



Footwear Imprint Evidence Test No. 24-5331/5 Summary Report

Each sample set contained one of the following: digitally produced photographs (24-5331) or downloadable digital images (24-5335) of nine questioned imprints and photographs of two recovered shoe soles and test imprints made with those shoes. Participants were asked to compare the imprints from the crime scene with the suspect shoes and report their findings. Data were returned from 147 participants: 87 for 24-5331 and 60 for 24-5335 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 photos in either a physically printed format or digitally downloadable. Item K1a is a photograph of the soles of the recovered shoes lit from above. Items K1b and K1c are photographs of the suspect soles lit with oblique lighting. Items K1d-K1g are photographs of the known imprints made with the recovered shoes. Three photographs contain images of the nine questioned imprints. Participants were asked to compare the suspect shoe soles and their known imprints with the questioned imprints to determine if any associations or identifications could be established.

SAMPLE PREPARATION

The shoes used in this test had been worn frequently over the course of more than two months. At the time of sample preparation, the soles of the shoes were cleaned of any debris.

KNOWN IMPRINTS (K1d-K1g): Known imprints were created by coating the sole of each suspect shoe with ink and producing individual imprints on white paper. The imprints on K1d and K1e were created by rolling the toe and heel areas of each shoe separately by hand. The heels were placed above their respective toes to distinguish the imprints from those on K1f and K1g. The imprints on K1f and K1g were produced by having the owner wear the shoes and walk across a stack of paper.

QUESTIONED IMPRINTS (Q1-Q9): Questioned imprints Q1-Q9 were created by coating the sole of each shoe with ink and having the wearer walk across the substrates (see table below).

SAMPLE SET ASSEMBLY: Once verification was complete, each photo set was placed into a pre-labeled sample set envelope and sealed. Digital download media were provided in a zipped file uploaded to the CTS Portal.

VERIFICATION: Predistribution results were consistent with each other and the manufacturer's preparation information. Specifically, all participants associated imprints Q1 and Q4 with the suspect left shoe and Q3, Q6, and Q7 with the suspect right shoe. The participants excluded the suspect shoes as the source of imprints Q2, Q5, Q8, and Q9.

Imprint	Substrate	Shoe Type	Manufacturer - Size (U.S.)	Left/Right
Q1	Grey Stone Vinyl Tile	Running Shoe	New Balance - 9.5	Left (K1)
Q2	Grey Stone Vinyl Tile	Running Shoe	New Balance - 8.5	Left
Q3	Grey Stone Vinyl Tile	Running Shoe	New Balance - 9.5	Right (K1)
Q4	Woodgrain Vinyl Tile	Running Shoe	New Balance - 9.5	Left (K1)
Q5	Woodgrain Vinyl Tile	Running Shoe	New Balance - 8.5	Right
Q6	Woodgrain Vinyl Tile	Running Shoe	New Balance - 9.5	Right (K1)
Q7	Newspaper	Running Shoe	New Balance - 9.5	Right (K1)
Q8	Newspaper	Running Shoe	New Balance - 8.5	Left
Q9	Newspaper	Running Shoe	New Balance - 8.5	Right

Summary Comments

This test was designed to allow participants to assess their proficiency with footwear imprint examination and comparison. Test materials consisted of photographs, or digital images. Two of the questioned imprints were made by the suspect's left shoe (Q1, Q4). Three questioned imprints (Q3, Q6 and Q7) were made by the suspect's right shoe. Four questioned imprints (Q2, Q5, Q8, and Q9) were made by shoes for which photographs were not provided. Refer to the Manufacturer's Information for preparation details.

Participants were asked to report using a seven-point conclusion scale adapted from the SWGTREAD Range of Conclusion standard. For those imprints that were associated with the suspect shoes (K1), all responses of association (A-D) were tallied together to determine the consensus. For those imprints that were not associated with the suspect shoes (K1), all responses of non-association (F-G) were tallied together to determine the consensus.

Of the 147 responding participants, 137 (93.2%) reported all associations/exclusions and left/right orientations consistent with the manufacturer's preparation information and consensus results. Ten participants were outliers in print association; no participants provided an inconsistent left/right orientation where one was reported. Overall, most participants were confident to report an Identification (A) for all associated questioned items and an Exclusion (G) for all non-associated questioned items.

Ten participants were outliers in their conclusions of association. Seven participants reported some level of association (A-D) between the suspect shoes and one or more of the imprints for which an exclusion was the consensus (Q2, Q5, Q8, and Q9). Of these seven, one reported an exclusion for one of the questioned imprints for which an association was the consensus; one reported inconclusive (E) for imprint Q2 and one reported associations for all four exclusion prints. Two participants reported inconclusive (E) for one or more of the questioned imprints for which an elimination was the consensus; one with regards to Q9, and one with regards to all four exclusion prints. Finally, one participant reported (I), which is not on the provided scale, for all associated questioned items.

Examination Results

Indicate the results of your comparisons of the recovered shoes with the questioned imprints.

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
23FN6P- 5335	A	L	G	L	A	R	
23V8PM- 5331	A	L	G	L	A	R	
2AFBV4- 5331	A	L	G		A	R	
2JHEWT- 5331	A	L	G		A	R	
2NF9HZ- 5331	A	L	G		A	R	
2W8ENV- 5331	A	L	G		A	R	
2ZPPRQ- 5331	A	L	G	L	A	R	
39GJ3U- 5331	A	L	G		A	R	
3AAFQN- 5331	A	L	G		A	R	
3J2Q2J- 5331	A	L	G		A	R	
46XRQR- 5335	A	L	G		A	R	
4768XX- 5331	A	L	G		A	R	
49W3LR- 5335	A	L	G		A	R	
4DKW9R- 5331	A	L	G		A	R	
4Y7K8J- 5335	A	L	G		A	R	
4YKXLU- 5331	A	L	G		A	R	
6BJ66K- 5331	A	L	G		A	R	
6BYMMW- 5331	A	L	G		A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
6DL8NU- 5331	A	L	G		A	R	
6J7CCN- 5335	A	L	E		A	R	
6LEBYJ- 5331	A	L	G		A	R	
6TTB4U- 5331	A	L	G		A	R	
6ZGNDV- 5335	A	L	G		A	R	
7KH9HT- 5335	A	L	F	L	A	R	
7ND3FU- 5335	A	L	G		A	R	
863FGT- 5335	A	L	F		A	R	
8JJEMU- 5335	A	L	G		A	R	
8JX3GU- 5335	A	L	G		A	R	
8KEYAU- 5335	A	L	G		A	R	
8MHPHU- 5331	A	L	G		A	R	
8TCL8K- 5331	A	L	G		A	R	
8TR7RH- 5331	A	L	G		A	R	
8Z4BDM- 5335	A	L	F		A	R	
9D9UNM- 5335	A	L	G		A	R	
9DDWQE- 5335	A	L	G		A	R	
9GD9ME- 5335	A	L	G		A	R	
9MFL2N- 5331	A	L	G		A	R	
A2DTZQ- 5331	A	L	G	-	A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
ABZXHP-5331	A	L	G	L	A	R	
ALEVMT-5335	A	L	G	L	A	R	
ALZH8W-5331	A	L	G		A	R	
BNLJQP-5331	A	L	G		A	R	
BPH4DP-5331	A	L	G		A	R	
BYLAAC-5335	A	L	G		A	R	
CBP97N-5331	A	L	G	L	A	R	
CPAN9M-5331	A	L	F	L	A	R	
CVJVYR-5331	A	L	G		A	R	
CZA6AQ-5331	A	L	G		A	R	
CZVJZN-5331	A	L	G		A	R	
D9JUMN-5331	A	L	G		A	R	
DBMP7R-5331	A	L	G		A	R	
DRVNB-5335	A	L	G	L	A	R	
DTAY6M-5335	A	L	G	L	A	R	
DUVZMF-5331	A	L	G		A	R	
DVUWLQ-5335	A	L	G		A	R	
EP2G6H-5335	A	L	G		A	R	
EQFTYG-5331	A	L	G		A	R	
EXWEWR-5331	A	L	G		A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
F9W6FD- 5331	A	L	G		A	R	
FCWDKN- 5331	A	L	G		A	R	
FNNYQJ- 5335	A	L	G		A	R	
FQGVED- 5331	A	L	G		A	R	
FYPGDF- 5331	A	L	G	L	A	R	
G3KLQJ- 5335	A	L	G		A	R	
G6LTLG- 5331	A	L	G	L	A	R	
G6RWN9- 5335	A	L	G		A	R	
G8JV38- 5331	A	L	G		A	R	
GJRVC6- 5331	A	L	G		A	R	
GK6CPJ- 5335	A	L	G	L	A	R	
GTVQTP- 5331	A	L	G		A	R	
H68F97- 5331	A	L	G		A	R	
HDF8C9- 5335	A	L	G	L	A	R	
HHBZAA- 5335	A	L	G		A	R	
HMQ9XA- 5331	A	L	G		A	R	
HNGL8F- 5331	A	L	G		A	R	
HPN47B- 5331	A	L	G	L	A	R	
J23BPH- 5331	A	L	G		A	R	
J9YCJG- 5331	A	L	G		A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
JYFRNK- 5335	A	L	A	R	G		
K44RH7- 5331	A	L	G		A	R	
K9V3BG- 5331	A	L	G		A	R	
KCJBZK- 5331	A	L	G		A	R	
KFJLVK- 5331	A	L	G		A	R	
KGNDLC- 5335	A	L	G		A	R	
KTJM9L- 5331	A	L	G		A	R	
KXGVQA- 5331	A	L	G		A	R	
KXYVWK- 5331	A	L	G		A	R	
L2CVTC- 5335	A	L	G		A	R	
L2V2T3- 5331	A	L	G		A	R	
LB4D8K- 5331	A	L	G		A	R	
LDPEQD- 5335	A	L	G		A	R	
LGNM7G- 5335	A	L	G		A	R	
LRKQBB- 5335	A	L	G	L	A	R	
M2PXQB- 5331	A	L	G		A	R	
M6NALB- 5331	A	L	G		A	R	
M96RPD- 5335	A	L	G		A	R	
MEYJ42- 5331	A	L	G		A	R	
MK2XJC- 5331	A	L	G	L	A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
MUCZ6C-5331	A	L	G		A	R	
N4C6D6-5331	A	L	G		A	R	
N93EN3-5335	A	L	G		A	R	
N9HPBA-5331	A	L	D	L	A	R	
NKEV68-5331	A	L	G		A	R	
NLRCP2-5335	A	L	G		A	R	
P472BD-5335	A	L	G	L	A	R	
PB4UJ8-5331	A	L	G	L	A	R	
PJJJ98-5331	A	L	G		A	R	
PKCEW2-5335	A	L	G		A	R	
PVXFDB-5335	A	L	G		A	R	
Q7BZAC-5331	A	L	G		A	R	
QCZKB8-5335	A	L	G		A	R	
QEY6RC-5335	A	L	G	L	A	R	
QFYV88-5335	A	L	G	L	A	R	
QNTYGV-5331	A	L	G		A	R	
QP4T84-5335	A	L	G	L	A	R	
QRDTCB-5331	A	L	G		A	R	
RHFPC7-5331	A	L	G		A	R	
RQVGTW-5335	A	L	G		A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
RWZXNC- 5331	I	L	G		I	R	
TDZGP8- 5335	A	L	E		A	R	
U69CJC- 5331	A	L	G		A	R	
UBE6D9- 5335	A	L	G		A	R	
UNYKG8- 5335	A	L	G	L	A	R	
UX9WU6- 5335	A	L	G		A	R	
VNBTUZ- 5335	A	L	G		A	R	
VT3XN6- 5331	A	L	G		A	R	
VT9ZQV- 5331	A	L	G		A	R	
VX4UNX- 5331	A	L	G		A	R	
VXJBG6- 5331	A	L	G	L	A	R	
VYU8X3- 5331	A	L	G		A	R	
W2WBDW- 5335	A	L	G		A	R	
WQEUKP- 5335	A	L	G		A	R	
WZ6EN3- 5331	A	L	G		A	R	
X4XX7Q- 5335	A	L	G		A	R	
XLHP6Q- 5335	A	L	G	L	A	R	
XN7ML4- 5335	A	L	G	L	A	R	
XTM7Z7- 5335	A	L	G		A	R	
XZ2E28- 5331	A	L	G		A	R	

TABLE 1a (Grey Stone Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
Y3HYL2- 5331	A	L	G	L	A	R	
Y4DJ92- 5331	A	L	G		A	R	
Y6NBFW- 5335	A	L	G	L	A	R	
YG3GGQ- 5331	B	L	G		B	R	
YM92EW- 5335	A	L	G	L	A	R	
YPXJH3- 5335	A	L	G		A	R	
YTVX7R- 5331	A	L	G		A	R	
ZBP8C2- 5331	A	L	G	L	A	R	
ZHEHWX- 5335	A	L	G		A	R	

Response Summary - Table 1a (Grey Stone Vinyl Tile)						Participants: 147	
	Q1 Conc.	L/R		Q2 Conc.	L/R	Q3 Conc.	L/R
Identification (A)	145 (98.6%)	L 147 (100.0%)	(A)	1 (0.7%)	N/A for non-assoc.	(A) 144 (98.0%)	L 0 (0.0%)
High Degree of Ass'n. (B)	1 (0.7%)	R 0 (0.0%)	(B)	0 (0.0%)		(B) 1 (0.7%)	R 146 (99.3%)
Association (C)	0 (0.0%)		(C)	0 (0.0%)		(C) 0 (0.0%)	
Limited Ass'n. (D)	0 (0.0%)		(D)	1 (0.7%)		(D) 0 (0.0%)	
Inconclusive (E)	0 (0.0%)		(E)	2 (1.4%)		(E) 0 (0.0%)	
Non-Ass'n. (F)	0 (0.0%)		(F)	4 (2.7%)		(F) 0 (0.0%)	
Exclusion (G)	0 (0.0%)		(G)	139 (94.6%)		(G) 1 (0.7%)	

Above totals may not equal participant count due to responses outside of the provided scale.

Examination Results

Indicate the results of your comparisons of the recovered shoes with the questioned imprints.

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
23FN6P-5335	A	L	G	R	A	R	
23V8PM-5331	A	L	G	R	A	R	
2AFBV4-5331	A	L	G		A	R	
2JHEWT-5331	A	L	G		A	R	
2NF9HZ-5331	A	L	G		A	R	
2W8ENV-5331	A	L	G		A	R	
2ZPPRQ-5331	A	L	G	R	A	R	
39GJ3U-5331	A	L	G		B	R	
3AAFQN-5331	A	L	G		A	R	
3J2Q2J-5331	A	L	G		A	R	
46XRQR-5335	A	L	G		A	R	
4768XX-5331	A	L	G		A	R	
49W3LR-5335	A	L	G		A	R	
4DKW9R-5331	A	L	A	L	A	R	
4Y7K8J-5335	A	L	G		A	R	
4YKXLU-5331	A	L	G		A	R	
6BJ66K-5331	A	L	G		A	R	
6BYMMW-5331	A	L	G		A	R	
6DL8NU-5331	A	L	G		A	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>			<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
6J7CCN- 5335	A	L	F		A	R		
6LEBYJ- 5331	A	L	G		A	R		
6TTB4U- 5331	A	L	G		A	R		
6ZGNDV- 5335	A	L	G		A	R		
7KH9HT- 5335	A	L	F	R	A	R		
7ND3FU- 5335	A	L	G		A	R		
863FGT- 5335	B	L	F		B	R		
8JJEMU- 5335	A	L	G		A	R		
8JX3GU- 5335	A	L	G		A	R		
8KEYAU- 5335	A	L	G		B	R		
8MHPHU- 5331	A	L	G		A	R		
8TCL8K- 5331	A	L	G		A	R		
8TR7RH- 5331	A	L	G		A	R		
8Z4BDM- 5335	A	L	F		A	R		
9D9UNM- 5335	A	L	G		A	R		
9DDWQE- 5335	A	L	G		A	R		
9GD9ME- 5335	A	L	G		A	R		
9MFL2N- 5331	A	L	G		A	R		
A2DTZQ- 5331	A	L	G	-	A	R		
ABZXHP- 5331	A	L	G	R	A	R		

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
ALEVMT-5335	A	L	G	R	A	R	
ALZH8W-5331	A	L	G		A	R	
BNLJQP-5331	A	L	G		A	R	
BPH4DP-5331	A	L	G		A	R	
BYLAAC-5335	A	L	G		A	R	
CBP97N-5331	A	L	G	R	A	R	
CPAN9M-5331	A	L	G	R	A	R	
CVJVYR-5331	A	L	G		A	R	
CZA6AQ-5331	A	L	G		A	R	
CZVJZN-5331	A	L	G		A	R	
D9JUMN-5331	A	L	G		A	R	
DBMP7R-5331	A	L	G		A	R	
DRVNBN-5335	A	L	G	R	A	R	
DTAY6M-5335	A	L	G	R	A	R	
DUVZMF-5331	A	L	G		A	R	
DVUWLQ-5335	A	L	G		A	R	
EP2G6H-5335	A	L	G		A	R	
EQFTYG-5331	A	L	G		A	R	
EXWEWR-5331	A	L	G		A	R	
F9W6FD-5331	A	L	G		A	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
FCWDKN-5331	A	L	G		A	R	
FNNYQJ-5335	A	L	G		A	R	
FQGVED-5331	A	L	G		A	R	
FYPGDF-5331	A	L	G	R	B	R	
G3KLQJ-5335	A	L	G		A	R	
G6LTG-5331	A	L	G	R	A	R	
G6RWN9-5335	A	L	G		A	R	
G8JV38-5331	A	L	G		A	R	
GJRVC6-5331	A	L	G		A	R	
GK6CPJ-5335	A	L	G	R	A	R	
GTVQTP-5331	A	L	G		A	R	
H68F97-5331	A	L	G		A	R	
HDF8C9-5335	A	L	G	R	A	R	
HHBZAA-5335	A	L	G		A	R	
HMQ9XA-5331	A	L	G		A	R	
HNGL8F-5331	A	L	G		A	R	
HPN47B-5331	A	L	G	R	A	R	
J23BPH-5331	A	L	G		A	R	
J9YCJG-5331	A	L	G		A	R	
JYFRNK-5335	A	L	G		A	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
K44RH7- 5331	A	L	G		A	R	
K9V3BG- 5331	A	L	G		A	R	
KCJBZK- 5331	A	L	G		A	R	
KFJLVK- 5331	A	L	G		A	R	
KGNDLC- 5335	A	L	G		A	R	
KTJM9L- 5331	A	L	G		A	R	
KXGVQA- 5331	A	L	G		A	R	
KXYVWK- 5331	A	L	G		A	R	
L2CVTC- 5335	A	L	G		A	R	
L2V2T3- 5331	A	L	G		A	R	
LB4D8K- 5331	A	L	G		A	R	
LDPEQD- 5335	A	L	G		A	R	
LGNM7G- 5335	A	L	G		A	R	
LRKQBB- 5335	A	L	G	R	A	R	
M2PXQB- 5331	A	L	G		A	R	
M6NALB- 5331	A	L	G		A	R	
M96RPD- 5335	A	L	G		A	R	
MEYJ42- 5331	A	L	G		A	R	
MK2XJC- 5331	A	L	G	R	A	R	
MUCZ6C- 5331	A	L	G		A	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
N4C6D6-5331	A	L	G		A	R	
N93EN3-5335	A	L	G		A	R	
N9HPBA-5331	B	L	C	R	D	R	
NKEV68-5331	A	L	G		A	R	
NLRCP2-5335	A	L	G		A	R	
P472BD-5335	A	L	G	R	B	R	
PB4UJ8-5331	A	L	G	R	A	R	
PJJJ98-5331	A	L	G		B	R	
PKCEW2-5335	A	L	G		A	R	
PVXFDB-5335	A	L	G		A	R	
Q7BZAC-5331	A	L	G		A	R	
QCZKB8-5335	A	L	G		A	R	
QEY6RC-5335	A	L	G	R	A	R	
QFYV88-5335	A	L	G	R	A	R	
QNTYGV-5331	A	L	G		A	R	
QP4T84-5335	A	L	G	R	A	R	
QRDTCB-5331	A	L	G		A	R	
RHFPC7-5331	A	L	G		A	R	
RQVGTW-5335	A	L	G		A	R	
RWZXNC-5331	I	L	G		I	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
TDZGP8- 5335	A	L	E		A	R	
U69CJC- 5331	A	L	G		A	R	
UBE6D9- 5335	A	L	G		A	R	
UNYKG8- 5335	A	L	G	R	A	R	
UX9WU6- 5335	A	L	G		A	R	
VNBTUZ- 5335	A	L	G		A	R	
VT3XN6- 5331	A	L	G		A	R	
VT9ZQV- 5331	A	L	G		A	R	
VX4UNX- 5331	A	L	G		A	R	
VXJBG6- 5331	A	L	G	R	A	R	
VYU8X3- 5331	A	L	F		A	R	
W2WBDW- 5335	A	L	G		A	R	
WQEUKP- 5335	A	L	G		A	R	
WZ6EN3- 5331	A	L	G		A	R	
X4XX7Q- 5335	A	L	G		A	R	
XLHP6Q- 5335	A	L	F	R	B	R	
XN7ML4- 5335	A	L	G	R	A	R	
XTM7Z7- 5335	A	L	G		A	R	
XZ2E28- 5331	A	L	G		A	R	
Y3HYL2- 5331	A	L	G	R	B	R	

TABLE 1b (Woodgrain Vinyl Tile)

Questioned Imprints							
WebCode- Test	Q4		Q5		Q6		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
Y4DJ92- 5331	A	L	G		A	R	
Y6NBFW- 5335	A	L	G	R	A	R	
YG3GGQ- 5331	B	L	G		B	R	
YM92EW- 5335	A	L	G	R	A	R	
YPXJH3- 5335	A	L	G		A	R	
YTVX7R- 5331	A	L	G		A	R	
ZBP8C2- 5331	A	L	G	R	A	R	
ZHEHWX- 5335	A	L	G		A	R	

Response Summary - Table 1b (Woodgrain Vinyl Tile)						Participants: 147		
	Q4 Conc.	L/R		Q5 Conc.	L/R	Q6 Conc.	L/R	
Identification (A)	143 (97.3%)	L (100.0%)	(A)	1 (0.7%)	N/A for non-assoc.	(A)	136 (92.5%)	L 0 (0.0%)
High Degree of Ass'n. (B)	3 (2.0%)	R 0 (0.0%)	(B)	0 (0.0%)		(B)	9 (6.1%)	R 147 (100.0%)
Association (C)	0 (0.0%)		(C)	1 (0.7%)		(C)	0 (0.0%)	
Limited Ass'n. (D)	0 (0.0%)		(D)	0 (0.0%)		(D)	1 (0.7%)	
Inconclusive (E)	0 (0.0%)		(E)	1 (0.7%)		(E)	0 (0.0%)	
Non-Ass'n. (F)	0 (0.0%)		(F)	6 (4.1%)		(F)	0 (0.0%)	
Exclusion (G)	0 (0.0%)		(G)	138 (93.9%)		(G)	0 (0.0%)	

Above totals may not equal participant count due to responses outside of the provided scale.

Examination Results

Indicate the results of your comparisons of the recovered shoes with the questioned imprints.

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
23FN6P- 5335	A	R	G	L	G		R
23V8PM- 5331	A	R	G	L	G		R
2AFBV4- 5331	A	R	G		G		
2JHEWT- 5331	A	R	G		E		
2NF9HZ- 5331	A	R	G		G		
2W8ENV- 5331	A	R	G		G		
2ZPPRQ- 5331	A	R	G	L	G		R
39GJ3U- 5331	A	R	G		F		
3AAFQN- 5331	A	R	G		G		
3J2Q2J- 5331	A	R	G		G		
46XRQR- 5335	A	R	G		G		
4768XX- 5331	A	R	G		G		
49W3LR- 5335	A	R	G		G		
4DKW9R- 5331	A	R	A	R	G		
4Y7K8J- 5335	A	R	G		G		
4YKXLU- 5331	A	R	G		G		
6BJ66K- 5331	A	R	G		G		
6BYMMW- 5331	A	R	G		G		

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
6DL8NU- 5331	A	R	G		G		
6J7CCN- 5335	A	R	F		D		
6LEBYJ- 5331	A	R	G		G		
6TTB4U- 5331	A	R	G		G		
6ZGNDV- 5335	A	R	G		G		
7KH9HT- 5335	A	R	F	L	F	R	
7ND3FU- 5335	A	R	G		G		
863FGT- 5335	A	R	F		C	R	
8JJEMU- 5335	A	R	G		G		
8JX3GU- 5335	A	R	G		G		
8KEYAU- 5335	A	R	F		F		
8MHPHU- 5331	A	R	G		G		
8TCL8K- 5331	A	R	G		G		
8TR7RH- 5331	A	R	G		G		
8Z4BDM- 5335	A	R	F		F		
9D9UNM- 5335	A	R	G		G		
9DDWQE- 5335	A	R	G		G		
9GD9ME- 5335	A	R	G		G		
9MFL2N- 5331	A	R	G		G		
A2DTZQ- 5331	A	R	G	-	G	-	

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
ABZXHP-5331	A	R	G	L	G	R	
ALEVMT-5335	A	R	G	L	G	R	
ALZH8W-5331	A	R	G		G		
BNLJQP-5331	A	R	G		G		
BPH4DP-5331	A	R	G		G		
BYLAAC-5335	A	R	G		G		
CBP97N-5331	A	R	G	L	G	R	
CPAN9M-5331	A	R	F	L	C	R	
CVJVYR-5331	A	R	G		G		
CZA6AQ-5331	A	R	G		G		
CZVJZN-5331	A	R	G		G		
D9JUMN-5331	A	R	G		G		
DBMP7R-5331	A	R	G		G		
DRVNBN-5335	A	R	G	L	G	R	
DTAY6M-5335	A	R	G	L	G	R	
DUVZMF-5331	A	R	G		G		
DVUWLQ-5335	A	R	G		G		
EP2G6H-5335	A	R	G		F		
EQFTYG-5331	A	R	G		G		

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
EXWEWR-5331	A	R	G		G		
F9W6FD-5331	A	R	G		G		
FCWDKN-5331	A	R	G		G		
FNNYQJ-5335	A	R	G		G		
FQGVED-5331	A	R	G		G		
FYPGDF-5331	A	R	G	L	G	R	
G3KLQJ-5335	A	R	G		G		
G6LTG-5331	A	R	G	L	G	R	
G6RWN9-5335	A	R	G		G		
G8JV38-5331	A	R	G		G		
GJRVC6-5331	A	R	G		G		
GK6CPJ-5335	A	R	G	L	G	R	
GTVQTP-5331	A	R	G		G		
H68F97-5331	A	R	G		G		
HDF8C9-5335	A	R	G	L	G	R	
HHBZAA-5335	A	R	G		G		
HMQ9XA-5331	A	R	G		G		
HNGL8F-5331	A	R	G		G		
HPN47B-5331	A	R	G	L	G	R	
J23BPH-5331	A	R	G		G		

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
J9YCJG- 5331	A	R	G		G		
JYFRNK- 5335	A	R	G		G		
K44RH7- 5331	A	R	G		G		
K9V3BG- 5331	A	R	G		G		
KCJBZK- 5331	A	R	G		G		
KFJLVK- 5331	A	R	G		G		
KGNDLC- 5335	A	R	G		G		
KTJM9L- 5331	A	R	G		G		
KXGVQA- 5331	A	R	G		G		
KXYVWK- 5331	A	R	G		G		
L2CVTC- 5335	A	R	G		G		
L2V2T3- 5331	A	R	G		G		
LB4D8K- 5331	A	R	G		G		
LDPEQD- 5335	A	R	G		G		
LGNM7G- 5335	A	R	G		G		
LRKQBB- 5335	A	R	G	L	G	R	
M2PXQB- 5331	A	R	G		G		
M6NALB- 5331	A	R	G		G		
M96RPD- 5335	A	R	G		G		

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
MEYJ42- 5331	A	R	G		G		
MK2XJC- 5331	A	R	G	L	F	R	
MUCZ6C- 5331	A	R	G		G		
N4C6D6- 5331	A	R	G		G		
N93EN3- 5335	A	R	G		G		
N9HPBA- 5331	B	R	D	L	D	R	
NKEV68- 5331	A	R	G		G		
NLRCP2- 5335	A	R	G		G		
P472BD- 5335	A	R	G	L	G	R	
PB4UJ8- 5331	A	R	G	L	G	R	
PJJJ98- 5331	A	R	G		F	R	
PKCEW2- 5335	A	R	G		G		
PVXFDB- 5335	A	R	G		G		
Q7BZAC- 5331	A	R	G		G		
QCZKB8- 5335	A	R	G		G		
QEY6RC- 5335	A	R	G	L	G	R	
QFYV88- 5335	A	R	G	L	G	R	
QNTYGV- 5331	A	R	G		G		
QP4T84- 5335	A	R	G	L	G	R	
QRDTCB- 5331	A	R	G		G		

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
RHFPC7- 5331	A	R	G		G		
RQVGTW- 5335	A	R	G		F		
RWZXNC- 5331	I	R	G		G		
TDZGP8- 5335	A	R	E		E		
U69CJC- 5331	A	R	G		G		
UBE6D9- 5335	A	R	G		G		
UNYKG8- 5335	A	R	G	L	G	R	
UX9WU6- 5335	A	R	G		G		
VNBTUZ- 5335	A	R	G		G		
VT3XN6- 5331	A	R	G		G		
VT9ZQV- 5331	A	R	G		G		
VX4UNX- 5331	A	R	G		G		
VXJBG6- 5331	A	R	G	L	G	R	
VYU8X3- 5331	A	R	F		F		
W2WBDW- 5335	A	R	G		G		
WQEUKP- 5335	A	R	G		G		
WZ6EN3- 5331	A	R	G		C		
X4XX7Q- 5335	A	R	G		G		
XLHP6Q- 5335	A	R	G	L	F	R	

TABLE 1c (Newspaper)

Questioned Imprints							
WebCode- Test	<u>Q7</u>		<u>Q8</u>		<u>Q9</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
XN7ML4- 5335	A	R	G	L	G	R	
XTM7Z7- 5335	A	R	G		G		
XZ2E28- 5331	A	R	G		G		
Y3HYL2- 5331	A	R	G	L	G	R	
Y4DJ92- 5331	A	R	G		G		
Y6NBFW- 5335	A	R	G	L	G	R	
YG3GGQ- 5331	B	R	G		G		
YM92EW- 5335	A	R	G	L	G	R	
YPXJH3- 5335	A	R	G		G		
YTVX7R- 5331	A	R	G		G		
ZBP8C2- 5331	A	R	G	L	G	R	
ZHEHWX- 5335	A	R	G		G		

Response Summary -Table 1c (Newspaper)						Participants: 147		
	<u>Q7 Conc.</u>	<u>L/R</u>		<u>Q8 Conc.</u>	<u>L/R</u>	<u>Q9 Conc.</u>	<u>L/R</u>	
Identification (A)	144 (98.0%)	L 0 (0.0%)	(A)	1 (0.7%)	N/A for non-assoc.	(A)	0 (0.0%)	N/A for non-assoc.
High Degree of Ass'n. (B)	2 (1.4%)	R 147 (100.0%)	(B)	0 (0.0%)		(B)	0 (0.0%)	
Association (C)	0 (0.0%)		(C)	0 (0.0%)		(C)	3 (2.0%)	
Limited Ass'n. (D)	0 (0.0%)		(D)	1 (0.7%)		(D)	2 (1.4%)	
Inconclusive (E)	0 (0.0%)		(E)	1 (0.7%)		(E)	2 (1.4%)	
Non-Ass'n. (F)	0 (0.0%)		(F)	7 (4.8%)		(F)	10 (6.8%)	
Exclusion (G)	0 (0.0%)		(G)	137 (93.2%)		(G)	130 (88.4%)	

Above totals may not equal participant count due to responses outside of the provided scale.

Conclusions

TABLE 2

WebCode-Test	Conclusions
23FN6P-5335	<p>On the items Q1, Q3, Q4, Q6 and Q7 there are shoeprints which correspond in pattern with the shoes of item K1. On the items Q1 and Q6 there are also several individual characteristics with the shoes of item K1. On the items Q3 and Q4 there are shoeprints which correspond also with measurable size and several individual characteristics with the shoes of item K1. On the item Q7 there is shoeprint which correspond also with size and several individual characteristics with the right shoe of item K1. The shoeprints of the items Q1, Q3, Q4, Q6 and Q7 are left by the shoes of item K1. On the items Q2, Q5, Q8 and Q9 there are shoeprints which don't correspond in size with the shoes of the item K1. The shoeprint of items Q2, Q5, Q8 and Q9 are not left by the shoes of the item K1.</p>
23V8PM-5331	<p>01-01: Photograph of questioned impressions from a grey stone vinyl tile (Items Q1 – Q3) This photograph depicts a total of three questioned footwear impressions in black material. One of the questioned impressions (Q1) is a partial left footwear impression and is similar in size, shape, tread design, and at least three randomly acquired characteristics with the suspect's left shoe (01-04). It is my opinion that this questioned impression was made by the suspect's left shoe (Category 1). Another questioned impression (Q3) is a nearly complete right footwear impression and is similar in size, shape, tread design, and at least three randomly acquired characteristics with the suspect's right shoe (01-04). It is my opinion that this questioned impression was made by the suspect's right shoe (Category 1). The remaining questioned impression (Q2) is a nearly complete left footwear impression and exhibit similarities in tread design but is different in size and wear to the suspect's left shoe (01-04). It is my opinion that these questioned impressions were not made by the suspect's shoes (Category 5). No further analysis done. 01-02: Photograph of questioned impressions from a woodgrain vinyl tile (Items Q4 – Q6) This photograph depicts a total of three questioned footwear impressions in black material. One of the questioned impressions (Q4) is a partial left footwear impression and is similar in size, shape, tread design, and at least three randomly acquired characteristics with the suspect's left shoe (01-04). It is my opinion that this questioned impression was made by the suspect's left shoe (Category 1). Another questioned impression (Q6) is a partial right footwear impression and is similar in size, shape, tread design, and at least two randomly acquired characteristics with the suspect's right shoe (01-04). It is my opinion that this questioned impression was made by the suspect's right shoe (Category 1). The remaining questioned impression (Q5) is a nearly complete right footwear impression and exhibit similarities in tread design but is different in size to the suspect's right shoe (01-04). It is my opinion that these questioned impressions were not made by the suspect's shoes (Category 5). No further analysis done. 01-03: Photograph of questioned impressions from a newspaper (Items Q7 – Q9) This photograph depicts a total of three questioned footwear impressions in black material. One of the questioned impressions (Q7) is a complete right footwear impression and is similar in size, shape, tread design, and at least three randomly acquired characteristics with the suspect's right shoe (01-04). It is my opinion that this questioned impression was made by the suspect's right shoe (Category 1). The remaining two questioned impressions (Q8 and Q9) are a partial left footwear impression (Q8) and a partial right footwear impression (Q9) and exhibit similarities in tread design but are different in size and/or wear to the suspect's left and/or right shoe (01-04). It is my opinion that these questioned impressions were not made by the suspect's shoes (Category 5). No further analysis done. 01-04: Photographs of the suspect's left and right shoes (Items K1a – K1g). This item was used for comparison purposes.</p>
2AFBV4-5331	<p>The methodologies utilized in this examination include: visual examination and ACE-V. Item 1: One (1) questioned footwear impression was noted on Item 1A (designated Item 1A-1). Item 1A-1 was compared to Item 10 (Item 10-1) with the following results: Item 1A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 10. Additionally, Item 1A-1 exhibits unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that Item 1A-1 was made by the known left shoe submitted in Item 10. Item 1A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 10. Item 2: One (1) questioned footwear impression was noted on Item 2A (designated Item 2A-1). Item 2A-1 was compared to Item 10 (Item 10-1) with the following results: Item 2A-1 is similar in outsole design to the known left shoe submitted in Item 10. However, Item 2A-1 does not correspond in physical size and general wear with the known left shoe; therefore, Item 2A-1 was not made by the known left shoe submitted in Item 10. Item 2A-1 is of a left</p>

TABLE 2

WebCode-Test	Conclusions
	<p>shoe; therefore, it was not made by the right shoe submitted in Item 10. Item 3: One (1) questioned footwear impression was noted on Item 3A (designated Item 3A-1). Item 3A-1 was compared to Item 10 (Item 10-1) with the following results: Item 3A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 10. Item 3A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, Item 3A-1 exhibits unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that Item 3A-1 was made by the known right shoe submitted in Item 10. Item 4: One (1) questioned footwear impression was noted on Item 4A (designated Item 4A-1). Item 4A-1 was compared to Item 10 (Item 10-1) with the following results: Item 4A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 10. Additionally, Item 4A-1 exhibits unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that Item 4A-1 was made by the known left shoe submitted in Item 10. Item 4A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 10. Item 5: One (1) questioned footwear impression was noted on Item 5A (designated Item 5A-1). Item 5A-1 was compared to Item 10 (Item 10-1) with the following results: Item 5A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 10. Item 5A-1 is similar in outsole design to the known right shoe submitted in Item 10. However, Item 5A-1 does not correspond in physical size, general wear, and individual characteristics with the known right shoe; therefore, Item 5A-1 was not made by the known right shoe submitted in Item 10. Item 6: One (1) questioned footwear impression was noted on Item 6A (designated Item 6A-1). Item 6A-1 was compared to Item 10 (Item 10-1) with the following results: Item 6A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 10. Item 6A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, Item 6A-1 exhibits unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that Item 6A-1 was made by the known right shoe submitted in Item 10. Item 7: One (1) questioned footwear impression was noted on Item 7A (designated Item 7A-1). Item 7A-1 was compared to Item 10 (Item 10-1) with the following results: Item 7A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 10. Item 7A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, Item 7A-1 exhibits unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that Item 7A-1 was made by the known right shoe submitted in Item 10. Item 8: One (1) questioned footwear impression was noted on Item 8A (designated Item 8A-1). Item 8A-1 was compared to Item 10 (Item 10-1) with the following results: Item 8A-1 is similar in outsole design to the known left shoe submitted in Item 10. However, Item 8A-1 does not correspond in physical size, general wear, and individual characteristics with the known left shoe; therefore, Item 8A-1 was not made by the known left shoe submitted in Item 10. Item 8A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 10. Item 9: One (1) questioned footwear impression was noted on Item 9A (designated Item 9A-1). Item 9A-1 was compared to Item 10 (Item 10-1) with the following results: Item 9A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 10. Item 9A-1 is similar in outsole design to the known right shoe submitted in Item 10. However, Item 9A-1 does not correspond in general wear and individual characteristics with the known right shoe; therefore, Item 9A-1 was not made by the known right shoe submitted in Item 10.</p>
2JHEWT-5331	[No Conclusions Reported.]
2NF9HZ-5331	<p>Comparison examinations were conducted between the submitted unknown footwear impressions and the submitted known impressions of K1. Exhibits 4.3 (Q3), 5.3 (Q6) and 6.1 (Q7) were identified as having been made by the submitted known right shoe, exhibit 3.1 (K1f-Right). Exhibits 4.1 (Q1) and 5.1 (Q4) were identified as having been made by the submitted known left shoe, exhibit 3.2 (K1f-Left). Exhibits 5.2 (Q5) and 6.3 (Q9) were not made by the submitted known right shoe, exhibit 3.1 (K1f-Right), based on differences in class characteristics. Exhibits 5.2 (Q5) and 6.3 (Q9) could have been made by the same second right shoe based on class and some individual characteristics; however, insufficient detail precludes a more conclusive determination. Suspect footwear include New Balance right athletic shoes of similar outsole design; however, any suspect shoe should be submitted for examination. Exhibits 4.2 (Q2) and 6.2 (Q8) were not made by the submitted known left shoe, exhibit 3.2 (K1f-Left), based on differences in class characteristics. Exhibits 4.2 (Q2) and 6.2 (Q8) could have been made by the same second left shoe based on class and some individual characteristics; however,</p>

TABLE 2

WebCode-Test	Conclusions
	insufficient detail precludes a more conclusive determination. Suspect footwear include New Balance left athletic shoes of similar outsole design; however, any suspect shoe should be submitted for examination.
2W8ENV-5331	All conclusions discussed in [Laboratory] report, that includes footwear impression comparison and analysis, follows the standards set forth by the SWGTREAD Range of Conclusions.
2ZPPRQ-5331	TrasoScan system, Lucia Forensic 8.10 software and additionally a transparent foil were used in this test. The comparisons of the enclosed footwear impressions (Q1-Q9 and K1a-K1g) concerned the physical size and shape of a shoe soles, a sole design, and random individual identifying characteristics. There were present some individual identifying characteristics on the surface of shoe soles, being the comparative material. Similar individual characteristics were found in evidence materials marked Q1, Q3, Q4, Q6 and Q7. Thus, it was concluded that an items Q2, Q5, Q8 and Q9 are different from the comparative material. Items Q3, Q5, Q6, Q7 and Q9 came from the right sole, and Q1, Q2, Q4 and Q8 came from the left sole.
39GJ3U-5331	In my opinion, Q1 and Q4 were made by the suspect's left shoe as they share an agreement of class and randomly acquired characteristics (RAC) (incl. wear pattern) of sufficient quantity and quality. Q3, Q6, and Q7 were made by the suspect's right shoe as they share an agreement of class and RAC (incl. wear pattern) of sufficient quantity and quality. Q2, Q5, and Q8 were excluded from having made by the suspect's shoes as there were dissimilarities in terms of the presence/absence of RAC. There were indications of non-association between Q9 and the suspect's shoe in terms of the degree of wear, but is not sufficient to rule out the possibility of Q9 having made by suspect's left shoe.
3AAFQN-5331	Impressions Q3, Q6, and Q7 and the K1 known right shoe have similar class characteristics and similar randomly acquired characteristics of sufficient quality and quantity. Therefore, impressions Q3, Q6, and Q7 were made by the K1 known right shoe. Impressions Q1 and Q4 and the K1 known left shoe have similar class characteristics and similar randomly acquired characteristics of sufficient quality and quantity. Therefore, impressions Q1 and Q4 were made by the K1 known left shoe. Impressions Q2, Q5, Q8, and Q9 have a similar general outsole design to the K1 known shoes; however, the impressions were made with shoes that are smaller than the K1 known shoes. Consequently, impressions Q2, Q5, Q8, and Q9 were not made by the K1 known shoes.
3J2Q2J-5331	The questioned impressions (Q1 and Q4) and the left known footwear exemplars share agreement of class and randomly acquired characteristics of sufficient quality and quantity to conclude that the left shoe made the impressions. The right shoe is excluded as having made these impressions. The questioned impressions (Q3, Q6 and Q7) and the right known footwear exemplars share agreement of class and randomly acquired characteristics of sufficient quality and quantity to conclude that the right shoe made the impressions. The left shoe is excluded as having made these impressions. The questioned impressions (Q2, Q5, Q8 and Q9) exhibit differences in size and wear pattern in comparison against the known shoe exemplars. The shoes are excluded as having made these impressions.
46XRQR-5335	The questioned prints Q1 and Q4 (both left prints), Q3, Q6 and Q7 (right prints) show sufficient correspondence in pattern, size and randomly acquired characteristics with the suspects shoes K1. Q2 and Q5 have a different pattern on the top. Q8 differs in pattern details and size. Q9 has other pattern details and other wear characteristics. So Q2, Q5, Q8 and Q9 could not have been made by the suspects shoes K1.
4768XX-5331	In the opinion of this examiner, Laboratory Item #001.A (K1a) the left New Balance shoe sole depicted in the photograph was the source of, and made, Laboratory Item #001.H (Q1) questioned imprint found on grey stone vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the left New Balance shoe sole depicted in the photograph was not the source of, and did not make, Laboratory Item #001.I (Q2) questioned imprint found on grey stone vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the right New Balance shoe sole depicted in the photograph was the source of, and made, Laboratory Item #001.J (Q3) questioned imprint found on grey stone vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the left New Balance shoe sole depicted in the photograph was the source of, and made, Laboratory Item #001.K (Q4) questioned imprint found on woodgrain vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the right New Balance shoe sole

TABLE 2

WebCode-Test	Conclusions
	<p>depicted in the photograph was not the source of, and did not make, Laboratory Item #001.L (Q5) questioned imprint found on woodgrain vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the right New Balance shoe sole depicted in the photograph was the source of, and made, Laboratory Item #001.M (Q6) questioned imprint found on woodgrain vinyl tile. In the opinion of this examiner, Laboratory Item #001.A (K1a) the right New Balance shoe sole depicted in the photograph was the source of, and made, Laboratory Item #001.N (Q7) questioned imprint found on newspaper. In the opinion of this examiner, Laboratory Item #001.A (K1a) the left New Balance shoe sole depicted in the photograph was not the source of, and did not make, Laboratory Item #001.O (Q8) questioned imprint found on newspaper. In the opinion of this examiner, Laboratory Item #001.A (K1a) the right New Balance shoe sole depicted in the photograph was not the source of, and did not make, Laboratory Item #001.P (Q9) questioned imprint found on newspaper.</p>
49W3LR-5335	<p>It was determined utilizing side by side comparison that Q1 and Q4 questioned footwear impressions were positively made by the known left shoe. It was determined utilizing side by side comparison that Q3, Q6 and Q7 questioned footwear impression were positively made by the known right shoe. It was determined utilizing side by side comparison that Q2, Q5, Q8 and Q9 questioned footwear impressions exhibited dissimilar wear characteristic with the known left and right shoes. Therefore, the known shoes can be eliminated as being the source of those questioned impressions. An identification determination is centered on the existence of sufficient class and individualizing characteristics in agreement between a questioned and known, as well as being founded on the examiner's training, knowledge, skill and experience.</p>
4DKW9R-5331	<p>The report below reflects the professional opinion reached by this examiner, based on the information available at the time of analysis. The following items were received from Collaborative Testing Services, and were used for this footwear examination: Case #24-5331 Evidence: K1A-C: Photographs of the soles of the recovered shoes lighted from different angels. K1D-G: Photographs of known exemplars made with the recovered shoes. K1: (1) pair of New Balance athletic shoes, U.S. size W 9.5, M8. Item #Q1: One partial footwear imprint found on textured grey stone vinyl tile. Item #Q2: One partial footwear imprint found on textured grey stone vinyl tile. Item #Q3: One partial footwear imprint found on textured grey stone vinyl tile. Item #Q4: One partial footwear imprint found on woodgrain vinyl tile. Item #Q5: One partial footwear imprint found on woodgrain vinyl tile. Item #Q6: One partial footwear imprint found on woodgrain vinyl. Item #Q7: One partial footwear imprint found on newspaper. Item #Q8: One partial footwear imprint found on newspaper. Item #Q9: One partial footwear imprint found on newspaper. Comparison: The footwear imprints labeled Item #Q1, #Q4 and #Q5 correspond in design, physical size, and wear, and share multiple random accidental characteristics or defects with the left known shoe labeled K1L. It was determined that the K1 left known shoe made the questioned imprints labeled #Q1, #Q4 and #Q5. The footwear imprints labeled Item #Q3, #Q6, #Q7 and #Q8 correspond in design, physical size, and wear, and share multiple random accidental characteristics or defects with the right known shoe labeled K1R. It was determined that the K1 right known shoe made the questioned imprints labeled #Q3, #Q6, #Q7 and #Q8. The footwear imprints labeled Item #Q2 and #Q9 were eliminated as having been made by the submitted K1 shoes. The questioned imprints corresponded in design, however, were of a different size.</p>
4Y7K8J-5335	<p>In the opinion of this examiner, the Right footwear, is the source of, and made, the questioned impressions Q3, Q6, and Q7. Another item of footwear being the source of these impressions is considered a practical impossibility. In the opinion of this examiner, the Left footwear, is the source of, and made, the questioned impressions Q1 and Q4. Another item of footwear being the source of these impressions is considered a practical impossibility. In the opinion of this examiner, the known footwear, is not the source of, and did not make the questioned impressions Q2, Q5, Q8, and Q9.</p>
4YKXLU-5331	<p>Q1 and Q4 come from left shoe K1. Q3, Q6 and Q7 come from right shoe K1. Q2, Q5, Q8 and Q9 do tot comes from shoes K1.</p>
6BJ66K-5331	<p>[No Conclusions Reported.]</p>

TABLE 2

WebCode-Test	Conclusions
6BYMMW-5331	Visual comparisons were conducted and the findings of this examiner are as follows: 1. Items 4.1 (Q1) and 5.1 (Q4) were identified as having been made by the submitted left shoe (K1f - Left). 2. Items 4.3 (Q3), 5.3 (Q6) and 6.1 (Q7) were identified as having been made by the submitted right shoe (K1f - Right). 3. Items 4.2 (Q2), 5.2 (Q5), 6.2 (Q8) and 6.3 (Q9) were not identified as having been made by the submitted New Balance shoes (K1). 4. Items 4.2 (Q2) and 6.2 (Q8) could have been made by a second left shoe with a similar outsole design as the recovered left New Balance shoe (K1), based on class and some individual characteristics. However, insufficient detail precludes a more conclusive determination. 5. Items 5.2 (Q5) and 6.3 (Q9) could have been made by a second right shoe with a similar outsole design as the recovered right New Balance shoe (K1), based on class and some individual characteristics. However, insufficient detail precludes a more conclusive determination.
6DL8NU-5331	Q1 and Q4: These marks show agreement in pattern, size, degree of wear and fine detail with the left shoe such that in our opinion, the left shoe is responsible for these marks. Q3, Q6 and Q7: These marks show agreement in pattern, size, degree of wear and fine detail with the right shoe such that in our opinion, the right shoe is responsible for these marks. Q2, Q5, Q8 and Q9: These marks showed agreement in pattern with the submitted shoes, however differences were noted in size and/or degree of wear, such that in our opinion, neither submitted shoe was responsible for these marks.
6J7CCN-5335	[No Conclusions Reported.]
6LEBYJ-5331	The partial left shoe impression (Q1) is similar in class characteristics (tread design, size), wear and also share randomly acquired characteristics with the recovered left shoe (K1a-g). It is our opinion that this partial left shoe impression was made by the recovered left shoe. The right shoe impression (Q3) is similar in class characteristics (tread design, size), wear and also share randomly acquired characteristics with the recovered right shoe (K1a-g). It is our opinion that this right shoe impression was made by the recovered right shoe. The left shoe impression (Q2) is dissimilar in class characteristics (size) and wear to the recovered shoes (K1a-g). It is our opinion that this left shoe impression was not made by the recovered shoes. The partial left shoe impression (Q4) is similar in class characteristics (tread design, size), wear and also share randomly acquired characteristics with the recovered left shoe (K1a-g). It is our opinion that this partial left shoe impression was made by the recovered left shoe. The partial right shoe impression (Q6) is similar in class characteristics (tread design, size), wear and also share randomly acquired characteristics with the recovered right shoe (K1a-g). It is our opinion that this partial right shoe impression was made by the recovered right shoe. The right shoe impression (Q5) is dissimilar in class characteristics (size) and wear to the recovered shoes (K1a-g). It is our opinion that this right shoe impression was not made by the recovered shoes. The right shoe impression (Q7) is similar in class characteristics (tread design, size), wear and also share randomly acquired characteristics with the recovered right shoe (K1a-g). It is our opinion that this right shoe impression was made by the recovered right shoe. The partial right shoe impression (Q9) and partial left shoe impression (Q8) are dissimilar in class characteristics (size) and/or wear to the recovered shoes (K1a-g). It is our opinion that these partial shoe impressions were not made by the recovered shoes.
6TTB4U-5331	The impressions recorded on exhibits Q1, Q3, Q4, Q6, Q7 show pattern elements that are of a similar pattern, size and configuration, with closely corresponding damage features to that present on the footwear exhibits relating to CTS. A more detailed comparison of these items could potentially yield at least 'Very strong' support for the findings as described above. An SFR has been created to detail the findings and can be sent to a forensic service provider for a evidential comparison
6ZGNDV-5335	A comparison of the sole marks found at the crime scene and the shoes recovered revealed similarities in size, pattern and randomly acquired characteristics of sufficient quality and quantity, leading to the following identifications : - The sole marks Q1 and Q4 with the left shoe. - The sole marks Q3, Q6 et Q7 with the right shoe. The comparisons also revealed major discrepancies in terms of dimensions and randomly acquired characteristics, leading to the exclusion of sole marks Q2, Q5, Q8 and Q9.
7KH9HT-5335	[No Conclusions Reported.]

TABLE 2

WebCode-Test	Conclusions
7ND3FU-5335	Based upon my experience of undertaking and interpreting the results of footwear comparisons, and the level of correspondence noted in pattern, pattern size, degree of wear and damage features, in my opinion, taken collectively the findings show conclusively that the New Balance training shoes have made the footwear marks Q1, Q3, Q4, Q6 and Q7.
863FGT-5335	In my opinion the left New Balance shoe was the source of, and made, the questioned impression labelled Q1. The chance of another item of footwear being the source of the impression is considered negligible. In my opinion the right New Balance shoe was the source of, and made, the questioned impression labelled Q3 and Q7. The chance of another item of footwear being the source of these impressions is considered negligible. In my opinion the characteristics observed exhibit strong associations between the questioned impression Q4 and the left New Balance shoe, however the quantity was insufficient for an identification. Other footwear with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics observed in the questioned impression. In my opinion the characteristics observed exhibit strong associations between the questioned impression Q6 and the right New Balance shoe, however the quantity was insufficient for an identification. Other footwear with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics observed in the questioned impression. In my opinion the right New Balance shoe is a possible source of the questioned impression Q9 and therefore could have produced the impression. Other footwear with the same class characteristics are included as possible sources. In my opinion, the questioned impressions Q2, Q5 and Q8 exhibit dissimilarities when compared to the known New Balance shoes, however, certain details and features were not sufficiently clear to permit exclusion.
8JJEMU-5335	1: In the opinion of the examiner, the particular known left shoe was the source of, and made, the questioned impression. The chance of another shoe being the source of the impression is considered negligible. 2: In the opinion of the examiner, due to differences observed the particular known shoes were not the source of and did not make the impression. 3: In the opinion of the examiner, the particular known right shoe was the source of, and made, the questioned impression. The chance of another shoe being the source of the impression is considered negligible. 4: In the opinion of the examiner, the particular known left shoe was the source of, and made, the questioned impression. The chance of another shoe being the source of the impression is considered negligible. 5: In the opinion of the examiner, due to differences observed the particular known shoes were not the source of and did not make the impression. 6: In the opinion of the examiner, the particular known right shoe was the source of, and made, the questioned impression. The chance of another shoe being the source of the impression is considered negligible. 7: In the opinion of the examiner, the particular known right shoe was the source of, and made, the questioned impression. The chance of another shoe being the source of the impression is considered negligible. 8: In the opinion of the examiner, due to differences observed the particular known shoes were not the source of and did not make the impression. 9: In the opinion of the examiner, due to differences observed the particular known shoes were not the source of and did not make the impression.
8JX3GU-5335	Impressions Q1 & Q4 were identified to the left shoe of K1. Impressions Q3, Q6 & Q7 were identified to the right shoe of K1. Impressions Q2, Q5, Q8 & Q9 were excluded to both the right and left shoes of K1.
8KEYAU-5335	[No Conclusions Reported.]
8MHPHU-5331	I observed a correspondence of size, wear and randomly acquired characteristics between the questioned prints, items Q1, Q3, Q4, Q6 and Q7 and test-prints made with the recovered shoes (item K1). In subjectively interpreting the significance of these comparison findings, I have considered the probability of obtaining these findings given the recovered shoes made these questioned prints. Conversely, I have also considered the probability of obtaining these findings given the recovered shoes did not make these questioned prints. In my opinion, I would expect to obtain these findings if the recovered shoes made these questioned prints. Conversely, given the vast range of shoe sole sizes, patterns and randomly acquired characteristics I would expect to see differences in some or all of these features. However, I did

TABLE 2

WebCode-Test	Conclusions
8TCL8K-5331	<p>not observe any such differences. Therefore, in my opinion, the comparison findings provide extremely strong support for the proposition that the questioned prints, items Q1, Q3, Q4, Q6 and Q7 were made by the recovered pair of shoes (item K1) as opposed to have been made by another pair of shoes. I have chosen the term "extremely strong support" used from the following scale; neutral, slight support, moderate support, strong support, very strong support and extremely strong support. This scale can be used to indicate the level of support for either proposition. I observed a difference in size and wear between the questioned prints, item Q2, Q5, Q8 and Q9 and test-prints made with the recovered shoes (item K1). Therefore, in my opinion, the recovered shoes did not make these questioned prints.</p> <p>ITEMS: 1 a sealed manila envelope identified as "2024 CTS Forensic Testing Program TEST NO. 24-5331: FOOTWEAR IMPRINT EVIDENCE Sample Pack: FIEP" containing: 1-1 photographs K1a - K1g of known shoes "New Balance US W 9.5" and their rolled and stepped impressions. 1-2 three (3) photographs depicting nine (9) impressions labeled "Q1 - Q9". RESULTS: Items #1-1 and #1-2 were examined visually. The design characteristics, physical size, and areas of wear of the questioned impression Q1, item #1-2, were found to correspond to the left shoe outsole, item #1-1. Randomly acquired characteristics were found to correspond in position and orientation between the Q1 impression, item #1-2, and the outsole of the left shoe, item #1-1. While the questioned impression Q2, item #1-2, and the known left shoe outsole, item #1-1, corresponded in design characteristics, dissimilarities in size were observed, and no randomly acquired characteristics consistent with the known shoe were found. Further analysis could be completed if additional known shoes are submitted for comparison. The design characteristics, physical size, and areas of wear of the questioned impression Q3, item #1-2, were found to correspond to the right shoe outsole, item #1-1. Randomly acquired characteristics were found to correspond in position and orientation between the Q3 impression, item #1-2, and the outsole of the right shoe, item #1-1. The design characteristics, physical size, and areas of wear of the questioned impression Q4, item #1-2, were found to correspond to the left shoe outsole, item #1-1. Randomly acquired characteristics were found to correspond in position and orientation between the Q4 impression, item #1-2, and the outsole of the left shoe, item #1-1. While the questioned impression Q5, item #1-2, and the known right shoe outsole, item #1-1, corresponded in design characteristics, dissimilarities in size were observed, and no randomly acquired characteristics consistent with the known shoe were found. Further analysis could be completed if additional known shoes are submitted for comparison. The design characteristics, physical size, and areas of wear of the questioned impression Q6, item #1-2, were found to correspond to the right shoe outsole, item #1-1. Randomly acquired characteristics were found to correspond in position and orientation between the Q6 impression, item #1-2, and the outsole of the right shoe, item #1-1. The design characteristics, physical size, and areas of wear of the questioned impression Q7, item #1-2, were found to correspond to the right shoe outsole, item #1-1. Randomly acquired characteristics were found to correspond in position and orientation between the Q7 impression, item #1-2, and the outsole of the right shoe, item #1-1. While the questioned impression Q8, item #1-2, and the known left shoe outsole, item #1-1, corresponded in design characteristics, dissimilarities in size were observed, and no randomly acquired characteristics consistent with the known shoe were found. Further analysis could be completed if additional known shoes are submitted for comparison. While the questioned impression Q9, item #1-2, and the known right shoe outsole, item #1-1, corresponded in design characteristics, dissimilarities in size were observed, and no randomly acquired characteristics consistent with the known shoe were found. Further analysis could be completed if additional known shoes are submitted for comparison. OPINION: These associations are significant enough to determine that the left shoe, item #1-1, was the source of the Q1 impression, item #1-2. This is an Identification. Please see Association Key below. The left shoe, item #1-1, was not the source of the Q2 impression, item #1-2. This is an Exclusion. Please see Association Key below. These associations are significant enough to determine that the right shoe, item #1-1, was the source of the Q3 impression, item #1-2. This is an Identification. Please see Association Key below. These associations are significant enough to determine that the left shoe, item #1-1, was the source of the Q4 impression, item #1-2. This is an Identification. Please see Association Key below. The right shoe, item #1-1, was not the source of the Q5 impression, item #1-2. This is an Exclusion. Please see Association Key below. These associations are significant enough to determine that the right shoe, item #1-1, was the source of the Q6 impression, item #1-2. This is an Identification. Please see Association Key below. These associations are significant enough to determine that the right shoe, item</p>

TABLE 2

WebCode-Test	Conclusions
	<p>#1-1, was the source of the Q7 impression, item #1-2. This is an Identification. Please see Association Key below. The left shoe, item #1-1, was not the source of the Q8 impression, item #1-2. This is an Exclusion. Please see Association Key below. The right shoe, item #1-1, was not the source of the Q9 impression, item #1-2. This is an Exclusion. Please see Association Key below. NOTE: Class characteristics can include outsole design, physical size, areas of wear, and/or texturing. DISPOSITION OF EVIDENCE: The evidence is returned to the submitting/investigating agency upon completion of examination. Associative Key for Footwear or Tire Impressions: Identification: This is the highest degree of association. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity. The particular known footwear or tire was the source of, and made, the questioned impression and another tire or item of footwear being the source of this impression is considered a practical impossibility. High Degree of Association: The characteristics observed exhibit strong associations between the questioned impression and the known footwear or tire; however, the quality and/or quantity were insufficient for an identification. Other footwear or tires with the same characteristics are included as possible sources only if they display the same class characteristics and/or randomly acquired characteristics observed in the questioned impression. Association of Class Characteristics: The known footwear or tire is a possible source of the questioned impression and therefore could have produced the questioned impression. Other footwear or tires with the same class characteristics are included as possible sources of the questioned impression. Limited Association of Class Characteristics: Certain factors have limited the conclusion to a general association of class characteristics. Other footwear or tires with the same class characteristics are included as possible sources of the questioned impression. Indications of Non-Association: Dissimilarities between the questioned impression and the known footwear or tire indicated non- association; however, the details or features were not sufficient to permit an exclusion. Exclusion: The particular known footwear or tire did not make the questioned impression.</p>
8TR7RH-5331	<p>COMPARISONS: Compared the partial, questioned footwear impressions of value, Q1 through Q9, with the photographs of the known shoes(outsoles), test impressions, and transparencies, respectively submitted in Submissions 001 and 001A. RESULTS: The partial, questioned footwear impressions of value, Q1 and Q4, were made by the known left shoe in Submission 001. The partial, questioned footwear impressions of value, Q3, Q6, and Q7, were made by the known right shoe in Submission 001. The partial, questioned footwear impressions of value, Q2, Q5, Q8, and Q9, were not made by the known shoes in Submission 001. (Sizing and Wear differences)</p>
8Z4BDM-5335	<p>There are similarities in pattern, design, size and general and individual characteristics when comparing the identified shoe print fragment Q1 (left) with the identified shoe print K1. The footwear impression identified Q2 has similarities in pattern and design, however, it has dissimilarities in individual characteristics when compared to the impressions identified K1. There are similarities in pattern, design, size and individual characteristics when comparing the identified shoe print fragment Q3 (right) with the identified shoe print K1. There are similarities in pattern, design, size and general and individual characteristics when comparing the identified shoe print fragment Q4 (left) with the identified shoe print K1. The footwear impression identified Q5 has similarities in pattern and design, however, it has dissimilarities in individual characteristics when compared to the impressions identified K1. There are similarities in pattern, design, size and individual characteristics when comparing the identified shoe print fragment Q6 (right) with the identified shoe print K1. There are similarities in pattern, design, size and individual characteristics when comparing the identified shoe print fragment Q7 (right) with the identified shoe print K1. The footwear impression identified Q8 has similarities in pattern and design, however, it has dissimilarities in individual characteristics when compared to the impressions identified K1. The footwear impression identified Q9 has similarities in pattern and design, however, it has dissimilarities in individual characteristics when compared to the impressions identified K1</p>
9D9UNM-5335	<p>Item Q1 was identified as having been made by the left shoe of K1. Item Q3 was identified as having been made by the right shoe of K1. Item Q4 was identified as having been made by the left shoe of K1. Item Q6 was identified as having been made by the right shoe of K1. Item Q7 was identified as having been made by the right shoe of K1. Item Q2 was not made by K1. Item Q5 was not made by K1. Item Q8 was not made by K1. Item Q9 was not made by K1.</p>

TABLE 2

WebCode-Test	Conclusions
9DDWQE-5335	In the opinion of this examiner, the known left footwear, is the source of, and made, the questioned impressions Q1 and Q4. Another item of footwear being the source of these impression(s) is considered a practical impossibility. In the opinion of this examiner, the known right footwear, is the source of, and made, the questioned impressions Q3, Q6, and Q7. Another item of footwear being the source of these impression(s) is considered a practical impossibility. In the opinion of this examiner, the known right and left footwear, are not the source of, and did not make the questioned impressions Q2, Q5, Q8, & Q9.
9GD9ME-5335	In the opinion of this examiner, the known Left footwear, is the source of, and made, the questioned impressions Q1 and Q4; and the known Right footwear, is the source of and made, the questioned impressions Q3, Q6, and Q7. Another item of footwear being the source of these impression is considered a practical impossibility. In the opinion of this examiner, the known Right and Left footwear, are not the source of, and did not make the questioned impression Q2, Q5, Q8, or Q9.
9MFL2N-5331	The right shoe from Item K1 is identified as having made the questioned impressions Q3, Q6, and Q7 based on a correspondence of observed class characteristics (specific tread design and size), general wear, and randomly acquired characteristics of sufficient quality and quantity. The right shoe from Item K1 was the source of these impressions. Another item being the source is considered a practical impossibility. The left shoe from Item K1 is identified as having made the questioned impressions Q1 and Q4 based on a correspondence of observed class characteristics (specific tread design and size), general wear, and randomly acquired characteristics of sufficient quality and quantity. The left shoe from Item K1 was the source of these impressions. Another item being the source is considered a practical impossibility. The shoes from Item K1 are excluded as having made the questioned impressions Q2, Q5, Q8, and Q9 based on observed differences in class characteristics (size and tread design element spacing). The shoes from Item K1 are not the source of these impressions.
A2DTZQ-5331	- In my opinion, the known item (left "New Balance" shoe) was the source of, and made, the questioned impressions (Q1 and Q4) and the likelihood of another item being the source of the impression is considered negligible. - In my opinion, the known item (right "New Balance" shoe) was the source of, and made, the questioned impressions (Q3, Q6 and Q7) and the likelihood of another item being the source of the impression is considered negligible. - In my opinion, the known item (left "New Balance" shoe) was not the source and did not create the questioned impressions (Q2, Q3, Q5, Q6, Q7, Q8 and Q9). - In my opinion, the known item (right "New Balance" shoe) as not the source and did not create the questioned impressions (Q1, Q2, Q4, Q5, Q8 and Q9).
ABZXHP-5331	(Source Identification) Impression Q1 orients with a left shoe and corresponds in outsole design, physical size, wear and three randomly acquired characteristics (RACs) with the Item K1 left shoe. Therefore, this shoe was identified as the source of this impression. (Source Exclusion) Impression Q2 orients with left shoe and corresponds in outsole design with the Item K1 left shoe. However, this impression does not correspond in physical size or wear with this shoe. Therefore, this shoe was excluded as the source of this impression. (Source Identification) Impression Q3 orients with a right shoe and corresponds in outsole design, physical size, wear and four randomly acquired characteristics (RACs) with the Item K1 right shoe. Therefore, this shoe was identified as the source of this impression. (Source Identification) Impression Q4 orients with a left shoe and corresponds in outsole design, physical size, wear and four randomly acquired characteristics (RACs) with the Item K1 left shoe. Therefore, this shoe was identified as the source of this impression. (Source Exclusion) Impression Q5 orients with right shoe and corresponds in outsole design with the Item K1 right shoe. However, this impression does not correspond in physical size with this shoe. Therefore, this shoe was excluded as the source of this impression. (Source Identification) Impression Q6 orients with a right shoe and corresponds in outsole design, physical size, wear and three randomly acquired characteristics (RACs) with the Item K1 right shoe. Therefore, this shoe was identified as the source of this impression. (Source Identification) Impression Q7 orients with a right shoe and corresponds in outsole design, physical size, wear and three randomly acquired characteristics (RACs) with the Item K1 right shoe. Therefore, this shoe was identified as the source of this impression. (Source Exclusion) Impression Q8 orients with left shoe and corresponds in outsole design with the Item K1 left shoe. However, this impression does not correspond in physical size or wear with this shoe. Therefore, this shoe was excluded as the source of this impression. (Source Exclusion) Impression Q9 orients with right shoe and corresponds in outsole design with the Item K1 right shoe. However, this impression does

TABLE 2

WebCode-Test	Conclusions
	not correspond in physical size or wear with this shoe. Therefore, this shoe was excluded as the source of this impression.
ALEVMT-5335	The results extremely strongly support that the shoeprints Q1 och Q4 has been deposited with the left shoe (Grade +4). The results extremely strongly support that the shoeprints Q3, Q6 och Q7 has been deposited with the right shoe (Grade +4). The results extremely strongly support that the shoeprints Q2 och Q8 has not been deposited with the left shoe (Grade -4). The results extremely strongly support that the shoeprints Q5 och Q9 has not been deposited with the right shoe (Grade -4).
ALZH8W-5331	[No Conclusions Reported.]
BNLJQP-5331	On 11 April 2024, items were received. The items consisted of photographs of the soles of shoes recovered, items K1a- K1c, known imprints made from the recovered shoes, items K1d-K1g, questioned imprints found on stone vinyl tile, Q1-Q3, on woodgrain vinyl tile, Q4-Q6, and questioned imprints found on newspaper, Q7-Q9. I have been asked to compare the questioned imprints Q1-Q9 inclusive, to the soles from the recovered shoes. By comparing the sole pattern of a shoe to a shoeprint impression it is often possible to determine whether or not that particular shoe made that impression. I have compared the shoes to the shoe impressions. This comparison process examines the shoe and the shoe impression to investigate any correspondence or difference in sole pattern and dimensions, the presence of any wear, and the location, dimensions and shape of any randomly acquired characteristics. In subjectively assessing the strength of this correspondence I have considered: the probability of finding the shoe impression evidence if the shoe made the impression, and the probability of finding the shoe impression evidence if another shoe made the impression. The statement of opinion as to the scientific significance of the correspondence between the shoe and the shoe impression is selected from the following scale: is neutral, provides slight support, provides moderate support, provides strong support, provides very strong support, and provides extremely strong support. There was a correspondence of sole pattern, dimensions, wear and multiple areas of randomly acquired characteristics between the shoeprints Q1 and Q4 and the left shoe. Therefore the shoe or another left shoe with the same sole pattern, dimensions, wear and areas of randomly acquired characteristics could have left the shoeprints Q1 and Q4. In my opinion, this combination of shoeprint pattern, dimensions, wear and randomly acquired characteristics is rare and therefore the correspondence provides extremely strong support for the proposition that the left shoe made the impressions Q1 and Q4. There was a correspondence of sole pattern, dimensions, wear and multiple areas of randomly acquired characteristics between the shoeprints Q3, Q6 and Q7 and the right shoe. Therefore the shoe or another right shoe with the same sole pattern, dimensions, wear and areas of randomly acquired characteristics could have left the shoeprints Q3, Q6 and Q7. In my opinion, this combination of shoeprint pattern, dimensions, wear and randomly acquired characteristics is rare and therefore the correspondence provides extremely strong support for the proposition that the right shoe made the impressions Q3, Q6 and Q7. The general shoe sole pattern was similar to the shoe impressions Q2, Q5, Q8 and Q9, but there were differences the shape and dimensions of some elements and in the randomly acquired characteristics as well as, the degree of wear. Therefore, in my opinion, these shoes are excluded, and did not make the shoe impressions Q2, Q5, Q8 and Q9.
BPH4DP-5331	Impression Q1 was made by the left shoe of item K1. Impression Q2 was not made by item K1. Impression Q3 was made by the right shoe of item K1. Impression Q4 was made by the left shoe of item K1. Impression Q5 was not made by item K1. Impression Q6 was made by the right shoe of item K1. Impression Q7 was made by the right shoe of item K1. Impression Q8 was not made by item K1. Impression Q9 was not made by item K1.
BYLAAC-5335	Q1 The outsole design, physical size, general wear, and several randomly acquired characteristics corresponded between Q1 (exhibit 1) and the left K outsole (exhibit 2). In my opinion, the left K outsole was the source of, and made, the impression Q1. Another item of footwear being the source of Q1 is considered a practical impossibility. Identification. The outsole design of the right K outsole was dissimilar to Q1. In my opinion, the right K outsole was not the source of, and did not make, Q1. Exclusion. Q2 The outsole design of Q2 (exhibit 1) was dissimilar to the right K outsole (exhibit 2). The outsole design

TABLE 2

WebCode-Test	Conclusions
	<p>was similar to the left K outsole; however, there were dissimilarities in physical size and wear between Q2 and the left K outsole. Sufficient differences were observed in the comparison of class characteristics between Q2 and both K outsoles. In my opinion, both right and left K outsoles were not the source of, and did not make, Q2. Exclusions. Q3 The outsole design, physical size, general wear, and numerous randomly acquired characteristics corresponded between Q3 (exhibit 1) and the right K outsole (exhibit 2). In my opinion, the right K outsole was the source of, and made, the impression Q3. Another item of footwear being the source of Q3 is considered a practical impossibility. Identification. The outsole design of the left K outsole was dissimilar to Q3. In my opinion, the left K outsole was not the source of, and did not make, Q3. Exclusion. Q4 The outsole design, physical size, general wear, and several randomly acquired characteristics corresponded between Q4 (exhibit 1) and the left K outsole (exhibit 2). In my opinion, the left K outsole was the source of, and made, the impression Q4. Another item of footwear being the source of Q4 is considered a practical impossibility. Identification. The outsole design of the right K outsole was dissimilar to Q4. In my opinion, the right K outsole was not the source of, and did not make, Q4. Exclusion. Q5 The outsole design of Q5 (exhibit 1) was dissimilar to the left K outsole (exhibit 2). The outsole design was similar to the right K outsole; however, there were dissimilarities in physical size and wear between Q5 and the right K outsole. Sufficient differences were observed in the comparison of class characteristics between Q5 and both K outsoles. In my opinion, both right and left K outsoles were not the source of, and did not make, Q5. Exclusions. Q6 The outsole design, physical size, general wear, and multiple randomly acquired characteristics corresponded between Q6 (exhibit 1) and the right K outsole (exhibit 2). In my opinion, the right K outsole was the source of, and made, the impression Q6. Another item of footwear being the source of Q6 is considered a practical impossibility. Identification. The outsole design of the left K outsole was dissimilar to Q6. In my opinion, the left K outsole was not the source of, and did not make, Q6. Exclusion. Q7 The outsole design, physical size, general wear, and numerous randomly acquired characteristics corresponded between Q7 (exhibit 1) and the right K outsole (exhibit 2). In my opinion, the right K outsole was the source of, and made, the impression Q7. Another item of footwear being the source of Q7 is considered a practical impossibility. Identification. The outsole design of the left K outsole was dissimilar to Q7. In my opinion, the left K outsole was not the source of, and did not make, Q7. Exclusion. Q8 The outsole design of Q8 (exhibit 1) was dissimilar to the right K outsole (exhibit 2). The outsole design was similar to the left K outsole; however, there were dissimilarities in physical size, general wear, and possible and confirmed randomly acquire characteristics between Q8 and the left K outsole. Sufficient differences were observed in the comparison between Q8 and both K outsoles. In my opinion, both right and left K outsoles were not the source of, and did not make, Q8. Exclusions. Q9 The outsole design of Q9 (exhibit 1) was dissimilar to the left K outsole (exhibit 2). The outsole design was similar to the right K outsole; however, there were dissimilarities in physical size/alignment, general wear, and possible and confirmed randomly acquired characteristics between Q9 and the right K outsole. Sufficient differences were observed in the comparison between Q9 and both K outsoles. In my opinion, both right and left K outsoles were not the source of, and did not make, Q9. Exclusions.</p>
CBP97N-5331	Q1. CONCLUSIVE evidence; Q2. EXCLUDED; Q3. CONCLUSIVE evidence; Q4. CONCLUSIVE evidence; Q5. EXCLUDED; Q6. CONCLUSIVE evidence; Q7. CONCLUSIVE evidence; Q8. EXCLUDED; Q9. EXCLUDED
CPAN9M-5331	[No Conclusions Reported.]
CVJYR-5331	<p>The methodology utilized includes: visual examination, physical processing, digital retention, and ACE-V. Nine (9) questioned footwear impressions were noted on Item 1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A, and 9A, designated as 1A-1, 2A-1, 3A-1, 4A-1, 5A-1, 6A-1, 7A-1, 8A-1, and 9A-1. The nine (9) questioned footwear impressions were compared to the known shoes submitted as Item 10 (Item 10-1). The questioned footwear impressions 1A-1 and 4A-1 correspond in outsole design and physical size with the known left shoe submitted as Item 10 (Item 10-1). Additionally, the questioned footwear impressions exhibit unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that the questioned footwear impressions were made by the known left shoe submitted in Item 10 (Item 10-1). The questioned footwear impressions were of a left shoe and therefore the known right shoe is excluded as having made the questioned impressions. The questioned footwear impressions</p>

TABLE 2

WebCode-Test	Conclusions
	<p>3A-1, 6A-1, and 7A-1 correspond in outsole design and physical size with the known right shoe submitted as Item 10 (Item 10-1). Additionally, the questioned footwear impressions exhibit unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impressions were made by the known right shoe submitted in Item 10 (Item 10-1). The questioned footwear impressions were of a right shoe and therefore the known left shoe is excluded as having made the questioned impressions. The questioned footwear impressions noted on Item 2A-1, 5A-1, 8A-1, and 9A-1 were compared to the known shoes submitted as Item 10 (Item 10-1). The questioned footwear impression is of a similar outsole design, however, does not correspond in physical size and/or individual characteristics with the known shoes; therefore, the questioned impressions were not made by the known shoes submitted as Item 10 (Item 10-1).</p>
CZA6AQ-5331	<p>Exhibits 4.1 and 5.1 (Impressions Q1 and Q4) were identified as having been made by the submitted K1 left shoe (K1-f Left). Exhibits 4.3, 5.3, and 6.1 (Impressions Q3, Q6, and Q7) were identified as having been made by the submitted K1 right shoe (K1-f Right). Exhibits 4.2 and 6.2 (Impressions Q2 and Q8) were not made by the submitted K1 left shoe (K1-f Left) based on differences in size and wear. These impressions could have been made by the same second left shoe based on size, outsole design, wear, and texture pattern. Possible suspect footwear includes left New Balance athletic shoes with a similar outsole design as the submitted left shoe; however, any suspect shoes should be submitted for examination. Exhibits 5.2 and 6.3 (Impressions Q5 and Q9) were not made by the submitted K1 right shoe (K1-f Right) based on differences in size and wear. These impressions could have been made by the same second right shoe based on size, outsole design, and wear. Possible suspect footwear includes right New Balance athletic shoes with a similar outsole design as the submitted right shoe; however, any suspect shoes should be submitted for examination.</p>
CZVJZN-5331	<p>The Item K1 right shoe is identified as the source of the Q3, Q6, and Q7, right shoe impressions based on class characteristics, including size, design, and wear, as well as randomly acquired characteristics. The Item K1 left shoe is identified as the source of the Q1 and Q4 left shoe impressions based on class characteristics, including size, design, and wear, as well as randomly acquired characteristics. The Item K1 shoes are excluded as the source of the Q2, Q5, Q8, and Q9, shoe impressions due to differences in class characteristics such as size and wear.</p>
D9JUMN-5331	<p>The footwear impressions depicted in the submitted photographs (Items 001-Q1 through 001-Q9) were each compared to the photographs of the recovered shoes and photographs of the known impressions made with the recovered shoes. One-to-one transparency overlays were created using Items 001-K1d through 001-K1g to facilitate examination and comparison with the questioned impressions. I observed agreement of sole design features, general dimensions, wear patterns, and Randomly Acquired Characteristics (RAC's) of sufficient quality and quantity to conclude that the footwear impression depicted in Items 001-Q1 and 001-Q4 were made by the submitted left shoe. I observed agreement of sole design features, general dimensions, wear patterns, and Randomly Acquired Characteristics (RAC's) of sufficient quality and quantity to conclude that the footwear impression depicted in Items 001-Q3, 001-Q6, and 001-Q7 were made by the submitted right shoe. With respect to Items 001-Q2, 001-Q5, 001-Q8 and 001-Q9, I observed similar sole design features, but there are significant differences in the size and spatial relationship of the design elements within the tread patterns, the wear patterns observed, and RAC's observed when compared to those represented in the known impressions and the recovered shoes. These differences are significant enough to conclude that none of these questioned impressions could have been made by the recovered shoes.</p>
DBMP7R-5331	<p>Exclusion: Item 5A-1 corresponds in outsole design elements with the known right shoe submitted as Item 10 (10-1). However, Item 5A-1 does not correspond in general wear, physical size and individual characteristics with the known right shoe; therefore, it was determined that the questioned footwear impression was not made by the known right shoe submitted in Item 10 (10-1). Item 5A-1 is of a right shoe; therefore, it could not have been made by the known left shoe submitted as Item 10 (10-1). Identification: Item 6A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted as Item 10 (10-1). Additionally, the questioned footwear impression exhibits unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impression was made by the known right shoe submitted in Item 10 (10-1). Item</p>

TABLE 2

WebCode-Test	Conclusions
	6A-1 is of a right shoe; therefore, it could not have been made by the known left shoe submitted as Item 10 (10-1).
DRVNB-5335	The left impressions (Q1 and Q4) appear similar in physical size and design, and wear and/or randomly acquired characteristics to the left shoe (K1). In the opinion of the examiner, the particular known footwear was the source of, and made, the questioned impressions. Another item of footwear being the source of the impression is considered a practical impossibility. Refer to "IDENTIFICATION" in Appendix C. The right impressions (Q3, Q6, & Q7) appear similar in physical size and design, and wear and/or randomly acquired characteristics to the right shoe (K1). In the opinion of the examiner, the particular known footwear was the source of, and made, the questioned impressions. Another item of footwear being the source of the impression is considered a practical impossibility. Refer to "IDENTIFICATION" in Appendix C. The left impressions (Q2 and Q8) were dissimilar in physical size and wear to the left shoe (K1). In the opinion of the examiner, the particular known footwear was not the source of, and did not make, the impressions. Refer to "EXCLUSION" in Appendix C. The right impressions (Q5 and Q9) were dissimilar in physical size and wear to the right shoe (K1). In the opinion of the examiner, the particular known footwear was not the source of, and did not make, the impressions. Refer to "EXCLUSION" in Appendix C. [Appendix C not provided by participant.]
DTAY6M-5335	In my opinion, there is conclusive support that five of the footwear impressions recovered from the scene were made by the recovered shoes. In my opinion, four of the footwear impressions recovered from the scene were NOT made by the recovered training shoes (conclusive elimination).
DUVZMF-5331	The marks Q2, Q5, Q8 and Q9 appear to have been made by a smaller shoe than the submitted footwear and have been eliminated from having been made by the submitted footwear. The marks Q1, Q3, Q4, Q6 and Q7 have been compared in detail with the submitted footwear and correspond with regard to size, configuration and wear. There are also features visible in the marks that correspond with damage features present on the soles of the submitted footwear. Therefore, in my opinion, these marks have been made by the submitted footwear.
DVUWLQ-5335	The impression marked Q1 was a partial footwear impression made by a left shoe. In my opinion, the recovered left shoe was identified as having made the Q1 impression based on the agreement of class, wear, and randomly acquired characteristics. The impression marked Q2 was a full length footwear impression. It is my opinion that the recovered shoes were eliminated as having made the impression due to sufficient difference in class and randomly acquired characteristics. The impression marked Q3 was a near full length footwear impression made by a right shoe. In my opinion, the recovered right shoe was identified as having made the Q3 impression based on the agreement of class, wear, and randomly acquired characteristics. The impression marked Q4 was a near full length footwear impression made by a left shoe. In my opinion, the recovered left shoe was identified as having made the Q4 impression based on the agreement of class, wear, and randomly acquired characteristics. The impression marked Q5 was a full length footwear impression. It is my opinion that the recovered shoes were eliminated as having made the impression due to sufficient difference in class and randomly acquired characteristics. The impression marked Q6 was a partial footwear impression made by a right shoe. In my opinion, the recovered right shoe was identified as having made the Q6 impression based on the agreement of class, wear, and randomly acquired characteristics. The impression marked Q7 was a full length footwear impression made by a right shoe. In my opinion, the recovered right shoe was identified as having made the Q7 impression based on the agreement of class, wear, and randomly acquired characteristics. The impression marked Q8 was a partial footwear impression. It is my opinion that the recovered shoes were eliminated as having made the impression due to sufficient difference in class and randomly acquired characteristics. The impression marked Q9 was a partial footwear impression. It is my opinion that the recovered shoes were eliminated as having made the impression due to sufficient difference in class and randomly acquired characteristics.
EP2G6H-5335	At our [Laboratory], we use a 6-step evaluation scale. There has been a lack of information on the time elapsed between securing tracks and securing shoes. So it was'nt possible to evaluate wear. In order to be able to better assess the sequence of the shoe sole, it would have been good to add a photo of an unused sole to the test. In some cases, these circumstances did not allow for clear identification or

TABLE 2

WebCode-Test	Conclusions
	exclusion.
EQFTYG-5331	In my opinion the findings demonstrate conclusively that marks Q1 and Q4 have been made by the left training shoe. In my opinion the findings demonstrate conclusively that marks Q3, Q6 and Q7 have been made by the right training shoe. In my opinion, the submitted training shoes can be excluded from having made marks Q2, Q5, Q8 and Q9.
EXWEWR-5331	The nine (9) polygons-bars patterned shoe prints were compared and evaluated to the test impressions of one (1) pair of New Balance shoes, size #9.5 W / #8.0 M. Size, outsole design, outsole pattern, physical dimensions and individual characteristics correspondences were noted between the polygons-bars patterned shoe prints labeled Q1 and Q4 and the left New Balance shoe, size #9.5 W / #8.0 M. The left New Balance shoe, size #9.5 W / #8.0 M is identified as a source of the polygons-bars patterned shoe prints labeled Q1 and Q4. The right New Balance shoe, size #9.5 W / #8.0 M is excluded as a source of these shoe prints. Size, outsole design, outsole pattern, physical dimensions and individual characteristics correspondences were noted between the polygons-bars patterned shoe prints labeled Q3, Q6 and Q7 and the right New Balance shoe, size #9.5 W / #8.0 M. The right New Balance shoe, size #9.5 W / #8.0 M is identified as a source of the polygons-bars patterned shoe prints labeled Q3, Q6 and Q7. The left New Balance shoe, size #9.5 W / #8.0 M is excluded as a source of these shoe prints. Size and physical dimensions differences were noted between the polygons-bars patterned shoe prints labeled Q2, Q5, Q8 and Q9 and the New Balance shoes, size #9.5 W / #8.0 M. The New Balance shoes size #9.5 W / #8.0 M are excluded as a source of the polygons-bars patterned shoe prints labeled Q2, Q5, Q8 and Q9. Note that the identified shoe print impressions will not be compared to additional footwear.
F9W6FD-5331	The submitted images and known impressions of the suspect shoes (K1a-K1g) were examined and compared to the questioned impressions visible in Q1-Q9. Q1 and Q4 correspond to the known left shoe in tread pattern, tread size, tread wear, and individual characteristics including scratches, nicks and gouges in the tread surface. Thus Q1 and Q4 were made by the known left shoe. Q3, Q6 and Q7 correspond to the known right shoe in tread pattern, tread size, tread wear, and individual characteristics including scratches, nicks and gouges in the tread surface. Thus Q3, Q6, and Q7 were made by the known right shoe. Q2 and Q8 correspond to the known left shoe in tread pattern, however, Q2 and Q8 are different than the known left shoe in tread size, tread wear, and individual characteristics. Thus, Q2 and Q8 could not have been made by the known left shoe. Q5 and Q9 correspond to the known right shoe in tread pattern, however, Q5 and Q9 are different than the known right shoe in tread size, tread wear and individual characteristics. Thus, Q5 and Q9 could not have been made by the known right shoe.
FCWDMN-5331	Item 001.H.01: (Q1) Left questioned shoe impression on grey stone vinyl tile. In the opinion of this examiner, the left shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was the source of, and made, Laboratory Item 001.H.01 (Q1) questioned impression on grey stone vinyl tile. Item 001.H.02: (Q2) Left questioned shoe impression on grey stone vinyl tile. In the opinion of this examiner, the left shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was not the source of, and did not make, Laboratory Item 001.H.02 (Q2) questioned impression on grey stone vinyl tile. Item 001.H.03: (Q3) Right questioned shoe impression on grey stone vinyl tile. In the opinion of this examiner, the right shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was the source of, and made, Laboratory Item 001.H.03 (Q3) questioned impression on grey stone vinyl tile. Item 001.I.01: (Q4) Left questioned shoe impression on woodgrain vinyl tile. In the opinion of this examiner, the left shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was the source of, and made, Laboratory Item 001.I.01 (Q4) questioned impression on woodgrain vinyl tile. Item 001.I.02: (Q5) Right questioned shoe impression on woodgrain vinyl tile. In the opinion of this examiner, the right shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was not the source of, and did not make, Laboratory Item 001.I.02 (Q5) questioned impression on woodgrain vinyl tile. Item 001.I.03: (Q6) Right questioned shoe impression on woodgrain vinyl tile. In the opinion of this examiner, the right shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was the source of, and made, Laboratory Item 001.I.03 (Q6) questioned impression on

TABLE 2

WebCode-Test	Conclusions
	woodgrain vinyl tile. Item 001.J.01: (Q7) Right questioned shoe impression on newspaper. In the opinion of this examiner, the right shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was the source of, and made, Laboratory Item 001.J.01 (Q7) questioned impression on newspaper. Item 001.J.02: (Q8) Left questioned shoe impression on newspaper. In the opinion of this examiner, the left shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was not the source of, and did not make, Laboratory Item 001.J.02 (Q8) questioned impression on newspaper. Item 001.J.03: (Q9) Right questioned shoe impression on newspaper. In the opinion of this examiner, the right shoe photographed in Laboratory Item 001.A (K1a) photograph of soles of New Balance shoes was not the source of, and did not make, Laboratory Item 001.J.03 (Q9) questioned impression on newspaper.
FNYYQJ-5335	The questioned shoeprints Q1 and Q4 were made by the recovered left shoe of the recovered pair of shoes. The questioned shoeprints Q3, Q6 and Q7 were made by the recovered right shoe of the recovered pair of shoes. The questioned shoeprints Q2, Q5, Q8 and Q9 were not made by any of the shoe of the recovered pair of shoes.
FQGVED-5331	Q1 and Q4 were made by the left shoe. Q3, Q6 and Q7 were made by the right shoe. Q2, Q5, Q8 and Q9 could not have been made by the known shoes.
FYPGDF-5331	Q1 and Q3, questioned imprints found on the grey stone vinyl tiles, may have originated from the recovered shoes. Q4 and Q6, questioned imprints found on the wood grain vinyl tiles, may have originated from the recovered shoes. Q7, questioned imprints found on the newspaper, may have originated from the recovered shoes. Q2, Q5, Q8 and Q9 did not originate from the recovered shoes.
G3KLQJ-5335	In my opinion, my findings provide conclusive support for the proposition that the footwear, K1, made the marks Q1, Q3, Q4, Q6 and Q7. In my opinion, my findings provide conclusive support for the proposition that the footwear, K1, did not make the marks Q2, Q5, Q8 and Q9. Where an evaluation of the evidence is deemed possible, in accordance with the R v T Ruling, the evidence is assessed on a verbal scale of: No support for either proposition, limited, moderate, moderately strong, strong, very strong, extremely strong support and conclusive. This scale can be used to express both positive and negative findings.
G6LTG-5331	The Q1 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and 7 randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Impression Q2 corresponds in outsole design to the K1 left shoe. However, this impression does not correspond in physical size and wear to the K1 left shoe. Therefore, the K1 left shoe was excluded as the source of this impression. The Q3 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and 4 randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression. The Q4 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and 5 randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Impression Q5 corresponds in outsole design to the K1 right shoe. However, this impression does not correspond in physical size and wear to the K1 right shoe. Therefore, the K1 right shoe was excluded as the source of this impression. The Q6 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and 4 randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression. The Q7 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and 7 randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression. Impression Q8 corresponds in outsole design to the K1 left shoe. However, this impression does not correspond in physical size to the K1 left shoe. Therefore, the K1 left shoe was excluded as the source of this impression. Impression Q9 corresponds in outsole design to the K1 right shoe. However, this impression does not correspond in physical size and wear to the K1 right shoe. Therefore, the K1 right shoe was excluded as the source of this impression.
G6RWN9-5335	The recovered footwear, K1, outsole design includes large hexagonal and irregular-shaped lugs and rows of curved lines in toe and heel areas, with a moderate degree of wear. K1 and test impressions of K1 were compared to each of the impressions Q1-Q9. Q1 and Q4 correspond in specific outsole design, physical size, general wear, and some randomly acquired characteristics to the recovered K1 left

TABLE 2

WebCode-Test	Conclusions
	<p>shoe. Therefore, it was determined that this impression was made by the K1 left shoe. Q3, Q6 and Q7 correspond in specific outsole design, physical size, general wear, and some randomly acquired characteristics to the recovered K1 right shoe. Therefore, it was determined that this impression was made by the K1 right shoe. Q2, Q5, Q8 and Q9 are similar in general outsole design to the recovered shoes, K1, but have differences in degree of wear and/or physical size. Therefore, it was determined that these impressions could not have been made by K1.</p>
G8JV38-5331	<p>The submitted photos were examined for the presence of footwear impressions displaying sufficient features for comparative analysis. Two images, Items K1b and K1c, were not examined further, due to the presence of a better image of the same sole areas. Two images, Items K1e and K1g, were not examined further, due to the presence of images of better test impressions from the same pair of shoes. Items K1a and K1d were used to evaluate the replication and fidelity of the test impressions in Item K1f, but not otherwise used for comparison. The Item K1f, Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, and Q9 images were analyzed further. Comparative analysis between the Item Q1 and Q4 impressions and the Item K1f-L known impression revealed correspondence of class characteristics (pattern, physical size, and general condition of wear), and multiple randomly acquired characteristics. It was concluded that the shoe which produced Item K1f-L was the source of, and made, the Item Q1 and Q4 impressions. Another shoe being the source of the impression is considered a practical impossibility. Comparative analysis between the Item Q3, Q6 and Q7 impressions and the Item K1f-R known impression revealed correspondence of class characteristics (pattern, physical size, and general condition of wear), and multiple randomly acquired characteristics. It was concluded that the shoe which produced Item K1f-R was the source of, and made, the Item Q3, Q6 and Q7 impressions. Another shoe being the source of the impression is considered a practical impossibility. Comparative analysis revealed significant differences (discrepancies in physical size, general condition of wear, and randomly acquired characteristics) between the Item Q2 and Q8 impressions and the Item K1f-L known impression. It was concluded that the shoe which produced Item K1f-L did not make the Item Q2 and Q8 impressions. Comparative analysis revealed significant differences (discrepancies in physical size) between the Item Q5 impression and the Item K1f-R known impression. It was concluded that the shoe which produced Item K1f-R did not make the Item Q5 impression. Comparative analysis revealed significant differences (discrepancies in general condition of wear, and randomly acquired characteristics) between the Item Q9 impression and the Item K1f-R known impression. It was concluded that the shoe which produced Item K1f-R did not make the Item Q9 impression. Comparative analysis revealed significant differences (left vs right) between the Item Q3, Q5, Q6, Q7 and Q9 impressions and the Item K1f-L known impression. It was concluded that the shoe which produced Item K1f-L did not make the Item Q3, Q5, Q6, Q7 or Q9 impressions. Comparative analysis revealed significant differences (left vs right) between the Item Q1, Item Q2, Q4 and Q8 impressions and the K1f-R known impression. It was concluded that the shoe which produced K1f-R did not make the Item Q1, Q2, Q4 or Q8 impressions.</p>
GJRV6-5331	<p>The Items Q1 and Q4 questioned footwear impressions were made by the Item K1 known left shoe. These identifications are based on sufficient agreement of the combination of randomly acquired characteristics and all discernible class characteristics. The Items Q3, Q6, and Q7 questioned footwear impressions were made by the Item K2 known right shoe. These identifications are based on sufficient agreement of the combination of randomly acquired characteristics and all discernible class characteristics. The Items Q2 and Q8 left outsole questioned footwear impressions were not made by the Item K1 known left shoe. These eliminations are based on differences in class characteristics and randomly acquired characteristics. The Items Q5 and Q9 right outsole questioned footwear impressions were not made by the Item K1 known left shoe. These eliminations are based on differences in class characteristics. The Items Q2 and Q8 left outsole questioned footwear impressions were not made by the Item known K2 right shoe. These eliminations are based on differences in class characteristics. The Items Q5 and Q9 right outsole questioned footwear impressions were not made by the Item K2 known right shoe. These eliminations are based on differences in class characteristics and randomly acquired characteristics. The Items Q2 and Q8 left outsole questioned footwear impressions were not made by the same shoe that made the Items Q5 and Q9 right outsole questioned footwear impressions. These eliminations are based on differences in class characteristics. The Items Q2 and Q8 questioned footwear impressions share the association of similar class characteristics including design, physical size and shape (left outsole), and general condition/wear in the respective areas. However, Item Q2 could not be</p>

TABLE 2

WebCode-Test	Conclusions
	<p>identified or eliminated as having been made by the same shoe that made Item Q8. This inconclusive result is due to lack of quality and detail for individual characteristics being present in the questioned impressions. The Items Q5 and Q9 questioned footwear impressions share the association of similar class characteristics including design, physical size and shape (right outsole), and general condition/wear in the respective areas. However, Item Q5 could not be identified or eliminated as having been made by the same shoe that made Item Q9. This inconclusive result is due to lack of quality and detail for individual characteristics being present in the questioned impressions.</p>
GK6CPJ-5335	[No Conclusions Reported.]
GTVQTP-5331	<p>The questioned impressions in Exhibits 1 - 9 were compared to images of the known shoes (Exhibit 10) and images of known impressions (Exhibit 11) said to be from the recovered shoes. A complete evaluation of a questioned impression and a known shoe includes looking at correspondence in tread design, physical size and shape of design present, wear characteristics, and any distinctive characteristics randomly acquired on the sole of the known shoe that are represented in the questioned impression. The questioned impressions in Exhibit 1 and Exhibit 4 corresponded in physical shape, tread design, wear and randomly acquired characteristics to the known left shoe represented in Exhibits 10 - 11. Therefore, the known left shoe represented in Exhibits 10 - 11 is the source of the questioned shoe impressions in Exhibits 1 and 4 (Source Identification). The questioned impressions in Exhibits 3, 6, and 7 corresponded in physical shape, tread design, wear and randomly acquired characteristics to the known right shoe represented in Exhibits 10 - 11. Therefore, the known right shoe represented in Exhibits 10 - 11 is the source of the questioned shoe impressions in Exhibits 3, 6 and 7 (Source Identification). The questioned impressions in Exhibits 2, 5, 8, and 9, although similar in general tread pattern, differed in spacing, wear and/or randomly acquired characteristics to the known shoes represented in Exhibits 10 - 11. Therefore, the questioned impressions in Exhibits 2, 5, 8, and 9 were not made by the known shoes represented in Exhibits 10 - 11 (Exclusion). See the Appendix of this report for further context regarding the conclusions listed above. [Appendix not provided by participant.]</p>
H68F97-5331	<p>Q1-Q9 were examined and found to be photographs of questioned shoe impressions. Q1-Q9 were visually compared to photographs of soles and impressions from K1 known shoes. Q1 and Q4 were made by the K1 left shoe. Q3, Q6, and Q7 were made by the K1 right shoe. Q2, Q5, Q8, and Q9 were not made by either of the K1 shoes.</p>
HDF8C9-5335	<p>The questioned imprints Q1 and Q4 are associated with the sole of the left shoe. They share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity with the recovered left shoesole and the known imprints, which were made with the left shoesole. The recovered left shoe was the source of, and made, the questioned imprints Q1 and Q4. Another item of footwear being the source of the imprints is considered a practical impossibility. The questioned imprints Q3, Q6 and Q7 are associated with the sole of the right shoe. They share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity with the recovered right shoesole and the known imprints, which were made with the right shoesole. The recovered right shoe was the source of, and made, the questioned imprints Q3, Q6 and Q7. Another item of footwear being the source of the imprints is considered a practical impossibility. Sufficient differences were noted in the physical size between the questioned imprint Q2, Q5, Q8 and Q9 and the known imprints of the recovered shoes. The recovered shoes were not the source of, and did not make the questioned imprint Q2, Q5, Q8 and Q9.</p>
HHBZAA-5335	<p>The submitted photographs were examined for questioned footwear impressions. Nine questioned footwear impressions (designated as impressions Q1-Q9 by the agency) were observed. The questioned footwear impressions Q1-Q9 were visually compared to the submitted test impressions of the recovered New Balance shoes and the submitted photographs of the sole of the shoes. Impression Q1 and Q4 corresponded with tread design, physical size, and general wear to the left New Balance shoe. In addition, several voids in the questioned impressions corresponded in approximate size, shape, position, and orientation to randomly acquired characteristics in the left New Balance shoe. In the opinion of the examiner, the left New Balance shoe made impressions Q1 and Q4 (Identification; see Association Scale</p>

TABLE 2

WebCode-Test	Conclusions
	<p>below). Impression Q2 and Q8 corresponded in tread design to the left New Balance shoe. However, the left New Balance shoe was excluded from the population of footwear that could have made these questioned impressions due to differences in physical size, general wear, and randomly acquired characteristics. In the opinion of the examiner, the New Balance shoes did not make the questioned impressions Q2 and Q8 (Exclusion; see Association Scale below). Impression Q3, Q6, and Q7 corresponded with tread design, physical size, and general wear to the right New Balance shoe. In addition, several voids in the questioned impressions corresponded in approximate size, shape, position, and orientation to randomly acquired characteristics in the right New Balance shoe. In the opinion of the examiner, the right New Balance shoe made impressions Q3, Q6, and Q7 (Identification). Impression Q5 and Q9 corresponded in tread design to the right New Balance shoe. However, the right New Balance shoe was excluded from the population of footwear that could have made these questioned impressions due to differences in physical size, general wear, and randomly acquired characteristics. In the opinion of the examiner, the New Balance shoes did not make the questioned impressions Q5 and Q9 (Exclusion). Association Scale for Footwear and Tire Impressions: The following descriptions are meant to provide context to the levels of opinions reached in footwear and tire impression comparisons. Each level may not include every variable in every case. Lacks sufficient detail – No comparison was conducted: the examiner determined there were no discernible questioned footwear/tire impressions or features present. Or – A comparison was conducted: the examiner determined that there was insufficient detail in the questioned impression for a meaningful conclusion. This opinion only applies to the known footwear or tire that was examined and does not necessarily preclude future examinations with other known footwear or tires. Exclusion – This is the highest degree of non-association expressed in footwear and tire impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear or tire. Indications of non-association – The questioned impression exhibits dissimilarities when compared to the known footwear or tire; however, the details or features were not sufficiently clear to permit an exclusion. Limited association of class characteristics – Some similar class characteristics were present; however, there were significant limiting factors in the questioned impression that did not permit a stronger association between the questioned impression and the known footwear or tire. These factors may include but were not limited to: insufficient detail, lack of scale, improper position of scale, improper photographic techniques, distortion or significant lengths of time between the date of the occurrence and when the footwear or tires were recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the footwear or tire. Association of class characteristics – The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear or tire. Correspondence of general wear may also be present. High degree of association – The questioned impression and known footwear or tire must correspond in the class characteristics of design, physical size, and general wear. For this degree of association there must also exist: (1) wear that, by virtue of its specific location, degree and orientation make it unusual and/or (2) one or more randomly acquired characteristics. Identification – This is the highest degree of association expressed by a footwear and tire impression examiner. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity.</p>
<p>HMQ9XA-5331</p>	<p>The submitted images and known impressions of the suspect shoes (k1a-k1g) were examined and compared to the questioned impressions visible in Q1-Q9. Q1 and Q4 correspond to the known left shoe in tread pattern, tread wear, tread size and individual characteristics including scratches to the tread surface. Thus, Q1 and Q4 were made by the known left shoe. Q3, Q6 and Q7 correspond to the known right shoe in tread pattern, tread wear, tread size and individual characteristics including scratches to the tread surface. Thus, Q3, Q6 and Q7 were made by the known right shoe. Q2 and Q8 correspond to the known left shoe in tread pattern however differ from the known left shoe in tread size, tread wear and individual characteristics. Thus, Q2 and Q8 could not have been made by the known left shoe. Q5 and Q9 correspond to the known right shoe in tread pattern however differ from the known right shoe in tread size, tread wear and individual characteristics. Thus, Q5 and Q9 could not have been made by the known right shoe.</p>
<p>HNGL8F-5331</p>	<p>[No Conclusions Reported.]</p>

TABLE 2

WebCode-Test	Conclusions
HPN47B-5331	[No Conclusions Reported.]
J23BPH-5331	<p>Questioned impressions Q1 through Q9 were compared to the known right and left sneakers (K1L, K1R) as well as test impressions generated by K1L and K1R with the following results: i. Q1 and K1L are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q1 and K1L exhibit 5 corresponding individual characteristics. ii. Q2 and K1L, K1R are different with respect to their class characteristics: size, shape, tread design, and wear pattern. iii. Q3 and K1R are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q3 and K1R exhibit 7 corresponding individual characteristics. iv. Q4 and K1L are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q4 and K1L exhibit 5 corresponding individual characteristics. v. Q5 and K1L, K1R are different with respect to their class characteristics: size, shape, tread design, and wear pattern. vi. Q6 and K1R are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q6 and K1R exhibit 4 corresponding individual characteristics. 1. It is the opinion of the undersigned that questioned footwear impressions Q1 and Q4 was made by the known sneaker K1L. 2. It is the opinion of the undersigned that questioned footwear impressions Q3, Q6 and Q7 was made by the known sneaker K1R. 3. It is the opinion of the undersigned that questioned footwear impressions Q2, Q5, Q8 and Q9 could not have been made by the known shoes K1L & K1R.</p>
J9YCJG-5331	<p>Marks Q1 AND Q4 MATCH THE LEFT TRAINER. Q2, Q5, Q8, Q9 NO MATCH TO TRAINERS. Q3, Q6, Q7 - MATCH TO THE RIGHT TRAINER.</p>
JYFRNK-5335	<p>Identication: The submitted known "insert left/right" shoe was identified as the source of "insert labeled question impression(s)" questioned impression. The questioned impressions and the known shoe shared agreement of class characteristics, specific degree of wear, and randomly acquired characteristics of sufficient quality and quantity. The known shoe was the source of, and made, the questioned impression. Exclusion: The submitted known "insert left/right" shoe was excluded from being the source of "insert labeled question impression(s)" questioned impression. Although, the known shoe was a similar design, sufficient differences were noted in the comparison of class characteristics and specific degree of wear between and known shoe and the questioned impression. Certain areas of the question impression displayed more wear than the submitted known shoe. In addition, the known shoe was a larger size than the questioned impression. The known shoe was not the source of, and did not make, the questioned impression. The submitted known "insert left/right" shoe was excluded from being the source of "insert labeled question impression(s)" questioned impression. Sufficient differences were noted in the comparison of class characteristics between the known shoe and the questioned impression. The known shoe was not the source of, and did not make, the questioned impression.</p>
K44RH7-5331	<p>Impression Q1 and the K1 known left shoe share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity. Therefore, impression Q1 was made by the K1 known left shoe. Sufficient differences of class and randomly acquired characteristics exist between impression Q2 and the K1 known shoes. Therefore, impression Q2 was not made with the known shoes. Impression Q3 and the K1 known right shoe share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity. Therefore, impression Q3 was made by the K1 known right shoe. Impression Q4 and the K1 known left shoe share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity. Therefore, impression Q4 was made by the K1 known left shoe. Sufficient differences of class and randomly acquired characteristics exist between impression Q5 and the K1 known shoes. Therefore, impression Q5 was not made with the known shoes. Impression Q6 and the K1 known right shoe share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity. Therefore, impression Q6 was made by the K1 known right shoe. Impression Q7 and the K1 known right shoe share agreement of class characteristics and randomly acquired characteristics of sufficient quality and quantity. Therefore, impression Q7 was made by the K1 known right shoe. Sufficient differences of class and randomly acquired characteristics exist between impression Q8 and the K1 known shoes. Therefore, impression Q8</p>

TABLE 2

WebCode-Test	Conclusions
	<p>was not made with the known shoes. Sufficient differences of class and randomly acquired characteristics exist between impression Q9 and the K1 known shoes. Therefore, impression Q9 was not made with the known shoes. Footwear impression analysis is based on the comparison of class and randomly acquired characteristics. Corresponding class and randomly acquired characteristics support the conclusion that the footwear was the source of, and made, the questioned impression. Currently, the possibility that other footwear having the same class and randomly acquired characteristics cannot be statistically calculated.</p>
K9V3BG-5331	<p>1.) Impression Q1 was made by the Left Shoe of Item K1. 2.) Impression Q2 was not made by the Right or Left Shoe of Item K1. 3.) Impression Q3 was made by the Right Shoe of Item K1. 4.) Impression Q4 was made by the Left Shoe of Item K1. 5.) Impression Q5 was not made by the Right or Left Shoe of Item K1. 6.) Impression Q6 was made by the Right Shoe of Item K1. 7.) Impression Q7 was made by the Right Shoe of Item K1. 8.) Impression Q8 was not made by the Right or Left Shoe of Item K1. 9.) Impression Q9 was not made by the Right or Left Shoe of Item K1.</p>
KCJBZK-5331	<p>[No Conclusions Reported.]</p>
KFJLVK-5331	<p>Q1 - ID with Left shoe. Q2 - Negative with both shoes (Elimination) Q3 - ID with Right shoe. Q4 - ID with Left shoe. Q5 - Negative with both shoes (Elimination) Q6 - ID with Right shoe. Q7 - ID with Right shoe. Q8 - Negative with both shoes (Elimination) Q9 - Negative with both shoes (Elimination)</p>
KGNLDC-5335	<p>[No Conclusions Reported.]</p>
KTJM9L-5331	<p>See worksheet and report. [Worksheet and Report not provided by participant.]</p>
KXGVQA-5331	<p>The photographs of the suspect's shoes and questioned impressions were visually examined and processed by superimposed comparison. We copied the photographs of known imprints of suspect's shoes K1f and K1g on transparent films and superimposed them over the photographs of questioned impressions Q1 to Q9, and the result as below : 1. Questioned impression labelled Q1 and Q4 were found to be consistent in shape, physical size and individual characteristics with the suspect's left shoe; questioned impression labelled Q3, Q6, and Q7 were found to be consistent in shape, physical size and individual characteristics with the suspect's right shoe. 2. Questioned impressions labelled Q2, Q5, Q8, and Q9 were found to have similar shape to the suspect's shoes, however it was dissimilar in physical size and individual characteristics from the suspect's shoes. Therefore, questioned impressions labelled Q2, Q5, Q8, and Q9 can be eliminated.</p>
KXYVWK-5331	<p>The methodologies utilized in this examination include: visual examination and ACE-V. One (1) questioned footwear impression, designated 1A-1, was noted on Item 1A. One (1) questioned footwear impression, designated 2A-1, was noted on Item 2A. One (1) questioned footwear impression, designated 3A-1, was noted on Item 3A. One (1) questioned footwear impression, designated 4A-1, was noted on Item 4A. One (1) questioned footwear impression, designated 5A-1, was noted on Item 5A. One (1) questioned footwear impression, designated 6A-1, was noted on Item 6A. One (1) questioned footwear impression, designated 7A-1, was noted on Item 7A. One (1) questioned footwear impression, designated 8A-1, was noted on Item 8A. One (1) questioned footwear impression, designated 9A-1, was noted on Item 9A. Questioned footwear impressions 1A-1, 2A-1, 3A-1, 4A-1, 5A-1, 6A-1, 7A-1, 8A-1 and 9A-1 were compared to the known standards submitted in Item 10 (Item 10-1) with the following results: Questioned footwear impression 1A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 10. Additionally, the questioned footwear impression exhibits five (5) unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that the questioned footwear impression was made by the known left shoe submitted in Item 10. Questioned footwear impression 1A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 10. Questioned footwear impression 2A-1 is of similar outsole design to the known left shoe submitted in Item 10; however, the questioned footwear impression does not correspond in physical size, general wear, or in the presence of individual characteristics with the known left shoe; therefore, the questioned footwear impression was not made by the known left shoe submitted in Item 10.</p>

TABLE 2

WebCode-Test	Conclusions
	<p>Questioned footwear impression 2A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 10. Questioned footwear impression 3A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, the questioned footwear impression exhibits six (6) unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impression was made by the known right shoe submitted in Item 10. Questioned footwear impression 3A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 10. Questioned footwear impression 4A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 10. Additionally, the questioned footwear impression exhibits four (4) unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that the questioned footwear impression was made by the known left shoe submitted in Item 10. Questioned footwear impression 4A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 10. Questioned footwear impression 5A-1 is of similar outsole design to the known right shoe submitted in Item 10; however, the questioned footwear impression does not correspond in physical size, general wear, or in the presence of individual characteristics with the known right shoe; therefore, the questioned footwear impression was not made by the known right shoe submitted in Item 10. Questioned footwear impression 5A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 10. Questioned footwear impression 6A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, the questioned footwear impression exhibits four (4) unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impression was made by the known right shoe submitted in Item 10. Questioned footwear impression 6A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 10. Questioned footwear impression 7A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 10. Additionally, the questioned footwear impression exhibits six (6) unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impression was made by the known right shoe submitted in Item 10. Questioned footwear impression 7A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 10. Questioned footwear impression 8A-1 is of similar outsole design to the known left shoe submitted in Item 10; however, the questioned footwear impression does not correspond in physical size, general wear, or in the presence of individual characteristics with the known left shoe; therefore, the questioned footwear impression was not made by the known left shoe submitted in Item 10. Questioned footwear impression 8A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 10. Questioned footwear impression 9A-1 is of similar outsole design to the known right shoe submitted in Item 10; however, the questioned footwear impression does not correspond in physical size, general wear, or in the presence of individual characteristics with the known right shoe; therefore, the questioned footwear impression was not made by the known right shoe submitted in Item 10. Questioned footwear impression 9A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 10.</p>
L2CVTC-5335	<p>In my opinion, due to differences observed in the size, wear and randomly acquired characteristics, the known shoe FEN*** was not the source of did not make the mark FEN*** (2 - Exclusion). In my opinion, the known shoe FEN*** was the source of, and made, the questioned mark FEN***. The chance of another shoe being the source of the mark is considered negligible. (7 - Identification)</p>
L2V2T3-5331	<p>Items Q1 through Q9 questioned footwear impressions were analyzed, compared, and evaluated with Items K1 Right and K1 Left Known Shoes. Items Q2, Q5, Q8, and Q9 questioned footwear impressions did not correspond in tread design, physical size, and specific wear with Items K1 Right and K1 Left Known Shoes. Items Q1, and Q4 questioned footwear impressions did not correspond in tread design, physical size, and specific wear with Item K1 Right Known Shoe. Items Q3, Q6, and Q7 questioned footwear impressions did not correspond in tread design, physical size, and specific wear with Item K1 Left Known Shoe. Items Q1 and Q4 questioned footwear impressions correspond in tread design, general wear, and physical size, and each contain three (3) randomly acquired characteristics with Item K1 Left Known Shoe. Items Q3, Q6, and Q7 questioned footwear impressions correspond in tread design, general wear, and physical size, and each contain three (3) randomly acquired characteristics with Item K1 Right Known Shoe. Based upon the above factors, it is the opinion of this examiner that: Item K1 Right Known Shoe is excluded as the source of, and did not make Items Q1, and Q4 questioned</p>

TABLE 2

WebCode-Test	Conclusions
	<p>footwear impressions. Item K1 Left Known Shoe is excluded as the source of, and did not make Items Q3, Q6, and Q7 questioned footwear impressions. Items K1 Right and K1 Left Known Shoes are excluded as the source of, and did not make Items Q2, Q5, Q8, and Q9 questioned footwear impressions. Item K1 Left Known Shoe was the source of, and made, Items Q1 and Q4 questioned footwear impressions resulting in an identification. Another footwear being the source of the impression is considered a practical impossibility. Item K1 Right Known Shoe was the source of, and made, Items Q3, Q6, and Q7 questioned footwear impressions resulting in an identification. Another footwear being the source of the impression is considered a practical impossibility. All conclusions listed herein have been verified by a second qualified latent print examiner.</p>
LB4D8K-5331	<p>Exhibits 4.1 (Q1) and 5.1 (Q4) were identified as having been made by the submitted known left shoe, Ex 3.1 (K1f-Left). Exhibits 4.3 (Q3), 5.3 (Q6) and 6.1 (Q7) were identified as having been made by the submitted known right shoe, Ex 3.2 (K1f-Right). Exhibits 4.2 (Q2) and 6.2 (Q8) were not made by the submitted known left shoe, Ex 3.1 (K1f-Left), based on differences in class characteristics. Exhibits 4.2 (Q2) and 6.2 (Q8) could have been made by the same second left shoe based on class and some individual characteristics; however, insufficient detail precludes a more conclusive determination. Possible suspect footwear include New Balance left athletic shoes of similar design; however, any suspect shoe should be submitted for examination. Exhibits 5.2 (Q5) and 6.3 (Q9) were not made by the submitted known right shoe, Ex 3.2 (K1f-Right), based on differences in class characteristics. Exhibits 5.2 (Q5) and 6.3 (Q9) could have been made by the same second right shoe based on class and some individual characteristics; however, insufficient detail precludes a more conclusive determination. Possible suspect footwear include New Balance right athletic shoes of similar design; however, any suspect shoe should be submitted for examination.</p>
LDPEQD-5335	<p>Known shoe K1 (left shoe) was identified as the source of shoe impressions Q1 and Q4. Known shoe K1 (right shoe) was identified as the source of shoe impressions Q3, Q6, and Q7. Known shoe K1 (left shoe) was excluded as the source of shoe impressions Q2 and Q8. Known shoe K1 (right shoe) was excluded as the source of shoe impressions Q5 and Q9.</p>
LGNM7G-5335	<p>The results of the examination extremely strongly support that the imprint Q1 was made with the left shoe K1. The results of the examination extremely strongly support that the imprint Q2 was not made with the shoes K1. The results of the examination extremely strongly support that the imprint Q3 was made with the right shoe K1. The results of the examination extremely strongly support that the imprint Q4 was made with the left shoe K1. The results of the examination extremely strongly support that the imprint Q5 was not made with the shoes K1. The results of the examination extremely strongly support that the imprint Q6 was made with the right shoe K1. The results of the examination extremely strongly support that the imprint Q7 was made with the right shoe K1. The results of the examination extremely strongly support that the imprint Q8 was not made with the shoes K1. The results of the examination extremely strongly support that the imprint Q9 was not made with the shoes K1.</p>
LRKQBB-5335	<p>When addressing the issue of whether the questioned impressions could have been made by the known shoes, given my findings, in my opinion, there is conclusive support for the view that the questioned impressions Q1, Q3, Q4, Q6 & Q7 were made by the known shoes. The known shoes can be excluded from making impressions Q2, Q5, Q8 & Q9.</p>
M2PXQB-5331	<p>[No Conclusions Reported.]</p>
M6NALB-5331	<p>[No Conclusions Reported.]</p>
M96RPD-5335	<p>The exemplar left shoe (Items 1-7) is the source of the unknown footwear impressions Item 8 (Q1) and Item 11 (Q4). The exemplar right shoe (Items 1-7) is the source of the unknown footwear impressions Item 10 (Q3), Item 13 (Q6) and Item 14 (Q7). The exemplar left and right shoes (Items 1-7) are excluded as possible sources of the unknown footwear impressions Item 9 (Q2), Item 12 (Q5), Item 15 (Q8) and Item 16 (Q9).</p>

TABLE 2

WebCode-Test	Conclusions
MEYJ42-5331	<p>EXAMINATIONS: Determine whether any footwear marks present in Exhibits 80 through 82 can be associated with the known pair of outsoles. FINDINGS AND OPINIONS: The questioned footwear marks, Q3, Q6 and Q7 were made by the known right shoe. This opinion is the highest degree of association expressed by a footwear examiner. The questioned mark and the known footwear must share sufficient agreement of observable class and individual characteristics. In the opinion of the examiner the known footwear was the source of and made the questioned mark. The questioned footwear marks, Q1 and Q4 were made by the known left shoe. This opinion is the highest degree of association expressed by a footwear examiner. The questioned mark and the known footwear must share sufficient agreement of observable class and individual characteristics. In the opinion of the examiner the known footwear was the source of and made the questioned mark. Questioned footwear marks Q2, Q5, Q8 and Q9 were not made by the known pair of shoes. This opinion means that there are observable differences in class and/or identifying characteristics between the questioned mark and the known shoe.</p>
MK2XJC-5331	<p>Outline Assessment/Comment: I have considered the proposition that the left shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q1). In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the left shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q2). In my opinion item 1 (Q2) can be excluded as being the source of the recovered detail. I have considered the proposition that the right shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q3). In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the left shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q4). In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the right shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q5). In my opinion item 1 (Q5) can be excluded as being the source of the recovered detail. I have considered the proposition that the right shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q6). In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the right shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q7). In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the left shoe attributed to the suspect, item 1 k (a - g) made the detail noted in item 1 (Q8). In my opinion item 1 (Q8) can be excluded as being the source of the recovered detail. I have considered the proposition that the right shoe attributed to the suspect, item 1 k (a - g) did not make the detail noted in item 1 (Q9). In my opinion the result of this examination provides strong support for this proposition. The scale I have used in the assessing the strength of evidence is as follows: No support – Weak Support – Support – Strong Support – Conclusive Support.</p>
MUCZ6C-5331	<p>On examination, I found:- i) The individual characteristic marks on questioned imprints Q1 and Q4 to be similar to the individual characteristic marks on the left suspect shoe. ii) The individual characteristic marks on questioned imprints Q3, Q6 and Q7 to be similar to the individual characteristic marks on the right suspect shoe. iii) The individual characteristic marks on the questioned imprints Q2, Q5, Q8 and Q9 to be different to the individual characteristic marks on the left and right suspect shoes. Therefore, I am of the opinion that: i) The questioned imprints Q1 and Q4 were made by the left suspect shoe. ii) The questioned imprints Q3, Q6 and Q7 were made by the right suspect shoe. iii) The questioned imprints Q2, Q5, Q8 and Q9 were not made by the left or right suspect shoes.</p>
N4C6D6-5331	<p>Q1 and Q4 were made by K1 left. Q3, Q6 and Q7 were made by K1 right. Q1, Q2, Q4, Q5, Q8 and Q9 could not have been made by K1 right. Q2, Q3, Q5, Q6, Q7, Q8 and Q9 could not have been made by K1 left.</p>
N93EN3-5335	<p>The imprints from the crime scene come from shoes of different sizes but with the same sole pattern. The imprints Item Q1, Q3, Q4, Q6 and Q7 come from the shoes seized. The individual characteristics are available in sufficient quantity and quality. The imprints Q2, Q5, Q8 and Q9 come from a different pair of shoes.</p>
N9HPBA-5331	<p>Q1, Q2, Q4 and Q5 are prints of the left shoe. Q3, Q5, Q6, Q7 and Q8 are prints of the right shoe. Q1 and Q2 have highest degree of association and therefore identified as having been made by the</p>

TABLE 2

WebCode-Test	Conclusions
	suspected shoes. Q4 and Q7 have a high degree of association. Q3 and Q5 have a correspondence of design and physical size. Q2, Q6, Q8 and Q9 have some similar class characteristics.
NKEV68-5331	[No Conclusions Reported.]
NLRCP2-5335	Questioned impressions Q1 and Q4 corresponded in tread design, size, and wear to the left New Balance shoe depicted in digital images K1a - K1g. In addition, voids in the questioned impressions corresponded to randomly acquired characteristics (RACs) observed in the left New Balance shoe represented in the digital images. In the opinion of examiner, the left New Balance shoe made the questioned impressions Q1 and Q4 (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Questioned impressions Q3, Q6 and Q7 corresponded in tread design, size, and wear to the right New Balance shoe depicted in digital images K1a - K1g. In addition, voids in the questioned impressions corresponded to RACs observed in the right New Balance shoe represented in the digital images. In the opinion of examiner, the right New Balance shoe made the questioned impressions Q3, Q6 and Q7 (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Questioned impressions Q2 and Q8 were left impressions similar in tread design to the left New Balance shoe. However, Q2 and Q8 differed in size, wear, and RACs from the left New Balance shoe depicted in digital images K1a - K1g. In the opinion of the examiner, the new Balance shoes did not make the questioned impressions Q2, and Q8 (Exclusion). Questioned impression Q5 was a right impression similar in tread design to the right New Balance shoe. However, Q5 differed in size, wear, and RACs from the right New Balance shoe depicted in digital images K1a - K1g. In the opinion of the examiner, the new Balance shoes did not make the questioned impression Q5 (Exclusion). Questioned impression Q9 was a right impression similar in tread design to the right New Balance shoe. However, Q9 differed in wear and RACs from the right New Balance shoe depicted in digital images K1a - K1g. There was also a possible size difference between footwear impression Q9 and the right New Balance shoe. In the opinion of the examiner, the New Balance shoes did not make the questioned impression Q9 (Exclusion).
P472BD-5335	[No Conclusions Reported.]
PB4UJ8-5331	In my opinion, the findings provide conclusive evidence that certain of the footwear marks recovered from SCENE (labelled Q1, Q3, Q4, Q6 and Q7), were made by the left and right 'New Balance' training shoes attributed to SUSPECT (item K1). The remaining footwear marks (labelled Q2, Q5, Q8 and Q9), although of the same pattern type as the submitted 'New Balance' training shoes (item K1), displayed significant alignment differences. Therefore, these particular marks could not have been made by the submitted shoes (item K1). (Indications suggested that these particular footwear marks were made by shoes of a smaller size.)
PJJJ98-5331	Based on the analysis and comparison of the questioned impressions ("Q1" to "Q9") with the recovered "New Balance" shoes: (a) The impressions marked "Q3" and "Q7" are very likely to have been made by the right side of the "New Balance" shoes; (b) The impressions marked "Q1" and "Q4" are very likely to have been made by the left side of the "New Balance" shoes; (c) The impression marked "Q6" is likely to have been made by the right side of the "New Balance" shoes; (d) The impressions marked "Q2", "Q5" and "Q8" are excluded from being made by the "New Balance" shoes; and (e) The impression marked "Q9" could have been made by the right side of the "New Balance" shoes. However, other footwear with the same class characteristics observed in the impression could have also made it.
PKCEW2-5335	Q1 was identified to the left shoe of K1 and excluded to the right. Q2 was excluded to both the left and right shoes of K1. Q3 was identified to the right shoe of K1 and excluded to the left. Q4 was identified to the left shoe of K1 and excluded to the right. Q5 was excluded to both the left and right shoes of K1. Q6 was identified to the right shoe of K1 and excluded to the left. Q7 was identified to the right shoe of K1 and excluded to the left. Q8 was excluded to both the left and right shoes of K1. Q9 was excluded to both the left and right shoes of K1.

TABLE 2

WebCode-Test	Conclusions
PVXFDB-5335	[No Conclusions Reported.]
Q7BZAC-5331	Questioned impressions in Q1, Q3, Q4, Q6, and Q7 are similar in design pattern, sizing, shape, and overall wear pattern with multiple corresponding randomly acquired characteristics to the submitted known shoes. The known shoes made questioned impressions Q1, Q3, Q4, Q6, and Q7. SWGTREAD conclusion: identification. Questioned impressions Q2, Q5, Q8, and Q9 are similar in design pattern to the submitted known shoes. Differences in sizing/alignment of elements and overall wear patterns with lack of correspondence of randomly acquired characteristics were also observed. The differences are conclusive for eliminating the known shoes as the source of the questioned impressions of Q2, Q5, Q8, and Q9. SWGTREAD conclusion: exclusion.
QCZKB8-5335	Comparison of the left partial shoe imprint labeled Q1 to the recovered left shoe revealed an identification. Comparison of the left shoe imprint labeled Q2 to the recovered left shoe revealed an elimination. Comparison of the right shoe imprint labeled Q3 to the recovered right shoe revealed an identification. Comparison of the left partial shoe imprint labeled Q4 to the recovered left shoe revealed an identification. Comparison of the right shoe imprint labeled Q5 to the recovered right shoe revealed an elimination. Comparison of the right partial shoe imprint labeled Q6 to the recovered right shoe revealed an identification. Comparison of the right shoe imprint labeled Q7 to the recovered right shoe revealed an identification. Comparison of the left partial shoe imprint labeled Q8 to the recovered left shoe revealed an elimination. Comparison of the right partial shoe imprint labeled Q9 to the recovered right shoe revealed an elimination.
QEY6RC-5335	The results extremely strongly support that the shoeprints Q1 och Q4 has been deposited with the left shoe (Grade +4). The results extremely strongly support that the shoeprints Q3, Q6 och Q7 has been deposited with the right shoe (Grade +4). The results extremely strongly support that the shoeprints Q2 och Q8 has not been deposited with the left shoe (Grade -4). The results extremely strongly support that the shoeprints Q5 och Q9 has not been deposited with the right shoe (Grade -4).
QFYV88-5335	The questioned imprints Q1 and Q4 has been given by the sole of the left foot of the NEW BALANCE shoe studied. The questioned imprints Q3, Q6 and Q7 has been given by the sole of the right foot of the NEW BALANCE shoe studied. The questioned imprints Q2, Q5, Q8 and Q9 are not related to the suspected footwear.
QNTYGV-5331	The left outsole is identified as the source for Q1 and Q4. The right outsole is excluded as a possible source for these impressions. The right outsole is identified as the source for Q3, Q6, and Q7. The left outsole is excluded as a possible source for these impressions. Both outsoles are excluded as a possible source for Q2, Q5, Q8, and Q9.
QP4T84-5335	The results extremely strongly support that the shoeprint Q1/ Q3/ Q4/ Q6/ Q7 has been deposited by the left/right shoe (Level +4). The shoeprint Q2/ Q5/ Q8 has not been deposited by the left/right shoe. The results extremely strongly support that the shoeprint Q9 has not been deposited by the right shoe (Level -4).
QRDTCB-5331	2. Comparison a. Questioned impressions (Q1-Q9) were compared to the known right/left shoes (K1L, K1R) as well as test impressions generated by K1L/K1R with the following results: i. The following are consistent and exhibit no exclusionary differences with respect to class characteristics: a. Q1 and K1L. In addition, exhibit five (5) corresponding individual characteristics. b. Q3 and K1R. In addition, exhibit five (5) corresponding individual characteristics. c. Q4 and K1L. In addition, exhibit six (6) corresponding individual characteristics. d. Q6 and K1R. In addition, exhibit three (3) corresponding individual characteristics. e. Q7 and K1R. In addition, exhibit seven (7) corresponding individual characteristics. ii. Q2, Q5, Q8, Q9 and K1L/K1R are different with respect to their class characteristics. E) INTERPRETATION OF RESULTS 1. The following is the opinion of the undersigned: a. Q1 & Q4 were made by K1L; therefore, were not made by K1R. b. Q3, Q6 & Q7 were made by K1R; therefore, were not made by K1L c. Q2, Q5, Q8 and Q9 could not have been made by K1L/K1R.

TABLE 2

WebCode-Test	Conclusions
RHFPC7-5331	<p>Impressions Q1 and Q4 orient with a left shoe and correspond with the K1 left shoe in outsole design, physical size, wear, and multiple randomly acquired characteristics. Therefore, this shoe was identified as the source of these impressions. Impressions Q3, Q6, and Q7 orient with a right shoe and correspond with the K1 right shoe in outsole design, physical size, wear, and multiple randomly acquired characteristics. Therefore, this shoe was identified as the source of these impressions. Impressions Q2 and Q8 orient with a left shoe and correspond with the K1 left shoe in outsole design. However, these impressions do not correspond with this shoe in physical size and wear. Therefore, this shoe was excluded as the source of these impressions. Impressions Q5 and Q9 orient with a right shoe and correspond with the K1 right shoe in outsole design. However, these impressions do not correspond with this shoe in physical size and wear. Therefore, this shoe was excluded as the source of these impressions.</p>
RQVGTW-5335	<p>1. Imprint Q1 is an imprint of a left shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the left shoe (K1). It is my opinion that there is a full association between the left shoe (K1) and the imprint Q1 ("Identification"). 2. Imprint Q2 is an imprint of a left shoe that correspond in shape and design, but differs in size and wear and some RACs from the right shoe (K1). It is my opinion that there are sufficient differences between the left shoe (K1) and the imprint Q2 ("Exclusion"). 3. Imprint Q3 is an imprint of a right shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the right shoe (K1). It is my opinion that there is a full association between the right shoe (K1) and the imprint Q3 ("Identification"). 4. Imprint Q4 is an imprint of a left shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the right shoe (K1). It is my opinion that there is a full association between the left shoe (K1) and the imprint Q4 ("Identification"). 5. Imprint Q5 is an imprint of a right shoe that correspond in shape and design, but differs in size and wear and some RACs from the right shoe (K1). It is my opinion that there are sufficient differences between the right shoe (K1) and the imprint Q5 ("Exclusion"). 6. Imprint Q6 is an imprint of a right shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the right shoe (K1). It is my opinion that there is a full association between the right shoe (K1) and the imprint Q6 ("Identification"). 7. Imprint Q7 is an imprint of a right shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the right shoe (K1). It is my opinion that there is a full association between the right shoe (K1) and the imprint Q7 ("Identification"). 8. Imprint Q8 is an imprint of a right shoe that correspond in shape and design, but differs in size and wear and some RACs from the right shoe (K1). It is my opinion that there are sufficient differences between the right shoe (K1) and the imprint Q8 ("Exclusion"). 9. Imprint Q9 there is an imprint that differ in size and wear from the shoes that received in the laboratory.</p>
RWZXNC-5331	<p>Q1 exhibits correspondence of tread design, wear pattern, and randomly acquired characteristics with the known left shoe. Therefore, the known left shoe was the source of, and made, the questioned shoe impression. Q2 exhibits differences in class and randomly acquired characteristics with the known shoes. Therefore, the known shoes were not the source of, and did not make, the questioned shoe impression. Q3 exhibits correspondence of tread design, wear pattern, and randomly acquired characteristics with the known right shoe. Therefore, the known right shoe was the source of, and made, the questioned shoe impression. Q4 exhibits correspondence of tread design, wear pattern, and randomly acquired characteristics with the known left shoe. Therefore, the known left shoe was the source of, and made, the questioned shoe impression. Q5 exhibits differences in class and randomly acquired characteristics with the known shoes. Therefore, the known shoes were not the source of, and did not make, the questioned shoe impression. Q6 exhibits correspondence of tread design, wear pattern, and randomly acquired characteristics with the known right shoe. Therefore, the known right shoe was the source of, and made, the questioned shoe impression. Q7 exhibits correspondence of tread design, wear pattern, and randomly acquired characteristics with the known right shoe. Therefore, the known right shoe was the source of, and made, the questioned shoe impression. Q8 exhibits differences in class and randomly acquired characteristics with the known shoes. Therefore, the known shoes were not the source of, and did not make, the questioned shoe impression. Q9 exhibits differences in class and randomly acquired characteristics with the known shoes. Therefore, the known shoes were not the source of, and did not make, the questioned shoe impression.</p>

TABLE 2

WebCode-Test	Conclusions
TDZGP8-5335	<p>Questioned imprints Q1 and Q4 are part of a single left sole; they present the same group and individual characteristics between them. Also, they are identical to the known imprint of the sole. Questioned imprints Q2 and Q8 are part of single left sole; they present the same group and individual characteristics between them. However they are different to the known imprint of the sole. Questioned imprints Q3, Q6 and Q7 are part of a single right sole; they present the same group and individual characteristics between them. Also, they are identical to the known imprint of the sole. Questioned imprints Q5 and Q9 are part of single right sole; However they are different to the known imprint of the sole.</p>
U69CJC-5331	<p>The methodology utilized includes: visual examination, digital retention, and ACE-V. One (1) questioned footwear impression was noted on Item 1A (designated as Item 1A-1). One (1) questioned footwear impression was noted on Item 2A (designated as Item 2A-1). One (1) questioned footwear impression was noted on Item 3A (designated as Item 3A-1). One (1) questioned footwear impression was noted on Item 4A (designated as Item 4A-1). One (1) questioned footwear impression was noted on Item 5A (designated as Item 5A-1). One (1) questioned footwear impression was noted on Item 6A (designated as Item 6A-1). One (1) questioned footwear impression was noted on Item 7A (designated as Item 7A-1). One (1) questioned footwear impression was noted on Item 8A (designated as Item 8A-1). One (1) questioned footwear impression was noted on Item 9A (designated as Item 9A-1). The Nine (9) questioned footwear impressions were compared to Item 10 (Item 10-1) with the following results: Items 1A-1 and 4A-1 correspond in outsole design, physical size, and general wear with the known left shoe submitted in Item 10 (Item 10-1). Additionally, the questioned footwear impressions exhibit unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that the questioned footwear impressions were made by the known left shoe submitted in Item 10. These questioned footwear impressions were those of a left shoe; therefore, the questioned impressions were not made by the known right shoe in Item 10 (Item 10-1). Items 3A-1, 6A-1, and 7A-1 correspond in outsole design, physical size, and general wear with the known right shoe submitted as Item 10 (Item 10-1). Additionally, the questioned footwear impressions exhibit unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that the questioned footwear impressions were made by the known right shoe submitted in Item 10 (Item 10-1). These questioned footwear impressions were those of a right shoe; therefore, the questioned impressions were not made by the known left shoe in Item 10 (Item 10-1). Items 2A-1 and 8A-1 do not correspond in physical size with the known left shoe submitted in Item 10 (Item 10-1), there are unique identifying characteristics present in 2A-1 and 8A-1 that are not present in the known right shoe submitted in Item 10 (Item 10-1); therefore, the questioned impressions were not made by the known right shoe submitted as Item 10 (Item 10-1). The questioned impressions were that of a right shoe; therefore, the questioned impressions were not made by the known left shoe in Item 10 (Item 10-1). Items 5A-1 and 9A-1 do not correspond in physical size with the known right shoe submitted in Item 10 (Item 10-1), there are unique identifying characteristics in 5A-1 and 9A-1 that are not present in the known right shoe submitted in Item 10 (Item 10-1); therefore, the questioned impressions were not made by the known right shoe submitted as Item 10 (Item 10-1). The questioned impressions were that of a right shoe; therefore, the questioned impressions were not made by the known left shoe in Item 10 (Item 10-1). Item 9A-1 is suitable for search through Solemate. The questioned footwear impression was not searched in the Solemate FPX database due to this being a proficiency test.</p>
UBE6D9-5335	<p>Inter-comparison examination and analysis between the questioned footwear impressions in submission 001 with the known shoes in submission 001 was conducted. It is the opinion of the undersigned examiners that the questioned footwear impression, Q1, in submission 001 corresponds in physical size, physical shape, outsole design, wear characteristics, and randomly acquired characteristics with the known left shoe in K1a through K1g in submission 001. This opinion is the highest degree of association that can be expressed in this type of comparison. It is the opinion of the undersigned examiners that the questioned footwear impression, Q2, in submission 001 is of a different physical size and has different wear characteristics than the known left shoe in K1a through K1g in submission 001. The known left shoe was excluded as having made the questioned footwear impression. It is the opinion of the undersigned examiners that the questioned footwear impression, Q3, in submission 001 corresponds in physical size, physical shape, outsole design, wear characteristics, and randomly acquired characteristics with the</p>

TABLE 2

WebCode-Test	Conclusions
	<p>known right shoe in K1a through K1g in submission 001. This opinion is the highest degree of association that can be expressed in this type of comparison. It is the opinion of the undersigned examiners that the questioned footwear impression, Q4, in submission 001 corresponds in physical size, physical shape, outsole design, wear characteristics, and randomly acquired characteristics with the known left shoe in K1a through K1g in submission 001. This opinion is the highest degree of association that can be expressed in this type of comparison. It is the opinion of the undersigned examiners that the questioned footwear impression, Q5, in submission 001 is of a different physical size and has different wear characteristics than the known right shoe in K1a through K1g in submission 001. The known right shoe was excluded as having made the questioned footwear impression. It is the opinion of the undersigned examiners that the questioned footwear impression, Q6, in submission 001 corresponds in physical size, physical shape, outsole design, wear characteristics, and randomly acquired characteristics with the known right shoe in K1a through K1g in submission 001. This opinion is the highest degree of association that can be expressed in this type of comparison. It is the opinion of the undersigned examiners that the questioned footwear impression, Q7, in submission 001 corresponds in physical size, physical shape, outsole design, wear characteristics, and randomly acquired characteristics with the known right shoe in K1a through K1g in submission 001. This opinion is the highest degree of association that can be expressed in this type of comparison. It is the opinion of the undersigned examiners that the questioned footwear impression, Q8, in submission 001 is of a different physical size and has different wear characteristics than the known left shoe in K1a through K1g in submission 001. The known left shoe was excluded as having made the questioned footwear impression. It is the opinion of the undersigned examiners that the questioned footwear impression, Q9, in submission 001 is of a different physical size and has different wear characteristics than the known right shoe in K1a through K1g in submission 001. The known right shoe was excluded as having made the questioned footwear impression.</p>
UNYKG8-5335	<p>The test impressions and photographs of the suspect shoes were compared to the photographs of the questioned impressions using the side by side and overlay comparison methods. The impressions marked Q1 and Q4 correspond in class characteristics, namely design (arrangement of footwear design elements and pattern/s), wear (extent of erosion to the outsole) and physical size (length, width and relative positions of various design elements in the outsole) and in individual characteristics (random characteristics i.e. nicks, cuts, tears etc. similar in size, shape, orientation and location resulting from random events), therefore it can be stated that the Suspect's left shoe was the source of the impressions. The impressions marked Q3, Q6 and Q7 correspond in class characteristics, namely design (arrangement of footwear design elements and pattern/s), wear (extent of erosion to the outsole) and physical size (length, width and relative positions of various design elements in the outsole) and in individual characteristics (random characteristics i.e. nicks, cuts, tears etc. similar in size, shape, orientation and location resulting from random events), therefore it can be stated that the Suspect's right shoe was the source of the impressions. The impressions marked Q2, Q5, Q8 and Q9 correspond in general design, however, significant differences are noted in size, wear and accidental damage characteristics, therefore it can be stated that the Suspect's shoes were not the source of the impressions.</p>
UX9WU6-5335	<p>The questioned barefoot impressions were examined: "Q1" and "Q4" were found to have been made by the left recovered shoe. "Q3", "Q6", and "Q7" were found to have been made by the right recovered shoe. The remaining questioned impressions were excluded as having been made by the pair of recovered shoes.</p>
VNBTUZ-5335	<p>[No Conclusions Reported.]</p>
VT3XN6-5331	<p>Footprints Q-1 y Q-4 has been produced by the sole of the shoe of the left foot K1a-L. Footprints Q-3, Q-6 and Q-7 has been produced by the sole of the shoe of the right foot K1a-R. Footprints Q-2 y Q-8 has been produced by a left shoe being different to K1a-L (smaller size). Footprints Q-5 y Q-9 has been produced by a right shoe being different to K1a-R (smaller size).</p>
VT9ZQV-5331	<p>The questioned, partial footwear impressions, Q1 through Q9, have been compared with the photographs of the known footwear outsoles, known footwear test impressions and transparencies made</p>

TABLE 2

WebCode-Test	Conclusions
VX4UNX-5331	<p>from the known test impressions found in Submission 001. The questioned, partial footwear impressions, Q1 and Q4, have both been identified as having been made by the left shoe in Submission 001. It was determined that the questioned, partial footwear impressions, Q2, Q5, Q8 and Q9, were not made by the shoes in Submission 001. The questioned, partial footwear impressions, Q3, Q6 and Q7, have all been identified as having been made by the right shoe in Submission 001.</p> <p>The nine impressions (Q1-Q9) were visually compared to the photographs of the known New Balance shoe outsoles (K1a-K1c) and the test impressions (K1d-K1g) made from these shoes. The impression Q1 and the LEFT known shoe are consistent in tread design, physical shape and size, wear, and the location, position, and orientation of multiple randomly acquired characteristics. Therefore, the LEFT known shoe was IDENTIFIED as having made the impression Q1. The impression Q2 and the LEFT known shoe are consistent in tread design. However, difference in wear and the location, position, and orientation of randomly acquired characteristics were observed between the impression Q2 and the LEFT known shoe. Therefore, the known shoes were ELIMINATED as having made the impression Q2. The impression Q3 and the RIGHT known shoe are consistent in tread design, physical shape and size, wear, and the location, position, and orientation of multiple randomly acquired characteristics. Therefore, the RIGHT known shoe was IDENTIFIED as having made the impression Q3. The impression Q4 and the LEFT known shoe are consistent in tread design, physical shape and size, wear, and the location, position, and orientation of multiple randomly acquired characteristics. Therefore, the LEFT known shoe was IDENTIFIED as having made the impression Q4. The impression Q5 and the RIGHT known shoe are consistent in tread design. However, difference in wear and the location, position, and orientation of randomly acquired characteristics were observed between the impression Q5 and the RIGHT known shoe. Therefore, the known shoes were ELIMINATED as having made the impression Q5. The impression Q6 and the RIGHT known shoe are consistent in tread design, physical shape and size, wear, and the location, position, and orientation of multiple randomly acquired characteristics. Therefore, the RIGHT known shoe was IDENTIFIED as having made the impression Q6. The impression Q7 and the RIGHT known shoe are consistent in tread design, physical shape and size, wear, and the location, position, and orientation of multiple randomly acquired characteristics. Therefore, the RIGHT known shoe was IDENTIFIED as having made the impression Q7. The impression Q8 and the LEFT known shoe are consistent in tread design. However, difference in wear and the location, position, and orientation of randomly acquired characteristics were observed between the impression Q8 and the LEFT known shoe. Therefore, the known shoes were ELIMINATED as having made the impression Q8. The impression Q9 and the RIGHT known shoe are consistent in tread design. However, difference in wear and the location, position, and orientation of randomly acquired characteristics were observed between the impression Q9 and the RIGHT known shoe. Therefore, the known shoes were ELIMINATED as having made the impression Q9.</p>
VXJBG6-5331	<p>By comparing the sole pattern of a shoe to a shoeprint impression it is often possible to determine whether or not that particular shoe made that impression. I have compared the pair of 'new balance'-brand shoes to the shoe impressions Q1 to Q9. This comparison process examines the shoes and the shoe impressions to investigate any correspondence or differences in sole pattern and dimensions, the presence of any wear, and the location, dimensions and shape of any randomly acquired characteristics. In subjectively assessing the strength of any correspondences, I have considered the following: the probability of finding the shoe impression evidence if one of the the submitted shoes made the impression, and the probability of finding the shoe impression evidence if another shoe made the impression. The statement of opinion as to the scientific significance of the correspondence between the shoe and the shoe impression is selected from the following scale: is neutral, provides slight support, provides moderate support, provides strong support, provides very strong support, and provides extremely strong support. There was a correspondence of the sole pattern, dimensions, degree of wear and randomly acquired characteristics between the left shoe and the scene impressions Q1 and Q4. There was a correspondence of the sole pattern, dimensions, degree of wear and randomly acquired characteristics between the right shoe and the scene impressions Q3, Q6 and Q7. Therefore, the submitted shoes, or another pair of shoes with the same sole characteristics, could have the impressions at the scene. In my opinion, this combination of shoeprint pattern, dimensions, wear and randomly acquired characteristics is rare and therefore this correspondence provides extremely strong support for the proposition that the submitted shoes made the scene impressions Q1, Q3, Q4, Q6 and Q7.</p>

TABLE 2

WebCode-Test	Conclusions
	<p>Although the left shoe had the same general shoe sole pattern as impressions Q2 and Q8, the dimensions, wear and randomly acquired characteristics did not correspond. Therefore, in my opinion the left shoe can be excluded as having made these impressions. Although the right shoe had the same general shoe sole pattern as impressions Q5 and Q9, the dimensions, wear and randomly acquired characteristics did not correspond. Therefore, in my opinion the right shoe can be excluded as having made these impressions.</p>
VYU8X3-5331	<p>A). The questioned imprints Items Q1, Q3, Q4, Q6 and Q7 share agreement of class and identifying characteristics of sufficient imprint quality and quantity with the known imprints Items K1d to K1g made with the recovered suspect shoes. Based on the above findings, in my opinion, the known recovered suspect shoes made the questioned imprints Items Q1, Q3, Q4, Q6 and Q7. While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. (B). The questioned imprints Items Q5, Q8 and Q9 exhibit dissimilarities with respect to class and identifying characteristics in comparison to the known imprints Items K1d to K1g made with the recovered suspect shoes. Based on the above findings, in my opinion, there are dissimilarities between the questioned imprints Items Q5, Q8 and Q9 and the known imprints Items K1d to K1g indicating non-association; however, the details or features were not sufficient to permit an exclusion. (C). The questioned imprint Item Q2 exhibits sufficient differences of class and identifying characteristics in comparison to the known imprint Items K1d to K1g made with the recovered suspect shoes. Based on the above findings, in my opinion, the known recovered suspect shoes were not the source of, and did not make, the questioned imprint Item Q2.</p>
W2WBDW-5335	<p>A digital file folder containing images of known shoes, test impressions made from the known shoes, and questioned footwear impressions was submitted for analysis. The questioned footwear impressions were labeled Impressions Q1 through Q9. They were all two-dimensional impressions with Q1 through Q3 being made on grey stone vinyl tile, Q4 through Q6 on wood grain vinyl tile, and Q7 through Q9 on newspaper. There was only one tread design observed amongst the questioned impressions. Images of the questioned impressions were digitally processed and visually compared to the submitted known shoes, a pair of New Balance 410 V8 Trail Running Shoes, size US W 9.5 (as depicted in Items K1a through K1c), and to test impressions made from the submitted shoes (as depicted in Items K1d through K1g). Impressions Q3, Q6, and Q7 corresponded in tread design, physical size, and general wear to the known right shoe. These questioned impressions also had at least four voids that corresponded to randomly acquired characteristics observed on the known right shoe. In the opinion of examiner, the known right shoe made the questioned impressions (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Impressions Q1 and Q4 corresponded in tread design, physical size, and general wear to the known left shoe. These questioned impressions also had at least three voids that corresponded to randomly acquired characteristics observed on the known left shoe. In the opinion of examiner, the known left shoe made the questioned impressions (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Impressions Q2, Q5, Q8, and Q9 corresponded in tread design to the known shoes but differed in physical size. For this reason, it is the opinion of the examiner that the known shoes did not make these questioned footwear impressions (Exclusion).</p>
WQEUKP-5335	<p>The Q1FW1 partial footwear impression was made by the Item K1a left shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q1FW1 and those present on the Item K1a right shoe to conclude that the impression was not made by the Item K1a right shoe. Sufficient differences were noted between the characteristics present in Q2FW1 and those present on the Item K1a shoes to conclude that the impression was not made by the Item K1a shoes. The Q3FW1 partial footwear impression was made by the Item K1a right shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q3FW1 and those present on the Item K1a left shoe to conclude that the impression was not made by the Item K1a left shoe. The Q4FW1 partial footwear impression was made by the Item K1a left shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q4FW1 and those present on the Item K1a right shoe to conclude</p>

TABLE 2

WebCode-Test	Conclusions
	<p>that the impression was not made by the Item K1a right shoe. Sufficient differences were noted between the characteristics present in Q5FW1 and those present on the Item K1a shoes to conclude that the impression was not made by the Item K1a shoes. The Q6FW1 partial footwear impression was made by the Item K1a right shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q6FW1 and those present on the Item K1a left shoe to conclude that the impression was not made by the Item K1a left shoe. The Q7FW1 partial footwear impression was made by the Item K1a right shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q7FW1 and those present on the Item K1a left shoe to conclude that the impression was not made by the Item K1a left shoe. Sufficient differences were noted between the characteristics present in Q8FW1 and those present on the Item K1a shoes to conclude that the impression was not made by the Item K1a shoes. Sufficient differences were noted between the characteristics present in Q9FW1 and those present on the Item K1a shoes to conclude that the impression was not made by the Item K1a shoes.</p>
WZ6EN3-5331	<p>Suggested Wording: Q1 - The Left known shoe was the source, and made, the questioned impression Q1. The chance another shoe being the source of the impression is considered negligible. Q2 - Due to differences observed (size) the known shoes were not the source of and did not make the questioned impression Q2. Q3 - The Right known shoe was the source, and made, the questioned impression Q3. The chance another shoe being the source of the impression is considered negligible. Q4 - The Left known shoe was the source, and made, the questioned impression Q4. The chance another shoe being the source of the impression is considered negligible. Q5 - Due to differences observed (size) the known shoes were not the source of and did not make the questioned impression Q5. Q6 - The Right known shoe was the source, and made, the questioned impression Q6. The chance another shoe being the source of the impression is considered negligible. Q7 - The Right known shoe was the source, and made, the questioned impression Q7. The chance another shoe being the source of the impression is considered negligible. Q8 - Due to differences observed (size) the known shoes were not the source of and did not make the questioned impression Q8. Q9 - The Right known shoe is a possible source of the questioned impression Q9 and therefore could have produced the impression. Other shoes with the same class characteristics (pattern) are included as Possible sources.</p>
X4XX7Q-5335	<p>Information: Container 1 was a digital download that contained ten files designated as Items 1 - 10. Items 1 - 3 were images depicting the soles of the known shoes, with different lighting directions, recovered by the submitting agency. Items 4 - 7 were images of known test impressions of the known shoes. Per information provided by the agency the make of the known shoes (as depicted in Items 1 - 7) was New Balance. Items 8 - 10 represented questioned footwear impressions Q1 - Q9, labeled by the submitting agency. Questioned impressions (Q1 - Q9) were visually compared to images of the New Balance shoes and to images of the test impressions from those shoes (Items 1 - 7). Results: Q1 and Q4 corresponded in tread design, physical size, wear characteristics and at least four randomly acquired characteristics (RACs) to the left New Balance shoe. In the opinion of the examiner, the left New Balance shoe made the questioned impressions Q1 and Q4 (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Q3, Q6 and Q7 corresponded in tread design, physical size, wear characteristics and at least three randomly acquired characteristics (RACs) to the right New Balance shoe. In the opinion of the examiner, the right New Balance shoe made the questioned impressions Q3, Q6 and Q7 (Identification). While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear. Q2, Q5 and Q9 corresponded in general tread design to the right New Balance shoe; however, they were dissimilar in physical size and/or wear patterns to the right New Balance shoe. Q8 corresponded in general tread design to the left New Balance shoe; however, it was dissimilar in physical size and wear patterns to the left New Balance shoe. In the opinion of the examiner, the right or left New Balance shoe did not make questioned impressions Q2, Q5, Q8 and Q9 (Exclusion). Association Scale for Footwear and Tire Impressions. The following descriptions are meant to provide context to the levels of opinions reached in footwear and tire impression comparisons. Each level may not include every variable in every case. Lacks sufficient detail - No comparison was conducted: the examiner determined there were no discernible questioned footwear/tire impressions or features present. Or - A comparison was conducted: the examiner determined that there was insufficient</p>

TABLE 2

WebCode-Test	Conclusions
	<p>detail in the questioned impression for a meaningful conclusion. This opinion only applies to the known footwear or tire that was examined and does not necessarily preclude future examinations with other known footwear or tires. Exclusion – This is the highest degree of non-association expressed in footwear and tire impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear or tire. Indications of non-association – The questioned impression exhibits dissimilarities when compared to the known footwear or tire; however, the details or features were not sufficiently clear to permit an exclusion. Limited association of class characteristics – Some similar class characteristics were present; however, there were significant limiting factors in the questioned impression that did not permit a stronger association between the questioned impression and the known footwear or tire. These factors may include but were not limited to: insufficient detail, lack of scale, improper position of scale, improper photographic techniques, distortion or significant lengths of time between the date of the occurrence and when the footwear or tires were recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the footwear or tire. Association of class characteristics – The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear or tire. Correspondence of general wear may also be present. High degree of association – The questioned impression and known footwear or tire must correspond in the class characteristics of design, physical size, and general wear. For this degree of association there must also exist: (1) wear that, by virtue of its specific location, degree and orientation make it unusual and/or (2) one or more randomly acquired characteristics. Identification – This is the highest degree of association expressed by a footwear and tire impression examiner. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity.</p>
XLHP6Q-5335	<p>We are using a Bayesian conclusion scale. Depending on the case circumstances, two propositions are used to formulate the conclusion in which the strength of the evidence is expressed in a verbal likelihood ratio. For example: Conclusion A would be expressed as 'extremely more support', conclusion B as 'very much more support'.</p>
XN7ML4-5335	<p>A. Based on the highest degree of association in wear size, pattern, and randomly acquired characteristics, the Q1, Q4 questioned footprints are all the same from the recovered left shoe. B. Due to the highest degree of association in wear size, pattern, and randomly acquired characteristics, the Q3, Q6, Q7 questioned footprints are all the same from the recovered right shoe. C. Based on the highest degree of non-association in wear size, pattern, and randomly acquired characteristics, the questioned Q5, Q9 footprint may come from shoes different to the recovered right shoe. D. Based on the highest degree of non-association in wear size, pattern, and randomly acquired characteristics, the questioned Q2, Q8 footprint may come from shoes different to the recovered left shoe.</p>
XTM7Z7-5335	<p>Manufactured pattern impressions suitable for comparative examination were noted in Exhibits Q1-Q3, Q4-Q6, and Q7-Q9. Three (3) manufactured pattern impressions noted in Exhibits Q1-Q3, Q4-Q6, and Q7-Q9 (marked as Q3, Q6, and Q7) were made by the right shoe represented by Exhibits K1a through K1g based on design, physical size, shape, wear, and randomly acquired characteristics. This opinion means that the observed class characteristics and randomly acquired characteristics correspond and the examiner would not expect to see the same agreement of features repeated in an impression that came from a different source. Two (2) manufactured pattern impressions noted in Exhibits Q1-Q3 and Q4-Q6 (marked as Q1 and Q4) were made by the left shoe represented by Exhibits K1a through K1g based on design, physical size, shape, wear, and randomly acquired characteristics. This opinion means that the observed class characteristics and randomly acquired characteristics correspond and the examiner would not expect to see the same agreement of features repeated in an impression that came from a different source. The remaining manufactured pattern impressions noted in Exhibits Q1-Q3, Q4-Q6, and Q7-Q9 (marked as Q2, Q5, Q8 and Q9) were not made by the shoes represented by Exhibits K1a through K1g based on differences in physical size (Q2, Q5, and Q8) and wear (Q2, Q5, Q8, and Q9). This opinion means that there are sufficient features in disagreement such that the examiner would not expect to see the same disagreement repeated in an impression that came from the same source.</p>

TABLE 2

WebCode-Test	Conclusions
XZ2E28-5331	<p>The questioned imprints depicted in Exhibits 1 through 9 were examined. The results of the examination were that each imprint was suitable for comparison. Exhibit 1 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 1 was a source identification with the left shoe in Exhibit 10. This conclusion was based on corresponding design, wear and randomly acquired characteristics between Exhibit 1 and the Exhibit 10 left shoe. Exhibit 2 was compared with the known footwear and impressions in depicted in Exhibit 10. Exhibit 2 was a source exclusion with the shoes in Exhibit 10. The design of Exhibit 2 corresponded with the design of the left shoe in Exhibit 10, but both shoes had differences in wear and randomly acquired characteristics. Exhibit 3 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 3 was a source identification with the right shoe in Exhibit 10. This conclusion was based on corresponding design, wear and randomly acquired characteristics between Exhibit 3 and the Exhibit 10 right shoe. Exhibit 4 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 4 was a source identification with the left shoe in Exhibit 10. This conclusion was based on corresponding design, wear and randomly acquired characteristics between Exhibit 4 and the Exhibit 10 left shoe. Exhibit 5 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 5 was a source exclusion with the shoes in Exhibit 10. The design of Exhibit 5 corresponded with the design of the right shoe in Exhibit 10, but both shoes had differences in wear and randomly acquired characteristics. Exhibit 6 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 6 was a source identification with the right shoe in Exhibit 10. This conclusion was based on corresponding design, wear and randomly acquired characteristics between Exhibit 6 and the Exhibit 10 right shoe. Exhibit 7 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 7 was a source identification with the right shoe in Exhibit 10. This conclusion was based on corresponding design, wear and randomly acquired characteristics between Exhibit 7 and the Exhibit 10 right shoe. Exhibit 8 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 8 was a source exclusion with the shoes in Exhibit 10. The design of Exhibit 8 corresponded with the design of the left shoe in Exhibit 10, but both shoes had differences in wear and randomly acquired characteristics. Exhibit 9 was compared with the known footwear and impressions depicted in Exhibit 10. Exhibit 9 was a source exclusion with the shoes in Exhibit 10. The design of Exhibit 9 corresponded with the design of the right shoe in Exhibit 10, but both shoes had differences in wear and randomly acquired characteristics.</p>
Y3HYL2-5331	<p>Laboratory records show that on 15 April 2024 an envelope containing nine images was submitted to the laboratory. I was asked to compare the photographs of impressions recovered at a crime scene with photographs of recently cleaned shoe soles and known imprints made with these shoes. The recovered shoes were manufactured by New Balance, and were a size US W 9.5/US M 8/UK 7.5. By comparing the sole pattern of a shoe to a shoeprint impression it is often possible to determine whether or not that particular shoe made that impression. I have compared the recovered to the scene impressions. This comparison process examines the shoe and the scene impression to investigate any correspondence or difference in sole pattern and dimensions, the presence of any wear, and the location, dimensions and shape of any randomly acquired characteristics. In subjectively assessing the strength of any correspondence I have considered: the probability of finding the shoe impression evidence if the shoe made the impression, and the probability of finding the shoe impression evidence if another shoe made the impression. The statement of opinion as to the scientific significance of the correspondence between the shoe and the shoe impression is selected from the following scale: is neutral, provides slight support, provides moderate support, provides strong support, provides very strong support, and provides extremely strong support. The scene images consisted of one image containing three partial footwear impressions labelled Q1 to Q3 on grey stone tile, three partial footwear impressions labelled Q4 to Q6 on a woodgrain vinyl tile and three partial footwear impressions labelled Q7 to Q9 on newspaper. The scene impressions Q1 and Q4 were partial impressions of a left shoe, which corresponded to the sole pattern of the submitted left shoe. There were a number of randomly acquired characteristics visible on the impressions that were also present on the submitted left shoe. There was also correspondence in the wear patterns. These impressions could have been made by this shoe or any other left shoe with same sole pattern, dimensions, and corresponding wear and randomly acquired characteristics. Therefore, in my opinion, this evidence provides extremely strong support for the proposition that the left submitted shoe made the scene impressions Q1 and Q4. The scene impressions Q3 and Q7 were partial impressions of a right shoe, which corresponded to the sole pattern of the submitted right shoe. There</p>

TABLE 2

WebCode-Test	Conclusions
	<p>were a number of randomly acquired characteristics visible on the impressions that were also present on the submitted right shoe. There was also correspondence in the wear patterns. These impressions could have been made by this shoe or any other right shoe with same sole pattern, dimensions, and corresponding wear and randomly acquired characteristics. Therefore, in my opinion, this evidence provides extremely strong support for the proposition that the right submitted shoe made the scene impressions Q3 and Q7. The scene impressions Q6 was a partial impression of only the forefoot of a right shoe, which corresponded to the sole pattern of the submitted right shoe. There were some randomly acquired characteristics visible on the impressions that were also present on the submitted right shoe. There was also correspondence in the wear patterns. These impressions could have been made by this shoe or any other right shoe with same sole pattern, corresponding wear and randomly acquired characteristics. However, without the heel area, no accurate assessment of the size was able to be made. Therefore, in my opinion, this evidence provides very strong support for the proposition that the right submitted shoe made the scene impressions Q6. The scene impressions Q2 and Q8 were partial impressions of a left shoe, while Q5 and Q9 were partial impressions of a right shoe which corresponded to the sole pattern of the submitted shoes. However, there were variations in wear and randomly acquired characteristics between the impression and the submitted shoes. Therefore, the submitted shoes could not have made the scene impressions Q2, Q8, Q5 and Q9.</p>
Y4DJ92-5331	<p>Questioned imprints of Q1-Q9 were compared with known imprint made with the the recovered shoes. Questioned imprints of Q3, Q6, Q7 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the recovered right shoe. Questioned imprints of Q1, Q4 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the recovered left shoe. Questioned imprints of Q2, Q5, Q8, Q9 were eliminated as having been made by the recovered shoe.</p>
Y6NBFW-5335	<p>[No Conclusions Reported.]</p>
YG3GGQ-5331	<p>The above findings provide extremely strong support for the view that the footwear made some of the impressions at the scene (Q1, 3, 4, 6, 7) rather than other footwear made the impressions. They also show that the footwear did not make the impressions (Q2, 5, 8, 9). I have chosen the above phrase from the following scale: weak support, moderate support, moderately strong support, strong support, very strong support, extremely strong support.</p>
YM92EW-5335	<p>[No Conclusions Reported.]</p>
YPXJH3-5335	<p>The Known shoes were excluded as the source of Q2, Q5, Q8, and Q9. In the opinion of the examiner, the Known shoes were not the source of, and did not make, Q2, Q5, Q8, and Q9. The Left Known shoe was identified as the source of Q1 and Q4. In the opinion of the examiner, the Left Known shoe was the source of, and made, Q1 and Q4. Another item of footwear being the source of Q1 and Q4 is considered a practical impossibility. The Right Known shoe was identified as the source of Q3, Q6, and Q7. In the opinion of the examiner, the Right Known shoe was the source of, and made, Q3, Q6, and Q7. Another item of footwear being the source of Q3, Q6, and Q7 is considered a practical impossibility.</p>
YTVX7R-5331	<p>The submitted footwear images were examined and compared to the footwear impressions visible in Q1-Q9. Q1 corresponds to the known left shoe in tread design, tread size, tread wear and individual characteristics to include scratches and gouges in the surface of the sole. Thus, Q1 was made by the known left shoe as represented by the submitted images. Q2 corresponds in tread design to the known left shoe; however, they are different in tread size and tread wear. Thus, Q2 was not made by the known left shoe as represented by the submitted images. Q3 corresponds to the known right shoe in tread design, tread size, tread wear and individual characteristics to include scratches and nicks in the surface of the sole. Thus, Q3 was made by the known right shoe as represented by the submitted images. Q4 corresponds to the known left shoe in tread design, tread size, tread wear and individual characteristics to include scratches in the surface of the sole. Thus, Q4 was made by the known left shoe as represented by the submitted images. Q5 corresponds in tread design to the known right shoe; however, they are</p>

TABLE 2

WebCode-Test	Conclusions
	<p>different in tread size and tread wear. Thus, Q5 was not made by the known right shoe as represented by the submitted images. Q6 corresponds to the known right shoe in tread design, tread size, tread wear and individual characteristics to include scratches and nicks in the surface of the sole. Thus, Q6 was made by the known right shoe as represented by the submitted images. Q7 corresponds to the known right shoe in tread design, tread size, tread wear and individual characteristics to include scratches, gouges and a crack in the surface of the sole. Thus, Q7 was made by the known right shoe as represented by the submitted images. Q8 corresponds in tread design to the known left shoe; however, they are different in tread size and tread wear. The known left shoe also has notably different unique scratches than Q8. Thus, Q8 was not made by the known left shoe as represented by the submitted images. Q9 corresponds in tread design to the known right shoe; however, they are different in tread size and tread wear. Thus, Q9 was not made by the known right shoe as represented by the submitted images.</p>
ZBP8C2-5331	<p>In my opinion two different pairs of New Balance 0406 have made the marks recovered. In my opinion the submitted left and right shoes have made the marks Q1, Q3, Q4, Q6 and Q7. These marks all correspond in pattern, size, configuration, wear, specific wear and contain corresponding damage features. Conclusive Support. In my opinion the submitted left and right shoes could not have made the marks Q2, Q5, Q8 and Q9. They are different in size and configuration. Eliminated.</p>
ZHEHWX-5335	<p>Items 8 through 16 were examined visually, with low power magnification, and with 1 to 1 transparency overlays. Item 8: Comparison of the partial left shoe impression labeled found on gray stone vinyl tile, Q1, (item 8) to the recovered left "New Balance" shoe revealed an identification. Item 9: Comparison of the left shoe impression labeled found on gray stone vinyl tile, Q2, (item 9) to the recovered left "New Balance" shoe revealed an elimination. Item 10: Comparison of the partial right shoe impression labeled found on gray stone vinyl tile, Q3, (item 10), to the recovered right "New Balance" shoe revealed an identification. Item 11: Comparison of the partial left shoe impression labeled found on woodgrain vinyl tile, Q4, (item 11), to the recovered left "New Balance" shoe revealed an identification. Item 12: Comparison of the right shoe impression labeled found on woodgrain vinyl tile, Q5, (item 12), to the recovered right "New Balance" shoe revealed an elimination. Item 13: Comparison of the partial right shoe impression labeled found on woodgrain vinyl tile, Q6, (item 13), to the recovered right "New Balance" shoe revealed an identification. Item 14: Comparison of the right shoe impression labeled found on newspaper, Q7, (item 14), to the recovered right "New Balance" shoe revealed an identification. Item 15: Comparison of the partial left shoe impression labeled found on newspaper, Q8, (item 15), to the recovered left "New Balance" shoe revealed an elimination. Item 16: Comparison of the partial right shoe impression labeled found on newspaper, Q9, (item 16), to the recovered right "New Balance" shoe revealed and elimination.</p>

Additional Comments

TABLE 3

WebCode-Test	Additional Comments
6BJ66K-5331	The know exemplars (k1) were utilized to compare with Q1-Q9. K1 left was identified to Q1, Q4 and K1 right was identified to Q3, Q6, and Q7 based on the randomly acquired characteristics observed in both the know and questioned impressions. Q2, Q5, Q8, and Q9 were eliminated as having originated from either left or right K1 due to the lack of similar characteristics found throughout each.
6J7CCN-5335	q2:E. No individualizing points are observed, the wear does not match but the design is similar.
7ND3FU-5335	The footwear marks Q2, Q5, Q8 and Q9 have not been made by the New Balance training shoes.
8KEYAU-5335	We use a different scale for conclusions (+4, +3, +2, +1, 0, -1, -2, -3, -4). Therefore it was a bit challenging to convert the scale properly.
BNLJQP-5331	My organization does not report identification however our highest degree of association is "extremely strong support" as reported in part 2 of the submission. Have assigned these as A. identification in part one to adapt to the conclusions for this submission.
BYLAAC-5335	Still too many Qs. There is no need to have this many, it becomes redundant and takes too long. Five or six questioned impressions would have been sufficient.
CBP97N-5331	Q1. Same pattern (New Balance # 406); Consistent size/configuration; Agreement in partial solidification of inner manufacturing texturing to ball area; 9 x Randomly Acquired Characteristics (RAC's) in agreement; Q2. Same pattern (New Balance # 406); Scene mark substantially smaller/narrower; Scene mark substantially less worn- no solidification of inner manufacturing texturing; RAC's in disagreement; Q3. Same pattern (New Balance # 406); Consistent size/configuration; Agreement in partial solidification of inner manufacturing texturing to ball area; 11 x Randomly Acquired Characteristics (RAC's) in agreement; Q4. Same pattern (New Balance # 406); Consistent size/configuration; Agreement in partial solidification of inner manufacturing texturing; 8 x Randomly Acquired Characteristics (RAC's) in agreement; Q5. Same pattern (New Balance # 406); Scene mark substantially smaller/narrower; Scene mark substantially less worn- no solidification of inner manufacturing texturing; RAC's in disagreement; Q6. Same pattern (New Balance # 406); Consistent size/configuration; Agreement in partial solidification of inner manufacturing texturing to ball area; 6 x Randomly Acquired Characteristics (RAC's) in agreement; Q7. Same pattern (New Balance # 406); Consistent size/configuration; Agreement in partial solidification of inner manufacturing texturing to ball area; 11 x Randomly Acquired Characteristics (RAC's) in agreement; Q8. Same pattern (New Balance # 406); Scene mark substantially smaller/narrower; RAC's in disagreement; Q9. Same pattern (New Balance # 406); Scene mark substantially smaller/narrower; Scene mark substantially less worn- no solidification of inner manufacturing texturing; RAC's in disagreement
DTAY6M-5335	In the absence of the actual shoes, the assumption has been made that features visible in the photographs of the sole and in the test impression are damage features. The comparison was conducted using physical prints of both the scene impressions and the test impressions. The test impressions were printed on acetate sheets and overlaid on the scene marks.
G3KLQJ-5335	It is difficult at times to determine whether a feature seen in a mark is a result of damage, a moulding feature or the result of wear, when the footwear is not available for examination.
LGNM7G-5335	It would be valuable if the proficiency test did not include known imprints, so that the test also includes making known imprints with the actual shoes. The proficiency test would then test all part of the footwear comparison.

TABLE 3

WebCode- Test	Additional Comments
LRKQBB- 5335	In accordance with standard operating procedures, a detailed footwear marks examination requires the submission of the actual items of footwear so that any correspondence or differences observed, particularly in relation to randomly acquired characteristics, can be directly correlated to the items of footwear.
MK2XJC- 5331	The level of support has been based on the assumption that what appears to be damage to the shoe in the testprint and photograph of the sole of the shoe would be confirmed in the actual shoe. If this was not the case the level of support would be reassessed.
QFYV88- 5335	The questioned imprints Q2, Q5, Q8 and Q9 have smaller measurements than the suspected footwear.
QNTYGV- 5331	Strongly recommend packaging the Q and K images in separate envelopes to prevent exposure to the known before evaluating the Q.
W2WBDW- 5335	Association Scale for Footwear and Tire Impressions: The following descriptions are meant to provide context to the levels of opinions reached in footwear and tire impression comparisons. Each level may not include every variable in every case. Lacks sufficient detail – No comparison was conducted: the examiner determined there were no discernible questioned footwear/tire impressions or features present. Or – A comparison was conducted: the examiner determined that there was insufficient detail in the questioned impression for a meaningful conclusion. This opinion only applies to the known footwear or tire that was examined and does not necessarily preclude future examinations with other known footwear or tires. Exclusion – This is the highest degree of non-association expressed in footwear and tire impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear or tire. Indications of non-association – The questioned impression exhibits dissimilarities when compared to the known footwear or tire; however, the details or features were not sufficiently clear to permit an exclusion. Limited association of class characteristics – Some similar class characteristics were present; however, there were significant limiting factors in the questioned impression that did not permit a stronger association between the questioned impression and the known footwear or tire. These factors may include but were not limited to: insufficient detail, lack of scale, improper position of scale, improper photographic techniques, distortion or significant lengths of time between the date of the occurrence and when the footwear or tires were recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the footwear or tire. Association of class characteristics – The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear or tire. Correspondence of general wear may also be present. High degree of association – The questioned impression and known footwear or tire must correspond in the class characteristics of design, physical size, and general wear. For this degree of association there must also exist: (1) wear that, by virtue of its specific location, degree and orientation make it unusual and/or (2) one or more randomly acquired characteristics. Identification – This is the highest degree of association expressed by a footwear and tire impression examiner. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity.
Y6NBFW- 5335	I am satisfied that the submitted New Balance training shoes were responsible for some of the footwear impressions recovered from the scene of the incident. This is based upon agreement in pattern, spacing of the pattern elements, wear and the presence of marks in the scene impressions that correspond to damage features on the under soles of the training shoes. Of particular note is the presence of the same corresponding damage feature in more than one scene impression.
YG3GGQ- 5331	The following propositions were considered: Hp: The footwear made the impressions at the scene. Hd: The footwear did not make the impressions at the scene, other footwear made the impressions. The finding of footwear impressions at the scene matching the known imprints of the recovered shoes in size, pattern, wear and accidental features is expected if the recovered footwear made the impressions at the scene. There is an extremely low expectation of these findings if other footwear made these impressions.

TABLE 3

WebCode- Test	Additional Comments
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Note: Extremely strong support is the highest point on our scale. We do not use identification.

YTVX7R- 5331	The conclusions reported are based on laboratory policy.
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Test No. 24-5331: Footwear Imprint Evidence

DATA MUST BE SUBMITTED BY **June 03, 2024, 11:59 p.m. EDT** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: 6G46HC

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:

Investigators are asking you to compare the imprints recovered at a crime scene with photographs of recently cleaned shoe soles recovered one day after the incident and known imprints made with these shoes. The recovered shoes are manufactured by New Balance, and the shoe tag reads: US W 9.5, US M 8, UK 7.5, EU 41, CM 26.5, B, WT410LB8, 19694129578, 7510001, PVFCV162 JNV, MFG: 07/2023, LOC: 78.

Shoes and known imprints have been labeled with 'L' and 'R' to indicate 'Left' and 'Right' shoes. The inked imprints in images K1d and K1e were made by rolling the toe and heel areas separately onto paper. The inked imprints in images K1f and K1g were made by having the owner wear the shoes and walk across a stack of paper.

Items Submitted (Sample Pack FIEP - Photographs):

Item K1a: Photograph of the soles of the recovered shoes, lighted from above.

Items K1b-K1c: Two oblique lighted images of the soles of the recovered shoes, light direction indicated by arrows.

Items K1d-K1g: Known imprints made with the recovered shoes.

Items Q1-Q3: Questioned imprints found on grey stone vinyl tile.

Items Q4-Q6: Questioned imprints found on woodgrain vinyl tile.

Items Q7-Q9: Questioned imprints found on newspaper.

Instructions:

Select from the following list of conclusions and insert the appropriate letter in the spaces provided. If the wording below differs from the normal wording of your conclusions, adapt these conclusions as best you can and use your preferred wording in your written conclusions. These conclusions are adapted from the SWGTREAD Range of Conclusions standard.

A. Identification - Questioned and known items share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Highest degree of association.

B. High degree of association - Correspondence of class characteristics, in addition to unusual wear and/or one or more randomly acquired characteristics between the questioned and known item.

C. Association of class characteristics - Correspondence of design and physical size and possibly general wear between the questioned and known item.

D. Limited association of class characteristics - Some similar class characteristics between the questioned and known item with significant limiting factors.

E. Inconclusive* - Questioned item lacks sufficient detail for a meaningful conclusion in comparison to the known item. (adapted from SWGTREAD "Lacks sufficient detail" conclusion).

F. Indications of non-association - Questioned item exhibits dissimilarities in comparison to the known item.

G. Exclusion - Questioned and known items exhibit sufficient differences of class and/or randomly acquired characteristics. Highest degree of non-association.

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

1.) Indicate the results of your comparisons of the recovered shoes with the questioned imprints by writing the letter of your conclusion next to each questioned imprint in the table.

If an identification or positive association is made (A-D), indicate whether the imprint is associated with the right or left suspect shoe. If a non-association or inconclusive finding is reported (E-G), do NOT indicate a right or left shoe.

Grey stone vinyl tile		
<u>Imprint</u>		<u>L/R</u>
Q1:	<input type="text"/>	<input type="text"/>
Q2:	<input type="text"/>	<input type="text"/>
Q3:	<input type="text"/>	<input type="text"/>

Woodgrain vinyl tile		
<u>Imprint</u>		<u>L/R</u>
Q4:	<input type="text"/>	<input type="text"/>
Q5:	<input type="text"/>	<input type="text"/>
Q6:	<input type="text"/>	<input type="text"/>

Newspaper		
<u>Imprint</u>		<u>L/R</u>
Q7:	<input type="text"/>	<input type="text"/>
Q8:	<input type="text"/>	<input type="text"/>
Q9:	<input type="text"/>	<input type="text"/>

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

Please note: Any additional formatting applied in the free form spaces below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

3.) 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 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 ANAB and/or A2LA. (Accreditation Release section below must be completed.)
- This participant's data is not intended for submission to 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.

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety.

Authorized Contact Person and Title

Laboratory Name

Location (City/State)