of Handwriting Opinions: The opinion "no conclusion" means that the evidence contained in the handwriting possesses significant limiting factors that hinder analysis. The opinion "could not be identified to nor eliminated from" means that the evidence contained in the handwriting has minimal significant similarities or significant differences and there are limiting factors. This is the zero point of the confidence scale, and the examiner does not have a leaning one way or another.

TABLE 4

WebCode	Additional Comments
K8D4T4	Additional indented writing detected on the face of the q1 document includes: CTS John 703-555-1289
L6H37C	In the development of the manuscripts of the small spring book type red box, it is possible to reveal the manuscripts that are not within the comparison manuscripts and that are read "John" "703-555" and "1289"
M2ZAMW	An inspection of the material collected for study was carried out in order to respond to the request, where the evaluation and comparison of the note that says "all the money in the drawer I have a weapon" was carried out, as doubtful material and as undoubtedly the spiral note recovered from the suspect's car, where with the support of optical and light aid, it was concluded that the doubtful note came from the spiral notebook recovered from the suspect's car.
MKBYZU	The submission of comparable known handwriting from any subjects developed may provide additional information.
MY99MZ	An ESDA was performed on the top page of K1 without removing it from the memo pad. An ESDA performed on the top page of K1 isolated from the memo pad may have yielded additional indented writing.
N6TK2T	For Investigative Purposes Only: Should a suspect be identified, the submission of hand printed standards may assist in determining who authored the questioned entries on Item 2 (Q1). The standards should be written to dictation, using a ballpoint pen on similar lined paper that fully duplicates all of the questioned material verbatim. The standards should also include known course of business samples. Possible sources for course of business samples include cancelled checks and other bank related documents, letters and diaries, employment and education related documents, tax forms, medical forms, as well as prison/police/inmate/court related documents. Machine copies are acceptable as known standards. Any subsequent submissions made on this case should include all of the previously submitted items.
NMRPKV	The recovered indentations identified as Q1a and K1a1 were lifted and preserved.
NRP82W	It was verified that the tear of the document presents the same characteristics.
Q96BH9	I would typically include images of all of the developed ESDA lifts as attachments for the case submitter. Observations related to similar reactivity of written or printed inks are not to be understood to mean that the same pen was used to write the writing on Q1 and K1. They are observations that can add weight to a finding. Differences in physical/optical properties of inks and papers could be significant if they existed. There was not sufficient comparable writing to perform a handwriting examination.
Q9M72V	Q1 note handwriting and K1 spiral notepad handwriting have the same graphic origin.
QNYM6Q	The first complete paper in the notepad K1 (the one with handwritten entries 'bread milk eggs flour') was the first underlying paper beneath item Q1 (before it was removed from the notepad) hence the good and clear reproduction of the indents with the use of just oblique light. The ESDA can be used to reproduce the indents as well but I found the oblique light to be sufficient for this examination.
QW99WR	Recommend Item Q1 and Item K1 be referred for handwriting examination for a comparison of the visible handwritten entries appearing on Items Q1 and K1 and obtain further specimen handwriting samples.
RDWJJU	Indentation on the Q had written numeral '703 505 1089' - which can provide another lead for the investigation.
RH8W2R	The analysis of the material gathered for study was carried out in order to respond to the request, the practices of analysis, evaluation and confrontation of the note that says "All the money in the drawer I have a weapon" were carried out, doubtful and undoubted Spiral notepad recovered from the suspect's car, where with the support of optical and light aids, it was concluded that the doubtful note comes from the spiral notepad recovered from the suspect's car.
RRYB6X	Our laboratory no longer provides paper tear examinations.
RZ6BH7	The handwriting from Q1, K1 and the indentation lifts could be examined to determine if a sole writer

TABLE 4

WebCode	Additional Comments
	was responsible for these writings. Should specimen writing become available it may be forwarded to this laboratory for comparison against these writings.
T2GBWR	In both documents a second indented writing is observed with the text: "John 703-555-1289".
TFFBR2	If a handwriting comparison is needed, please submit twenty to twenty-five comparable normal course-of-business known writing samples, containing similar words and letters within the questioned entries, and/or exact-text exemplars of the subject(s) and/or victim(s). Exhibits Q1(a), Q1(b), K1(1)a, K1(1)b, K1(2)a, K1(2)b, K1(3)a and K1(3)b and the original ESDA indentation lifts will be returned to the supervisor.
UAUHF3	If a handwriting comparison is needed, please submit ten to fifteen comparable exact-text and/or normal-course-of-business known writing samples, containing similar words and letters as within the questioned entries, of the subject(s). Exhibits Q1, with the original ESDA indentation lifts, and K1, with the original ESDA indentation lifts, will be returned to the submitting agency.
UW4LE4	With respect to the handprinting present on Q1 and the notepad, no meaningful comparison was possible between the handprinting on Q1 and K1(3). However, both samples appear to be written fluently and likely in a natural manner. Therefore, it is recommended that comparable handprinting samples be obtained from any suspect that comes to light in the investigation. Please contact this office to discuss the collection and submission of appropriate samples should that option be of interest.
VHEDNG	The [Laboratory] does not conduct handwriting examinations at this time.
VYMZH4	Upon examination of the notepad K1, there are indentations on the first page, consisting of the latent handwriting of the text appearing in the handwritten note Q1. It can be seen from the overlay images that the two images are completely coincident. Macroscopic examination of the samples and the use of the VSC8000 apparatus with the different lights it provides (ultraviolet, visible, lateral, infrared, etc.) reinforce the idea that Q1 belongs to K1. In addition, the handwriting that appears in the note of the notebook K1 and the questioned sheet Q1, have the same characteristics in the idea of tracing of the writing, so it is determined that both belong to the same authorship.
VZVG9M	In order to make a complete and conclusive report, a writing test is requested to the person who was driving the car where the notepad was found.
W98QH2	1. The corresponding indented writings on questioned note "Q1" and on page 1 of the recovered notepad "K1" were identical in formation, size, spacing and alignment to each other. 2. The matching torn edges showed that the questioned note "Q1" and the second remnant of the recovered notepad "K1" were part of the same paper.
WPUCXL	Handwriting was observed on the questioned document, Q1. If you would like to continue your investigation from a handwriting standpoint, it might be useful to obtain verbatim handwriting exemplars from the subject in this case.
XHNYBM	Obtaining the indented writing was possible due to the good handling of the equipment and due to the adequate conditions of conservation of the items.
XNCHVQ	The widths of the paper fragment of the 2nd page of the spiral notepad K1 and upper portion of the questioned note Q1 (except about 1.1 cm from the bottom edge) were found to be slightly wider than those of the paper fragment of the 1st page and other inner pages of the spiral notepad K1. Whether the above discrepancies were attributed to defects introduced during the manufacturing process, I could not ascertain.
YEKQJH	Very interesting test. Thank you
YXZZKJ	The paper and line spacing/coloration of the page in question was consistent with the pages affixed to the spiral pad.
Z4HKAG	The latent writing recovered on Q1 would be disclosed to the client.
Z8JLCY	The following indented writing was found on the Q1 note: John 703-555-1689

TABLE 4

WebCode	Additional Comments
ZKMWYK	On item Q1 was found latent writing with the content "John 733-555-1289", created as a result of pressure and deformation of the paper (probably from a previous sheet)
ZRP2TQ	Examination of the handwriting appearing on the note in Item Q1 can be conducted if suitable specimen material can be provided for comparison. Note, the quantity of handwriting in Item K1 is very limited in quantity and does not contain all of the characters in the questioned handwriting in Item Q1. As a result of the limited quantity of handwriting in Item K1, this handwriting is insufficient for a meaningful comparison to be conducted with the questioned handwriting on Item Q1. Additional comparable specimen handwriting would be required.

-End of Report-
(Appendix may follow)

Test No. 21-5211: Questioned Documents Examination

DATA MUST BE SUBMITTED BY **April 26, 2021, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: FRXET7

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:

Police are investigating a bank robbery. A masked suspect walked up to one of the tellers and handed her a handwritten note that read "All the money in the drawer I have a gun". Police later stopped a vehicle matching the description of the getaway car and recovered a spiral notepad from the driver's side door pocket. Investigators are asking you to compare the note provided to the teller to the recovered notepad to determine if the note could have originated from the notepad.

Items Submitted (Sample Pack QD):

Item K1: Spiral notepad recovered from the vehicle of the suspect.

Item Q1: Robbery note provided to the bank teller, reading 'All the money in the drawer I have a gun'

1.) Based on the findings of your examination, to what degree can it be confirmed or refuted that the note originated from the spiral notepad?

(Select from the following list. If the wording below differs from the normal wording of your conclusions adapt these conclusions as best you can and use your preferred wording for question 3.)

- A. The questioned note ORIGINATED from the recovered notepad.
- B. The questioned note PROBABLY ORIGINATED from the recovered notepad.
- C. CANNOT DETERMINE whether or not the questioned note originated from the recovered notepad.
- D. The questioned note PROBABLY DID NOT ORIGINATE from the recovered notepad.
- E. The questioned note DID NOT ORIGINATE from the recovered notepad.

Q1

2.) Methods and techniques utilized.

Please briefly indicate the observations made from each method/technique utilized.

Please note: The list of methods/techniques provided in the dropdown list is not an all inclusive list and should not be used to determine what methods/techniques should be performed. Methods/techniques not on this list may be utilized.

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.

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

4.) Additional Comments

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)