



Handwriting Examination Test No. 21-5241/5 Summary Report

Each sample set contained either photographs or digital images of a bill of sale (Q1) and known writings and signatures from two individuals (K1, K2). Participants were requested to examine these items and report their findings. Data were returned from 188 participants: 103 for 21-5241, and 85 for 21-5245 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 photograph of a general bill of sale (Q1) and eight photographs of known writings provided by two individuals (K1a-d, K2a-d). These included course of business writings, dictated writing exemplars, and dictated signature exemplars provided by Nicole Shields (K1) and Cassandra Swart (K2). Participants were asked to determine if either of the two individuals contributed to the handprinted seller's text and signature contained in the questioned item.

SAMPLE PREPARATION-

During production of dictated known writing, both writers were instructed broadly on formatting in order to maintain general uniformity of appearance. During production of dictated signatures, the writers were requested to sign in the name of Nicole Shields, as this was the signature presented in the questioned item. The questioned document was selected from several versions that were dictated to the individuals by a moderator.

The handprinted seller's text on the Q1 bill of sale was produced by the K2 writer, Cassandra Swart. The seller's signature on Q1 was also produced by the K2 writer. Both K1 and K2 writers are female and right-handed. The buyer's contributed handprinted text and signature were not intended for analysis by participants.

SAMPLE ASSEMBLY: Once predistribution results were obtained, all sample packs were prepared. For each sample pack, the nine photographs were packaged into a pre-labeled manila envelope, sealed with evidence tape, and initialed with "CTS". Digital download media were zipped and uploaded to the CTS portal.

VERIFICATION-

All predistribution laboratories stated that the Q1 handprinted text was produced by the K2 writer and not by the K1 writer. All predistribution laboratories stated that the Q1 signature was produced or probably produced by the K2 writer and not by the K1 writer.

Summary Comments

This test was designed to provide participants with a handprinted text and signature identification challenge involving a vehicle bill of sale. Each sample set contained either photographs or digital images of the bill of sale (Q1), as well as known writings provided by two individuals, Nicole Shields (K1) and Cassandra Swart (K2). Participants were provided with multiple dictated exemplars of the bill of sale, requested signatures in the name of Nicole Shields (as this is the name contained in the questioned signature), and course of business writing for both known writers. Participants were requested to determine if either of the known writers contributed to the handprinted text or signature contained within the seller's portion of the bill of sale. The K2 writer produced the handprinted text and signature on Q1 (Refer to Manufacturer's Information for preparation details).

In regard to Question 1 (Table 1a), "To what degree can it be determined if either of the known writers contributed to the body of questioned writing (excluding the signature) on the bill of sale?" a breakdown of responses is described below. A total of 186 participants (98.9%) identified the K2 writer (reported "A" or "B") as the source of the handprinted text in Q1. Of those, 172 participants (92.5%) also eliminated the K1 writer (reported "D" or "E") as the source of the handprinted text in Q1, and the remaining fourteen provided no response in regard to the K1 writer. One participant eliminated the K1 writer as the source of the Q1 handprinted text, but provided no response in regard to the K2 writer. Finally, one participant gave a response incongruent with the conclusions chart, responding "2" for the K2 writer.

For Question 2 (Table 1b), "To what degree can it be determined if either of the known writers contributed the questioned seller's signature on the bill of sale?", a breakdown of responses is described below. A total of 183 participants (97.3%) identified the K2 writer (reported "A" or "B") as the source of the seller's signature in Q1. Of those, 166 (90.7%) also eliminated the K1 writer (reported "D" or "E") as the source of the seller's signature in Q1; eleven provided no response in regard to the K1 writer; five participants were inconclusive (reported "C") for the K1 writer; and one participant gave a response incongruent with the conclusions chart, responding "W" for the K1 writer. Three participants were inconclusive for the K2 writer and either eliminated or were inconclusive for the K1 writer. One participant eliminated the K1 writer as the source of the Q1 signature, but provided no response in regard to the K2 writer. Finally, one participant gave a response incongruent with the conclusions chart, responding "2" for the K2 writer.

CTS Handwriting Examination tests are presented as high-resolution images of handwriting instead of original written materials for purposes of uniformity across the testing group. Due to this limiting comparison factor, and having firsthand knowledge of the creation of the questioned signature, those reporting inconclusive ("C") were grouped with eliminations ("D", "E") for purposes of calculating the consensus percentages.

Examination Results

To what degree can it be determined if either of the known writers contributed to the body of questioned writing (excluding the signature) on the bill of sale?

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
2427TV- 5241	E	A	6DWFPV- 5241	E	A
26HD3J- 5245	E	A	6ER34J- 5245	E	A
28M6UW- 5245	D	B	6JH MV7- 5241	E	A
2EMKGJ- 5241	E	A	6L4C9R- 5245	E	A
2PMV9E- 5241	E	A	6LPUAT- 5241	E	A
2QYPTL- 5245	E	A	6MJJTN- 5241		A
2W6DHF- 5241	E	A	6RF6JQ- 5241	E	A
2W6LCL- 5245	E	A	6U7JW8- 5241	E	A
34VD8R- 5245	E	A	6X7PFJ- 5245	D	B
3CRBWF- 5245	D	B	76JYGL- 5241	E	A
3JV8QE- 5241	E	A	7GATTF- 5241	D	A
4A2LXL- 5241	D	B	7LP33C- 5245	E	A
4GLH2B- 5245	D	A	7RAC3U- 5245	E	A
4MMWMC- 5241	E	A	8K7M2G- 5245	E	A
4VK9ZT- 5241	D	B	8QDCJN- 5245	E	A
4YKKWT- 5245	D	B	8TKP7H- 5241	E	A
6878ZU- 5241		A			

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
8WJYGJ- 5241	E	A	DLWZ39- 5245	E	A
9BC29M- 5241	E	A	DQV68E- 5245	D	A
9EZ9WQ- 5241	E	A	DUUHGX- 5241	E	A
9FVRYR- 5245	D	A	DUZUC9- 5245	E	A
9H4XME- 5245	E	A	DXWHNA- 5245	E	A
9JCB4F- 5245	E	A	E3AJP8- 5241	D	B
9MTLTJ- 5241		A	E4HTFJ- 5245	E	A
A7ZDAC- 5241	E	A	E7Z3F4- 5241	E	A
AQQDNM- 5245	D	B	E8H2LE- 5241	E	A
AU9MP9- 5241	E	A	EHZL7B- 5245	E	A
B3V6GL- 5241	E	A	ENP787- 5245	E	A
BMM6XH- 5245	D	B	FHUWCX- 5241	E	A
BPTMVE- 5245	E	A	FNXMTH- 5245	E	A
BRE9N2- 5241	E	A	FTTE2F- 5245	E	A
BU2X3M- 5241	E	A	FUALB4- 5241	E	A
CWREZ2- 5241	E	A	FVJQQD- 5241	E	A
D7PU3B- 5241	E	A	FZVEQA- 5241	E	B
DJWWBL- 5241		A	G4DXAH- 5245	E	A

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
GBUQZ9- 5245	E	A	K77A8D- 5241	E	A
GGUZG9- 5241	E	A	K7KTRB- 5241	E	A
GX22EG- 5245	E	A	K8VPKU- 5245	E	A
H2JPE8- 5245	E	A	KGM6AY- 5241	E	A
H9FNPU- 5241	E	A	KLQGEF- 5241		A
H9JXV9- 5245	D	A	KPDQEW- 5241	E	A
H9YGF6- 5241	E	A	L93DC6- 5245	E	A
HE6736- 5245	E	A	LTTFEZ- 5245	E	A
HRDMEG- 5245		A	LZ97UZ- 5245	E	A
HTJGKZ- 5245	E	A	LZDJL3- 5241	E	A
JCDEK8- 5241	E	A	LZF9QZ- 5245	E	A
JFUPN3- 5241	E	A	M32CXW- 5241	E	A
JJWTD6- 5241	E	A	M886RT- 5245	D	B
JK8KHE- 5241	E		MAEAHA- 5241	E	A
JPM3N3- 5241	E	A	MFK72A- 5241	E	A
JUCMPX- 5241	E	A	MGEUJ7- 5241		A
JXDNT2- 5241	E	A	MKW6JV- 5245	E	A
K37YCD- 5241		2	ML8TX2- 5245	E	A

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
MU84FR- 5245	E	A	QKQP3Z- 5241	E	A
N3BM6Z- 5245	E	A	QPWKHU- 5245	E	A
N3UHW3- 5245	E	A	QTXDQ7- 5241	E	A
N84RY6- 5241		A	QV7NMA- 5241	E	A
N8J9RC- 5241		A	R2Q28U- 5245	E	A
NCJ7R6- 5241	E	A	R2TNQU- 5241	E	A
NFKC9W- 5245	E	A	R74WRY- 5241		A
NKAZE2- 5245	E	A	RBV4A8- 5241	E	A
NLKV4Z- 5241	E	A	RDX9MR- 5245	E	A
P3QEJ4- 5241	E	A	RF7YCV- 5245	E	A
P4L3XT- 5245	E	A	RGZWGV- 5245	E	A
PCW9N4- 5241	E	A	RKLPF6- 5241	E	A
PHXKK2- 5245	D	B	RLVL2A- 5241	E	A
PJFKRW- 5245	E	A	RN6NVK- 5241	E	A
PNPUUY- 5245	E	A	RTARD7- 5245	E	A
PT48W8- 5241	E	A	RWRUF7- 5241	E	A
PTF64X- 5245	E	A	RZTW78- 5241		A
PXA2Q3- 5241	E	A	T2K72U- 5245	E	A

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
T3HGWW- 5245	E	A	VZXLYU- 5245	E	A
TBBMU6- 5241	E	A	W3PVW2- 5245	E	A
TGFL6U- 5245	E	A	W6BLVL- 5245	D	B
TGFNQR- 5245	D	A	W8CRBQ- 5245	E	A
TKFYMR- 5241	E	A	WE23VM- 5241	E	A
TYDVYY- 5241	E	A	WHFVLF- 5245	E	A
U3CK7X- 5241	E	A	WRLRJR- 5241	E	A
UAT8RM- 5245	E	A	X27D72- 5245	D	B
UAURPN- 5241	E	A	X34G4H- 5241	E	A
UB8JFJ- 5241	E	A	X49HGZ- 5241	E	A
UE8VCJ- 5241	E	A	XAKCKD- 5241	E	A
UJUUGY- 5245		B	XFMBB3- 5241	E	A
UK9WQR- 5245	E	A	XGHUD4- 5245	E	A
UMZ2AR- 5241	E	A	XN369J- 5245	E	A
V438WR- 5241	E	A	XR3F4J- 5245	E	A
VAAH4Z- 5241	E	A	Y2ZHZZ- 5241	E	A
VEKTZ2- 5241	E	A	Y4RAGD- 5245	E	A
VZH67L- 5241	E	A	YM62B3- 5241	E	A

TABLE 1a- Handwriting on Q1

WebCode- Test	Handwriting on Q1		WebCode- Test	Handwriting on Q1	
	K1	K2		K1	K2
YNYNPR- 5245	E	A			
YUKVCQ- 5241	E	A			
Z9DY4U- 5245	E	A			
ZA9G6V- 5241	E	A			
ZGUC7Y- 5241		A			
ZKBYFX- 5245	E	A			
ZKTN3Y- 5241		A			
ZLLRKY- 5245	E	A			
ZRVNMM- 5245	D	B			
ZUV7EM- 5241	E	A			
ZUYJ9B- 5245	E	A			

Response Summary - Handwriting on Q1Total Participants: **188**

To what degree can it be determined if either of the known writers contributed to the body of questioned writing (excluding the signature) on the bill of sale?

Response	Handwriting on Q1		
	K1	K2	
A	0	170	
B	0	16	
C	0	0	
D	20	0	
E	153	0	

Response Key:
A: Was WRITTEN by;
B: Was PROBABLY WRITTEN by (some degree of identification);
C: CANNOT be IDENTIFIED or ELIMINATED;
D: Was PROBABLY NOT WRITTEN by (some degree of elimination);
E: Was NOT WRITTEN by.

*Total of responses for K1/K2 may not match the total number of participants, as not all participants provided responses for both writers.

Examination Results

To what degree can it be determined if either of the known writers contributed the questioned seller's signature on the bill of sale?

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
2427TV- 5241	E	A	6DWFPV- 5241	E	A
26HD3J- 5245	E	A	6ER34J- 5245	E	A
28M6UW- 5245	D	B	6JHNV7- 5241	E	A
2EMKGJ- 5241	E	A	6L4C9R- 5245	D	B
2PMV9E- 5241	E	A	6LPUAT- 5241	E	A
2QYPTL- 5245	D	B	6MJJTN- 5241		A
2W6DHF- 5241	E	A	6RF6JQ- 5241	E	A
2W6LCL- 5245	E	A	6U7JW8- 5241	E	A
34VD8R- 5245	E	A	6X7PFJ- 5245	D	B
3CRBWF- 5245	D	B	76JYGL- 5241	D	B
3JV8QE- 5241	E	A	7GATTF- 5241	D	B
4A2LXL- 5241	D	B	7LP33C- 5245	E	A
4GLH2B- 5245	D	B	7RAC3U- 5245	E	A
4MMWMC- 5241	E	A	8K7M2G- 5245	E	A
4VK9ZT- 5241	E	A	8QDCJN- 5245	E	A
4YKKWT- 5245	D	B	8TKP7H- 5241	E	A
6878ZU- 5241	D	B	8WJYGJ- 5241	D	C

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
9BC29M- 5241	E	A	DUUHQX- 5241	E	A
9EZ9WQ- 5241	E	A	DUZUC9- 5245	D	B
9FVRYP- 5245	D	B	DXWHNA- 5245	D	A
9H4XME- 5245	E	A	E3AJP8- 5241	D	B
9JCB4F- 5245	E	A	E4HTFJ- 5245	E	A
9MTLTJ- 5241		A	E7Z3F4- 5241	E	A
A7ZDAC- 5241	E	A	E8H2LE- 5241	E	A
AQQDNM- 5245	D	B	EHZL7B- 5245	E	A
AU9MP9- 5241	E	A	ENP787- 5245	E	B
B3V6GL- 5241	E	A	FHUWCX- 5241	E	A
BMM6XH- 5245	D	B	FNXMTH- 5245	E	A
BPTMVE- 5245	E	A	FTTE2F- 5245	E	A
BRE9N2- 5241	E	A	FUALB4- 5241	E	A
BU2X3M- 5241	E	A	FVJQQD- 5241	E	A
CWREZ2- 5241	C	C	FZVEQA- 5241	E	B
D7PU3B- 5241	E	A	G4DXAH- 5245	E	A
DJWWBL- 5241	D	B	GBUQZ9- 5245	E	A
DLWZ39- 5245	E	A	GGUZG9- 5241	E	A
DQV68E- 5245	D	A			

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
GX22EG- 5245	E	A	KGM6AY- 5241	E	A
H2JPE8- 5245	E	A	KLQEF- 5241		A
H9FNPU- 5241	E	A	KPDQEW- 5241	D	A
H9JXV9- 5245	D	A	L93DC6- 5245	E	A
H9YGF6- 5241	E	A	LTTFEZ- 5245	E	A
HE6736- 5245	E	A	LZ97UZ- 5245	E	A
HRDMEG- 5245		A	LZDJL3- 5241	E	B
HTJGKZ- 5245	D	B	LZF9QZ- 5245	E	A
JCDEK8- 5241	E	A	M32CXW- 5241	E	A
JFUPN3- 5241	E	A	M886RT- 5245	E	B
JJWTD6- 5241	E	A	MAEAHA- 5241	C	B
JK8KHE- 5241	E		MFK72A- 5241	E	A
JPM3N3- 5241	E	A	MGEUJ7- 5241		A
JUCMPX- 5241	E	A	MKW6JV- 5245	E	A
JXDNT2- 5241	E	A	ML8TX2- 5245	E	B
K37YCD- 5241		2	MU84FR- 5245	D	B
K77A8D- 5241	E	A	N3BM6Z- 5245	E	A
K7KTRB- 5241	E	A	N3UHW3- 5245	E	A
K8VPKU- 5245	D	B	N84RY6- 5241		A

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
N8J9RC- 5241		A	R2Q28U- 5245	E	A
NCJ7R6- 5241	E	A	R2TNQU- 5241	E	A
NFKC9W- 5245	E	A	R74WRY- 5241		A
NKAZE2- 5245	C	A	RBV4A8- 5241	E	A
NLKV4Z- 5241	E	C	RDX9MR- 5245	E	A
P3QEJ4- 5241	D	B	RF7YCV- 5245	E	A
P4L3XT- 5245	E	A	RGZWGV- 5245	E	A
PCW9N4- 5241	E	A	RKLPF6- 5241	E	A
PHXKK2- 5245	E	A	RLVL2A- 5241	E	A
PJFKRW- 5245	D	B	RN6NVK- 5241	E	A
PNPUUY- 5245	D	B	RTARD7- 5245	E	A
PT48W8- 5241	E	A	RWRUF7- 5241	E	A
PTF64X- 5245	E	B	RZTW78- 5241		A
PXA2Q3- 5241	E	A	T2K72U- 5245	E	A
QKQP3Z- 5241	E	A	T3HGWW- 5245	E	A
QPWKHU- 5245	E	B	TBBMU6- 5241	E	A
QTXDQ7- 5241	E	A	TGFL6U- 5245	E	A
QV7NMA- 5241	E	A	TGFNQR- 5245	E	A
			TKFYMR- 5241	E	A

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
TYDVYY- 5241	E	A	WRLRJR- 5241	E	A
U3CK7X- 5241	E	A	X27D72- 5245	D	B
UAT8RM- 5245	E	A	X34G4H- 5241	E	B
UAURPN- 5241	E	A	X49HGZ- 5241	W	A
UB8JFJ- 5241	D	B	XAKCKD- 5241	E	A
UE8VCJ- 5241	C	A	XFMBB3- 5241	E	A
UJUUGY- 5245		B	XGHUD4- 5245	E	A
UK9WQR- 5245	E	B	XN369J- 5245	E	A
UMZ2AR- 5241	E	A	XR3F4J- 5245	E	A
V438WR- 5241	E	A	Y2ZHZZ- 5241	E	A
VAAH4Z- 5241	E	A	Y4RAGD- 5245	E	A
VEKTZ2- 5241	E	A	YM62B3- 5241	E	A
VZH67L- 5241	E	A	YNYNPR- 5245	E	A
VZXLYU- 5245	E	A	YUKVCQ- 5241	E	A
W3PVW2- 5245	D	B	Z9DY4U- 5245	E	A
W6BLVL- 5245	D	B	ZA9G6V- 5241	E	A
W8CRBQ- 5245	E	A	ZGUC7Y- 5241		A
WE23VM- 5241	E	A	ZKBYFX- 5245	E	A
WHFVLF- 5245	C	A			

TABLE 1b- Signature on Q1

WebCode- Test	Signature on Q1		WebCode- Test	Signature on Q1	
	K1	K2		K1	K2
ZKTN3Y- 5241	D	B			
ZLLRKY- 5245	E	B			
ZRVNMM- 5245	D	B			
ZUV7EM- 5241	E	A			
ZUYJ9B- 5245	C	B			

Response Summary - Signature on Q1			Total Participants: 188
<i>To what degree can it be determined if either of the known writers contributed the questioned seller's signature on the bill of sale?</i>			
Response	Signature on Q1		
	K1	K2	
A	0	141	Response Key: A: Was WRITTEN by; B: Was PROBABLY WRITTEN by (some degree of identification); C: CANNOT be IDENTIFIED or ELIMINATED; D: Was PROBABLY NOT WRITTEN by (some degree of elimination); E: Was NOT WRITTEN by.
B	0	42	
C	6	3	
D	34	0	
E	135	0	

*Total of responses for K1/K2 may not match the total number of participants, as not all participants provided responses for both writers.

Conclusions

TABLE 2

WebCode-Test	Conclusions
2427TV-5241	<p>Based upon my thorough analysis of these items, and from an application of accepted forensic document examination tools, principles and techniques, it is my professional expert opinion that Nicole Shields did not write or sign the questioned document, Q1. She has been excluded as a possible author of this questioned document. It is my professional expert opinion that Cassandra Swart did write and sign the questioned document, Q1. She has been identified as the author of this questioned document. This document contains a fraudulent signature and should not be relied upon as authentic.</p>
26HD3J-5245	<p>Based upon the examination of the Bill of Sale (Q1), dated September 3, 2021, and the submitted handwriting for Nicole Shields (K1) and Cassandra Swart (K2), the following opinions have been reached: The author of K1 (Nicole Shields) did not write either the body of the bill of sale or the questioned signature on Q1 (bill of sale). The author of K2 (Cassandra Swart) wrote the body of the bill of sale and the questioned signature on Q1 (bill of sale). These opinions are based upon agreement of shared characteristics present between the questioned writing (Q1) and the writing submitted as known of Cassandra Swart (K2) in the absence of any differences or unaccounted for characteristics. Differences in writing between the submitted known writing for Nicole Shields (K1) and the questioned writing (Q1), in addition to the association with the K2 writer, excludes the K1 writer from having written the questioned entries (signature and body of writing).</p>
28M6UW-5245	<p>P1. The questioned handwriting on Q1 was written by Nicole Shields, writer of K1a – K1d. P2. The questioned handwriting on Q1 was written by Cassandra Swart, writer of K2a – K2d. P3. The questioned “sellers” signature on Q1 was written by Nicole Shields, writer of K1a – K1d. P4. The questioned “sellers” signature on Q1 was written by Cassandra Swart, writer of K2a – K2d. The Handwriting: The questioned handwriting appears to have been written with reasonable speed and displays similarities to the known writing of the K2a – K2d writer regarding its overall design, slant, and complexity. Similarities in the finer details of construction, proportions, spacing, and connectivity were also observed. The degree of correspondence is what I would expect if two pieces of writing were by one person and, therefore, I consider the probability of these combined findings is high if the questioned handwriting on Q1 was written by Cassandra Swart (K2a – K2d) (P2). In other words, the findings provide strong support for P2 considered on its own. From my experience and training, I consider that the combination of features observed is not common and these observations are not what I expect if the questioned handwriting was written by someone other than Cassandra Swart (P1). Therefore, the probability of observing the degree of similarity given the questioned handwriting was written by someone other than Cassandra Swart is assessed to be low. The findings provide little support for P1 on its own. The findings, therefore, are much more likely if P2 is true than if P1 is true. In other words, this implies that the findings provide much greater support for P2 than for P1. Sellers Signature: The questioned signature appears to have been written slowly but displays similarities to the known writing of the K2a – K2d writer regarding its overall design and slant; however, it is limited in complexity and legibility. Similarities in the finer details of construction, proportions, spacing, and connectivity were also observed. The degree of correspondence is what I would expect if two pieces of writing were by one person and, therefore, I consider the probability of these combined findings is moderate if the questioned signature on Q1 was written by Cassandra Swart (K2a – K2d) (P4). In other words, the findings provide moderate support for P4 considered on its own. From my experience and training, I consider that the combination of features observed is not common and these observations are not what I expect if the questioned signature was written by Nicole Shields (P3). Therefore, the probability of observing the degree of similarity given the questioned signature was written by Nicole Shields (P3) is assessed to be low. The findings provide little support for P3 considered on its own. The findings, therefore, are much more likely if P4 is true than if P3 is true. In other words, this implies that the findings provide much greater support for P4 than for P3. Conclusions: It is my opinion that the evidence observed provides</p>

TABLE 2

WebCode-Test	Conclusions
	strong support for the proposition that the questioned handwriting was written by Cassandra Swart over the proposition that the questioned handwriting was written by Nicole Shields. It is my opinion that the evidence observed provides moderate support for the proposition that the questioned signature was written by Cassandra Swart over the proposition that the questioned signature was written by Nicole Shields. My opinion is based upon the information and material submitted to me, as well as being based on the specific propositions outlined above. Should the information, materials, or the propositions change, my opinion may also change.
2EMKGJ-5241	Both body of questioned writing and questioned seller's signature on the bill of sale are written by K2 (Cassandra Swart).
2PMV9E-5241	After analyzing the evidence in this case, the following opinions have been formed: It has been determined that the writer of Items K1a through K1d, submitted as the known writing of Nicole Shields, did not prepare the writing, and signature on Item Q1. This is the strongest statement of disassociation expressed by document examiners in handwriting comparisons. Significant dissimilarities, and no similarities, were noted between the questioned and known bodies of writing. It has been determined that the writer of Items K2a through K2d, submitted as the known writing of Cassandra Swart, prepared the writing, and signature on Item Q1. This is the strongest statement of association expressed by document examiners in handwriting comparisons. Significant similarities, and no differences, were noted between the questioned and known bodies of writing. All requested examinations have been completed on this evidence. Items Q1, K1, and K2 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.
2QYPTL-5245	Methods: Visual examination and comparison of the submitted items utilizing a hand lens and a microscope revealed the following: Questioned to Known Comparisons: Source Identification- The body of item Q1 and the Seller's printed name on item Q1 were written by the writer of the samples in item K2. This is based on significant similarities between the questioned and known writing. Source Exclusion- The body of item Q1 and the Seller's printed name on item Q1 were not written by the writer of the samples in item K1. This is based on significant differences between the questioned and known writing. Support for Same Source- Some similarities were noted between the Seller's signature on item Q1 and the samples in item K2. This signature may have been written by the writer of K2. Support for Different Source- Some differences were noted between the Seller's signature on item Q1 and the samples in item K1. This signature may not have been written by the writer of K1. Examination Limitations: The Seller's signature on item #3/Q1 contains limited individual characteristics. No further conclusions can be offered regarding the submitted writers. Remarks: All items are available for return.
2W6DHF-5241	1. The body of questioned writing (except 9/3/2020 Samantha Heise) and questioned seller's signature on the bill of sale was no written by Nicole Shields. 2. The body of questioned writing (except 9/3/2020 Samantha Heise) and questioned seller's signature on the bill of sale was written by Cassandra Swart.
2W6LCL-5245	NICOLE SHIELDS was not the author of the questioned signature. NICOLE SHIELDS was not the author of the questioned handwriting. CASSANDRA SWART was the author of the questioned handwritten and signature.
34VD8R-5245	1.- The handwriting of the bill of sale dated September 3, 2021 does not correspond to Nicole Shields. 2.-Corresponds to Cassandra Swart, the handwriting of the bill of sale dated September 3, 2021. 3.- It is false, the signature in the name of Nicole Shields on the bill of sale dated September 3, 2021, in the seller's space. 4.-Corresponds to Cassandra Swart, the execution of the seller's signature of the bill of sale invoice dated September 3, 2021.
3CRBWF-5245	It was determined that Cassandra Swart (K2) probably wrote the Exhibit Q1 document to include the Nicole Shields signature. The limitations in this case were the general nature in which the

TABLE 2

WebCode- Test	Conclusions
	writing was prepared and the lack of complexity in the signature.
3JV8QE- 5241	ELIMINATION: It was determined that the questioned writing on document Q-1 (the body) and (seller's signature) was not written by Nicole Shields, the writer of K1a, K1b, K1c and K1d, due to dissimilarities of handwriting habit. IDENTIFICATION: It was determined that the questioned writing on document Q-1 (the body) and (seller's signature) was written by Cassandra Swart, the writer of K2a, K2b, K2c and K2d, due do similarities of handwriting habit.
4A2LXL- 5241	It is highly probable that Cassandra Swart wrote the questioned hand printed entries and the questioned seller's signature on the General Bill of Sale, 001-A1. It is highly probable that Nicole Shields did not write the questioned hand printed entries and the questioned seller's signature on the General Bill of Sale, 001-A1.
4GLH2B- 5245	1. The results support to some extent that the body of questioned writing (excluding the signature) was not written by N.S (K1). The results strongly support that the body of questioned writing (excluding the signature) was written by C.S (K2). 2. The results support that the questioned signature was not written by N.S (K1). The results support to some extent that the questioned signature was written by C.S (K2).
4MMWMC- 5241	Based on the evidence received, it has been concluded that Cassandra Swart filled in and signed the signature in the name of Nicole Shields on the questioned document, Q1. Based on the evidence received, it has been concluded that Nicole Shields did not fill in or sign the signature in her name on the questioned document, Q1.
4VK9ZT- 5241	Cassandra Swart did write the body of the questioned document, Q1. My level of certainty is "highly probable" given the amount of quality and quantity of known signatures I was able to examine as the basis of my opinion. In regard to the signature, Cassandra Swart did sign the questioned document, Q1. She has been identified as the signer of Q1 given the amount of quality and quantity of known signatures I was able to examine as the basis of my opinion.
4YKKWT- 5245	Based on the examination of the submitted evidence, a definite determination could not be made as to whether or not Nicole Shields, the writer of Items K1a through K1d, prepared the questioned writing and signature on Item Q1. However, due to dissimilarities observed, the questioned writing and signature on Item Q1 was PROBABLY NOT WRITTEN by Nicole Shields, K1a – K1d. Based on the examination of the submitted evidence, a definite determination could not be made as to whether or not Cassandra Swart, the writer of Items K2a through K2d, prepared the questioned writing and signature on Item Q1. However, due to observed characteristics in common, the questioned writing and signature on Item Q1 was PROBABLY WRITTEN by Cassandra Swart, K2a – K2d.
6878ZU- 5241	It was determined that the questioned writing on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Items K2a-d) (excluding the questioned signature). A source identification could not be reached due to the limited nature of the questioned signature and the presence of unexplained characteristics. However, characteristics in common were observed which indicate that CASSANDRA SWART, Item 3 (Items K2a-d), may have prepared the questioned signature on Item 1 (Item Q1). A source elimination could not be reached due to the limited nature of the questioned signature and the presence of unexplained characteristics. However, dissimilarities were observed which indicate that NICOLE SHIELDS, Item 2 (Items K1a-d) may not have prepared the questioned signature on Item 1 (Item Q1). Due to the limited nature of the questioned Item 1 (Item Q1) signature, it is unlikely that this questioned signature will ever be identified to a particular individual through handwriting comparisons.
6DWFPV- 5241	FIRST CONCLUSION: From an analysis of the evidence, it is concluded that Cassandra Swart WRITTEN and SIGNED the questioned document (Item Q1). SECOND CONCLUSION: from an analysis of the evidence, it is concluded that Nicole Shields DID NOT WRITE AND SIGN the questioned document (Item Q1).

TABLE 2

WebCode-Test	Conclusions
6ER34J-5245	1. The known writers contributed to the body of questioned writing (excluding the signature) on the bill of sale was written by Cassandra Swart (K2) and was not written by Nicole Shield (K1). 2. The known writers contributed the questioned seller's signature on the bill of sale was written by Cassandra Swart (K2) and was not written by Nicole Shield (K1).
6JH MV7-5241	Inter-comparison and analysis between the Questioned handwritten entries and Questioned "Nicole Shields" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Nicole Shields appearing in K1 revealed numerous dissimilarities in individual characteristics and habits. Based on the numerous dissimilarities in individual characteristics and habits in the Questioned handwritten entries and Questioned "Nicole Shields" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Nicole Shields appearing in K1, it is the opinion of the undersigned that the Questioned handwritten entries and Questioned "Nicole Shield" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Nicole Shields appearing in K1 do not share common authorship. Inter-comparison and analysis between the Questioned handwritten entries and Questioned "Nicole Shields" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Cassandra Swart appearing in K2 revealed numerous similarities in individual characteristics and habits. Based on the numerous similarities in individual characteristics and habits in the Questioned handwritten entries and Questioned "Nicole Shields" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Cassandra Swart appearing in K2, it is the opinion of the undersigned that the Questioned handwritten entries and Questioned "Nicole Shields" signature in Q1 and the handwriting and signature exemplars (reportedly) authored and provided by Cassandra Swart appearing in K2 share common authorship.
6L4C9R-5245	I have found the questioned handwriting and signature on the Bill of Sale, Q1, to differ significantly from the specimens of Nicole Shields. In my opinion, these differences provide very strong evidence evidence that she did not write it. The questioned entries on the Bill of Sale do, however, correspond closely with the specimens of Cassandra Swart. If these entries are considered together, then in my opinion there is very strong evidence she was responsible and I consider it very unlikely that some other person was responsible.
6LPUAT-5241	[No Conclusions Reported.]
6MJJTN-5241	HANDWRITING: Source Identification. It was determined that the questioned handwriting and signature on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Item K2a-d).
6RF6JQ-5241	The manuscripts for the completion of the bill of sale and the signature that appears as the seller's on the bill of sale are unique to the manuscripts of Mrs. Casandra Swart.
6U7JW8-5241	Propositions: I have considered each of the following propositions for each of the specimen writers and the questioned handwriting/signatures individually: P1 The writer of the specimen material wrote the questioned material. P2 A writer other than the writer of the specimen material wrote the questioned material. Handwriting- When compared, the questioned Q1 handwriting displays similarities in features such as style, skill, speed and fluency, slant and some proportions and character constructions and differences in features such as spacing, alignment, some proportions and character constructions, with the specimen K1 handwriting. No significant attention to the writing process was observed. When compared, the questioned Q1 handwriting displays similarities in features such as style, skill, speed and fluency, slant, spacing, alignment, proportions and character constructions and connections, with the specimen K2 handwriting. No significant differences or attention to the writing process were observed. I have evaluated the quantity, quality, and complexity of the questioned Q1 and specimen K1 and K2 handwriting, and the similarities and differences observed. I have assessed the evidence against each of the propositions for each specimen writer. Based on the similarities in features observed and the lack of significant differences, in my opinion, the evidence provides very strong support for the

TABLE 2

WebCode- Test	Conclusions
	<p>proposition that the writer of the specimen K2 handwriting wrote the questioned Q1 handwriting, over the alternative proposition that a writer other than the writer of the specimen K2 handwriting wrote the questioned Q1 handwriting (including specimen K1 writer). Signature- When compared, the questioned Q1 signature and the specimen K1 signatures display limited comparability in style and significant differences in construction between them. When compared, the questioned Q1 signature displays similarities in features such as style, skill, speed and fluency, slant, spacing, alignment, proportions and construction with the specimen K2 signatures. No significant differences or attention to the writing process were observed. I have evaluated the quantity, quality, complexity and comparability of the questioned Q1 and specimen K1 and K2 signatures, and the similarities and differences observed. I have assessed the evidence against each of the propositions. Based on the similarities in features observed and the lack of significant differences, in my opinion, the evidence provides very strong support for the proposition that the writer of the specimen K2 signatures wrote the questioned Q1 signature, over the alternative proposition that a writer other than the writer of the specimen K2 signatures wrote the questioned Q1 signature (including specimen K1 writer).</p>
6X7PFJ- 5245	<p>Based on known documents available for review, my preliminary conclusion is the author of both the print script and the signature is more likely K-2. In order to reach a stronger conclusion, I must have more dictated request printing from both K-1 and K-2 for examination.</p>
76JYGL- 5241	<p>[No Conclusions Reported.]</p>
7GATTF- 5241	<p>Comparison of the questioned handwriting, excluding signatures, on document Q1 to the known handwriting on documents K1 (a-d), purportedly written by Nicole Shields, has disclosed a combination of differences in handwriting with some superficial similarities. Accordingly, there is a strong probability that the writer of the known handwriting on documents K1 (a-d), purportedly written by Nicole Shields, did not write the questioned handwriting on document Q1. Comparison of the questioned handwriting, excluding signatures, on document Q1 to the known handwriting on documents K2(a-d), purportedly written by Cassandra Swart, has disclosed a combination of similarities with no significant differences. Accordingly, there is a strong probability that the writer of the known handwriting on documents K2(a-d), purportedly written by Cassandra Swart, wrote the questioned handwriting on document Q1. Comparison of the questioned "Nicole Shields" signature on document Q1 to the known "Nicole Shields" signatures on documents K1 (a-d), purportedly written by Nicole Shields, has disclosed differences in writing that were primarily of a pictorial nature. The pictorial difference between the questioned "Nicole Shields" signature and the known "Nicole Shields" signatures did not permit a full comparison of the writing features. Accordingly, there are indications that the questioned "Nicole Shields" signature on document Q1 was not written by the purported writer (Nicole Shields) of the known "Nicole Shields" signatures on documents K1 (a-d). Comparison of the questioned "Nicole Shields" signature on document Q1 to the known "Nicole Shields" signatures on documents K2(a-d), purportedly written by Cassandra Swart, has disclosed a significant combination of similarities with a few features not totally accounted for. Accordingly, there is a strong probability that the writer of the known "Nicole Shields" signatures on documents K2(a-d), purportedly written by Cassandra Swart, wrote the questioned "Nicole Shields" signature on document Q1.</p>
7LP33C- 5245	<p>It is the conclusion of this examiner that the Item Q1 hand printed fields beginning with the date at the top of the page and ending with the hand printed name "Nicole Shields" were not written by the writer of Item K1 which was submitted as the known writings of Nicole Shields. It is also the conclusion of this examiner that the signature field for Nicole Shields was not written by the writer of Item K1. It is the conclusion of this examiner that the Item Q1 hand printed fields beginning with the date at the top of the page and ending with the hand printed name "Nicole Shields" were written by the writer of Item K2 which was submitted as the known writings of Cassandra Swart. It is also the conclusion of this examiner that the signature field for Nicole</p>

TABLE 2

WebCode-Test	Conclusions
	Shields was written by the writer of Item K2. A conclusion of "was written by..." means that two or more handwritten items have sufficient, significant similarities, no significant, inexplicable differences, and no significant limitations are present.
7RAC3U-5245	Cassandra Swart wrote the questioned hand printed entries in sections 1, 2, and 3, and the printed entry, "Nicole Shields". Cassandra Swart wrote the handwritten "Nicole Shields" seller's signature.
8K7M2G-5245	After examining the bill of sale provided by the car buyer, it is determined that the seller's handwriting and signature on the questioned document was NOT written by Nicole Shields. After examining the bill of sale provided by the car buyer, it is determined that the seller's handwriting and signature on the questioned document IS written by Cassandra Swart.
8QDCJN-5245	The writing on the document with identification code 21-5245-FQ-Q1 does not come from the same graphic origin as Nicole Shields' writing offered for comparison. The writing that works in the document with identification key 21-5245-FQ-Q1, if it comes from the same graphic origin of the writing of Cassandra Swart offered for comparison. The signature on the document with identification code 21-5245-FQ-Q1 does not come from the same graphic origin as those of Nicole Shields, signatures offered for comparison. The signature on the document with identification key 21-5245-FQ-Q1, if it comes from the same graphic origin as the Cassandra Swart signatures offered for comparison. La escritura que obra en el documento con clave de identificación 21-5245-FQ-Q1, no proviene del mismo origen gráfico de la escritura de Nicole Shields ofrecido para cotejo. La escritura que obra en el documento con clave de identificación 21-5245-FQ-Q1, si proviene del mismo origen gráfico de la escritura de Cassandra Swart ofrecido para cotejo. La firma que obra en el documento con clave de identificación 21-5245-FQ-Q1, no proviene del mismo origen gráfico que las de Nicole Shields firmas ofrecidas para cotejo. La firma que obra en el documento con clave de identificación 21-5245-FQ-Q1, si proviene del mismo origen gráfico que las firmas de Cassandra Swart ofrecidas para cotejo.
8TKP7H-5241	Results / Findings: Based on the side by side comparisons of the handwriting and Nicole Shields signature observed on the Q1 document to the submitted known writing and signatures of Nicole Shields (K1A-K1D) and Cassandra Swart (K2A-K2D) it is my opinion that: 1. There is common authorship between the questioned writing observed on the Q1 document and the the known submitted exemplars of Cassandra Swart (K2A-K2D). 2. There is also common authorship between the Nicole Shields signature located at the bottom of Q1 document and the known submitted exemplars of Cassandra Swart(K2A-K2D) . 3. Nicole Shields writer of the K1A-K1D known samples is eliminated as the writer of the questioned signature and any of the questioned writing located on the Q1 document.
8WJYGJ-5241	Concerning the question signature, we note compatibilities between K2 and Q1 (general physiognomy, links of certain gestures...). However, the attack of the second part of Q1's signature, not linked to the following arches, is observed only once (K2b) which is not sufficient to bring the signatures closer. These observations moderately support the possibility that Q1's signature was traced by K2.
9BC29M-5241	The handwritten texts, signature, printed name and date of the seller in Section 4 of Q1, were written by Cassandra Swart, except the signature and the printed name of the buyer. The handwritten texts, signature, printed name and date of the seller in Section 4 of Q1 were not written by Nicole Shields.
9EZ9WQ-5241	The writing contained in the bill of sale, belongs to the graphic origin of C. Cassandra Swart, due to the existence of more similarities than differences. The signature contained in the bill of sale, in the seller's heading, belongs to the graphical origin of C. Cassandra Swart, due to the existence of more similarities than differences.

TABLE 2

WebCode- Test	Conclusions
9FVRYR- 5245	There are some general similarities but also some differences between the handwriting in the body of Q1 and the specimen writing in K1. In my opinion there is some limited evidence to show that item Q1 was not written by the author of K1, Nicole Shields. There are some significant similarities between the handwriting in the body of Q1 and the specimen writing in K2 and no significant differences. In my opinion the findings provide conclusive evidence that Q1 was written by the author of K2, Cassandra Swart. The questioned signature on item Q1 differs pictorially from the specimen signatures of K1 and on the basis of the documents available and in my opinion it is not a normal, genuine signature of Nicole Shields. The questioned signature on item Q1 shows a pictorial similarity to the specimen signatures of K2 and there are some similarities in detail. In my opinion there is at least some limited evidence to show that the questioned signature on Q1 was written by Cassandra Swart.
9H4XME- 5245	Nicole Shields did not write the handwritten entries depicted on Q-1 with the exception of the buyer's information in section 4. Nichole Shields did not sign her name to the Q-1 Bill of Sale. Cassandra Swart wrote the handwriting depicted on the Q-1 Bill of Sale except for buyer's information in section 4. It is probable that the questioned signature of Nichole Shields depicted on the Q-1 Bill of Sale was signed by Cassandra Swart.
9JCB4F- 5245	Physical and comparative examinations of the questioned and known handwriting and signature appearing on the Exhibit Q1, K1, and K2 documents resulted in the following findings: The writer of the known Exhibit K2 exemplars, Cassandra Swart, wrote the questioned handwriting and signature in the Exhibit Q1 document. This determination of common authorship was based upon the fact that sufficient, significant personal writing habits, such as speed, letter formations, slant, attention to baseline, and height ratios, are in excellent agreement among the aforementioned handwriting and signature; and no dissimilarities were found that could not be attributed to the writer's natural variation. The writer of the known Exhibit K1 exemplars, Nichole Shields, did not write the questioned handwriting or signature in the Exhibit Q1 document. The elimination of Nichole Shields as the writer of Exhibit Q1 is supported by the fact that fundamental differences exist between many significant writing characteristics including, but not limited to, letter formations, beginning/ending strokes, height ratios, and connecting strokes; and there is an absence of any significant corresponding characteristics.
9MTLTJ- 5241	The handwriting document Test #21-5241: Item "Q1" analyzed has been written by the same person who wrote the handwriting on the documents identified as K2a, K2b, K2c, and K2d with the name of Cassandra Swart. The signature document Test #21-5241: Item "Q1" analyzed, corresponding to the salesman, was signed by the same person who signed the document identified as K2a, K2b, K2c, K2d, given to comparison with the signature of Cassandra Swart.
A7ZDAC- 5241	[No Conclusions Reported.]
AQQDNM- 5245	1. The questioned writing on the general bill of sales has probably not been written by Nicole Shields. The writing has probably been written by Cassandra Swart. 2. The questioned seller's signature on the general bill of sales has probably not been written by Nicole Shields. The signature has probably been written by Cassandra Swart.
AU9MP9- 5241	The body of questioned writing and seller's signature on the bill of sale (Q1) were written by Cassandra Swart (K2), therefore were not made by Nicole Shields (K1).
B3V6GL- 5241	The examinations and comparisons are based solely on the materials submitted and are opinions based upon my experience, education and training and are as follows: 1. The questioned writing and signature present on the General Bill of Sale submitted in exhibit Q1 was written by the author of K2a-d (Cassandra Swart). 2. The questioned writing and signature present on the General Bill of Sale submitted in exhibit Q1 was not written by the author of K1a-d (Nicole Shields). 3. Exhibits Q1 and K1a-d and K2a-d were scanned for preservation by Specialist XXX.

TABLE 2

WebCode-Test	Conclusions
BMM6XH-5245	[No Conclusions Reported.]
BPTMVE-5245	The results of our examination supports the hypothesis 1, that Cassandra Swart has written the body of text and the signature on item Q1 extremely strong in comparison of hypothesis 2, that Nicole Shields has written the body of text and the signature on item Q1.
BRE9N2-5241	The K1 writer (SHIELDS) has been eliminated as the writer of the Q1 handprinting. An opinion of "elimination" is a definitive conclusion with the highest degree of certainty and means that the features present in the comparable portions of the questioned and known documents provides very strong evidence to supporting non-authorship. The K1 writer (SHIELDS) has been eliminated as the writer of the Q1 signature. The K2 writer (SWART) has been identified as the writer of the Q1 handprinting. "Identification" is an opinion with the highest degree of certainty and means that the features present in the comparable portions of the questioned and known documents provide very strong evidence supporting common authorship. The K2 writer (SWART) has been identified as the writer of the Q1 signature.
BU2X3M-5241	I found sufficient evidence to support the proposition that the handwriting contained on the document in question marked as Q1 was written by the writer of the specimen writing marked as K2 and not by the writer of the specimen material marked as K1. I further found sufficient evidence to support the proposition that the signature in question contained on the document marked as Q1 was written by the writer of the specimen material marked as K2 and not by the writer of the specimen material marked as K1.
CWREZ2-5241	Similarities and no fundamental differences were observed between the handwritten entries on Q1 and the K2 specimen writer, Cassandra SWART. In my opinion, the Q1 entries have been produced by the K2 writer. Differences were observed between the handwritten entries on Q1 and the K1 specimen writer, Nicole SHIELDS. In my opinion, the Q1 entries were not produced by the K1 writer. Fundamental differences were observed between the Q1 signature and the specimen signatures provided by the K1 writer, Nicole SHIELDS. Given the specimen signatures provided and assuming this is the only style of signature for the K1 writer, in my opinion the Q1 signature is not a genuine Nicole SHIELDS signature. I am unable to comment on the authorship of the Q1 signature (due to the possibility of disguise by the K1 writer). Pictorial similarities were observed between the Q1 signature and the Nicole SHIELDS signatures provided by the K2 writer, Cassandra SWART. However, as these signatures are not in the specimen writers name, I was unable to undertake a meaningful comparison and therefore my opinion in relation to the authorship of the Q1 signature for the K2 writer is inconclusive.
D7PU3B-5241	In my Opinion I conclude that Cassandra Swart has completed the handwritten entries at all sections - '1' '2' and '3' on the 'Questioned' 'Bill of Sale'. I also conclude that Cassandra Swart has written all of Section '4' - the 'Sellers Signature', 'Date' and 'Print Name' on this 'Questioned' 'Bill of Sale'.
DJVWBL-5241	HANDWRITING (CASSANDRA SWART): Source Identification. The questioned hand printed entries on Item 1 (Item Q1) were prepared by CASSANDRA SWART, Item 3 (Items K2a-d), excluding any checkmarks. Support For A Common Source. A source identification could not be reached due to the partial illegible nature of the questioned signature. However, strong characteristics in common were observed which indicate CASSANDRA SWART, Item 3 (Items K2a-d) may have prepared the questioned signature on Item 1 (Item Q1). HANDWRITING (NICOLE SHIELDS): Support For Different Sources. A source elimination could not be reached due to the partial illegible nature of the questioned signature. However, strong inconsistencies were observed which indicate NICOLE SHIELDS, Item 2 (Items K1a-d) may not have prepared the questioned signature on Item 1 (Item Q1).
DLWZ39-5245	Based on the side-by-side comparison of questioned and specimen signatures for each writer, it is my professional opinion, following industry standards, and accepted methodology in the field

TABLE 2

WebCode-Test	Conclusions
	of questioned documents that Nicole Shields did not fill out or sign her name where it appears on item Q1. Based on multiple significant similarities and no fundamental differences, it is my opinion that Cassandra Swart both filled-in and signed the questioned document (Q1).
DQV68E-5245	Results strongly indicate that the questioned writing and signature was not written by Nicole Shields (K1). Results show with high degree of surtainty that the questioned writing and signature was written by Cassandra Swart (K2).
DUUHGX-5241	The questioned entries on Exhibit 3(Q1) and the known writing attributed to SWART have significant characteristics in agreement. The possibility of observing the same combination of characteristics in agreement from another writer is considered extremely low. The questioned entries on Exhibit 3 (Q1) and the known writing attributed to SHIELDS have significant characteristics not in agreement. It is considered extremely unlikely that SHIELDS is the writer of these questioned entries
DUZUC9-5245	1. The body of questioned writing (excluding the date next to the buyer's signature) on the bill of sale (Q1) was written by Cassandra Swart (K2). 2. The body of questioned writing on the bill of sale (Q1) was not written by Nicole Shields (K1). 3. The seller's signature on the bill of sale (Q1) was probably written by Cassandra Swart (K2). 4. The seller's signature on the bill of sale (Q1) was probably not written by Nicole Shields (K1).
DXWHNA-5245	On examination, I noted significant similarities in stroke quality, slant and the formation of alphabet letters and numerals between the questioned handwritten entries shown in "Q1" and the specimen handwriting of Cassandra Swart shown in "K2a", "K2b" and "K2d". Similarities were also noted in terms of the line spacing between the handwritten entries and the reference lines between them. In view of the evidence, I am of the opinion that Cassandra Swart, the writer of the specimen handwriting in "K2a", "K2b" and "K2d" wrote the questioned handwritten entries shown in "Q1". On comparing the questioned handwritten entries shown in "Q1" with the specimen handwriting of Nicole Shields shown in "K1a", "K1b" and "K1d", I noted differences in stroke quality between them and I also noted significant differences in the formation of most of the alphabet letters and numerals between them. Differences were also noted in terms of the line spacing between the handwritten entries and the reference lines between them. In view of the evidence, I am of the opinion that Nicole Shields, the writer of the specimen handwriting in "K1a", "K1b" and "K1d" did not write the questioned handwritten entries shown in "Q1". On examination, I found the questioned signature shown in "Q1" to be fluently and steadily written with no hesitation. On comparing with the specimen signatures of Cassandra Swart shown in "K2a", "K2b" and "K2c", I noted significant similarities in respect of stroke fluency and slant between them. I also found the formation and relative positioning of strokes of the questioned signature to fall within the range of natural variation noted in these aspects in the specimen signatures. In view of the evidence, I am of the opinion that Cassandra Swart, the writer of the specimen signatures shown in "K2a", "K2b" and "K2c" wrote the questioned signatures shown in "Q1". On comparing the questioned signature shown in "Q1" with the specimen signatures of Nicole Shields shown in "K1a", "K1b" and "K1c", I noted differences in the design, the fluency and the formation of strokes between them. In view of the findings, I am of the opinion that there is no evidence to indicate that Nicole Shields, the writer of the specimen signatures available in "K1a", "K1b" and "K1c" wrote the questioned signature shown in "Q1".
E3AJP8-5241	Handwriting: K1 - Bill of Sale Q1 (Nicole Shields). The examinations disclosed that there is a strong probability that the writer of the known writings, attributed to Nicole Shields did not write the handwritten entries (excluding the signature) on the questioned document. K2 - Q1 Bill of Sale (Cassandra Swart). The examinations disclosed that there is a strong probability that the writer of the known writings, attributed to Cassandra Swart also wrote the handwritten entries (excluding the signature) on the questioned document. Signature: K1 - Questioned Signature Q1 (Nicole Shields). The examinations disclosed that there are indications that the writer of the known signatures, attributed to Nicole Shields did not write the signature on the questioned

TABLE 2

WebCode- Test	Conclusions
	document. K2 - Questioned Signature Q1 (Cassandra Swart). The examinations disclosed that there are indications that the writer of the known signatures, attributed to Cassandra Swart did write the signature on the questioned document.
E4HTFJ- 5245	1. The hand-printed text in Sections No. 1-3 of the General Bill of Sale dated September 3, 2021 was not written by Nicole Shields. 2. The hand-printed text in Sections No. 1-3 of the General Bill of Sale dated September 3, 2021 was written by Cassandra Swart. 3. The Seller's Signature, date, and printed name in Section No. 4 of the General Bill of Sale dated September 3, 2021 were not written by Nicole Shields. 4. The Seller's Signature, date, and printed name in Section No. 4 of the General Bill of Sale dated September 3, 2021 were written by Cassandra Swart.
E7Z3F4- 5241	Handwriting in Q1 was not written by K1a-K1d. Signature in Q1 was not written by K1a-K1d. Handwritten in Q1 was written by K2a- K2d. Signature in Q1 was written by K2a-K2d.
E8H2LE- 5241	1. No evidence was found to indicate that the questioned writing and the questioned seller's signature 'Nicole Shields' on Exhibit Q1 (General bill of Sale) were executed by the K1(a-d) specimen writer. 2. It has been concluded that the questioned writing and the questioned seller's signature 'Nicole Shields' on Exhibit Q1 (General bill of Sale) were executed by the K2(a-d) specimen writer.
EHZL7B- 5245	1) There are dissimilarities in habits, characteristics and elements of comparison in stroke formation, fluency, letter formation, inclination, space, connection, angle, loop formation and position when comparing the Nicole Shields name signature on the document identified Q-1 with the signatures on the document identified K-1 C. 2) There are similarities in habits, characteristics, and elements of comparison in stroke formation, fluency, connection, letter formation, slant, space, angle, loop formation, and position when comparing the Nicole Shields name signature on the identified document Q-1 with the signatures on the identified document K-2 C. 3) There are dissimilarities in habits, characteristics and elements of comparison in stroke formation, fluency, letter formation, inclination, space, angle, loop formation and position when comparing writing in the document identified Q-1 with writing in the documents identified K-1 A-B, D. 4) There are similarities in habits, characteristics, and elements of comparison in stroke formation, fluency, letter formation, slant, space, angle, loop formation, and position when comparing writing in the identified document Q-1 with writing in the documents identified as K-2 A-B, D.
ENP787- 5245	According to the handwriting material, the analysis performed and the technical reasoning previously stated, it is determined that technical reasoning previously exposed, it is determined that: 1. There is a GRAPHIC UNIPROCEDENCE between the inscription of the name that as that of Nicole Shields" appears in front of the preprinted "Print Name", in general invoice Q1 and the of sale Q1 and the calligraphic material pattern of Mrs. CASSANDRA SWART K2, provided for this study. 2. THERE IS NO GRAPHIC UNIPROCEDENCE between the inscription of the name of Mrs. "Nicole Shields" as of Mrs. "Nicole Shields" opposite the pre-printed "Print Name", in the general sales invoice Q1 and the of sale Q1 and the calligraphic material pattern of Mrs. NICOLE SHIELDS K1, provided for the realization of the present study. 3. THERE IS A HIGH PROBABILITY OF GRAPHIC UNIPROCEDENCE between the illegible signature in front of the pre-printed "Seller's Signature", in the general sales invoice Q1 and the calligraphic material pattern of Mrs. CASSANDRA SWART K2, provided for this study. 4. There is NO GRAPHIC UNIPROCEDENCE between the illegible signature in front of the preprinted "Seller's the preprinted "Seller's Signature", in the general sales invoice Q1 and the calligraphic material of handwriting material of Mrs. NICOLE SHIELDS K1, provided for this study.
FHUWCX- 5241	Handwriting comparison: Comparison made between the questioned handwriting in Q1 and control handwriting written by Cassandra Swart (K2) revealed similarities in writing attributes relating to design and connection of letters, writing movements, size of capital letter and spacing between letters. On the other hand, comparison made between the questioned handwriting in

TABLE 2

WebCode-Test	Conclusions
	<p>Q1 and control handwriting written by Nicole Shields (K1) revealed discrepancies in writing attributes relating to design and connection of letters, writing movements, size of capital letter and spacing between letters. In view of the evidence found, I am of the opinion that the questioned handwriting in Q1 was written by Cassandra Swart (K2) but not by Nicole Shields (K1). Signature comparison: Comparison of the questioned signature in Q1 with the control signatures written by Cassandra Swart (K2) revealed similarities in writing attributes relating to pictorial design, design of letters, connection and termination of strokes, writing movements, hook formation and alignment with respect to the signature line. On the other hand, comparison of the questioned signature in Q1 with the control signatures written by Nicole Shields (K1) revealed discrepancies in writing attributes relating to design of letters, connection and termination of strokes and loop formation. In view of the evidence found, I am of the opinion that the questioned signature in Q1 was written by Cassandra Swart (K2) but not by Nicole Shields (K1).</p>
FNXMTH-5245	<p>1. General bill of sale, dated 3 September 2021, was written by Cassandra Swart. 2. The questioned seller's signature on the bill of sale was signed by Cassandra Swart.</p>
FTTE2F-5245	<p>Within the bounds of reasonable scientific certainty, and subject to change if additional information becomes available, it is my professional opinion that: 1. Cassandra Swart, the writer of K2a-K2d, prepared the "Nicole Shields" signature and writings appearing on Q1.</p>
FUALB4-5241	<p>The writer of Items 4 through 6 (Cassandra Swart) has been identified as having written Item 7, excluding the "Buyer's Signature", "Date:" and the "Print Name:" portions located at the bottom of Item 7.</p>
FVJQQD-5241	<p>1. No evidence of significance was found to indicate that the questioned handwriting on Exhibit Q1 was executed by the K1 (a - d) specimen writer. 2. It has been concluded that the questioned handwriting on Exhibit Q1 was executed by the K2 (a - d) specimen writer. 3. No evidence of significance was found to indicate that the questioned signature "Nicole Shields" on Exhibit Q1 was executed by the K1(a - d) specimen writer. 4. It has been concluded that the questioned signature "Nicole Shields" on Exhibit Q1 was executed by the K2 (a - d) specimen writer.</p>
FZVEQA-5241	<p>It is highly probable that author of Exhibits K2 wrote the text on Exhibit Q1. It is highly probable that author of Exhibits K2 wrote the signature in the name of Nicole Shields on Exhibit Q1.</p>
G4DXAH-5245	<p>[No Conclusions Reported.]</p>
GBUQZ9-5245	<p>Nicole Shields is not the author of the writing and signature on the document identified Q-1. Cassandra Swart is the author of the writing and signature on the document identified Q-1.</p>
GGUZG9-5241	<p>First.-The writing found in the "General Bill of sale", identified as ITEM Q1, does not belong to Nichole Shields, in regards to the comparison base writing, that is under the name of the same person appears in the ITEMS "k1a, k1b and k1d". Second.- The signature found in the "Seller's Signature" section of the "General Bill Of Sale", identified as ITEM Q1, does not belong to Nichole Shields, in regards to the comparison base signatures that appear to be from the same person, act in the ITEMS "k1a, k1b, k1c and k1d". Third.- The writing that appears in the "General Bill Of Sale", identified as ITEM Q1, is belong to Casandra Swart, in regards to the comparison base writing that is in the name of the same person shows in the ITEMS "k2a, k2b and k2d ". Fourth.- The signature found in the "Seller's Signature" section of the "GENERAL BILL OF SALE", identified as ITEM Q1 belongs to Casandra Swart, in regards to the comparison base signatures that is under the name of the same person, act in the ITEMS "k2a, k2b, k2c and k2d".</p>
GX22EG-5245	<p>Based on my scientific examination and significant agreement of the unique, identifiable handwriting characteristics and distinctions in the questioned handwriting and Nicole Shields signature, I have identified the person who authored the purported known Cassandra Swart handwriting and signatures on the K2 documents as the person who authored the handwriting</p>

TABLE 2

WebCode-Test	Conclusions
	and Nicole Shields signature on the questioned document Q1.
H2JPE8-5245	Nicole Shields is not the author of the writing and signature present in the document identified Q1. Cassandra Swart is the author of the writing and signature present in the document identified Q1.
H9FNPU-5241	The questioned handwritten entries on Exhibits 3 and the known writing attributed to SWART have significant characteristics in agreement. The possibility of observing the same combination of characteristics in agreement from another writer is considered extremely low.
H9JXV9-5245	The writer of Exhibit K2 (Cassandra Swart) is identified as the writer of the questioned handprinted entries and the questioned Nicole Shields signature on Exhibit Q1. It is highly probable that the writer of Exhibit K1 (Nicole Shields) did not write the questioned handprinted entries or the questioned Nicole Shields signature on Exhibit Q1.
H9YGF6-5241	The person who wrote the specimen writings on K2a, K2b and K2d wrote the questioned writings on Q1. The person who wrote the specimen writings on K1a, K1b and K1d did not write the questioned writings on Q1. The person who wrote the specimen signatures on K2a, K2b and K2c wrote the questioned signature on Q1. The person who signed the specimen signatures on K1a to K1d did not sign the questioned signature on Q1.
HE6736-5245	The writings on the document Q1 were written by Cassandra Swart, as well as the signature "Nicole Shields".
HRDMEG-5245	The writing and signature attributed to Ms. Nocole Shields have been made by Ms. Casandra Swart.
HTJGKZ-5245	1. Writer K1 (a-d) Shields did not write the hand printed Seller entries on Q1. Shields very probably did not sign the Seller signature on Q1. 2. Writer K2 (a-d) Swart wrote the hand printed Seller entries on Q1. Swart very probably wrote the Seller signature on Q1. 3. Though apparently freely written, the simplicity of the Seller signature on Q1 was the primary limiting factor in this examination.
JCDEK8-5241	1. After careful examination and comparison of Questioned Handwriting on Q1 with course of business writing of Nicole Shields (K1d) and with dictated handwriting exemplars of Nicole Shields (K1a-b), it is concluded that the Questioned Handwriting on Q1 is not written by Nicole Shields (K1). Therefore, Nicole Shields (K1) is not the author of Questioned Handwriting on Q1. 2. After careful examination and comparison of Questioned Handwriting on Q1 with course of business writing of Cassandra Swart (K2d) and with dictated handwriting exemplars of Cassandra Swart (K2a-b), it is concluded that the Questioned Handwriting on Q1 is written by Cassandra Swart (K2). Therefore, Cassandra Swart (K2) is the author of Questioned Handwriting on Q1. 3. After careful examination and comparison of Questioned Signature on Q1 with course of business writing of Nicole Shields (K1d) and with requested signature exemplars of Nicole Shields (K1c), it is concluded that the Questioned Signature on Q1 is not written by Nicole Shields (K1). Therefore, Nicole Shields (K1) is not the author of Questioned Signature on Q1. 4. After careful examination and comparison of Questioned Signature on Q1 with requested signature exemplars by Cassandra Swart in the name of Nicole Shields (K2c), it is concluded that the Questioned Signature on Q1 is written by Cassandra Swart (K2). Therefore, Cassandra Swart (K2) is the author of Questioned Signature on Q1.
JFUPN3-5241	The author of the K2 known handwriting and signatures wrote the questioned handwriting and signature appearing on Q1. There is agreement in a combination of individualizing handwriting characteristics and an absence of any significant differences. The author of the K1 known handwriting and signatures did not write the questioned handwriting and signature appearing on Q1. There is disagreement in a combination of significant handwriting characteristics.

TABLE 2

WebCode-Test	Conclusions
JJWTD6-5241	Both body of questioned writing and questioned seller's signature on the bill of sale are written by K2 (Cassandra Swart).
JK8KHE-5241	<p>A comparative study was carried out between the handwriting inserted in the questioned document Q1 and the handwriting provided by NICOLE SHIELDS in the documents K1a-b, K1c and k1d in which differences were mostly found in their general order and graphic gestures. However, regarding the result of the study carried out between the handwriting inserted in the questioned document Q1 and the handwriting inserted in the documents K2a, K2b, K2d of CASSANDRA SWART, in which similarities were mostly found in their generalities and graphic gestures. Firmas: Del análisis grafoscópico comparativo entre la firma estampada entre el documento cuestionado Q1 y las firmas insertas en los documentos K1a, k2b, k2c y k2d de NICOLE SHIELDS se encontraron mayormente diferencias en su orden general y gestos gráficos; en cambio que en las firmas insertas en los documentos k2a, k2b, k2c y k2d de Cassandra Swart se encontraron mayormente similitudes en sus generalidades y sus gestos gráficos. From the comparative graphoscopic analysis between the signature stamped between the questioned document Q1 and the signatures inserted in the documents K1a, k2b, k2c and k2d of NICOLE SHIELDS, differences were mostly found in their general order and graphic gestures; On the other hand, in the signatures inserted in the documents k2a, k2b, k2c and k2d of Cassandra Swart, there were mostly similarities in their generalities and their graphic gestures. Escritura: Se realizó un estudio comparativo entre la escritura insertada en el documento cuestionado Q1 y la escritura proporcionada por NICOLE SHIELDS en los documentos K1a-b, K1c y k1d en el que se encontraron mayoritariamente diferencias en su orden general y gestos gráficos Sin embargo, en cuanto al resultado del estudio realizado entre la escritura a insertada en el documento cuestionado Q1 y la escritura insertada en los documentos K2a, K2b, K2d de CASSANDRA SWART, en el que se encontraron mayoritariamente similitudes en sus generalidades y gestos gráficos.</p>
JPM3N3-5241	<p>We have excluded the handwriting in the last two lines "Buyers details" from our examination. There are many similarities and no significant differences between the handwriting within Q1 and the known handwriting of Cassandra Swart. The nature of these similarities is such that, in our opinion, Cassandra Swart is responsible for this handwriting. There are many similarities and no significant differences between the seller's signature within Q1 and the known handwriting of Cassandra Swart. The nature of these similarities is such that, in our opinion, Cassandra Swart is responsible for this handwriting.</p>
JUCMPX-5241	<p>3) Visual examination, comparison, and evaluation of the submitted handwriting resulted in the following findings: 3.1) The body of the questioned writing depicted on item Q1 was written by the author – Cassandra Swart of the K2 (a-d) handwriting samples. 3.2) The body of the questioned writing depicted on item Q1 was not written by the author – Nicole Shields of the K1 (a-d) handwriting samples. 3.3) The "Nicole Shields" signature entry depicted on item Q1 was written by the author – Cassandra Swart of the K2 (a-d) handwriting samples. 3.4) The "Nicole Shields" signature entry depicted on item Q1 was not written by the author – Nicole Shields of the K1 (a-d) handwriting samples.</p>
JXDNT2-5241	<p>i) The questioned signature in 'Q1' showed sufficient significant differences in handwriting characteristics from the specimen signatures in 'K1a' to 'K1d'. Hence, I am of the opinion that this questioned signature was not written by the writer of the specimens (Nicole Shields). ii) The questioned signature in 'Q1' showed sufficient significant similarities in handwriting characteristics as the specimen signatures in 'K2a' to 'K2c'. Hence, I am of the opinion that this questioned signature was written by the writer of the specimens (Cassandra Swart). iii) The questioned handwriting in 'Q1' showed sufficient significant differences in handwriting characteristics from the specimen handwriting in 'K1a', 'K1b' and 'K1d'. Hence, I am of the opinion that this questioned handwriting was not written by the writer of the specimens (Nicole Shields). iv) The questioned handwriting in 'Q1' showed sufficient significant similarities in handwriting characteristics as the specimen handwriting in 'K2a', 'K2b' and 'K2d'. Hence, I am of the opinion</p>

TABLE 2

WebCode- Test	Conclusions
	that this questioned handwriting was written by the writer of the specimens (Cassandra Swart).
K37YCD- 5241	CONCLUSIONS: FIRST: it is established that the writing samples identified as K2a, K2b and K2d in the name of Cassandra Swart, are attributable to the writing of the item identified as Q1. SECOND: it is established that the writing samples identified as K2a, K2b, K2c and K2d in the name of Cassandra Swart, are attributable to the signature of the item identified as Q1.
K77A8D- 5241	Cassandra Swart made writing on the body of the bill of sale (Q1) and the signature itself on the bill of sale (Q1) in the name of Nicole Shields.
K7KTRB- 5241	The written completion and the signature of the vehicle seller on the Q1 invoice was made by Mrs. CASSANDRA SWART.
K8VPKU- 5245	Questioned Printing: It is highly probable that exemplar writer K2 wrote the questioned printing. There was strong conformance in character formation, proportion, and variation between the questioned and exemplar writing from writer K2. It is highly unlikely to see this degree of conformance in another person's writing, including writer K1's. Furthermore, many differences were observed between the K1 and questioned writing. Questioned Signature: It is probable that writer K2 wrote the questioned signature. The questioned signature displayed no signs of having been unnaturally written, and it is assessed as having medium complexity, thus not easily imitated without leaving some detectible signs. There was good conformance between the conspicuous and subtle features in the K2 and questioned signatures, however some features in the questioned signature were unaccounted for in the known signatures. These absent features preclude a stronger opinion. It is unlikely to find this degree of conformance in the signature of another writer, including writer K1's. It must be recognized that the K1 writer's exemplar signatures and the questioned signature were not pictorially similar. They were in different styles, with features that were not directly comparable. These differences are not the basis for the opinion that K1 probably did not write the questioned signature, as people can have multiple signature styles and signatures can be affected by writing conditions or consciously or subconsciously changed. Instead, this opinion is based on the strong conformance between the K2 exemplar signatures and the questioned signature. Methods: Adobe Photoshop CS6 was used to view 1000 ppi tiff files of the questioned and known documents. The SWGDOC Standard Guide for Examination of Handwritten Items and the [Laboratory] Questioned Documents Unit's Handwriting test method, which includes administrative directives, were followed.
KGM6AY- 5241	It has been concluded that Cassandra Swart (K2) wrote the questioned material appearing on the Exhibit Q1 item. Further, it has been concluded that Nicole Shields (K1) did not write any of the questioned material appearing on the Exhibit Q1 item.
KLGQEF- 5241	It was determined that the questioned writing on Item 1 (Item Q1), including the signature, was prepared by CASSANDRA SWART, Item 3 (Item K2a-d).
KPDQEW- 5241	Comparison of the questioned hand-printed entries on Exhibit 1 to the known writing of Swart disclosed numerous significant similarities and no significant differences. As a result, there is extremely strong support for the proposition that the hand printing on Exhibit 1 was written by Swart and no support for the proposition the hand printing on Exhibit 1 was written by a different writer (Source Identification). Comparison of the questioned Nicole Shields signature on Exhibit 1 to the known writing of Swart disclosed numerous significant similarities and no significant differences. As a result, there is extremely strong support for the proposition that the questioned signature on Exhibit 1 was written by Swart and no support for the proposition that the questioned signature on Exhibit 1 was written by a different writer (Source Identification). Comparison of the questioned hand-printed entries on Exhibit 1 to the known writing of Shields disclosed a number of significant differences in both form and execution. As a result, there is extremely strong support for the proposition that the questioned signature on Exhibit 1 was not written by Shields and no support for the proposition that the questioned signature on Exhibit 1 was written by

TABLE 2

WebCode-Test	Conclusions
	<p>Shields (Source Exclusion). Comparison of the questioned Nicole Shields signature on Exhibit 1 to the known writing of Shields disclosed some significant differences and no significant similarities. As a result, it was determined that there is limited support for the proposition that the questioned signature on Exhibit 1 and the known signatures samples by Shields may have been written by different sources. There is no support for the proposition that they were written by a common source (Limited Support for Different Sources). Limitations precluding a more definitive finding included the highly abbreviated/stylized nature of Shields' signature, which left few significant characteristics for comparison.</p>
L93DC6-5245	<p>OF THE STUDY OF SCRIPTURE: FIRST. Regarding the Graphoscopic study of the Writing in the name of Mrs. NICOLE SHIELDS of the filling text of the GENERAL SALES INVOICE, dated September 03, 2021 in the name of the buyer SAMANTA HEISE regarding a motor vehicle of the brand HONDA CIVIC 2013 with identification number 1K4RR4HM3BC584602, in the amount of \$ 6,900.00, being the seller NICOLE SHIELDS. (Denominated in the CTS test as item Q1), described as Questioned Writing Q1-A, it is concluded that it DOES NOT CORRESPOND to the Writing made by Mrs. NICOLE SHIELDS; Rather, it was made by someone else's graphic fist, since the primary structural characteristics and the Group of Graphic Gestures are not reproduced. SECOND. Regarding the Graphoscopic study of the Writing in the name of Mrs. NICOLE SHIELDS of the filling text of the GENERAL SALES INVOICE, dated September 03, 2021 in the name of the buyer SAMANTA HEISE regarding a motor vehicle of the brand HONDA CIVIC 2013 with identification number 1K4RR4HM3BC584602, in the amount of \$ 6,900.00, being the seller NICOLE SHIELDS. (Denominated in the CTS test as item Q1), described as Questioned Writing Q1-A, it is concluded that IF IT CORRESPONDS to the Writing carried out by Mrs. CASSANDRA SWART; that is, if it was made by this person, then if the primary structural characteristics and the Group of Graphic Gestures are reproduced. OF THE STUDY OF THE FIRM: THIRD. Regarding the Graphoscopic study of the Firm in the name of Mrs. NICOLE SHIELDS of the GENERAL SALES INVOICE, dated September 03, 2021 in the name of the buyer SAMANTA HEISE regarding a motor vehicle of the brand HONDA CIVIC 2013 with identification number 1K4RR4HM3BC584602, in the amount of \$ 6,900.00, being the seller NICOLE SHIELDS. (Denominated in the CTS test as item Q1), described as Questioned Signature Q1-B, it is concluded as FALSE SIGNATURE; Said signature was not made by Mrs. NICOLE SHIELDS, but was made by someone else's graphic fist, since the primary structural characteristics and the Group of Graphic Gestures of the C1-B Matching Base Signatures are not reproduced. From the foregoing it follows that it is a FALSE signature BY SERVILE IMITATION. QUARTER. Regarding the Graphoscopic study of the Firm in the name of Mrs. NICOLE SHIELDS of the GENERAL SALES INVOICE, dated September 03, 2021 in the name of the buyer SAMANTA HEISE regarding a motor vehicle of the brand HONDA CIVIC 2013 with identification number 1K4RR4HM3BC584602, in the amount of \$ 6,900.00, being the seller NICOLE SHIELDS. (Denominated in the CTS test as item Q1), described as Questioned Signature Q1-B, it is concluded that said signature has the SAME GRAPHIC ORIGIN as the C2-B comparison base signatures, therefore, IF IT WAS MADE by the graphic fist of Mrs. CASSANDRA SWART; in said signature the primary structural characteristics and the Group of Graphic Gestures of this person are reproduced.</p>
LTTFEZ-5245	<p>a). The hand writings and the signature as of NICOLE SHIELDS that appear on the Bill of Sale, dated "Septembrer 3, 2021" (Q1), PRESENT GRAPHIC IDENTITY with the scriptural samples and extraprocess documents of Mrs. CASSANDRA SWART (K2a, K2b, K2c and K2d). b). The hand writings and the signature as of NICOLE SHIELDS that appear on the Bill of Sale, dated "Septembrer 3, 2021" (Q1), DO NOT PRESENT GRAPHIC IDENTITY with the scriptural samples and extra-process documents of Mrs. NICOLE SHIELDS (K1a, K1b, K1c and K1d).</p>
LZ97UZ-5245	<p>Handwriting comparison: The questioned handwriting (excluding signature) on the general bill of sale dated 3 September 2021 (Q1) was written by Cassandra Swart (K2). The questioned handwriting (excluding signature) on the general bill of sale dated 3 September 2021 (Q1) was not written by Nicole Shields (K1). Signature comparison: The questioned seller's signature on</p>

TABLE 2

WebCode-Test	Conclusions
	the bill of sale dated 3 September 2021 (Q1) was written by Cassandra Swart (K2). The questioned seller's signature on the bill of sale dated 3 September 2021 (Q1) was not written by Nicole Shields (K1).
LZDJL3-5241	In the light of the conducted graphical and comparative examinations of the evidence and known writings, it should be stated that: the questioned signature ("Nicole Shields") was written with a highly probability by Cassandra Swart (K2), the questioned signature ("Nicole Shields") was not written by Nicole Shields (K1), the "GENERAL BILL OF SALE" was made by Cassandra Swart (K2), the "GENERAL BILL OF SALE" was not made by Nicole Shields (K1).
LZF9QZ-5245	1. It has been concluded that Nicole Shields (K1) did not write neither questioned writing nor the questioned seller's signature on the bill of sale. 2. It has been concluded that Cassandra Swart (K2) wrote questioned writing and the questioned seller's signature on the bill of sale.
M32CXW-5241	Upon completion of an examination and comparison of the exhibits and standards submitted in this case the following opinions were reached. It is the opinion of this examiner that the hand printed text of the Q-1 exhibit was written by the K-2 writer. Additionally, it is the opinion of this examiner that the questioned seller's signature found on the Q-1 exhibit was authored by the K-2 writer.
M886RT-5245	Similarities and differences were noted between the writing on Q1 when compared with the writing of Nicole Shields. Significant differences were noted between the signature on Q1 when compared with the signatures of Nicole Shields. A lot of similarities were noted between the writing on Q1 when compared to the writing from Cassandra Swart. A lot of similarities were also noted between the signature on Q1 when compared to the request signatures from Cassandra Swart (written as "Nicole Shields"). Similarities were also noted with her own signature which was present on one of the samples in K2d. In my opinion there is strong handwriting evidence that the questioned document, Q1, was written and signed by Cassandra Swart.
MAEAHA-5241	1- Handwriting in the bill of sale (QD) was written by Cassandra Swart (K2). 2- Handwriting in the bill of sale (QD) was not written by Nicole Shields (K1). 3- The questioned seller's signature on the bill of sale (QD) was probably written by Cassandra Swart (K2). 4- The questioned seller's signature on the bill of sale (QD) can not be identified or eliminated by Nicole Shields (K1).
MFK72A-5241	1.- The writing contained in the document described with the key Q1, with respect to the manuscript sample described with the key K1a, K1b, K1c and K1d, was not written by Nicole Shields. 2.- The signature contained in the document described with the key Q1, regarding the manuscript sample described with the key K1a, K1b, K1c and K1d, was not written by Nicole Shields. 3.- The writing contained in the document described with the key Q1, regarding the manuscript sample described with the key K2a, K2b, K2c and K2d, was written by Cassandra Swart. 4.- The signature contained in the document described with the key Q1, regarding the manuscript sample described with the key K2a, K2b, K2c and K2d, was written by Cassandra Swart.
MGEUJ7-5241	This report contains the results of the questioned document examinations. Results of Examinations: HANDWRITING (CASSANDRA SWART): Source Identification. It was determined that the questioned writing on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Item K2a-d).
MKW6JV-5245	The questioned material appearing on Item Q1 was written by Cassandra Swart, writer of Item K2. The questioned material appearing on Item Q1 was not written by Nicole Shields, writer of Item K1. (NOTE: The Buyer's signature and printed name was not considered in question.)
ML8TX2-5245	Based upon the examinations and comparisons conducted to date, my conclusions are as follows: (1) Based upon the presence of numerous significant differences (differences that fall outside of the range of variation established by the submitted known writings), I have determined that the author of the submitted Exhibit K1 known writings, Nicole Shields, did not write any of

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the questioned handwritten text or the "Nicole Shields" signature appearing on the Exhibit Q1 document. This conclusion corresponds to the "Elimination" (definitive conclusion of non-identify) point on the nine-point conclusion scale propounded by the SWGDOC, Standard Terminology for Expressing Conclusions of Forensic Document Examiners. On that scale, "Elimination" is defined as follows: "Elimination (definite conclusion of identity) – this, like the definite conclusion of identity, is the highest degree of confidence expressed by the document examiner in handwriting comparisons. By using this expression the examiner denotes no doubt in his opinion that the questioned and known writings were not written by the same individual." (2) Based upon the presence of numerous significant similarities, as well as the lack of any significant dissimilarities or limiting factors, I have determined that the author of the submitted Exhibit K2 known writings, Cassandra Swart, wrote the questioned handwritten text appearing in the body of the Exhibit Q1 document. This conclusion corresponds to the "Identification" (definitive conclusion of identity) point on the nine-point conclusion scale propounded by the SWGDOC, Standard Terminology for Expressing Conclusions of Forensic Document Examiners. On that scale, "Identification" is defined as follows: "Identification (definite conclusion of identity) - this is the highest degree of confidence expressed by document examiners in handwriting comparisons. The examiner has no reservations whatever, and although prohibited from using the word "fact," the examiner is certain, based on evidence contained in the handwriting, that the writer of the known material actually wrote the writing in question." (3) Based upon the presence of numerous significant similarities, I have determined that the author of the submitted Exhibit K2 known writings, Cassandra Swart, probably wrote the questioned "Nicole Shields" signature appearing on the Exhibit Q1 document. This conclusion corresponds to the "Probable" point on the nine-point conclusion scale propounded by the SWGDOC, Standard Terminology for Expressing Conclusions of Forensic Document Examiners. On that scale, "Probable" is defined as follows: "Probable – the evidence contained in the handwriting points rather strongly toward the questioned and known writings (signatures) having been written by the same individual; however, it falls short of the "virtually certain" degree of confidence." This qualified conclusion rendered above is based upon the formation of the letter "S" of the last name "Shields" of the Exhibit Q1 signature. This particular formation was not entirely replicated in the limited Exhibit K2 comparison signatures/writings submitted for analysis. Nevertheless, due to the level of agreement observed when comparing the surrounding portions of the Q1 and K2 signatures/writings, in combination with the consistent muscular formations and directionality of the individual strokes comprising the letter(s) "S" in the last name "Shields", the evidence supports the conclusion that the signatures/writings were probably written by the same writer.

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5245

All conclusions were reached independently of other conclusions reached. The following propositions were considered for each handwriting comparison and for each signature comparison: P1: The questioned handwriting/signature was written by the writer of the specimens. P2: The questioned handwriting/signature was not written by the writer of the specimens (i.e. was written by another person). A nine point conclusion scale is used. In brief it has the following levels. (1) extremely strong support, (2) strong support, (3) moderate support and (4) limited support for proposition P1 over P2; (5) inconclusive; (6) limited support, (7) moderate support, (8) strong support and (9) extremely strong support for P2 over P1. Handwriting Conclusions: (i) I concluded that there is extremely strong support for the proposition P2 that the questioned handwriting on Q1 was not written by the writer of the K1 specimens (attributed to Nicole Shields) rather than for the alternative proposition P1 that it was written by this person. This is a level (9) conclusion. (ii) I concluded that there is extremely strong support for the proposition P1 that the questioned handwriting on Q1 was written by the writer of the K2 specimens (attributed to Cassandra Swart) rather than for the alternative proposition P2 that it was not written by this person. This is a level (1) conclusion. Signature Conclusions: (iii) I concluded that there is moderate support for the proposition P2 that the questioned signature in the name Nicole Shields on Q1 was not written by the writer of the K1 specimens (attributed to Nicole Shields) rather than for the alternative proposition P1 that it was written by this person. This is a level (7) conclusion. (iv) I concluded that there is strong support for the proposition P1 that the questioned signature in the name Nicole Shields on Q1 was written by the writer of the

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	K2 specimens (attributed to Cassandra Swart) rather than for the alternative proposition P2 that it was not written by this person. This is a level (2) conclusion.
N3BM6Z-5245	Based upon the available evidence it is my professional opinion that Cassandra Swart wrote the body of handwriting and the Nicole Shields signature on Q1. Similarities between the questioned handwriting on Q1 the Cassandra Swart exemplars include placement of the handwriting above the ruled signature line, absence of "i" dots, shape of letters, and the lower extension of the "y" is mostly above the ruled line. I found no significant differences between the questioned document and the exemplars of Cassandra Swart.
N3UHW3-5245	Findings strongly support the proposition that the Q text (signature) and K2 text (signature) were written by the same person. There are many important similarities, no important differences, no limitations to the examination. The expert opinion is that Q text (signature) and K2 text (signature) were written by the same person. According to the information on K2 that we received with the claim for the examination, Q was written (signed) by Cassandra Swart. Findings strongly support the proposition that the Q text (signature) and K1 text (signature) were not written by the same person. There are many important differences, no important similarities, no limitations to the examination. The expert opinion is that Q text (signature) and K1 text (signature) were not written by the same person. According to the information on K1 that we received with the claim for the examination, Q was not written (signed) by Nicole Shields.
N84RY6-5241	Source Identification. It was determined that the questioned writing on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Items K2a-d).
N8J9RC-5241	Results of Examinations: HANDWRITING: Source Identification. It was determined that the questioned writing and seller's signature on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Items K2a-d).
NCJ7R6-5241	1.) Q1 General bill of sale dated 3 September 2021 (the body of questioned writing excluding the signature)- was written by Cassandra Swart (K2) and was not written by Nicole Shields (K1). 2.) Q1 General bill of sale dated 3 September 2021 (the questioned signature) - was written by Cassandra Swart (K2) and was not written by Nicole Shields (K1).
NFKC9W-5245	Based on the examination and comparison of the submitted writing, the following conclusions were reached: It is highly probable that the Cassandra Swart (K2) did write the extended writing and Nicole Shields signature appearing on Item Q1. It is highly probable that the Nicole Shields (K1) did not write the extended writing or Nicole Shields signature appearing on Item Q1. These examinations were limited by the submission of electronic reproductions of the evidence.
NKAZE2-5245	Handwriting in Q1: In view of the significant similarities observed, the questioned handwriting in "Q1" (except buyer's printed name) was written by Cassandra Swart, the writer of the known specimen handwriting in "K2a" to "K2d". In view of the significant differences observed, the questioned handwriting in "Q1" (except buyer's printed name) was not written by Nicole Shields, the writer of the known specimen handwriting in "K1a" to "K1d". Signature in Q1: The design of the questioned signature in "Q1" was mostly different from the specimen signatures in "K1a" to "K1d", and there was limited comparability between them. The evidence is therefore inconclusive. In view of the significant similarities, it is highly likely that the questioned signature in "Q1" was written by Cassandra Swart, the writer of the known specimen signatures in "K2a" to "K2d".
NLKV4Z-5241	Nicole Shields didn't write Q. Nicole Shields didn't sign Q. Cassandra Swart wrote Q. Cassandra Swart cannot be identified or eliminated in regard to the questioned signature (we would then explain our choice concerning Cassandra by using the arguments we used in "Additional Comments" below).
P3QEJ4-5241	Q1 Handwriting: Comparison between the questioned handwriting on document Q1 and the specimen handwriting on documents K2a, K2b and K2d, purportedly written by Cassandra

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	<p>Swart, has disclosed a significant combination of similarities with no significant differences. Accordingly, the writer of the specimen handwriting on documents K2a, K2b and K2d, purportedly written by Cassandra Swart, wrote the questioned handwriting on document Q1. Q1 Signature: Comparison between the questioned signature on document Q1 and the specimen signatures on documents K2a to K2d, purportedly written by Cassandra Swart, has disclosed a combination of similarities with no significant differences. Some limitations were attributed to the moderately-low degree of complexity of the questioned signature. Accordingly, the writer of the specimen signatures on documents K2a to K2d, purportedly written by Cassandra Swart, probably wrote the questioned signature on document Q1.</p>
P4L3XT- 5245	<p>The items listed in this Certificate of Analysis were assessed and examined based on methodology described in the Forensic Document Unit (FDU) Test Methods (unless otherwise noted). The methodology used included macroscopic, microscopic, and handwriting examinations. The "Samantha Heise" signature on the "Buyer's Signature:" line, the date "9/3/2021" to the right of this signature, and "Samantha Heise" on the "Print Name:" line depicted at the bottom of the bill of sale in Item Q1 was not considered in question. Therefore, this writing was not examined and the opinions listed below do not include these written entries. Handwriting Opinions Regarding Nicole Shields: It is highly probable that Nicole Shields, Items K1a – K1d, was not the writer of the questioned hand printing on the bill of sale in Item Q1, which was depicted in the electronically submitted image named "21-5245_Q1". The presence of some class characteristics was a limitation to this handwriting comparison. Nicole Shields, Items K1a – K1d, was not the writer of the "Nicole Shields" signature on the bill of sale in Item Q1, which was depicted in the electronically submitted image named "21-5245_Q1". Handwriting Opinions Regarding Cassandra Swart: Cassandra Swart, Items K2a – K2d, was the writer of the questioned hand printing and the "Nicole Shields" signature on the bill of sale in Item Q1, which was depicted in the electronically submitted image named "21-5245_Q1".</p>
PCW9N4- 5241	<p>It is concluded that Mrs. Cassandra Swart wrote the completed manuscript and visible signature on the questioned document. It is concluded that Mrs. Nicole Shields did not write the completed manuscript and visible signature on the questioned document.</p>
PHXKK2- 5245	<p>Taking the handwriting and signature together, in my opinion there is conclusive evidence to support the proposition that the questioned entries on the bill of sale were written by Cassandra Swart and were not written by Nicole Shields.</p>
PJFKRW- 5245	<p>Methods: A visual examination and comparison of the submitted items was completed. Questioned to Known Comparisons: The body of the General Bill of Sale in Item #3 (labeled as Q1) and the Seller's printed name were written by Cassandra Swart, the purported writer of Item #2/K2 (Source Identification). There are significant similarities between the questioned and known writing. The body of the General Bill of Sale in Item #3 (labeled as Q1) and the Seller's printed name were not written by Nicole Shields, the purported writer of Item #1/K1 (Source Exclusion). There are significant differences between the questioned and known writing. The seller's signature on the General Bill of Sale in Item #3 (labeled as Q1) was probably written by Cassandra Swart, the purported writer of Item #2/K2 (Support for Same Source). There are some similarities between the questioned and known writing. However, the signature has limited individual characteristics, and a more definitive conclusion is not possible. The seller's signature on the General Bill of Sale in Item #3 (labeled as Q1) was probably not written by Nicole Shields, the purported writer of Item #1/K1 (Support for Different Source). There are some differences between the questioned and known writing. However, the signature has limited individual characteristics, and a more definitive conclusion is not possible. Examination Limitations: The examination was limited by the limited amount of individual characteristics in the seller's signature. Remarks: All items are available for return. If additional items are to be submitted, please re-submit the original items in their original [Laboratory] labeled packaging.</p>
PNPUUY- 5245	<p>It was found that Cassandra Swart wrote the body of the writing on Q1 with a probability bordering on certainty, as the entire configuration of findings compiled, discussed and assessed</p>

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	<p>as having high evidential value is in complete conformity with the hypothesis in all respects. It was found that Nicole Shields did not write the body of the writing on Q1 with a probability bordering on certainty, as the entire configuration of findings compiled, discussed and assessed as having high evidential value is in complete conformity with the hypothesis in all respects. It was found that Cassandra Swart did write the signature on Q1 with a very high probability as the entire configuration of findings compiled, discussed and assessed as having high evidential value is in complete conformity with the hypothesis in all respects. Findings which are not completely concordant and in no way relevant can be explained on the basis of method. It was found that Nicole Shields did not sign the signature on Q1 with a very high probability as the entire configuration of findings compiled, discussed and assessed as having high evidential value is in complete conformity with the hypothesis in all respects. Findings which are not completely concordant and in no way relevant can be explained on the basis of method.</p>
PT48W8-5241	<p>Manuscript uniprocidence between the graphonomic characteristics of the doubtful manuscripts (General bill of sale, dated September 3, 2021) and undoubted (dictated exemplars for Cassandra Swart, requested signatures for Cassandra Swart, in the name of Nicole Shields, course of bussiness writing for Cassandra Swart). Handwriting non-uniqueness between the graphonomic characteristics of the doubted manuscripts (General bill of sale, dated September 3, 2021) and undoubted (dictated exemplars for Nicole Shields, requested signatures for Nicole Shields in her own name, course of business writing for Nicole Shields).</p>
PTF64X-5245	<p>FIRST. The questioned handwritten texts in the document "Q1" have not been produced by the author of the sample "K1", Nicole Shields. SECOND. The questioned handwritten texts in the document "Q1" have been produced by the author of the sample "K2", Cassandra Swart. THIRD. The questioned seller's signature on the document "Q1" is a forgery and has not been produced by author's signatures in documents "K1", Nicole Shields. FOURTH. With the above reservations, it is estimated that the questioned seller's signature on the document "Q1" reputed to be false in the previous conclusion, has been produced by author's signatures in documents "K2", Cassandra Swart.</p>
PXA2Q3-5241	<p>Initially through direct observation and later through the support of light optical instruments to the elements of doubt Q1, compared to the reference ones that were provided on behalf of Nicole Shields (K1a, K1b, K1c and K1d) and Cassandra Swart (K2a, K2b, K2c and K2d), taking into account aspects such as: Order, Size or Dimension, Speed, linear displacement, Speed, inclination, Cohesion, Shape (from point of attack and finish of the different characters and signs, as well as abreaciones and circular sign seals). Likewise, the idiographisms present in the reference samples of Mrs. Shields and Ms. Swart were taken into account, which made it possible to establish that: The texts and signatures present in the questioned document Q1 do not come from the graphic gesture of Mrs. Sheilds. They are not one-off. The texts and signatures present in the questioned document Q1 come from the graphic gesture of Mrs. Swart. They are one-off.</p>
QKQP3Z-5241	<p>Contributor Cassandra Swart is identified as the author of the question written entries and sellers signature appearing on Q1.</p>
QPWKHU-5245	<p>It was determined that the Bill of Sale, Q-1, was not written or signed by Nicole Shields, K-1. It was determined that the main body of the Bill of Sale, Q-1, was written by Cassandra Swart, K-2. There was not a basis for identifying Cassandra Swart, K-2, as the writer of the signature on the Bill of Sale, Q-1. However, there are some characteristics observed that prevent the elimination of Cassandra Swart, K-2, as the writer of this signature.</p>
QTXDQ7-5241	<p>FIRST: The questioned writing that appears in the Sales Invoice dated September 3, 2021 (Q1), being duly analyzed and compared with the comparison writing, of Nicole Shields and Cassandra Swart, it is concluded that it was written by Cassandra Swart (K2). SECOND: The questioned signature that appears on the Sales Invoice dated September 3, 2021 (Q1), when analyzed and compared with the matching signatures provided, of Nicole Shields (K1) and</p>

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	Cassandra Swart (K2), it is concluded that was written by Cassandra Swart (K2).
QV7NMA-5241	To handwriting: The questioned handwriting that appear in the "general bill of sale", from September 3, 2021 date, isn't correspondence with the Nicole Shields's handwriting exemplars. The questioned handwriting that appear in the "general bill of sale", from September 3, 2021 date, is correspondence with the Cassandra Swart's handwriting exemplars. To signatures: The questioned signature that appear in the "general bill of sale", from September 3, 2021 date, isn't authentic from Nicole Shields. The questioned signature that appear in the "general bill of sale", from September 3, 2021 date, is correspondence with the Cassandra Swart's signatures exemplars.
R2Q28U-5245	The body of questioned writing (excluding the signature) on the bill of sale dated September 3, 2021 (Q1) were written by Mrs. CASSANDRA SWART (K2), documented by the analogies found such as the construction and movements of graphic signs such as the letter "e", the inclination of the signs, the design of the writing line, the closing points of the vowel "o", the inter-literal spaces, the confection of the letter "i" very similar to the letter "l", among others. The body of questioned writing (excluding the signature) on the bill of sale dated September 3, 2021 (Q1) were not written by Mrs. NICOLE SHIELDS (K1) documented by the differences found such as the inclination, proportionality of signs, inter-literal spaces, design of the writing line, particular construction of the letter "y", calligraphic links, manufacture of the digit "2", "6" and "3". The signature of the questioned seller contained in the BILL OF SALE dated September 3, 2021 (Q1) was written by the known writer CASSANDRA SWART (K2), conclusion documented by the analogies amorphous and illegible structures; rectilinear design of the scriptural line, garlands with rounded bases and angled peaks; the construction and structure of the letter "N" and "D", inter literal spacing, among others. The signature of the questioned seller contained in the BILL OF SALE dated September 3, 2021 (Q1) was not written by the known writer NICOLE SHIELDS (K1), conclusion documented by the differences found as is the scalloped construction; The beginnings, endings, projection of the grammas, integral construction of the signs, inclination. Box of the line, particular ornamentations, structural and kinetic developments, location in the graphic plane, among others.
R2TNQU-5241	Both body of questioned writing and questioned seller's signature on the bill of sale are written by K2 (Cassandra Swart).
R74WRY-5241	The body of questioned writing on the bill of sale, Was WRITTEN by K2 (Cassandra Swart). The questioned seller's signature on the bill of sale, Was WRITTEN by K2 (Cassandra Swart).
RBV4A8-5241	1.The body of the questioned writing on the bill of the sale was written by Cassandra SWART. 2.The questioned sale signature on the bill of the sale was written by Cassandra SWART.
RDX9MR-5245	It was determined the General Bill of Sale (including the Seller's signature), Q1, was not written by Nicole Shields, K1. It was determined the General Bill of Sale (including the Seller's signature), Q1, was written by Cassandra Swart, K2.
RF7YCV-5245	1)The writings of the sales invoice (excluding signature) Q1, there is NO GRAPHIC IDENTIFICATION front (K1a-b-c-d). 2) The writings of the sales invoice (excluding signature) Q1, there is GRAPHIC IDENTITY vs. (K2a-b-c-d). 3) The signature on the sales invoice (Q1) has NO GRAPHIC UNIPROCEDENCE against (K1a-b-c-d). b-c-d), 4) The signature made on the sales invoice (Q1), there is a GRAPHIC UNIPROCEDENCE against (K2a-b-c-d).
RGZWGV-5245	1. Cassandra Swart, individually contributed to the handwriting to the questioned document(K2). 2. Cassandra Swart, individually contributed to the seller's signature to the questioned document(K2). Conclusions formulated according to the internal procedures in [Country]. 1.The handwritten text in the questioned document, executed in the general sales invoice from 09.03.2021, was executed by cet. Cassandra Swart. 2.The signature in the question document, executed on behalf of cet. Nicole Shields in the "Seller's Signature" section of compartment no. 4

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	„BUYER AND SELLER DISCLOSURE” of the general invoice for sale from 09.03.2021, was executed by cet. Cassandra Swart.
RKLPF6- 5241	1.The body of the questioned writing on the bill of the sale was written by Cassandra SWART. 2.The questioned sale signature on the bill of the sale was written by Cassandra SWART.
RLVL2A- 5241	a.- The questioned writing Q1 DOES NOT CORRESPOND with the comparison base writing K1a K1b, and K1d of Nicole Shields. b.- The questioned writing that appears in questioned document Q1, IT CORRESPONDS with the general and particular graphic elements with the comparison base writing that appears in Cassandra Swart's K2a, K2b and K2d Reference Writing. c.- The questioned signature Q1 IS NOT AUTHENTIC with the comparison base signatures K1a, K1b, K1c and K1d, of Nicole Shields. d.- The questioned signature that appears in the questioned document Q1 DOES HAVE GRAPHIC CORRESPONDENCE with the matching base signatures that appear in the K2a, K2b and K2c matching base documents of Cassandra Swart.
RN6NVK- 5241	SWART wrote the questioned handwritten and seller's signature entries on Q1.
RTARD7- 5245	In my opinion: 1. It is UNLIKELY that the handwritten entries on the Bill of Sale at points 1 - 3 together with the date at 4, were written by Nicole Shields. 2. The signature at 4, regarded as "Nicole Shields" is not a genuine signature and as such it is UNLIKELY that Nicole Shields completed this signature. 3. There has been no attempt to simulate the genuine signature of Nicole Shields. 4. The questioned handwritten customer entries on the Bill of Sale at points 1 - 3, together with the date at 4, were WRITTEN BY Cassandra Swart. 5. The signature at 4, regarded as "Nicole Shields" was WRITTEN BY Cassandra Swart.
RWRUF7- 5241	Comparisons between all the questioned hand printing on the document titled GENERAL BILL OF SALE (Q1) and the known hand printing said to be produced by Cassandra Swart (K2), revealed the questioned hand printing was produced by Cassandra Swart. (Identification). Comparisons between the questioned Nicole Shields signature on the document titled GENERAL BILL OF SALE (Q1) and the known Nicole Shields signatures said to be produced by Cassandra Swart (K2), revealed the questioned Nicole Shields signature was produced by Cassandra Swart. (Identification). Comparisons between all the questioned hand printing on the document titled GENERAL BILL OF SALE (Q1) and the known hand printing said to be produced by Nicole Shields (K1), revealed the questioned hand printing was not produced by Nicole Shields. (Elimination). Comparisons between the questioned Nicole Shields signature on the document titled GENERAL BILL OF SALE (Q1) and the known Nicole Shields signatures said to be produced by Nicole Shields (K1), revealed the questioned Nicole Shields signature was not produced by Nicole Shields. (Elimination).
RZTW78- 5241	It was determined that the questioned writing on Item 1 (Item Q1) was prepared by CASSANDRA SWART, writer of Item 3 (Item K2a-d).
T2K72U- 5245	GRAPHIC IDENTITY between the investigated signature on document Q1 "GENERAL BILL OF SALE", space "SALES SIGNATURE" and the reference signatures of K" (Cassandra Swart). GRAPHIC IDENTITY between the researched manuscripts contained in section 1, 2 and 3 of Q1 "GENERAL BILL OF SALE", versus the reference manuscripts K2 (Cassandra Swart).
T3HGWW- 5245	The buyer's signature, associated date entry and printed name on the questioned Bill of Sale (Q1) have not been considered as part of this examination. The questioned Bill of Sale (Q1) is a form on which the body writings consist of small notational entries. If considered separately some of these entries lacked sufficient individuating character for an opinion of authorship to be reached. However, when considered together the body writings were consistent with having been completed by one writer. While I cannot totally exclude the possibility that within these there may be some small disconnected entries completed by a different writer, there was no evidence that

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	<p>this had occurred. There are a number of similarities between the handwriting specimens attributed to Cassandra Swart (K2) and the body writings on the questioned form (Q1). These similarities are in features such as handwriting style, slope, baseline habits, size and size relationships and individual letter constructions. Based on these similarities, it is my opinion that the author of the handwriting specimens attributed to Cassandra Swart (K2) completed the body writings on the questioned form (Q1). The questioned signature does not follow the style seen in the specimens attributed to Nicole Shields (K1). There appears to have been little or no attempt to copy the genuine Nicole Shields signature style. The specimens attributed to Cassandra Swart contain a number of signatures completed on request in the name Nicole Shields. These signatures show a range of variation, but have a number of similarities to each other in features such as style, size relationships, baseline habits and individual letter constructions. The questioned signature fits within the range of variation of these requested 'Nicole Shields' signatures attributed to Cassandra Swart. While it is a somewhat simple signature, I do not consider it plausible that a different author would independently produce a simulation that is both so different from Nicole Shield's genuine signature style and so similar to those produced by Cassandra Swart. Accordingly, it is my opinion that the author of the handwriting specimens attributed to Cassandra Swart (K2) completed the questioned signature on the form (Q1).</p>
TBBMU6-5241	<p>The body of the questioned writing (Q1) on the bill of the sale was written by Cassandra SWART. The questioned sale signature (Q1) on the bill of the sale was written by Cassandra SWART.</p>
TGFL6U-5245	<p>[No Conclusions Reported.]</p>
TGFNQR-5245	<p>Visual and microscopic examinations of Exhibits K1a through K1d, K2a through K2d and Q1, were conducted. Exhibit Q1 was compared with Exhibits K1a through K1d and K2a through K2d. The writer of Exhibits K2a through K2d (Cassandra Swart) wrote the questioned hand printed entries and questioned Nicole Shields signature on Exhibit Q1. The writer of Exhibits K1a through K1d (Nicole Shields) did not write the questioned Nicole Shields signature on Exhibit Q1. The writer of Exhibits K1a through K1d (Nicole Shields) probably did not write the questioned hand printed entries on Exhibit Q1; however, due to an insufficient amount of comparable known hand printed writing, the evidence falls short of that necessary to support a conclusive opinion. Exhibits K1a through K1d, K2a through K2d and Q1 were digitally preserved.</p>
TKFYMR-5241	<p>The questioned handwriting and signature of Nicole Shields in Q1 are very similar in structure and penmanship to the specimen handwriting of Cassandra Swart, and signatures of Cassandra Swart signing as Nicole Shields in items K2a - d. The relative heights and sizes of the letters as well as the formation of the letters are very similar. In my opinion, Cassandra Swart wrote the General Bill of Sale and signed it as Nicole Shields in item Q1. There are major differences in the handwriting and signature in item Q1 and the handwriting and signatures of Nicole Shields in items K1a - d with the many of the letters for comparison being of either a different shape and/or formation. In my opinion, Nicole Shields is not the author of the writing or the signature on the General Bill of Sale in item Q1.</p>
TYDVYY-5241	<p>1. The filling out of the manuscript located in INDICIO 1 - 1.1. Q1.- Sales invoice with issue date of September 3, 2021, with respect to INDEX 1 - 1.2. K1 (a, b, c and d in the name of C. NICOLE SHIELDS of the year 2021) NOT CORRESPONDS. 2. The handwritten filling located in INDICIO 1 - 1.1 Q1.- Invoice of sale with issue date of September 3, 2021, with respect to INDICIO 1 - 1.3. K2 (a, b, c and d in the name of C. CASSANDRA SWART of the year 2021) IF CORRESPONDS. 3. The signature located in the "Seller's Signature" section of INDICATION 1 - 1.1. Q1.- Sales invoice with issue date of September 3, 2021, with respect to INDEX 1 - 1.2. K1 (a, b, c and d name of the C. NICOLE SHIELDS of the year 2021) IS FALSE . 4. The signature located in the "Seller's Signature" section of INDEX 1 - 1.1. Q1.- Sales invoice with issue date of September 3, 2021, with respect to INDICATION 1 - 1.3. K2 (a, b, c and d in the name of the C. CASSANDRA SWART of the year 2021) IS ATTRIBUTABLE.</p>

TABLE 2

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U3CK7X-5241	I have been informed that the buyer's details at the bottom of Q1 are not in dispute and I have not considered them further. In my opinion, my findings provide extremely strong support for the proposition that the handwritten details and the signature on Q1 were written by some person other than Nicole Shields. In my opinion, my findings provide extremely strong support for the proposition that the handwritten details and the signature, in the name of Nicole Shields, on Q1 were written by Cassandra Swart.
UAT8RM-5245	[No Conclusions Reported.]
UAURPN-5241	IN OUR OPINION, GIVEN THE SIMILARITIES FOUND, IT IS POSSIBLE TO DEDUCE THAT CASSANDRA SWART IS THE AUTHOR OF BOTH THE TEXT AND THE SIGNATURE PRESENT IN Q1
UB8JFJ-5241	1.The writer of the known writing on item K1, Nicole Shields, can be eliminated as having written the questioned writing (excluding the signature) on item Q1. This writer probably did not write the questioned signature on item Q1. 2.The writer of the known writing on item K2, Cassandra Swart, can be identified within the limits of practical certainty* as having written the questioned writing (excluding the signature) on item Q1. This writer probably wrote the questioned signature on item Q1.
UE8VCJ-5241	It is my opinion that: 1. The evidence provides very strong support for the proposition that the questioned handwritten entries on the document, item 1.9, were not written by the writer of the SHIELDS handwriting specimens, items 1.1 to 1.4. 2. The evidence provides very strong support for the proposition that the questioned handwritten entries on the document, item 1.9, were written by the writer of the SWART handwriting specimens, items 1.5 to 1.8. 3. No opinion can be expressed regarding whether or not the questioned signature on the document, item 1.9, was written by the writer of the SHIELDS handwriting and signature specimens. 4. The evidence gives very strong support for the proposition that the questioned signature on the document, item 1.9, was written by the writer of the SWART handwriting specimens.
UJUUGY-5245	The evidence provides qualified support for the hypothesis that the questioned Document (Q1) was written by Cassandra Swart (K2).
UK9WQR-5245	1. The degree of contribution that can be determined as the writer of the body of questioned handwriting Q1 (excluding the signature) on the bill of sale as " the Q1 was written by" the writer of the K2, Cassandra Swart that can be verified in the dictated exemplars and the business writing. a. There are some outstanding same features of small letters' form like as 'e, i' that have high weight and frequency. b. There are a few outstanding same features of Capitals and numerals' form like as 'A, M, 8' that have high weight. c. There are many same features of small letters and Capitals, special mark, numerals like as 'Capitals size, /, connection of a+t that have high frequency. 2. The degree of contribution that can be determined as the writer of the body of questioned handwriting Q1 (excluding the signature) on the bill of sale as " the Q1 Was NOT WRITTEN by" the writer of the K1, Nicole Shields that can be verified in the dictated exemplars and the business writing. a. There are some outstanding different features of small letters form like as 'e, i,' that have high weight and frequency. b. There are a few outstanding different features of Capitals and numerals form like as 'A, M, 8' that have high weight. c. There are many different features of small letters and Capitals, special mark and numerals form and connections like as 'A, M, 8, a+t, t+e, T+i and terminals of 'a, u, e, c' that have high frequencies. 3. The degree of contribution that can be determined as the writer of the questioned seller's signature on the bill of sale Q1 as " the Q1 was PROBABLY WRITTEN by" the writer of the K2, Cassandra Swart that can be verified in the dictated exemplars and requested signatures, business writing. a. There are outstanding same features of two Capitals form 'N, S' of the beginning of signatures have high weight. b. There are some plane same features of small letters connected line forms and and line quality, omitted or simplified letters, terminals that is not consistent, but is resemble

TABLE 2

WebCode-Test	Conclusions
	with her own signature of Cassandra Swart. 4. The degree of contribution that can be determined as the writer of the questioned seller's signature Q1 on the bill of sale as " the Q1 Was NOT WRITTEN by" the writer of the K1, Nicole Shields that can be verified in the dictated exemplars and requested signatures, business writing. a. There are outstanding different features of two Capitals form 'N, S' of the beginning of signatures that have high weight. b. There are many outstanding different features of small letters connected line forms and line quality, omitted or simplified letters, terminals that is relatively consistent.
UMZ2AR-5241	The range of variation exhibited in the Q1 (including questioned seller's signature and the body of questioned writing) and the known writing of K2 have significant similarities.
V438WR-5241	The questioned writing on Q1 was written by the writer of K2 - Cassandra Swart - excluding the date "9/3/2021" on the buyer's signature line. The questioned writing on Q1 was not written by the writer of K1 - Nicole Shields. The questioned signature on Q1 was written by the writer of the specimen signatures on K2, identifying Cassandra Swart as the writer. The questioned signature on Q1 was not written by the writer of the specimen signatures on K1, excluding Nicole Shields as the writer.
VAAH4Z-5241	The signature and handwriting characteristics that are on the general bill of sale document, dated September 3, 2021) are not graphologically identified with Nicole Shields' standard writings (It was not written by Nicole Shields). The signature and handwriting characteristics that are in the general bill of sale document, dated September 3, 2021) are graphologically identified with the pattern writings of Cassandra Swart (it was written by Cassandra Swart).
VEKTZ2-5241	Both the hand printed entries on Q1, as well as the Seller's Signature on Q1 (but not including the Buyer's Signature or buyer's related entries) can be identified as the writing of the K2 writer. Both the observable evidence of non-genuineness, as well as the identification of another writer justify an elimination of the K1 writer as having produced the Q1 questioned entries and signature.
VZH67L-5241	The writer of the known specimens Item K2a to K2d (Cassandra Swart) wrote the questioned handwriting and signature on Item Q1, not the writer of the known specimens Item K1a to K1d (Nicole Shields).
VZXLYU-5245	1. The findings in order to determine the similarities and differences as below : a) Handwriting Q1 was not written by K1, b) Handwriting Q1 was written by K2. 2. The findings in order to determine the similarities and differences as below : a) Signature Q1 was not written by K1, b) Signature Q1 was written by K2.
W3PVW2-5245	The entries in sections 1 and 2 of item Q1 and the entry for the name of seller in section 4 of item Q1 were written by Cassandra Swart. It is unlikely that the signature of seller in section 4 of item Q1 was written by Nicole Shields; it is probable that Cassandra Swart wrote that signature.
W6BLVL-5245	It is highly probable that the Cassandra Swart of the known material also wrote the body of the writing as well as the seller's signature on the questioned Bill of Sale.
W8CRBQ-5245	The handwriting of the questioned bill of sale dated September 3, 2021 corresponds to Cassandra Swart. The questioned signature in the seller's space of the bill of sale dated September 3, 2021, corresponds to Cassandra Swart
WE23VM-5241	Upon completion of an examination and comparison of the exhibit and standards submitted in this case, it is the opinion of this examiner that the K2 writer did write the questioned text and "Seller's Signature" appearing on the Q1 exhibit. The "Buyer's Signature", "Date", and "Print Name" entries appearing at the bottom of the Q1 exhibit did not require examination in this case.

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WebCode- Test	Conclusions
WHFVLF- 5245	Handwriting: 1. In my opinion, the evidence provides strong support for proposition (P2) that the questioned writing on the Bill of Sale Q1 (excluding seller's signature) was written by someone other than the writer of the Nicole SHIELDS known material K1 over proposition (P1) that the questioned writing was written by the writer of the K1 known material. 2. In my opinion, the evidence provides strong support for proposition (P1) that the questioned writing on the Bill of Sale Q1 (excluding seller's signature) was written by the writer of the Cassandra SWART known material K2 over proposition (P2) that the questioned writing was written by someone other than the writer of the K2 known material. Signatures: 3. In my opinion, the evidence provides approximately equal support for the proposition (P1) that the questioned seller's signature on the Bill of Sale Q1 was written by the writer of the Nicole SHIELDS known material K1 and proposition (P2) that the questioned signature was written by someone other than the writer of the K1 known material, with particular reference to the sub propositions: P1B - the questioned writing was unnaturally written by the writer of the K1 known material and P2A - the questioned writing was naturally written by someone other than the K1 known writer. 4. In my opinion, the evidence provides strong support for proposition (P1) that the questioned seller's signature on the Bill of Sale Q1 was written by the writer of the Cassandra SWART known material K2 over proposition (P2) that the questioned signature was written by someone other than the writer of the K2 known material.
WRLRJR- 5241	[No Conclusions Reported.]
X27D72- 5245	There is a strong probability that the writer of K2 wrote all the questioned text on Q1--the handprinted body of writing as well as the "Nicole Shield" signature on Q1. The evidence is very persuasive, yet some critical feature or quality is missing so that an identification is not in order; however, the examiner is virtually certain that the questioned and known writings were written by the same individual. There is a strong probability that the writer of Exhibit K1 did not write any of the questioned material in Q1. The evidence is very persuasive, yet some critical feature or quality is missing so that an elimination is not in order; however, the examiner is virtually certain that the questioned and known writings were not written by the same individual.
X34G4H- 5241	Q1 text was not written by K1 and was written by K2. Q1 signature was not written by K1 and was probably written by K2.
X49HGZ- 5241	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, K1a-d and K2a-d documents were scanned for preservation by [Examiner]. 2. A VSC (Video Spectral Comparator) examination using various microscopic, infrared, ultraviolet, and alternate light source examination techniques was performed on the Q1 document. All inks used in the preparation of this Q1 document reacted consistently. 3. An ESDA (ElectroStatic Detection Apparatus) examination for the detection and reading of indented writing, typing or other identifying impressions was performed on the Q1 document. No impressions were recovered. 4. The body of the Q1 document was written by the writer of the K2a-d known exemplars, Cassandra Swart. 5. The seller's signature on the Q1 document was written by the writer of the K2a-d known exemplars, Cassandra Swart. 6. The body of the Q1 document was not written by the writer of the K1a-d known exemplars, Nicole Shields. 7. The seller's signature on the Q1 document was not written by the writer of the K1a-d known exemplars, Nicole Shields.
XAKCKD- 5241	The questioned handwritten entries and signature on item Q1 were written by the writer of items K1a-d, Cassandra Swart.
XFMBB3- 5241	the disputed deed on the bill of sale (Q1) was written by Cassandra Swart, and was not written by Nicole Shields. the signature of the questioned seller on the bill of sale (Q1) was written by Cassandra Swart, and was not written by Nicole Shields.

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WebCode-Test	Conclusions
XGHUD4-5245	The handwritten text and signature in the contents of document Q1 (Bill of Sale) were executed by Cassandra Swart
XN369J-5245	The writing characteristics exhibited in the questioned writing were visually examined then compared to the writing characteristics exhibited in the known writing. The comparative significance of the characteristics observed were then evaluated and resulted in the following conclusions: It is my opinion that Cassandra Swart wrote both the questioned manuscript printing and questioned signature on the Item 1 questioned document (Identification).
XR3F4J-5245	Based on the examination and comparison of the questioned entries on Exhibit Q1 with the known entries on Exhibits K1a through K1d and Exhibits K2a through K2d, the following has been determined: Cassandra Swart (Exhibits K2a through K2d) wrote the questioned entries on Exhibit Q1. Nicole Shields (Exhibits K1a through K1d) did not write the questioned entries on Exhibit Q1.
Y2ZHZZ-5241	Conclusions of the Study of Analysis Method for Writing: First. - The questioned writings (Q1) do not correspond to the writings Check base 1 (K1). Second. -The questioned writings (Q1) show correspondence with the writings Check base 2 (K2). Conclusions of the Study of Signature Analysis Method: First. - The questioned signature (Q1) does not correspond with the signatures Check base 1 (K1). Second. - The questioned signature (Q1) presents correspondence with the signatures Check base 2 (K2).
Y4RAGD-5245	CONCLUSION: The questioned writing on sections 1, 2, 3, and the sellers's signature, printed name and date on section 4 of Q1 were authored by author of the K2a-d exemplars submitted as being authored by Cassandra Swart.
YM62B3-5241	1. After careful examination and comparison of questioned writing on item No.01a with normal course of business writing of Cassandra Swart on item No. 08 and with dictated writing exemplars of Cassandra Swart on item No. 06 & item No. 07, it is concluded that the questioned writing on item No. 01a is written by Cassandra Swart. Therefore, Cassandra Swart is the author of Questioned writing on item No. 01a. 2. After careful examination and comparison of questioned signature on item No.01b with dictated signature exemplars of Cassandra Swart on item no. 09, it is concluded that the questioned signature on item No. 01b is written by Cassandra Swart. Therefore, Cassandra Swart is the author of Questioned signature on item No. 01b.
YNYNPR-5245	We are of view that : Nicole Sheilds neither wrote nor signed the questioned bill of sale. Cassandra Swart wrote and signed the questioned bill of sale.
YUKVCQ-5241	Outcome 1: In the visible manuscripts in the document titled "GENERAL BILL OF SALE", folio identified as Q1, they observed general and individualizing scriptural characteristics uniproceding with the manuscripts that Cassandra Swart prepared the manuscripts contributed in the name of Cassandra Swart, visible in the identified documents of K2a to K2d. Conclusion 1: By virtue of what is indicated in the previous result, the manuscripts were made by Cassandra Swart. Outcome 2: In the signature visible in the document titled "GENERAL BILL OF SALE" in the space "Seller's Signature, folio identified as Q1, uniprocedent general and individualizing scriptural characteristics were observed with the manuscripts (signatures) provided in the name of Cassandra Swart, visible in the documents identified from K2a to K2e. Conclusion 2: By virtue of what is indicated in the previous result, the questioned signature was made by Cassandra Swart.
Z9DY4U-5245	After comparing similarities and differences between questioned (Q1) and specimen handwriting (K1 and K2), I conclude that the handwriting and/or seller's signature on the questioned document was written by Cassandra Swart (K2 writer), was not written by Nicole Shields (K1 writer). Although there are a little differences between the questioned (Q1) and specimen handwriting (K2), specimen handwriting (K2) provide conclusive evidence of writing habit to show that Cassandra Swart (K2 writer) did write the handwriting and/or seller's signature on the

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WebCode-Test	Conclusions
	questioned document
ZA9G6V-5241	<p>Manuscript uniprocidence between the graphonomic characteristics of the questioned manuscripts Q1 (seller's signature and completion texts) versus the calligraphic samples of Cassandra Swart that were provided as undisputed material (K2a, K2b, K2c and K2d). Handwriting non-uniqueness between the graphonomic characteristics of the questioned manuscripts Q1 (seller's signature and completion texts) versus the calligraphic samples of Nicole Shields that were provided as undisputed material (K1a, K1b, K1c and K1d).</p>
ZGUC7Y-5241	<p>HANDWRITING: Source Identification. It was determined that the questioned writing and signature (excluding the signature, print name, and date in the "Buyer's Signature" area) on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Item K2 a-d). 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 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</p>

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material for polyethylene film product exams). Handwriting Methodology: The methodology utilized when conducting a handwriting comparison involves a four-stage process in which a forensic document examiner can reach an opinion concerning whether two handwritten items were written by the same writer or different writers. 1) Analysis: The examination begins with the analysis of the items submitted for comparison to determine if the writing is original, naturally prepared, and exhibits characteristics suitable for comparison. Some of the characteristics that can be observed include: Beginning and ending strokes, Baseline features, Height relationships, Slant, Spacing, Line quality. 2) Comparison: The second stage consists of a side-by-side comparison of the items. The numerous characteristics exhibited in the writing between the items are compared to determine the similarities, differences, and limitations, if present. 3) Evaluation: The third stage is the formulation of a conclusion based on the significance and combination of the characteristics observed during the comparison and any limitations, if present. The conclusions that can be reached are: Source Identification - 'Source identification' is an examiner's conclusion that two or more bodies of writing were prepared by the same writer. This conclusion is an examiner's opinion that 1) the observed quality and quantity of similar characteristics are such that the examiner would not expect to see that same combination of characteristics repeated in a body of writing prepared by another writer; 2) there are no significant dissimilarities to conclude that the bodies of writing were not prepared by the same writer; and 3) there are no significant limitations with the items examined or the circumstances considered (e.g. the writer's skill level, sufficient number of known standards). The basis for a 'source identification' conclusion is an examiner's opinion that the observed similar characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by the same writer and extremely limited or no support for the proposition that the writings were prepared by different writers. A 'source identification' is the statement of an examiner's opinion (an inductive inference) that the probability that a different writer prepared the questioned body of writing is so small that it is negligible. NOTE: If a 'Source identification' conclusion is rendered between a body of questioned writing and the known writing of a particular individual, no other handwriting comparison conclusions will be reported concerning the aforementioned body of identified questioned writing and any other known writers. Support For Common Source (Qualified Opinion) - 'Support for common source' is an examiner's conclusion that two or more bodies of writing may have been prepared by the same writer. This conclusion is an examiner's opinion that 1) the bodies of writing exhibit a prevalence of similar characteristics to indicate they may have been prepared by the same writer; 2) there are insufficient dissimilar characteristics to indicate that the bodies of writing may not have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from providing a 'source identification' conclusion. The degree of 'support for common source' may range from limited to strong. The basis for a 'support for common source' conclusion is an examiner's opinion that the observed similar characteristics provide limited to strong support for the proposition that the bodies of writing may have been prepared by the same writer and insufficient support for the proposition that the writings may have been prepared by different writers. Inconclusive - 'Inconclusive' is an examiner's opinion that no determination can be reached as to whether two or more bodies of writing were prepared by the same writer or by different writers. The basis for an 'inconclusive' conclusion is an examiner's opinion that the bodies of writing have limitations that prevent the examiner from providing any conclusion regarding probable authorship. Support For Different Sources (Qualified Opinion) - 'Support for different sources' is an examiner's conclusion that two or more bodies of writing may not have been prepared by the same writer. This conclusion is an examiner's opinion that 1) the bodies of writing exhibit a prevalence of dissimilar characteristics to indicate they may not have been prepared by the same writer; 2) there are insufficient similar characteristics to indicate that the bodies of writing may have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from making an 'exclusion' conclusion. The degree of 'support for different sources' may range from limited to strong. The basis for a 'support for different sources' conclusion is an examiner's opinion that the observed dissimilar characteristics provide limited to strong support for the proposition that the bodies of writing may have been

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prepared by different writers and insufficient support for the proposition that the writings may have been prepared by the same writer. Source Exclusion - 'Source exclusion' is an examiner's conclusion that two or more bodies of writing were not prepared by the same writer. This conclusion is an examiner's opinion that the bodies of writing exhibit different handwriting characteristics and there are no significant limitations with the items examined or the circumstances considered (e.g. the writer's skill level, sufficient number of known standards, eliminating the possibility of alternative writing styles). The basis for a 'source exclusion' conclusion is an examiner's opinion that the observed different characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by the different writers and extremely limited or no support for the proposition that the writings were prepared by the same writer. 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: A conclusion provided during testimony or in a report is ultimately an examiner's decision and is not based on a statistically-derived or verified measurement or comparison to all other bodies of writing. When offering a 'support for common source' conclusion, the examiner shall explain the limitations that prevented a 'source identification' conclusion. Likewise, when offering a 'support for different sources' conclusion, the examiner shall explain the limitations that prevented a 'source exclusion' conclusion. Factors that may affect the examination process and/or the results rendered include: Non-comparability of writing styles for comparison (Cursive vs. printing), Non-comparability of wording for comparison, Non-contemporaneous writing for comparison, Prior destructive examinations, Non-original writing, Limited quality or quantity of writing, Distorted writing.

ZKBYFX-
5245

The questioned handwriting (Q1) on the document „GENERAL BILL OF SALE“ was written quickly and without visible elements indicating intentional distortion. Questioned handwriting is middle degree of writing, middle font size, rounded shape, unexpressed (without) upper and lower descenders, horizontal direction of writing above the line, written in almost vertical letters (without slope), almost disconnected lower-case handwriting, etc. The questioned (disputed) signature is written in a simplified manner, with desymbolized letters, with visible pauses, etc. The questionable handwriting and signature of the Q1 text was compared with the undisputed handwriting of Nicole Shields (K1) and Cassandra Swart (K2). The analysis established similarities between the questioned handwriting and signature (Q1) and the handwriting of Cassandra Swart (K2). The similarities are reflected in general and individual characteristics. They have the same degree of writing, writing slope, font size, letter proportion, placement of text in space (written line), writing speed, etc. The similarities are also reflected in the way of writing the letters of letter parts and the connections between letters: „S“, „e“, „p“, „t“, „m“, „b“, „er“, „a“, „an“, „t“, „h“, „L“, „i“, „y“, „d“, „u“, „r“, „o“, „R“, „at“, „H“, „N“, „C“, „K“, „T“, „1“, „2“, „3“, „4“, „5“, „6“, „8“, „9“, etc.

ZKTN3Y-
5241

Results of Examinations: HANDWRITING: Source Identification (CASSANDRA SWART). It was determined that the questioned hand printing (excluding the signature and "X" check marks) on Item 1 (Item Q1) was prepared by CASSANDRA SWART, Item 3 (Items K2a-d). Support For A Common Source (CASSANDRA SWART). A source identification could not be reached due to the presence of unexplained characteristics and the illegible nature of the questioned signature. However, characteristics in common were observed which indicate CASSANDRA SWART, Item 3 (Items K2a-d), may have prepared the questioned signature on Item 1 (Item Q1). Support For Different Sources (NICOLE SHIELDS). A source elimination could not be reached due to the presence of unexplained characteristics and the illegible nature of the questioned signature. However, inconsistencies were observed which indicate NICOLE SHIELDS, Item 2 (Items K1 a-d), may not have prepared the questioned signature on Item 1 (Item Q1). 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),

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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 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). Handwriting Comparison Methodology: The methodology utilized when conducting a handwriting comparison involves a four-stage process in which a forensic document examiner can reach an opinion concerning whether two handwritten items were written by the same writer or different writers. 1) Analysis: The examination begins with the analysis of the items submitted for comparison to determine if the writing is original, naturally prepared, and exhibits characteristics suitable for comparison. Some of the characteristics that can be observed include: Beginning and ending strokes, Baseline features, Height relationships, Slant, Spacing, Line quality. 2) Comparison: The second stage consists of a side-by-side comparison of the items. The numerous characteristics exhibited in the writing between the items are compared to determine the similarities, differences, and limitations, if present. 3) Evaluation: The third stage is the formulation of a conclusion based on the significance and combination of the characteristics observed during the comparison and any limitations, if present. The conclusions that can be reached are: Source Identification - 'Source identification' is an examiner's conclusion that two or more bodies of writing were prepared by

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the same writer. This conclusion is an examiner's opinion that 1) the observed quality and quantity of similar characteristics are such that the examiner would not expect to see that same combination of characteristics repeated in a body of writing prepared by another writer; 2) there are no significant dissimilarities to conclude that the bodies of writing were not prepared by the same writer; and 3) there are no significant limitations with the items examined or the circumstances considered (e.g. the writer's skill level, sufficient number of known standards). The basis for a 'source identification' conclusion is an examiner's opinion that the observed similar characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by the same writer and extremely limited or no support for the proposition that the writings were prepared by different writers. A 'source identification' is the statement of an examiner's opinion (an inductive inference) that the probability that a different writer prepared the questioned body of writing is so small that it is negligible. NOTE: If a 'Source identification' conclusion is rendered between a body of questioned writing and the known writing of a particular individual, no other handwriting comparison conclusions will be reported concerning the aforementioned body of identified questioned writing and any other known writers. Support For Common Source (Qualified Opinion) - 'Support for common source' is an examiner's conclusion that two or more bodies of writing may have been prepared by the same writer. This conclusion is an examiner's opinion that 1) the bodies of writing exhibit a prevalence of similar characteristics to indicate they may have been prepared by the same writer; 2) there are insufficient dissimilar characteristics to indicate that the bodies of writing may not have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from providing a 'source identification' conclusion. The degree of 'support for common source' may range from limited to strong. The basis for a 'support for common source' conclusion is an examiner's opinion that the observed similar characteristics provide limited to strong support for the proposition that the bodies of writing may have been prepared by the same writer and insufficient support for the proposition that the writings may have been prepared by different writers. Inconclusive - 'Inconclusive' is an examiner's opinion that no determination can be reached as to whether two or more bodies of writing were prepared by the same writer or by different writers. The basis for an 'inconclusive' conclusion is an examiner's opinion that the bodies of writing have limitations that prevent the examiner from providing any conclusion regarding probable authorship. Support For Different Sources (Qualified Opinion) - 'Support for different sources' is an examiner's conclusion that two or more bodies of writing may not have been prepared by the same writer. This conclusion is an examiner's opinion that 1) the bodies of writing exhibit a prevalence of dissimilar characteristics to indicate they may not have been prepared by the same writer; 2) there are insufficient similar characteristics to indicate that the bodies of writing may have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from making an 'exclusion' conclusion. The degree of 'support for different sources' may range from limited to strong. The basis for a 'support for different sources' conclusion is an examiner's opinion that the observed dissimilar characteristics provide limited to strong support for the proposition that the bodies of writing may have been prepared by different writers and insufficient support for the proposition that the writings may have been prepared by the same writer. Source Exclusion - 'Source exclusion' is an examiner's conclusion that two or more bodies of writing were not prepared by the same writer. This conclusion is an examiner's opinion that the bodies of writing exhibit different handwriting characteristics and there are no significant limitations with the items examined or the circumstances considered (e.g. the writer's skill level, sufficient number of known standards, eliminating the possibility of alternative writing styles). The basis for a 'source exclusion' conclusion is an examiner's opinion that the observed different characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by the different writers and extremely limited or no support for the proposition that the writings were prepared by the same writer. 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.

TABLE 2

WebCode- Test	Conclusions
	<p>Limitations: A conclusion provided during testimony or in a report is ultimately an examiner's decision and is not based on a statistically-derived or verified measurement or comparison to all other bodies of writing. When offering a 'support for common source' conclusion, the examiner shall explain the limitations that prevented a 'source identification' conclusion. Likewise, when offering a 'support for different sources' conclusion, the examiner shall explain the limitations that prevented a 'source exclusion' conclusion. Factors that may affect the examination process and/or the results rendered include: Non-comparability of writing styles for comparison (Cursive vs. printing), Non-comparability of wording for comparison, Non-contemporaneous writing for comparison, Prior destructive examinations, Non-original writing, Limited quality or quantity of writing, Distorted writing. Remarks: For questions about the content of this report, please contact [Examiner]. The evidence is being retained. This report conforms to the "Department of Justice Uniform Language for Forensic Document Examinations". This report contains the opinions and interpretations of the issuing examiner(s) and is supported by records retained in the [Laboratory] files. Please allow a minimum of thirty days from the date of a discovery request for the [Laboratory] to provide the related materials. The [Laboratory] cannot ensure timely delivery of discovery requests received in less time. The work described in this report was conducted at the [City] Laboratory.</p>
ZLLRKY- 5245	[No Conclusions Reported.]
ZRVNMM- 5245	The general sales invoice Q1 was probably handwritten by Cassandra Swart K2. The seller's signature on sales invoice Q1 was probably made by Cassandra Swart K2.
ZUV7EM- 5241	<p>The entirety of the Q1 document was compared to K1. Substantial significant dissimilarities were noted. It is highly probable that the writer of K1 did not author any of the Q1 document. The entirety of the Q1 document was compared to K2. Substantial significant similarities were noted. It is highly probable that the writer of K2 did author the entire Q1 document. After an examination of documents submitted at this time, it is my opinion that the writer of K1 can be eliminated as having written the Q1 document. The Q1 document was written by the writer of K2.</p>
ZUYJ9B- 5245	<p>The questioned handwriting was written by the writer of the "Cassandra Swart" exemplars. There is substantial evidence which indicates that the questioned "Nicole Shields" signature was probably produced by the writer of the "Cassandra Swart" exemplars. Although this is not a conclusive identification, there are sufficient similarities to establish a strong likelihood that the writer of the exemplars wrote the questioned signature.</p>

Additional Comments

TABLE 3

WebCode-Test	Additional Comments
2PMV9E-5241	It should be noted that the Technical Review was conducted by [Examiner], sole proprietor of [Laboratory].
34VD8R-5245	We analyzed the writing and signature of Nicole Shields, once her participation in its execution was ruled out; we analyzed the Cassandra Swart writing and signature identifying that it was she, who made the writing and signature of sale contained in the invoice, dated September 3, 2021.
4A2LXL-5241	The examination was limited by the small amount of known writing of each writer submitted for comparison.
4YKKWT-5245	If further comparisons are required, it will be necessary to obtain additional course of business writings from Shields, K1a-K1d, and Swart, K2a-K2d. This additional writing needs to have been prepared contemporarily with the date of the questioned writing on Item Q1.
6L4C9R-5245	Unless we have missed something, trial is much too simple.
6U7JW8-5241	The results in question 1 and 2 (in particular answer 'E') is not how the result would be reported in casework, and is based on the combination of evidence obtained from the examination of both sets of specimen writing and not a result of an evaluative process of assessing each writer separately. It has been provided as the 'best fit' answer for the CTS style question.
7GATTF-5241	Limitations: It was observed that the request "Nicole Shields" known signatures for both writers on documents K1c and K2c were on the same sheet of paper. This procedure for obtaining request writings is not recommended as it potentially increases the opportunity for the known writer to disguise their writing. Additional known normal course of business specimens for the signatures and the writing would have been helpful. In particular, additional course of business known signatures from Nicole Shields to fully assess her range of variation would assist. Another addition that may be helpful would include completed forms. Other limitations include the undated and small quantity of writing seen on some of the known writings. With undated knowns it was not possible to fully assess if the known writings were contemporaneous to the questioned writings.
8QDCJN-5245	For the present analyzes, digital images are printed, serving as support optional instruments to be able to observe details of the signatures and deeds such as initial and final features. As the analysis was carried out using printed and digital images, in the application of the methods of analysis of writing and signatures, the analysis stage with specialized equipment was omitted. Para los presentes análisis se imprimio las imagenes digitales, sirviendo de apoyo instrumentos opticios para poder observar detalles de las firmas y escrituras como son rasgos iniciales y finales. En virtud que el análisis se realizo mediante imagenes impresas y digitales, en la aplicacion de los metodos de análisis de escritura y firmas, se omitio la etapa de análisis con equipo especializado.
8WJYGJ-5241	In our opinion, the scale lacks two degrees of conclusion. A 7-point scale would have been more appropriate (indications did/did not write).
9EZ9WQ-5241	the Handwriting Analysis Method and the Signature Analysis Method are applied to arrive at the above mentioned conclusions.
9MTLTJ-5241	According to our Lab's procedure on the signature and handwriting forensics analysis, Item Q1 was analyzed with the two persons that gave them comparison material (signature and handwriting).
CWREZ2-5241	Inconclusive opinions in relation to authorship of the Q1 signature: Fundamental differences were observed between the Q1 signature and the specimen signatures provided by the K1 writer, Nicole SHIELDS. Given the specimen signatures provided and assuming this is the only style of

TABLE 3

WebCode- Test	Additional Comments
	signature for the K1 writer, in my opinion the Q1 signature is not a genuine Nicole SHIELDS signature. My opinion in relation to the authorship of the Q1 signature is inconclusive (due to the possibility of disguise by the K1 writer). Pictorial similarities were observed between the Q1 signature and the Nicole SHIELDS signatures provided by the K2 writer, Cassandra SWART. However, as these signatures are not in the specimen writers name, I was unable to undertake a meaningful comparison and therefore my opinion in relation to the authorship of the Q1 signature for the K2 writer is inconclusive.
DLWZ39- 5245	Differences in spacing, punctuations, proportions and several formation of letters, allowed for an elimination of Ms. Shields. In addition, the questioned signature shows no significant similarities with her authentic signature style as reflected in the specimens (K1a -- Kd).
DXWHNA- 5245	The images that used for the examination are assumed to be true and accurate reproduction of their original documents.
E3AJP8- 5241	Limitations were encountered: 1) material was not original, 2) further collected signature samples would have been desirable, 3) complexity of the questioned signature, 4) single Q signature.
ENP787- 5245	Validating the conditions of quality and quantity of the handwriting material provided, taken as originals, according to the test score, the agility and skill in the execution of the writings (dubit and indubitable), the graphonomic studies carried out allow us to express an opinion regarding the representativeness of the homologies (folios K2) and divergences (folios K1) found, fully for the inscription of the name (Print Name) and in likelihood for illegible signature (Seller's Signature).
FZVEQA- 5241	The buyer's signature and printed name was not examined.
GBUQZ9- 5245	In the questioned document identified Q-1 (writing), it presents differences in proportion, size, connection, letter formation, relationship with the baseline when compared with the identified documents K-1a, K-1b and K-1d. In the questioned document identified Q-1 (writing), it presents similarities in the proportion of letters, size, fluency, space, connection, letter formation, inclination, relationship with the baseline when compared with the identified documents K-2a, K-2b and K-2d. The questioned signature of Q-1 does not have the same characteristics in comparison with the signature in documents K-1a, K-1b, K-1c and K-1d. Exist differences in the habits, connection proportion, size. The questioned signature of Q-1 have the individual characteristics in comparison with the signature in documents K-2a, K-2b, K-2c and K-2d. Exist similarities in characteristics, habits and elements that make up the formation of lines, inclination, proportion, connection, size, "loops" beginning and end of the lines.
H2JPE8- 5245	There is no similarity of individual characteristics in the writing present in the identified document Q1 when compared with the writing present in the identified documents K1a, K1b and K1d. There is similarity of individual characteristics in the writing present in the identified document Q1 when compared with the writing present in the identified documents K2a, K2b and K2d. There is no similarity of individual characteristics in the signature present in the document identified Q1 when compared with the signatures present in the documents identified K1a to K1d. There is similarity of individual characteristics in the signature present in the document identified Q1 when compared with the signatures present in the documents identified K2a to K2d.
H9JXV9- 5245	The submission of the original documents represented by Exhibits Q1, K1, and K2 may provide the basis for additional conclusions.
HE6736- 5245	The signature, print name of Samantha Heise were excluded from the analysis since it has been authenticated by her. The related date was also excluded since there was differences in the general and morphological characteristics.
JPM3N3- 5241	Due to the fact we have identified the author of the handwriting and signature on Q1, we would not then comment on the fact that another author was not responsible.

TABLE 3

WebCode-Test	Additional Comments
JUCMPX-5241	4) Additional Comments: 4.1) The above findings are demonstrable through the use of enlarged illustrative charts. If testimony is anticipated, please return all items and allow at least three weeks for the necessary preparation. 4.2) All submitted items are being returned to the submitting Agency.
K37YCD-5241	For this case, the methods for analysis of writing and signatures were used. From the writing samples identified as K1a, K1b, K1c and K1d, it was identified that in relation to the writing of the item identified as Q1 it does not correspond to Nicole Shields. From the writing samples identified as K1a, K1b, K1c and K1d, it was identified that the signature of the item identified as Q1 in the name of Nicole Shields is false.
LTTFEZ-5245	It should be noted that, the signature as of NICOLE SHIELDS, Q1, presents the structure, morphology and graphic routes similar to the authentic signatures of Mrs. CASSANDRA SWART (K2a, K2b and K2c), giving rise to be part of her calligraphic gesture. For the comparative technical analyses, the morphostructural characteristics and dynamics of the strokes that make up the doubted and indubited spellings were taken into account, in terms of initiations and terminations, flexion and extension movements, spontaneity, inclination, proportionality, general configuration, construction of letters and numbers, links, rhythm, rotation and finishing of the strokes. It is important to state that the documents sent for study correspond to photostatic prints, material that is not considered technically suitable for this type of analysis, however, in them specific production characteristics are detected that allow to establish Graphic Identity and Non-Graphic Identity. Even if they would have sent the documents in original, these are the results obtained.
LZDJL3-5241	While determining if the signature was written by Cassandra Swart (K2), slight differences were noticed compared to the questioned material (Q1 signature).
M886RT-5245	Our laboratory uses the following scale of opinion upon completion of examination of cases where handwriting/signatures are in dispute. The scale of opinion ranges from Conclusive (strongest) through to Strong, Limited and Inconclusive. Conclusive Evidence. This is used in cases where the available evidence is so strong that any other alternative explanations as to authorship are so remote they can be discounted. In practice, it is relatively rare to examine a handwriting case where a conclusive opinion is reached. Strong Evidence. This is used when it cannot be completely ruled out that a different author (other than the author proposed by the handwriting expert) may have been responsible for the questioned writing, but this possibility is considered highly unlikely based on the available evidence. Strong evidence is only very slightly below conclusive with regards to the strength of the evidence. Limited Evidence. This is used when there is some evidence to indicate common authorship but the evidence available is such that it only serves as an indication. Various factors can lead to a limited opinion being given: Small amount of specimen/questioned handwriting, The suitability of the specimen handwriting, The presence of intentional disguise, Only photocopies available, which limits the amount of fine detail available. Other factors, including the presence of an intoxicant, age/infirmary, time difference between the writing of the questioned and specimen material, writing implement used, writing surface and numerous other circumstantial factors. Inconclusive. This is used when it is not possible to reach a conclusion because the available evidence simply does not justify any opinion as to common authorship. It must be noted that this scale of opinion is also the same in the negative, i.e. when offering an opinion that someone did not write a body of questioned handwriting or a disputed signature. Like any comparative discipline, it is only possible to come to a conclusion when the available evidence is suitable in both quantity and quality. Every case is considered specifically on the strength and limitations of the evidence received for examination.
MKW6JV-5245	REMARKS: The identification is demonstrable with enlarged illustrative charts. Should testimony be required, please allow two (2) weeks for the necessary preparation.
MU84FR-5245	Although instructions were received to treat the submitted photographs as original documents, it is not possible to extract the same level of detail from the signatures and handwriting from a

TABLE 3

WebCode- Test	Additional Comments
	<p>photograph as from original documents. Therefore, the examinations have been limited to an extent by the reproduction nature of the documents. In this case, however, such limitations are unlikely to have affected the results. In addition, with the benefit of the original questioned document, examinations using oblique lighting techniques and the ESDA would be undertaken for the possible presence of latent writing impressions which may reveal other information of potential relevance to determining the origins and/or history of the document. Other standard forensic examination techniques, such as the use of the Video Spectral Comparator to examine and compare the ink used for the various handwritten and signature entries, could be considered for use in determining other issues with respect to the preparation of the original questioned document.</p>
N3UHW3- 5245	<p>comparison signatures, written by Cassandra Swart while signing as Nicole Shields, match questioned signature. There is no detailed information on how these comparison signatures were collected. If she was shown questioned signature with instructions to copy it, such sample is not appropriate according to our standards, as similarities may be misleading. If she was just told to sign as Nicole Shields, we have doubts that somebody who counterfeited a signature (in unreadable form) would sign the same way knowing that is for comparison.</p>
NFKC9W- 5245	<p>Based on the CTS instructions, the evidence was treated as original for the sake of Questions 1 and 2. As such, while the report wording would read highly probable for the extended writing (reflecting the limitation of the examination of non-originals), the answers were rounded up to "A" and "E" that the limitation would be removed if treated as originals. Note: The above conclusions and terminology were reached in accordance with SWGDOC Standard Terminology for Expressing Conclusion of Forensic Document Examiners</p>
NKAZE2- 5245	<p>Answer "C" was selected for the comparison between the questioned signature in "Q1" and the specimen signatures in "K1a" to "K1d". There was limited comparability between the questioned and specimen signatures due to the different design of the letters e.g. handprinted 'N' in the questioned signature and cursive "N" in the specimens; most of the letters in the last name being illegible in the questioned signature but legible in the specimens.</p>
NLKV4Z- 5241	<p>Although we can observe a few similar characteristics between the questioned signature and Cassandra's, we decided to answer "inconclusive" to the second question as we would have done if this was a real casework. The reason is twofold : 1° the requested signatures for Cassandra seem to be an imitation of the questioned signature. we consider this to be an ethical problem : we don't ask people to self-incriminate and if we have to ask them to sign in another's person name, we tell them to just write the name, with no stylisation of any kind. 2° the scenario is not clear enough on how these signatures were obtained. It could very well be that Cassandra provided her requested signatures with no instruction -in which case the answer to the question of who signed Q would be quite obvious- but the scenario simply states "K2c Requested signatures for Cassandra Swart, in the name of Nicole Shields" with no further precision. In real conditions, a simple phone call to our detective colleagues would solve the issue and dissipate our doubts but we're not taking any chance on this evaluation.</p>
P3QEJ4- 5241	<p>Q1 Signature: Based on the moderately-low degree of complexity of the questioned signature on document Q1, some considerations were given to a disguise process (for later denial) by K1 writer and to a simulation process by someone other than K1 and K2 writers leading to qualified opinions.</p>
P4L3XT- 5245	<p>Digital copies of the submitted images are being retained by the FDU. Definitions of Handwriting Opinions: The opinion "identification" means that the evidence contained in the handwriting is in agreement in the individualizing characteristics and there are no significant, inexplicable differences between the questioned and known writings; therefore, the writings have common authorship. The opinion "highly probable not" means that the evidence contained in the handwriting is very persuasive, yet some critical feature or quality is missing so that an elimination is not in order. However, the examiner is virtually certain that the questioned and known writings were not written by the same individual. The opinion "elimination" means that the evidence</p>

TABLE 3

WebCode- Test	Additional Comments
	contained in the handwriting has significant differences between the questioned and known writings; therefore, the writings do not have common authorship.
PCW9N4- 5241	Note: The conclusions of this report are opinions based on the use of approved scientific and professional practices.
PTF64X- 5245	The requested signatures in K2a-b y K2C do not belong to the natural handwriting habit of Mrs Swart, but are signatures, as indicated in the instructions of the exercise, issued by Cassandra Swart "under the name of Nicole Shields", ignoring whether the questioned signature was offered as a model of copy, or if it was produced by that person spontaneously, inventing its design, or producing it from memory after having visualized the signatures of Mrs. Shields at some previous time. These limitations do not allow taking those signatures as an absolutely reliable basis for comparison
RGZWGV- 5245	The writing of both people is similar, they have many common general and individual characteristics.
RTARD7- 5245	Had this been a genuine case I would have undertaken an ESDA examination for indentations. The exemplars written on a single piece of paper - little weight would have been placed on these - samples should be taken on single sheets of paper, to ensure the author doesn't introduce a disguise which they are then able to maintain.
RWRUF7- 5241	Instrumentation & Equipment: All examinations performed were conducted with instruments, equipment and techniques that are generally accepted in the field of forensic document examination. Range of Opinions: To understand the use and application of the SWGDOC standard that Forensic Document Examiners (FDEs) use when expressing conclusions, an understanding of this range or scale of opinions and the reasoning for each opinion level (including the use of "qualified opinions") is necessary. When reviewing the results of any writing examination and the conclusion offered, it is important to understand what the FDEs conclusion means and, conversely, what it does not. Often, an FDE can offer conclusive, unqualified opinions of identification or elimination of writing. If the significance of the writing evidence does not support an identification or elimination, FDEs determine what conclusion level the significance of the evidence supports. Opinions are then expressed from a range of nine levels of opinion (or sliding scale) as described in the SWGDOC standard, depending upon the examiner's opinion of the significance of the available writing evidence. The complete range of opinions or sliding scale, along with excerpts quoted from the SWGDOC Standard Terminology for Expressing Conclusions of Forensic Document Examiners ¹ are as follows: Identification – "this is the highest degree of confidence expressed by document examiners in handwriting comparisons... the examiner is certain, based on evidence contained in the handwriting, that the writer of the known material actually wrote the writing in question." Highly Probable Did – "the evidence is very persuasive, yet some critical feature or quality is missing so that an identification is not in order; however, the examiner is virtually certain that the questioned and known writings were written by the same individual." Probable Did – "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 the 'virtually certain' degree of confidence." Indications Wrote – "a body of writing has few features which 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. It is used when there are significantly limiting factors, such as disguise in the questioned and/or known writing or a lack of comparable writing, and the examiner does not have even a leaning one way or another." Indications Did Not Write – "a body of writing has few features which are of significance for handwriting comparison purposes, but those features are in disagreement with another body of writing." Probable Did Not – "the evidence points rather strongly against the questioned and known writings having been written by the same individual, but, as in the probable range above, the evidence is not quite up to the "virtually certain" range. Highly Probable Did Not – "this carries the same weight as strong probability on the identification side of the scale; that is, the examiner is virtually certain that the

TABLE 3

WebCode- Test	Additional Comments
	questioned and known writings were not written by the same individual." Elimination – "this, like the definite conclusion of identity, is the highest degree of confidence expressed by the document examiner in handwriting comparisons. By using this expression, the examiner denotes no doubt in his opinion that the questioned and known writings were not written by the same individual."
T2K72U- 5245	Although the graphic gesture of Mrs. Nicole and Mrs. Cassandra show similarities in some graphic aspects, the individualizing characteristics made it possible to rule out Mrs. Nicole's participation in the preparation of the form. It is also indicated that the features of the investigated signature were identified with the sample of Mrs. Cassandra's reference sample, where it was found that her autographs show, in the production, course and route, the graphonomical aspects reflected in the dubious signature.
TGFNQR- 5245	The submission of ten to fifteen known hand printed normal course-of-business writings of Nicole Shields, may provide the basis for an additional conclusion.
TYDVYY- 5241	Having the problem document Q1. Invoice of sale dated September 03, 2021 written and signed as C. NICOLE SHIELDS and having the collection of deeds and signatures of this year in the name of: C. NICOLE SHIELDS with Items K1 a, b, c and d; C. CASSANDRA SWART with Items K2 a, b, c and d. Conclusions are given above in subsection 3.)
UB8JFJ- 5241	Practical certainty - Since it is not possible to collect and examine samples of everyone's handwriting it is not possible to make an identification with absolute certainty. However, all scientific research to date and the continuous inability to disprove the principle that no two people share the same combination of handwriting habits have demonstrated that even without a numerical threshold, handwriting examiners can reliably make identifications.
UE8VCJ- 5241	In situations where the questioned signature bears no formational or pictorial similarity to the specimens and has been created using a different motor model, there are three possible explanations for this observation: 1 - It has been written by the writer of the specimens using a deliberate disguise. 2 - It is an alternative signature formation by the writer of the specimens that is not represented in the specimen sample. 3 - It is a Fabricated or Spurious signature created by someone other than the writer of the specimens who does not have access to a genuine signature, is not capable of simulating a genuine signature or does not intend to even try to simulate the genuine signature. Generally it is not possible for the evidence to support any one of the above propositions over the others. Consequently no opinion regarding the authorship of the questioned signature can be expressed.
V438WR- 5241	Theoretically, since the questioned signature is so simple, not complex and not very fluid, without having found the right writer for this signature (Cassandra Swart), I would have concluded to "Nicole Shields probably did not write the signature on Q1" qualified opinion rendered because of the simplicity of the questioned signature.
VEKTZ2- 5241	I adhere to current SWGDOC (and the replacement ANSI/ASB, where applicable) standards. In any instance where I am reporting based on reproductions (regardless of quality) my conclusion would be tempered to reflect that limiting factor. I am providing conclusion terminology which does not reflect such a limiting factor, as I assumed for the purpose of this test, I was to consider the evidence as if writing media on paper was produced. If I were to temper conclusion terminology to the actual limiting factor (submission of non-originals), my identification and elimination terms would have been reported as highly probable genuine and highly probable non-genuine (an expression of virtual certainty).
W8CRBQ- 5245	The writing and signature of Nicole Shields was analyzed, once her participation in its execution was ruled out, the writing and signature of Cassandra Swart was analyzed, with the result that it was this person who made the writing and signature of sale contained in the invoice, dated September 03, 2021.
WHFVLF- 5245	Propositions: The general propositions considered, relating to the potential writer, are: P1 The questioned writing was written by the writer of the known material. P2 The questioned writing was

TABLE 3

WebCode- Test	Additional Comments
	<p>written by someone other than the writer of the known material. Under these two propositions the examiner typically considers sub-propositions relating to the handwriting behaviour or process: P1A The questioned writing was naturally written by the writer of the known material. P1B The questioned writing was unnaturally written by the writer of the known material (disguised or affected by other factors). P2A The questioned writing was naturally written by someone other than the writer of the known material. P2B The questioned writing was unnaturally written by someone other than the writer of the known material (simulated or affected by other factors). Levels of opinion: Conclusions are intended to convey the degree of support provided by the observed findings for one proposition versus one or more specified alternative propositions. As such, they are expressed in qualitative terms that relate to the magnitude of the degree of support. The conclusions that may be expressed are: The evidence provides very strong support for proposition X over proposition Y. The evidence provides strong support for proposition X over proposition Y. The evidence provides moderate support for proposition X over proposition Y. The evidence provides approximately equal support for proposition X and proposition Y. In addition to the above, the examiner may express a 'no opinion' (or 'insufficient') conclusion regarding the potential writer or genuineness, when the material to be examined does not contain enough information for an examination to be conducted.</p>
X34G4H- 5241	In Results section 2: The collected signatures of K2 do not represent the full range of variation seen in signature Q1
XFMBB3- 5241	the corresponding analyses and studies were carried out to arrive at the aforementioned conclusions, following the methods of signature analysis and writing analysis
XN369J- 5245	Conclusions defined in accordance with ASTM E1658-08 Standard Terminology for Expressing Conclusions of Forensic Document Examiners. Identification: This is the highest degree of confidence expressed by document examiners in handwriting comparisons. The examiner has no reservations whatever, and although prohibited from using the word "fact," the examiner is certain, based on evidence contained in the handwriting, that the writer of the known material actually wrote the writing in question.
Y2ZHZZ- 5241	For the resolution of the study approach, it was necessary to use two methods validated by the forensic unit, for the writing analysis the writing analysis method was used, while for the signature analysis the signature analysis method was used.
YNYNPR- 5245	The questioned signature and writing show clear similarities with Cassandra Swart's specimens. These similarities are observed particularly in the baseline, the height of the initial letters, the caliber of words and letters, and the graphics of letters " a, e, S, L".
ZRVNMM- 5245	This case does not meet the requirements of the [Laboratory] standardized work procedure.
ZUV7EM- 5241	The identification of an individual as the author of questioned writing is based upon a finding by the examiner of class and individual characteristics sufficient in number and force for the examiner to base an opinion of identity to a reasonable degree of certainty. Such findings were found in this case with regards to the writings submitted by K2.
ZUYJ9B- 5245	It was noted that the exemplar note to "Andrew" (K2d) bears a signature of a name that cannot be determined because it is stylized. Portions of this signature's characteristics and features are similar to the requested "Nicole Shields" signature exemplars (K2c).

**-End of Report-
(Appendix may follow)**

Test No. 21-5241: Handwriting Examination

DATA MUST BE SUBMITTED BY **Nov. 29, 2021, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: AM8LBZ

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 the possible unauthorized private sale of a woman's vehicle by her roommate. Nicole Shields had placed an advertisement to sell her car on Facebook Marketplace and had a pending sale. While out of town for the weekend, Ms. Shields claims that her roommate, Cassandra Swart, contacted the buyer and completed the sale without Ms. Shields' knowledge. Ms. Shields claims that Ms. Swart has stolen the money from the sale. Ms. Swart claims that Ms. Shields completed the sale before she left on her trip and is now trying to extort money from her. Please examine the bill of sale that was provided by the buyer of the car to determine which, if either, of the individuals contributed to the handwriting and/or seller's signature on the questioned document. The buyer's signature and printed name in Section 4 has been authenticated and is not intended for analysis.

Please Note: The Handwriting Examination test is composed of photographic/digital reproductions of original handwriting. All items are to be treated as originals for the purposes of this test.

Items Submitted (Sample Pack HWP - Photographs):

Item K1a-b: Dictated exemplars for Nicole Shields.

Item K1c: Requested signatures for Nicole Shields, in her own name (collected separately and digitally assembled).

Item K1d: Course of business writing for Nicole Shields.

Item K2a-b: Dictated exemplars for Cassandra Swart.

Item K2c: Requested signatures for Cassandra Swart, in the name of Nicole Shields (collected separately and digitally assembled).

Item K2d: Course of business writing for Cassandra Swart.

Item Q1: General bill of sale, dated 3 September 2021.

Examination Results

Select your responses from the following list and insert the appropriate letters in the space provided in the tables. If the wording differs from the normal wording in your reports, adapt these conclusions as best as you can and use your preferred wording for your written conclusions. Clarification or explanation of findings can be documented in the written Conclusions section.

- A. Was WRITTEN by
- B. Was PROBABLY WRITTEN by (some degree of identification)
- C. CANNOT be IDENTIFIED or ELIMINATED*
- D. Was PROBABLY NOT WRITTEN by (some degree of elimination)
- E. Was NOT WRITTEN by

*Should the response "C" be used, please document the reason in the Additional Comments section of this data sheet.

1.) To what degree can it be determined if either of the known writers contributed to the body of questioned writing (excluding the signature) on the bill of sale?

K1 (Nicole Shields)	K2 (Cassandra Swart)
Q1 (Bill of Sale) <input type="text"/>	Q1 (Bill of Sale) <input type="text"/>

(Using the provided response key, please enter only one letter in each blank in the above chart.)

2.) To what degree can it be determined if either of the known writers contributed the questioned seller's signature on the bill of sale?

K1 (Nicole Shields)	K2 (Cassandra Swart)
Q1 (Bill of Sale) <input type="text"/>	Q1 (Bill of Sale) <input type="text"/>

(Using the provided response key, please enter only one letter in each blank in the above chart.)

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)